

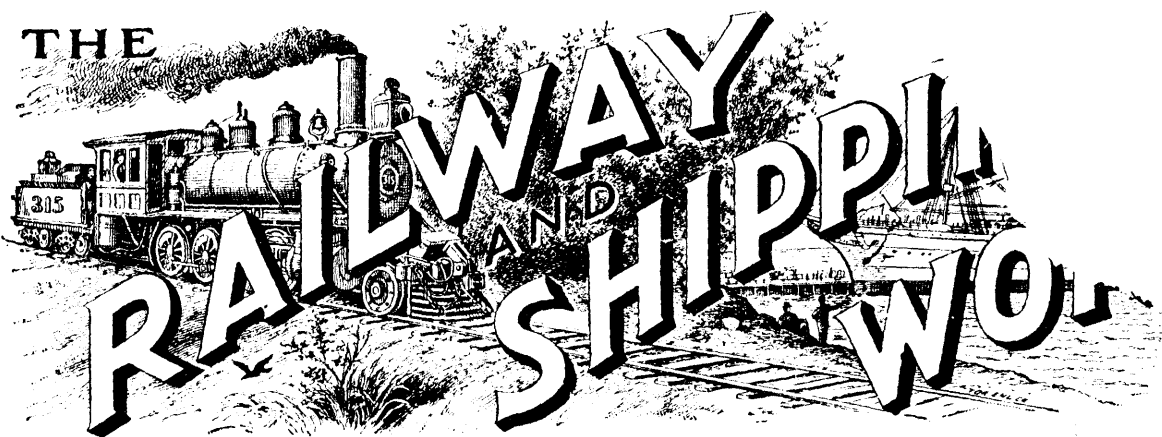
Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- | | | | |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> | Coloured covers /
Couverture de couleur | <input type="checkbox"/> | Coloured pages / Pages de couleur |
| <input type="checkbox"/> | Covers damaged /
Couverture endommagée | <input type="checkbox"/> | Pages damaged / Pages endommagées |
| <input type="checkbox"/> | Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée | <input checked="" type="checkbox"/> | Pages restored and/or laminated /
Pages restaurées et/ou pelliculées |
| <input type="checkbox"/> | Cover title missing /
Le titre de couverture manque | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> | Coloured maps /
Cartes géographiques en couleur | <input type="checkbox"/> | Pages detached / Pages détachées |
| <input type="checkbox"/> | Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire) | <input checked="" type="checkbox"/> | Showthrough / Transparence |
| <input type="checkbox"/> | Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur | <input checked="" type="checkbox"/> | Quality of print varies /
Qualité inégale de l'impression |
| <input checked="" type="checkbox"/> | Bound with other material /
Relié avec d'autres documents | <input type="checkbox"/> | Includes supplementary materials /
Comprend du matériel supplémentaire |
| <input type="checkbox"/> | Only edition available /
Seule édition disponible | <input type="checkbox"/> | Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées. |
| <input checked="" type="checkbox"/> | Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure. | | |
| <input checked="" type="checkbox"/> | Additional comments /
Commentaires supplémentaires: | | Continuous pagination. |

RAILWAY ACCIDENT INSURANCE,
A PURELY CANADIAN
 J. P. DICKSON, Secretary
 AUTHORIZED CAPITAL, \$500,000. SUBS.
 insures all classes of Accident and Sickness Insurance at
 best rates as is consistent with safety.
 Agents wanted in unrepresented districts.



With which is incorporated The Western World, Established
 Devoted to Steam and Electric Railway, Shipping, Express, Telegraph & Telephone

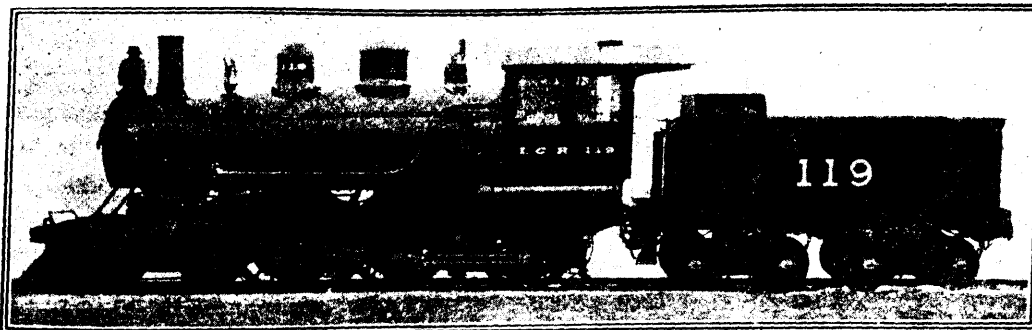
Old Series, No. 164.
 New Series, No. 82.

TORONTO, CANADA, DECEMBER, 1904.

RICE LEWIS & SON

LIMITED

General HARDWARE Merchants TORONTO.



CANADIAN LOCOMOTIVE CO. LTD.,
 KINGSTON, ONT.,

Builders of Simple
 and Compound

LOCOMOTIVES

Adapted to every
 variety of service.

H. W. PETRIE

Write for my monthly
 STOCK LIST containing
 list of all kinds of NEW
 AND SECOND-HAND - -

MACHINERY

NEXT TO UNION STATION

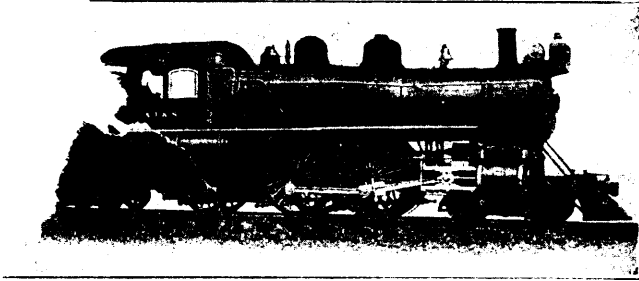
TORONTO, CANADA

CO., 29 MELINDA STREET, TORONTO.

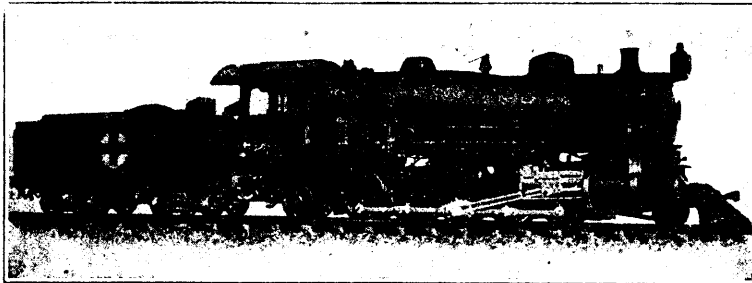
MANUFACTURERS
 Varnishes, Japans and Enamels,
 Montreal.
 E. MED. AWAR.

Two Engines

are equipped with
these Brakes and Friction Draft Gear



108,000 lbs. Baldwin Passenger Locomotive operating on Santa Fe System.



287,240 lbs. Baldwin Freight Locomotive operating on Santa Fe System.

Thousands of others
all over the world
are equipped with the
same apparatus.

The efficiency of Westinghouse Friction Draft Gear in minimizing the damage to draft rigging, due to shocks and strains in buffing and pulling operations, is being universally recognized.

Canadian Westinghouse Co., Limited

General Offices and Works: HAMILTON, ONT.

FOR PARTICULARS ADDRESS NEAREST OFFICE

Lawlor Bldg., King and Yonge Streets
TORONTO

152 Hastings Street
VANCOUVER

HAMILTON

922-923 Union Bank Bldg.
WINNIPEG

Liverpool and London and Globe Bldg.
MONTREAL

134 Granville Street
HALIFAX

THE Railway and Shipping World

With which is incorporated The Western World. Established 1890.
Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

OLD SERIES, No. 164.
NEW SERIES, No. 82.

TORONTO, CANADA, DECEMBER, 1904.

10 CENTS A COPY.
\$1 A YEAR.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Atlantic, Quebec and Western Ry.—J. V. Nimmo, of London, Eng., engineer for the New Canadian Co., has arrived at Paspebiac, Que., to take charge of construction. The first section to be gone on with will be a 10-mile section from Paspebiac, the present terminal of the Atlantic and Lake Superior Ry., originally constructed as the Baie des Chaleurs Ry., towards Gaspé. (Sept., pg. 311.)

Bessemer and Barry's Bay Ry.—The branch line, which press reports credited the Central Ontario Ry. with being about to construct, is a line which the B. and B. Ry. was authorized to construct at the last session of the Ontario Legislature. The line has been surveyed from L'Amable, on the Central Ontario Ry., for about five miles to an iron mine, in which H. C. Farnum, President B. and B. Ry. Co., is interested. Construction is likely to be started this year. (Aug., pg. 275.)

Brantford and Hamilton Electric Ry.—Application has been made to Brantford township council for a franchise from the eastern terminal of Colborne St., Brantford, Ont., along the stone road to the boundary of Ancaster township. This company has a Dominion charter for the construction of a line from Brantford to Hamilton, which charter was to become effective in the event of the failure of the Hamilton, Ancaster and Brantford Electric Ry. to construct five miles of its line by Oct. 31. (Aug., pg. 275.)

Brantford and Lake Erie Ry. (Electric)—Franchises have been secured from the townships of Woodhouse, Townsend and Oakland and from Simcoe town, Port Dover and Waterford villages, and negotiations are in progress with the township of Brantford for a franchise there. The directors are in correspondence with the Canadian Electric Traction Co., an English company which undertakes the financing and construction of electric railways, with a view to its constructing the line, which will extend from Brantford to Port Dover, Ont., with a loop from Waterford to serve Delhi, Lynedoch and other points. E. L. Goold, of Brantford, is President, and T. Elliott, Brantford, is Managing Director. (Aug., pg. 275.)

British Columbia Electric Ry.—The Vancouver Power Co., a subsidiary of the B.C.E. Ry. Co., has been delivering power from Trout Lake, since the beginning of the year, and it is expected that during the winter 2,000 h.p. will be delivered from this source. This lake is only intended as a balancing reservoir between Coquitlam Lake and the

power house. The two lakes are being connected by a tunnel, 2½ miles in length and 9 ft. square. The tunnel is about three-quarters completed. When the present installation is completed the plant will be capable of developing 9,000 h.p., and provision is made by which the power could be doubled at a nominal cost. The Vancouver Gas Co.'s plant, which has been acquired, will be utilized to supply gas for cooking purposes rather than for lighting, and, consequently, will not compete with the company's lighting plant. (Nov., pg. 405.)



• JAMES HARDWELL,
Chief Traffic Officer, Board of Railway Commissioners.

Cape Breton Coal, Iron and Ry. Co.—The right of way for the proposed line from the company's collieries near Cochrane Lake, N.S., to the Sydney and Louisburg Ry., two miles north of Mira Gut station, has been cleared, and grading is being gone on with. The camp springing up at the collieries has been named Cardiff. H. Mayhew, of London, Eng., president of the company, recently visited the property, and a press report from England states that Sir C. Rivers-Wilson, President G.T.R., has bought a controlling interest in the property. (Nov., pg. 405.)

Crow's Nest Southern Ry.—The extension of the line from Morrissey to Fernie, B.C.,

was expected to be in operation by the end of Nov. (Nov., pg. 406.)

Fort William, Loch Lomond and Mount McKay Incline Ry.—Application will be made next session of the Ontario Legislature for an act incorporating a company with the title of the Fort William, Loch Lomond and Mount McKay Incline Ry. and Tourist Resort Co., to construct an incline railway from the Kaministiquia River to the top of Mount McKay, and an electric railway to Loch Lomond, where it is proposed to establish a summer resort. Watson, Smoke and Smith, Toronto, are solicitors for applicants. (See Mount McKay and Kakabeka Falls Ry., June, pg. 189.)

Fraser River Bridge.—The B.C. Government opened the bridge over the Fraser River at New Westminster, B.C., for railway, vehicle and pedestrian traffic, recently. The trains of the Vancouver, Westminster and Yukon Ry., a Great Northern Ry. (U.S.) line, are being operated over the bridge, which gives the G. N. Ry. a direct entrance into Vancouver, and through another of its connections, the Victoria Terminal Ry. and Ferry Co., a route to Victoria. (Sept., pg. 313.)

Grand Valley Ry. (Electric).—The power house at Blue Lake, Ont., has been completed and the machinery is being installed. This work was expected to be completed by the end of Oct., when the power would be used for the G. V. Ry., thus relieving the power house in Brantford. The line from Paris to Galt is almost completed, and it is expected to have the cars in operation from Brantford to Galt early in Dec. (Sept., pg. 313.)

Guelph and Goderich Ry.—Gangs of men are at work on different parts of the route between Guelph and Goderich. Three steam shovels are at work at the Goderich end, and quantities of material are constantly being delivered and teamed out to the work. The contractors expect to have made considerable progress with the grading before the end of the year. P. A. Peterson is Chief Engineer, the division engineers being J. G. Macklin, B. D. McConnell, B. J. Forrest, V. M. Roberts. Each division engineer has charge of 20 miles. (Sept., pg. 313.)

Halifax and South-Western Ry.—We were recently advised, that tracklaying on the section of the line between Mahone and Halifax, N.S., 68 miles; the ballasting and surfacing, cattleguards, fencing, crossing signs and telegraph line had been completed. The water tanks were all completed and station buildings had been completed at Martin's River, Chester Basin, Chester, East River, Hubbards and Ingram Bay. From Mahone to Bridgewater, nine miles of the old Nova Scotia Cen-

(Continued on page 425.)

Galena-Signal Oil Company,

Franklin, Pa., and Toronto, Ont.

Successor to Galena Oil Company and Signal Oil Company, sole Manufacturers of the celebrated Galena Coach, Engine and Car Oils, and Sibley's Perfection Valve and Signal Oils.

CHARLES MILLER,
PRESIDENT.

THE RAILWAY & SHIPPING WORLD,

With which is incorporated
The Western World, Established 1890.

AN ILLUSTRATED PERIODICAL DEVOTED TO STEAM AND ELECTRIC RAILWAY, SHIPPING, EXPRESS, TELEGRAPH AND TELEPHONE INTERESTS.

The Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Ticket Agents' Association.

PUBLICATION OFFICE,
33 MELINDA STREET, TORONTO, CANADA.
Bell Telephone, Main 3401.

SUBSCRIPTION PRICE, postage prepaid to Canada and the United States, \$1 a year; to Great Britain and other countries in the Postal Union, \$1.25 (5 shillings sterling). The best and safest way to remit is by express or post office money order payable at Toronto.

ADVERTISING RATES furnished on application.

TORONTO, CANADA, DECEMBER, 1904.

Canadian Association of Masters and Mates.

MASTER, Capt. Jas. Wilson, Collingwood, Ont.;
FIRST OFFICER, Capt. Milligan, St. Catharines, Ont.;
SECRETARY, W. Ireland, Parry Sound, Ont.; TREASURER,
Capt. M. McKay, Owen Sound, Ont.

Canadian Excursion Agreement Meeting.

CHAIRMAN, J. H. Walsh, Sherbrooke, Que.
SECRETARY care of Passenger Department, C.P.R.,
Montreal.

Canadian Freight Association.

PRESIDENT, C. Howe, Buffalo, N.Y.; 1st VICE-PRES.,
W. R. MacInnes, Montreal; 2nd VICE-PRES., G. Collins,
Trenton, Ont.; SEC.-TREAS., J. Earls, Toronto.

OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.

Canadian Pacific Railway Club.

PRESIDENT, W. J. Brown; SECRETARY, pro tem, W.
J. Miller; TREASURER, J. D. Scott.
REGULAR MEETINGS, 1st Monday each month, in club
rooms, Toronto Junction.

Canadian Railway Club.

PRESIDENT, T. A. McHattie, Montreal; 1st VICE-
PRESIDENT, S. King, Moncton, N.B.; 2nd VICE-PRESI-
DENT, W. E. Fowler, Montreal; SECRETARY, W. H.
Rosevear, Jr., St. Lambert, Que.; TREASURER, S. F.
Underwood, Montreal.

MEETINGS at Windsor Hotel, Montreal, 1st Tuesday
of each month, 8 p.m., except June, July and Aug.

Canadian Roadmasters' Association.

PRESIDENT, A. McAuley, Toronto Jct., Ont.; VICE-
PRESIDENT, J. R. Brennan, Ottawa, Ont.; SECRETARY-
TREASURER, J. Drinkwater, Winchester, Ont.

OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, Col. W. P. Anderson, Ottawa; VICE-
PRESIDENTS, C. E. W. Dodwell, C. H. Keefer, E. Mar-
ceau; TREASURER, H. Irwin; SECRETARY, C. H.
McLeod; LIBRARIAN, E. G. M. Cape.

MEETINGS at 877 Dorchester St., Montreal, every
alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, M. McNamara, Walkerton, Ont.; FIRST
VICE-PRESIDENT, W. H. C. Mackay, St. John, N.B.;
SECOND VICE-PRESIDENT, C. E. Morgan, Hamilton,
Ont.; THIRD VICE-PRESIDENT, W. H. Harper, Chatham,
Ont.; CHAIRMAN EXECUTIVE COMMITTEE, W. Bunton,
Peterboro', Ont.; SEC.-TREASURER, E. de la Hooke,
London, Ont.

OFFICIAL ORGAN.—THE RAILWAY AND SHIPPING
WORLD, Toronto.

Dominion Marine Association.

PRESIDENT, C. F. Gildersleeve, Kingston; 1st VICE-
PRESIDENT, J. A. Cuttle, Montreal; 2nd VICE-PRESI-
DENT, H. C. Hammond, Toronto; SEC.-TREASURER, F.
King, Kingston, Ont.

Engineers' Club of Toronto.

PRESIDENT, K. Gamble; 1st VICE-PRESIDENT, R. F.
Tate; 2nd VICE-PRESIDENT, Jas. McDougall; SECRE-
TARY, W. Chipman.
Rooms, 96 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. E. Markham, Buffalo, N.Y.
SECRETARY, G. C. Wells, Montreal.

International Water Lines Passenger Association.

PRESIDENT, A. A. Schantz, Detroit, Mich.; VICE-
PRESIDENT, J. Berolsheim, Chicago, Ill.; SECRETARY,
M. R. Nelson, Buffalo, N.Y.

NEXT MEETING, Buffalo, N.Y., Feb. 8th, 1905.

National Association Marine Engineers of Canada.

PRESIDENT, T. J. S. Milne, Kingston, Ont.; VICE-
PRESIDENT, N. Ducap, Montreal, Que.; SEC.-TREAS.,
N. J. Morrison, St. John, N.B.; SECRETARIES OF LO-
CAL COUNCILS—Toronto, R. Beals; St. John, N.B.,
G. T. G. Blewett; Collingwood, Ont., A. McDougall;
Kingston, Ont., J. Gillicie; Montreal, N. Ducap; Vic-
toria, B. C., P. Gordon; Vancouver, B. C., T. M.
Heard; Levis, Que., E. Belanger; Sorel, Que., A. L. de
Martigny; Owen Sound, J. M. Wilson; Windsor, Ont.,
N. Maitland.

NEXT ANNUAL MEETING of the Grand Council, in
Collingwood, Ont., fourth Tuesday in Jan., 1905.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, H. H. Gildersleeve, Collingwood, Ont.
SECRETARY, G. C. Wells, Montreal.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan; CHAIRMAN OF EXECUTIVE
COMMITTEE, W. I. Gear; MANAGER, T. Robb; SECRE-
TARY, T. B. Odell. Office, 326 Board of Trade, Montreal.

Back Numbers for Sale.

THE RAILWAY AND SHIPPING WORLD:

March to December, 1898, price.....	\$1.00
January to December, 1899, ".....	1.10
January to December, 1900, ".....	1.10
January to December, 1901, ".....	1.10
January to December, 1902, ".....	1.10
January to December, 1903, ".....	1.10

including postage.

Address

THE RAILWAY AND SHIPPING WORLD,
33 Melinda St., Toronto, Canada.

Cuts For Sale.

With few exceptions, all cuts which appear
in THE RAILWAY AND SHIPPING WORLD as
illustrations are for sale.

For prices, etc., address

THE RAILWAY AND SHIPPING WORLD,
33 Melinda St., Toronto, Canada.

Subscription Agents Wanted.

We want an agent at each railway and
shipping centre in the Dominion to secure
new subscriptions to the RAILWAY AND SHIP-
PING WORLD, for which we will pay liberal
commissions.

The work is easy, the paper recommending
itself; and is specially adapted for clerks in
transportation offices. It can be done at odd
times without interfering with other duties.

For terms and other particulars, address

THE RAILWAY AND SHIPPING WORLD,
Toronto.

An order has been issued by R. Marpole,
General Superintendent Pacific Division,
C.P.R., permitting commercial travellers to
travel on freight trains on the division.

W. Abbott, of Montreal, read a paper on
Aluminothermics, or Thermit welding, before
the Canadian Railway Club in Montreal,
Nov. 1. Thermit is a heating compound con-
sisting of aluminum in a divided state mixed
with oxide of iron. Among other purposes,
it is used for welding embedded trolley rails,
exposed T-rails and third rails, also for
repairs, in particular maritime repairs, shaft-
ing, etc.,

Alphabetical List of Advertisers.

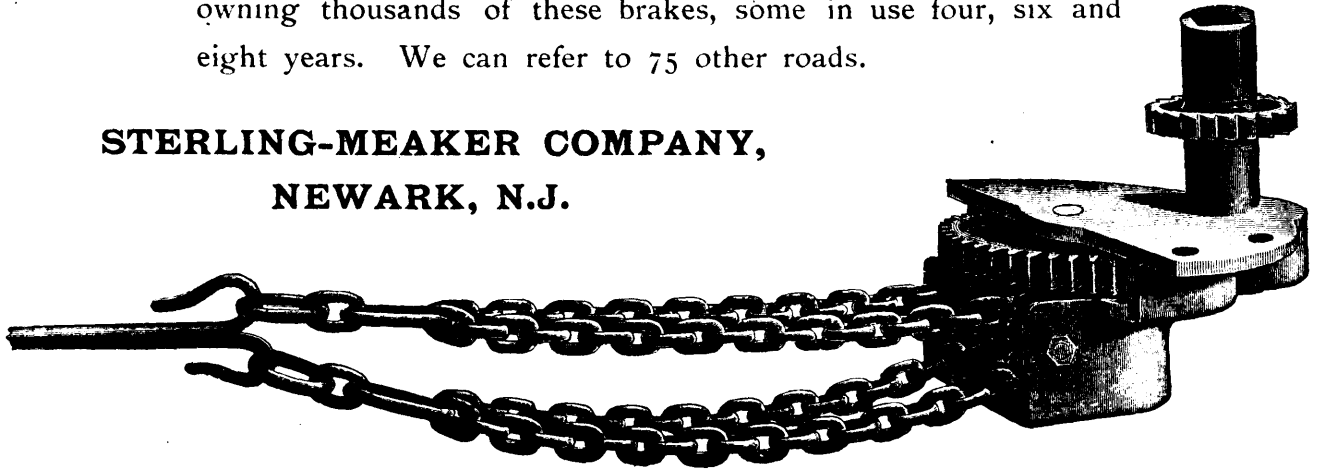
	PAGE
W. Abbott, Montreal.....	462
The Accident and Guarantee Co. of Canada.....	462
Am. Break Shoe & Foundry Co., Mahwah, N.J.....	442
American Locomotive Co., New York.....	426
Babcock & Wilcox (Ltd.), Montreal.....	464
W. C. Baker, New York.....	454
Baldwin Locomotive Works, Philadelphia, Pa.....	440
Bell Telephone Co. of Canada.....	458
Bertram Engine Works Co., Toronto.....	438
The John Bertram Sons Co., Dundas, Ont.....	432
Bradstreet Company.....	424
The Acton Burrows Co., Toronto.....	Cover 1 and 424
W. M. Camp, Chicago.....	428
Canada Foundry Co., Toronto.....	426 and 436
Canadian Locomotive Co., Kingston, Ont.....	Cover 1
Canadian Northern Railway.....	444
Canadian Office & School Furniture Co., Preston.....	462
Canadian Oil Co., Toronto.....	446
Canadian Pacific Railway Land Department.....	436
Canadian Railway Accident Insurance Co.....	Cover 1
Canadian Shipbuilding Co.....	458
Canadian Steel and Wire Co., Hamilton.....	458
Canadian Westinghouse Co., Hamilton.....	Cover 2
Chicago Ry. Equipment Co., Chicago, Ill.....	454
Continental Heat and Light Co., Montreal.....	460
Continuous Rail Joint Co. of Canada.....	448
Crossen Car Mfg. Co., Cobourg, Ont.....	448
Delaware, Lackawanna & Western Rd.....	458
Eugene Dietzgen, New York.....	462
Dominion Bridge Co., Montreal.....	456
Dominion Wire Rope Co., Montreal.....	454
E. L. Drewry, Winnipeg, Man.....	444
Drummond, McCall & Co., Montreal.....	446
Erie Heating Co., Chicago, Ill.....	432
Firstbrook Box Co., Toronto.....	462
Galena Signal Oil Co., Franklin, Pa.....	422
Garden City Sand Co., Chicago, Ill.....	462
J. J. Gartshore, Toronto.....	462
Gartshore-Thompson Pipe & Fdry Co., Hamilton.....	456
General Railway Signal Co., Buffalo, N.Y.....	454
Government of Manitoba.....	436
The B. Greening Wire Co., Hamilton, Ont.....	462
Goold, Shapley & Muir Co., Brantford.....	460
Gutta Percha and Rubber Mfg. Co. of Toronto.....	434
F. M. Hicks & Co., Chicago, Ill.....	462
Holt, Renfrew & Co., Toronto.....	440
F. H. Hopkins & Co., Montreal.....	452
Hotel Empire, New York.....	450
Hudson's Bay Company.....	Cover 4
Hunter, Rose Co., Toronto.....	462
James Hutton & Co., Montreal.....	456
Illinois Central Railroad.....	440
Imperial Bank of Canada.....	462
Intercolonial Railway.....	450
International Mercantile Marine Co.....	430
Wm. Jessop & Sons (Ltd.), Sheffield, Eng.....	452
Lima Locomotive & Machine Co., Lima, Ohio.....	460
Lehigh Valley Railroad.....	Cover 1
Rice Lewis & Son, Toronto.....	Cover 1
Locomotive and Machine Co. of Montreal.....	438
London Guarantee and Accident Co., Toronto.....	458
Mail Job Printing Co., Toronto.....	460
McCaskill, Dougal & Co., Montreal.....	Cover 1
John S. Metcalf Co., Chicago, Ill.....	460
F. J. Meyers Mfg. Co., Hamilton, Ohio.....	450
Mica Boiler Covering Co., Montreal.....	448
Midland Fowling and Wrecking Co.....	454
Montreal Steel Works, Montreal.....	428
James Morrison Brass Mfg. Co., Toronto.....	436
John Morrow, Machine Screw Co., Ingersoll.....	462
T. A. Morrison & Co., Montreal.....	462
W. H. C. Mussen & Co., Montreal.....	432
New York Central Railroad.....	448
New Jersey Zinc Co., New York.....	462
Northern Electric and Manufacturing Co., Montreal.....	430
A. O. Norton, Coaticook, Que.....	430
Ontario Wind Engine and Pump Co., Toronto.....	460
Page Wire Fence Co., Walkerville.....	452
Eugene F. Phillips Electrical Works, Montreal.....	458
N. L. Piper Railway Supply Co., Toronto.....	450
Place Viger Hotel, Montreal.....	460
Polson Iron Works, Toronto.....	460
Positive Lock Washer Co., Newark, N.J.....	460
J. W. Pyke & Co., Montreal.....	442
Rhodes, Curry & Co., Amherst, N. S.....	444
St. Thomas Brass Co., St. Thomas, Ont.....	456
Safety Car Heating & Lighting Co., New York.....	446
S. S. Marie Pulp & Paper Co., S. S. Marie, Ont.....	442
Saxon Engine Works, Chemnitz, Germany.....	434
Sheriffs Mfg. Co., Milwaukee, Wis.....	452
Simplex Railway Appliance Co., Montreal.....	Cover 4
Sterling-Meaker Co.....	449
Toronto Bolt and Forging Co., Toronto.....	440
Toronto Engraving Co., Toronto.....	462
United Typewriter Co., Toronto.....	458
Wabash Rd.....	444
Wire & Cable Co., Montreal.....	454

In connection with the recent litigation in
Ontario respecting the running of street cars
on Sunday at Kingston, and the running of
steamer traffic on the lakes, it having ap-
peared that there is a certain conflict as
between the Provincial and the Dominion
acts on the subject, the Dominion Govern-
ment has submitted a case to the Supreme
Court of Canada. The decision will settle
the powers of the Provinces to pass acts re-
lating to Sunday work. The case was set
down for argument Nov. 14.

THE STERLING SAFETY BRAKE IS NOT

an experiment. It is a standard article, indispensable to safety. Brake chains wear out and part unexpectedly. If the working chain of the Sterling breaks, the safety chain, running idly and unworn, will be instantly at work. We refer below to 50 roads owning thousands of these brakes, some in use four, six and eight years. We can refer to 75 other roads.

**STERLING-MEAKER COMPANY,
NEWARK, N.J.**



Rhode Island Company. - - - Providence, R.I.	Charlotte Lt. & Power Co., - - - Charlotte, N.C.
Bristol & Plainville Tramway Co., - - - Bristol, Conn.	Charleston Cons. Ry. Gas & Elec. Co., - - - Charleston, S.C.
Fair Haven & Westville R.R. Co., - - - New Haven, "	New Orleans Railway Co., - - - New Orleans, La.
Farmington St. Ry., - - - - Hartford, "	Austin Elec. Ry. Co., - - - - - Austin, Tex.
Winchester Ave. R.R. Co., - - - West Haven, "	Memphis St. Ry. Co., - - - - - Memphis, Tenn.
New York City Ry. Co., "Metropolitan System," - - - - - New York, N.Y.	Cleveland Elec. Ry. Co., - - - - - Cleveland, Ohio.
Union Railway Co., - - - - - New York, "	Cincinnati Traction Co., - - - - - Cincinnati, "
International Railway Co., - - - - - Buffalo, "	South Chicago City Ry. Co., - - - - - South Chicago, Ill.
Rochester Railway Co., - - - - - Rochester, "	Des Moines City Ry. Co., - - - - - Des Moines, Ia.
Rochester & Sodus Bay Ry. Co., - - - - - " "	Union Electric Co., - - - - - - - Dubuque, "
Rochester & Suburban Ry. Co., - - - - - " "	Detroit United Railway, - - - - - Detroit, Mich.
Fonda, Johnstown & Gloversville R.R. Co., - - - - - Gloversville, "	United Railroads of San Francisco, - - - - - San Francisco, Cal.
Schenectady Railway Co., - - - - - Schenectady, "	Los Angeles Ry. Co., - - - - - Los Angeles, "
Troy City Ry. Co., - - - - - - - Troy, "	San Jose & Santa Clara R.R. Co., - - - - - San Jose, "
Jersey City, Hoboken & Paterson St. Ry. Co., - - - - - Hoboken, N.J.	British Columbia Elec. Ry. Co., - - - - - Vancouver, B.C.
North Jersey St. Ry. Co., - - - - - Newark, "	Lima-Callao Tramway, - - - - - - - Lima, Peru.
Elizabeth, Plainfield & Central Jersey St. Ry. Co., - - - - - Elizabeth, "	Lima & Chorillos, - - - - - - - " "
Public Service Corporation of New Jersey, Jersey City, "	Santos Tramways, - - - - - - - Santos, Brazil.
Central Pennsylvania Traction Co., - - - - - Harrisburg, Pa.	Electric Tramway Co., - - - - - Lisbon, Portugal.
Butler Passenger Ry. Co., - - - - - Butler, "	Cape Electric Tramways, Ltd., - - - - - Cape Town, So. Africa.
United Railways & Electric Co., - - - - - Baltimore, Md.	Durban Tramways, - - - - - - - Durban, "
Berkeley St. Ry. Co., - - - - - Berkeley, Va.	Tokio Densha Railway, - - - - - - - Tokio, Japan.
Lynchburg Elec. Ry. & Lt. Co., - - - - - Lynchburg, "	Tokio Shigai Railway, - - - - - - - " "
Asheville Elec. Co., - - - - - - - Asheville, N.C.	Odawara Electric Railway, - - - - - Odawara, "
	Nagoya Electric Railway, - - - - - Nagoya, "
	Keihin Traction Co., - - - - - - - Kawasaki, "



PLANT OF THE LOCOMOTIVE AND MACHINE CO. OF MONTREAL, LONGUE POINTE, NEAR MONTREAL.

RAILWAY DEVELOPMENT.

(Continued from page 421.)

tral Ry. will be run over. On the section from Bridgewater to Liverpool, 31 miles, the grading has been completed to Brooklyn, 30 miles; the bridgework over the La Have River has been practically completed, and work is in progress on the foundations for the bridge over the Medway River. Fencing is being gone on with, and track had been laid to Liverpool Oct. 31. The foundations for the stations and tanks were being constructed. This will leave about 90 miles of line between Liverpool and Barrington Passage to be completed, but nothing will be done on it this year as the route has not been finally approved of by the Government. On the Middleton and Victoria Beach branch the 40 miles of grade was completed Nov. 12. Tracklaying is expected to be completed this year. The Railway Commissioners have made an order authorizing a junction of this line with the Dominion Atlantic Ry., and with the old Nova Scotia Central Ry., now H. and S.W. Ry., at Middleton. (Sept., pg. 313.)

Hamilton, Ancaster and Brantford Ry. (Electric).—C. D. Haines, a U. S. contractor, recently interviewed the Wentworth county council with a view to obtaining its support. He stated that no bonus would be asked, but a right-of-way over portions of the highway would be required, where a private right-of-way could not be purchased. The projected line will cost about \$300,000, and Mr. Haines says he will put up \$100,000, asking local subscriptions for the balance. Ten cars a day each way would be run, and a 25c. rate would be given. The county council promised to favorably consider the proposal when it was formally laid before it. The Ancaster township council has given a by-law voting the

company a franchise a second reading, and the matter will come up again. The Brantford township council arranged to have the matter further considered by it. The charter under which the proposals are being made is that of the Hamilton, Ancaster and Brantford Ry. Co., of which Major J. K. Leslie, of Toronto, is the chief promoter. The company has an Ontario charter, which was renewed in 1902, and at the last session of the Dominion Parliament, on the application for the incorporation of the Brantford and Hamilton Ry. Co., for the purpose of constructing an electric railway between these two cities, Major Leslie stated that he had practically concluded arrangements for the construction of five miles of the line by Oct. 31. Upon this statement a clause was inserted in the B. and H. Ry. Co.'s act, by which it was not to become operative in the event of the five miles of line being constructed under the H. A. and B. Ry. charter. (June, pg. 185.)

Hamilton Street Ry. (Electric).—The doubling of the track to Irondale has been completed, and belt line cars are being run from the city to the International Harvester Co.'s works.

Huron and Ontario Ry. (Electric).—The charter for the construction of this projected railway from Port Perry to Kincardine, Ont., has been transferred to a new board and press reports state that a Mr. May has put up security to begin construction by July 1, 1905. The new board consists of M. McNamara, D. Robertson, A. B. Kline, of Walkerton, Ont.; A. McCameron, of Meaford, Ont.; R. J. Sproule, of Flesherton, Ont., who were named among the provisional directors in the amending act of incorporation of 1903, together with a number of Toronto men. (Aug., pg. 277.)

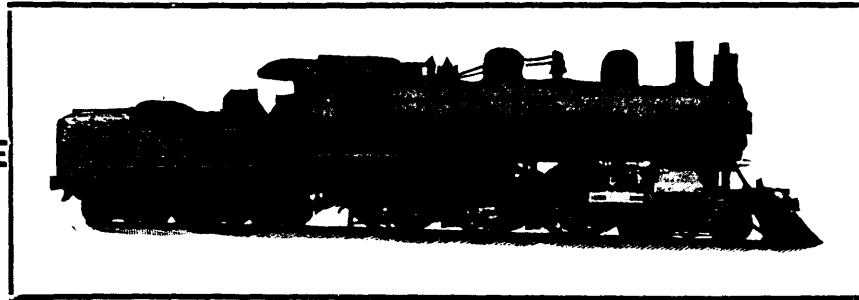
Intercolonial Ry.—Tenders have been awarded for the construction of station

buildings at Woodburn, Lorne, Union, Pictou, Antigonish and Windsor, N.S.; Memramcook, N.B.; station building and freight shed at Aulac, N.B.; Assmetquaghan, Villeroy, Drummondville, Montmagny and Riviere Ouelle, Que.; engine house at Truro, N.S., and for the double tracking of the line between Rockingham and Bedford, N.S.; the construction of a double track diversion at Birch Cove, N.S.; grading and widening the present roadbed for a double track between Stellarton and New Glasgow, N.S., and single track diversions at Mitchell and St. Leonard Junction, Que.

During the year ended June 30, 1904, the I.C.R. laid 145 miles of 80 lb. rails, replacing 67 and 56 lb. rails. Ten miles were laid on the Drummond County section, five miles between Hadlow and Chaudiere, Que.; 26 miles between Moncton and Newcastle, N.B.; 94 miles between Moncton, N.B., and Truro, N.S., and five miles on the North Sydney branch. The other five miles were laid in short sections at various points. During the current year it is expected to lay about 55 miles of 80 lb. rails between Truro and Halifax, N.S., which will complete the work of relaying the line between these points with heavy rails. When this is completed there will remain about 500 miles of the line between Montreal and Halifax, and 90 miles of the line between Moncton and St. John, N.B., to be laid with heavy rails. The old 67 lb. rails from the main line are being put on the Oxford and New Glasgow branch line; between St. Charles Junction and Chaudiere, Que.; on the Pictou Landing and Shediac branches, replacing 56 lb. rails, which will be sold. A large number of new crossings, and sidings are being put in at various points, the cost of which is being met out of the \$118,000 voted by Parliament for that purpose. About

AMERICAN LOCOMOTIVE COMPANY

BUILDERS OF LOCOMOTIVES FOR ALL CLASSES OF SERVICE.



