

CANADIAN
NORTHERN
RAILWAY

1915

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Canadian Northern Railway Construc- tion, Betterments, Etc.

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Montreal, Ottawa, Port Arthur Line.—It was expected to connect up the several sections of this line by Dec. 31, with the exception of two or three steel bridges, which are not completed. The section of the line from North Bay to Capreol is being operated under a temporary order of the Board of Railway Commissioners, which will run to July, by which time it is expected that the ballasting, etc., on the line between Montreal and North Bay will be completed. The remainder of the line from Capreol to Port Arthur is fully completed, and is being partially operated.

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The Canadian Northern Ontario Ry. is applying to the Dominion Parliament for the confirmation of an agreement with the Campbellford, Lake Ontario and Western Ry. (C.P.R.) respecting joint terminals at Belleville, Ont., and also respecting joint tracks and terminals at Orillia, Ont.

The Dominion Parliament is being asked to confirm an agreement made between the company and the C.P.R. respecting the use of joint terminals in North Toronto.

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Canadian Northern Ry.—The ratepayers of Port Arthur, Ont., will vote on Jan. 1, on a bylaw confirming an agreement made between the City Council and the C.N.R., Nov. 14, adjusting certain differences between the parties respecting terminals. The city agrees to convey to the C.N.R. portions of streets and broken fronts of streets near the water's edge, and to release its interest in certain water lots, and to convey to the C.N.R. its interest in the original road allowance along the water's edge from Arthur St. to the north limit of William St., except a small section of the same which is to be conveyed by the C.N.R. to the city, and to

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January 1915

Following are the details of track laid on the several lines:—		Miles.	Miles.	The mil
	Alberta and Great Waterways Ry.			171
	Carbondale to Lac La Biche		114.00	bet
22	Canadian Northern Ontario Ry.			and
6	Between Montreal and Grenville	39.00		poi
8	Between Ottawa and Capreol	130.00		ou
14			169.00	
23	Canadian Northern Ry.			
	Birds Hill to Pt. Grand			tra
7	Marias, Man.	50.77		ch
15	Chatfield northerly	27.08		wh
7	Laird northerly	8.67		co
20	C. N. A. Ry., Yellowhead			ma
30	easterly	2.48		in
26	C. N. Western, Stolberg-			
28	Brazeau	17.44	106.44	
27	Canadian Northern Pacific Ry.			lo
27	Various sections between Port			li
26	Mann and Yellowhead		248.00	br
30	Pass, in B.C.			br
30	Canadian Pacific Ry.			
19	Quebec—			
19	Forsyth St. branch, Mont-			
14	real	0.64		
14	Interprovincial and James			
18	Bay Ry., mileage 7.5 to	2.37		
	9.87 Kepawa north			
4	Ontario—			
	Trenton freight spur	1.11		
12	Manitoba—			
16	Gimli to Riverton	26.30		
40	Saskatchewan—			
	Weyburn-Lethbridge line.	87.00		
36	Moose Jaw South West line	22.40		
31	Kerrobert to Sask. bound-	50.00		
	ary			
35	Alberta—			
37	Monitor to Alberta-Sask.	22.00		
	boundary	18.00		
1	Empress to Westerham	118.30		
19	Empress to Bassano	27.00		
10	Suffield S. W., m. 57 to 84	16.70		
15	Coronation to Lorraine	12.50		
15	Gleichen to Shepard			
9	Alberta Central Ry. between	32.00		
21	Red Deer and m. 64.50.			
30	British Columbia—			
	Kootenay Central Ry., Edge-	68.30		
	water to Kootenay River		508.60	

January 1915

between the City Council and the C.N.R., Nov. 14, adjusting certain differences between the parties respecting terminals. The city agrees to convey to the C.N.R. portions of streets and broken fronts of streets near the water's edge, and to release its interest in certain water lots, and to convey to the C.N.R., its interest in the original road allowance along the water's edge from Arthur St. to the north limit of William St., except a small section of the same which is to be conveyed by the C.N.R. to the city, and to aid the company in obtaining the withdrawal of certain registered plans affecting the streets in question. The C.N.R. agrees to hand over to the city a certain piece of land specifically described, subject to the restrictions that other railway than the C.N.R. is to be permitted to run spur tracks over it, and that the property is not to be leased or sold to any competing railway, but it is to be understood that boats belonging to competing railways may use the dock on the property. Pending the reconstruction of the dock a specific means of access is provided for. The company is also to pay the damages to property by the closing of the streets and to convey to the city a right of way to the present government elevator and certain other rights of way.

Contracts are reported let along the route of the Port Arthur and Duluth Ry., and in the Rainy River District for 250,000 ties.

The Dominion Parliament is being asked to confirm an agreement between the C.N.R. and the G. T. Pacific Ry., for the establishment, control and operation of joint terminals at Edmonton, Alta.

