

bly be secured. He dilated on the sacrifice Mr. Reeve had made in giving up his retirement to take on the onerous duties of General Manager.

The shareholders congratulated the directors on the action taken, & gratefully bade farewell to Mr. Hays.

It was announced that Mr. Hays' staff would remain with Mr. Reeve.

C.P.R. Earnings, Expenses, &c.

Gross earnings, working expenses, net profits and increases or decreases over 1899, from Jan. 1, 1900 :

	Earnings.	Expenses.	Net Profits.	Increase or Decrease.
Jan.	\$2,152,071.32	\$1,460,501.71	\$691,569.61	\$74,035.75+
Feb.	1,954,087.59	1,331,355.34	622,732.25	23,030.77+
Mar.	2,294,786.97	1,495,685.73	799,101.24	29,794.33+
Apr.	2,491,194.47	1,464,126.85	1,027,067.62	106,764.13+
May.	2,662,897.81	1,583,227.32	1,079,670.49	49,611.88+
June.	2,612,759.73	1,554,954.11	1,057,805.62	34,745.42+
July.	2,637,169.64	1,586,795.74	884,373.90	88,587.73+
Aug.	2,637,983.61	1,583,508.01	1,054,475.60	35,643.88+
Sept.	2,663,491.82	1,604,791.81	1,058,700.01	88,185.54+
Oct.	2,774,826.60	1,690,652.19	1,078,174.41	332,841.53+
Nov.	2,748,660.22	1,683,111.90	1,065,548.32	216,687.56+

\$27,463,929.78 \$17,044,710.71 \$10,419,219.07 \$34,964.86+
+ Increase. - Decrease.

Approximate earnings for Nov., \$2,667,000, against \$2,941,000 in Nov., 1899, decrease \$274,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for Nov., \$176,123; decrease from Nov., 1899, \$41,766.

HANCOCK & CALUMET.—Approximate earnings for Nov., \$22,726, decrease from Nov., 1899, \$790.

MINERAL RANGE.—Approximate earnings for Nov., \$24,209; decrease from Nov. 1899, \$5,765.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Nov., \$404,086; decrease from Nov., 1899, \$113,016.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1900.	1899.	1900.	1899.
Jan.	31,486	14,718	\$100,857.85	\$46,411.35
Feb.	23,613	13,747	75,771.19	43,371.69
Mar.	31,183	24,045	97,777.79	75,460.76
Apr.	58,457	36,020	181,775.78	116,835.84
May.	66,057	26,584	214,851.09	88,928.98
June.	57,831	54,225	188,779.64	169,192.74
July.	40,715	47,401	129,481.42	149,546.48
Aug.	32,178	35,214	103,480.78	110,705.50
Sept.	21,807	25,517	69,012.54	83,719.70
Oct.	18,858	30,473	62,799.54	99,429.09
Nov.	22,408	42,633	69,627.27	149,491.39
	404,593	351,183	\$1,294,184.89	\$1,124,093.52

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings, supplied from the Montreal office, includes the G.T. of Canada, & the Detroit, Grand Haven & Milwaukee Rys., the earnings of the Chicago & G.T., which is in the hands of receivers, being omitted :

	1900.	1899.	Increase.	Decrease.
July	\$1,844,458	\$1,799,945	\$44,513	...
Aug.	2,088,602	2,064,269	24,333	...
Sept.	2,117,690	2,118,393	...	60,613
Oct.	2,176,028	2,158,337	17,691	...
Nov.	2,029,891	2,100,214	...	70,323
	\$10,256,669	\$10,301,068	\$86,537	\$130,936

Decrease for 5 months, \$44,399.

The following figures are issued from the London, England, office :

GRAND TRUNK RAILWAY.

Revenue statement for Oct., 1900 :

	1900.	1899.	Increase.	Decrease.
Gross receipts	\$227,000	\$244,400	\$2,600	...
Working expenses	268,500	262,500	6,000	...
Net profit	\$158,500	\$161,900	...	\$3,400

Aggregate from July 1 to Oct. 31, 1900 :

	1900.	1899.	Increase.	Decrease.
Gross receipts	\$1,612,200	\$1,604,047	\$7,553	...
Working expenses	1,029,800	1,012,515	17,285	...
Net profits	\$582,400	\$592,132	...	\$9,732

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Revenue statement for Oct., 1900 :

	1900.	1899.	Increase.	Decrease.
Gross receipts	\$20,000	\$19,000	\$1,000	...
Working expenses	15,000	11,300	3,700	...
Net profit	\$5,000	\$7,700	...	\$2,700

Aggregate from July 1 to Oct. 31, 1900 :

	1900.	1899.	Increase.	Decrease.
Gross receipts	\$77,900	\$80,304	...	\$2,404
Working expenses	59,100	50,311	8,789	...
Net profit	\$18,800	\$29,993	...	\$11,193

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Nov. 30, 1900 :

	1900.	1899.	Increase.	Decrease.
Grand Trunk	\$2,009,540	\$2,017,514	...	\$7,974
D., G. H. & M.	98,013	99,144	...	1,131
Total	\$2,107,553	\$2,116,658	...	\$9,105

St. Lawrence Winter Navigation.

