

SOUTHERN
NEW
ENGLAND
RAILWAY

GTR-CVR
EXPANSION
INTO NEW
ENGLAND

The new round house was described and illustrated in our last issue.

d.T.R. Betterments, Construction, Etc.

New England Lines Proposals.—Location plans have been filed at Providence, R.I., on behalf of the Southern New England Rd., for its branch line to tide-water in Rhode Island. The plans show terminal facilities near Kinsey Ave., and a tunnel under Capitol Hill, Providence. The line enters the State on the Massachusetts boundary in Woonsocket, and passes through Lincoln, Cumberland, North Providence, Pawtucket, Central Falls, Providence, and Cranston.

E. H. Fitzhugh, President of the S.N.E.R., and First Vice President G.T.R., was recently in Providence, discussing with the city authorities the question of wharfage facilities. New docks are under construction, both by the State and by the municipality, and the mayor stated that accommodation would be provided for the company at both of them.

An appeal is being made to the courts to declare that certain property in Woonsocket, R.I., on which the New York, New Haven and Hartford Rd. is building a freight shed, is necessary for the Southern New England Rd. It is alleged that as soon as the proposed route of the S.N.E.R. became known the N.Y., N.H. and H.R. Rd., expropriated the land in question and started building the freight shed.

The plans for the S.N.E.R. from Palmer, Mass., to the Rhode Island boundary, were approved by the Massachusetts Railroad Commissioners, July 12.

The courts issued an order July 17 directing the N.Y., N.H. and H.R. to suspend work on the freight shed at Woonsocket, which was being built on the right-of-way on which it was planned to build the S.N.E. Rd.

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large enough so that each will accommodate four persons. The heating will be by steam from the power house nearby.

UNDER CROSSING.—As the new station is being erected on the opposite side of the yard from that destroyed last summer, all traffic to and from the station to the business part of the town would be across the main line of railway. To obviate this, the main street is to be divided and a wide main railway. To obviate this, the main street is to be divided and a wide main railway. To obviate this, the main street is to be divided and a wide main railway.

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cently G. E. Kidd, Ottawa, solicitor for the company, is reported to have stated that work would be started laying out the line as soon as engineers could be secured, and that applications were being made for municipal aid and for a Dominion subsidy.

Toronto.—While no official announcement had then been made it was stated on the authority of Sir Lyman Jones, President of the Massey-Harris Co., that the company's tender for the purchase of the Asylum and Central Prison grounds would probably be accepted by the Ontario Government. The company's tender was for 10 acres. The G.T.R. sent in a tender in conjunction with the Massey-Harris Co., and he believed the balance of the land would be sold to the G.T.R. If this statement is correct the G.T.R. will acquire 25 acres of the Asylum site, and the whole of the 23 acres forming the prison site.

Brantford, Ont.—Application is being made to the Board of Railway Commissioners for authority to build a line from the main line, westerly and southwest-erly through the Holmedale district, to a connection with the Brantford and Tillsonburg branch on block 4, Kerr trail. (July, pg. 655.)

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not making any statement of fact, and we are not responsible for the publication of any of this matter, and we are not responsible for the publication of any of this matter, and we are not responsible for the publication of any of this matter.

ments of railways. It also contains a paper on the inequality of expansion in locomotive boilers, and the possibility of eliminating the bad effects therefrom, by D. R. McBain, Superintendent of Motive Power, Lake Shore and Michigan Southern Ry.

Consequent on the reorganization of the Canadian Locomotive Company, Kingston, Ont., the following directors have been elected:—Hon. W. Harty, Kingston, President; J. L. Whiting, K.C., Kingston; Aemilius Jarvis, Toronto; Robert Hobson, Hamilton; F. G. Wallace, Pittsburgh, Pa.; W. Y. Soper, Ottawa, and J. Redmond, Montreal. C. Birmingham, who has been Managing Director for many years, has retired on account of ill health. The appointment of a manager has not yet been made.

The Rudel-Belnap Machinery Co., Ltd., has been incorporated, with office in Montreal, to deal in electrical, mill, mine, machine shop, railway and contractors machinery and supplies. C. M. Rudel, who was sole proprietor of the Rudel-Yeates Machinery Co., and L. J. Belnap, who recently resigned from the service of Allis-Chalmers-Bullock, Ltd., after having been Manager of the Winnipeg office for four years, and subsequently Manager of the Montreal district office for a similar period. The new company will also have charge of the Canadian Crocker-Wheeler Co.'s eastern business.

Carr Lane Glasgow, who has been appointed Montreal district sales manager of Allis-Chalmers-Bullock, Limited, has had extensive experience in the construction of electric railways and the operation of electric power plants. After

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Grand Trunk Railway Construction, Betterments, Etc.

New England Extensions.—A. W. Smithers, Chairman of the Board, G.T.R., accompanied by C. M. Hays, President, G.T.R., and officers of the Central Vermont Ry., made an inspection of the route of the projected Southern New England Ry. in Massachusetts and Rhode Island recently.

The S.N.E. Ry. has been ordered to file a bond of \$1,000,000 to protect property owners in Massachusetts, whose property may be taken for the building of the line.

It appears that the differences between the S.N.E. Ry. and the New York, New Haven and Hartford Rd., in Woonsocket, Mass., have not been completely adjusted, as the latter company has filed plans for two new freight houses on North Main St., on part of the route located for the S.N.E. Ry..

Station—The first section of

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[JUNE, 1912.]

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Southern New England Ry.—The Railroads Committee of the Massachusetts Legislature decided, May 17, to report favorably on the company's bill asking for power to extend its lines into Boston.

