

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
& 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 3201.

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

ADVERTISING RATES furnished on application.

TORONTO, CANADA, JULY, 1902.

Copyright Notice.

The contents of every issue of this paper
are copyrighted. Contemporaries may re-
produce matter appearing in this paper
provided they prefix it by the words "THE
RAILWAY AND SHIPPING WORLD, To-
ronto, says:" or "From THE RAILWAY
AND SHIPPING WORLD, Toronto," but not
otherwise.

Canadian Excursion Agreement Meeting.

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

Canadian Freight Association.

PRESIDENT, J. Pullen, Montreal; 1st VICE-PRES., W.
P. Hinton, Ottawa, Ont.; 2nd VICE-PRES., C. Howe,
Buffalo, N.Y.; SEC.-TREAS., J. Earls, Toronto.
CLASSIFICATION COMMITTEE.—W. B. Bulling, S. P.
Howard, F. J. Watson, J. H. Hanna, J. Hardwell, W.
P. Hinton, T. Marshall, C. Howe, C. A. Jaques, M. H.
Brown.

FREIGHT INSPECTION COMMITTEE.—G. Collins, F. Con-
way, F. F. Backus, J. Hardwell, C. E. Dewey, W. N.
Warburton, M. H. Brown, T. Henry.

CAR SERVICE COMMITTEE.—J. B. Morford, M. C.
Sturtevant, G. S. Cantlie, W. P. Hinton, E. Fisher, J.
F. Chapman, K. R. Cameron, T. E. Henderson, E. F.
Seixas.

EXECUTIVE COMMITTEE.—W. B. Bulling, J. Pullen,
W. P. Hinton.
OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.

Canadian Pacific Railway Club.

PRESIDENT, W. J. Brown; SECRETARY, G. B. Wil-
liams; TREASURER, J. D. Scott.
REGULAR MEETINGS, 1st Monday each month, in club
rooms, Toronto Junction.

Canadian Railway Club.

PRESIDENT, E. A. Williams, Montreal; 1st VICE-PRES.,
T. A. McHattie, Montreal; 2nd VICE-PRES., S. King,
Moncton, N.B.
EXECUTIVE COMMITTEE, Acton Burrows, F. H. Hop-
kirk, J. Powell, W. H. Rosevear, Jr., F. Sutherland.
SECRETARY, M. P. Kelly, Montreal; TREAS., S. F.
Underwood, Montreal.
MEETINGS at Windsor Hotel, Montreal, and Tuesday
of each month, 8 p.m., except in 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.
EXECUTIVE COMMITTEE.—The above & J. Jelly, Carle-
ton Jct., Ont.; T. Graham, Depot Harbor, Ont.; F. J.
Holloway, Toronto Jct., Ont.; N. Delaire, Montreal.
OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.
NEXT MEETING at Hamilton, Ont., Oct. 15, 1902.

Canadian Society of Civil Engineers.

PRESIDENT, M. Murphy, Halifax, N.S.; VICE-PRESI-
DENTS, G. H. Duggan, W. P. Anderson, E. Marceau;
TREASURER, H. Irwin; SECRETARY, C. H. McLeod; LIB-
RARIAN, E. A. Rhys-Roberts.
COUNCILLORS, H. N. Ruttan, W. B. Mackenzie, K. W.
Blackwell, J. Kenneney, J. M. McCarthy, W. G. Mathe-
son, R. B. Rogers, W. R. Butler, E. V. Johnson, E. A.
Hoare, W. Chipman, C. P. Baillarge, S. Howard, C. B.
Smith, N. J. Ker.
MEETINGS AT 877 Dorchester St., Montreal, every
alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, W. Jackson, Clinton, Ont.; 1st VICE-
PRESIDENT, M. McNamara, Walkerton, Ont.; 2nd VICE-
PRESIDENT, W. H. C. MacKay, St. John, N.B.; 3rd
VICE-PRESIDENT, C. E. Morgan, Hamilton, Ont.; SEC.-
TREAS., E. de la Hooke, London, Ont.; AUDITOR, R. J.
Craig, Cobourg, Ont.
EXECUTIVE COMMITTEE, W. H. Harper, Chatham,
Ont., Chairman; W. Buntin, Peterboro', Ont.; W. F.
Egg, Montreal; T. Long, Port Hope, Ont.; C. C.
Young, London, Ont.
ANNUAL MEETING at Washington, D.C., Oct. 20,
1902.
OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.

Engineers' Club of Toronto.

PRESIDENT, H. A. Gray; 1st VICE-PRESIDENT, C. H.
Rust; 2nd VICE-PRESIDENT, C. M. Canniff; SECRETARY,
W. Chipman; TREASURER, H. F. Duck; DIRECTORS, A.
L. Hertzberg, T. R. Rosebrugh, K. Gamble, E. B.
Temple.
Rooms, 94 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, W. J. Brown, Detroit, Mich.
SECRETARY, G. C. Wells, Montreal.
NEXT MEETING, at Detroit, Mich., probably in Jan. or
Feb., 1903.

National Association Marine Engineers of Canada.

PRESIDENT, T. J. S. Milne, Kingston, Ont.; VICE-
PRESIDENT, O. L. Marchand, Montreal; SEC.-TREAS.,
N. J. Morrison, St. John, N.B.; SECRETARIES OF LOCAL
COUNCILS—Toronto, A. J. Woodward; St. John, N.B.,
G. T. G. Bluet; Collingwood, Ont., S. Beatty; King-
ston, Ont., J. Gillie; Montreal, O. L. Marchand; Victo-
ria, B.C., J. J. Martin; Vancouver, B.C., L. M.
Head; Quebec, J. Lemieux.
NEXT ANNUAL MEETING of the Grand Council in Mont-
real, Jan. 1903.