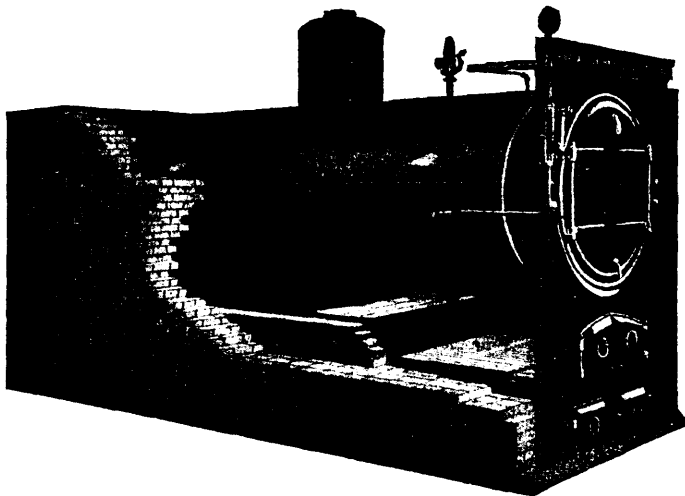
SCHENECTADY WORKS, Schenectady, N. Y.
 BROOKS WORKS, Dunkirk, N. Y.
 PITTSBURG WORKS, Allegheny, Pa.
 RICHMOND WORKS, Richmond, Va.

COOKE WORKS, Paterson, N. J.
 RHODE ISLAND WORKS, Providence, R. I.
 DICKSON WORKS, Scranton, Pa.
 MANCHESTER WORKS, Manchester, N. H.

MONTREAL WORKS, Montreal, Canada.

GENERAL OFFICE 25 Broad Street, NEW YORK CITY.

RETURN TUBE TUBULAR



HORIZONTAL
 UPRIGHT
 LOCOMOTIVE

BOILERS

WATER TANKS, STAND PIPES,
 SMOKE STACKS

And Riveted Steel Plate Work
 of Every Description.

CANADA FOUNDRY COMPANY, Limited

Head Office and Works, TORONTO, ONT.

DISTRICT OFFICES

MONTREAL

HALIFAX

OTTAWA

WINNIPEG

CALGARY

VANCOUVER

ROSSLAND

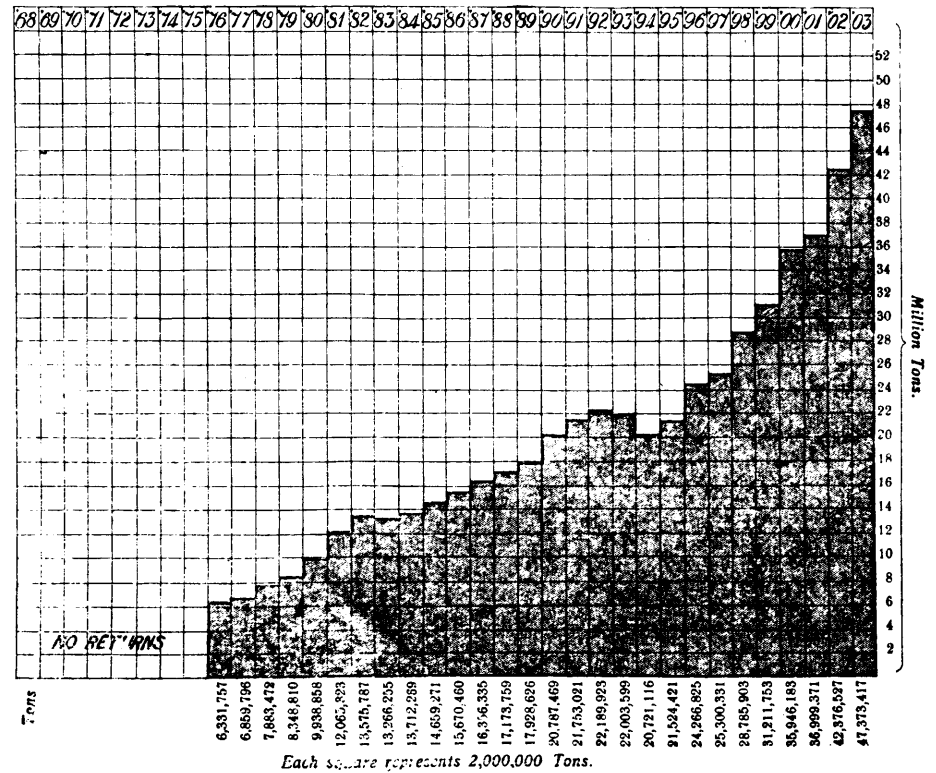
75 miles of ballasting will also be done this year, principally between Truro and Halifax, and on the Sydney branch.

The double-tracking between Rockingham and Bedford, N.S., including a diversion of the line—to reduce the curvature—at Birch Cove, will complete the double-tracking of the line between Halifax and Windsor Junction, N.S., a distance of 14 miles. The portion now under contract will involve a good deal of heavy work in widening the cuttings and embankments on the existing single track line. At Birch Cove diversion, the work is particularly heavy; it comprises 7,000 cubic yards of rock and earth excavation, 64,000 cubic yards of rock and earth filling, and 825 cubic yards of masonry. The entire work is to be completed by June 30, 1905; and, in addition to the above, the work will include a new double-track bridge of 280 ft. in length over the Sackville river at Bedford.

The freight shed to be erected on pier 8, at Halifax, will be of wood. It will be 649 ft. by 54 ft. 9 in. The roof will be of a double king-post type, a line of posts running through the centre of the building, spaced 18 ft. centres. Doors will be placed on each side of the shed, spaced 36 ft. centres, and two pairs of doors at each end of the shed. All these doors will be 16 ft. 10 in. wide, and 14 ft. 4 in. high, and will hang on the outside of wall, running on door hangers and rail of the heaviest pattern. The shed will be framed in hard pine, and will be constructed on a creosoted pile pier, with hard pine top. The walls of the shed will be 16 ft. 8 in. high, and the total height to the top of the tar and gravel deck roof will be 31½ ft.; the sloping portion of the roof will be shingled. Tracks will be laid on the wharf, on each side of the shed, the floor in the inside of the shed being 4 ft. above rail level, to facilitate loading, etc. When completed the shed will be one of the most permanent and largest on the I.C.R. Falconer & Dixon, Sydney, N.S., are the contractors. The cost is placed at \$25,000.

The new station at Antigonish, N.S., will be constructed of brick, faced with pressed brick, and trimmings, on a stone foundation. It will have a total length of 77 ft., with a general depth of 27 ft. On the ground floor there will be a general and ladies' waiting rooms, each 30 by 24 ft.; and an office 16 by 25 ft. The office will have ticket windows opening into each of the waiting rooms, and behind the office will be the stairway leading to the upstairs rooms, two 17 by 13 ft.; and two 28 by 12 ft., for the use of the station staff. There will also be adjoining the waiting rooms, ample lavatory accommodations. In the basement will be the furnace, etc. The internal finish of the building will be in wood—birch, maple, Douglas fir, and cypress being principally used. A wide verandah will extend on all sides of the building.

The new station to be erected at Pictou, N.S., will be constructed of stock brick, faced with red pressed brick, finished with cut stone trimmings, and will have a slate roof. The foundations will be of concrete masonry, on piles capped with scrap rails. The ground floor will contain the station agents' and ticket office, 14½ ft. by 20½ ft., with a hall and vestibule in the centre of the building; off the hall, on one side, will be a men's waiting room, 27 ft. by 27 ft. 6 in.; smoking room 10 by 10 ft., and lavatory; and on the opposite side, women's waiting room, 27 ft. by 27 ft. 6 in.; parlor, 10 by 10 ft.; and lavatory. The main entrance will be through the vestibule, in which will be placed a stairway leading to the upper floor, in which will be located offices for the station staff. The baggage room will be located in a flat-roofed annex, 27½ ft. by 33 ft. 9 in., in which there will be an office 5 ft. by 11½ ft. The internal finish will be in different kinds of wood—birch, maple, Douglas fir and cypress being principally used. A verandah, 10 ft. in width, will extend all round the building,



FREIGHT CARRIED BY CANADIAN RAILWAYS, 1876 TO 1903.

connected at each end by umbrella roofs covering platforms. These umbrella roofs will be 100 ft. long, of the single post design, and will be built of steel throughout. Hot water heating will be used, the plant being located in a basement under the centre of the building.

The new passenger station to be built at Windsor, N.S., will be of wood, resting on a masonry foundation. The building will be 77 by 26 ft., the central portion projecting 6 ft. on each side. The basement, which will be the full size of the building, will contain a hot water boiler, etc., for heating purposes. The ground floor will contain general waiting room, 30 by 24 ft.; ladies' waiting room, 30 by 24 ft.; office, 16 by 15 ft.; in the rear of which will be a stairway leading to the second floor, and lavatories. The second floor is divided into four rooms and a hall, and is for the use of the local staff. The internal finish is to be of different kinds of wood, maple, birch, Douglas fir, and cypress being used.

A two-story frame building is to be erected at Stellarton, N.S., for store and office purposes. The building, which will be 66 by 22 ft., will rest on a concrete foundation and will have a flat roof. The roof will slope to the centre line of the building, rainwater being taken down through cast-iron pipes to sewer. The ground floor will contain two offices, each 10 by 16 ft., for the master mechanic and his clerks, and a store room 27 by 22 ft.; while the first floor will be used as rest room, etc., for the train men.

The 30-stall roundhouse at Truro, N.S., for which tenders were recently invited, will be of brick resting on masonry foundation. Walls and piers and the roof will be supported by a system of hard pine posts and beams. The building will be divided into five sections by four fire walls. The length of the building inside is 85 ft., and of the engine pits 60 ft. The turntable is 75 ft., and the distance from its centre to outside wall of the building is 172 ft. 5 9-16 in., and to the inside wall of building 86 ft. 8½ in. An annex, 115 by 54 ft., will contain boiler, coal and compressor rooms and machine shop, and another annex will contain fan and engine for the hot blast

heating system, which will be forced through underground conduits and pipes into the pits. A drop pit will be provided covering two pits. The floor of the building will be of concrete with cement top; the finishing floor will be laid after the building is completed, and sufficient time allowed for the filling to become thoroughly packed. The roof will be covered with pitch and gravel. Standard cast-iron smoke-stacks will be provided with adjustable hooks to suit engine stacks. The building will be piped for water, steam, and compressed air. Roundhouses of similar design are nearing completion at St. John, N.B., 18 stalls; St. Flavie, N.B., 12 stalls; Riviere du Loup, Que., 24 stalls; Chaudiere Junction, 18 stalls.

The passenger station to be constructed at Memramcook, N.B., will be of wood resting on a stone foundation. It will be 22 by 63 ft., and will contain office, 15 ft. 2 in. by 16 ft. 6 in. in the centre, in the rear of which will be lavatory accommodation. On one side will be a general waiting room, 20 ft. by 20 ft. 8 in.; and on the other ladies' waiting room, 13 ft. by 20 ft. 8 in.; and a baggage and express room, 12 ft. by 20 ft. 8 in. The existing station building will be used in connection with the enlargement of the freight house.

The new station at Drummondville, Que., for which tenders were recently asked, will be 116 by 24 ft. wide, and will be constructed of brick, resting on a continuous concrete masonry foundation wall. It will contain men's waiting room, 22 by 30 ft.; women's waiting room, 22 by 25 ft., in each of which is lavatory, adjoining room; station master's office, 14 by 26 ft.; baggage room, 22 by 30 ft.; and trackmaster's office, 14 by 22 ft. The internal finish will be in different kinds of wood, birch, maple, Douglas fir, and cypress.

At Montmagny, Que., a one-story brick extension, 30 by 25 ft. long, is to be constructed as a general waiting room. This will permit of a rearrangement of the present accommodation as follows: The present office and waiting room will be converted into a ladies' waiting room, with toilet room; and the present general waiting room will be converted into the agents' office and lavatory

accommodation for the new general waiting room. (Sept., pg. 313.)

Inverness Ry. and Coal Co.—Ballasting and other work on the line of this company between the junction with the Intercolonial Ry. at Point Tupper, and Inverness, N.S., is being proceeded with.

James Bay Ry.—Track has been laid on the extension of the line from Quebec Siding, on the Canada Atlantic Ry. into Parry Sound, Ont., to the waters of Georgian Bay.

The contracts for the construction of the line from Toronto to a junction with the five mile section already completed and in opera-

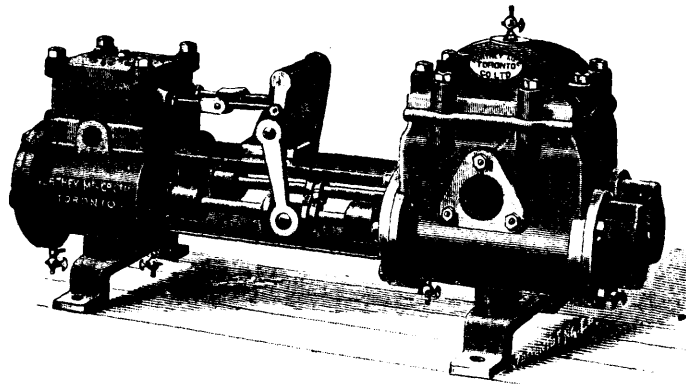
tion, call for the grading, bridging, tracklaying, ballasting, etc. A. R. Mann and Alex. Mackenzie, who have the contract on the section between Toronto and Washago, have commenced work at Wilcox Lake, about 17 miles north of Toronto. Operations at this point have ceased for the winter, and several gangs of men are employed upon the extensive cut and fill work in the Don Valley. The contract for the section from Washago to Parry Sound has been let to Angus Sinclair, C.E., who has already started operations, having let sub-contracts as follows: Fielding to mileage 13, Kennedy & McDonald, Fielding, Ont.; mileage 13

to mileage 18, F. T. Cote, Gudin Bay, Ont.; mileage 18 to mileage 22, Montgomery & Moffatt, Barnsdale, Ont.; mileage 22 to mileage 29, Giroux & Jamieson, Foote's Bay, Ont.; mileage 32 to mileage 36, Phillips & Jacob, Bala, Ont.; mileage 36 to mileage 41, G. Campbell, Torrance, Ont.; mileage 41 to mileage 49, Geo. McPhail, Leg Lake, Ont. About 300 men are at work and it is intended to increase the number to 1,000 at once. The contracts call for the completion of the line by Sept., 1905. The route, as located, leaves Toronto via the Don valley, which it follows to about 1½ miles east of Thornhill; it then

CANADA FOUNDRY COMPANY, Limited

Head Office and Works : TORONTO, ONT.

Manufacturers of Pumps for all duties requiring the delivery of liquids under heavy pressure.



For Boiler Feeding, Mills, Factories, Hydraulic Elevators and all power purposes.

SEND FOR CATALOGUE.

DURABLE **RELIABLE** **SIMPLE**

DISTRICT OFFICES

Montreal, Halifax, Ottawa, Winnipeg, Calgary, Vancouver, Rossland

MONTREAL STEEL WORKS

MANUFACTURERS OF **STEEL CASTINGS**

LIMITED

(ACID OPEN HEARTH SYSTEM)

SWITCHES AND TRACK WORK

FOR STEAM AND ELECTRIC ROADS

SPRINGS

OF ALL KINDS

MANGANESE STEEL CASTINGS

For wearing Parts, Insuring Great Hardness and Durability

INTERLOCKING PLANTS

WORKS AND OFFICE : CANAL BANK, PT. ST. CHARLES, MONTREAL

runs northerly to Richmond Hill, thence almost directly to Vandorf, crossing the divide at an elevation of 1,020 ft. above sea level, about the 20th mile; thence east of Pine Orchard to Mt. Albert, where it crosses the Sutton branch of the G.T.R.; thence about 1½ miles from Zephyr, through Pefferlaw, Beaverton, Gamebridge, Brechin and Udney to a crossing of the Northern Division, G.T.R., between Washago and Severn Bridge; thence through Sparrow Lake, across the Severn at Ragged Rapids to Bala; thence along the west shore of Lake Joseph to Gordon Bay; thence as directly as may be to Parry Sound, crossing Seguin River just above the town; thence almost directly to Deer Lake on the Magnetawan River, crossing the latter below Mountain rapids; thence to west end of Wilson Lake. The total length of this line is about 148 miles. The plan shows a junction with the Canada Atlantic Ry., about three miles south-east of Quebec Siding, from which point the line into Parry Sound, 4.50 miles, has been in operation since 1902. The Orillia people are desirous of having the line taken through that town, and it is urged in their behalf that by so doing the barren and rough country near Washago would be avoided, and the distance between Toronto and Parry Sound shortened by about four miles.

From Parry Sound northerly to Sudbury the route has not been finally decided upon. The maximum gradient is 0.75% compensated and the maximum curve 6°. The work generally is light to the Severn with the exception of some eight miles in the Don valley, some of which is heavy. To the north of the Severn the work is mostly moderate with much rock work. The principal bridges are over the Trent Canal, the Severn, Muskoka Lake outlet, the Magnetawan, French and Wahnapiatae rivers. H. K. Wicksteed is Chief Engineer; the divisional engineers are S. H. Sykes and H. A. Creighton; and D. O. Lewis is Locating Engineer.

A section of the old Belt Line, in the Don valley, has been purchased by the J.B. Ry. and it is reported that the Schomberg and Aurora Ry., which was constructed by interests connected with the Metropolitan Ry., from near Bond Lake to Lloydstown, will be absorbed by the J.B. Ry. (Sept., pg. 313.)

Kettle Valley Ry.—The preliminary survey for the extension of this line has reached Lynch Creek, 18 miles from Grand Forks, B.C., and the location survey has been completed for the first 12 miles. The survey is being pushed forward to Franklin, about 45 miles from Grand Forks. H. W. Warrington, General Superintendent, states that he expects construction will be gone on with next spring. Col. McNaught, formerly 2nd Vice-President, Great Northern Ry. of Canada, has recently been at Grand Forks, looking over the ground with a view of financing the construction of the line. (Sept., pg. 313.)

Kingston, Portsmouth and Cataract Electric Ry.—The Kingston, Ont., City Council has been recommended by the fire and light committee to increase by 25% the charge for power for operating this railway. The present charge is \$6,000 a year, which the committee states is less than the actual cost of supplying the power. The city has recently taken over the company supplying power and lighting in the city. (Mar., pg. 78.)

Kootenay Central Ry.—Press reports from Fort Steele, B.C., state that the route of this projected line has been settled and that it will start from the Crow's Nest Pass line of the C.P.R. at the nearest practicable point to Fort Steele, and run northerly through the Kootenay and Columbia valleys to the main line of the C.P.R. at Golden. Nothing is said as to the probable date when construction will be commenced. Two survey parties went over the route from the Crow's Nest Pass line to Fort Steele in Oct., and location

surveys are reported to be in progress. Engineers Grant and Armstrong are in charge of the parties, and J. G. Sullivan, Division Engineer of Construction, C.P.R., has general charge of the work. (Sept., pg. 313.)

Lethbridge, Alta., Union Station.—Representatives of the Alberta Ry. and Irrigation Co. have been discussing with the Lethbridge, Alta., Town Council a proposal to establish a union station there at an estimated cost of between \$50,000 and \$80,000. Representations have also been made to the C.P.R. on the subject. The proposition is to make Lethbridge the starting point for the local train running from McLeod to Cranbrook, and to be the southern terminal of the Calgary and Edmonton Ry.

Levis County Rd. (Electric).—A 215 ft. open span bridge is being built over the Etchemin River, to connect the company's line in Levis with the line in St. Romuld, thus completing the line. The Dominion Bridge Co., Montreal, has the contract. The company has installed one unit of 350 h.p. of its power plant at Levis. The difficulty with the power company was settled and a new contract entered into for the supply of 600 h.p. at \$18.33 per h.p., instead of \$20 per h.p., as formerly. The extension of the line to Chaudiere Basin, about two miles from the present terminus, is contemplated.

London and Port Stanley Ry.—The directors have under consideration a proposal to purchase land for additional terminal facilities in London, Ont. The Pere Marquette Rd. Co., which is now operating the line under lease, is desirous of bringing the roadbed, bridges, etc., up to present requirements, but will not spend any money for this purpose unless given an extension of the lease, which has now ten years to run. The matter is under discussion with the directors. (Sept., pg. 315.)

London Street Ry. (Electric).—New cars barns are in course of erection to replace those recently destroyed by fire. Application has been made for permission to cross the tracks of the Pere Marquette Rd. at South St., and G. A. Mountain, Engineer to the Railway Commissioners, inspected the locality Oct. 7. (Sept., pg. 313.)

Manitoba Cement Co.—An arrangement is in progress of negotiation between the M.C. Co. and the C.P.R., by which the latter will construct a line of railway from Morden, Man., to the company's marl deposits some miles to the south. The M.C. Co., under its charter of incorporation, has power to construct a line of railway from Morden to range 6, west of the first principal meridian, almost at the International boundary. (Aug., 1903, pg. 269.)

Melita, Regina and Edmonton Ry.—Application will be made next session of the Dominion Parliament for the incorporation of a company to construct a railway from Melita, Man., via Regina, Assa., to Edmonton, Alta.; and from Melita to the International boundary in tp. 1, range 25, west of the 1st principal meridian. The promoters ask for extensive powers, including the right to hold timber limits, to carry on coal mining, to operate steamships, to develop water powers, etc. Crerar and Campbell, Melita, are solicitors for applicants.

Michigan Central Rd.—Construction will be commenced on an early date upon the Ross St. subway in St. Thomas, Ont. This work has been delayed owing to the reconstruction of the Kettle Creek bridge. The company's roundhouse at Windsor, Ont., was burned down recently, the damage being about \$40,000. (Mar., pg. 79.)

Minudie Coal and Ry. Co.—Tenders are under consideration for the construction of six miles of railway from River Herbert, N.S., on the Intercolonial Ry., to Minudie, where

the Minudie Coal and Ry. Co. opened a coal mine. P. H. Smith had charge of the survey and expects to have the contracts arranged at an early date. (Jan., pg. 5.)

Nepigon Ry.—No actual construction work has been done on this projected line from Nepigon Bay to Nepigon Lake, and from the north shore of the lake to the projected Transcontinental Ry. A good deal of preliminary work has been done, but it is not anticipated that real work will be commenced before next spring.

New Brunswick Coal and Ry. Co.—W. C. Hunter, Superintendent, recently stated that 25,000 ties had been put in, a number of bridges strengthened, yard facilities at Norton improved, and other betterments made during the summer. A new bridge is to be constructed over the Kennebecasis River at Norton.

New Brunswick Southern Ry.—The old Shore Line Ry. is being improved. Some new steel bridges are to be erected, the steel work for which was expected to be delivered in Nov. A 500-ft. trestle has been completed at Carleton, eight wooden bridges have been repaired and strengthened, and the abutments for the three steel bridges have been built. Contracts have been placed for 150,000 ties, of which 10,000 are for immediate delivery. M. Neilson, C.E., is looking after the work for the company.

Niagara, Queenston and St. Catharines Ry. (Electric).—Tenders are under consideration for the construction of the roadbed and wooden trestles on about 22 miles of line from St. Catharines to Queenston, via Niagara-on-the-Lake. The work to be done will consist of the excavating, grading and ballasting, the tracklaying and refilling, the erection of trestle work, the supply of steel tee rails and ties. It is expected that a contract will be let at an early date, and that work will be gone on with. H. W. Middlemist, A.M.I., C.E., Toronto, is chief engineer. (Aug., pg. 277.)

Nova Scotia Eastern Ry.—Hon. W. S. Fielding, Minister of Finance, recently stated in a speech that the terminus of this railway would be at Dartmouth, N.S. No arrangements have been made for starting construction, but negotiations for financing the construction are in progress.

Orford Mountain Ry.—The President, Judge Foster, stated in Montreal, Oct. 12, that construction on the projected extensions would be completed early in Nov.

Ottawa Electric Ry.—The double-tracking of the line on Broad Street, from Wellington Street to the station, will be gone on with as soon as the necessary consents have been obtained.

Ottawa River Ry.—In an interview recently H. W. Raphael, Treasurer, said he could definitely state that the line would be an accomplished fact within two years. After crossing the Back River, near Bord à Plouffe, the line will pass by St. Eustache, St. Placide, St. Benoit, St. Andrews, Lachute, by the Lake of Two Mountains, Que., to Hawkesbury, Ont. Engineers have been out for a year locating the line, and the exact route will shortly be announced.

Pere Marquette Rd.—Press reports current in St. Thomas, Ont., state that the P.M. Rd. has not abandoned its project to build an independent line from St. Thomas to Buffalo, N.Y. The company has a charter for this line, but after making surveys, the project was given up and an agreement made with the Michigan Central Rd., by which that company's lines were run over from St. Thomas to Buffalo. The report that the P.M. Rd. has been acquired by the Erie Rd. is probably the cause of the revival of the proposal to build an independent line.

Prince Edward Island Ry.—At the bridge over the Hillsborough River, pier no. 5 settled about five inches on the south side, and a test was made to see if there would be any further settlement. The pier was loaded with a thousand tons of rails, which is practically double the load it is likely to carry, and no further subsidence has occurred. The masonry has been taken down to the footing course and it was expected to be rebuilt during the fall. The work of filling the trestle approaches to the bridge is being gone on with, and is also expected to be completed in the fall. The super-structure is being floated into position, the several spans having been towed over from the Miramichi river, N.B., on scows, and placed in position at high tide, so that the falling tide would drop them on the piers. The centre swing span is being constructed by the Dominion Bridge Co., and is expected to be completed this year. Since the above was written we have been further advised that when the masonry at pier 5 had been taken down to the footing course a coffer dam was placed round the pier and sealed. The rebuilding of the pier was to be gone on with immediately thereafter. The work under M. J. Haney's contract for the substructure will be completed this year. The filling of the approaches is also expected to be completed this year. Four spans of the superstructure had been placed in position on the north side in Oct., and the fifth was expected to be completed during Nov. The whole of the ironwork had been delivered from Miramichi, N.B., as well as material for

the flooring. Six spans of the superstructure are expected to be completed this year.

The Murray Harbor branch from Southport to Murray River, 42 miles, will be completed this fall, the station buildings now being erected. On the extension from Murray River to Murray Harbor, 4.52 miles, the grading has been completed, and track-laying, etc., is expected to be completed this year. W. Kitchen, who has the contract for the line from Southport to Murray River, is also the contractor for the extension to Murray Harbor.

Tenders were received to Oct. 21, for the grading, tracklaying, ballasting, buildings, etc., on a branch line of 6.38 miles from Cardigan, on the Georgetown branch, to Montague Bridge, on the Murray Harbor branch. Surveys were made by H. J. Mackenzie, in 1903. This branch line will extend from a point about one mile east of Cardigan to Montague Bridge. The grading will be

light work; the gradients are easy, except a small piece of 1.25%. There is considerable curvature, which at one point is particularly heavy to make the crossing of the Brudenell River. There will be two bridges, one at Brudenell River to consist of two spans of 150 ft. each, resting on concrete pier and abutments; and the other consisting of a 168 ft. span crossing Vishey's Creek, resting on one concrete abutment, founded on rock, and one on piles.

Tenders were received to Oct. 21, for the construction of a branch line from the Murray Harbor branch to Vernon River Bridge, 4.59 miles. Surveys were made for this line in 1903 by H. Laurence. This line will extend from Village Green to Vernon River Bridge. It is almost entirely surface work, and there are no structures of any importance.

At Curtis Creek, about 10 miles from Summerside, there has practically been completed about a mile of new line, which will shorten

OCEAN STEAMSHIP AGENCIES

AMERICAN LINE.

PLYMOUTH — CHERBOURG —
SOUTHAMPTON.

Sailing from New York, Saturdays, at
9.30 a.m.

PHILADELPHIA — LIVERPOOL.

Sailing from Philadelphia on Saturdays.

ATLANTIC TRANSPORT LINE.

NEW YORK — LONDON.

Sailing from New York on Saturdays.

DOMINION LINE.

MONTREAL TO LIVERPOOL.

MONTREAL TO AVONMOUTH DOCKS,
(Bristol and Antwerp.)

LEYLAND LINE.

BOSTON — LIVERPOOL.

Sailing from Boston on Saturdays.

RED STAR LINE.

NEW YORK — ANTWERP — LONDON — PARIS.

Calling at Dover for London and Paris.
Sailing from New York, Sat-
urdays, at 10.30 a.m.

WHITE STAR LINE

NEW YORK — QUEENSTOWN —
LIVERPOOL.

Regular Weekly Service.

BOSTON — QUEENSTOWN — LIVERPOOL.

NEW YORK AND BOSTON —
MEDITERRANEAN SERVICE
AZORES — GIBRALTAR — NAPLES — GENOA.

Sub-agents at all principal points in Ontario,
where accommodation can be reserved and
tickets secured.

CHAS. A. PIPON

Passenger Agent for Ontario,
41 King St. East, Toronto.

This LITTLE NORTON JACK



Isn't much more than
a handful, but it will
lift 15 tons and is the

Standard Journal Jack

of the leading Railroads.

50 other styles,
8 to 70 tons
capacity

You can try them without
expense.

Ask A. O. NORTON, He makes Jacks

COATICOOK, PROV. QUEBEC

Stock carried by Canadian Agents: W. H. C. MUSSEN & CO., Montreal.

the mileage by 3,450 ft., and take out a considerable amount of curvature. The work includes a fill 40 ft. deep. (Sept., pg. 315.)

Quebec and Lake St. John Ry.—A contract has been let for the construction of a line of three miles from Valcartier, 16 miles from Quebec, northwesterly, the grading, etc., to be completed early in Dec. This branch, known as the St. Gabriel branch, will form part of a projected line 15 miles in length in the township of Gosford. E. Conway, Quebec, is the contractor, and A. E. Ducet, Chief Engineer, will supervise the construction.

Quebec Bridge and Ry. Co.—A. E. Hoare, Chief Engineer, is making surveys to connect with the bridge the various lines of railway converging on Quebec. The company has secured the right to construct lines from the bridge to connect with the various railways, the object being to secure the interests of the Bridge Company. The construction of the line to connect with the Intercolonial Ry. is being proceeded with, the damage done by the floods on the Chaudiere River having been repaired. The steel work for the superstructure is being delivered, and considerable progress has been made with the erection of the false work. (June, pg. 189.)

Quebec, New Brunswick and Nova Scotia Ry.—Plans have been filed with the Registrar of Quebec County showing the route of a projected branch line from a point on the company's authorized line, running through Rang de la Petite, Riviere St. Charles, St. Ignace, St. Joseph ou Lepinay, Dorsainville and Charlesbourg, to the Quebec and Lake St. John Ry. in St. Roch nord. (Sept., pg. 315.)

Reid Newfoundland Ry.—New station buildings have been opened at Clarke's Beach and Alexander Bay.

St. Thomas, Ont., Electric Ry.—A proposal to submit a by-law to the taxpayers to provide funds for an extension of the street railway to Port Stanley, was voted down in the city council. The resolution submitted also instructed the City Engineer to prepare plans of the route and estimates of the cost of the proposed extension.

South-Western Traction Co. (Electric).—Tracklaying has been completed from Lambeth to St. Thomas, Ont., on the line from London to St. Thomas. Ballasting is in progress. E. K. Scott, of London, Eng., one of the consulting engineers of the construction company, recently inspected the work being done, and was accompanied by A. Zelewsky, who is connected with the company which is manufacturing part of the electrical equipment. The overhead work will not be gone on with until the spring. The engineers are considering sites at London, Lambeth, and St. Thomas for a power house. (Sept., pg. 317.)

Suburban Tramway and Power Co.—A by-law has been passed by the village of Longue Pointe, Que., giving the company a franchise for an electric railway. (Sept., pg. 317.)

Temiskaming and Northern Ontario Ry.—Tracklaying to New Liskeard, Ont., 112 miles from North Bay, has been completed. A subsidence on the line at about 30 miles from North Bay, was reported on Oct. 15, which has temporarily stopped trains running through, and will necessitate a good deal of filling in before a permanent roadbed is again secured. A landslide occurred about 1½ miles south of New Liskeard, a few days after track was laid. At this point there is a fill about 400 ft. long by from 15 to 20 ft. deep, and of this about 200 ft. went out, leaving the ties and rails suspended. The damage was repaired in a few days. Grading is in progress north of New Liskeard, and it is expected that some miles of track will be laid north this season. (Sept., pg. 317.)

Toronto and Scarboro Ry. (Electric).—The Scarboro township council has passed a by-

law granting a perpetual and exclusive franchise to the T. and S. Ry., E. L. and P. Co., for an extension of six miles from its present terminus at Halfway House to Highland Creek. The extension is expected to be completed this year.

Toronto, Hamilton and Buffalo Ry.—The blacksmith and machine shops at Hamilton, Ont., were damaged by fire to the extent of \$35,000, recently. Several passenger and freight cars were burned. The shops are to be rebuilt at once.

Permission has been given by the Railway Commissioners for the construction of a 61 ft. through plate girder span bridge over Aberdeen ave., Hamilton, to replace an existing bridge. Outside the additional tracks being laid at Hamilton and Welland, Ont., nothing definite, we are advised, has been determined in the way of enlarging the terminals at these points. (Sept., pg. 317.)

Toronto Ry. (Electric).—The new power plant was fully installed early in Oct. as was expected, but a few days afterwards one of the new generators was accidentally burned out, thus making a reduction of 1,600 h.p. The damage was estimated at \$40,000, and was expected to be fully repaired by the end of Oct. (Sept., pg. 317.)

Toronto Union Station.—The application of the G.T.R. for the expropriation of the land in the burned-out district of Toronto, south of Front Street, came before the Railway Commission at Ottawa, in Oct. The whole matter was thoroughly discussed and it was generally agreed that the terms of expropriation will provide for a leasehold of land and streets for 50 years, to be arranged between the city and companies. The land will only be used for station purposes. The station is to be built by the G.T.R. for themselves, the C.P.R. and the Canadian Northern Ry. It will be a passenger depot for the three railways, and be available for any other railway requiring to use the same. The station is to be of at least the value of \$1,000,000, and to be started within one year and completed within three years. Until the station is completed provision must be made for the Canadian Northern passenger trains as soon as required. If Bay and Lorne Streets are closed, provision is to be made at or near Bay Street for access to the water front by a bridge or other reasonable means for foot passengers. The station will be sufficiently far back, say, 20 ft. off the street. The plans will require to be submitted to the city inspector of buildings and the city by-laws conformed to. The railway company will indemnify the city against all lawful claims for damages to property (injuriously affected) arising by reason of the closing of the streets referred to and any reasonable costs incurred in reference thereto. In the discussion it was stated that it was proposed to provide 48,000 square ft. for the purposes of the express companies. The Dominion Government will give over its present examining warehouse for railway purposes, and a new examining warehouse west of the custom house, will be erected on the south side of Front Street, and west of this provision will be made for the erection of a new General Post Office. This will give the Government the south side of Front St., from Yonge St. to Bay St., for its purposes, and the railways the rest of the burned-out district. Prior to the fire the post office department had practically arranged with the city for a site near the present Union Station for an office where the incoming mails would be distributed to the various stations throughout the city. The formal order was subsequently issued. The order specifies that the buildings shall be set back 25 ft. from Front St., instead of 20 ft., as mentioned; the cost of the building must be at least \$1,000,000, and it is to be completed within three years. Accommodation is to be arranged for the

Canadian Northern Ry., and for any other line desiring admission; and upon demand, the C.N. Ry. is to be given access to the present Union Station. Provision is made for the closing of certain streets and for protecting the interests of various persons.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Tracklaying has been completed on the extension from Grand Forks to Phoenix, B.C. The three-span Howe truss bridge over the north fork of the Kettle River has been completed, and the track laid on the spur into the Granby smelter. A feature of the line is the trestle bridge over Deadman's gulch, near Phoenix, 165 ft. high. The maximum gradient is 3%. The line, which is 30 miles in length, was expected to be completed by the end of Nov. A spur line of about a mile is being constructed from Phoenix into the Rawhide mine.

J. C. Eden, Assistant General Traffic Manager, Great Northern Ry., Seattle, Wash., which company is building the V.V. & E. Ry., recently went through the Boundary country, and in an interview stated that there were no insuperable difficulties along the whole route, in fact it is all comparatively easy to the coast after Anarchist Mountain is passed west of Midway. To overcome that mountain there is a choice of three routes—one involving a deflection of 65 miles south, another of 25 miles, and one through the mountain by a succession of tunnels. It is probable that choice will be made of the second route, which carries a little less than 2% gradient. The line is now located six miles west of Oro. From there westward there is nothing done on location. Not far from Midway contractors' outfits are in readiness to begin grading westward as soon as orders are received from headquarters. Oro is the last point touched south of the boundary, from whence the line turns sharply northward into the Similkameen. Oro is about 30 miles westerly from Midway. (Sept., pg. 317.)

Vancouver, Westminster and Yukon Ry.—The V.V. and Y. Ry. has a train service in operation between Vancouver and Westminster, B.C. Concrete piers are being built for a steel bridge across False Creek, to replace the present trestlework.