Canadian Northern Pacific Ry.—It was reported in Vancouver, Dec. 3, that there remained about 105 miles of track to be laid to connect up the various sections of the line between Port Mann and the Albreda

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Summit, which is the section of the line being built under the Vancouver staff's charge. While the staff looked forward to completing the work early in January it is not unlikely that there will be some delay, as at least two cargoes of rails have been detained on account of the war, and a steamship carrying another cargo went ashore in the Magellan Straits.

Work on the bulkhead at the site of the False Creek terminals, Vancouver, is reported to be progressing satisfactorily. About 1,100,000 cu. yds. of material have already been deposited behind the bulkhead, out of the 3,250,000 necessary to fill in the area to be developed.

Railway Features in the City Planning

January
1915

February, 1915.]

CANADIAN RAILWAY AND MARINE WORLD.

Steam Railway Track Laid in 1914.

Following the usual annual custom of many years, circulars were sent in December by Canadian Railway and Marine World to all railways in Canada asking information as to new track built in 1914. From the replies received and estimates made a table was given in our January issue showing 2,088.09, a figure which did not agree with the total in the table. The errors have been adjusted, and with revised official information, except in three instances, the table shows that 2,041.31 miles of new single track were laid in 1914, as follows:

	Miles.	Miles.
Alberta and Great Waterways Ry.		114.00
Carbondale to Lac La Biche	
Canadian Northern Ontario Ry.		39.00
Between Montreal and Grenville		130.00
Between Ottawa and Capreol		169.00

Canadian Northern Ry.	
Birds Hill to Pt. Grand	
Marias, Man., northerly	50.77
Chatfield, Man., northerly	27.08
Laird, Sask., northerly	8.67
C. N. A. Ry., Yellowhead easterly	2.48
C. N. Western, Stolberg	17.44
Brazeau	106.41

Canadian Northern Pacific Ry.	
Yellowhead Pass westerly	94.40
Waterfall to Spatum	43.00
Kamloops W. to Upper Black Canyon	52.00
Irvine to near Goose Creek	44.00

Canadian Pacific Ry.	
Quebec—Forsyth St. branch, Montreal	0.64
Interprovincial and James Bay Ry., mileage 7.5 to 9.87	2.37
Ontario—Trenton freight spur	1.11

St. John and Quebec Ry.	
Fredericton to Woodstock, N.B.	24.98
Fredericton to Gagetown	3.51
Woodstock to Centreville	1.50
Vancouver, Victoria and Eastern Ry.	25.56
Coalmount to Brooks, B.C.
Winnipeg Water District, St. Boniface to Shoal Lake, Man.	85.00
Total	2,041.31

*Estimated.

Of the total mileage laid in 1914 the Canadian Northern Ry. lines laid 508.84 miles; the Canadian Pacific Ry., 506.82, and the Grand Trunk Pacific Ry., 205.20 miles, or a total of 1,222.86 against 2,710.51 miles in 1913 and 1,864.07 miles in 1912.

Divided by provinces the track laid in 1913 and 1914 compares as follows:

	1913.	1914.
British Columbia	679.26	513.12
Alberta	300.15	215.97
Manitoba	200.01	52.51
Saskatchewan	47.80	29.99
Ontario	107.84	2.50
Quebec
Nova Scotia
New Brunswick
Prince Edward Island
Total	2,041.31	3,218.67

Following are the figures showing new single track laid from 1906:

	Miles.
1906	1,204.06
1907	1,469.65
1908	1,505.95
1909	1,588.47
1910	1,869.24
1911	1,851.98
1912	2,179.09
1913	3,218.67
1914	2,041.31

The C.P.R. built during 1914, on the Lake Division, 21 miles of double track

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Canadian Northern Railway Construction, Betterments, Etc.

Canadian Northern Quebec Ry.—The Dominion Parliament is being asked to extend the time for the building of the following lines:—From Rawdon northerly to the National Transcontinental Ry., with a branch to Joliette, and from St. Jerome to St. Eustache, Que.

The company has under consideration a project for the building of a branch from Huberdeau, the terminus of the old Montford and Gatineau Ry., to St. Remi, Que., eight miles.

James Bay and Eastern Ry.—The Dominion Parliament is being asked for an extension of time for the building of the projected line from Lake Abitibi easterly and south easterly, passing the south end of Lake St. John, to the mouth of the Saguenay River. About 30 miles of this line from Roberval, at the southern end of Lake St. John, westerly, is under contract, to J. P. Mullarkey.

Canadian Northern Ontario Ry.—The old locomotive house at North Trenton, Ont., with equipment, and considerable other property was destroyed by fire, Jan. 4. The damage is estimated at \$100,000. The company has under survey, a line from Toronto to Niagara Falls, Ont., 79.13 miles. The surveys are practically completed, and the negotiations with the local authorities are well advanced. The section has been reported on several occasions to have been put under contract, but nothing is likely to be done on it at present.