Niagara Frontier Summer Rate Com- mittee

CHAIRMAN, J. M. Lyons, Moncton, N.B.
SECRETARY, G. C. Wells, Montreal.
NEXT MEETING, at New York, probably in Jan., 1903.

Track Supply Association.

PRESIDENT, F. E. Came, Montreal; 1st VICE-PRESI-
DENT, R. J. Davidson, Hillburn, N.Y.; and VICE-
PRESIDENT, A. O. Norton, Coaticook, Que.; HON. SEC-
RETARY-TREASURER, Acton Burrows, 33 Melinda Street,
Toronto.

Back Numbers for Sale.

THE RAILWAY AND SHIPPING WORLD:
March to December, 1898, price.....\$1.00
January to December, 1899, ".....1.25
January to December, 1900, ".....1.20
January to December, 1901, ".....1.15
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 center 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.

Alphabetical List of Advertisers.

	PAGE
Algoma Steel Co., Sault Ste Marie, Ont.	232
American Locomotive Co., New York	236
Baldwin Locomotive Works, Philadelphia, Pa.	244
M. Beatty & Sons, Welland, Ont.	240
Bell Telephone Co. of Canada	252
John Bertram & Sons Co., Dundas, Ont.	244
Bradstreet Company	250
The Acton Burrows Co., Toronto	Cover 1 and 2
F. E. Came, Montreal	246
Canada Switch & Spring Co., Montreal	242
Canadian Locomotive Co., Kingston, Ont.	Cover 1
Canadian Pacific Railway Land Department	244
C. P. R. Ocean Steamship Agency	250
James Cooper, Montreal	234
Dominion Bridge Co., Montreal	248
Dominion Wire Rope Co., Montreal	Cover 2
E. L. Drewry, Winnipeg, Man.	244
Duff Manufacturing Co., Pittsburg, Pa.	248
Ebbitt House, Washington, D. C.	240
Expanded Metal & Fireproofing Co., Toronto	250
Firstbrook Box Co., Toronto	252
Galena Signal Oil Co., Franklin, Pa.	244
J. J. Gartshore, Toronto	252
Government of Manitoba	250
Gurney Scale Co., Hamilton, Ont.	232
Gutta Percha & Rubber Mfg. Co., of Toronto	Cover 2
Holt, Renfrew & Co., Toronto	250
Hudson's Bay Company	Cover 4
Hunter, Rose Co., Toronto	252
James Hutton & Co., Montreal	250
Illinois Central Railroad	252
Imperial Oil Company	234
Independent Order of Foresters	254
Lake Erie Navigation Co.	246
Lehigh Valley Railroad	252
Leland House, Winnipeg	252
Rice Lewis & Son, Toronto	Cover 1
N. P. Macmillan & Co., Montreal	236
Mail Job Printing Co., Toronto	250
McCaskill, Dougall & Co., Montreal	Cover 1
The Geo. B. Meadows Wine Co., Toronto	246
John S. Metcalf Co., Chicago, Ill.	246
Mica Boiler Covering Co., Montreal	240
Midland Towing & Wrecking Co., Midland, Ont.	240
W. H. C. Mussen & Co., Montreal	240
New York Central Railroad	256
Niagara Navigation Company	256
Niagara Navigation Company	246
Northern Electric and Manufacturing Co., Montreal	252
Northern Iron Works, Winnipeg	248
A. O. Norton, Coaticook, Que.	248
Page Wire Fence Co., Walkerville, Ont.	248
Eugene F. Phillips Electrical Works, Montreal	244
Hiram Piper, Montreal	246
N. L. Piper Railway Supply Co., Toronto	244
Place Viger Hotel, Montreal	252
Polson Iron Works, Toronto	242
Queen City Oil Co., Toronto	250
Queen's Hotel, Toronto	248
Railway and Shipping World, Toronto	Cover 1
Reid Newfoundland Company	256
Rhodes, Curry & Co., Amherst, N. S.	248
Richelieu & Ontario Navigation Co.	256
Russell House, Ottawa	252
St. Thomas Brass Co., St. Thomas, Ont.	246
Safety Car Heating & Lighting Co., New York	250
Simplex Railway Appliance Co., Montreal	244
Toronto Engraving Co., Toronto	Cover 1
Travelers' Insurance Co., Montreal	Cover 2
Westinghouse Manufacturing Co., Hamilton	Cover 2
Wire & Cable Co., Montreal	238

The Quebec Bridge.

(Continued from page 221.)

tical wall timbers and abut against the hori-
zontal wall timbers. The ceiling and inside
walls of the working chambers are lined with
plank, and all the main timber in the caisson
deck and wall is 12 by 12. The working cham-
ber is divided into six equal parts, by five
transverse bulkheads, or double walls of hori-
zontal 12 by 12 timber. Double rows of 1 1/2-in.
vertical bolts extending nearly to the top of
the caisson pass through the bulkheads, and
tie them very strongly to the interior cross-
braces above the caisson deck. The upper
and lower courses of the bulkhead timbers are
dove-tailed into the walls of the caisson, and
there are flange timbers bolted to it, and to
the deck at each side of the top of the walls.
The walls are bevelled at a very flat angle to
make a cutting edge 9 ins. wide, which is
shod with 3/4-in. steel plate. It is stiffened
laterally by 12 by 12 knee braces, about 3 ft.
apart on centres, which are bevelled and
gained into the wall and roof timbers at both
ends, and also abut at the upper end against
the vertical sides of timbers bolted to the deck
of the caisson, parallel to the walls. Addi-
tional stiffness is also secured by 16 by 16-in.
horizontal struts parallel to both walls, which
divide the working chamber into squares of
about 12 ft. These braces are dove-tailed
and strap-bolted into the walls just above the