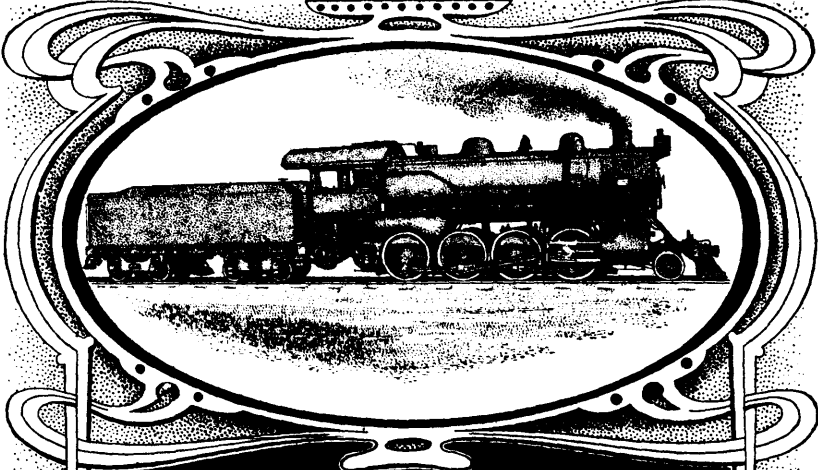
Winnipeg Electric Street Ry.—The connection between the street railway tracks in Winnipeg and the tracks in St. Boniface, Man., across Norwood bridge, has been completed and a 20 minute service is being maintained.

Yonge Street Bridge, Toronto.—An Order-in-Council has been issued directing that a bridge be built over the tracks of the G.T.R. and the C.P.R., at the foot of Yonge St., Toronto, at the joint cost of the two railway companies. The order sets forth that construction was to be commenced Oct. 15, and that the bridge was to be completed in six months. The order does not say who is to build the bridge, whether the railway companies or the city council. The plans to be followed, however, are those prepared by J. Williams, Assistant City Engineer, which were filed with the Railway Committee of the Privy Council, prior to its being done away with by the Railway Act, 1903. It is understood that the G.T.R. and the C.P.R. contemplate appealing against the order, and that as a result nothing is likely to be done in the way of construction this winter.

C. L. Williams, City Passenger and Ticket Agent C.P.R., Chicago, Ill., writes: "I take a great deal of pleasure in reading the copies of THE RAILWAY AND SHIPPING WORLD, for they contain very valuable information, and I think that every railway man should subscribe for the paper, for it is a dollar well spent."

Montreal Street Railway Co.'s Report.

The report for the year ended Sept. 30, presented at the annual meeting, Nov. 2, shows net earnings of \$952,826.80, compared with \$905,939.01 last year. After providing for the percentage on earnings accrued to the city, and interest on bonds and loans, the directors declared four quarterly dividends, amounting to \$642,520.00, and, in view of the company having assumed its own fire insurance risk, placed an additional sum of \$20,000 to the credit of the fire insurance fund, which now amounts to \$267,904.92, and \$50,000 to the credit of the contingent account, leaving a surplus of \$821.48, which has been transferred to the general surplus account of the company. An amount of \$100,404.99 expended during the year on special renewals has been charged against contingent account. The gross earnings show an increase over the previous year of \$241,037.05, or 10.84%. The operating expenses, however, increased during the same period \$194,149.26, or 14.74%, due principally to the severe weather experienced during last winter and to the heavy increase in the amount expended during the year in the maintenance of the property and equipment, it being the desire of the directors to maintain the same in the highest possible efficiency, also to an increased car service necessary to meet the requirements of the travelling public. While the gross earnings of the Montreal Park & Island Ry. Co.'s system have shown a satisfactory increase, the operating expenses have also shown an increase, due to the causes mentioned above; in consequence the M.S.Ry. Co. has not received any interest on the securities owned by them in that company. In this connection the directors mention that the M.P. & I. Ry. is indebted to the M.S.R. Co. for advances for construction requirements \$163,241.44, and for interest on bonds and preferred stock \$565,812.77, the latter amount not being included in the earnings nor the balance sheet of the company. Considerable new extensions to the tracks of the company have been constructed during the year, and the rolling stock and equipments have been largely increased to keep up with the requirements of the traffic. As will be noticed by the large expenditure charged against the contingent account for special renewals, the greater part of which is for renewal of tracks, the directors have been obliged to expend a considerable amount. This expenditure, however, has been absolutely necessary, and



**ENGINEERS AND CONTRACTORS
FOR
COMPLETE POWER PLANTS**

OUR HEATING SYSTEM
IS ESPECIALLY DESIGNED FOR ROUNDHOUSES, MACHINE
SHOPS AND OTHER TERMINAL BUILDINGS

**OUR
AUTOMATIC LOCOMOTIVE BOILER WASHER**
FOR CHANGING WATER, WASHING AND FILLING LOCOMOTIVES
WE USE THE WASTE STEAM AND WATER
FIVE TO SEVEN HOURS SAVED OVER PRESENT METHODS

WRITE FOR SPECIAL CATALOGUE
WE ALSO MANUFACTURE
ENGINES, BOILERS, PUMPS, ETC.
CORRESPONDENCE SOLICITED

ERIE HEATING COMPANY
225 RAILWAY EXCHANGE
CHICAGO.



STEAM SHOVELS

RAILWAY PILE DRIVERS, WRECKING CRANES, ETC.

W. H. C. MUSSEN & CO. MONTREAL.

the work done has been carried out in the most thorough manner and with the greatest of care, keeping in view the continual increase in car service and the largely increased size and weight of the cars. The Mutual Benefit Association, established for the benefit of the men, has proved a great success, and is much appreciated by the employees, a large majority of whom belong to it. The company contributed to this Association for the seven months to June 30, the end of the Association's year—by contributions and donations—\$9,513.40. During the year the directors secured a franchise for the construction and operation of the system in Delorimier municipality, and an extension of their present franchise in Westmount, and have also secured, through the Suburban Tramway & Power Co., a franchise in Longue Point and Beauvillage. The directors regret to report the death, Jan. 2, 1904, of the company's valued auditor, John McDonald, who held this important position for 30 years. The directors appointed Alex. Stewart in his place for the unexpired portion of the year. During the year F. L. Wanklyn, Vice-President and General Manager, resigned from the board of directors, which resignation was accepted with regret, K. W. Blackwell being elected Vice-President and W. G. Ross elected to the board as Managing Director. The company has paid the city of Montreal, in addition to the usual property and business taxes, the following amounts:—Tax on earnings, \$127,413.29; on account of snow clearing, \$79,808.86, a total of \$207,292.15.

Following are comparisons:—Gross receipts, \$2,463,824.70, against \$2,222,787.65; operating expenses, \$1,510,997.90, against \$1,316,848.64; operating expenses per cent. of car earnings, 62.37%, against 60.20%; net earnings, \$952,826.80, against \$905,939.01; net income per cent. of capital, 11.10%, against 11.41%; passengers carried, 60,281,834, against 54,592,014; transfers, 17,975,524, against 16,794,595.

ASSETS.

Cost of road and equipment:	
Construction, etc.	\$3,862,188.08
Equipment, etc.	3,599,398.39
Real estate and buildings	1,665,876.05
M. P. & I. Ry. Co's stock and bonds	1,165,264.70
Suburban Tramway & Power Co. stock	50,000.00
	<u>\$10,342,727.22</u>
Stores	187,548.37
Accounts receivable	90,570.40
M. P. & I. Ry. Co'y	163,241.44
Cash in bank and in hand	25,288.94
	<u>\$ 466,649.15</u>
Fire insurance fund investment	206,000.00
	<u>\$11,015,376.37</u>
LIABILITIES.	
Capital stock	\$6,600,000.00
Bonds:	
5% due March, 1908	292,000.00
4 1/2% due Aug., 1922	681,333.33
4 1/2% due Nov., 1922	1,500,000.00
Mortgages	6,034.51
	<u>\$9,079,367.84</u>
Bank of Montreal loan	318,166.22
Accounts and wages payable	199,545.80
Accrued interest on bonds	33,351.00
Accrued tax on earnings	135,787.92
Employees securities	12,083.60
Unclaimed dividends	1,956.57
Unredeemed tickets	26,766.24
Suspense account	125,750.88
Dividend payable Nov. 2, 1904	165,000.00
	<u>\$1,019,307.63</u>
Fire insurance fund	\$ 267,904.92
Contingent account	129,231.05
Surplus	519,564.93
	<u>\$ 916,700.90</u>
	<u>\$11,015,376.37</u>
City percentage on earnings	\$ 128,093.18
Interest on bonds and loans	111,392.14
Dividends (payable quarterly)	642,520.00
Transferred to fire insurance fund	20,000.00
contingent account	50,000.00
surplus	821.48
	<u>\$ 952,826.80</u>

The report and statement of accounts were adopted. J. Cochrane, ex-Mayor of Montreal,

called attention to the cost of snow cleaning, which cost the company nearly \$80,000 during last winter, and the city as much more; he thought the whole cost should not exceed \$80,000 a year. The President (Hon. L. J. Forget) stated that the company had a contract with the city, and until the aldermen saw fit to make other arrangements it was bound to proceed as in former years; there was at present a great deal of waste, and the work was not promptly done. W. G. Ross, Managing Director, stated that during the year the company had relaid 16% of the total mileage with 96-lb rails, steel ties, and concrete bed. About 13 miles of the 32 miles of the company's lines had been relaid in this way.

The following former directors were re-elected for the current year:—Hon. L. J. Forget, Sir Hugh M. Allan, Lieut.-Col. F. C. Henshaw, K. W. Blackwell, W. G. Ross.

British Columbia Electric Ry. Co.

The report for the year ended June 30, presented at the annual meeting in London, Eng., Oct. 28, showed that the business of the company has continued to grow largely in all departments, and the profits show a corresponding increase. The gross receipts show an increase over the preceding year of \$138,445, and the net earnings, after charging renewals, show an increase of \$60,649. The following charges have been made against the revenue account of the year, viz.:—

Provisions for renewals, maintenance	£13,372 7 5
Bonus to employes	2,340 4 2
Amount written off preliminary and issuing expenses	1,343 1 5
Amount added to capital amortisation fund	<u>1,658 14 6</u>
Net profit for year, after making above deductions	£49,045 11 9
Balance brought forward from last year	<u>1,098 19 6</u>
	<u>£50,144 11 3</u>

Deduct—

Debt interest to June 30, 1904	£11,935 9 9
Dividend on 5% cumulative perpetual preference shares, for 6 months to Dec. 31, 1903	1,787 12 10
Dividend on preferred ordinary stock for 9 months to Mar. 31, 1904	7,500 0 0
Dividend on deferred ordinary stock for 6 months to Dec. 31, 1903	6,300 0 0
	<u>27,523 2 7</u>
Leaving available for distribution and reserves	<u>£22,621 8 8</u>

From this the directors have decided to provide for the dividend on cumulative perpetual preference shares for 6 months to June 30, 1904, £1,875; to provide for dividend on preferred ordinary stock for 3 months to June 30, 1904, £2,500; to recommend payment of dividend on the deferred ordinary stock at the rate of 3%, making 6% for the year, which, including income tax, will absorb £6,919 13s. 5d.; to write an additional amount off preliminary and issuing expenses of £2,000; to transfer to reserve fund, £7,104 9s. 9d.

The number of lights in use June 30, 1904, was 112,911, an increase of 19,812 over the number in use June 30, 1903. The number of passengers carried during the year was 8,869,486, an increase of 1,505,197. During the year important additions and improvements have been made to the property and equipment. Twelve new cars have been built, and the car barn has been extended so as to enable all rolling stock to be safely and comfortably housed. Suitable accommodations for the company's various mechanics' shops has also been provided. The rebuilding of Point Ellice bridge in Victoria, to which the company has contributed, is now completed. The new bridge is an excellent piece of work. A number of further contracts for sale of power have been made during the year. This branch of the business will be

much extended on the completion of the Vancouver power installation, the construction of which is proceeding very satisfactorily. Less than one-third of the tunnel between Trout and Coquitlam Lakes remains to be driven; the concrete dam at Trout Lake, the power house, and the sub-stations have all been completed, and three pipe lines are in place. Since Dec. 19, 1903, the Vancouver street lighting has been carried out by means of power delivered from Trout Lake, and a contract has been entered into to supply New Westminster with power for street lighting over a term of years. The remaining £45,000 of Vancouver power debentures have been issued during the year, making a total issue of £220,000. The additional funds required by the Power Co. to complete construction work are being supplied by the Railway Co. The engineers estimate that the work will be completed about May, 1905. The negotiations for the purchase of the Vancouver Gas Co. have been successfully carried through since the end of the year now under review. The cessation of competition between these undertakings will result in benefit both to the B.C.E. Ry. Co. and to the public in Vancouver. The price of electricity has been lowered since the purchase. The directors again record their high appreciation of the services which the General Manager, J. Buntzen, and the staff in British Columbia have rendered. They also record with satisfaction that the most cordial relations continue to exist between the employes and the General Manager. The share of profits distributed to the employes for the year amounts to \$11,400. R. M. Horne-Payne and F. S. Barnard, the directors retiring by rotation, offer themselves for re-election.

Following are comparisons: Railway earnings, Vancouver, \$196,609, against \$158,083; New Westminster, \$132,198, against \$119,318; Victoria, \$122,382, against \$113,842. Electric light, Vancouver, \$244,912, against \$189,237; Victoria, \$115,226, against \$92,402. Total earnings, \$811,327, against \$672,882; total expenses, \$526,331, against \$448,535. Net earnings, \$284,996, against \$224,347. Percentage of expenses to gross earnings, after charging for renewals, 64.87, against 66.65.

E. C. Evan-Thomas presided at the annual meeting, in the absence, through continued ill-health, of the chairman, R. M. Horne-Payne. The report and statement of accounts were adopted. R. M. Horne-Payne and F. S. Barnard, the retiring directors, were re-elected, and the retiring auditors, in London and Vancouver, were also re-elected.

The G.T.R. through trains are not expected to be run via Brantford, Ont., until Christmas, all the work in the vicinity of Brantford not having been completed.

The Central Passenger Association has been asked by the Pere Marquette Rd. to grant it the privilege of applying the same rate on passenger business between Chicago and Detroit, by way of Grand Rapids, Mich., that is effective on the G.T.R. This rate is 50c. lower than the standard rate. The Michigan Central Rd. asserts that the P.M. Rd. is not a Chicago-Detroit line, and has no through cars between these points; that local rates are now effective between Chicago and Grand Rapids, and again on other trains between Grand Rapids and Detroit, and that the only excuse for the differential is to give passengers, who wish to go to both Grand Rapids and Detroit or Chicago, the privilege of stopping off at the former city on a low rate ticket to the latter. This, it is further declared, would give the scalpers of Grand Rapids an unnecessary opportunity to manipulate tickets, thus disturbing the M.C. Rd.'s Grand Rapids-Detroit business.

Investigating Railway Wrecks.

Within the last few months a number of railway accidents have been investigated and reported upon by the Chief Inspector of Accidents to the Board of Railway Commissioners, J. E. Duval, and his reports are now being considered by the Board.

May 2, on the G.T.R., at South River, Ont., a pitch-in collision, resulting in the death of a railway fireman, was caused by the failure of a freight train to stop at a semaphore set at danger—which failure, the evidence seemed to indicate, was due to the fact that the engineer, fireman, and forward brakeman on the train were asleep when the accident occurred.

June 17, on the G.T.R., at Paris, Ont., a pitch-in collision, which resulted in the death of three men, was caused by the engineer of a passenger train going past a semaphore set at danger.

June 23, on the Intercolonial, at Riverdale, N.S., a run-off was caused by the spreading of the track, due, apparently, to the lateral pressure of a heavy engine rounding a sharp curve at high speed.

Aug. 1, on the G.T.R., near Gravenhurst, Ont., a pitch-in collision was due to the failure of the conductor and engineer on a work-train to observe the definite and specific rule under which they were working.

Aug. 31, on the G.T.R., near Richmond,

Que., a head-on collision, in which nine people were killed and a number seriously injured, was caused by the failure of the conductor and engineer on an excursion train to comply with the very definite and specific rule requiring them to examine the train register and make sure that the way was clear before pulling out from the station.

Sept. 1, on the C.P.R., at Sintaluta, Assa., a head-on collision that resulted in the death of five women, was caused by the failure to close a switch after a freight train which had backed in upon a siding—for which failure the conductor, engineer, and brakeman in charge of the freight train are held responsible.

The evidence goes to show that none of

RAILWAY AND STEAMBOAT RUBBER GOODS of the Highest Grade

HOSE

For Air Brakes, Steam, Gas, Water, Pneumatic Tools, Fire Protection.



PACKINGS

IN GREAT VARIETY.

Special Valves and Gaskets. Mats, Matting and Stair Treads.

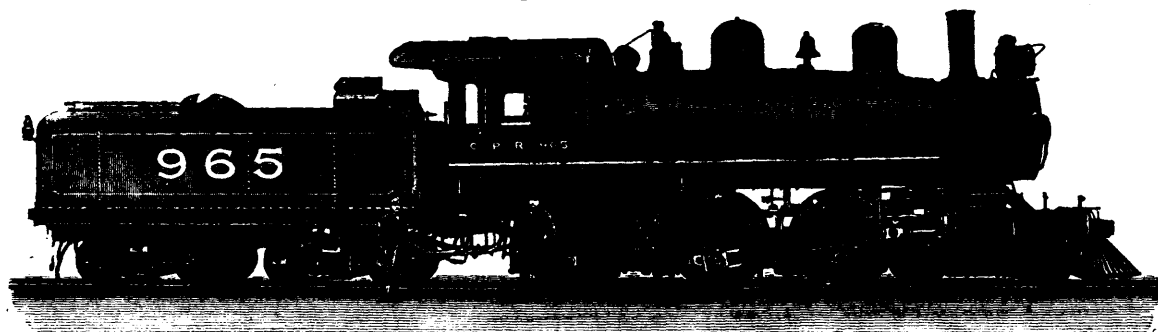
Superior in Quality.

Satisfactory in Service.

MANUFACTURED BY

THE GUTTA PERCHA & RUBBER MFG. CO. OF TORONTO LIMITED

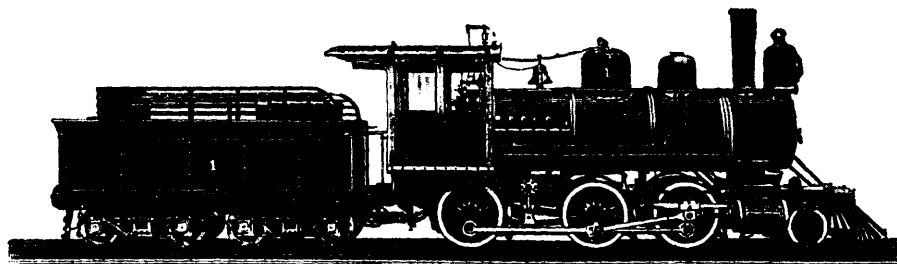
Temporary Offices—15 EAST WELLINGTON ST., TORONTO, CANADA



The Saxon Engine Works, late Rich. Hartmann, Limited
CHEMNITZ (Germany),

Carry on the construction of **LOCOMOTIVES** of every description.

Number of Workmen, 5,200.



Capital, \$3,000,000.

these accidents can properly be attributed to overwork or lack of opportunity for sufficient rest on the part of the employes who are held responsible; and that in collisions a large percentage of the loss of life is in second-class or smoking-cars, due, no doubt, to the fact that old and comparatively weak first-class cars, which have been in service for years, are often used as smokers or second-class cars, while there has been a great increase in the weight and strength of more modern coaches—baggage-cars, first-class cars and sleepers.

Further, one of the questions now engaging the attention of the board is whether it should not, from time to time, formally request the Attorney-General of each Province to put the law in motion and promptly proceed with a prosecution in every instance in which negligence, carelessness, or failure to observe working rules or orders has resulted in the destruction of human life. At present railway companies simply dismiss their negligent or guilty employes. Further punishment is rarely thought of; and when it is, the parties concerned are usually allowed to escape from the country. This does not tend to insure the safety of the travelling public; and it undoubtedly increases the risk to locomotive engineers, firemen, and others who are in charge of trains.

The Commission is also negotiating with the railway companies regarding certain matters which seem contributory to accidents, and for which it is claimed the companies alone are responsible.

As stated in our last issue, a committee representing the railways has been appointed to draft a uniform set of operating rules to be submitted to the Commission for consideration. The Chief Inspector is working independently on a set which will also be submitted to the Commission.

December Birthdays.

Many happy returns of the day to—

A. H. Anderson, Cashier, Paymaster, and Purchasing Agent, Quebec Central Ry., at Sherbrooke, Que., born at Cookshire, Que., Dec. 19, 1859.

J. H. Barber, Division Engineer, C.P.R., St. John, N.B., born at Cobourg, Ont., Dec. 20, 1856.

E. T. Boland, General Agent Dominion Steamship Line, at Toronto, born there, Dec. 20, 1869.

N. E. Brooks, C.P.R., Division Engineer, Calgary, Alta., born at Sherbrooke, Que., Dec. 25, 1866.

D. Brown, ex-Manager Milwaukee and Michigan Line and Grand Trunk Despatch, at Detroit, Mich., now at Chicago, Ill., born at Glasgow, Scotland, Dec. 21, 1843.

J. C. M. Buntzen, General Manager British Columbia Electric Ry. Co., at Vancouver, born at Copenhagen, Denmark, Dec. 16, 1859.

P. E. Demers, Trainmaster Central Vermont Ry., at Farnham, Que., born there Dec. 10, 1859.

W. N. Dietrich, Electrical Engineer C.P.R., Montreal, born at Perth, Ont., Dec. 23, 1872.

J. W. Donald, District Passenger Agent, Chicago and Alton Rd., at Detroit, Mich., born at St. John, N.B., Dec. 22, 1857.

H. P. Dwight, President Great Northwest-ern Telegraph Co., Toronto, born at Belleville, Jefferson Co., N.Y., Dec. 23, 1828.

R. Forget, President Richelieu and Ontario Navigation Co., Montreal, born at Terrebonne, Que., Dec. 10, 1861.

P. Giffkins, General Manager Dominion Atlantic Ry., at Kentville, N.S., born at Harpenden, Herts, England, Dec. 25, 1850.

H. H. Gildersleeve, Manager Northern Navigation Co. of Ontario, at Collingwood, born at Kingston, Ont., Dec. 15, 1865.

A. J. Gorrie, General Superintendent Great Northern Ry. of Canada at Montreal, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

D. B. Hanna, Third Vice-President Canadian Northern Ry. at Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

S. P. Howard, General Freight Agent Eastern and Lake Superior Division C.P.R. at Montreal, born there Dec. 30, 1865.

R. R. Jamieson, General Superintendent Western Division C.P.R. at Calgary, Alta., born at Westover, Ont., Dec. 12, 1856.

W. Kennedy, Master Mechanic Middle Division G.T.R. at Toronto, born at Belleville, Ont., Dec. 23, 1869.

L. Macdonald, Division Freight Agent G.T.R. at Hamilton, Ont., born at Montreal, Dec. 10, 1871.

L. McLean, Superintendent Sydney and Louisburg Ry., Glace Bay, N. S., born there, Dec. 10, 1867.

J. F. Mundie, City Freight Agent C.P.R. at Montreal, born at Prescott, Ont., Dec. 20, 1857.

J. Niblock, Superintendent C.P.R. at Calgary, Alta., born in York county, Ont., Dec. 21, 1849.

E. C. Oviatt, Travelling Passenger Agent, C.P.R., at Battle Creek, Mich., born at Hudson, Ohio, Dec. 3, 1852.

J. V. Paul, Locomotive Fuel Inspector C.P.R. at Montreal, born at Mokelumne Hill, Cal., Dec. 29, 1863.

A. Price, Superintendent of Transportation Western Lines, C.P.R., at Winnipeg, Man., born Dec. 6, 1861.

C. Schrieber, C.E., Deputy Minister of Railways and Canals, Ottawa, Ont., born at Bradwell, Essex, Eng., Dec. 14, 1831.

C. E. E. Ussher, General Passenger Agent C.P.R. lines east of Lake Superior, at Montreal, born at Niagara Falls, Ont., Dec. 29, 1857.

H. H. Vaughan, Superintendent of Motive Power, C.P.R. lines east of Port Arthur, Ont., at Montreal, born at Forest Hill, Essex, England, Dec. 26, 1868.

B. D. Webber, General Manager Canadian Pacific Despatch at Boston, Mass., born at Beverley, Mass., Dec. 3, 1851.

Victorian State Railways.

For the first time in fifteen years the State railways of Victoria, Australia, in which over £40,000,000 of public funds is invested, have paid their way, the result being as follows:—

Gross revenue	£3,438,140	17	2
Charges against working expenses	1,921,866	10	4
Net revenue	£1,516,274	6	10
Net interest charges and expenses	1,515,755	0	0
Surplus	£	519	6

It will be observed that interest is charged against net revenue, a totally different policy from that pursued here, the Intercolonial and Prince Edward Island Railways having never been debited with interest and frequently showing a deficit in net revenue. For years the Victorian railways had an appalling succession of deficits, commencing with £190,083 in 1888-9, and ending with £304,094 in 1902-3. One year the deficit was nearly £500,000, and in fourteen years the loss was approximately £4,000,000. Pensions and gratuities are bugbears which the Commissioners have to contend with. Last year they amounted to £100,536.

It is only a little over a year since Thos. Tait left Canada to take the Chairmanship of the Victoria Railway Commission. The ability he displayed on the C.P.R. has stood him in good stead in his new position. The excellent results which have been obtained are warmly commended by the Victorian press. The Melbourne Argus says: "The notable financial achievement is one of which the Commissioners may justly feel proud. Economies in expenditure and increases in revenue are revealed in almost every direction. The percentage of expenses to gross

revenue was 52.61, the lowest since 1879. How abnormally low such a percentage is may be understood by comparing it with the percentages on railway systems elsewhere. In New South Wales the percentage is about 68, in Queensland 69, in South Australia 58, and in West Australia 80. On the railways of the United Kingdom it averages 62, while for many years on our own 60% has been about the normal percentage."

The Melbourne Age says: "This year's railway report is a landmark and beacon of hope in the political and economic history of Victoria. The successful management during the past year was mainly due to the reorganization of the transportation and traffic branches, which, the Commissioners modestly remark, was productive of satisfactory results both as to efficiency and economy. Possibly no one outside the department has anything but a vague idea of the amount of hard work which devolved on Mr. Tait and his colleagues in instituting the new system. Mr. Tait's knowledge of transport matters has excited high admiration, and throughout the busy harvest season he scarcely allowed an item of available rolling stock to remain idle or perform unnecessary work. The result was that, in an extraordinary season, the harvest was moved to the seaboard with expedition, and shipped without any suspicion of a block such as was experienced in years gone by."

Nailing Grain Doors in Cars.—General Superintendent Bury, of the C.P.R. Central Division, has issued the following circular: "Cars and grain doors have been greatly damaged, and serious inconvenience has resulted in handling of grain at lake ports, by shippers nailing grain doors in cars. In the aggregate the expense and inconvenience has assumed such magnitude that extreme measures must be taken to stop this practice. Agents are required to see that grain doors are not nailed in cars at their station, and will notify shippers that persistence in the practice will result in legal prosecution. In any event consignors will be required to pay for the damage to rolling stock. The agent at Fort William will furnish each superintendent with a list of cars loaded on his district with grain doors nailed, so that it can be taken up with the consignors, and will also see the amount of the damage to the cars is charged against the grain."

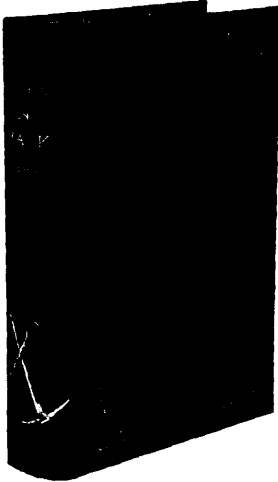
The American Association of Travelling Passenger Agents will hold its annual convention in the City of Mexico, Dec. 10 to 14. The party, which will include a number of members from Canada will assemble at St. Louis, Mo., Dec. 3, and will enter Mexico at Eagle Pass two days later, reaching Mexico city on the evening of Dec. 10. On Dec. 14, the party will leave for a visit to Esperanza, Orizaba, Cardoba, Santa Anna and Puebla, returning to Mexico city Dec. 17, leaving again the same day for St. Louis, travelling by Monterey and Laredo. The party will travel all the way by a special train of sleeping cars, the itinerary outlined showing 5,581 miles to be travelled on the lines of eleven railway companies.

There are various press reports respecting the probable changes to be made in the operations of the Canada Atlantic Ry., when it is taken over by the G.T.R. One report says that it is intended to operate it in connection with the Central Vermont Ry., which the G.T.R. controls. This would give a thorough connection between Depot Harbor, Ont., and New London, Conn., where transhipment of freight to ocean steamers could be made. In this way, the report states, the G.T.R. could make a much more satisfactory bid for U.S. business, especially that offering in the New England States.

Notes on Track

By W. M. CAMP, M. Am. Soc. C. E.

AN EXHAUSTIVE TREATMENT OF TRACK CONSTRUCTION AND MAINTENANCE FROM A PRACTICAL STANDPOINT



The Book is Divided into Chapters as follows: (1) Roadbed; (2) Track Materials; (3) Track Laying; (4) Ballasting; (5) Curves, including Easement Curves; (6) Switching Arrangements and Appliances; (7) Track Maintenance; (8) Double-Tracking; (9) Track Tools; (10) Work Trains; (11) Miscellaneous Work and Construction; (12) Organization of Maintenance of Way Departments. Every phase of these general subjects is treated, particular attention being paid to *Cost of Track Work* and to *Modern Labor-Saving Machinery in Track Service*. The book also covers in much detail many allied subjects, such as Earthwork and Grading, Culverts, Yard Layouts and Switching Movements, Interlocking Switches and Signals, Automatic Electric Block Signals and Track Circuits, Principles of Rail Design, Fence, Cattle Guards, Section Houses and Tool Houses, Boarding Trains, Bridge Floors, Ash Pits, Handling Ballast and Filling Material, Wrecking, Fighting Snow, Tie Preservation, Metal and Concrete Ties, Track Elevation and Depression, Crossing Gates, Tree Planting, Capacity of Single Track, etc.

The Book Contains

1214 PAGES AND 620 ILLUSTRATIONS

"This book is generally recognized by railway men as the standard work on track and maintenance of way. It is not a mere theoretical compilation of how things should be done, but gives the results of the observations of a practical man who has had experience of the work."—*Railway and Shipping World*.

Sent to any part of the World, Postpaid, for \$3.75.

Write for full table of Contents and Illustrated Circular.

W. M. CAMP, Author and Publisher
Auburn Park, CHICAGO

Steam Goods

We carry a most complete line of these goods for all uses.

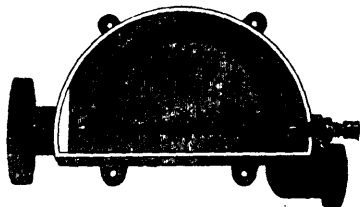
Pipe and Fittings

Iron and Brass Valves, Cocks, etc.

Gauges, Oil Cups, Lubricators,

Injectors, Safety Valves, etc.

USE "REMANIT" The modern
Pipe Covering—more than 90 per cent.
steam economy.



J. M. T. VALVES Renewable
Disc

Built heavy for Durability

A good STEAM TRAP is an investment that pays 15 to 20 per cent. in fuel economy. The "HEINTZ" Trap is guaranteed to do this. It's a steam saver. Can be placed in any position. Thousands are in use.

The JAMES MORRISON BRASS MFG. CO., Limited, Toronto
LOCOMOTIVE AND MARINE BRASS WORK

C.P.R. LANDS.

THE CANADIAN PACIFIC RAILWAY COMPANY have 12,000,000 acres of choice farming lands for sale in Manitoba, Assiniboia, Saskatchewan and Alberta. Manitoba lands and Assiniboia lands east of third meridian, \$4.00 to \$10.00 per acre according to quality and location. Lands in South-Western Assiniboia and Southern Alberta, \$3.50 to \$8.00 per acre. Ranchings lands generally \$3.50 to \$4.00 per acre. Northern Alberta and Saskatchewan lands generally \$6.00 to \$8.00 per acre. Maps showing the lands in detail will be sent free on application.

TERMS OF PAYMENT.

An actual settler may purchase 640 acres, or less, on the 10 payment plan, by which the aggregate amount of principal and interest is divided into a cash instalment to be paid at the time of purchase and nine equal deferred instalments annually thereafter, as follows:

160 acres at \$4.00 per acre, 1st instalment \$95.85, and 9 equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and 9 equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and 9 equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and 9 equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and 9 equal instalments of \$120.00.
160 acres at \$6.50 per acre, 1st instalment \$155.80, and 9 equal instalments of \$130.00.
160 acres at \$7.00 per acre, 1st instalment \$167.80, and 9 equal instalments of \$140.00.

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of 6 per cent. per annum.

DISCOUNT FOR CASH.

If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. on five-sixths of the purchase money.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN,

Land Commissioner C.P.R. Co., Winnipeg

CANADA NORTH-WEST LAND CO.

This Company has 800,000 acres of selected lands in Manitoba and Assiniboia which offer excellent opportunities to settlers and investors who desire to secure good lands in well settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

DEPARTMENT OF AGRICULTURE AND IMMIGRATION

MANITOBA with its network of railways, giving markets near at hand for all farm products, offers unrivalled opportunities for investment.

PROVINCIAL GOVERNMENT LANDS can still be purchased at from \$3 to \$6 per acre. **IMPROVED FARMS** in all districts of the province can be purchased at from \$10 to \$40 per acre. These prices are advancing every year.

A FEW POINTERS.

On arrival at Winnipeg the wisest policy for any new settler to adopt is to remain in Winnipeg for a few days and learn for himself all about the lands offered for sale and to homestead.

There are districts that have been settled for many years in which land can be purchased. Some of this may be unbroken prairie which still possesses all the richness and productive powers of our virgin prairies. Other lands, cultivated and having comfortable farm buildings, are ready for immediate possession.

There are Provincial Government lands, Dominion Government homesteads, and railway lands to be secured.

The price of land varies from \$3 to \$40 per acre. Location with respect to railways, towns, timber and water determines the price of land.

For information regarding homesteads, apply at the Dominion Land Office.

For purchase of Provincial lands apply at the Provincial Land Office in the Parliament Buildings.

For C.P.R. or C.N.R. lands apply at the land offices of said railway companies.

For lands owned by private individuals apply to the various real estate agents in the city.

For situations as farm laborers apply to:

J. J. GOLDEN,

PROVINCIAL INFORMATION BUREAU
617 MAIN ST., WINNIPEG

The demand for civil engineers by railways and other public works has increased in Canada at a very rapid rate. The attendance of students at the School of Practical Science, Toronto, in the Faculty of Applied Sciences, for the current year is: First year, 204; second, 136; third, 75; fourth, 45.

Railway Equipment Notes.

The Dominion Coal Co. is reported to be in the market for 200 coal cars.

The Intercolonial Ry. has placed an order for two dining cars with the Pullman Co.

The G. T. R. recently added to its equipment six locomotives and 36 refrigerator cars.

The Hamilton, Grimsby and Beamsville Ry. (Electric) has placed a new car, named Vineland, in operation. It is fitted with motors of 50 h.p.

The New Brunswick Southern Ry. is having a snow plow built by Rhodes, Curry & Co., Amherst, N.S., and will be in the market shortly for new locomotive and car equipment.

The Central Vermont Ry. has placed an order for nine Richmond compound consolidation freight engines to be built at the American Locomotive Co.'s Schenectady works. Delivery is to be made by the end of the year.

The British Columbia Electric Ry. Co. expended over \$58,000 on new equipment in its last fiscal year. At June 30 it had 69 cars, and the chairman at the annual meeting in London, Eng., said that this number would have to be considerably increased.

The Canadian Westinghouse Co. has closed a contract with the G.T. Pacific Ry. for its air

stroke, 28 in.; wheels, 57 in.; weight, about 180,000 lbs.; tender: tank, 5,000 gals. capacity, 12 tons of coal, weight about 130,000 lbs.; driving wheel trucks and engine truck tyres, Krupp crucible; tender wheels, cast iron; Simplex tender truck bolsters and brake beams; Westinghouse American equalized driver brake, Westinghouse automatic air brake, straight air brake, electric head-lights, and piston balanced valves.

The site which the Simplex Railway Appliance Co. has purchased in Montreal for its new factory covers 43 acres, and is situated at Blue Bonnets, along the canal, on the lines of the C.P.R. and G.T.R., between Montreal and Lachine. Plans are being prepared for the buildings, on which work will be commenced in the spring. It is proposed to erect a large power house and bolster and brake-beam plants with the necessary accessory buildings at first, after which it is expected to go ahead with the car plant. It is hoped to be ready to turn out either steel or wooden cars, and more particularly steel underframing for cars, in the fall. The company believes that the railways of Canada are about ready for steel underframes for cars, if they are not quite ready for all steel cars. The company may possibly take up the manufacture of other railway devices and supplies, but this has not yet been determined on.

MAINLY ABOUT PEOPLE.