Work was started May 10 on the construction of the line from Palmer, Mass., to Providence, R.I. The initial work consists of the building of a temporary bridge 2,800 ft. long across the New York, New Haven and Hartford Rd. freight yards at Woonsocket, R.I., near where the line enters the state from Blackstone, Mass. Ten car loads of machinery and six steam shovels have been delivered for the grading contractors, who are preparing to start operations.

Central Vermont Ry.—The Board of Railway Commissioners has approved of the proposed connection of the company's lines with the C.P.R. spur into the military camp at Farnham, Que.

Surveys are being made for second track work on the line in New Hampshire and for a connecting link starting

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CANADIAN RAILWAY AND MARINE WORKS

Stoppage of Grand Trunk Construction in New England

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It was officially announced by G.T.R. officials in Montreal, Nov. 10, that work on the extensions of the Central Vermont Ry. into Boston, Mass., and to Providence, R.I., which are being built by the Southern New England Ry., have been temporarily suspended, owing to the unsettled condition of the British money market. The contractors on the line being built from Palmer, Mass., southeasterly to Providence, on which about \$1,500,000 has already been spent, ceased work on Nov. 10, and about 2,300 men were thrown out of employment. It was expected to have had this extension completed by the end of 1913, and the extension into Boston completed in the following year.

Press reports from Boston state that negotiations are in progress with the New York, New Haven and Hartford Rd. for such rights as will enable the G.T.R. and Central Vermont Ry. to reach Boston and Providence over that company's lines. Vice President Bryans, of the N.Y., N.H. and H. Rd., is reported as stating that an agreement has been reached for the joint use of the C.V.R. tracks between Windsor and White River Jet., Vt., and that the Boston and Maine Rd., a subsidiary of the N.Y., N.H. and H. Rd., had withdrawn its petition for the building of a line from Claremont to Lebanon, N.H., paralleling the C.V.R. He further stated that no other agreement had been made, although negotiations for a general traffic agreement had been going on all summer. These negotiations, President Mellen is reported as stating, if completed, would give the G.T.R. and its subsidiary, the C.V.R., access to all N.Y., N.H. and H. Rd. points, and the latter line access to the C.V.R. and G.T.R. lines.

An official statement was made by E. J. Chamberlin, President, G.T.R., Nov. 13, to the effect that there is no change in the C.V.R. policy relative to the New England connections. The negotiations as to traffic arrangements have not progressed far enough to determine whether such arrangements can be made as would be satisfactory to all parties interested. Should any arrangements be finally agreed to they will be such as will fully protect the interests of all friends of the G.T.R. in New England. It was subsequently stated that a tentative agreement had been made for such a traffic agreement, and that it was to run for 25 years.

The press reports state also that the agreement provides that the extensions to Providence and Boston are to be stopped and eventually abandoned. The attention of the United States Attorney General has been called to the matter, and it is stated that proceedings may be taken to prevent any such agreement being entered into on the ground that it would be a restraint of trade. The official notifications that such an enquiry would be held were served Nov. 19, and the investigation will take place at Washington.

It was further reported in Boston, Nov. 12, that the stoppage of work was brought

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Stoppage of Grand Trunk Construction in New England

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Telephone Train Dispatching on the Grand Trunk Pacific Railway.

We are officially advised that G.T.P.R. is erecting wires for telephone service on the following divisions:—

Lake Superior Division—	M
Fort William to Superior Jct.	
Prairie Division—	
Winnipeg to Melville	
Melville to Regina	
Mountain Division—	
Edmonton to Tete Jaune	
Prince Rupert to Hazelton	
Alberta coal branch	

Of the above 555 miles is in operation the additional 585 miles is expected to complete and available for service by 1. The apparatus adopted as standard the Northern Electric 102B selector and the swinging type transmitter manufactured by the Northern Electric Mfg. Co., Montreal.

On the Lake Superior division, Fort William to Graham, Ont., the dispatcher will be located at Graham. Fourteen stations will be equipped to start with, and trains will be supplied with portable sets and line poles.

A complete telephone service, operated by ordinary telephone methods and instruments, has been installed on the following branch lines:

Melville-Canora
Regina-Boundary
Regina-Moose Jaw
Young-Prince Albert
Oban-Battleford
Tofield-Calgary

A. B. Smith, Manager of Telegraphs, G.T.P.R., is in charge of the work.

Mechanical Conventions at Atlantic
—The American Railway Master Mechanics Convention will meet at Atlantic City

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It was further reported in Boston, Nov. 12, that the stoppage of work was brought about without any consultation with C.V.R. officials, and that as a result the resignation of E. H. Fitzhugh, President, might be expected. Subsequently Mr. Fitzhugh stated that there was no foundation for this statement.

A bill has been filed with the clerk of the Legislature of the State of Massachusetts providing for the purchase by the Commonwealth of the Boston and Maine Rd. lines.

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Grand Trunk Railway Betterments, Construction Etc.

Southern New England Ry.—Articles of incorporation of the S.N.E. Ry. Co. have been filed in New Hampshire, the company being authorized to build from Lebanon to Concord and along the Merrimac River to the New Hampshire-Massachusetts state line. The section of the line in Massachusetts has already been approved by the State Railway Commissioners. E. H. Fitzhugh, President, submitted the plans to the legislative committee on railroads at Boston, Mass., Mar. 6, and stated that the road-bed would be prepared for a double track line, but it was only proposed to lay a single track at present. It was also proposed to build a belt line to connect the proposed sections of the line north and south of Boston and to reach the necessary terminals and docks.