J. Kennedy, Chief Engineer of the Montreal Harbor Commission, has made the following report :—" In answer to the question of the Board as to the advisability of an effort being made to keep the St. Lawrence open all winter at Cap Rouge, & as far above as may be found practicable, by the use of the Government ice-breaking steamer Stanley, I beg to say that I consider it of great importance that such an effort be made. It is, I think, established that the taking of the ice on the main channel of the St. Lawrence between Montreal & the sea, does not occur by the formation of a smooth sheet over its surface, nor by the widening of the border from the sides until the whole is covered as in small rivers, but by the formation of floating fields, which are kept in motion by tide or current, & which grow as they move, until one or more become of sufficient size & strength to block the narrow places of the river, as at Sorel Island, at Cap Rouge, & the Island of Orleans. A blockade thus formed, if allowed to stand, arrests all floating ice which strikes it, the smaller floes are forced under by the tide or current, & there lodge until an ice jam of great thickness & strength is formed, & meanwhile the larger floes accumulate on the surface until the river above is covered. The experience in keeping open the winter ferry at Quebec has shown that by the skilful use of steamers of moderate power at the proper time & place, the formation of such blockades can be prevented, or if suddenly formed they can be broken up before attaining great strength; & that the floating fields, having then nothing to hold them are kept moving by tide & current, & are carried off to sea before attaining sufficient size & thickness to seriously obstruct navigation.

"The conditions which prevail at Cap Rouge are so nearly the same as those at Quebec that there can be no doubt but that the Cap Rouge ice jam can also be prevented from forming, & with equal ease. In the winter of 1885-6 no blockade formed at Cap Rouge, & the main channel of the river also remained open from Three Rivers to the Gulf, which goes to show that if Cap Rouge be kept free it should not be difficult to keep much more of the river open. It is well known that the Cap Rouge ice jam is the last point of obstruction to the clearing away of the ice above Quebec in spring, & that navigation up to Montreal is sometimes seriously delayed by its holding on to a late date. The average date of the opening of navigation at Montreal by the river steamers which winter above Cap Rouge is, for the last 25 years, April 19, but the average date of the first ar-

rivals from sea is retarded until April 30. Allowing a day for ships to come from Quebec to Montreal leaves 10 days average delay in the opening of navigation from sea, which may be fairly considered as caused by the holding on of the Cap Rouge ice jam.

"An ice-breaking boat of the power of the Stanley could by occasional work at proper times easily eliminate this delay; by additional work she could keep open all winter the channel up to the lower end of Lake St. Peter; & the same or a more powerful boat, by more constant work, & the skill which would be gained, by experience would not only keep open the navigation channel through to Montreal but, as was pointed out by the Montreal Flood Commission of 1887, it would, by breaking up the ice at proper places and times, prevent the formation of heavy ice jams, & thereby prevent the disastrous winter floods of which they are the primary cause."

A meeting in reference to winter navigation of the St. Lawrence, held in Quebec recently, was addressed by J. X. Perreault, Canadian Commissioner to the Paris Exhibition, representing Armstrong, Mitchell & Co., the well-known ship-builders; Col. McNaught, one of the directors of the Great Northern Ry. of Canada, Capt. Inman of Duluth, & O. W. Norden, of Finland & Paris. Mr. Perreault had greatly interested himself in the models of ice-breaking vessels built by Armstrong & Co., which were shown at the Exposition, & brought one of the models to Canada with him. Capt. Inman, who has taken a great deal of interest in the subject of winter navigation, said that it struck him as singular that navigation on the St. Lawrence should cease during the winter. He had been conversing with pilots & found that the river was seldom frozen over entirely. He pointed out that winter navigation where ice has to be contended with has been practised in America for 30 years. With a small boat of 250 h.p. he had kept the harbor of Duluth open all winter, although they had ice of from 18 to 36 in. in thickness to deal with. He saw nothing to prevent vessels keeping up regular trips from Duluth to Georgian Bay ports all winter. With the river open from Quebec to the sea, western grain could be exported with the minimum of land carriage.

Mr. Norden has been intimate with the winter navigation of the Baltic for the past 16 years. The work was begun there in a tentative way, but under the encouragement of the various Governments interested it is developing into enormous proportions, which is proof sufficient that from a commercial point of view the enterprise has been profitable. The winter there, he says, is quite as severe as along the St. Lawrence. He considered that winter navigation was practicable here, even more so than on the Baltic, where they did not have the advantages of the tides. As it had been shown that the risk was not considerably larger than by ordinary navigation, he did not believe that insurance rates would be too high to leave any profit in the business.

Col. McNaught said that when the G.N.R. was nearing completion the Co. became interested in the subject of winter navigation. He got in communication with Capt. Inman & other experts. He also had a number of interviews with the Detroit dry-dock people, who have perhaps more experience in winter navigation & in building boats for winter navigation on the great lakes & in other parts of the world than any other company in existence. These gentlemen have no doubt of the practicability of the scheme. Col. McNaught has subjected the matter to the cold analysis of a business calculation. It costs 25% more to build steamers suitable for the work, & 25% more to operate them. But even with these increased expenses water carriage could still underbid carriage by railway. A saving of \$5,000,000 a season could be effected