E. T. Galt, President Alberta Ry. and Irrigation Co., has returned from England.

H. A. Reynolds, fuel inspector Eastern Division, C.P.R., was married to Miss M. Orton, at Ottawa, Oct. 26.

A. R. Creelman, K.C., Chief Solicitor C.P.R., and family, have moved into their new residence, Redpath St., Montreal.

J. R. Thompson, cashier G.T.R. freight department, Windsor, Ont., has been appointed City Treasurer of Windsor.

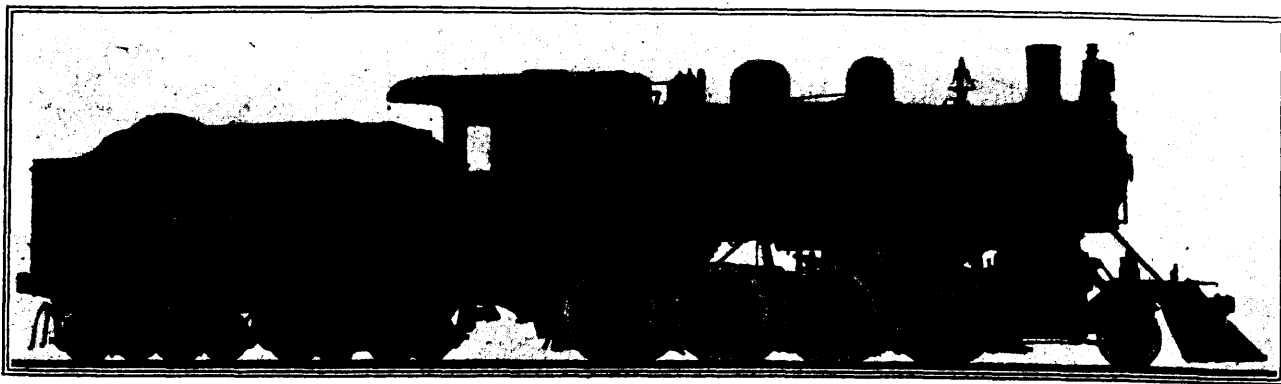
J. Babcock, G.T.R. yard foreman at Fort Erie, Ont., was killed recently by being run over by a train while engaged at his work.

H. Nesbitt, train dispatcher Sydney and Louisburg Ry., Glace Bay, N.S., was married at Gabarus, N.S., Oct. 29, to Miss G. Hardy.

W. R. Baker, assistant to the Vice-President, C.P.R., returned to Montreal, Nov. 9, from a trip over the company's western lines.

Archer Baker, European Traffic Manager C.P.R., was a guest at the Lord Mayor's banquet at the Guildhall, London, Eng., Nov. 9.

W. Bunton, G.T.R. town ticket agent, Peterborough, Ont., recently returned home after a trip to the Northwest Territories and the Pacific Coast.



SIMPLE CONSOLIDATION LOCOMOTIVE BUILT FOR THE C.P.R. BY THE LOCOMOTIVE AND MACHINE CO. OF MONTREAL.

brake requirements. The contract does not specify the number of brakes, or the amount involved, but covers all the air brakes which will be required for the G.T.P. rolling stock.

The Toronto Globe of Nov. 17, 1854, said: "The twelfth locomotive and tender, manufactured at Mr. Good's foundry, was turned out of his workshop yesterday. They were brought down on temporary rails to Queen's Wharf for shipment to a point on the Grand Trunk line."

The Canada Foundry Co., Toronto, has delivered to the C.P.R. the first of the 10 consolidation freight locomotives, ordered in 1903, general dimensions of which have already been published. This is the first locomotive built in Toronto since James Good built several on Queen St., for the old Northern Ry.

The Chicago Railway Equipment Co. has issued a notice stating that it is not now represented in Canada by F. E. Came. It has appointed I. A. Young, 22 St. John St., Montreal, as its representative, and any orders for brake beams, side bearings, or slack adjusters placed with him or sent to the head office in Chicago will have prompt attention.

The general dimensions of the consolidation locomotives, an illustration of one of which appears on this page, ordered by the C.P.R. from the Locomotive and Machine Co. of Montreal, are: diameter of cylinder, 21 in.; length of

The 20 consolidation freight locomotives recently delivered to the C.P.R., from the American Locomotive Co.'s Schenectady works, had the following general dimensions:—Weight in working order, 182,000 lbs., of which 157,000 lbs. are on drivers; diameter of drivers, 57 in.; cylinders, 21 by 28 in.; boiler, radial stayed type, with diameter at smallest ring of 69 in., made for a working pressure of 200 lbs.; firebox, 96 in. long, 66 in. wide, 59 in. deep at back and 74½ in. at front; twenty-two 5-in. tubes, 2 and 5 in. in diameter and 14 ft. 4½ in. long; heating surface, tubes 2,217 sq. ft., firebox 155 sq. ft., total 2,372 sq. ft.; grate surface, 44 sq. ft.; water capacity of tender, which will be of the gravity type, 5,000 gals. and coal capacity 12 tons. These locomotives are equipped with Simplex bolster, Westinghouse brakes, Simplex tender brake-beams, cast-steel driving-wheel centres; homogeneous steel for firebox, C.P.R. standard journal bearings, whistles, blow-off valves and brakeshoes.

The Construction Co. (Ltd.), has been incorporated under the Dominion Companies' Act, with a capital of \$500,000 and offices at Ottawa, Ont., to carry on a general contracting business. The provisional directors are: Sir A. P. Caron, K.C.M.G.; J. H. E. Secretan, Ottawa; B. Lowry, Quebec; J. H. Jewell, H. H. Dewart, Toronto; G. H. Cowan, Vancouver, B.C.

Miss M. Salsbury, daughter of W. F. Salsbury, C.P.R. Local Treasurer at Vancouver, B.C., was married there Oct. 20, to E. A. Earle, of Montreal.

Hon. A. G. Blair, formerly Chief Railway Commissioner, and Mrs. Blair, who has been ill recently, have been spending some time at the St. Louis exhibition.

H. B. R. Craig, resident engineer on construction, C.P.R. line between Sudbury and Byng Inlet, Ont., has been appointed city engineer of Kingston, Ont.

C. A. Parker, Vice-President Pere Marquette Rd., and 2nd Vice-President Cincinnati Hamilton and Dayton Rd., dropped dead in his office at Cincinnati, Ohio, Nov. 15.

F. L. Wanklyn, formerly Vice-President and General Manager Montreal Street Ry., has been elected a member of the House Committee, Windsor Hotel Co., Montreal.

S. D. Woodruff, who died at St. Catharines, Ont., Oct. 28, aged 86, was Superintendent of the Welland Canal from 1846 to 1874, when he retired into private life.

T. M. Kirkwood, a director of the Central Ontario Ry., and formerly interested in shipping on the Upper Lakes, is erecting a plant, adjoining the C.P.R. shops, Winnipeg, for the manufacture of railway spikes and bolts.

J. K. McCulley, who recently resigned his position in the local freight agent's office C.P.R., at Winnipeg, Man., was presented



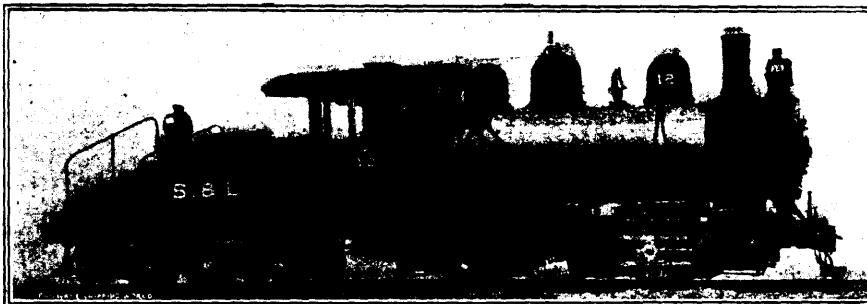
We build all types of Boilers and Engines, both Marine and Stationary, and have no doubt that our Repair and Jobbing work and rates will give satisfaction.

The BERTRAM ENGINE WORKS CO., Limited, Toronto, Canada.

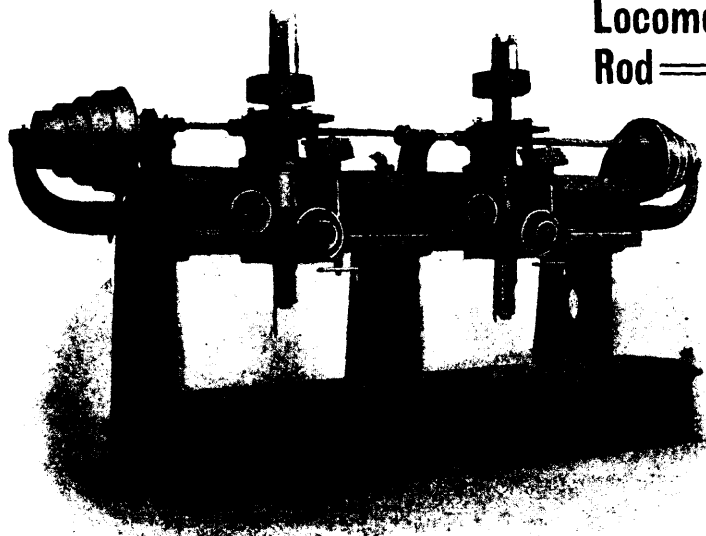
THE LOCOMOTIVE AND MACHINE COMPANY OF MONTREAL, LIMITED

Imperial Bank Building, Victoria Square, Montreal, Canada

Builders of LOCOMOTIVES for all Classes of Service



NEW YORK OFFICE, - American Locomotive Company, 25 Broad Street.



Locomotive Rod Boring Machine

Designed for boring connecting rods and other heavy work. Boring spindles are adjustable from 36 to 132 inches between centres and extend 18 inches from the front of housing. Spindles are driven by tangent gearing, giving a smooth motion under heavy cuts. They are counter weighted, having four changes of power and hand feeds, and quick return. Heads are entirely independent, having separate drives from a four step cone placed at either end of the crossrail.

This machine is one of a line of Bertram's locomotive and car shop tools which are attracting world-wide attention for their exceptional capacity, weight and power.

For further particulars, speed records and complete specifications write to

The JOHN BERTRAM & SONS CO. LIMITED
DUNDAS, Ontario, Canada

with a gold locket by the employes of the office.

C. G. Swanson, formerly Superintendent of C.P.R. yards at Winnipeg, Man., and formerly on the company's civil engineering staff, died suddenly at his residence, Winnipeg, Oct. 29.

Miss M. G. Earle, daughter of the manager of the Western Union Telegraph Co.'s cable office at North Sydney, N.S., will be married shortly to E. J. Mabon, of the Bank of Nova Scotia there.

W. Mackenzie, President Canadian Northern Ry., has purchased and presented to the University of Toronto, the collection of Cambrian fossils made by Dr. G. E. Matthew, of St. John, N.B.

W. H. Kelson, ex-General Purchasing Agent C.P.R., sailed from Boston, Mass., on the s.s. Canopic, Nov. 19, for a trip to Mediterranean points. He expects to return to Montreal early in Jan.

G. H. Doherty, heretofore ticket agent for the Niagara Navigation Co., was presented with a purse of gold by the officials and employes of the company on leaving the service recently to go into insurance business.

H. F. Carter, Travelling Passenger Agent, Union Pacific Rd., Toronto, was presented with several gifts by the passenger agents of the various lines located in Toronto, on his recent removal to St. Paul, Minn.

F. Dillinger, who has resigned his position as Superintendent C.P.R., at Fort William, Ont., is leaving railway service in order to go into the lumbering business in the Kootenay district. He will reside at Kitchener, B.C.

R. Jenkins, son of B. S. Jenkins, General Superintendent C.P.R. Telegraph Department, Winnipeg, Man., had one of his legs broken recently during some "bouncing" performances by the freshmen at Manitoba College.

C. A. Flaherty, of Boston, Mass., who carried through the construction of the Egerton Tramway Co.'s line, was presented with a silver tea service by residents of New Glasgow, N.S., recently, in connection with the opening of the line.

The funeral of the late C. Shields, General Manager Lake Superior Corporation, took place at Lacrosse, Wis., Oct. 31, and was attended by the officers and officials of the different companies of which the Lake Superior Corporation is the parent.

D. Pottinger, General Manager Intercolonial Ry., was invested with the insignia of the Imperial Service Order, of which he was recently gazetted a Companion, by the Governor-General, acting by special command of the King, at Ottawa, Nov. 7.

Capt. H. W. Shepherd, President Ottawa River Navigation Co., was recently presented with an address by patrons of the line. He has been in charge of steamers on the St. Lawrence and Great Lakes, but principally between Ottawa and Montreal, for over 50 years.

G. C. Wells, of the Passenger Traffic Manager's office, who had been taking the place of A. H. Notman, A.G.P.A. at Toronto, returned to Montreal Nov. 16, and C. B. Foster, D.P.A. at St. John, N.B., was transferred to Toronto temporarily, the intention being for him to take charge of the district during Mr. Notman's absence. Consequent on Mr. Notman's decease, Mr. Foster has been appointed District Passenger Agent at Toronto.

C. B. Foster, who has been appointed District Passenger Agent, C.P.R., at Toronto, was born at Kingston, Kings County, N.B., Sept. 30, 1871, and entered railway service in 1891, his record being: April, 1891, to Oct., 1892, stenographer, passenger department, St. John, N.B.; Oct., 1892, to Sept., 1893, senior clerk, passenger department, St. John;

Sept., 1893, to July, 1899, Travelling Passenger Agent, St. John; July, 1899, to Feb. 8, 1902, chief clerk, passenger department, St. John; Feb. 8, 1902, to Nov. 22, 1904, District Passenger Agent, St. John. Entire service with C.P.R.

The following were elected to represent the constituencies named, at the recent general election for the Dominion:—S. Barker, formerly General Manager Northern and North-western Ry., Hamilton, Ont., for East Hamilton. Jas. Conmee, railway contractor, Port Arthur, Ont., for Thunder Bay. Hon. H. R. Emmerson, Minister of Railways and Canals, Ottawa, for Westmoreland, N.B. Hon. W. Harty, President Canadian Locomotive Co., for Kingston, Ont. E. B. Osler, director C.P.R., Toronto, for West Toronto. Hon. R. Prefontaine, Minister of Marine, Ottawa, for Maisonneuve, Que. The defeated candidates included P. Lyall, contractor, Montreal, in St. Antoine division of Montreal; and Capt. Gaskin, in Kingston, Ont.

G. M. Clark, K.C., who died at Cobourg, Ont., Nov. 9, was Chief Solicitor, C.P.R., from 1887 to 1901, prior to which he was county court judge of Northumberland and Durham. He served on a number of Royal Commissions, among which may be mentioned that of which he was chairman, appointed in 1881, to enquire into all transactions connected with the contracts and construction of the C.P.R. up to that time; the Royal Commission, appointed in 1883, of which he was also chairman, to report on the liability of the Crown in respect of claims arising out of the building of the Intercolonial Ry., and the Royal Commission appointed in 1887 to report on the further prosecution of the Trent Valley canal system. He was also a commissioner in 1885 to report on claims arising out of the construction of the railway through New Brunswick and Nova Scotia, known as the Short Line Ry.

W. H. Kelson, who has resigned his position as General Storekeeper of the C.P.R., was born in Bath, Eng., Sept. 5, 1850. He arrived in the U.S. in June, 1866, and after farming for one year and being for three years in the dry goods business in Wisconsin, entered railway service as a timekeeper in the Master Mechanic's office of the Southern Minnesota Rd., Dec. 1, 1870. He was chief clerk of that office from June, 1871, until June, 1879, when, owing to the transfer of the S.M. Rd. to the Chicago, Milwaukee & St. Paul Ry., he was moved to Milwaukee. He was chief clerk of the General Master Mechanic's office to Dec. 31, 1879, and chief clerk of the General Storekeeper's office from Jan. 1, 1880, to Feb. 10, 1882. He then entered the service of the C.P.R. as Storekeeper of the Western Division at Winnipeg, remaining in that position until Jan. 30, 1885, when he was transferred to Montreal, since which time he has been General Storekeeper of the system.

M. K. Cowan, K.C., of Windsor, Ont., has become a member of the G.T.R. staff with office in Montreal. The legal department is likely to undergo considerable changes in the near future, and pending that being done, Mr. Cowan's title has not been announced. It is expected that he will have to do with G.T. Pacific Ry. matters as well as with the G.T.R. He was born at Blytheswood, Ont., May 10, 1863, his father being a prominent farmer in that township. He was educated at the Brantford and Collingwood Collegiate Institutes, and entered law under the late Hon. A. S. Hardy in May, 1885, at Brantford, remaining there until Sept., 1886, when he removed to Toronto, where he was a student in different offices. He was admitted to the bar in May, 1890, and started practice in Windsor, in August, 1890. He was elected to the House of Commons for South Essex, in June, 1896, and was re-elected in 1900. He became Chairman of the Private Bills Com-

mittee of the House of Commons in 1901 and was re-elected in 1902, 1903 and 1904. He was created a K.C. in 1902. He married, Jan., 1892, Clara Louise, daughter of the late P. J. Pilkey.

A. H. Notman, Assistant General Passenger Agent, C.P.R., Toronto, who died on a train near Albuquerque, New Mexico, on the night of Nov. 13, had been ill for some time, and had been absent from his office, more or less, during the summer. In Oct. he was given an extended leave of absence, and on Oct. 12 left Toronto for Los Angeles, Cal., where a brother, F. M. Notman, resides. The change of climate did not appear to result in any benefit, and, realizing that no improvement was likely to take place, he decided to return home, and accordingly on Nov. 12 he left Los Angeles on the California Limited train of the Atchison, Topeka and Santa Fe Rd. He occupied a drawing-room in the Pullman car Sidney, and was last seen alive between nine and ten o'clock on the night of Nov. 13. About half-past ten the same evening the porter, on going round again, found Mr. Notman dead. The train at this time was about 50 miles from Albuquerque, N.M., and on reaching that place the body was removed to an undertaker's, and telegrams were despatched by the A. T. and S. F. Rd. officials to Toronto announcing the death. The body was subsequently removed to Toronto, W. T. Dockrill, Travelling Passenger Agent, C.P.R., Toronto, accompanying it from Chicago. The funeral took place Nov. 22, to Mount Pleasant cemetery, Toronto, and was largely attended by officials of the passenger and other departments of the C.P.R. and of other railway and steamship companies, as well as of business men. Mr. Notman was born in Toronto, Nov., 1860, and completed his education in France and Germany. He entered railway service in Toronto, and was ticket agent there, until 1884 when he entered the office of D. McNichol, then General Passenger Agent, Ontario and Quebec Division, C.P.R., Montreal, and subsequently became chief clerk, rate compiler and chief rating clerk. In June, 1895, he was appointed District Passenger Agent at St. John, N.B., and in July, 1899, Assistant General Passenger Agent at Toronto, in both these positions succeeding C. E. McPherson, now G.P.A. at Winnipeg, Man.

H. S. Heydon, General Agent Canada Atlantic Ry., New York, writes: "It is a great pleasure to receive THE RAILWAY AND SHIPPING WORLD. It contains the most complete and correct information of any railway periodical I have seen. I wish to have my subscription continued on expiration without further notice."

Taxation of C.P.R. Lands.—The three appeals involving the right of municipalities to tax lands granted to the C.P.R. under the construction contract have reached the Supreme Court at Ottawa, and a decision will be given in due course. The appeals are those of Cypress and Argyle municipalities in Manitoba against the C.P.R., and the C.P.R. against the school district of Springdale. A clause in the contract provides for 20 years' exemption from taxation in territory that was in 1880 outside the limits of any organized Province, that is to say, outside the old limits of Manitoba. The Manitoba court, where the three suits were brought, held against the right to impose general municipal taxes in Manitoba, as now constituted, but in favor of the imposition of school taxes in the Northwest Territories. The two questions to be argued are: (1) Can the lands be taxed at all before the expiration of 20 years, during which they are declared exempt from taxation by the statutory contract? (2) If not, does the period of 20 years run from the time the lands are allotted to the railway company, or only from the dates of the issue of the patents for specific lots?

The large steel intake pipes, 6 ft. in diameter, and with a total length of about 6,000 ft., to be laid across Toronto Island by the Toronto Water Works, were coated entirely with mineral rubber pipe coating supplied by the American Asphaltum & Rubber Co., of Chicago, to the specifications of City Engineer Rust, who, we are informed, decided in favor of this material after careful investigation into its record, particularly at Minneapolis, where it was used on the pipe line eight years ago and is to-day, according to Engineer Cappelin, of that city, as good as when it was put on. Wm. Mackenzie, of Mackenzie, Mann & Co., is largely interested in this company, and his son, A. W. Mackenzie, is Vice-President.

**FURRIERS
TO THE QUEEN**

MEN'S FURS

We carry a most complete stock of Fur and Fur-lined Coats, Gauntlets and Caps.

We would like to send you a copy of our catalogue—it contains descriptions and prices of these Furs.

HOLT, RENFREW & CO.
QUEBEC TORONTO



The Ticket Agent and General Public are reminded that all tickets reading over this line, Chicago to as far South as DuQuoin and all other points south of DuQuoin, are honored at option of passenger
via ST. LOUIS.

Send your friends where a diversified route and to visit World's Fair is permissible without extra charge and inconvenience. This applies in either direction.

**On Friday, via New Orleans,
Through Tourist Sleeper to California,**

"See page 21 June 12 Folder,"

Montreal, Toronto, St. Louis Line

G. B. WYLLIE,

Canadian Passenger Agent.

210 ELLICOTT SQUARE, BUFFALO, N. Y.

TORONTO BOLT AND FORGING CO.

Manufacturers of

LIMITED

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

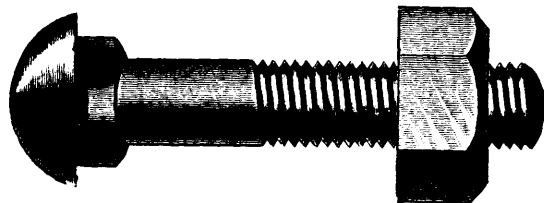
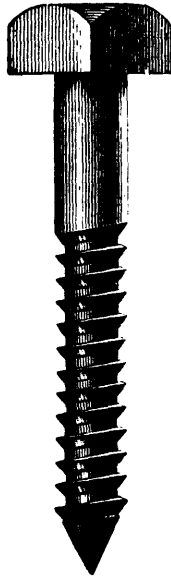
Track Bolts

Track Spikes

Lag Screws

Boiler and

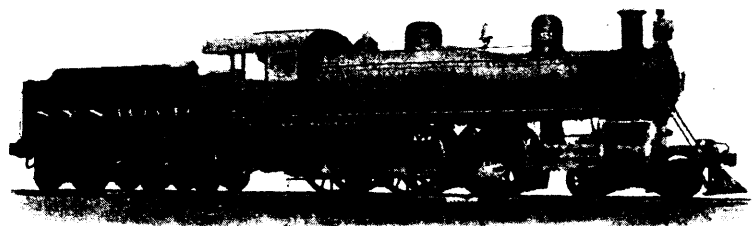
Bridge Rivets



TORONTO

CANADA

Baldwin Locomotive Works



BROAD AND NARROW GAUGE SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives. Electric Locomotives with Westinghouse Motors and Electric Trucks.

Grand Prize and Gold Medals awarded by the Louisiana Purchase Exposition.

BURNHAM, WILLIAMS & CO.

PHILADELPHIA, PA., U.S.A.

CODE ADDRESS—"BALDWIN" PHILADELPHIA

TRANSPORTATION APPOINTMENTS.

Canadian Pacific Ry.—W. H. Kelson, General Storekeeper, Montreal, has resigned.

G. C. Wells, heretofore chief clerk, Passenger Traffic Manager's office, Montreal, has been appointed Assistant General Passenger Agent, Eastern Lines. Office, Montreal.

F. R. Perry has been appointed acting District Passenger Agent for Nova Scotia, New Brunswick, Prince Edward Island, Quebec, from St. Charles and east; Newfoundland, the State of Maine, from Oldtown north, including the C.P.R. short line through Maine, and the Washington County Ry., succeeding C. B. Foster, promoted. Office, St. John, N.B.

R. L. Thompson, of the Passenger Traffic Manager's staff, has been appointed chief clerk, succeeding G. C. Wells, promoted.

G. J. P. Moore, of the General Passenger Department, has been appointed Travelling Passenger Agent, succeeding A. E. Lalande, promoted. Headquarters, Montreal.

A. E. Lalande, heretofore Travelling Passenger Agent at Montreal, has been appointed Acting City Passenger Ticket Agent at Montreal, succeeding W. F. Egg, resigned on account of ill-health.

C. B. Foster, heretofore District Passenger Agent, St. John, N.B., has been appointed District Passenger Agent for Ontario west of and including Kingston and Sharbot Lake, to Detroit, Mich., and south of North Bay, and Detroit City, Mich., succeeding A. H. Notman, Assistant General Passenger Agent, deceased. Office, Toronto.

The jurisdiction of J. Brownlee, Superintendent district 4, Central Division, at Moose Jaw, Assa., has been extended over the branch from Arcola to Regina, Assa., recently opened, and which will be known as the Regina section.

H. C. Groat, heretofore Resident Engineer in charge of grade reductions, Farnham to Newport, Que., has been appointed Resident Engineer, district 1, Ontario Division, succeeding A. G. Ardagh, transferred. Office, North Toronto.

A. G. Ardagh, heretofore Resident Engineer, district 1, Ontario Division, has been appointed to district 2, same division, succeeding C. B. Brown, transferred to Calgary, Alta. Office, Union Station, Toronto.

O. O. Winter, heretofore Assistant Superintendent in charge of Winnipeg terminals, has been appointed Superintendent district 1, Central Division, at Fort William, Ont., succeeding F. Dillinger, resigned.

Grant Hall, who has been appointed Assistant Superintendent of Motive Power, Western Lines, will have direct charge of mechanical matters on the western lines outside of Winnipeg shops. The Master Mechanics will report to him direct, and he in turn will report to W. Cross, Assistant to the Second Vice-President.

E. B. Kenrick has been appointed Water Analyst for Western Lines, with headquarters at Winnipeg. He will report to the Assistant Chief Engineer at Winnipeg and perform such duties as are assigned to him.

J. L. Audrain, heretofore Station Agent, Winnipeg, has been appointed Assistant Superintendent district 2, Central Division, in charge of Winnipeg terminal, succeeding O. O. Winter, promoted.

J. H. Anthony has been appointed General Air Brake Inspector for western lines. He reports to Master Mechanics upon their respective divisions, and to the Assistant to the Second Vice-President. Office, Winnipeg, Man.

A. Belbeck, heretofore Trainmaster district 4, Central Division, has been appointed Assistant Superintendent, same district. Office, Moose Jaw, Assa.

C. B. Brown, heretofore Resident Engineer district 1, Ontario Division, has been appointed to a similar position on the Central Division. Office, Calgary, Alta.

A. B. Calder, heretofore Travelling Passen-

ger Agent, Seattle, Wash., has been appointed General Agent, Passenger Department, there, and not city ticket agent, as stated in our last issue.

Intercolonial Ry.—A. B. McHaffie, Master Mechanic of the Moncton locomotive shops, has been also given jurisdiction over the Moncton car shops, which were until recently in charge of a Master Car Builder.

Master Mechanic N. L. Rand's jurisdiction has been extended to the east end of Campbellton yard, and he also takes charge of the car department on the various districts over which he has control outside of Moncton.

Kingston and Pembroke Ry.—McNaughton has been appointed Auditor, succeeding J. H. Black, resigned. Office, Kingston, Ont.

Lake Superior Corporation.—W. N. Sawyer, of Pittsburg, Pa., has been appointed General Manager, succeeding C. Shields, deceased.

Ottawa and New York Ry.—The office of Assistant General Freight Agent, heretofore held by G. A. Brown, who has been appointed to a position with the Board of Railway Commissioners, has been abolished. The duties heretofore discharged by G. A. Brown have been assumed by G. H. Phillips, General Freight Agent.

Quebec Southern Ry.—P. C. Lalonde, Superintendent South Shore division, having resigned, the jurisdiction of R. A. Trudeau, heretofore Superintendent, has been extended.

Raid Newfoundland Co.—F. C. Bryant, heretofore General Freight and Passenger Agent, Jonesboro, Lake City and Eastern Rd., Jonesboro, Ark., has been appointed Travelling Passenger Agent of the Nfld. Ry., succeeding H. E. Heustis.

Transcontinental Ry. Commission.—A. L. Ogilvie, heretofore Superintendent of Public Works, Ottawa, has been appointed Purchasing Agent and Storekeeper for the Commission. Office, Ottawa, Ont.

A. T. Gow, heretofore chief clerk in the Canada Atlantic Ry.'s audit office, is reported to have been appointed chief accountant for the Commission.

Union Pacific Rd.—J. W. Goodsell, heretofore Travelling Passenger Agent, at St. Paul, Minn., has been appointed to a similar position at Toronto, succeeding H. F. Carter, who has taken over the district heretofore in charge of Mr. Goodsell.

In the trial of the main action respecting the sale of limited tickets at eight for 25c. on the Hamilton Street Ry. Co.'s cars, judgment has been given favoring the contention of the city council, and directing the company to sell working men's to any person wishing to purchase the same. The company pleaded that the agreement with the city was ultra vires, that its act gave power to make by-laws respecting fares, and that the agreement had not been confirmed by the Legislature.

The Interborough Rapid Transit Co., of New York, has issued a volume commemorative of the completion of the subway in that city. The subway is one of the notable pieces of engineering enterprise of the time, and in the matter of equipment, etc., possesses features of importance to those interested in electrical transportation in congested centres. The book, which extends to 154 pages, 10 by 13½, details the whole work from its inception, to the granting of the charter, and the subsequent construction of the subway. It contains illustrations showing the general plan of the route, the difficulties of construction, the power house, the system of electrical supply, the cars and their equipment, together with everything else that goes to make a complete system. A list of the officers of the company, of the engineers and contractors, is also given.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1903, from July 1, 1904:—

	Earnings.	Expenses.	Net Profits.	Increase or Decrease.
July	\$4,398,833.95	\$2,949,181.81	\$1,449,652.14	\$1,311,125.02+
Aug.	4,474,237.64	2,946,307.21	1,527,930.43	93,827.93+
Sept.	4,220,876.03	2,952,068.47	1,268,807.56	66,541.75+

\$13,093,947.62 \$8,847,557.49 \$4,246,390.13 \$291,494.70+

Approximate earnings for Oct., \$4,725,000, against \$4,475,000 for Oct., 1903.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Sept., \$239,150.50; net earnings, \$90,596.73 against \$239,411.99 gross and \$78,442.10 net for Sept., 1903. Net earnings for three months ended Sept. 30, \$269,221.63, against \$291,040.10, for same period, 1903. Approximate earnings for Oct. \$234,014 against \$217,730 for Oct., 1903.

MINERAL RANGE RY.—Approximate earnings for Oct., \$65,000, against \$55,761 for Oct., 1903.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Sept., \$772,595.42; net earnings \$432,070.23, against \$736,602.79 gross and \$430,815.87 net for Sept., 1903. Net earnings for three months ended Sept. 30, \$1,001,500.84, against \$1,000,401.13 for same period, 1903. Approximate earnings for Oct., \$905,650, against \$792,934 for Oct., 1903.

Grand Trunk Ry. Earnings, Expenses, &c.

The following statement of earnings, supplied from the Montreal office, includes the G.T. of Canada, the G. T. Western, and the Detroit, Grand Haven & Milwaukee Rys.

	1904.	1903.	Increase.	Decrease.
July	\$3,013,149	\$3,192,608	.....	\$179,459
Aug.	3,108,137	3,201,511	.....	93,374
Sept.	3,182,972	3,274,245	.....	91,273
Oct.	3,174,437	3,222,759	.....	48,313
	\$12,478,695	\$12,891,114	.....	\$412,419

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from July 1 to Oct. 31:

	1904.	1903.	Increase.	Decrease.
Grand Trunk	£2,108,650	£2,148,658	.....	£40,008
G. T. Western	344,798	400,587	.....	55,789
D. G. H. & M.	110,665	99,614	£11,051	.....
Total	£2,564,113	£2,648,859	.....	£84,746

Immigrant Passenger Rates.—At the quarterly meeting of the Transcontinental Passenger Association, recently held at St. Louis, Mo., the action of the C.P.R. in reducing rates on immigrant traffic was discussed and the matter referred to a committee of the northern transcontinental lines. This committee will endeavor to induce the C.P.R. to rescind its action. The C.P.R., according to the opinion of U.S. passenger officials, has placed an unnecessarily strict interpretation upon the Railway Act of Canada, making the act an excuse for reducing immigrant rates, when nothing in the act, or in the attitude of the Canadian Commission can, it is contended by the U.S. lines, be construed as making the reduction necessary. The C.P.R.'s proposed tariff reduces the transcontinental rate \$2.35 to Vancouver and \$1.80 to Nelson, B.C. If U.S. lines were compelled to meet this rate a greater extent of intermediate point territory would be affected than on the Canadian roads, with resultant reduction of revenue, and the U.S. roads are therefore anxious to have the rates maintained.

Concordance of the Railway Act.—Until the passing of the Railway Act of 1903, Vaughan's Index to the Railway Acts of Canada, published in 1898, was a work to which frequent reference was made by those interested in railway matters who desired to find out just what the law said on any matter of importance to the railway companies in their corporate capacities or in regard to their dealings with the public. The new railway act brought into existence the Board of Railway Commissioners, a body invested with all the powers of a superior court, and empowered to deal with railway companies from the time when application is made to parliament for an act incorporating a company to construct a railway, to the time when a company passes out of existence, either by absorption by another company, or has to be wound up on

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY.

Steel Rails.

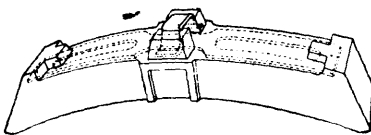
Wrought Iron Steel-Tyred Disc Wheels

Locomotive and Car Wheel Tyres.

Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND
ELECTRIC RAILWAYS.

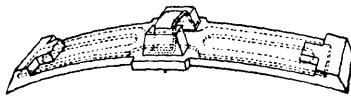
OFFICE: MERCHANTS BANK BUILDING **MONTREAL.**
205 ST. JAMES STREET,



New, 25 Pounds

STEEL BACK CAR BRAKE SHOE

Can be applied to any type of shoe.
The **Steel Back** doubles the life of the shoe.



Scrap, 5 Pounds

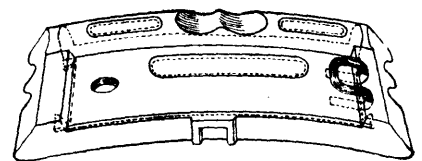
Steel Back Brake Shoe

ONLY SAFE SHOE FOR HIGH SPEED BRAKES

More dense and durable than common Cast Iron

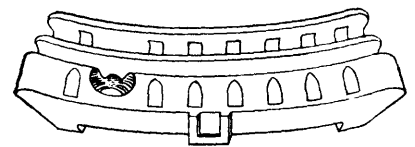
Perfecto Driver Brake Shoe

THE BEST SHOE FOR GENERAL LOCOMOTIVE
SERVICE



Back View

PERFECTO DRIVER BRAKE SHOE



Contact Surface

AMERICAN BRAKE SHOE & FOUNDRY CO.

N. J. HOLDEN, Agent, 18 ST. PETER ST., MONTREAL

MISCELLANEOUS IRON AND
STEEL CASTINGS

FOR SHEATHING ELEVATORS
FREIGHT SHEDS AND
ALL KINDRED
BUILDINGS



BUILDING PAPER

PLAIN,
RESIN SIZED,
TARRED

Correspondence Solicited

THE SAULT STE. MARIE PULP & PAPER CO.

SAULT STE. MARIE, ONTARIO

account of its insolvent condition. The act contains 311 sections, many of which are again divided into subsections, and includes a schedule of forms to be used by railway companies in making the various returns required to be made from time to time. The place of Vaughan's Index to the old acts has been taken by A Concordance of the Railway Act, 1903, by J. E. W. Currier, of the Department of Railways and Canals, who in 1898 published an Index to Railway Legislation of Canada from 1867 to 1897. The concordance contains 1,600 references arranged in alphabetical order and following the general plan of Vaughan's Index; the references to the sections and subsections, however, being in columns, are much more convenient than in the old index. The Concordance covers 88 pages, and the book also contains the act itself, with the two amending acts of 1904; a memorandum of plans, documents and action required under various sections of the act; and general regulations for interlocking systems when one line crosses another at rail level, and for interlocking requirements at drawbridges, together with rules for the operation of trains at such points. The necessity of such a volume, and its value to all connected with railways or likely to have business before the Commission is at once apparent. Copies may be obtained from the compiler, price \$2.00.

The G.T.R. city ticket office at Milwaukee, Wis., has been temporarily closed.

The annual transfer of the C.P.R. Atlantic steamship staff from Quebec to St. John, N.B., was made in the middle of Nov.

A Dominion Government hospital for diseased immigrants has been established in the upper floor of the old immigration building at St. John, N.B.

The extension of the Minneapolis, St. Paul and Sault Ste. Marie Ry. to the International boundary, near Emerson, Minn., has been completed, and a train service was placed in operation Nov. 21. A six-day service is thus given between St. Paul and Minneapolis, Minn., and Winnipeg. There are 13 stations on the new line, which was constructed as far as Ottertail, Minn., in 1903.

The report of the Governors of McGill University, Montreal, for 1903-04, contains the following paragraph:—"The subject of the institution of a new department of railway engineering and general transportation is receiving the prominent attention of the board, and as a result students are now being received for the first year of the course, while additional branches will be provided in each succeeding session, until at the end of four years from now the first graduates go forth to take up the work which the great railway corporations have called for in this way."