The company is reported to have let a contract for the erection of 57 steel bridges on the line in Massachusetts and Rhode Island. The principal bridges will be a 1,250 ft. viaduct at Monson, Mass.; a 570 ft. bridge, 120 ft. high, at Palmer, Mass.; and a 480 ft. viaduct 60 ft. high at Melville Heights.

Bridge at Portland, Me.—A new bridge at the entrance to the company's terminals at Portland, Me., is being built. It is a 225 ft. drawbridge on concrete piers.

Lachine Canal Swing Bridge.—The Board of Railway Commissioners has authorized the rebuilding of the company's swing bridge across the Lachine canal at Montreal.

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company. Millville is a station on the C.P.R. Fredericton-Edmundston line, and Southampton is on the St. John River. Since the preceding paragraph was put into type, we have been officially advised that the line has been completed for 6.5 miles from the junction with the C.P.R., about one mile east of Millville. It is intended that it be operated by the C.P.R., but it is probable that it will be some time before it is opened for traffic, as it has not been approved by the Board of Railway Commissioners.

Tomiskaming and Northern Ontario Ry.—In connection with the rearrangement of the boundaries of Ontario and Manitoba, on the shores of Hudson Bay, it has been arranged that a strip of territory five miles wide from the new boundary of Ontario to Port Nelson is granted to Ontario for the purpose of building an extension of the T. and N.O. Ry., from the present terminus at Couchane, and that for terminal purposes at Port Nelson, a frontage of 10 miles on Hudson Bay and Nelson River, with a depth of half a mile, and including the river bed, etc., is set apart in the area granted to Manitoba. If the terminus of the Hudson Bay railway is fixed at Fort Churchill, provision is made for the granting to Ontario of a right of way 200 ft. wide, so that the T. and N.O. Ry. may be connected with it, and the Dominion Government agrees to grant running rights over the Hudson Bay Ry. while remain-

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Grand Trunk Railway Betterments, Construction Etc.

now done at the Ferguson Ave. yards, Hamilton, was to be transferred to yards to be laid out at Stoney Creek.

Holmedale Switch, Brantford.—The Board of Railway Commissioners has authorized the G.T.R. to build a branch line through the Holmedale district, Brantford, Ont., across the hydraulic canal and the Grand River to its Brantford and Tillsonburg branch, and to close certain streets. This order carries out the terms of an agreement with the city council made some time ago.

Automatic Block Signalling.—It is reported that orders are being placed for the installation of automatic block signals on the line between Toronto and Niagara Falls, and from Hamilton to Lynden, Ont.

Plans are now being made to instal an automatic block signalling system between Toronto and Niagara Falls, and also between Hamilton and Lynden Jct., where the main lines diverge to Harrisburg and Brantford. The G.T.R. is also planning to instal this system on the 26th district in Indiana.

London, Ont., Improvements.—Local officials state that there is no probability of any improvements being made at London, Ont., this year. The mayor stated, Mar. 6, that while he had not received any information from Montreal he understood that plans were being prepared for very important changes, and that part of the work would be put in hand within a reasonable time.

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Bridge at Portland, Me.—A new bridge at the entrance to the company's terminals at Portland, Me., is being built. It is a 295 ft. drawbridge on con-

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man in charge of the shop, before an accident happens, and ask him to supply proper guard.

"Avoid jumping upon moving cars or engines. Your work does not require it and you cannot afford to take the risk.

"Never strike tempered steel with hammer or other metal object. Many eyes are injured and destroyed from this cause every year."

In addition to the above which are posted in the shops, there are corresponding "memory gems" for the other branches of

railroading, each emphasizing the special risks which that class is liable to, with cautionary remarks thereon.

"The 'safety first' movement has been in use such a short time on the Michigan Central Rd. that no definite conclusion as to the efficacy of the scheme can as yet have been deduced, but indications point to its success if carefully followed out. It will be interesting to observe the extent to which the accidents will be reduced, as reflected in the accident reports compiled by the company in future.

Negotiations are under way to obtain the necessary authority for construction in New Hampshire.

As indicated by the foregoing, when all the projected construction is completed the G.T.R. will have a direct line from Montreal to Boston, a short line from Boston to Providence which will form part of a through rail and water route between Boston and New York, and a direct route from Montreal and northern New England to tidewater at Providence through the most prosperous sections of Massachusetts and Rhode Island. The branch between Douglas and Worcester, Mass., will also tap a rich manufacturing region.

The line between Palmer and Providence, which is now under construction, will be a single track for the present, but no expense is being spared to produce a road that can be operated at maximum economy. It extends in a general southeastern direction, passing through the cities of Southbridge, Webster and Blackstone, Mass., thence proceeding directly from Woonsocket to Providence, Rhode Island. In Massachusetts there are 57.69 miles of main line and 7.45 miles of siding. In Rhode Island there is a passenger line from Woonsocket