The Dominion Parliament is being asked to extend the time for the building of the following lines: From Washago to Kincardine; from Arnprior to Gananoque; from

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The Dominion Parliament is being asked to extend the time for the building of the following lines: From Washago to Kincardine; from Arnprior to Gananoque; from Pembroke to Cobourg or Port Hope; from Frenchman's Bay to Owen Sound; from Niagara River to Goderich; from Hawkesbury to or near Lanark; from Berlin through Guelph, Acton and Brampton to Toronto; from Berlin to St. Marys and Woodstock; from Sarnia to Chatham and from Orillia to Goderich, with a branch to Owen Sound, all in Ontario.

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Canadian Northern Ry.—The ratepayers of Port Arthur defeated the bylaw confirming the agreement for the transfer of certain lands on the waterfront. The City Council has arranged to reconsider the agreement, with a view of having the matters about which there is a difference amicably adjusted.

The Board of Railway Commissioners has authorized the opening for traffic of the line between Grand Marais and Bird's Hill, Man., 50 miles temporarily.

The Board of Railway Commissioners has authorized the opening for traffic of the line from the junction with the Balke River subdivision, north of Camrose, Alberta, to a junction with the C. N. Western Ry. near Strathcona, 46 miles.

It was reported in Edmonton, Alberta, Jan. 12, that the bridge over the Pembina River, on the Onoway-Peace River line had been completed. The grading on Whitecamp, will, it is expected, be finished in the spring, and the track laid, so as to get the steel in for the bridge across the McLeod River. The approaches and abutments have already been completed for this bridge. A train service has been put in operation to Sangudo, at the Pembina River, 32 miles from Onoway.

The Dominion Parliament is being asked to extend the time for the building of the following lines:—From Strathcona southerly to Calgary; from near Swan River westerly to the Saskatchewan River; from Regina to Red Deer with a branch to Dalmeny; from

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CANADIAN RAILWAY AND MARINE WORLD.

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mileage 40 on the Oak Point branch, via Oak Point to Grand Rapids on the Saskatchewan River; from Winnipeg through Springfield to the eastern boundary of Manitoba; from Strathcona via Calgary to the confluence of the Little Bow and Belly Rivers, and on to Lethbridge. This latter line was originally authorized to be built by the Alberta Midland Ry., which has been amalgamated with the C. N. R. The section of the line from Strathcona to Calgary covers the same territory as the C. N. R. Strathcona-Calgary line mentioned first in the lines for the construction of which an extension of time is asked.

A Vancouver telegram says that track laying on the main transcontinental line in British Columbia was completed at Basque, on the North Thompson River, about 200 miles from Vancouver, Jan. 23, and that ballasting should be finished by April 15. There is now continuous track from Port Mann, B.C., to Port Arthur, Ont., where there is a gap of about 2 miles, the C.N.R. at present using C.P.R. tracks as a connection between its eastern and western lines. From Port Arthur east, track is laid to the west portal of Mount Royal tunnel, Montreal, except at Pembroke, Ont., Chats Falls, Riviere des Prairies, Que., where bridges are being built.

Vancouver Terminals.—Work is being prosecuted on the reclamation work on the site of the proposed terminals at False Creek, Vancouver. The bulkhead, which will form a barrier around 65 acres of the 164½ acre tract is practically completed. The bulkhead extends practically half way down the proposed terminal site to a point where it branches off diagonally to China Creek. The Pacific Dredging Co., which has the contract for excavating a deep-water channel in False Creek, and for supplying

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material for the filling in of the C. N. R. terminal site, is working a short distance to the west of Granville St. bridge, and moved its dredge east of Connaught bridge Jan. 14. More than 3,250,000 yards of filling will be required to reclaim the entire area owned by the C. N. R. Of this amount 1,100,000 has been deposited. (Jan., pg. 23.)

Railway Expenditures in British Columbia.
Premier of British

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Canadian Northern Railway Construction, Betterments, Etc.

Montreal Tunnel and Terminal Co.—Sir Donald Mann, Vice President, is reported to have stated, after a recent inspection of the work at the tunnel under Mount Royal, Montreal, that at the present rate of progress it will be completed to the full double track width by the end of April, and will be ready for operation in the early autumn. The power house at the back of the tunnel is reported completed, and the erection of the Mount Royal Heights station is being proceeded with.

Montreal-Ottawa-Port Arthur Line.—The work of finishing up the stretches of the line from Montreal to Hawkesbury, and from Ottawa to Capreol, are being proceeded with, and it is expected to have the whole of this ready for the through operation of trains by the autumn.