J. F. Jones, heretofore G.T.R. General Yardmaster Point St. Charles, Montreal, has been appointed Superintendent St. Clair Tunnel and Terminals, embracing Port Huron tunnel, and city and Fort Gratiot yards, Mich.; also Sarnia Tunnel, and city and Point Edward yards, Ont.; succeeding A. S. Begg, deceased. Office, Port Huron Tunnel, Mich. The office of Acting Superintendent St. Clair Tunnel and Terminals, which has been in existence since Mr. Begg's death, has been abolished.

Capt. G. F. Marsh, President Huntsville, Lake of Bays and Lake Simcoe Navigation Co., Huntsville, Ont., died there Nov. 19, aged 66. For many years he was associated with navigation interests in the Lake of Bays district, and built and owned a number of steamers on the Lake of Bays, Peninsula and Fairy Lakes, which he transferred to the company, of which he was president, in 1902. He was also interested in the Huntsville and Lake of Bays Ry., owned by the Navigation Company, which has constructed a short railway to connect the lakes.

RAILWAY FINANCE MEETINGS, ETC.

British Columbia Electric Ry.—Railway earnings for Sept.:—Vancouver, \$20,057; Victoria, \$11,615; New Westminster, \$12,409; total \$44,081, against \$37,898 for Sept., 1903. Gross earnings: railway and lighting, \$71,821, against \$64,635 for Sept., 1903. Working expenses, \$42,487; renewal fund, \$6,695; net income \$22,639, against \$38,229, \$4,988, and \$21,418 respectively for Sept., 1903. Aggregate net earnings for three months ended Sept. 30, \$71,228, against \$67,113 for same period, 1903.

Brockville, Westport and Northwestern Ry.—Local papers state that the receipts for Oct. exceeded by over \$1,000 the receipts of any month since the line was opened.

Canada Coals and Ry. Co.—This company is at present in the hands of a receiver, and consequently no annual meeting of shareholders has been held. The company's mines are situated at Macan, N.S., and its railway extends from there to Joggins, 12 miles.

Canadian Northern Ry.—Gross earnings for Oct. \$404,200, against \$334,100 for Oct., 1903; making for four months ended Oct. 31, \$1,303,500, against \$1,110,500 for same period 1903. Net earnings for Sept. \$96,200, against \$91,100 for Sept., 1903; making for three months ended Sept. 30, \$286,800, against \$262,000 for same period, 1903.

Canadian Pacific Ry.—The circular to shareholders respecting the issue of new common stock states that the subscription price of the new stock will be payable as follows: 20% by Nov. 30; 20% by Jan. 30, 1905; 20% by Mar. 30, 1905; 20% by May 31, 1905; and the balance, 20%, by July 31, 1905. All shares of the new issue, whether the instalments have been paid in advance or only on the due dates, will rank for the full dividend accruing for the half-year ending June 30, 1905. In order to participate in the dividend for the half-year ending June 30, 1905, the fully paid-up "certificates of subscription" must be sent in for exchange for certificates of ordinary capital stock on or before Aug. 15, 1905.

Dominion Atlantic Ry.—Maritime province press reports state that this company has purchased the Midland Ry. of Nova Scotia, which extends from Truro on the Intercolonial Ry. to Windsor, the terminus of the Windsor branch of the I.C.R., which is worked under lease by the D.A.R. The D.A. Ry. Co.'s present mileage owned is 188.50 miles; leased, 32 miles; total operated, 220.50; and the M. Ry. is 57.50 miles in length.

Great Northern Ry. of Canada.—The plan of reorganization of the bonded debt of the G.N.Ry. of Canada, which defaulted in the payment of interest due July 1, has been announced. It is proposed to issue 4% first mortgage bonds, guaranteed unconditionally as to principal and interest by the Canadian Northern Ry., at the rate of \$750 for each \$1,000 of the former bonds, which were a 5% security. The remaining 25% is to be used to pay off the floating debt, which amounts to about \$500,000, and \$170,000 of equipment bonds and for other purposes. The bondholders have agreed to the proposition. The bondholders' committee which has had charge of the negotiations consisted of W. L. Bell, New York, chairman; H. E. Mitchell, Philadelphia, Pa.; G. B. Baker, Boston, Mass.; J. N. Wallace, New York; Geo. Burn, Ottawa, Ont. The interests of Col. McNaught, of New York, and of H. H. Melville, of Boston, have been purchased by Mackenzie, Mann & Co., Toronto.

Halifax Electric Tramway.—Railway receipts for Oct., \$12,434.51, against \$12,054.78 for Oct., 1903; making for ten months ended

Oct. 31, \$134,320.54, against \$127,005.10 for same period, 1903.

Intercolonial Ry.—The completed returns for the year ended June 30 show the receipts to have been \$6,339,231 and the working expenses \$7,239,982, against \$6,324,323 and \$6,196,653 respectively for the year ended June 30, 1903. This shows a deficit of \$900,950 against net earnings of \$127,673 for 1902-03. Figures for the first three months of the current financial year, ended Sept. 30, show receipts of \$1,850,485 and working expenses of \$2,052,465, against \$1,797,653 and \$1,740,703 respectively for same period, 1903. The figures for Sept. are: freight receipts, \$367,648; passenger receipts, \$252,896; total, \$620,544; against freight receipts \$342,245, and passenger receipts \$236,914 in Sept., 1903.

London Street Ry.—Gross earnings for Oct., \$13,645.92, against \$13,790.11 for Oct., 1903. There was one working day less in Oct. this year than in 1903.

Nelson Tramway Co.—An agreement has been reached between the city council of Nelson, B.C., and the Tramway Co., by which the city will lease for four years from Dec. 1, 1904, at a nominal rental of \$5 a year, the plant of the company, including cars, road-bed, wires, poles, barn, tools, etc., but not including any realty owned by the company apart from the tramway system. The company agrees to furnish a smaller, lighter car than those now in use, which may be run by one man. The city agrees to run the system at the lowest cost consistent with efficiency, and not to charge office administration against cost of operation. The company agrees to pay three-fifths of any loss incurred, but not to be liable for more than three-fifths of \$2,500 in any one year. The city agrees to pay taxes and insure against fire, accident, employers' liability, and indemnity to third parties. The city agrees to maintain the plant and return it at the expiry of the lease in as good condition as at present, allowing for fair wear and tear. Any profits made shall be divided equally between the city and the company.

Ottawa Electric Ry.—A deputation from the Ottawa City Council waited on the President of the Street Ry. Co., Nov. 11, to ascertain upon what terms the company would sell its undertaking. A few days later the secretary of the company wrote to say that if an offer of \$250 a share for the capital stock was made by the city, subject to ratification by by-law and legislation, the directors would recommend the shareholders to accept the same; payment to be made in 4% bonds of the city. The capital of the company is \$1,000,000 in 10,000 shares of \$100 each, and the stock is quoted at about \$200 a share on the markets. There is a bonded debt of \$500,000 which the council would have to assume, thus making the purchase price \$3,000,000. The report for the last financial year shows net earnings of \$128,000, out of which was paid \$9,000 to the city for mileage, \$5,000 for taxes, and \$20,000 for interest on bonds, leaving a net profit of \$94,000, out of which a dividend of 8% was paid, leaving a balance of \$14,000 carried forward to contingent fund.

Pere Marquette Rd.—Press reports state that the Erie Rd. has obtained an option on the lines of the P.M. Rd., and of the Cincinnati, Dayton and Ohio Rd., at a cost of \$75,000,000, the purchase price to be paid in stock of the new consolidated company on the basis of one and a quarter shares for every one full share of old stock. No official confirmation of the reports has been given.

Prince Edward Island Ry.—The gross earnings for the year ended June 30, were \$234,390.03, and the working expenses \$335,695.44, against \$217,714.24 and \$259,637.82 for 1902-03. The deficiency in 1903-04 was \$101,305.41 against \$41,923.58 in 1902-03.

Stanstead, Shefford and Chambly Ry.—Following are the officers and directors for the

current year: President, Hon. S. W. Foster; Vice-President, E. H. Fitzhugh; other directors: C. M. Hays, W. H. Chaffee, A. H. Moore, J. P. Noyes, E. Stevens, G. E. Robinson; Secretary-Treasurer, C. H. Parmelee; Assistant Secretary-Treasurer, W. H. Chaffee. The line is leased for 99 years to the Central Vermont Ry., and no report is issued, the annual meeting being a mere formality.

Temiscouata Ry.—Gross earnings for Sept., \$11,720.46, making for nine months ended Sept. 30, \$102,978.35.

Toronto, Hamilton and Buffalo Ry.—Gross earnings for Oct., \$61,772.31 against \$55,482.14 for Oct., 1903; making for five months ended Oct. 31, \$278,500.34, against \$251,748.23 for same period, 1903.

Toronto Ry.—Car earnings for Oct., \$202,344.03, against \$183,810.09 for Oct., 1903; making for ten months ended Oct. 31, \$1,999,738.58, against \$1,781,285.50 for same period, 1903.

Victoria and Sidney Ry.—The officers for the current year are: President, Jno. Hendry,

**TO THE
WORLD'S FAIR
ST. LOUIS
—OVER THE—
WABASH LINE**

The World's Fair is a grand success. In all probability, none now living will see anything of its character approaching it in grandeur and magnitude, and the great Wabash is the best route to go by, because it saves many hours of travel and lands passengers right at the main entrance World's Fair grounds before going to Union Depot. Excursion tickets on sale daily until Dec. 1st. Passengers leaving Toronto on evening trains arrive at World's Fair grounds next day at noon. For time-tables, descriptive folder, address

J. A. RICHARDSON
District Passenger Agent
North-East Corner King and Yonge Streets,
TORONTO

**E. L. DREWRY
REDWOOD BREWERY
WINNIPEG, MANITOBA.**

MANUFACTURER OF THE
CELEBRATED

**REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER.**

ALSO THE . . . **GOLDEN KEY BRAND
AERATED WATERS.**

CANADIAN NORTHERN RAILWAY

THE NEW CANADIAN HIGHWAY FROM PORT ARTHUR, THE
HEAD OF LAKE SUPERIOR, TO—

FORT FRANCES	MORRIS	GLADSTONE
WINNIPEG	EMERSON	NEEPAWA
PORTAGE LA PRAIRIE	CARMAN	DAUPHIN
BRANDON	HARTNEY	SWAN RIVER

Line surveyed and now under construction to:—

PRINCE ALBERT BATTLEFORD EDMONTON

FREIGHT:—Shipments are handled from points in Eastern Canada, either Grand Trunk or Canadian Pacific Railways, via North Bay to Port Arthur, thence Canadian Northern Railway.

PASSENGER:—Passengers destined to points on the Canadian Northern Railway north, south and west of Winnipeg, can purchase through tickets via Chicago and St. Paul, where connection is made with the Canadian Northern Flyer for Winnipeg via Great Northern Railway, also with Northern Pacific Railway.

Freight Rates, Folders and other Information furnished on
application to:—

R. H. BELL, T. F. & P. A., Board of Trade,
MONTREAL, QUE.

WM. PHILLIPS, G. E. A.,
TORONTO, ONT.

GEO. H. SHAW, Traffic Manager,
WINNIPEG, MAN.

N. CURRY, President. N. A. RHODES, Vice-President. J. M. CURRY, Sec.-Treas.

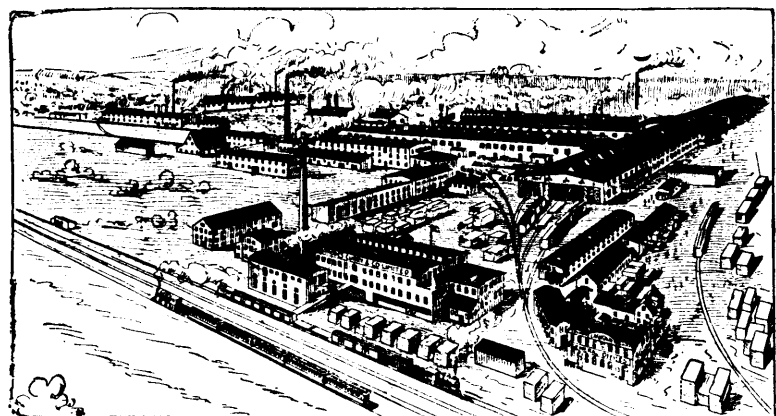
CAPITAL, \$1,000,000.

RHODES, CURRY & CO.

AMHERST, NOVA SCOTIA LIMITED

RAILWAY and STREET CARS

Special Cars for All Purposes.



Car Wheels, Axles, Forgings, Castings, Etc.

CAPACITY PER MONTH

300 Freight Cars	4 Passenger Cars	4 Snow Plows	3,000 Car Wheels
2,500 Car Axles	500 tons Castings	1,000 tons Forgings	

Vancouver, B.C.; Vice-President, A. E. Wood, Vancouver; Secretary, Superintendent and Traffic Manager, F. Van Sant, Victoria, B.C. The annual meeting held at Victoria, Oct. 13, was a formal affair. The company is owned by the Victoria Terminal Ry. and Ferry Co.

Victoria Terminal Ry. and Ferry Co.—The annual meeting was held at Victoria, B.C., Oct. 13, when formal business was transacted. The officers for the current year are: President, Jno. Hendry, Vancouver, B.C.; Vice-President, A. E. Wood, Vancouver; Secretary, J. Jeffrey, Vancouver; Superintendent and Traffic Manager, F. Van Sant, Victoria, B.C.

Transportation Instruction at McGill.

The calendar of McGill University for 1905 sets forth that a course of study in transportation has been added to the seven existing courses in the faculty of applied sciences, and is especially intended to educate young men who propose to take up railway service as a profession. The C.P.R., G.T.R., and Canadian Northern Ry. companies have strongly advocated the project, and have shown their practical sympathy by promising liberal annual contributions to enable the University to undertake the work in a thorough manner. Conferences with the same object in view are being held with other railways, and it is expected that further assistance will be secured. Students taking this course will be required to specialize along the lines of either civil or mechanical engineering. On graduation they will receive the degree of Bachelor of Science in Civil or Mechanical Engineering, and mention will be made of the fact that they have taken the course in transportation. The table of subjects is tentative only, and subject to modification. For the first two years the curriculum is identical with that for all other engineering students in the faculty, and is based on the assumption that the proposed unification scheme will be carried into effect. For the third and fourth years, the course is divided into two sections, the one dealing with the mechanical and the other with the civil branch of engineering. The subjects of the course as laid out in the calendar are as follows:—

FIRST YEAR.—Descriptive geometry, 4 hours; English, 1 hour; freehand drawing, 3 hours; lettering, 3 hours; mathematics, 10 hours; physics, 2 hours; physical laboratory, 4½ hours; shop work, 7 hours.

SECOND YEAR.—Chemistry, 3 hours; mapping, 3 hours; materials of construction, 2 hours; mathematics, 6 hours; mechanical drawing, 3 hours; physics, 2 hours; surveying, 2 hours; chemical laboratory, 4 hours; physical laboratory, 3 hours; shop work, 3 hours.

THIRD YEAR.—Mechanical—kinematics and dynamics of machines; machine design; mathematics; mechanical engineering; railway economics; theory of location; theory of structures; transportation; mechanical engineering laboratory, kinematics and dynamics; draughting-room work; graphical statics; mechanical drawing; railway plans, profiles, estimates, track design, etc.; shopwork; testing laboratory. Civil—Machine design; mathematics; mechanical engineering; railway economics, theory of location; surveying; theory of structures; transportation; graphical statics; mechanical drawing; railway plans, profiles, estimates, track design, etc.; shopwork, testing laboratory; surveying field-work.

FOURTH YEAR.—Mechanical—Dynamics of mechanics; electrical engineering; hydraulics and hydraulic machinery; locomotive engineering; machine design; prime movers; railway construction, and maintenance and structures; railway management; railway organization, operation, etc.; shop design,

equipment and practice; signalling; law and accounting; thermodynamics; designing; dynamics and thermodynamics; electrical engineering laboratory; hydraulic laboratory; mechanical engineering laboratory. Civil—Electrical engineering; hydraulics and hydraulic machinery; railway construction and maintenance and structures; railway management; railway organization, operation, etc.; signalling; law and accounting; theory of structures and bridge design; transportation; electrical engineering laboratory; hydraulic laboratory; mechanical engineering laboratory; station, yard and terminal design; structural design; testing laboratory.

It is intended that students taking the course in transportation shall enter the service of the railway companies as apprentices during the summer vacations, so as to gain a preliminary insight into the actual working of the several departments. It is also proposed that the students, upon graduation, shall serve a probationary term as graduate apprentices for a period of one or two years.

The sessional fee for the course is \$175, and the work of the first year commenced in Sept. It is expected that the railway companies will give preference in the matter of employment to graduates in transportation.

In connection with this special university course it is of interest to note that the University of Chicago has arranged for the delivery of a series of evening lectures in railroad transportation for the benefit of the clerical and other staffs of the railways in Chicago, Ill., and of those desiring to enter railway service. The movement has been endorsed by the railway officers, and the outline of the courses has been approved by them. The lectures will be in charge of Professor E. R. Dewsnup, who has been engaged in conducting similar courses in England, and the university proposes, in the event of the lectures meeting with success, to arrange courses of construction of from three months to four years in duration. The first series of lectures is to be on railroad conditions and problems, and will deal with the outboard freight house, railroad organization, roadbed and signalling equipment, passenger service, rates and fares, railroad statistics, etc.

Decisions in Freight Cases.

The full text of the judgments of the Board of Railway Commissioners in a number of cases mentioned on pg. 407 of our last issue, give some additional information which, being of interest, we now publish.

In the case of the United Factories (Ltd.), of Newmarket, Ont., against the G.T.R., on account of an increase of the rate of log shipments from Penetanguishene to Newmarket, the judgment sets out that the rate of 3 cents a 100 lbs., maintained from 1895 to Nov. 16, 1903, conditional upon the product of the logs being delivered to the G.T.R. for carriage, was a special concession by the company to the factory with a view to encourage the Newmarket plant and secure the carriage of the manufactured output. The total carload movement of logs from Penetanguishene to Newmarket in 1894 was only 150 cars; it had increased to 350 cars in 1899 and to 707 in 1903. The object in view by the G.T.R. in nursing the industry in its infancy had to a large extent been accomplished, but it was argued on the part of the complainants that the growth in volume of the business meant a reduction in the actual cost of transportation, and should be followed by a reduction, rather than an increase, in the rate. The latter inference, the Commissioners think, is by no means conclusive. The ordinary mileage tariff, when special encouragement is not needed and when water competition does not exist, is 7½c. per 100 lbs. Against this rate

the commissioners had not heard any complaint, and yet this mileage tariff rate would apply if the railway should wholly withdraw its concession, and make no terms as to outward shipments from the mills and factories of the complainant company at Newmarket. The Commissioners then proceed to say:—

"We are inclined to the opinion that this complaint does not involve the question of fairness between the railway company and the shippers. The 4c. rate itself, on the face of it, appears to be a moderate, if not a low one; and the motive which inspired its adoption by the railway was a laudable motive, and one which the railway company should be encouraged to repeat in other cases, if any should arise. We think also, in connection with this rate, and, relatively, others for varying distances, that the railways, when properly influenced by unobjectionable motives, should be better able to judge than this Board can be, as to what course will tend to best promote the common interest of carrier and shipper. Beyond this consideration, however, there lies a much more conclusive reason why we cannot make the order applied for. We are asked to intervene and disallow the rate in question under the powers conferred upon us by sec. 257 of the Railway Act, which section in part reads as follows: 'The Board may disallow any tariff, or any portion thereof which it considers to be unjust or unreasonable, or contrary to any of the provisions of this Act.' Unless we can consider the rate objected to unjust or unreasonable, or contrary to some provision of the Railway Act, we are not authorized, at law, to disallow it; and we are not able to say in this instance that we do consider the rate unjust or unreasonable, and we know of no provision of the act which it contravenes. Our judgment, therefore, is that this application must be refused."

RATES FOR FRUIT.

The Ontario Fruit Growers' Association's complaints, which were heard at Toronto in June, were that freight charges are unreasonable and excessive; that the charges for icing shipments are too great; that there is much carelessness and roughness in handling of fruit; and that there are unnecessary delays and a lack of expedition in forwarding fruit. After the hearing of the case, mutual efforts were made to arrive at an understanding as to a scale of rates which would be acceptable and satisfactory to both shippers and carriers; and such an understanding was arrived at. The order of the Board is therefore made to give legal effect to the agreement. The freight charges which are approved involve a substantial reduction in the cost of transportation of fruit, and the reduction occurs not only by placing these commodities in a more favorable classification, by removing them from a higher to a lower class, but by direct lowering of the rates themselves, in some instances. As to the complaint respecting the charges made by the railways for icing of cars containing fruit shipments en route, it appears that the general practice of the railways at present is to make a fixed charge per carload, varying somewhat according to distance, but wholly irrespective of the actual cost of the service. This complaint was not covered by the agreement arrived at between the parties; but the Board is of opinion that the charges for this service are not made on a sound principle, and they cannot therefore permit the present system to be continued. The shippers are quite willing to pay railway companies what it costs them to perform the service; and the Board is of opinion that the latter should not seek for profit in connection with the shipment except as carriers. The Board has decided that railway companies shall in future make up their charges based upon the actual cost to them of icing cars. The order of the Board, therefore, is that the under-mentioned modifications in the exist-

THE SAFETY CAR HEATING AND LIGHTING CO.

GENERAL OFFICES :—160 Broadway, New York.

BRANCH OFFICES:—
 { 1017 Monadnock Bldg., Chicago, Ill.
 1015 Missouri Trust Bldg., St. Louis, Mo.
 501 Arcade Bldg., Philadelphia, Pa.
 1005 Mutual Savings Bank Bldg., San Francisco, Cal.

Pintsch System Car and Buoy Lighting.

This Company controls in the United States and Canada the celebrated Pintsch System of Car and Buoy Lighting which is universally used. It is economical, safe, efficient, and approved by the railway managers and the Lighthouse Board of the United States, and has received the highest awards for excellence at the World's Expositions at Moscow, Vienna, St. Petersburg, London, Berlin, Paris, Chicago, Atlanta and Buffalo. 130,000 cars, 6,000 Locomotives and 1,700 Buoys are equipped with this light. 170 Railroads in the United States, Canada and Mexico have adopted this system of lighting, applied on over 23,000 cars.

Car Heating

By Steam Jacket System of Hot Water Circulation, Direct Steam and Regulating Direct Steam Systems. 130 Railroads in the United States are using these systems of Heating—applied on over 14,500 cars.

AUTOMATIC STEAM TRAPS.

STRAIGHT PORT COUPLERS.

CANADIAN OIL CO., LIMITED

HEAD OFFICE, TORONTO

Refiners and Manufacturers of High Grade Illuminating and Lubricating Oils of the celebrated
STERLING BRAND.

RAILWAY SIGNAL OIL a specialty

Cylinder Oils	Engine Oils	Sterling Paints	Sterling Varnishes
Valve Oils	Car Oils	Linseed Oil	Turpentine
Axle Oils	Fuel Oils	Shellacs	Japans
		Gasolines	

STERLING RAILWAY COACH PAINTS AND VARNISHES ABSOLUTELY GUARANTEED CORRESPONDENCE SOLICITED

MADE IN CANADA

The Steel Rail Mill of

The Algoma Steel Co., Sault Ste. Marie
 LIMITED ONTARIO

is now in operation and turning out

A.S.C.E.
 STANDARD
 SECTION

STEEL RAILS

OF
 HIGHEST
 QUALITY

Your specification will have our best attention.

OFFICES:
 Canada Life Building,
 MONTREAL
 100 King Street West
 TORONTO

DRUMMOND, McCALL & CO.

GENERAL SALES AGENTS
THE ALGOMA STEEL CO., Limited

ing freight classification and schedules be approved, and the railways are directed to give due effect thereto forthwith, as follows:— That under the heading of "Fruits" the Canadian Freight Classification be amended by reducing "Pears" (green) in boxes or barrels, from 1st class to 3rd class, in less than carloads, and from 3rd to 5th class in carloads. Also that "Apples" (green) in boxes, which are at present 2nd class in less than carloads and 5th class in carloads, be made 3rd class in less than carloads and 5th class in carloads; thus making the classification of apples and pears in boxes and barrels uniform. That fruit described in the current Canadian Freight Classification as "Fruit, Fresh," be carried in baskets, boxes, or crates on the following described reduced basis of rates, viz.:— Between all stations in Ontario, east of Sault Ste. Marie and Fort William, and between all stations in Quebec, and interprovincially between Ontario and Quebec, also from stations in Ontario and Quebec to stations in New Brunswick and Nova Scotia, at 4th-class rates in carloads of not less than 20,000 lbs., instead of 3rd class as at present, and at 2nd-class rates in less than carload lots of 10,000 lbs. or over, instead of 1st class as at present. Also from stations in Ontario and Quebec to Winnipeg, Portage la Prairie, and Brandon, at 4th-class rates in carloads of not less than 20,000 lbs. instead of at 3rd class as at present. It is understood, in all cases, that the total charges on a smaller lot shall not be greater than the total charges on a larger lot at the next lower rate as indicated above. With respect to the charge made by railways for refrigerating shipments in transit, it is ordered that the average actual cost of the ice, and the placing thereof in the cars, shall not be exceeded, and that pending a decision by the Board as to a reasonable charge for such service, the charge for refrigerations shall not be more than \$2.50 a ton of 2,000 lbs. on the actual weight of the ice supplied. The question of lower rates on "Apples" (green) in carloads, being still a subject of consideration and correspondence with the principal railways, the Board reserves its order upon this question until such correspondence shall be closed, not, however, to be delayed for such purpose beyond a reasonable time.

CONCESSIONS FOR NEW INDUSTRIAL PLANTS.

The chairman of the Advisory Committee of the Canadian Freight Association made an application on behalf of all the railways in Canada, for permission to make concessions from the current rates on material for construction and machinery for equipment of new industrial plants. Hitherto it has been customary for the railways to make a reduction of 25% from current rates in such cases. The object of the concession asked is to encourage the establishment of manufacturing plants at points where such do not exist, and for the development of those already established, more particularly at non-competitive points, or points outside large centres, and this allowance has been confined to the parties interested in the operation of the plant, and has not been given to the contractors putting up the buildings or supplying the machinery. The Commissioners, in their judgment, said:—"The application opens up a question of very considerable magnitude and importance. The fact that the railways found it in their interest to adopt and continue a policy of this kind may be thought to afford some justification for its further continuance. The companies, it may be supposed, would not be likely to pursue a course which would be injurious to their own traffic interests or which would not really be stimulative to business on their respective lines. The question is also one of some delicacy, since it may be felt to be a hardship by those who have been expecting this advantage if the practice were now to be disallowed.

Above this, and beyond these considerations, however, arises the question whether the permission to a railway company to impose special rates below the current tariff charges on all material used for construction and all machinery used for equipment of new or the development of existing industrial plants would not facilitate or tend to facilitate the making of discriminating rates as between shippers of these kinds of merchandise? We fear it would. The applicants, in support of their application, rely on sub-sec. 4 of sec. 275 of the Railway Act, as contemplating and authorizing just such a concession as is now applied for. No doubt, Parliament intended, in enacting this clause, to introduce an element of elasticity into the freight clauses of the Act and to empower the Board, in the exercise of a wise discretion, to modify the rigid interpretation which it would otherwise be compelled to place upon the clause relating to discrimination. But the Board is unable to agree that sec. 275 should be so interpreted as to justify and support the application in its present form. It will be observed that the application is for permission to the railway companies to make concessions from current rates on material for the construction and machinery for the equipment of new industrial plants, etc. Authority, if given in such general terms, would allow a railway company to be the sole judge as to the cases in which reductions on rates should be granted. The railway company would be authorized to determine as to whether the new industry proposed to be established or the old one to be further developed were entitled to receive these favors, and with such a power conferred upon the companies a door would be opened for widespread discrimination in freight rates upon the carriage of all merchandise of the description embraced within the order. This Board is prepared to give due effect to sub-sec. 4, sec. 275, to what it believes to be the extent intended by Parliament, but, in the opinion of the Board, such a concession must be the subject of a separate and distinct application in each case, and must be dealt with on the individual merits of each and with full knowledge of the facts and circumstances in every instance, and upon such information as will enable the Board to judge of the effect of its order upon other industries and upon the shippers and dealers in commodities, whether of a like or of a different kind. For these reasons, the Board must decline to "entertain" the present application."

COAL FROM NIAGARA FRONTIER TO COBOURG.

In connection with the application of the G.T.R. for a ruling as to whether the company would be allowed to continue a difference in the rate of freight on bituminous coal of 10c. a ton between the Niagara frontier and Cobourg, Ont., such reduced rate being in favor of the manufacturer, as compared with that charged to the dealer or consumer, the judgment of the Commissioners referred to certain important matters. The Commissioners said:—"This application for the Board's permission to continue the differential rate, if the same is to be continued, becomes necessary by reason of certain provisions contained in the Railway Act, 1903. Sec. 252 provides that railway tolls shall, under substantially similar conditions and circumstances, be charged equally to all persons, and that the same rate and no reduction or advance in any such tolls shall be made, either directly or indirectly, in favor of or against any particular person or company using the railway. There is a case, namely: sub-sec. 4 of sec. 275, which, under certain special circumstances, qualifies sec. 252, and vests a discretion in the Board under certain express conditions, to sanction a reduction in the ordinary tolls; but the application before us does not come within the pro-

vision of this clause. The question, therefore, for the Board to determine is: Can the present application be properly entertained? We are of opinion that it cannot. No evidence has been offered to show that the manufacturers would, if the reduced rate was not allowed by the railway, be unable to carry on their business. On the contrary, the statement of the applicant company is: that the manufacturers have threatened, not to close their factory, but to arrange for their coal shipments being made by water, by which means, the manufacturing companies say, the freight on their coal will not exceed 80c. a ton. Even if it had conclusively appeared that a refusal to allow the reduction in the rate to 80c. per ton would injuriously affect the manufacturing interests, the case would not be thereby altered. The law is clear that the allowance of a reduction in the freight rate on any article of merchandise to one class of shippers and refusal of the same rate to another is unjust discrimination, and unjust discrimination is prohibited by the Railway Act. Common carriers are bound by every principle of justice and of law to accord equal rights to all shippers who are entitled to like treatment, both in the receiving of supplies and the shipment of their products; and a carrier who, under any pretext whatsoever, grants to one shipper an advantage which he denies to another, violates the spirit and thwarts the purpose of the law. This is the statement of a conclusion arrived at by the Inter-State Commerce Commission in a question very similar to the present; and will be found in a case of Castle versus Baltimore and Ohio Railroad Company, Eighth Inter-State Commerce Report, and to this judgment and opinion this Board subscribes. This matter resolves itself, therefore, practically into one for the consideration of the railway company, and in the judgment of this Board, for the railway company alone. The company has it in its power to make the rate to manufacturers 80c. a ton, and thereby secure the carriage over its line of the manufacturers' coal supply, but it can only do so by making the same rate to all its patrons, dealers, consumers and manufacturers alike. The application of the G.T.R. Co. for the ruling asked for must therefore be denied."

SPLIT PEAS FOR EXPORT.

The Pea Millers' Association, in a complaint, alleged that the railways charged higher rates from Ontario milling points to the seaboard on split peas for export than was charged on other grain products, such as flour and rolled oats for export. The facts were not disputed, but the railway companies contended that the nature of the article and the character of the shipment justified the difference in the rates. Prior to Oct. 27, 1902, the rate in what is known as the 78% points, G.T.R. main line, Toronto to Point Edward and all south thereof to Lake Erie, on flour and bulk grain and split peas to New York, Philadelphia, Baltimore, Boston, Portland, and St. John was the same, but on that date the rate on split peas was raised from 11½ to 19½c.; on Dec. 1, 1903, the rate on flour and bulk grain was raised from 11½ to 13½c.; and on Dec. 12, 1903, the rates were reduced to 13c. for flour and bulk grain and 16c. for split peas; whilst on May 5, 1904, the old rate of 11½c. on flour and bulk grain was re-established and the rate on split peas reduced to 14½c. The export rates to Montreal have also varied, but, generally speaking, the New York rates have been the maximum to Montreal. The increase of the split pea rate to 19c., although not up to the full classification, was prohibitive, as was shown by the reduction to 16c., and afterwards to 14c. The applicants contend that the increase to 19c. lost them the British market, which has not been recovered, the reduction not being sufficient. The Commissioners were of opinion

that the loss of the British markets was due to the pea bug, the antiquated machinery—a reason suggested by the railway companies—and the increased rates. The statement of one of the millers that between Aug., 1900, and Aug., 1901, he shipped 1,250,000 lbs. and between Aug., 1901, and Aug., 1902, 635,000 lbs., showed that the increased freight rate was not the only cause operating. The Commissioners, in their judgment, said:—"From the railway point of view, although split peas in bags or barrels are in the Canadian classification grouped with flour as 8th class, yet in the official classification, which governs export traffic, split peas are 5th, or one class higher than flour. In practice the difference is greater, as export flour is carried at commodity rates. For example, 5th class rates to New York is 23½c., 6th-class 19½c., a difference against split peas of 4c.; but the actual rate on flour is now only 11½c., so that were the 5th-class rate charged on shipments from Canadian points, as is done on shipments from U.S. points, the difference against split peas would be 12c. The railways contend that by cutting the difference

"America's Greatest Railroad."
NEW YORK
CENTRAL
 & HUDSON RIVER R. R.
 THE SIX-TRACK TRUNK LINE.
 VIA NIAGARA FALLS.

In connection with the C.P.R., T.H. & B. and M.C. Railroads operate the quickest and best trains between Toronto, Hamilton and New York.

Day Train leaves Toronto 9.45 a.m., Hamilton 10.45 a.m., connects with the

"EMPIRE STATE EXPRESS"
 Arrives New York 10 p.m.

Night Train with sleeping car and dining car leaves Toronto 5.20 p.m., Hamilton 6.20 p.m., arrives New York 7.50 next morning.

ONLY ONE
 station in the City of New York, the Grand Central Station of the New York Central.

Connections at Suspension Bridge with the Grand Trunk Railway.

L. DRAGO,
 Canadian Passenger Agent, 69½ Yonge Street,
 TORONTO, ONT.

MADE IN CANADA

Mica Fire-Proof Coverings

— FOR —

Boilers, Flues, Furnaces, Heaters,
 Steam and Hot and Cold
 Water Pipes.

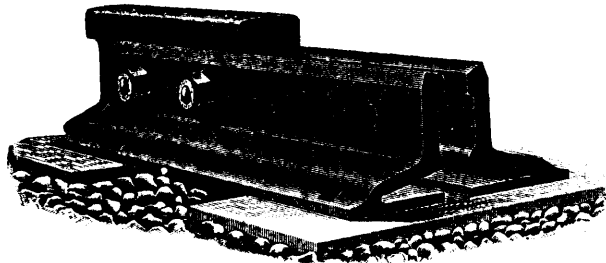
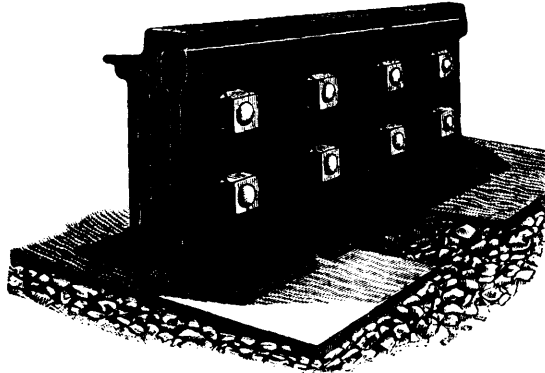
COLD STORAGE INSULATION
 The Highest Non-Conductor in
 the World.

AWARDED THE GOLD MEDAL AT PAN-AMERICAN EXPOSITION, AND GRAND PRIZE AT PARIS

MICA COVERING is a Canadian invention, and a purely Canadian industry, as all the mica is procured from Canadian mines, and the material used in the manufacture of the Covering is made in Canada.

Send for particulars to the
Mica Boiler Covering Co., Limited
 86-92 Ann Street, Montreal, Can.

Railroad Essentials.



The day has passed when men of finance are willing to place their money into bad material in railroad construction only to be compelled to replace it by renewals or reconstruction after very little use. Many of the best and most successful steam and electric railroads use the rail joints of the Continuous patent type for standard track work, insulated joints, step joints, and electric bonding joints for the reason that experience has proven it to be the best appliance of its kind ever put upon the market, as evidenced by the fact that it is used in all parts of the world on over 20,000 miles of track.

MADE BY

The Continuous Rail Joint Company of Canada

WM. E. CLARK, Manager.

Limited

216 Board of Trade Bldg., - MONTREAL, CANADA

Medals awarded at Paris and Buffalo Expositions.

CROSSEN CAR MFG. CO.