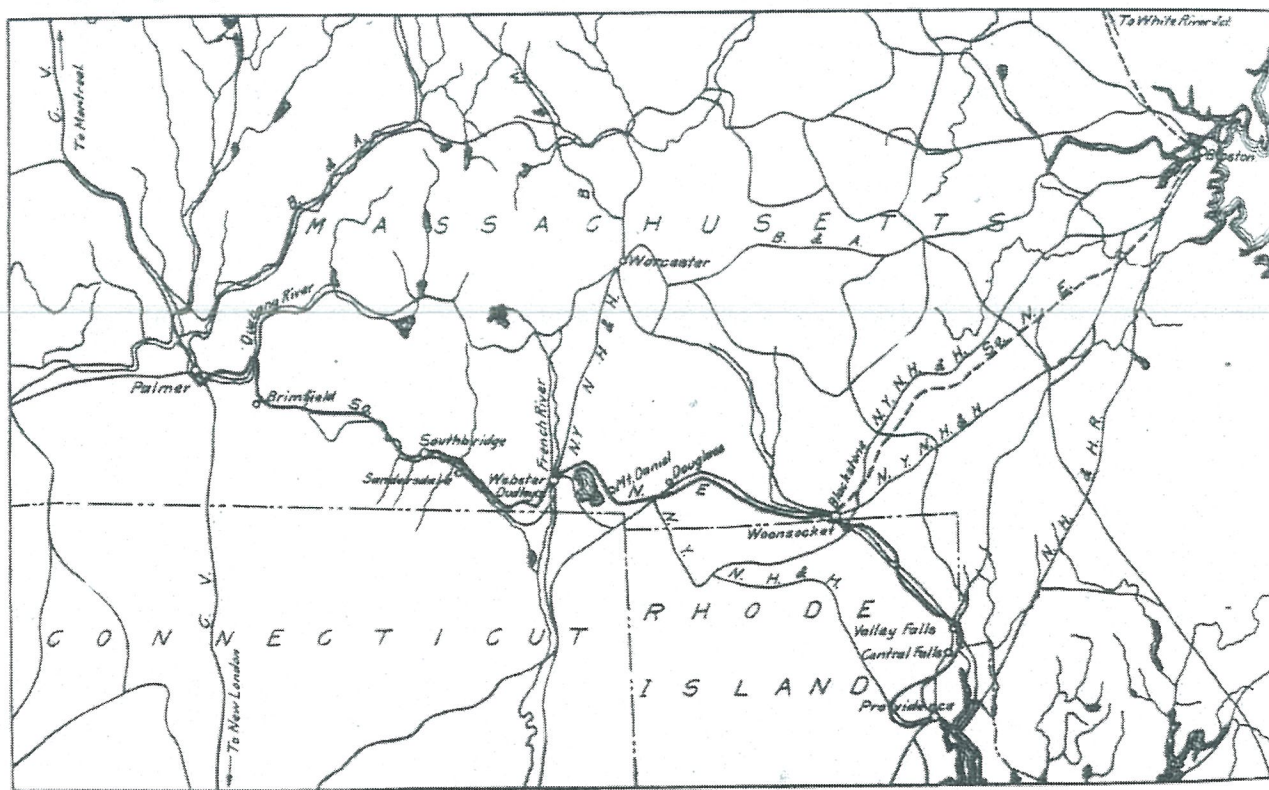
The Grand Trunk Railway Palmer-Providence Line in New England.

By H. Cole Estep, Engineer of Construction.

Contracts have recently been signed and construction begun on the new line of the Southern New England Ry., a subsidiary of the Grand Trunk Ry. Co., which is to extend from a junction with the Central Vermont Ry. in Palmer, Mass., to tidewater terminals at Providence, R.I. The new road, although important in itself, is

through Nashua, N.H., to Boston, 133½ miles. In all, these projects will require approximately 275 miles of main line, together with the numerous sidings and industrial spurs and extensive terminals in Providence and Boston.

The Palmer-Providence line in Massachusetts is being constructed under permission



The G.T.R.'s Palmer-Providence Line and Proposed Boston Line.

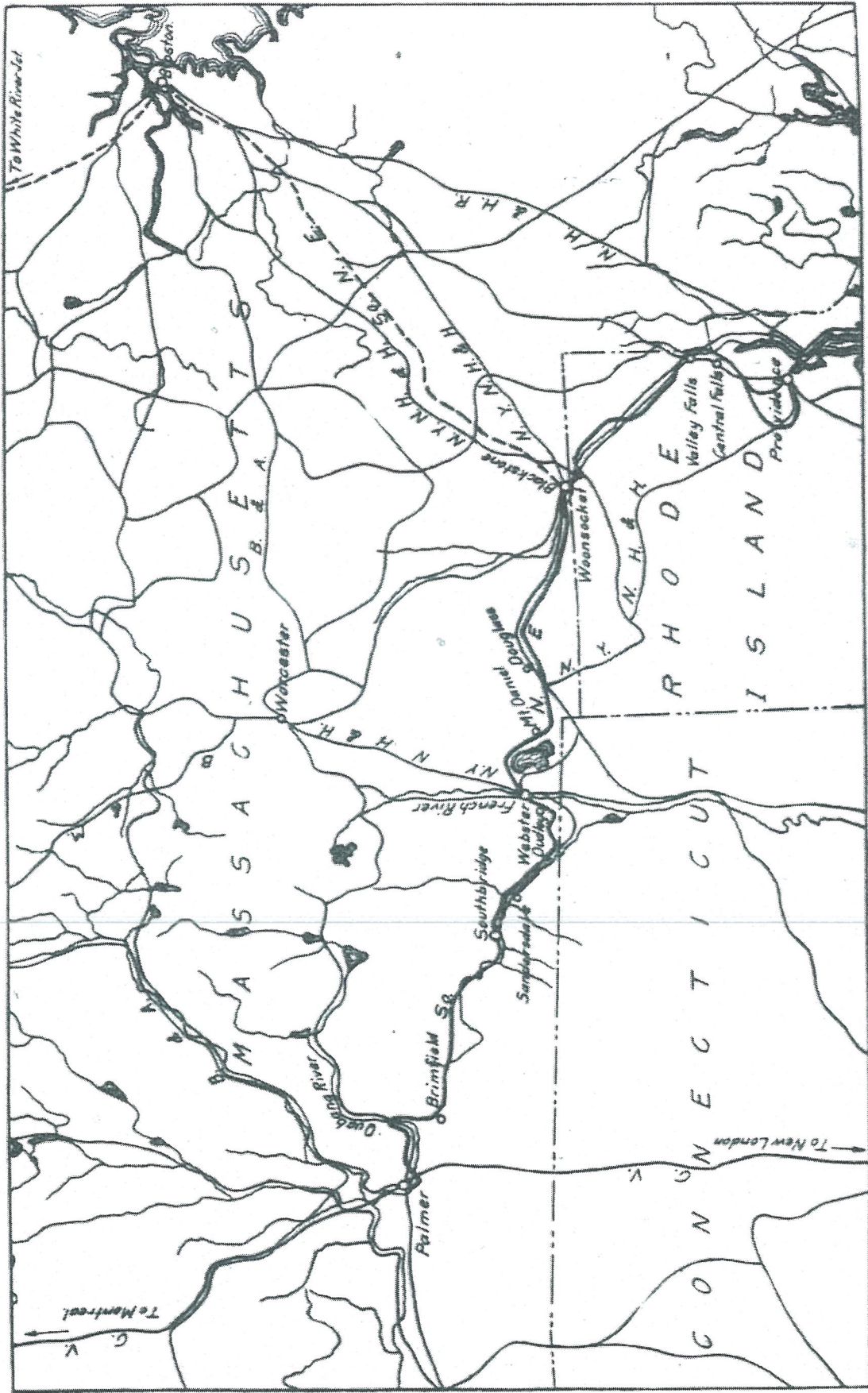
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The G.T.R.'s Palmer-Providence Line and Proposed Boston Line.

