

## Marine News.

Matthew's Line, Toronto, Ont., has appointed to the steamers "Niagara," Capt. Jas. Morgan, Engineer Thos. Mills; "Clinton," Capt. John Fahey, Engineer J. M. Donaldson.

Alexander Horn, of Oldrieve & Horn, sailmakers, Kingston, Ont., has been notified of his appointment as Government inspector of hulls in succession to Thomas Donnelly, resigned.

Merchant's Line, G. E. Jacques & Co., Montreal, have appointed to the propellers "Cuba," Capt. Henry Chestnut, Engineer William Kennedy; "Melbourne," Capt. Fred. Elliott, Engineer Thos. Milne.

Lake Ontario & Bay of Quinte Steamboat Co., Kingston, Ont., has appointed to the steamers "Hero," Capt. Wm. Bloomfield, Engineer Robt. McEwan; "North King," Capt. John Jarrell, Engineer O. J. Hickey.

Canadian Pacific Steamship Co., Montreal, has appointed to the steamers "Manitoba," Capt. E. B. Anderson, Engineer W. Lewis; "Athabasca," Capt. G. McDougall, Engineer W. Leckerbie; "Alberta," Capt. J. McAllister, Engineer Angus Cameron.

St. Lawrence & Chicago Steam Navigation Co., Ltd., J. H. G. Hagerty, mgr., Toronto, Ont., has appointed to the steamers "Algonquin," Capt. James McMaugh, Engineer James H. Ellis; "Rosedale," Capt. James Ewart, Engineer Ed. O'Dell.

Hepburn, A. W., Picton, Ont., has appointed to the steamers "Alexandria," Capt. E. B. Smith, Engineer Chas. McWilliams; "Aberdeen," Capt. M. Heffernan, Engineer Frank Theriault; "Water Lily," Capt. M. Hicks, Engineer George Gerow. Schooners "Rob Roy," Capt. Homer Peron.

McKay R. O. & A. B., Hamilton, Ont., has appointed to the steamers "Sir S. L. Tilley," Capt. W. O. Zealand, Engineer Joseph Boulanger; "Lake Michigan," Capt. Arthur Lefebvre, Engineer Joseph Dawson; "Myles," Capt. John S. Moore, Engineer Jas. Smeaton. Schooner "T. R. Merritt," Capt. William A. Corson.

North Shore Navigation Co., Collingwood, Ont., has appointed to the steamers "City of Collingwood," Capt. W. J. Bassett, Engineer Chas. Robertson; "City of Midland," Capt. F. X. La France, Engineer Wm. Whipples; "City of Toronto," Capt. John O'Donnell, Engineer D. McQuade; "City of Parry Sound," Capt. Ernest Walton, Engineer J. L. Smith; "City of London," Capt. W. W. Storey, Engineer Jas. Crossland.

The Richelieu & Ontario Navigation Co. has made the following appointments to the various steamers of the fleet for the season:

Steamer.	Captain.	Engineer.
"Quebec"	L. O. Boucher	F. Gendron
"Montreal"	L. St. Louis	F. X. Hamelin
"Canada"	J. Dugal	E. Denis
"Saguenay"	C. Lapierre	
"Carolina"	G. Rivierin	M. Latulippe
"Three Rivers"	F. St. Louis	J. Matte
"Berthier"	C. Goun	E. Arcaud
"Terrebonne"	F. E. Gouin	G. Gendron
"Chambly"	Geo. Paulch	C. Gendron
"Laprairie"	P. McLean	N. Beaudin
"Cultivateur"	O. Raymond	H. Noel
"Longueuil"	F. Jodoin	N. Beaudet
"Hochelaga"	H. Maudeville	F. Chapdelaine
"Hosanna"	D. Mongeau	E. Gendron
"Meuche-a-Feu"	— Crepeau	P. Boucher
"Sorel"	— Berthiaume	— Beaucage
"River-du-Loup"	— Faubert	L. Godin
"Toronto"	H. Esford	Wm. Black
"Spartan"	H. P. Grange	
"Algerian"	D. Mills	
"Bohemian"	A. Dunlop	A. R. Milne
"Hamilton"	A. J. Baker	L. Marshall
"Cersican"	John McGraw	Wm. Parker

Calvin & Co., Garden Island, Ont., have appointed to the steamers "D. D. Calvin," Capt. A. H. Malone, Engineer T. C. Smith; "Bothnia," Capt. G. A. Brian, Engineer R. Veech; "Armenia," Capt. Chas. Coons, Engineer W. Cunningham; "Reginald," Capt. John Doyle, Engineer J. Kennedy; "Cher-tain," Capt. John Sullivan, Engineer T. Gray; Parthia, Capt. David Lefavre, Engineer G. Sauve; "W. Johnston," Capt. Ed. Phelix, Engineer T. Harper; "Bluchell," Capt. John Dix, Engineer C. LeRiche.

At the meeting of representatives of the Canadian Marine Engineers' Associations of Toronto, Vancouver, B.C., and St. John, N.B., last month, in the Confederation Life Building, Toronto, it was unanimously decided to amalgamate the three distinct societies. About 60 delegates were present, and the chair was occupied by Harry Parker, president of the Toronto organization. At a meeting held in the morning of the visiting delegates, a report was drawn up and plans agreed upon for presentation before all the members. After three hours' discussion the entire meeting agreed on an amalgamation. Harry Parker, S. G. Mills and Robert Craig were appointed an Executive Committee, to meet in Montreal next autumn, and arrange a new constitution for the organization. The name will hereafter be the National Association of Canadian Marine Engineers, and it at present boasts of a membership of 350. Branches will also be instituted in Kingston and Montreal. The meeting then adjourned.

## Brief, but Interesting.

The purchase of the Havana street railway by the Harvey syndicate of New York has been declared void by the Cuban courts, and the Canadian capitalists may now have an opportunity of exploiting the transportation facilities of the island.

Alternating current apparatus for all purposes is making progress in Canada, and it is said that before many months there will be alternating current street railway apparatus in use in Canada. It is already extensively used in Europe, especially in Switzerland, and the larger companies in the United States are experimenting with it, and have already built a new road entirely equipped with alternating current apparatus, which is giving satisfaction.

The most complete telephone system in the world has just been inaugurated in Stockholm, Sweden. It is not in the hands of a syndicate or a trust, but under the immediate control of the Government. There is hardly a residence in Stockholm and the neighboring towns not connected with central offices. The telephone tax is levied in the same manner as the water tax and amounts to only \$5 a year. In this connection it is interesting to notice the large appropriations made at the present session of the British Parliament for the establishment of a Government telephone system in connection with the postoffice and in opposition to the private companies, whose inadequate service has been the cause of so much complaint on the part of the public.

H. W. Wood, instructor in physics in the University of Wisconsin, has originated the idea of thawing out water pipes with electricity, and has made successful experiments. He takes the electric current used for street lighting purposes, attaches one wire to the frozen pipe inside the cellar of one house and the other wire to a similar pipe in the adjoining or any other house, thus completing the circuit. A current of about fifty volts is then turned on, heating the pipes and melting the ice within. At Chatham, Ont., experiments in this method were made under the direction of Superintendent Jones of the Waterworks Department, and Manager Coate of the Gas Company. Two hydrants, 280 feet apart, were connected to the electric lighting circuit, and were thawed out in 45 minutes. Another hydrant, distant 129 feet from the first, was also connected, and thawed out in 24 minutes.

Ball bearings have been little used on heavy vehicles because it is difficult to make them endure the great pressure. A form of ball bearing devised by Schuppiser has been tried on street cars of Zurich, at first unsuccessfully, as in other ex-