— OF —

Cobourg, Limited

MODERN HIGH-CLASS

ROLLING STOCK

Passenger ————— Freight
 and Electric Railway

Ruggles' Rotary Snow Plows

Car Castings, Forgings and Repair Parts

down to 3c. they have gone as far as they should reasonably be expected to go. In this view, put forward by the respondents, the Board does not find itself able to concur. The Canadian railways carried split peas at their flour rates, and they advanced the basis only under pressure. The McMorrin Co., of Port Huron, Mich., complained to the Inter-State Commerce Commission that Canadian railways were carrying split peas for export at the grain product rates, while they had to pay the Michigan roads 5th class. The Michigan railways opposed any reduction in their rates, and the result of the informal correspondence with the Inter-State Commerce Commission was that the G.T.R. compromised on the 3c. advance. Reading between the lines of the evidence of the Freight Traffic Manager of the G.T.R., given upon the hearing before this Board, it might be inferred that he was not in sympathy with this advance. The Canadian millers were, in consequence thereof, required to pay more, in order to satisfy the Michigan shippers. The McMorrin Co., it is said, allege that they did not want the Canadian rates advanced, but their own reduced. If, as is stated, split peas are not now made in Michigan, or shipped from that State, the present point of view of the Michigan railways is not likely to be identical with their previous view, and it may be assumed that they will not be likely to interest themselves with the Inter-State Commerce Commission to any extent on this subject. Again, split peas are included in the list of articles which are carried by the Canadian railways to Eastern Ontario, Quebec, and Maritime Province points, at flour rates. Further than this, between local stations west of Montreal, from Woodstock to Toronto, for example, the G.T.R. and the C.P.R. carry split peas and flour at less even than grain rates—not less than on grain for milling purposes, but less than for general consumption. Perhaps the railways have compared the value of the business to them at the higher basis of rate, and at the former lower one, and may possibly prefer the present restricted volume of traffic in this product to the augmented output which the millers predict would follow a restoration of the old basis. If this be the case, it is doubtful whether they should be permitted to continue a policy which, while financially preferable to them, does an injury to an important Canadian industry. The Board cannot accede to the request from

certain of the shippers of split peas, that the railways should be required to carry split peas at the same rates as peas in bulk, that is, if it is meant that this should be done at all times. As has been above stated, the export rates on flour and bulk grain, are, as a rule, identical, but there may be times when the grain rates have to be cut without necessarily involving flour and other grain products. The manufactured article is more valuable than the raw material, and should be able to bear a higher rate if flour, etc., bear the same higher rate." The Board ordered that split peas for export be reinstated in the list of articles that take the same rates to the seaboard as flour for export.

RATES ON CEDAR LUMBER.

In the complaint of the British Columbia Lumber and Shingle Manufacturers' Association against the C.P.R. for discriminating in its freight rates against cedar lumber, it appearing to the Board that a rate of 10c. per 100 lbs. is imposed upon cedar lumber carried on the C.P.R., in excess of the rates charged upon other lumber, viz., pine, fir, spruce, and other kinds of lumber, which excess rate of 10c. is, in the judgment and opinion of the Board, an unreasonable and excessive charge upon cedar lumber as compared with the rates upon other lumber, and which unjustly discriminates against cedar lumber, the Board therefore orders, under the powers conferred upon it by sec. 253 and 254 of the act, that the C.P.R. and all other railway companies do hereafter desist from charging a higher or greater rate of freight upon cedar lumber than is charged by them on pine, fir, spruce, and other lumber of like class; and the C.P.R. and all other railway companies are charged forthwith to give effect to this order.

The C.P.R. has, through its Fourth Vice-President, replied to the order above quoted by stating that the company does not regard the Commission as having control of tariffs on all sections of its lines, but where they do have control the order will be operative. This is taken to mean that the company claims exemption from Government control of rates by reason of the clause in the act of 1881, which prevents any reduction in the tolls charged from Callender to the coast until the net income shall exceed 10% per annum. The Commission has not yet taken any action in the matter, and it may be held in abeyance until the appointment of a chairman.

Board of Railway Commissioners.

The following orders have been issued by the Board:—

Authorizing the G.T.R. to construct a siding crossing Strachan and Wellington Avenues, Toronto, to the Massey-Harris Works. (June 20.)

Directing the C.P.R. to put up an electric bell at the Raglan St. level crossing, Renfrew, Ont., and remove some small buildings to the west of the crossing, in order to afford better protection for the public. (July 18.)

Directing the G.T.R. to place an electric bell at the crossing of the highway by the G.T.R. at Corbett Crossing, about a mile east of Whitby station, Ont., and ordering the bonding of both tracks for half a mile eastward and 2,000 ft. westward of the crossing, the widening of the bridges to 40 ft. on both sides of the crossing, and for otherwise protecting the public at this point. (Sept. 13.)

Authorizing the Morrissey, Fernie and Michel Ry. to cross the tracks of the British Columbia Southern Ry. at Fernie, B.C., on the first-named, providing for the protection of the crossing by an interlocking plant. The M.F. and M. Ry. is a portion of the Crow's Nest Southern Ry., operated in connection with the Great Northern Ry., U.S., and the B.C.S. Ry. is the Crow's Nest Pass line of the C.P.R. (Oct. 11.)

Authorizing the Montreal Street Ry. to cross the tracks of the G.T.R. at grade near the new bridge over the Lachine Canal, Cote St. Paul, Que., the crossing to be protected by semaphores, at the cost of the M.S. Ry. Co. (Oct. 18.)

Authorizing the G.T.R. to make certain changes in the subway under the tracks at Beloeil, near Montreal. (Oct. 19.)

Authorizing C. Kloefer to construct a drain from his factory at Guelph, Ont., under the tracks of the C.P.R. there. (Oct. 24.)

Granting permission to the Bell Telephone Co. to carry two additional wires across the G.T.R. tracks on Beverley St., Galt, Ont., (Oct. 24.)

Granting permission to the town council of Oshawa, Ont., to carry a 12 in. water main under the tracks of the G.T.R. there, upon terms arranged. (Oct. 24.)

Approving a by-law of the St. Lawrence and Adirondack Ry. Co., dated Oct. 25,

(Continued on page 451.)

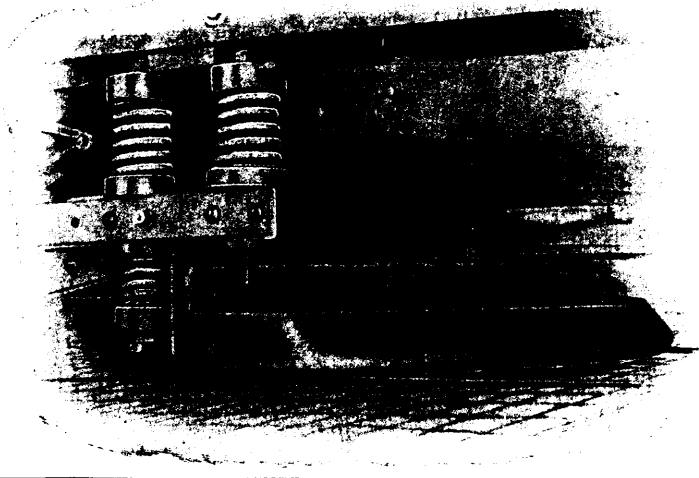
STERLING FENDER

(PLOW SHAPED)

Most efficient life saver in city streets. It prevents going under the wheels. Being attached to the truck, it is carried very low. Six thousand in use in New York City alone. Simple, strong, durable, cheap. No hinges. No springs.

STERLING-MEAKER CO.

Newark, N.J. - U.S.A.



The Cape Breton Ry. Co., on Oct. 31, discontinued the train service on its line from Point Tupper to St. Peter's, N.S., about 30 miles. The line has been in operation since Sept., 1903, and the directors state that the company lost \$10,000 upon its operations during that period.

R. W. Leonard, of St. Catharines, Ont., has contributed to the Canadian Society of Civil Engineers, of which he is a member, a paper on some experiments on loss of heat from steam pipes.



HOTEL EMPIRE

Broadway and Sixty-third St.

New York City

OVER **\$250,000** in Improvements

JUST COMPLETED
ELECTRIC CLOCKS, TELEPHONES
AND AUTOMATIC LIGHTING
DEVICES IN EVERY ROOM

Completely Remodeled and Redecorated
Refurnished throughout in solid Mahogany
and Brass

One minute to Elevated and Subway Stations
Take nearest car at any Railroad or Steamboat
Terminal, they all pass or transfer
to the Empire

Within easy walking distance of all Theatres
and Department Stores

Restaurant noted for Excellent Cooking, Efficient
Service and Moderate Charges

Rooms (with use of bath) \$1.50 per day up
" private " 2.00 " "
Suites " 3.50 " "

W. JOHNSON QUINN

The N. L. Piper Railway Supply Co.

314 FRONT ST. WEST

LIMITED

TORONTO CANADA

RAILWAY SUPPLIES

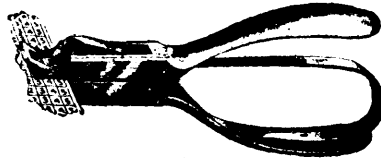


LAMPS AND SIGNALS

LOCOMOTIVE HEADLIGHT

The Fred J. Meyers Mfg. Co. HAMILTON, O.

U. S. A.



No. 33. Especially adapted for Street Car Conductors.

Largest manufacturer of Ticket and
Conductors' Punches in the world.

Write for Catalogue

40 different styles and over 500 different
dies. Long experience, skilled work-
men, new and improved machinery pro-
duces **First-Class Punches at Low Prices.**

All Punches strictly guaranteed.

**INTERCOLONIAL
RAILWAY**

CANADA'S
New Train

THE "OCEAN
LIMITED"

leaves Montreal 7.30 p.m. daily, except Saturday,
arriving HALIFAX 8.15 p.m. the following day,
making close connection with PRINCE EDWARD
ISLAND, via Point du Chene.

Through the famed MATAPEDIA VALLEY by daylight.

Grand Trunk Day Express from Toronto makes
direct connection at Montreal.

**INTERCOLONIAL
RAILWAY**

FAST
FREIGHT
TRAINS

VIA



RUNNING DAILY BETWEEN

MONTREAL, QUEBEC, ST. JOHN,
HALIFAX and the SYDNEYS

Give every satisfaction to shippers

authorizing the chief officer of the freight department, and the chief officer of the passenger department, New York Central and Hudson River Rd., to prepare and issue tariffs of tolls for passengers and freight on the St. L. and A. Ry. (Oct. 27.)

Approving a by-law of the Central Vermont Ry. authorizing the Vice-President and General Manager, or such officer as he may designate for that purpose, to prepare and issue tariffs of tolls for all traffic carried by the company upon its trains, or in its vessels. (Oct. 27.)

Authorizing the Canadian Northern Ry. to cross the tracks of the Qu'Appelle, Long Lake and Saskatchewan Ry., operated by the C.P.R., in the N.W. quarter of sec. 31, tp. 38, range 4, west of the 3rd principal meridian. The C.N.Ry. to provide the diamond required for the crossing, and pay for its installation, as well as for the semaphores for the protection of the crossing; and providing for the maintenance of the crossing and the operation of trains over it. (Nov. 4.)

Authorizing the C.P.R. to open for public traffic a section of its trunk line between Chaplin and Morse, being a portion of the revision of grade between Caron and Waldeck, Swift Current section, Assa., commencing about 4½ miles west of Chaplin station, and ending at Morse station, a distance of about 15 miles. (Nov. 7.)

Authorizing the C.P.R. to open for public traffic that portion of its line known as the Arcola branch, between Arcola and Regina, Assa., a distance of 113 miles; provided that the speed of trains between mileage 80 and mileage 93, and mileage 96 and mileage 99, from Arcola, shall not exceed 15 miles an hour. (Nov. 9.)

At a meeting of the Board, Oct. 17, the matter of the applications of the G.T.R., the C.P.R., the Canadian Northern Ry. and the Pere Marquette Rd., for approval by the Board of their forms of bills of lading and other traffic forms, in compliance with The Railway Act, sec. 275, sub-sections 1 and 2, it was announced that the above named railway companies were the only ones which had up to that time complied with the requirements of sec. 275; and in respect of those so far received it was remarked that there were much diversity in the forms of the several railways. The whole subject is of very great importance and will require that much circumspection should be exercised in examining into the contracts and forms which the Board hereafter has to approve; and also into the question of limitation of liability on the part of carriers. In view of these facts, and that the railways generally have not submitted their forms for approval, the Board did not deem it advisable to make any final or definite order upon the subject, but was of opinion that an interim order might be made, permitting such railways as have made application therefor to continue the use of their present forms until the Board shall otherwise prescribe an order. It was therefore ordered that the above-mentioned applicants severally have power to use the form submitted, and they were authorized so to do until the Board otherwise orders. The Board further required that a committee be formed of the legal and traffic officers of the several railway companies named, and others who may hereafter submit their applications, to meet the Board at Ottawa, on a date to be hereafter announced, for the discussion of the said forms, etc., both freight and passenger.

In the matter of the extension of the time fixed by the Board for the filing of tariffs under its order of April 28, it is ordered that the time fixed be extended from Nov. 1 to Dec. 31, for the approval and publication, but not the filing, of standard tariffs only, subject to the reservation contained in the original order.

White Pass and Yukon Ry.

The annual meeting was held in London, Eng., Oct. 31, when the chairman, C. C. Macrae, explained that the accounts presented represented the operations of the various companies for the year 1903. The W.P. and Y. Ry. Co. was a securities-holding corporation, holding the securities of the local companies which operated the traffic. The year 1903 was in one respect quite an exceptional one. It was the season of lowest water experienced in the Yukon River, and the worst season for river navigation experienced up to that time, though he might anticipate matters and tell them that 1904 had, unfortunately, been little better in that respect. In 1901 the gross income was £214,800, in 1902 £126,500, and in 1903 £122,300. The expenses in 1901 were £77,800, in 1902 £66,000, and in 1903 £64,000, so that the net profit in 1901 was £137,000, in 1902 £60,000, and in 1903 £58,000. In 1901 they brought in a balance of £14,000, paid a 5% dividend, and carried forward £82,500. It was owing to that wise policy that they were able to keep up the dividends in the two following years. In consequence of that large carry forward from the bumper year they had been able not only to pay the sinking fund for the redemption of the first debentures, but also to pay substantial dividends and carry forward further large sums. This year the directors did not think it wise to pay the full 5% dividend, because to have done so would have reduced the amount of the carry-forward to such a small sum that unless they had an exceptional year in the following one they would have to face a much larger reduction of dividend. They had therefore decided to pay 4%. In 1903 the companies carried 12,600 passengers and 33,700 tons of freight, against 16,000 passengers and 28,000 tons of freight in 1902. In the river division they had carried in 1903 8,700 passengers, against 7,000 in 1902. The freight was 23,500 tons, against 21,800 in 1902. The operating expenses were less in 1903, and the net income was \$157,600, against \$126,700 in 1902. In the winter mail service they carried 1,259 passengers in 1903, against 1,101, and 220 tons of freight, against 155 tons. These figures showed that on the important matter of the increase of traffic and freight carriage, the reduction in operating expenses, and the increase in net income there was a distinct and marked improvement upon the previous year. This was especially noticeable in view of the fact that passengers and freight had been carried at very much lower rates than in any previous year. The reduction in the rates was quite satisfactory. The policy of gradually reducing rates was to meet any possible competition, and to get them to a level at which no possible competition could survive. In addition to all this, there had been out of the revenue earnings of the local companies a large amount expended in permanent improvements to their undertaking. There had been spent during the year \$83,413 in specified items, and other sums which could not be traced on this side, because it was impossible to separate them from the normal work of maintenance of the road. All the information which the board had received went to show that the railway was in a far better condition at present than at any previous time. Taking out the gross revenue of the company for the last three years, he found that out of £478,000 in all, they had paid for debenture interest and sinking fund about £200,000, in dividends about £192,000, for income tax about £22,000, and for London expenses, etc., about £30,000, with the result that of that gross revenue of the three years about two-fifths had been paid out in debenture interest and for sinking funds to redeem the debentures, about two-fifths had been paid in dividends, and about

one-fifth in management expenses and income tax. He thought that was not an unbusinesslike or unsatisfactory way of putting it.

The report and statement of accounts were adopted; a dividend of 1½%, making 4% for the year, was declared; and C. C. Macrae and J. Dugdale, the retiring directors, were re-elected.

The President, S. H. Graves, of Chicago, was present at the meeting, and in the course of some observations upon the prospects of the company, said: The last winter was exceptionally severe, and the heavy snowfalls caused an immense amount of additional work in keeping the line clear and the trains running. He was glad to say the trains were kept running regularly every day with one exception, and the mail service was maintained throughout. Owing to the lowness of the water they found that they could do better with two boats with half-loads instead of one fully loaded. They had extended this system, and built up a fleet of large barges, capable of carrying 150 to 200 tons of dead weight, with a very light draught of water. Cables indicated that all their fleet was safely in winter quarters. To carry out the new mail contracts it had been necessary largely to increase the number of their men and horses, as well as the equipment. On the previous occasion that he addressed them he mentioned that they were making efforts to induce tourists to visit the country with a view to supplementing their passenger revenues. A number of tourists did visit the Yukon, and expressed themselves very highly pleased with their experiences.

American Association of General Passenger and Ticket Agents.

The annual meeting was held at Old Point Comfort, Virginia, on Oct. 18 and 19 and following day. Between 300 and 400 delegates, representing the railway and steamship lines in the U.S., were in attendance. Most of the gentlemen were accompanied by their wives, and many by other members of their families, so that altogether the attendance was in the neighborhood of between 700 and 800. The Canadians at the meeting were: G. T. Bell, General Passenger Agent G.T.R.; J. M. Lyons, General Passenger Agent Intercolonial Ry.; A. P. Cockburn, Secretary of the Muskoka Lakes Navigation and Hotel Co.; F. Backus, General Freight and Passenger Agent Toronto, Hamilton and Buffalo Ry.; and T. Henry, Traffic Manager Richelieu and Ontario Navigation Co. M. McNamara, Town Agent of the G.T.R. at Walkerton, Ont., was present as delegate representing the Canadian Ticket Agents' Association. The meeting was presided over by F. I. Whitney, General Passenger Agent of the Great Northern Ry. (U.S.).

At the business meetings addresses were delivered by C. Lorraine, General Baggage Agent of the Chesapeake & Ohio Ry., on behalf of the American Association of Baggage Agents; by G. C. Noble, Southeastern Agent of the Lehigh Valley Rd., representing the American Association of Travelling Passenger Agents; by M. McNamara, town ticket agent of the G.T.R. at Walkerton, Ont., representing the Canadian Ticket Agents' Association; and by C. G. Cadwallader, Ticket Agent of the Pennsylvania Rd. at Philadelphia, on behalf of the International Association of Ticket Agents. As Mr. McNamara's speech was the special presentation of the Canadian ticket agents' view of railway conditions, we give it in full as follows:—

On behalf of the Canadian Ticket Agents' Association, I desire to thank you for the com-

Rodger Ballast Hart Convertible Cars

WILL ACCOMPLISH A SAVING OF \$200.00 TO \$400.00 PER MILE

IF INTERESTED, WRITE FOR PARTICULARS

RAILWAY CARS OF ALL KINDS

HAND CARS, PUSH CARS, INSPECTION CARS, VELOCIPEDES AND OTHER TYPES OF LIGHT CARS

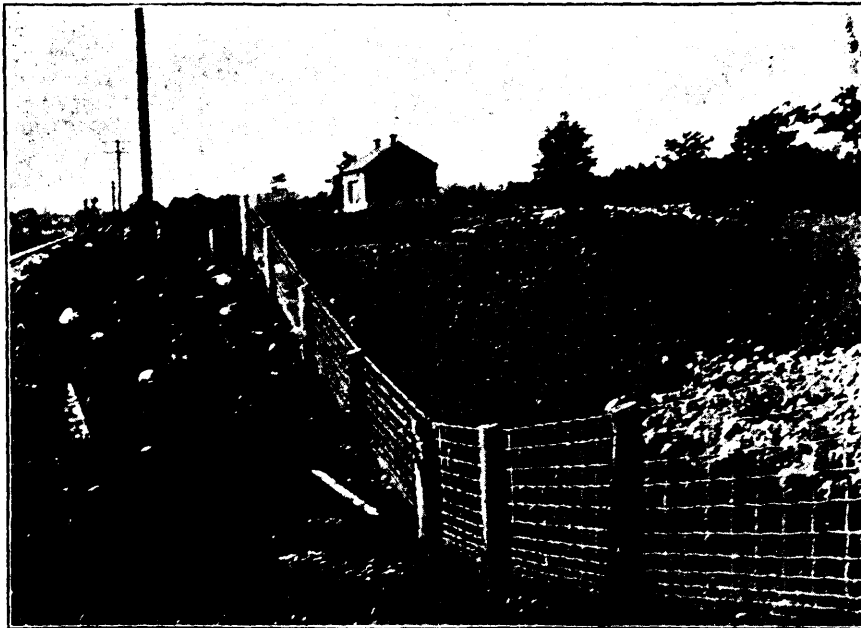
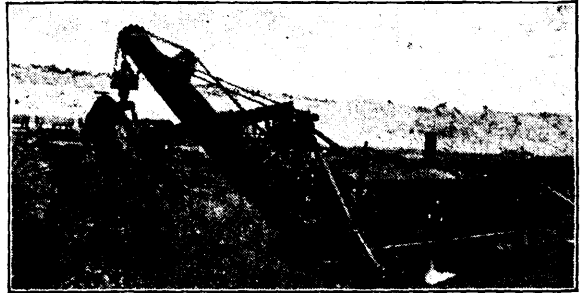
— ALSO —

STEEL RAILS, SCRAPERS, BARROWS, TRACK JACKS, SWITCH ROPES, TRACK TOOLS, etc., etc.

F. H. HOPKINS & CO., - MONTREAL

(LATE JAMES COOPER)

MARION STEAM SHOVELS



No matter how rough the land, is best fenced in with PAGE WIRE FENCE—it wears best.

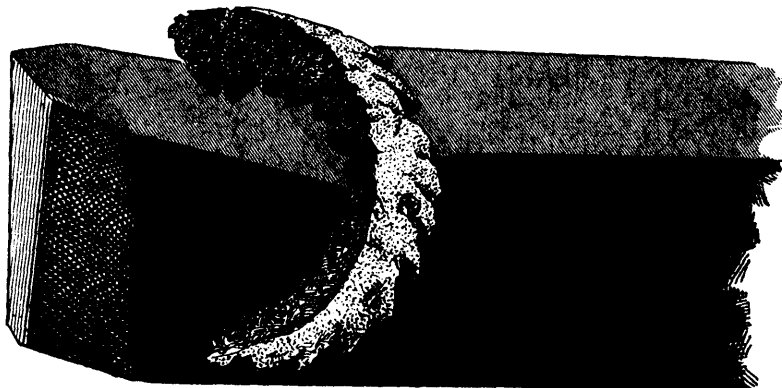
THE PAGE WIRE FENCE CO., Limited

Walkerville, Ont.

Montreal, Que.

St. John, N.B.

The **JESSOP** High-Speed . . . **TOOL STEEL**
Self-Hardening



is Unexcelled for Turning Locomotive Tires, Car Wheels, Shafting, Etc.

1/4-inch cut, 1/4-inch feed. Speed 20 to 40 feet per minute. Tools hardened by heating white hot and cooled in air.

CAN NOT BE BURNED.

WM. JESSOP & SONS, Limited, Sheffield, Eng.

Chief American Office, 91 John St., New York. C. L. BAILEY, Agent, 80 Bay St., Toronto.

Established 1849

BRADSTREET'S

Capital and Surplus \$1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOB. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

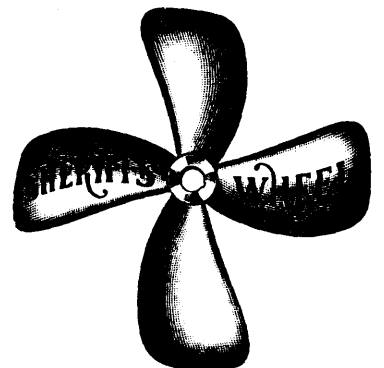
OFFICES IN CANADA:

Halifax, N.S. Hamilton, Ont. London Ont.
Montreal, Que. Ottawa, Ont. Quebec, Que.
St. John, N.B. Toronto, Ont. Vancouver, B.C.
Winnipeg, Man.

THOS. C. IRVING,

Gen. Man. Western Canada, Toronto.

SHERIFFS MANUFACTURING CO.



Milwaukee, Wis., U.S.A.

ESTABLISHED 1854

pliment of being invited to send a delegate to your meeting. I do not anticipate even the probability of being able to add anything to the knowledge of your Association, in respect to the management of railway passenger business. But I do feel bound to express the high sense in which our Association appreciates the compliment of being represented at your proceedings. We justly consider it an expression of the good-will with which the members of our Association are regarded by the superior officers of the railway passenger service of the U.S.

We come into contact with the railway passenger business of the U.S. a good deal, and handle many thousands of the dollars that annually enrich their treasury. We are always gratified with their prosperity as neighbors, and take pleasure each month in observing an increase in the coupon business of our offices over the corresponding month of the previous year. But we regret having occasion to regard our coupon business only as affecting the welfare of our neighbors, and would really like to have a personal interest in the development of this traffic for ourselves. Abstract theories are not popular with the Canadian Ticket Agents' Association. Financially, we regard them as nature is said to regard a vacuum. Since the American railways abolished the payment of commissions to the members of our Association, we have not been able to feel the keen personal interest in this class of traffic that formerly distinguished our efforts to direct travel in their direction. The managers of the great American railways have not yet substituted any other system of payment for the service we render them, in place of the commission system abolished some time ago. It may be said that all the roads, both in Canada and the U.S., having abolished commission payments to outside agents, the result is equally fair to all parties concerned. I need scarcely point out that this argument covers only the interests of the companies. It does not reach the feelings of the Canadian Ticket Agents' Association with any comforting sense of personal conviction. We do a large amount of work for the great American railways, and get nothing for it. This is not fair. I trust that your Association may be willing to consider our interests in this matter. I feel satisfied that if you look at it from our point of view, you will readily see the justice of our claim. Corporations are said to have no souls, but good business men always proceed on correct principles. And estimating justice by the standard of success, there can be no higher embodiment of moral excellence than American railway management.

It is becoming a tiresome cause of self-admiration to draw attention to the practical achievements of modern science. Its special distinction lies in its application to commercial uses. And of all the discoveries and inventions of human genius, for the promotion of commerce, none have yet surpassed the railway. From its first advent into the life of the world, the railway has always been the leader of commerce. And notwithstanding the immense development of science in other directions, since Watt sat watching the lid of his tea-kettle, the old steam horse still keeps at the head of the procession.

It is impossible to say when railways first came into use, but they are certainly much older than is generally thought. Over 2,000 years ago the Romans had chiselled tracks in the Applan way, and even had them laid out with sidings and switches. And a thousand years before the Roman Censor commenced the Applan way, the Egyptians carried the immense blocks of stone used in building the pyramids over iron-grooved roadways. The world lapsed into barbarism again after the downfall of the Roman Empire, and no further progress in railway development is

reported until the middle ages, when excavated tracks were used in the German mines. In 1676 tracked roads, with timber rails, appeared in the English mines, and it is not unworthy of mention that the gauge of 4 ft. 8½ in., then accidentally adopted, is now the almost universal standard of the commercial world. Iron rails were not in general use for a hundred years afterwards, and it was not until 1801 that the British Parliament granted its first charter for a passenger railroad.

The first passenger railroad was worked by horses, but in 1814 Stephenson constructed a steam locomotive that pulled a little passenger coach six miles an hour. It was one of the wonders of the world at the time, but those of the present company who saw it at Chicago in 1893, scarcely visible in the shadow of the great modern locomotive no. 999, could not fail to be impressed with the vast advance presented by the contrast, and covered by the brief period of less than a century.

It is not alone in the comforts of travel that the railway has improved the condition of the world. By the cheap and rapid diffusion of products, it equalizes conditions of living for all classes of people, and in all parts of the world. It places luxuries in the poor man's house, and on the workman's table, that emperors could not procure without its aid.

In the ordinary intercourse of men with each other, the benefits that all derive from the railway might be expected to create a general feeling of gratitude towards those who place such advantages within their reach. But such does not appear to be the existing condition of feeling towards railway owners. People easily forget benefits, and seldom look back to consider the cause of their present enjoyment. A general belief exists in the public mind, that the great railway magnates get more than their share. And as a means of equalizing conditions arising out of this fact, many States of the American Union, especially the Western States, early conceived the idea of forming commissions for the control of rates. This idea was taken up some years ago by the Federal Government at Washington, which established the Interstate Commerce Commission, a body whose efforts are admitted to be beneficial in some respects, but which on the whole has not given more than a moderate amount of satisfaction, either to the railways or to the public. In Canada, the problem was dealt with for a long time by the Railway Committee of the Privy Council. This body, which was composed entirely of members of the Government, met from time to time to hear complaints, and give judgment. But experience having shown this method to be tedious and expensive, a railway commission on the American model was created in the parliamentary session of 1903. This tribunal has not been long enough in operation to enable a definite opinion to be formed of its effectiveness. It is to be observed also that its power is subject to peculiar limitations. It has no power over the C.P.R., express provision having been made in that company's charter that the Government shall have no power to interfere with its rates, until the net earnings shall reach 10% on their capital, a condition not likely soon to be realized. This state of affairs is regarded as a hardship in our Canadian Northwest, but in reality, from one cause or another, the C.P.R. finds it necessary to keep its rates as low, and in some cases lower, than other lines.

The other limitation on the Canadian Railway Commission is, that it has nothing to do with Government railways. This exempts the Intercolonial, which is owned by the Government, and has an annual deficit of a very large sum. The road is popular with the people of the Maritime Provinces, because its passengers and freight are carried at political, rather than commercial rates. The country at large, which must make up the difference, regards it

with less favor. There is an annual row about it in Parliament, and once upon a time the Government engaged a railway expert from the U.S. to put the road on a business footing. He proceeded to do so by raising the rates. The indignant citizens of the district through which it ran, immediately forced the Government to dispend with his services. The astonished expert shook the dust of Canada from his feet, with the remark that the Intercolonial Ry. was run like a comic opera.

Nevertheless, in spite of our experience with the Intercolonial, the idea of solving the railway problem by means of public ownership appears to be growing in Canada. Ideas of this nature often attract popular favor irrespective of their merits. And in Canada it is looming up just now, largely in connection with the new transcontinental railway. Though the general adoption of public ownership may seem remote at present, we must remember that existing conditions are all the growth of a short time, and that the spirit of the age is always eager to try new experiments. Recent discussion in Parliament brought out the fact that if the rates on the Intercolonial were the same as on the other roads in Canada, the line would pay 3% on all the money invested in its construction, equipment and management.

The rapid development of public utilities of all kinds, is one of the characteristics of modern times. Our ancestors took life easy, but they had not much to do. They had no railways, no steamships, no telegraphs, no electric lights, no telephones, no daily papers, and not much of anything else that is now considered an essential condition of our daily existence. If the present rate of development keeps up for 50 years more, our grandsons won't have time to take three meals a day. It will be remembered by some gentlemen present, that there were no telephones, and no electric lights, at the Philadelphia Exposition in 1876, whilst to-day millions of capital, and thousands of men, are engaged in handling the business electricity has since created.

It is understood to be a prevalent belief in the U.S., that Uncle Sam is just a little ahead of all other nations in national progress. When the country emerged from the terrible struggle of the civil war, in the spring of 1865, a million armed men marched through the streets of Washington, stacked their arms, and returned to the peaceful pursuits of industry. It was the most magnificent display of triumphant democracy that the world had ever seen. The population of the country has doubled since then, and its wealth and power have increased in proportion. Whilst these facts tend to develop a laudable spirit of national pride, it is well to remember that other nations have not in the meantime been standing idle. Across the border, in the Dominion of Canada, we have been quietly making as great proportionate progress as our more powerful neighbors. And in no department of progress can we show better results than in railroading. With a population of six millions, we have nearly 20,000 miles of passenger railway. Twenty years ago, we had but 8,726 miles in operation. I doubt if our American friends can surpass our rate of progress in the interval. In 1883 we carried 9½ millions of passengers; last year we carried 22 millions. Our earnings in 1883 were 33½ millions; last year they were over 96 millions. There are 167 steam railways in Canada, great and small, with a total mileage of nearly 20,000 miles. The various governments and municipalities of the Dominion have aided these roads to the extent of 237½ million dollars in cash, and 57 million acres of land. This is equal to nearly \$12,000 cash, and 2,600 acres of land, for every mile of railway in the country. No country in the world has been more generous in its railway policy than Canada, and I think it may fairly be claimed that no country in the world has a better railway service than that existing in Canada.

WIRES AND CABLES

OF EVERY DESCRIPTION FOR
Telephone, Telegraph and Electric Power Purposes.

THE WIRE AND CABLE COMPANY, - - - MONTREAL.

GENERAL RAILWAY SIGNAL CO.

General Office, Buffalo, N. Y.

Works, Buffalo, N. Y., and Rochester, N. Y.

New York Office, Broad Exchange Building. Chicago Office, Monadnock Block. St. Louis Office, Frisco Building.

The General Railway Signal Company has acquired the American assets and properties of the Taylor Signal Company, of Buffalo, N. Y., and of the Pneumatic Signal Company, of Rochester, N. Y., and is prepared to furnish and install approved forms of mechanical, pneumatic, electro-pneumatic and electric interlocking devices, track circuit appliances, motor signals, railway gates, etc.

WIRE ROPE

FOR HOISTING, HAULAGE, TRANSMISSION,
GUYS, SEMAPHORES, ETC.

THE DOMINION WIRE ROPE CO'Y

MONTREAL

LIMITED

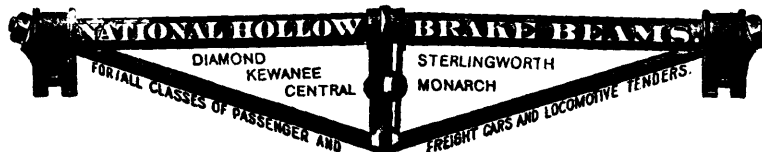
SPECIAL:
BALLAST
CABLES
SWITCH
ROPES
BLOCKS and
FITTINGS

H. S. BURKHARDT, Pres.
E. B. LEIGH,
Vice-Pres. & Gen. Mgr.

GENERAL OFFICES :
40th St. and Princeton Ave.
CHICAGO, . - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

LESSEE



OVER 4,500,000 NOW IN USE
CRECO FRICTIONLESS SIDE BEARINGS AND SLACK ADJUSTERS
Works :—CHICAGO, DETROIT, JERSEY CITY, MONTREAL.

CANADIAN OFFICE :
22 St. John Street
MONTREAL, - QUEBEC

I. A. YOUNG,
AGENT

TEN
STYLES

BAKER HOT WATER CAR HEATERS

BAKER PIPE AND PIPE FITTINGS.

William C. Baker, 143 LIBERTY STREET, New York, U.S.A.

Catalogues cheerfully
furnished.

STEAM
ATTACH-
MENTS

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LTD., MIDLAND, ONT., CANADA.

First-Class Tugs for Wrecking, Raft Towing, Etc. Steam Pumps, Divers, Jacks, Hawsers and Lighters.

It is difficult to see what further improvement may be expected in the railway service. Road-beds, gradients, curves and bridges, are generally being put in first-class condition. The rolling-stock is also attaining a high degree of perfection. People on the branch lines, who fall heir to the old cars, sometimes relieve their feelings by a vigorous kick, but altogether the railway service of Canada is equal to the best, and inferior to none. It might perhaps be possible to improve the sleeping cars. The desire of the travelling public in that respect is for better ventilation, more room, cheaper rates, and all lower middle berths.

Railway conditions in Canada are much the same as in the U.S. We have the same climate as the northern and western states. The roads of the two countries connect at many points, and a constant interchange of traffic is going on between them. This business would be greatly increased by equalizing the Customs tariff of the two countries. The tariff of the U.S. is much higher than ours, and operates to keep Canadian goods out of the American market. Last year we bought from the U.S. \$144,764,357 worth of their goods, whilst we sold them only \$71,783,924 worth of ours. With an equal tariff there would be equal trade, whilst as things stand, the railways of both countries annually lose the carrying trade of over \$70,000,000.

Commerce is a great promoter of national friendship. It is desirable that such friendship should exist between Canada and the U.S. We are in all essentials the same people. We have the same language, the same laws, and the same literature. And there should be no unnecessary business barriers between our countries. There is no desire in Canada for political union with the U.S., but there is a desire for equal tariffs. The managers of the great American railways are credited with extensive influence in the public affairs of their country, and it looks to us as if they could do something in the direction of modifying its tariff, should they consider it good policy to do so.

I thank you for the courteous attention with which you have listened to my presentation of the Canadian ticket agents' view of the railway situation. We appreciate the compliment of being invited to your meeting, and trust that the personal good-will arising from our intercourse, may at no distant date be productive of good business results.

Mr. McNamara received many compliments on his speech from the members of the convention, and it has been extensively commented on by U.S. papers. Saxby's Magazine, of Cincinnati, has published it in full, and the New York Commercial has quoted extensively from it.

The committee on safety paper reported that the time had arrived when its exclusive use for tickets be ordered for and after a specified date. The convention voted favorably and fixed May 1, 1905. The committee was continued and enlarged by adding the executive committee of the protective committee and C. L. Stone, General Passenger Agent of the Louisville & Nashville Rd.

An effort was made on the part of religious organizations and various Sunday observance societies to induce railroads to discontinue Sunday excursions. A number of influential railway passenger officials had given encouragement, if not actual support, to the movement. There was enough opposition, however, to delay definite action for the time being, and the resolution introduced to abolish Sunday excursions was referred to the various territorial associations.

F. E. Boothby, General Passenger Agent of the Maine Central Rd., was unanimously elected president of the association, and A. J. Smith, General Passenger Agent of the Lake Shore & Michigan Southern Ry., was elected vice-president. Mr. Smith, who has been

secretary of the association for 25 years, is succeeded by C. M. Burt, General Passenger Agent of the Central Rd. of New Jersey. Mexico City was selected as the place for the next convention.