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only a part of a general scheme which has been developed by E. H. Fitzhugh, President of the G.T.R. properties in New England, for the extension of this system into the rich commercial territory in Rhode Island, New Hampshire and Massachusetts, including the city of Boston, hitherto occupied almost exclusively by the New York, New Haven & Hartford Rd. and its affiliated interests. The G.T.R. plans, in addition to the Palmer-Providence line, include a line of 35.9 miles from Blackstone, Mass., a station on the new road 17 miles north of Providence, to Boston; also another branch from Douglass on the Palmer-Providence line to Worcester, Mass., 21 miles; and finally a road extending southward from a junction with the Central Vermont Ry. at White River Junction, Vt.,

The G.T.R.'s

Palmer-Providence Line and Proposed Boston Line.

of the state railway commission; the construction of the other lines in Massachusetts, including the Boston terminals, has been authorized by a special act of the legislature; and similar legislative authority has been obtained for the work in Rhode Island. The Massachusetts law provides that the various lines authorized must be located within one year, relocations being permitted; construction must begin within a year from the time of filing the location, and be completed in three years. Under certain conditions the state railway commission is granted the power to extend these periods. Two companies have been organized for construction purposes, one in Massachusetts, the Southern New England Railroad Corporation, and the one in Rhode Island, the Southern New England Ry. Co.

to the Union station at Providence, 17.13 miles, and a freight line from a junction with the passenger line in North Providence to docks at Fielas Point, 9.89 miles, together with 37.76 miles of sidings and a special spur of 0.25 miles on Allen's avenue. The work, therefore, includes 84.71 miles of main line and 45.45 miles of sidings and spurs, or 130.16 miles in all. The most extensive switch yards and terminals will, of course, be situated at Providence.

As soon as authority for construction had been obtained and the line definitely located, the work of obtaining right-of-way began. This was a much more difficult task than it is in less thickly settled portions of the country, and many perplexing obstacles had to be surmounted. The Massachusetts law limits the width of the

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right of way to 82.5 feet, which is insufficient in deep cuts or on high fills. Great difficulty was also experienced in defining the various parcels of land purchased for right of way on account of the indefinite wording of most New England deeds. New England was never surveyed into sections, and land is generally described in the deeds by metes and bounds and by reference to old monuments or land marks long since disappeared. For instance, a farm belonging to Wm. Brown is described as consisting of 17½ acres extending from the south boundary of Henry Bowen's land on the north to the north boundary of Alfred Thompson's on the south, etc. It was necessary for the engineers of the railway to accurately determine these boundary lines, and the problems involved may be readily imagined.

The accompanying profile of the line shows the three principal summits which it was necessary to cross, together with the Quabaug, French and Blackstone rivers. These formed the chief controlling points in the location. Starting at elevation 320 at Palmer the line ascends rapidly to the Brimfield summit, 704 ft. above sea level,