The social features were remarkably enjoyable. Old Point Comfort is a point of land running out into Chesapeake Bay, and commanding the entrance to Washington by water. It is famous in the history of the civil war, and belongs to the Federal Government. It consists only of Fortress Monroe, and the magnificent Chamberlin Hotel, celebrated as a winter resort, and maintained in a certain style of grandeur, by contract with the Government. There are nearly 1,000 men in the garrison, and at the time of the convention there were also three warships in the harbor. Army and navy officers thronged the lobby of the Chamberlin, and they extended the courtesies of their club to the visitors. For the entertainment of the visitors there was a grand mount and dress parade at Fortress Monroe, and a marine parade along the splendid water front. The labors of the business sessions were relieved by a ball one evening, and a dinner the next. There were also water excursions, and an old-time oyster roast at one of the neighboring fashionable resorts. In the evening before the dinner a reception was held by the Governor of Virginia, assisted by Gen. Fitzhugh Lee, the famous Confederate commander in the civil war, at which the ladies and gentlemen of the party were presented. The dinner was a splendid and costly affair, at which the ladies sat at table along with the men. About 1,000 guests were present. Governor Montague delivered a splendid address of welcome, and was followed by Gen. Lee. The Hon. Mr. Morton, a member of the Federal Government, sent a letter of regret at being unable to attend. He is an honorary member of the Association, and was formerly a general passenger agent.

Grain Elevator Notes.

The Alberta Grain Co. will build an elevator, and Bain & McKelvey a warehouse, at Ponoka, Alta.

The elevator at Goderich, Ont., up to Oct. 27, handled 1,635,724 bush. of grain, brought there by 16 steamers.

The officers of the Portland, Me., Elevator Co., and of the New England Elevator Co., Portland, for the current year are:—President, C. M. Hays; Vice-President, F. W. Morse; Treasurer, F. Scott. The elevator companies are subsidiary enterprises of the G.T.R.

The Canadian Northern Ry. has made a further concession in reference to the receipt of "tough" wheat. It has decided to receive grades 1, 2, and 3 northern "tough" wheat and hold it in storage without drying or cleaning, until the close of navigation, at which date it would all have to be removed.

The machinery at King's drying elevator at Port Arthur, Ont., was recently disabled, and grain requiring cleaning from the C.P.R. elevators at Fort William was treated by the Canadian Northern Ry. elevator at Port Arthur. On Oct. 31, the wharf adjoining the King elevator broke down, and 16 cars of wheat were thrown into the water.

The Prescott, Ont., Journal says:—"Some enterprising citizen might form a joint stock company with a view to the purchase of the elevator property and convert it into a Y.M.C.A. building, with a hockey rink in the basement, a billiard hall, shooting gallery and bowling alley on the ground floor, and the top—well, they might as well burn it off, as it is practically of no commercial value.

The Chief Inspector of the Manitoba grain inspection district, recently published a statement showing the number of licensed elevat-

ors and warehouses in the district. There were 918 elevators and 64 warehouses, having a capacity of 41,186,000 bush., for the season of 1903-04, against 740 elevators and 82 warehouses, having a capacity of 30,356,400 bush., for the season of 1902-03. For the year ended 1900-01, there were 426 elevators, 97 warehouses, having a capacity of 18,899,352 bush. In the year under review the elevators, etc., were distributed as follows:—

	Canadian	Northern
	C.P.R.	Ry.
Ontario terminal elevators.....	5	1
Capacity in bushels.....	10,622,000	3,350,000
Manitoba elevators.....	475	176
" warehouses.....	37	13
Capacity in bushels.....	14,685,100	4,611,900
N. W. Territories elevators.....	261	
" warehouses.....	18	
Capacity in bushels.....	7,917,000	

There are also in Manitoba and the N.W.T., 291 loading platforms, of which 65 have recently been erected, and about 60 others lengthened. In addition to the elevators at the Ontario terminals, there are the Empire and the Ogilvie elevators at Fort William, with a united capacity of about 2,000,000 bush.

SHIPPING MATTERS.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices to mariners:—

No. 88. Oct. 13—Ontario—231. River St. Mary, Canadian Sault Ste. Marie canal, range lights at lower entrance improved.

No. 89. Oct. 14—British Columbia—232. East coast of Vancouver Island, Stuart channel, Escape reef, beacon established. 233. Vancouver Island, east coast, Stuart channel, Danger reef light, corrections. 234. Strait of Georgia, approaches to Nanaimo harbor and Departure bay, shoals located, hydrographical notes. 235. Malaspina strait, Nelson rock, beacon erected.

No. 90. Oct. 22—Quebec—236. River St. Lawrence, below Quebec, Father Point, change in fog alarm. Newfoundland—237. Bay of Exploits, Burnt bay, St. Michael's head, light established.

No. 91. Oct. 24—Nova Scotia—238. South coast, Halifax, time signal established.

No. 92. Oct. 26—Ontario—244. Great Lakes, lights to be kept in operation until Dec. 15. 245. Lake Erie, Port Dover, front range lighthouse being rebuilt, temporary light.

No. 93. Oct. 26—Quebec—246. River St. Lawrence, south shore, Ste. Felicite, fog alarm established.

No. 94. Oct. 27—British Columbia—247. West coast of Vancouver Island, Templar channel, entrance to Clayoquot, Lennard Island, lighthouse established. 248. East coast of Vancouver Island, Ladysmith, rocks found, hydrographical notes. 249. Strait of Georgia Malaspina Strait, uncharted rock. Alaska—250. Lynn channel, Point Sherman, light established.

No. 95. Oct. 27—Ontario Lighthouse division—251. River St. Lawrence, Lake St. Louis, off Brown point, gas buoy established. 252. River St. Lawrence, Lake St. Francis, Port Louis, gas buoy established. Ontario—253. River St. Lawrence, Lake St. Francis, east of South Lancaster, gas buoy established. 254. River St. Lawrence, Thousand Islands, off Wood Island, Fiddler's Elbow, gas buoy established.

No. 96. Oct. 29—Ontario—257. Lake Erie, Port Colborne, gas buoy placed. 258. Lake Superior, Thunder Bay, entrance to Port Arthur, gas buoy established. 259. Lake Superior, Thunder Bay, entrance to Fort William, gas buoy established.

No. 98. Oct. 31—British Columbia—266. Strait of Georgia, off Sechart peninsula,

White Islet, Seechelt light established. 267. Kootenay Lake, Proctor Middle Ground, light maintained on buoy.

No. 99. Nov. 2—New Brunswick—268 Bay of Fundy, Gannet rock, lights improved. 269. Bay of Fundy, Grand Manan, Big Duck Island, fog alarm temporarily inoperative. 270. Bay of Fundy, entrance to St. John harbor, Partridge Island, light improved.

The following have been issued by the U.S. Hydrographic Department:—

No. 42. Oct. 15—St. Marys River—1475. Middle Hay Lake range lights, nos. 17 and 18, dredging, caution.

Maritime Provinces and Newfoundland.

Dr. W. B. Dawson has made a report to the Department of Marine upon his investigations into the tides and currents on the south coast of Newfoundland, made during the summer. The report contains much information of value to mariners.

The coasting str. Portia, while on her second voyage, ran on the rocks at Penguin Islands, off Newfoundland, but was refloated, somewhat seriously damaged. She was beached to make temporary repairs; permanent repairs will be made at St. Johns.

The Black Diamond Steamship Co., which runs steamers from Sydney to Halifax, N.S.,

JAMES THOMSON, President, JAMES A. THOMSON, Secretary, JOHN GARTSHORE, Treasurer, J. G. ALLAN, Vice-President.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

MANUFACTURERS OF



3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER
HAMILTON, ONT.

The Northern Electric and Manufacturing Co., Limited

MONTREAL

Contractors for and Dealers in

Electrical Apparatus and Supplies

Experimental and Model Work,
Fine Machinery, Special Tools,
Patterns, Gear-Cutting, Special-
ties, Repairs, Etc.

ESTIMATES PROMPTLY FURNISHED.

The Direct Line

To New York, Philadelphia, Atlantic City,
Baltimore, Washington and the South.
The Grand Trunk Railway in connection
with the

LEHIGH VALLEY RAILROAD

Forms the Direct Line from Toronto, Ham-
ilton, London and all points in Canada for
the above cities.

ROUTE OF THE

"Black Diamond Express"

(Handsomest train in the world.)

The Great double-track scenic highway,
stone ballasted, protected by automatic
electric block signals. Through Pullman
Parlor and Sleeping Car Service. Dining
Car Service à la carte. Everything first
class. Call on Grand Trunk Ticket Agents
for tickets and further information, or
address

ROBT. S. LEWIS,

Can. Pass. Agent, 10 King Street East, Toronto.

CHAS. S. LEE,

General Passenger Agent, New York.

W. B. WHEELER,

General Agent, Pass. Department, Buffalo, N.Y.

STEEL, PEECH & TOZER,

LIMITED,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND
SPRING STEEL.

"PHENIX" Loco. Spring Steel is the
accepted Standard in Canada.

SOLE AGENTS:

James Hutton & Co., Montreal.

THE ST. THOMAS BRASS COMPANY, Ltd.

MANUFACTURERS OF

Brass Castings For the Wearing Parts of Loco-
motives.

Journal Bearings For Passenger and Freight
Car Service.

Miscellaneous Brass Castings For Engine
and Car Work

Works and Office: ST. THOMAS, ONT.

DOMINION BRIDGE CO. Limited

MONTREAL, P. Q.

BRIDGES

TURNTABLES : : : :
ELECTRIC CRANES
ROOF TRUSSES : : :
STEEL BUILDINGS

Structural METAL WORK of All Kinds

Beams, Channels, Angles, Plates, Etc., in Stock

etc., has applied to the Halifax Pilotage Commission to be placed under the half-rate pilotage section of the law. The pilots object and the matter has been referred to the Minister of Marine.

The Plant Line and Canada Atlantic Steamship Co. is negotiating for the purchase of an additional steamer in Great Britain. The company's chief engineer is in England examining the steamer. The company is rebuilding its wharf and store at Halifax, N.S., which were destroyed in the recent fire.

The St. John, N.B., City Council has passed a resolution instructing its officers to notify the C.P.R. that the council will pay back to the company \$50,000 under the terms of the agreement of June 1, 1896, and assume full control of the Sand Point wharves. No date is fixed in the notice when the money will be paid.

R. C. Elkin (Ltd.) has been incorporated under the New Brunswick Companies' Act, to carry on a general shipowning and forwarding business in New Brunswick. The capital is \$20,000 and the offices are at St. John. R. C. Elkin, St. John, is the principal promoter, and the provisional directors are members of his family or clerks in his office.

The tug steamer Togo, built for G. S. Campbell & Co., Halifax, N.S., was given a trial trip at Halifax recently, and proved in every way a good sea boat. Her dimensions are:—length, 80 ft.; breadth, 19 ft.; depth, 8 ft.; tonnage—gross, 97 tons, net, 66 tons. The engine and boiler were imported from Glasgow, Scotland, the boiler being a Scotch type, 10 ft. 6 in. long, by 10 ft.; and the engines, compound 14 and 28 in., by 22 in. stroke.

The Star Line Steamship Co. has purchased the Philadelphia str. Pokanoket to replace the David Weston, which was burned, on the St. John River run, from St. John to Fredericton, N.B. The price paid is reported to be \$25,000. The Pokanoket is a twin-screw, steel steamer, built at Brooklyn, N.Y., in 1894, and owned by the Inter-State Steamboat Co. Her dimensions are:—Length, 151.2 ft.; breadth, 29 ft.; depth, 8.7 ft.; tonnage—gross, 320 tons; net, 255 tons. She is fitted with two compound engines, cylinders 10 in. and 20 in. with 18 in. stroke; two water tube boilers, tested to 200 lbs. a square inch, and capable of developing 600 h.p.

The Maritime Newfoundland Shipping Co. (Ltd.), which has been incorporated under a special act of the Newfoundland Legislature to carry on marine salvage and wrecking round the coast of Newfoundland, has a capital of \$250,000 and offices at St. Johns. The company has placed an order for a wrecking steamer and other equipment in England, at a cost of \$100,000. Of the stock, part has been sold in England, \$22,000 in Newfoundland, and \$29,000 is now being offered for subscription. All the stock has been sold at par, and \$150,000 is being retained in the treasury to purchase further plant, etc. The officers and directors are:—President, J. S. Harrison, New York; Vice-President, M. P. Cashin, Cape Broyle, Nfld.; General Manager, Capt. A. Manly, St. Johns, Nfld.; Secretary, J. M. A. Lanos, Halifax, N.S.; other directors: M. P. Gibbs, St. Johns, Nfld.; A. Dickey, W. F. Smith, Halifax, N.S.

Province of Quebec Shipping.

The str. Restigouche has been placed on the Baie des Chaleurs to take the place of the burned str. Admiral.

Tenders are under consideration for the substructure of a bridge over the Lachine Canal at Atwater Ave., Montreal.

The amount expended by the Montreal Harbor Commissioners in raising the Windmill Point wharf to the high level up to Nov. 1, was \$613,000.

The str. Savannah has been chartered by the North Shore Steamship Line, to replace the str. St. Lawrence, recently wrecked, on the North Shore route.

The dredge Ottomac, of Prescott, Ont., which was brought to Quebec to work on the breakwater extension, was burned to the water's edge and sunk recently.

The Quebec Harbor Commissioners have fined Pilot A. Larochelle \$100, and suspended Pilot M. Lachance for life, for negligence while in charge of vessels on the St. Lawrence river.

The number of sea-going vessels arriving at Montreal from the opening of navigation to Nov. 1, was 742, against 734 for the same period, 1903; and the tonnage was 1,719,000 tons, against 1,725,000 in 1903. The number of inland vessels entering the port was 8,807, having a tonnage of 2,070,484 tons, against 9,675 vessels of 2,157,510 tons during the same period, 1903.

The second of the two ice-breaking steamers built at Paisley, Scotland, for the Dominion Government, has been named Montcalm, and is expected to reach Canada Dec. 1. She is larger than the Champlain, which reached Quebec Oct. 28, being 250 ft. in length and with a beam of 42 ft. She will be used mainly in the Gulf of St. Lawrence, it being intended that she will prevent the formation of the icebridge at Cap Rouge. During the open season she will be used as a lighthouse and buoy tender.

The icebreaking str. Champlain, built at Paisley, Scotland, for the Department of Marine, arrived at Quebec Oct. 28. She is a steel steamer having the following dimensions: length, 120 ft.; breadth, 30 ft.; depth of hold, 17 ft. 6 in.; draft, 11 ft.; freeboard, 8 ft.; tonnage, gross 522 tons, register 225 tons. She is fitted to carry first and second-class passengers, is lighted throughout by electricity, and is generally equipped with all modern appliances. She is capable of making 11 knots an hour. She was specially framed to give great strength, and her bows are constructed to make way through ice. It is reported that she will run between Riviere Ouelle station on the Intercolonial Ry. and Murray Harbor during the winter; but the original statement was that she was to be employed in keeping an open channel in the river, so as to lengthen the period of navigation into Montreal.

Ontario and the Great Lakes.

Capt. Magnuson, of the Standard Oil Co.'s str. Imperial, died at Sarnia, Ont., Oct. 26.

Capt. P. McGlade, of Kingston, Ont., will have a small steamer built for the river trade.

Capt. J. Randall is having a steam barge built at Kingston, Ont., for the Rideau Lakes trade.

The tug Maud S. has been purchased by Haskell & Wright, of Owen Sound, Ont., from H. N. Truesdale.

The Rideau Lakes Navigation Co. is figuring on prices for two new steamers to be built at Kingston, Ont.

The Lumsden Line str. Argo, built in 1903, for the trade on Lake Temiskaming, was burned near Haileybury, Ont., recently.

Capt. A. E. Foster, of Smith's Falls, Ont., proposes to have a steamer built during the winter for trading between Smith's Falls and Kingston.

Capt. R. Delaney, who for 50 years has been piloting steamers on Lake Ontario and the St. Lawrence River, died at Prescott, Ont. Oct. 28.

An order has been placed at Kingston, Ont., for a tug for W. Thompson, Orillia, for trade on Lake Simcoe. She will be 82 ft. long, and 16 ft. wide.

The total freight passing through the Canadian and the U.S. canals at Sault Ste. Marie, for Oct., was 5,573,909 tons, against 4,475,965 tons for Oct., 1903.

The Department of Marine has given notice to the lighthouse keepers on the Upper Lakes that all lights and other aids to navigation are to be kept in operation until Dec. 15.

W. Walsh, engineer, was recently presented with a gold watch, chain, and Masonic emblem, by the staff of the Niagara Navigation Co., Toronto, on resigning from the company's service.

The Thousand Islands Park Association is promoting a petition to the U.S. Congress, for the clearing of the St. Lawrence River channel so as to allow larger vessels to navigate the river and to land at the park.

The Dominion str. Bayfield has returned to Owen Sound, Ont., having completed her season's work on the hydrographic survey of Lake Superior. The area covered during the season was in the vicinity of Silver Islet.

The str. Turbinia will not go to the U.S. for the winter, as was anticipated, but will lay up at Hamilton, Ont. The question of placing an order for a second steamer for another route is said not to have been finally settled.

The str. Sovereign, built in 1903, for trading on Rice Lake, Ont., and adjacent waters, capsized while on a recent trip between Harwood and Peterborough. A heavy cargo on the upper deck caused the accident. The steamer will be raised.

The str. Greyhound, of Lindsay, Ont., recently purchased by Capt. E. Elliott, will be rebuilt during the winter. It is intended to increase the width by three feet, and to arrange the passenger accommodation so as to obtain a license to carry 150.

The str. Knute Nelson, owned by the Marine Transportation Co., Warroad, Minn., made her first trip to Rat Portage, Ont., recently. It is intended to run her regularly next year between Warroad and Rat Portage, in opposition to Rainy River Navigation Co.'s steamers.

The C.P.R. transfer str. Armstrong, operated between Prescott, Ont., and Ogdensburg, N.Y., sank in the St. Lawrence near the latter port, Nov. 10, owing to the shifting of a car of steel rails. The Armstrong was rebuilt in 1876, after being burned at Ogdensburg, and was sunk through the shifting of some coal cars near Morrisburg, in 1889.

The str. Kenosha, owned by the Kawartha Lakes Navigation Co., Lindsay, Ont., was burned to the water's edge at Lindsay, Oct. 22. She was valued at \$8,000, of which \$4,000 was covered by insurance. She was built at Lindsay in 1891, and was a paddle steamer, having engines of 100 h.p., her dimensions being:—Length, 112 ft.; breadth, 20 ft.; depth, 6.5 ft.; tonnage—gross, 266 tons, register, 170 tons.

The question of Canadian vessels in the Hay channel, at Sault Ste. Marie, is likely to form the subject of negotiations between Canada and the U.S. at an early date. The original channel through St. Mary's River was the boundary between the two countries, but when the U.S. Government cut the Hay Channel the water in the river was lowered to such an extent that the whole of the navigation has to pass through it.

W. F. Visgers and his associates operate steamers on the St. Lawrence River among the Thousand Isles, from New York state points, and desired to secure landing privileges at Alexander Bay and other docks at which the Thousand Islands Steamboat Co. claimed to have exclusive privileges. Legal proceedings were commenced in 1901 and have been going on in various courts ever since. Judgment has recently been given in the U.S. Supreme Court, sitting at Syracuse, N.Y., giving the Visgers the right to land at the wharves named.

CANADIAN SHIPBUILDING COMPANY,
DESIGNERS AND BUILDERS OF ALL TYPES OF **LIMITED.**

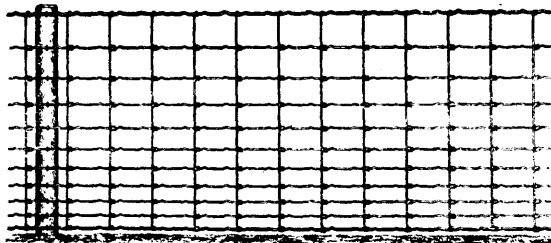
STEEL SHIPS

General Offices: UNION BANK BLDG., Toronto, Ontario.

OUR SHIPYARD near BRIDGEBURG, ONT., opposite BUFFALO, on NIAGARA RIVER, is capable of building the largest vessels on the Upper Lakes.

ADDRESS ALL CORRESPONDENCE TO OFFICE OF GENERAL MANAGER, TORONTO.

**"AMERICAN" WOVEN WIRE
RAILWAY FENCING**



Special Steel,
Special Treatment,
Special Galvanizing,
Extra Heavy Wire,
Perfect Hinge Joints.
Tension Curves amply provide requisite elasticity to successfully combat varying temperature. "AMERICAN" FENCES have a world-wide reputation; quality the best.

WRITE TO US AND WE WILL SAVE YOU MONEY.

Manufactured in Canada by
THE CANADIAN STEEL & WIRE COMPANY, Limited
HAMILTON, CANADA.

**ARE YOU GOING TO NEW
YORK OR EUROPE ?**

To see the \$40,000,000.00 Tube and other things? Just the right time and the right way to go is the Lackawanna from Buffalo, shortest, cleanest, most comfortable and most picturesque.

Full particulars of any Railroad or Steamship agent. Write to

FRED P. FOX, Division Passenger Agent
289 Main Street
BUFFALO, - - - - - N. Y.
FOR ADVERTISING MATTER

TYPEWRITERS

All makes new and second hand rented and sold on installments.

...WRITE FOR PARTICULARS...

UNITED TYPEWRITER CO., LIMITED

7 and 9 ADELAIDE ST. E., TORONTO

When You Stop to Think

How much the success of your business and the comfort of your household depend on communication with others, you will appreciate the fact that telephone service is worth a great deal more than it costs.

METALLIC CIRCUIT SERVICE
EFFICIENT, RAPID, CONSTANT.

THE BELL TELEPHONE COMPANY
OF CANADA.

Eugene F. Phillips Electrical Works, Limited,
MONTREAL, CANADA.

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

RAILWAY EMPLOYEES

Officers and employees of Railroad Companies are constantly asked for Fidelity Bonds. If you require one apply to us—we act as security on bonds of all descriptions.

Write Us for Particulars

The London Guarantee and Accident Co'y,
LIMITED.
D. W. ALEXANDER, Genl. Mgr., Canada,
Canada Life Bldg., Toronto

The contractors for the construction of the Lake Simcoe division of the Trent Valley Canal, which includes five locks, three dams and two piers or breakwaters, to form an entrance to and exit from the canal, expect to have the work completed early in 1905. The piers are of concrete and contain 5,000 cubic yards. At the shore line they are 50 ft. apart, and widen out until at their terminus, 800 ft. in the lake, when they are 300 ft. apart. On the adjoining contract work is also reported to be in a forward condition. The concrete work on the Kirkfield lift lock is completed and ready for the iron work.

The Richelieu and Ontario Navigation Co.'s str. Spartan will be greatly enlarged and improved for the season of 1905. On completing her season for 1904 she was tied up at Kingston, Ont., and placed in the dry dock there, where the hull will be cut in two and a new section 25 ft. long added amidships. This will provide largely increased accommodation for passenger and freight. The Spartan was built at Montreal in 1865, her general dimensions being: length, 179.8 ft.; breadth, 28 ft.; depth, 11 ft.; tonnage—gross, 946 tons; register, 544 tons. The work will be done by the Bertram Engine Works Co., Toronto.

The Bertram Engine Works Co., Toronto, has completed repairs to the Chicago and St. Lawrence River Navigation Co.'s steamer Rosedale. The work included the cutting out and replacing of six or seven plates and eight or ten of the frames on her port bow, and repairs to the forward collision bulkhead, and the guard wales. The company has on hand repair work on the following steamers: Niagara Navigation Co.'s str. Chicora, replacing port cylinder and half bed plate of engine, and a general overhaul of engine, and replacing smokestacks. New furnaces and probably new tubes will be placed in the boilers of the Niagara Navigation Co.'s str. Corona. The Hamilton Steamboat Co.'s str. Modjeska is to have a new deck added, which will provide additional promenade accommodation for passengers. These steamers will be berthed for repairs at Toronto, where the company is building a two-yard dipper dredge for the Dominion Government and a 95-ft. tug for Rainy Lake.

Manitoba and Northwest Territories.

The Lake Winnipeg Transportation Co. (Ltd.) has been incorporated under the Manitoba Companies' Act, with a capital of \$20,000 and offices at Selkirk, Man., to carry on a general freight, passenger, express, towing and wrecking business on Lake Winnipeg. The provisional directors are: R. Smith, J. K. McKenzie, F. W. R. Colclough, of Selkirk, Man.; M. J. Dee, E. A. Davis, of Detroit, Mich.

The report of the two years' work of the str. Neptune in Hudson's Bay and adjacent waters, will be interesting reading when it is published. So far as the observations made enabled A. P. Low, who was in charge of the expedition, to judge, the bay and straits are open for navigation for about 3½ months in the year, and Fort Churchill, at the mouth of Churchill River, is the only good port on the bay. By the use of this port the distance from Winnipeg to Liverpool could be shortened by over 1,000 miles.

B.C. and Pacific Coast Shipping.

The Western Canadian Fish Co., Barnet, B.C., proposes to add one or more steamers to its fleet.

The Department of Marine is negotiating for the purchase of a vessel for use as a lightship off the Fraser River, B.C.

The Department of Marine is having a lighthouse constructed at Pilot Bay, opposite the west arm of Kootenay Lake.

A supplemental lease of a number of mining properties in the Yukon Territory has been granted to the North American Transportation and Trading Co., Chicago, Ill., by the Dominion Government.

The Pacific Coast Steamship Co.'s str. Mainlander was sunk by being run into by a tug, during a fog, on the night of Oct. 27, while off West Point Lighthouse, near Seattle, Wash. The steamer was recently employed on the Vancouver-Seattle run.

The Vancouver Tug Co. (Ltd.) has been incorporated under the B.C. Companies' Act, with a capital of \$15,000 and offices at Victoria, B.C., to carry on a general towing and lighterage business. Power is also given to secure registration in the state of Washington.

The Fraser River Oilery has had built at Vancouver, B.C., two tugs, one for sea work and the other for river towing. The sea-going tug is 60 ft. in length, with 13 ft. 6 in. beam, and cost \$60,000, while the river tug is 45 ft. long, by 10 ft. 6 in. beam, and cost \$30,000.

The New Westminster, B.C., City Council has decided to sell the ferry str. Surrey, which has been operated for some years between that city and the south bank of the Fraser River. Since the opening of the Fraser River bridge the necessity for the operation of a ferry on the river no longer exists.

The str. Nell, owned by the Georgetown Saw Mill Co., Georgetown, B.C., was burned at her wharf Oct. 14, the loss being placed at \$25,000. The Nell was built at Georgetown in 1887, her dimensions being: length, 103 ft.; breadth, 23.5 ft.; depth, 8.1 ft.; tonnage—gross, 208 tons; register, 125 tons. She was fitted with engines of 50 h.p.

The str. Ptarmigan recently ran on a rock below Horse Thief Creek, on the Columbia River, and was held up there for nearly a week. The owners of steamers are urging the Government to undertake the necessary work of improvement on the river, so that navigation may be unimpeded at the busiest time of the year, which is also the period of low water.

The position of chairman of the board for the examination of masters and mates for Canada, held by Capt. R. Salmon, Commissioner of Wrecks, who recently resigned, is also vacant.

The Dominion cruiser Canada, recently completed in Great Britain, will, it is said, be sent to the British West Indies for a winter cruise, for the purpose of instructing the crew in gunnery, etc.

The Superintendent of Pilots has issued a pamphlet containing the acts respecting navigation in Canadian waters as amended by the latest Orders-in-Council, copies of which may be obtained from Capt. J. J. Riley, Ottawa.

A. Piers, Manager C.P.R. steamships, reached Liverpool, Eng., Oct. 29, for the purpose of looking into the company's steamship business there. It is said that while in England he will arrange contracts for the two new steamers for the Atlantic line, which the company was authorized to have constructed at the recent annual meeting. The new steamers are expected to be placed on the run in the spring of 1906. While we are officially advised that it is yet too early to say anything regarding the placing of orders by the C.P.R. for two new steamers for its trans-Atlantic trade, British papers state that there is every reason for believing that orders for building the steamers will be placed at an early date, and that there is a probability of the order going to the Tyne.

Among the Express Companies.

L. Bates, heretofore express messenger on the Sydney and Louisbourg Ry., has been appointed agent Canadian Ex. Co., at Glace Bay, N.S.

The stage line of the White Pass and Yukon Route, from Whitehorse to Dawson, Yukon, was opened for the winter on Oct. 24. The stage carries passengers and a limited amount of express and mail matter.

George Severs, Foreign Traffic Agent, Canadian Ex. Co., having resigned his position, matters pertaining to foreign traffic are to be referred to J. Bryce, Vice-President and Manager, until further notice. For rates address W. W. Williamson, Tariff Department.

H. M. Moir, formerly agent of the Dominion Ex. Co. at St. Mary's, Ont., was recently sentenced to a month's imprisonment at Stratford, Ont., for the misappropriation of funds. The total amount of the shortage was \$900, and on the first charge on which an arrest was made a verdict of not guilty was entered.

A settlement was reached Oct. 31, in the action of Sims against the Canadian Ex. Co. at Ottawa. The claim was to recover \$142.88 for a parcel of fur cuttings shipped C.O.D. by the Canadian Ex. Co. to New York. The consignment was handed over to the National Ex. Co., which, however, failed to make the collection. When the case first came before the courts it was adjourned to enable the National Ex. Co. to be added as a defendant. Under the settlement judgment has been entered for \$200, being the amount of the claim and costs.

The Dominion Ex. Co.'s offices on the Ottawa and Waltham branch (formerly Pontiac Pacific Jct. Ry.) and the Ottawa and Maniwaki branch (formerly Ottawa and Gatineau Valley Ry.) of the C.P.R., heretofore in the territory of G. E. Whitney, Route Agent, Montreal, have been transferred to the territory under the charge of G. Parker, acting Route Agent, with headquarters removed to Ottawa. The two lines named were amalgamated as the Ottawa, Northern and Western Ry., shortly before the purchase by the C.P.R.

C. Miller and J. Kilgour, owners of the B.C. Ex. Co., are being sued by E. A. Carew-Gibson, to have a certain agreement rescinded, or to have an order made directing them to pay certain liabilities amounting to \$20,000. The plaintiff, who is Managing Director of the Cariboo Trading Co., bought two-fifths of the stock of the B.C. Ex. Co. for \$15,000. At that time there were liabilities against the company amounting to \$20,000, in regard to which Mr. Gilbert declines to assume any responsibility, hence the action. The case is being tried at the Non-Jury Assizes, Toronto.

Telegraph and Cable Matters.

The Newfoundland Post Office Department has opened a telegraph office at Britannia Cove, Random Island.

The conference of the partners in the Pacific cable, which was to have met in London, Eng., in Nov., has been adjourned to an un-fixed date.

The Dominion Government has decided to take control of wireless telegraphy in Canada, if the British Government takes control in Great Britain.

The G.N.W. Telegraph Co.'s offices in Ottawa are being removed to the ground floor of the building at the corner of Sparks and Metcalf streets. This office will be open day and night.

**JOHN S. METCALF CO.,
Engineers, Grain Elevator Builders,
620 TO 623 THE TEMPLE, CHICAGO, ILL.**

A partial list of elevators which have been designed and constructed by us and under our supervision.

Burlington Elevator, St. Louis, Mo.....	Capacity.....	1,300,000 Bushels
Grand Trunk Elevators, No. 2 and No. 3, Portland, Me.....	.....	2,500,000
Export Elevator, Buffalo, N.Y.....	.....	1,000,000
J. R. Booth Elevator, Depot Harbor, Ontario.....	.....	1,000,000
Southern Pacific Terminal Co.'s Elevator, Galveston, Texas.....	.....	1,000,000
Erie R. R. Transfer & Clipping House, Chicago, Ill.....	100 cars in 10 hrs.	.....
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.....	.....	1,500,000
Burlington Elevator Co., Peoria, Ill.....	.....	500,000
Canada Atlantic Railway Elevator, Coteau Landing, Que.....	.....	500,000
Northern Grain Co., Manitowoc, Wis.....	.....	1,350,000
Union Elevator, East St. Louis, Ill.....	.....	1,100,000
Montreal Warehousing Co.'s Belt Conveyor System.....	.....	.....

We make a specialty of furnishing **PLANS AND SPECIFICATIONS.**

OUR SPECIALTIES

**RAILROAD and
STEAMSHIP
PRINTING**

LARGEST IN CANADA

**The Mail Job Printing
Company, Limited**

75 York Street, Toronto

Phone, Main 8 - 130 - 135 Richard Southam
Manager

**THE PLACE VIGER
MONTREAL.**

A beautiful new hotel built by the Canadian Pacific Ry., in connection with their new passenger station. The building occupies an entire block and the style of architecture is that of the Chateau period of the French Renaissance. The hotel faces the Viger Gardens, and is thoroughly up-to-date in all its appointments. Tourists will find the Place Viger a most delightful hotel home.

RATES: 63 UPWARDS.

Special arrangements with large parties and those making prolonged stays. For further information address, Manager, Place Viger Hotel, Montreal.

The POLSON IRON WORKS

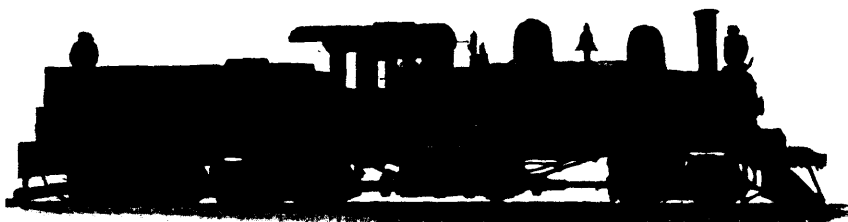
TORONTO, CANADA.

**SMOKE JACKS AND APRONS FOR ROUND HOUSES
CINDER HOISTS FOR RAILWAY USE**

OFFICE AND WORKS—Esplanade St. East, TORONTO.

THE SHAY PATENT LOCOMOTIVE

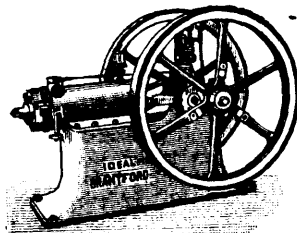
Adapted for Freight and Passenger Service on Heavy Grades and Curves. Weights from 10 to 150 Tons.



See our Exhibit, Track 19, Transportation Building, St. Louis Exposition.

THE LIMA LOCOMOTIVE AND MACHINE COMPANY 114 W. Second St
LIMA, OHIO

GAS AND GASOLINE ENGINES



Windmills, Towers and Tanks, Double Acting Railway Pumps, etc.

GOULD, SHAPLEY & MUIR CO.,
Brantford - Canada Limited



**WINDMILLS,
TANKS,
STEEL
SUBSTRUCTURES,**

**HALLADAY
TANK FIXTURES,
CURTIS PUMPS,
Etc., Etc.**

ONTARIO WIND ENGINE AND PUMP CO., Ltd.
Toronto

WHY WORK IN THE DARK

ON

RAILWAYS, WHARVES, BUILDINGS

: : or other contract work : :

USE A HOLLAND PORTABLE LIGHT

No Trouble, Cheap, Efficient and Economical.

THE CONTINENTAL HEAT & LIGHT CO.

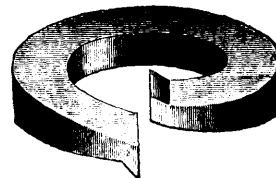
Box 2291 MONTREAL Tel. Main 2399

Carbide—Acetylene Generators—Supplies.



THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



WE ALSO MAKE PLAIN COILS AND TAIL NUT LOCKS

**The Positive Lock Washer Co.,
Sole Mfrs., Newark, N.J.**

A. HOLDEN & CO., Agents - - MONTREAL

The Dominion Government str. Tyrian recently returned to Halifax, N.S., after having repaired the break in the Belle Isle cable. The cable, when picked up, was found in parts to have been crushed flat.

The Western Union Telegraph Co., in its report for the year ended June 30, 1904, includes among its securities the following:—Anglo-American Telegraph Co., £1,308; Dominion Telegraph Co., 5,766 shares of the par value of \$288,300.

The contractors for the erection of the new Marconi wireless telegraph station at Port Morien, N.S., are Rhodes, Curry & Co., Amherst, N.S. The summit of the new towers will be 336 ft. above high water mark, the actual height of the building being 210 ft.

Arrangements are in progress for completing a series of wireless telegraph stations at U.S. points between Clayton, N.Y., and Chicago, on Lake Michigan, and Duluth, on Lake Superior. Four stations are reported to be already completed, and six others in course of erection.

The Saskatchewan Herald, Battleford, Sask., recently republished the following from an issue of 25 years ago:—"Edmonton Notes: A subscription is being taken up for the purpose of extending the telegraph line into this place. It will not be brought in from Hay Lakes—the present station, 35 miles distant—but from the terminus of Mr Fuller's contract, about 18 miles due south from Edmonton."

The Board of Arbitration, of which Justice Teetzel is chairman, dealing with the G.T.R. telegraph clerks' application for increased rates of pay, etc., has had several meetings, but was adjourned to Nov. 16, owing to the legal engagements of the chairman. A question to be decided is how far the arbitrators can hear evidence regarding points on which the telegraphers and the G.T.R. agreed before arbitration was resorted to. The telegraphers desire to reopen the whole question.

The alteration in the rate for telegraphic messages transmitted between the Anglo-American Telegraph Co.'s offices in Prince Edward Island and outside points, which came into effect recently, brings the rates to Manitoba and the Northwest Territories down from \$1.25 for 10 words and 8c. for each additional word, to \$1 and 7 cents, respectively; and the rate to Boston, Mass., from \$1 and 6c., to 75c. and 5c. The Charlottetown office is kept open until 2 a.m., and the Summerside office until 10 p.m., daily.