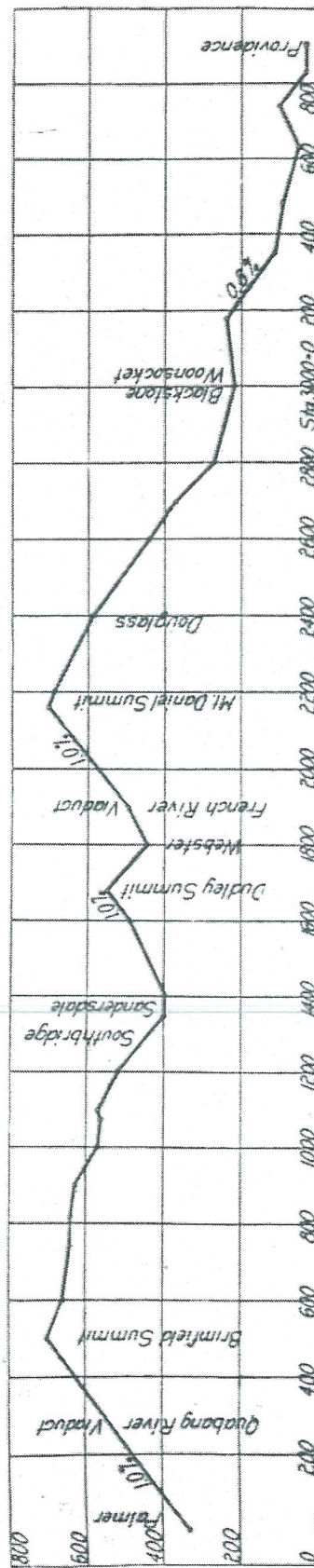
system. The spirals, however, are much longer than customary. For example, eleven 33 ft. chords are used in laying out the spiral on a 6° curve, the length of the spiral being 363 ft. On the new line of the Chicago, Milwaukee & Puget Sound Ry. in the west, the spirals on similar curves are only 180 ft. in length. In fact the 6° curves with long spirals on the Southern New England Ry. are about equivalent to straight 4° curves, assuming ordinary angles of intersection. With a 44° angle, the length of a straight 4° curve is 1,100 ft., while a 6° curve with long spirals on the Southern New England is 1,092 ft. in length for the same angle of intersection. The curves will be elevated according to A. R. E. A. standards for 40 miles per hour.

The line includes a great deal of bridge work. Two miles from Palmer occurs the first crossing of the Quabaug river on a steel viaduct 585 ft. long; the same bridge also crosses the state highway and the Central Massachusetts Electric Ry., the maximum height of the viaduct above the valley being 63 ft. Separated from this viaduct by a fill of 80 ft. long is a through plate girder bridge crossing the Boston &

The preliminary layout provides two sets of team tracks with a capacity of 136 and 117 cars, respectively, together with inbound and outbound freight sheds. The former is to be 50 x 670 ft., provided with yard and service tracks having a total capacity of 100 cars. A coach yard will also be located in the immediate vicinity. The freight line to Field's Point leaves the main or passenger line at the northern limits of the city of Providence, and with a wide sweep first to the south and then to the east reaches its destination on Narragansett bay. This line is 9.89 miles long. At the Field's Point terminus docks are being constructed by the city of Providence.

The general contract for the construction of the Massachusetts portion of the road has been awarded to J. Marsch, Chicago, and the contract for the Rhode Island portion to the O'Brien Construction Co., New York. The general contract in Rhode Island does not include the tunnel under the city of Providence. This will be covered by a separate contract to be let later. The steel bridges will be fabricated by the American Bridge Company of New York,

and erected by the Strobel Steel Construction Co. of Chicago. The line is being constructed under the



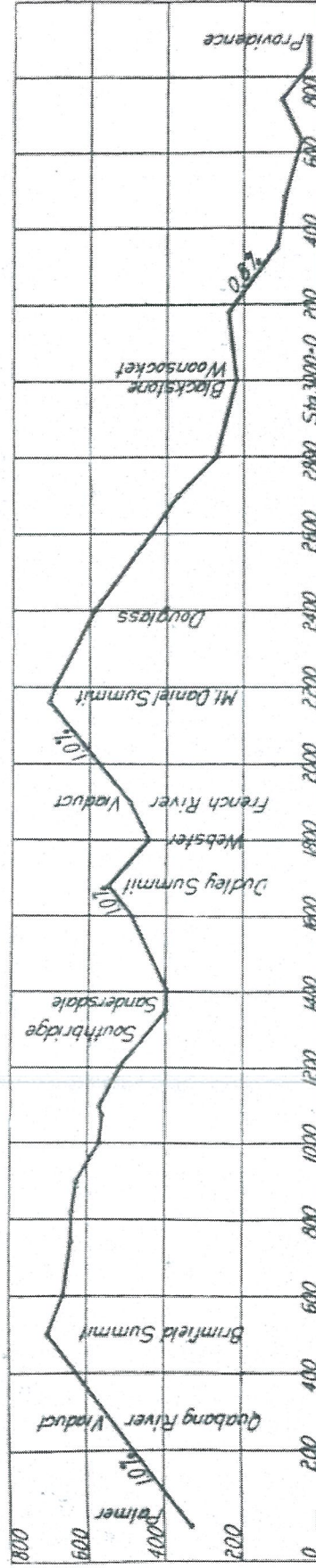
Condensed Profile, Grand Trunk Railway Palmer-Providence Line.

nine miles from Palmer. Between these points the Quabaug river is crossed twice. From Brimfield there is a gradual descent

Albany Rd. Four and a half miles east of Palmer is situated the largest steel bridge on the

and erected by the Strobel Steel Construction Co. of Chicago. The line is being constructed under the

Brimfield summit, 104 ft. above sea level, plate girder bridge crossing the Boston & American Bridge Company of New York.



Condensed Profile, Grand Trunk Railway Palmer-Providence Line.

November 1912

Condensed Profile, Grand Trunk Railway Palmer-Providence Line.

nine miles from Palmer. Between these points the Quabaug river is crossed twice. From Brimfield there is a gradual descent for 15 miles to elevation 400 at Sandersdale. Leaving this point the ascent is rapid for the next five miles to the Dudley summit, elevation 545. Next comes a descent into the French river valley and a long climb out on the eastern side to elevation 717 at Mt. Daniel, 41 miles from Palmer. From this point the line drops by easy stages to sea level at Providence.

The location of the line, however, involved much more than simply finding the most advantageous route across the various summits and rivers between the terminals, for the problems encountered in numerous grade separations also had to be met. In the entire length of the line there are no grade crossings, even the country highways being elevated over or depressed under the railway in every instance. In fact, the location resolved itself into a task of suitably treating the various crossings with as little disturbance to existing grades as possible. In many instances it was, of course, necessary to change the grades of streets and highways, but no attempt was made to alter those of the steam railways crossed. In Rhode Island alone there are approximately 69 highway crossings carried either over or under the track, semi-tunnels being generally employed where the highway goes over the railway. As a result of the necessity of avoiding grade crossings, coupled with the desire to leave existing street grades in the towns unchanged wherever possible, a detailed profile of the line in Rhode Island through comparatively level country somewhat resembles the layout of a roller coaster.

In spite of these difficulties the line has been located with a maximum grade of 1% and 6% maximum curves. The grades are equated 0.04% for each degree of curve, and the curves are spiraled on the Searles

Albany Rd.

Four and a half miles east of Palmer is situated the largest steel bridge on the line. It carries the track of the Southern New England Ry. over the Quabaug river, and also over the state highway, a wagon road and the Boston & Albany Rd. The bridge is 1,252 ft. long and 115 ft. above the river, being constructed on a 6° curve and 0.76% grade. It is a viaduct consisting of 11 steel towers connected by 70 ft. girder spans; the towers are about 40 ft. long on top, and of sufficient width to carry the single track.

Another important bridge is situated at North Webster, 36 miles from Palmer. At this point the French river, together with the Boston & Albany Rd. and Norwich & Worcester Rd., are crossed. A timber trestle 1,052 ft. long has been planned. It has a maximum height of 55 ft. and is considered to be more economical than a steel bridge would be in the same place. It is estimated on a 5% basis that where the cost of a steel bridge exceeds that of a wooden one by more than 90%, the latter is the more economical.

Near Millville, 55½ miles from Palmer, will be situated a steel and masonry bridge, approximately 500 ft. long, crossing the Blackstone river and the Worcester-Providence and Boston-Willimantic lines of the New York, New Haven & Hartford Rd. The Boston-Willimantic line crosses over the Worcester-Providence line and the Southern New England Ry. over both.

In the city of Providence, the passenger line enters from the north via Randall's and Leonard's ponds, and passing through a 2,400 ft. tunnel under northwest Providence, between Douglas avenue and Jewett street, emerges at the union passenger station in the centre of the city. A terminal for handling miscellaneous freight shipments will be built adjacent to this line between Valley street and the Woonsocket river.

and erected by the Strobel Steel Construction Co. of Chicago.

The line is being constructed under the supervision of E. H. Fitzhugh, President of the Southern New England and the Central Vermont railways, assisted by G. C. Jones, Vice President. The engineering officers include H. C. Estep, Engineer of Construction, and J. P. Snow, of Boston, Consulting Bridge Engineer.—Railway Age Gazette.

Improved Baggage Checks.—A baggage check, which is expected to lessen the number of errors and complaints, has just been placed in service by the Pennsylvania Rd. The duplicate portion of the new check is provided with spaces in which are printed a number of the principal "bad order" conditions in which baggage is frequently received for checking. A check, on being delivered to a passenger, will be punched to show whether the piece of baggage is a trunk, suit case or valise, fibre case, or tool chest. Other punches will show the condition in which it is received, whether the bottom, side, top or end is broken, lock or handle broken, hinges loose, old or worn, or whether the piece of baggage is open. In this way the duplicate check will contain a full description of the condition of the baggage when received for shipment. The number on the tag portion of the check is placed at the bottom, while on the duplicate portion it is printed at the top, so that the two can be readily matched when making delivery of baggage. It is expected that with the use of this new form of check the liability of mismatching numbers will be minimized, the delivery of baggage expedited, and the number of claims greatly reduced.

The Quebec Public Utilities Commission has issued general orders re rules for pipes crossing railways and re protection of forests from fires by railways.

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steam shovels. (July, pg. 645.)

Brandon Transfer Ry.—Construction was started June 30, by the Great Northern Ry., upon the building of this line connecting up the different railway lines entering Brandon, Man. The contract for the grading was let to J. Bradley, Brandon, the G.N.R. doing the track-laying. W. P. Stevenson, a G.N. Ry. engineer from Minot, N.D., was in charge of the work. (July, pg. 645.)

Rupert Inlet Tunnel and Bridge Co.

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December 1912

Grand Trunk Railway Betterments, Construction, Etc,

New England Lines Proposals.—The injunction restraining the New York, New Haven and Hartford Rd. from building on the right of way in Woonsocket, R.I., for which plans have been filed by the New England Southern Rd., is effective until Sept. 16, when the question whether the land is necessary to the N.E.S.R. or to the N.Y., N.H. and H. Rd., will be argued. One of the conditions upon which the injunction was granted was that the N.E.S.R. should put up a bond to indemnify the N.Y., N.Y. and H.R. from any loss should a final decision be given in its favor. A bond of \$50,000 was put up Aug. 5.

A somewhat similar situation has arisen in Burlington, Vt., where the Rutland Rd. has filed track allowances on Lake St., which the Central Vermont Rd., the controlling company of the N.E.S.R. claims to own. E. H. Fitzhugh, President, and G. C. Jones, General Manager, C.V.R., are negotiating for a settlement.

The organization of the New England Southern Rd. in Massachusetts was completed in Boston, Aug. 17. The certificate states that \$1,000,000 of capital has been subscribed, and \$100,000 paid in. The company proposes to build a railway from Palmer, Mass., to Providence, Rhode Island. The entire capital is in the hands of officials of the Central Vermont Ry., which is controlled by the G.T.R.