A correspondent of the London, Eng., Daily Telegraph, from Japan, handed a despatch of 20,000 words into the office of the C.P.R. telegraphs at Vancouver, B.C., to be telegraphed. It was sent across the continent to Canso, N.S., and transmitted therefrom to England by the Commercial Cable Co. The time occupied in sending the 20,000 word message from Vancouver to London was less than 12 hours, and the Daily Telegraph compliments the companies for the rapidity and accuracy with which the message was handled.

The arbitrators in the case of the Newfoundland Government and the Reid Newfoundland Co., in respect of the telegraph system which was taken over in 1902, began their sittings at St. Johns, Nfld., Oct. 27. The system extends over 2,000 miles and was taken over from the Government at the time the trans-insular railway was constructed. The arbitrators are Hon. E. Blake, M.P., of London, Eng., on behalf of the Government; D. MacMaster, K.C., Montreal, for the Reid Newfoundland Co., and P. S. Archibald, C.E., Moncton, N.B., third arbitrator, appointed by the court. Jas. Kent, manager; W. J. Camp, electrical engineer, and J. Townsley, Superintendent of Construction, C.P.R. Telegraph Department, Montreal, were among the witnesses to be examined.

General Telephone Matters.

The Bell Telephone Co. has completed the installation of a fire alarm system in London, Ont., for the city council.

At a recent sale of stocks of various companies at Halifax, N.S., to close an estate, 243 shares of the Nova Scotia Telephone Co. were sold at 116½.

The Bell Telephone Co. is arranging with residents of Copenhagen, Port Bruce, and other points in the vicinity of Aylmer, Ont., for the installation of a telephone line.

The Bell Telephone Co. is arranging to establish exchanges at Lacombe and Olds, Alta., with a view to making further extensions of its system between Calgary and Edmonton.

The Western Telephone Co. has built a power house at Red Deer, Alta., and will supply power for manufacturing and electric lighting, as well as for operating the telephone system.

The Ontario Independent Telephone Co., which has its head offices at Windsor, Ont., has passed a by-law increasing the number of its directors from five to nine. P. T. Chesley is president, and A. D. Prosser is attorney.

Notice of appeal has been given in the action to upset the by-law passed by the Hamilton, Ont., City Council granting a five years' exclusive franchise in the city to the Bell Telephone Co. The action of the council has been upheld by the Ontario courts.

The Bell Telephone Co. is pressing the Brantford, Ont., City Council for an answer relative to its offer for an extension of its franchise there. The company proposes to make a number of extensions and improvements in its lines at Brantford, but does not care to do anything until the question of the franchise is decided.

The International Telephone Co. expected to complete the laying of its telephone cable between Victoria, B.C., and Marietta, Wash., and to have the whole line between Victoria and Vancouver in operation by the end of Nov. The land lines connecting Vancouver with Marietta were completed at the end of Oct. The toll for a minute's conversation between Vancouver and Victoria will be 50c.

The Rainy River International Telephone Co. (Ltd.) has been incorporated under the Ontario Companies' Act, with a capital of \$50,000, and offices at Fort Frances, Ont., to carry on a general telephone business in the Rainy River district south of latitude 49. D. Robertson, J. A. Mathieu, P. T. Roberts, of Rainy River, Ont.; P. A. Smith, H. Williams, J. Paul, T. Wilson, J. C. Scott, H. J. F. Sessions, of Fort Frances, Ont., are the provisional directors.

Press reports state that negotiations are in progress with a view to the amalgamation of the Union Telephone Co., Florenceville, N.B., and the Central Telephone Co., Belleisle, N.B. The Union Telephone Co.'s lines extend from Woodstock to Florenceville, to Andover and Grand Falls, with branch lines to Tobique and Hawkshaw. The Central Telephone Co. has a line connecting Belleisle and Sussex, and has been absorbing the small independent lines throughout Kings county.

The question of the amount of damages to be awarded the Bell Telephone Co. by the municipal telephone systems of Port Arthur and Fort William, Ont., for a right to connect their system with the C.P.R. stations there, was argued before the Railway Commissioners. The then chairman, Hon. A. G. Blair, intimated that some points of law would have to be submitted to the Supreme Court for decision. The court will be asked to decide whether the C.P.R. and the B.T. companies had power to enter into a contract by which no competing telephone exchange is admitted to C.P.R. stations throughout Canada, and

whether the contract, if a legitimate one, was monopolistic in its character.

Prof. G. Bell, inventor of the telephone, in writing to the Brantford, Ont., Board of Trade, says:—"The telephone was invented in Brantford during my visit to my father and my mother, in 1874. Up to June, 1876, only laboratory experiments had been made with the instruments, and the transmission of speech was from one room to another in the same building. The first transmission of speech over a real telegraph line was effected in Brantford in the autumn of 1876, on the lines of the Dominion Telegraph Co., by means of instruments which I had taken from Boston. In one experiment speech was transmitted from Brantford to Mt. Pleasant, in another from Brantford to Paris, and in a third from Brantford to my father's house on Tutela Heights, where the results were witnessed by a large company of Brantford people. These experiments were made Aug. 10, 11 and 12, 1876. In these experiments the transmission was effected only in one direction, the instruments employed not being well adapted for reciprocal communication. As to citizenship, I was born in Edinburgh, Scotland, and was, therefore, a British subject by birth. I landed in Canada from Great Britain on Aug. 1, 1870, and after a few days spent in Paris, Ont., I removed to Brantford, where I resided with my parents at Tutela Heights, until March, 1871. The telephone was invented in Brantford in the summer of 1874. During the whole period of the development of the telephone, therefore, my political status was that of a British subject, who had taken out his first papers of naturalization in the U.S., and who, although not a full citizen, was entitled to the rights and privileges of citizenship. The telephone went into commercial use in 1877. We now have more than three million miles in use in the U.S."

PURCHASING AGENTS' GUIDE.

(Continued from third page of Cover.)

Contractors' Plant	
F. H. Hopkins & Co.	Montreal.
T. A. Morrison & Co.	Montreal.
W. H. C. Mussen & Co.	Montreal.
Conveyor Belts, Rubber	
The Gutta Percha & Rubber Mfg. Co. of Toronto.	
Cross Arms, Top Pins & Side Blocks	
Canadian General Electric Co.	Toronto.
The Firstbrook Box Co.	Toronto.
Cross Arm Braces	
Canadian General Electric Co.	Toronto.
Toronto Bolt and Forging Co.	Toronto.
Crossing Gates	
General Railway Signal Co.	Buffalo, N.Y.
The N. L. Piper Railway Supply Co.	Toronto.
Crowbars	
Toronto Bolt and Forging Co.	Toronto.
Culvert Pipe (Cast Iron)	
Gartshore-Thompson Pipe & F'dry Co.	Hamilton.
Curtains	
The Hudson's Bay Company.	
Cuts	
Acton Burrows Co.	Toronto.
Derrick Ropes	
The B. Greening Co.	
Hamilton, Ont.	
Derricks	
F. H. Hopkins & Co.	Montreal.
Door Signs	
Acton Burrows Co.	Toronto.
Drawing Materials	
Eugene Dietzgen Co.	New York.
Dredges	
The Bertram Engine Works Co.	Toronto.
Drilling Machines	
The John Bertram & Sons Co.	
Dundas, Ont.	
Drills	
W. Abbott.	Montreal.
Dry Goods	
The Hudson's Bay Company.	
Dynamo and Electric Castings	
American Brake Shoe & F'dry Co., Mahwah, N.J.	
Economizers	
Babcock & Wilcox (Ltd.)	Montreal.
Electric Car Route Signs	
Acton Burrows Co.	Toronto.

(Continued on page 463.)

WIRE ROPE



GREENING

All Kinds and Sizes and for All Purposes.
Standard and Lang's Patent Lay.
PRICES RIGHT.
PROMPT SHIPMENTS.

THE B. GREENING WIRE CO., Limited,
HAMILTON, ONT. MONTREAL, QUE.

BROWN OR BLACK OXIDE OF ZINC

May be desirable colors; but when one selects white or a tint, he does not want brown or black.

Is the only white pigment that holds its color in marine or railway work--therefore OXIDE OF ZINC is the only available pigment for white or tints on ships or boats or on railways.

FREE our practical Pamphlets:

- "The Paint Question,"
- "Paints in Architecture,"
- "Specifications for Architects,"
- "French Government Decrees,"
- "Paint: How, Why and When."

The New Jersey Zinc Co.
71 Broadway - New York.

We do not grind zinc in oil. List of manufacturers of zinc white paints will be furnished on request.

John J. Gartshore

83 Front St. W. TORONTO
(Opposite Queen's Hotel.)

RAILWAY EQUIPMENT

New and Second-Hand **RAILS** for Railways and Tramways
CONTRACTORS' SUPPLIES, etc.

High Speed Steel for MILLING CUTTERS

SEE AMERICAN MACHINIST, SEPTEMBER NUMBER, PAGE 1149

RESULTS OBTAINED FROM "NOVO" MILLING CUTTERS

William Abbott, Sole Agent for Canada

384 St. James Street MONTREAL

The GARDEN CITY SAND CO.

LOCOMOTIVE TILE, FIRE BRICK, FIRE CLAY,
MOULDING SAND, FIRE SAND, FILTER QUARTZ
AND GENERAL ROLLING MILL AND FOUNDRY
SUPPLIES

12th FLOOR SECURITY BLDG. CHICAGO
ESTABLISHED 1883

LOCOMOTIVES - COACHES - CARS

NEW OR REBUILT
BEST STOCK AND BEST SHOP FACILITIES ON THE CONTINENT FOR THIS CLASS OF WORK.

F. M. HICKS & CO., Office, 277 Dearborn St., CHICAGO, U.S.A.

IMPERIAL BANK OF CANADA.

Capital paid up - - - \$3,000,000
Rest - - - - - 2,850,000

DIRECTORS:
T. R. MERRITT, President; D. R. WILKIE, Vice-President; WM. RAMSAY, ROBERT JAFFRAY, ELIAS ROGERS, WM. HENDRIE, JAMES KERR OSBORNE, CHAS. COCKSHUTT.

HEAD OFFICE, TORONTO.
D. R. WILKIE - - General Manager.
E. HAY - - - - Asst. General Manager.
W. MOFFAT - - - Chief Inspector.

Branches in Quebec, Ontario, Manitoba, North-West Territories and British Columbia

AGENTS.—London, Eng. Lloyds Bank, Limited; New York, Bank of Montreal, Bank of the Manhattan Co., Bank of America. Sterling exchange bought and sold. Letters of credit issued available in any part of the world. A general banking business transacted.

T. A. MORRISON & CO.

208 St. James Street, Montreal

New and Second-Hand Contractors' Plant, Stone Crushers, Concrete Mixers.

1 Baldwin I. C. R. Standard Gauge Locomotive, 35 tons, size 14 x 22, 110 S.P.
30 Dump Cars, narrow gauge, 2½ yards.

—Bollers, Engines, Steam Shovels, etc.—

CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED

PRESTON ONT.

FINE BANK OFFICE, CHURCH & LODGE FURNITURE
DURABLE HOUSE & DRUG STORE FITTINGS. SEND FOR CATALOGUE

"JUST A HINT ON YOUR PRINTING."

THE HUNTER, ROSE CO. Limited
TEMPLE BUILDING TORONTO

THE FIRSTBROOK BOX CO., LIMITED.

CROSS ARMS, TOP PINS, AND SIDE BLOCKS,
TORONTO.

EUGENE DIETZGEN CO.

Drawing Materials

Surveying and Engineering Instruments
Blue and Black Print Papers
119-121 W. 23rd St., - NEW YORK
CHICAGO - NEW ORLEANS - SAN FRANCISCO

ALL RAILWAY MEN SHOULD INSURE IN

The Accident and Guarantee Company of Canada
Head Office, Temple Building, - MONTREAL
Its Accident and Sickness Policies are the most liberal.

CAPITAL, \$1,000,000 SUBSCRIBED, \$250,000

TORONTO ENGRAVING CO.

DESIGNERS, ENGRAVERS, ELECTROTYPERS.

92 BAY ST.

Send for Catalogue and Price List to



THE JOHN MORROW MACHINE SCREW CO. LIMITED
INGERSOLL, ONT.
Mfrs. of Set, Cap and Special Screws, Studs, Finished Nuts, etc.

PURCHASING AGENTS' GUIDE.

(Continued from page 461.)

Electric Cranes

Canada Foundry Co. Toronto.
 Dominion Bridge Co. Montreal.
 W. H. C. Mussen & Co. Montreal.

Electric R. Brake Shoes

American Brake Shoe & F'dry Co., Mahwah, N. J.

Elevator Belts, Rubber

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Enameled Iron Signs

Acton Burrows Co. Toronto.

Engineers' Supplies

The Gutta Percha & Rubber Mfg. Co. of Toronto.
 The James Morrison Brass Mfg. Co. Toronto.

Engines, Hoisting

The Bertram Engine Works Co. Toronto.

Engines, Stationary & Marine

The Bertram Engine Works Co. Toronto.
 Canada Foundry Co. Toronto.
 Polson Iron Works. Toronto.

Engines, Steam

Erie Heating Co. Chicago, Ill.

Engraving

Toronto Engraving Co. Toronto.

Express Office Signs

Acton Burrows Co. Toronto.

Feedwater Heaters

Babcock & Wilcox (Ltd.) Montreal.

Fencing

Canada Foundry Co. Toronto.
 Canadian Steel and Wire Co. Hamilton, Ont.
 Page Wire Fence Co. Walkerville, Ont.

Fire Brick

Garden Sand Co. Chicago, Ill.

Flags

Rice Lewis & Son. Toronto.
 The Hudson's Bay Company.

Flour

The Hudson's Bay Company.

Foghorns

Rice Lewis & Son. Toronto.

Forgings

Crossen Car Mfg. Co. Cobourg, Ont.
 General Railway Signal Co. Buffalo, N. Y.

Gas and Electric Fixtures

The James Morrison Brass Mfg. Co. Toronto.

Gasoline Engines

Goold, Shapley & Muir Co. Brantford, Ont.

Gas Pipe (Cast Iron)

Gartshore-Thompson Pip. & F'dry Co., Hamilton.

Gates

Canada Foundry Co. Toronto.
 Page Wire Fence Co. Walkerville, Ont.

Gauges, Steam and Vacuum, etc.

The James Morrison Brass Mfg. Co. Toronto.

General Supplies

The Hudson's Bay Company.

Grain Elevators

John S. Metcalfe Co. Chicago, Ill.

Groceries

The Hudson's Bay Company.

Handcars

Crossen Car Mfg. Co. Cobourg, Ont.

Hardware

Rice Lewis & Son. Toronto.
 The Hudson's Bay Company.

Headlights

N. L. Piper Railway Supply Co. Toronto.

Headlinings

Crossen Car Mfg. Co. Cobourg, Ont.

Heaters

Erie Heating Co. Chicago, Ill.

Heating for Power Plants

Erie Heating Co. Chicago, Ill.

Hose

Rice Lewis & Son. Toronto.

Hose, Air Brake and Steam

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Hose, Fire

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Hose, Suction

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Illustrations

Acton Burrows Co. Toronto.

Injectors

The James Morrison Brass Mfg. Co. Toronto.

Instruments, Surveying & Engineering

Eugene Dietzgen Co. New York.

Interlocking and Signalling

General Railway Signal Co. Buffalo, N. Y.

Interlocking Signals

Montreal Steel Works. Montreal.

Iron

Rice Lewis & Son. Toronto.

Iron and Steel Castings

American Brake Shoe & F'dry Co. Mahwah, N. J.

Iron Signs

Acton Burrows Co. Toronto.

Japans

McCaskill, Dougall & Co. Montreal.

Journal Bearings

Canada Foundry Co. Toronto.
 Crossen Car Mfg. Co. Cobourg, Ont.
 Jas. W. Pyke & Co. Montreal.
 St. Thomas Brass Co. St. Thomas, Ont.

Lager Beer, &c.

E. L. Drewry. Winnipeg.

Lamps & Lanterns

Continental Heat & Light Co. Montreal.
 The Hudson's Bay Company. Montreal.
 Rice Lewis & Son. Toronto.
 N. L. Piper Railway Supply Co. Toronto.

Lathes

The John Bertram Sons Co. Dundas, Ont.

Launches

The Bertram Engine Works Co. Toronto.
 Polson Iron Works. Toronto.

Lights, Contractors and Wrcking

Continental Heat & Light Co. Montreal.
 F. H. Hopkins & Co. Montreal.
 W. H. C. Mussen & Co. Montreal.

Lights, Dock

Continental Heat & Light Co. Montreal.

Lights, Portable

Continental Heat & Light Co. Montreal.

Linoleum and Floor Coverings

The Hudson's Bay Company.

Locomotive Boiler Washer, Automatic

Erie Heating Co. Chicago, Ill.

Locomotive Brass Works

The James Morrison Brass Mfg. Co. Toronto.

Locomotive Driver Brake Shoe

American Brake Shoe & F'dry Co. Mahwah, N. J.

Locomotives (Compressed Air)

American Locomotive Co. New York, N. Y.
 Baldwin Locomotive Works. Philadelphia, Pa.
 Locomotive and Machine Co. of Montreal

Locomotives (Electric)

American Locomotive Co. New York, N. Y.
 Baldwin Locomotive Works. Philadelphia, Pa.
 Canada Foundry Co. Toronto.
 Locomotive and Machine Co. of Montreal

Locomotives (Logging)

Lima Locomotive and Mach. Co. Lima, Ohio.

Locomotives (Rack)

American Locomotive Co. New York, N. Y.
 Baldwin Locomotive Works. Philadelphia, Pa.
 Locomotive and Machine Co. of Montreal.

Locomotives (Steam)

American Locomotive Co. New York, N. Y.
 Baldwin Locomotive Works. Philadelphia, Pa.
 Canada Foundry Co. Toronto.
 Canadian Locomotive Co. Kingston, Ont.
 F. M. Hicks & Co. Chicago, Ill.
 F. H. Hopkins & Co. Montreal.
 Lima Locomotive and Machine Co. Lima, Ohio.
 Locomotive and Machine Co. of Montreal
 The Saxon Engine Works, Chemnitz, Germany.

Locomotive Wre

Garden City Sand Co. Chicago, Ill.

Machine Tools

W. Abbott. Montreal.
 The Saxon Engine Works, Chemnitz, Germany.

Machine Screws, Set, Cap and Planer

John Morrow Machine Screw Co. Ingersoll.

Machinery, Marine

Sheriffs Mfg. Co. Milwaukee, Wis.

Machinery, Mining

The Bertram Engine Works Co. Toronto

Machinery Repairs

The Bertram Engine Works Co. Toronto.

Machinery Repairs, Marine

Sheriffs Mfg. Co. Milwaukee, Wis.

Manganese Steel Castings

Montreal Steel Works. Montreal.

Manhole Frames and Covers

American Brake Shoe & F'dry Co. Mahwah, N. J.

Matches

The Hudson's Bay Company.

Mats and Matting

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Mechanical Draft Fans

Babcock & Wilcox (Ltd.) Montreal.

Milepost Numbers

Acton Burrows Co. Toronto.

Milling Cutters

W. Abbott. Montreal.

Milling Machines

The John Bertram Sons Co. Dundas, Ont.

Mills, Boring and Turning

The John Bertram Sons Co. Dundas, Ont.

Mohair

The Hudson's Bay Company.

Moulding Sand

Garden City Sand Co. Chicago, Ill.

Numbers

Acton Burrows Co. Toronto.

Nuts, Cold Pressed

John Morrow Machine Screw Co. Ingersoll.

Nuts, Square and Hexagon

Canada Foundry Co. Toronto.
 Toronto Bolt and Forging Co. Toronto.

Oakum

Rice Lewis & Son. Toronto.
 The Hudson's Bay Company.

Office Desks

Canadian Office & School Furniture Co., Preston, Ont.

Office Fittings

Canadian Office & School Furniture Co., Preston, Ont.

Office Signs

Acton Burrows Co. Toronto.

Oils

Galena-Signal Oil Co. Franklin, Pa., & Toronto.
 The Queen City Oil Company. Toronto.

Packing

The N. L. Piper Railway Supply Co. Toronto.

Packing, High Pressure Sheet

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Packing, Piston

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Paints, Acid Proof and Anti-rust

American Asphaltum & Rubber Co. Chicago, Ill.

Paints, Asphaltum

American Asphaltum & Rubber Co. Chicago, Ill.

Paints, Bridge

American Asphaltum & Rubber Co. Chicago, Ill.

Paints, Locomotive Front end

American Asphaltum & Rubber Co. Chicago, Ill.

Paints, Mineral Rubber

American Asphaltum & Rubber Co. Chicago, Ill.

Paints, Structural Iron

American Asphaltum & Rubber Co. Chicago, Ill.

Pinch Bars

The N. L. Piper Railway Supply Co. Toronto.

Pipe

Erie Heating Co. Chicago, Ill.

Pipe Covering

The James Morrison Brass Mfg. Co. Toronto.
 Mica Boiler Covering Co. Montreal.

Planers

The John Bertram Sons Co. Dundas, Ont.

Plushes

The Hudson's Bay Company.

Porter

E. L. Drewry. Winnipeg.

Portable Boilers

Babcock & Wilcox (Ltd.) Montreal.
 Canada Foundry Co. Toronto.

Power Plants, Contractors

Erie Heating Co. Chicago, Ill.

Printing

The Hunter, Rose Co. Toronto.
 The Mail Job Printing Company. Toronto.

Pumps

Canada Foundry Co. Toronto.
 Erie Heating Co. Chicago, Ill.
 Rice Lewis & Son. Toronto.

Punching and Shearing Machines

The John Bertram Sons Co. Dundas, Ont.

Rail Benders, Roller

Montreal Steel Works. Montreal.

Railway Equipment

F. M. Hicks & Co. Chicago, Ill.

Railway Interlocking

General Railway Signal Co. Buffalo, N. Y.

Railway Signalling

General Railway Signal Co. Buffalo, N. Y.

Railway Supplies

The N. L. Piper Railway Supply Co. Toronto.

Rails (New)

Drummond, McCall & Co. Montreal.
 F. H. Hopkins & Co. Montreal.
 J. J. Gartshore. Toronto.
 W. H. C. Mussen & Co. Montreal.

Rails (for relaying)

F. H. Hopkins & Co. Montreal.
 J. J. Gartshore. Toronto.
 T. A. Morrison & Co. Montreal.

Rails, Boiler and Bridge

W. H. C. Mussen & Co. Montreal.
 Rice Lewis & Son. Toronto.
 Jas. W. Pyke & Co. Montreal.

Reamers

W. Abbott. Montreal.

Ribbons and Carbon Paper

United Typewriter Co. Toronto.

Rivets, Boiler and Bridge

Canada Foundry Co. Toronto.
 Toronto Bolt and Forging Co. Toronto.

Rolls, Plate Bending

The John Bertram Sons Co. Dundas, Ont.

Roof Trusses

Canada Foundry Co. Toronto.
 Dominion Bridge Co. Montreal.

Roofing Composition

American Asphaltum & Rubber Co. Chicago, Ill.

Roofing Pitch

American Asphaltum & Rubber Co. Chicago, Ill.

Roofing, Ready

American Asphaltum & Rubber Co. Chicago, Ill.

Roofs, Car

American Asphaltum & Rubber Co. Chicago, Ill.

Rope

Rice Lewis & Son. Toronto.
 The Hudson's Bay Company.

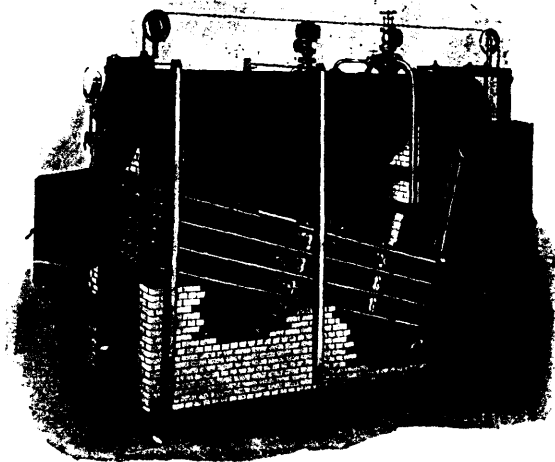
Rotary Snow Ploughs

Crossen Car Mfg. Co. Cobourg, Ont.

Rubber Tiling, Interlocking

The Gutta Percha & Rubber Mfg. Co. of Toronto.

Safes J. & J. Taylor..... Toronto.	Steam Steering Engines for Tugs Sheriffs Mfg. Co..... Milwaukee, Wis.	Turnbuckles Montreal Steel Works..... Montreal.
Safety Valves The James Morrison Brass Mfg. Co..... Toronto.	Steam Traps The James Morrison Brass Mfg. Co..... Toronto.	Turntables Canada Foundry Co..... Toronto. Dominion Bridge Co..... Montreal.
Sand, White Garden City Sand Co..... Chicago, Ill.	Steel W. Abbott..... Montreal. F. H. Hopkins & Co..... Montreal. Wm. Jessop & Sons..... Sheffield, Eng. Rice Lewis & Son..... Toronto.	Typewriters United Typewriter Co..... Toronto.
Screws, Coach and Log Toronto Bolt and Forging Co..... Toronto.	Steel Buildings Canada Foundry Co..... Toronto. Dominion Bridge Co..... Montreal.	Typewriter Repairs United Typewriter Co..... Toronto.
Semaphore Arms Acton Burrows Co..... Toronto.	Steel for Springs James Hutton & Co..... Montreal.	Typewriter Supplies United Typewriter Co..... Toronto.
Semaphores The N. L. Piper Railway Supply Co..... Toronto.	Steel Plate Jas. W. Pyke & Co..... Montreal.	Valves, Iron and Brass Canada Foundry Co..... Toronto. The James Morrison Brass Mfg. Co..... Toronto.
Sewer Pipe (Cast Iron) Gartshore-Thompson Pipe & F'dry Co..... Hamilton.	Steel Tyres James Hutton & Co..... Montreal. Jas. W. Pyke & Co..... Montreal.	Valves, Rubber The Gutta Percha & Rubber Mfg. Co. of Toronto.
Shaking Grates Babcock & Wilcox (Ltd.)..... Montreal.	Stop Cocks, Iron and Brass The James Morrison Brass Mfg. Co..... Toronto.	Varnishes McCaskill, Dougall & Co..... Montreal.
Shaping Machines The John Bertram Sons Co..... Dundas, Ont.	Structural Metal Work Canada Foundry Co..... Toronto. Dominion Bridge Co..... Montreal. Locomotive and Machine Co. of Montreal. Jas. W. Pyke & Co..... Montreal.	Vessels Polson Iron Works..... Toronto.
Shipbuilders' Tools and Supplies Rice Lewis & Son..... Toronto.	Superheaters Babcock & Wilcox (Ltd.)..... Montreal.	Waste Rice Lewis & Son..... Toronto. N. L. Piper Ry. Supply Co..... Toronto. The Queen City Oil Co..... Toronto.
Ship Lamps Continental Heat & Light Co..... Montreal. The N. L. Piper Railway Supply Co..... Toronto.	Switches Montreal Steel Works..... Montreal.	Water Pipe (Cast Iron) Gartshore-Thompson Pipe & Foundry Co., Hamilton.
Ships Canadian Shipbuilding Co..... Toronto. Polson Iron Works..... Toronto.	Switch Lamps The N. L. Piper Railway Supply Co..... Toronto.	Water Softeners Babcock & Wilcox (Ltd.)..... Montreal.
Shipbuilders and Engineers Canadian Shipbuilding Co..... Toronto.	Switch Ropes The B. Greening Co..... Hamilton, Ont.	Wheelbarrows F. H. Hopkins & Co..... Montreal. Rice Lewis & Son..... Toronto.
Shovels F. H. Hopkins & Co..... Montreal. The Hudson's Bay Company..... Rice Lewis & Son..... Toronto.	Switch Targets Acton Burrows Co..... Toronto.	Windmills Goold, Shapley & Muir Co..... Brantford, Ont. Ontario Wind Engine and Pump Co..... Toronto.
Side Bearings Simplex Railway Appliance Co..... Montreal.	Tanks Goold, Shapley & Muir Co..... Brantford, Ont.	Window Blinds The Hudson's Bay Company.....
Signal House Numbers Acton Burrows Co..... Toronto.	Tank and Tank Fixtures Canada Foundry Co..... Toronto. Ontario Wind Engine and Pump Co..... Toronto.	Wines and Liquors The Hudson's Bay Company.....
Signals General Railway Signal Co..... Buffalo, N. Y. N. L. Piper Railway Supply Co..... Toronto.	Telegraph and Telephone Office Signs Acton Burrows Co..... Toronto.	Wire and Wire Rope Dominion Wire Rope Co..... Montreal. The B. Greening Co..... Hamilton, Ont. Rice Lewis & Son..... Toronto. W. H. C. Mussen & Co..... Montreal. The Wire and Cable Co..... Montreal.
Signs Acton Burrows Co..... Toronto.	Tobacco and Cigars The Hudson's Bay Company.....	Wire Cloth The B. Greening Co..... Hamilton, Ont.
Slack Adjusters Chicago Railway Equipment Co..... Chicago, Ill.	Toilet Paper The Hudson's Bay Company.....	Wire, Copper E. F. Phillips Electrical Works, Ltd..... Montreal. The Wire and Cable Co..... Montreal.
Slotting Machines The John Bertram Sons Co..... Dundas, Ont.	Track Jacks F. H. Hopkins & Co..... Montreal. Montreal Steel Works..... Montreal. W. H. C. Mussen & Co..... Montreal. A. O. Norton..... Coaticook, Que.	Wire, Electric Canadian General Electric Co..... Toronto. E. F. Phillips Electrical Works, Ltd..... Montreal. The Wire and Cable Co..... Montreal.
Snow Ploughs Crossen Mfg. Co..... Cobourg, Ont. Rhodes, Curry & Co..... Amherst, N.S.	Track Tools Canada Switch and Spring Co..... Montreal. F. H. Hopkins & Co..... Montreal. Rice Lewis & Son..... Toronto. Montreal Steel Works..... Montreal. W. H. C. Mussen & Co..... Montreal.	Wire, Insulated Copper Canadian General Electric Co..... Toronto. E. F. Phillips Electrical Works, Ltd..... Montreal. The Wire and Cable Co..... Montreal.
Spikes, Railway and Ship Toronto Bolt and Forging Co..... Toronto.	Tracklaying Lorries Crossen Car Mfg. Co..... Cobourg, Ont.	Wire, Telegraph and Telephone E. F. Phillips Electrical Works, Ltd..... Montreal. The Wire and Cable Co..... Montreal.
Springs Montreal Steel Works..... Montreal.	Tramway Equipment F. H. Hopkins & Co..... Montreal. W. H. C. Mussen & Co..... Montreal. J. J. Gartshore..... Toronto.	Wire, Transmission and Trolley The Wire and Cable Co..... Montreal.
Station Name Signs Acton Burrows Co..... Toronto.	Trucks (Electric Car) Baldwin Locomotive Works..... Philadelphia, Pa. Canada Foundry Co..... Toronto. Montreal Steel Works..... Montreal.	Wrought Steel Piping Babcock & Wilcox (Ltd.)..... Montreal. Canada Foundry Co..... Toronto.
Steamboats Canadian Shipbuilding Co..... Toronto. Polson Iron Works..... Toronto.		Yachts Polson Iron Works..... Toronto.
Steamboat Signs Acton Burrows Co..... Toronto.		
Steam Couplers Safety Car Heating and Lighting Co..... New York.		
Steam Hammers The John Bertram Sons Co..... Dundas, Ont.		
Steam Shovels F. H. Hopkins & Co..... Montreal. W. H. C. Mussen & Co..... Montreal.		



Babcock & Wilcox Patent Water Tube Boiler
with Superheater.

BABCOCK & WILCOX

LIMITED

Patent Water Tube Boilers and Superheaters

Economizers, Shaking Grates and Complete Boiler Rooms Accessories

HEAD OFFICE FOR CANADA:

NEW YORK LIFE BUILDING, . . . MONTREAL

BRANCH:—114 King St. West, Toronto

BURN

E. B. EDDY'S

MATCHES

RUBBER STAMPS

RUBBER TYPE

SEALS and SEAL PRESSES

CHECK PROTECTORS

AND ALL KINDRED GOODS

We furnish the leading banks and public offices all over the Dominion.

We are proud of our goods and put our name on them.

WALTON & CO.,

Sherbrooke, P.Q.

STEEL

LaBELLE STEEL CO.

Pittsburgh, Pa.

MANUFACTURERS OF

FINE TOOL STEEL

For Railway Purposes

Track Tools,

Punches, Dies,

Drills, Magnets, etc.

And all purposes where requirements are exacting.

Steel Forgings. Case Hardening Steel.

W. G. BLYTH,

Agent for Canada,

29 Melinda St., - Toronto

Cuts

FOR

Illustrating or Advertising

Half Tone, Wood Engraving,

Zinc Etching, and all

other processes.

UP-TO-DATE WORK.

LOW PRICES.

PROMPT DELIVERY.

The Railway and Shipping World

33 MELINDA ST., TORONTO.

ENAMELED IRON SIGNS

For Railway, Street Car, Steamship, Express, Telegraph, Telephone and Advertising purposes.

Railway Station Names, Street Car Route Signs, Express, Telegraph and Telephone Office Signs, Semaphore Arms, Switch Targets and Advertising Signs of every description of size and color made to order.

Railway, Steamship and Ferry Signs

For doors, etc., 23 x 3 1/2 inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2 1/2 :-

Men	Women	Exit	Fire Escape
------------	--------------	-------------	--------------------

Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8 1/2 in. high.

These signs last practically for ever, they never fade or tarnish, they are ever bright and attractive, they are absolutely impervious to heat or cold, they are the only signs that will withstand the effects of weather in all climates.

For Prices, Illustrated Catalogues, etc., address

THE ACTON BURROWS COMPANY,

Agents for the Imperial Enamel Co. of Birmingham,
29 Melinda Street, Toronto, Canada.

BRANCH OFFICES—107 Lombard Street, Winnipeg, S. A. Erskine, Resident Agent;
Inns of Court Building, Vancouver, D. T. Lees, Resident Agent.

ADVERTISING

ON THE

CANADIAN PACIFIC RAILWAY.

The exclusive privilege of advertising in the Stations, Ticket Agencies and Hotels of the CANADIAN PACIFIC RAILWAY, and on that Company's buildings, premises, telegraph poles and fences, is controlled by THE ACTON BURROWS COMPANY.

The franchise embraces the whole of the C. P. R. System, including all branches and leased lines, comprising 7,178 miles of railway, 690 stations, and a number of ticket agencies and hotels.

Advertising on the C. P. R. is like every department of that Company's service, modern, up-to-date and reliable.

FOR RATES AND FURTHER PARTICULARS APPLY TO

The Acton Burrows Company,

29 Melinda St., Toronto, Canada

BRANCH OFFICES—197 Lombard Street, Winnipeg—S. A. Erskine, Resident Agent; Inns of Court Building, Vancouver—D. T. Lees, Resident Agent.

INCORPORATED 1670.

The Hudson's Bay Company Have General Stores

In Manitoba, the Northwest Territories, and British Columbia, where the best goods can be obtained at the lowest prices.

The Hudson's Bay Company Have Lands for Sale.

Farming and Grazing Lands on Easy Terms of Payment and without any conditions of Settlement.

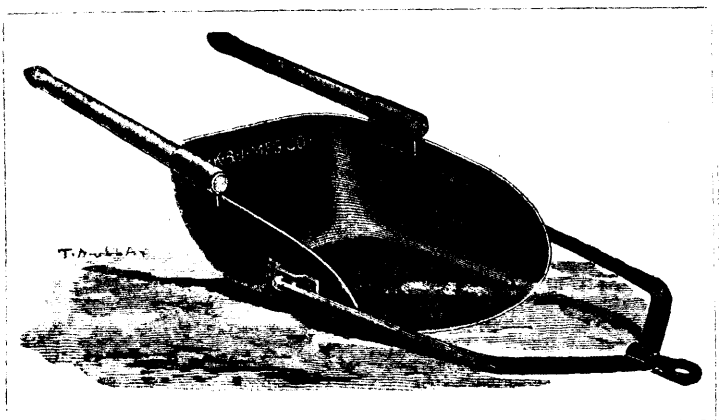
The Hudson's Bay Company Make the Best Flour.

Highest Awards at the Winnipeg Industrial Exhibitions.
OVER 225 YEARS' EXPERIENCE.

<p>MADE IN THE FOLLOWING WIDTHS 24, 27, 32, 36, 50 & 72 inches. STANDARD SHADES ALWAYS IN STOCK.</p>	<p>PURE MOHAIR VELVET "LISANGO" REGISTERED-PATENTED. Always Stamped "Lisango," and Lister & Co., Ltd., Manningham. <i>Every yard on the selvages.</i></p>	<p>THE IDEAL FABRIC FOR FURNISHING PURPOSES Specially Suitable for Upholstering, Railway Cars and Steamship Saloons.</p>
--	---	--

"LISANGO" is very strong, durable, and altogether the richest velvet extant.
MAY BE HAD OF ALL LEADING WAREHOUSEMEN.

The Fairchild Company, Limited,



FOR
Contractors' Supplies, Etc.

Agents for KILBOURNE & JACOBS MFG. CO'S
Slush and Wheel Scrapers,
Rock and Dump Carts,
Railroad Plows,
Moline Wagons,
Buckboards, Etc.

PRICES AND CATALOGUES ON APPLICATION.

Address, THE FAIRCHILD COMPANY, - - - WINNIPEG, MAN.