Bonaventure Station, Montreal.—A. W. Smithers, Chairman of the Board, in

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Grand Trunk Railway Construction, Betterments, Etc.

New England Plans.—The Providence, R.I., city council has passed an ordinance granting the Southern New England Ry. the right to lay tracks along the west side of Providence River.

Application is being made by E. H. Fitzhugh to the Vermont Legislature for a charter to build a railway from Barre to Williamstown, under the title of the Barre Granite Ry. The matter will come before the Public Service Commission Jan. 8. It is proposed that the new railway connect with the Montpelier and Wells River Rd. It is said Barre will be made the headquarters of the new road if the project materializes.

The question of the union railway station at Burlington, Vt., came before the Public Service Commission Dec. 5, but its decision has not been announced.

General Betterments. — During the past year the G.T.R. is reported to have completed the following betterments:

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ported to have been let to Cummings
and Deihl, at an estimated cost of \$125,-
000. The work is expected to be started
May 1. (April, pg. 183.)

Quebec and Lake St. John Railway Gas Electric Car.

The last issue of The Railway and
Marine World contained a complete de-
scription of the gas electric car which
the Canadian Northern Ry. Co. has pro-
cured for use on one of its subsidiary
lines, the Quebec and Lake St. John Ry.,
to run between Quebec and Lake St.
Joseph, 23 miles, the company having
a summer hotel at the latter point. The
description was accompanied by a dia-
gram showing the front, side and rear
elevations and the floor plan. An illu-
stration of the car's exterior appears on
this page.

The car reached Toronto on April 10,
and on the following day made a trip
on the C.N.O.R. Toronto-Sudbury line
from Toronto to Richmond Hill, 21
miles, with the chief executive officers
and a number of officials of the C.N.R.
and others. On April 13 it was run over
the C.N.O.R. line from Toronto to Tren-



Quebec and Lake St. John Ry. Gas Electric Car.

ton, 105 miles, a number of officials and
press representatives being on board.

It was then put on the run between
Trenton and Picton, 30 miles, for a short
time before being sent to Quebec, where
it is to go into service May 1.

Should the car's operation prove sat-
isfactory to the C.N.R. management it
is probable that orders for others will
be placed, but it is not probable that this
will be done for some months.

The car referred to, which was manu-
factured by the General Electric Co.,
Schenectady, N.Y., was sold through the
Canadian General Electric Co.

The Steam Railways of Connecticut.

The C.P.R. High Level Bridge at Edmonton, Alta.

The bridge being built by the C.P.R.
to connect Strathcona and Edmonton,
Alta., is progressing rapidly, all the
masonry having been completed, and
the steel work is in course of erection.

It is a steel span bridge 2,500 ft. long
from face to face of ballast walls of the
end abutments. This distance is made
up of three 288 ft. centre spans across
the river, 10 tower spans each from 30
to 50 ft. long, and 14 open spans each
from 30 to 100 ft. long. The main spans
over the river are supported on concrete
piers which measure approximately 115
ft. from the base of rail to the footing,
the latter in one instance extending to a
depth of approximately 40 ft. below the
river surface. The approach trestles on
each bank are carried on concrete
pedestals built up on concrete piling.

The bridge is to carry steam and elec-
tric railway and vehicular traffic. The
railway deck on the top of the structure
carries three tracks, one for C.P.R.
trains and the other two for electric rail-
way service. The roadway deck is locat-
ed 20 ft. below the railway tracks, and

consists of a reinforced concrete roadway
23 ft. wide, paved with wood, in addi-
tion to which there are two side paths
8 ft. wide supported on cantilever
brackets.

The highways and electric line ap-
proach the bridge from Saskatchewan
Ave., on the Edmonton side, and from
Anthony St. on the Strathcona side. The
C.P.R. tracks on the Edmonton side are
carried across Victoria and MacKay
Aves. on reinforced concrete structures,
and across Saskatchewan and Jasper
Aves. on steel structures. On the Strath-
cona side Anthony St. is carried over the
railway tracks on a reinforced concrete
bridge.

The Dominion Parliament has voted

Gas-Electric Motor Car for Quebec and Lake St. John Ra

n- way should be built from the C.P.R. at
 ie- Gibson to Minto, connecting there with
 om the New Brunswick Coal and Ry. Co.'s
 en- line, and that the Government would
 er- guarantee the bonds of any company
 nd building such a line to the amount of
 rol \$15,000 a mile. A first mortgage of the
 ete railway, buildings and rolling stock was
 ge- to be given to the Government as se-
 curity for the bonds, and no guarantee
 of the bonds of any company was to be
 entered into unless the Dominion Gov-
 ernment provided a subsidy on the usual
 conditions, up to \$6,400 a mile; until a
 contract had been entered into with the
 C.P.R. or some other railway for the
 base of the line for 99 years, at a rental,
 payable to the province to satisfy the
 interest and redemption fund of the
 bonds, of 40% of the gross earnings of
 the line; that the company leases from
 the province for 99 years at a rental of
 50% of the net earnings the New Bruns-
 wick Coal and Ry. Co.'s line, which ex-
 tends from Norton on the Intercolonial
 Ry. to Minto; and to take for a period to
 be agreed upon 100,000 tons of coal
 mined in Queens and Sunbury counties.
 If the percentage of earnings of the two
 lines paid as rental to the Government
 was more than sufficient to pay the in-
 terest on the bonds, it was to be return-
 ed to the company building the line.

During 1911 negotiations were carried
 on between the provisional directors of

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