It is expected that a through train service will be put in operation between Toronto and Port Arthur in June. There is a train service already in operation from Toronto to Ruel.

Ontario-Niagara Connecting Bridge Co.—The President of the United States has signed a measure providing for the building of a bridge across the Niagara River, just north of Niagara Falls, N.Y. F. A. Dudley, Niagara Falls, N.Y., is one of the incorporators. The Dominion Parliament is being asked to incorporate a company for the Canadian part of the undertaking. The Canadian Northern Ry. interests are said to be behind the project.

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Canadian Northern Ry.—Following the defeat of the C.N.R. bylaw by the ratepayers at the January municipal elections, negotiations were opened for a compromise, and the Mayor reported that M. H. MacLeod, General Manager, and other officers, were going to Port Arthur to discuss the situation, and he hoped that the new proposals to be made would result in a settlement being effected.

A press report, Feb. 15, states that work was begun that morning on the extension of the coal dock controlled by the company at Port Arthur. The work to be done includes the placing of solid concrete abutments for foundations at the coal hoists, and the facing of the dock with concrete. The cost is estimated at \$30,000. The contractors are the Barnett and McQueen Co.

The Manitoba Legislature is being asked to increase the capital stock of the Winnipeg River Ry. Co. from \$50,000 to \$500,000. This is a subsidiary of the C.N.R., and has power to build a line from Lac du Bonnet along the Winnipeg River valley for 10 miles.

The Board of Railway Commissioners has authorized the opening for traffic of the line from a junction with the Camrose-Strathcona line to a junction with the Edmonton, Yukon and Pacific Ry. at Strathcona, Alberta, 0.6 of a mile.

Canadian Northern Pacific Ry.—The last section of the line between the B. C. eastern

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The Board of Railway Commissioners has authorized the opening for traffic of the line from a junction with the Camrose-Strathcona line to a junction with the Edmonton, Yukon and Pacific Ry. at Strathcona, Alberta, 0.6 of a mile.

Canadian Northern Pacific Ry.—The last rail on the line between the B. C. eastern boundary near Yellowhead Pass and Port Mann, was laid Jan. 25, at Basque, on the North Thompson River, 188 miles north easterly from Port Mann. It is expected to have the ballasting and other work so far completed by May 1 that the formal ceremony of driving the last spike may take place then, though possibly a through train service will not be started until July or August. All the bridges, with the exception of that at Wallachin, have been completed, and a temporary bridge has been erected there.

Nothing definite has been settled as to the construction of the line from Port Mann to the False Creek terminus in Van-

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1915

ANADIAN RAILWAY AND MARINE WO

ruc- couver, 15 miles. According to the agree-
 ment with the Vancouver City Council, all
 the terminal work has to be completed
 within five years from the signing of the
 document, about two years ago. The com-
 paney owns about 164 acres at the upper end
 of False Creek, and is reclaiming about 60
 acres of the creek. It has erected a large
 bulkhead for 1,500 ft. easterly from the
 Morris St. bridge, then 2,000 ft. southerly,
 behind which has been pumped about 1,000,-
 000 cubic yards of sand. A large culvert for
 drainage purposes has been constructed to
 deep water. This work of continuing the
 filling in was restarted Feb. 1, but nothing
 has been decided as to the actual start on
 building the permanent sea wall. The Van-
 couver City Council has passed a resolution
 urging the immediate putting in hand of
 this work.

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The members of the British Columbia
 Legislature were given a special trip over
 the section of the C.N.P.R., from Port Mann
 to Cisco, 140 miles, Feb. 12. T. H. White,
 Chief Engineer; D. O. Lewis, Divisional
 Engineer on Vancouver Island; and J. M.
 Mercer, engineer for the Northern Construc-
 tion Co., accompanied them.

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The British Columbia Minister of Finance,
 replying to a question in the Legislature,
 Feb. 1, said none of the Canadian Northern
 Pacific Terminal bonds guaranteed by the
 Province had been hypothecated, but bonds
 to the value of \$1,770,000 had been sold,
 realizing \$1,645,577. The prices realized
 ranged from 92 to 95%. The following
 amounts had been expended upon ter-
 minals:—Port Mann, \$337,420.88; New West-
 minster, \$1,370,642.42; Vancouver, \$148,-
 045.05; Steveston, \$201,715.85; Patricia Bay,
 \$898.57; total, \$2,148,722.77. (Feb., pg. 60.)

MARCH
 1915

Great Northern Railway Lines in Canada.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—J. H. Kennedy, Chief Engineer, visited St. Paul, Minn., Feb. 6, to consult A. H. Hogeland, Chief Engineer, G.N.R., in connection with the Hope Mountain and other sections of the line at present under construction. The first section connects up the already constructed part of the line with the Hope Mountain section, which is being built by the Kettle Valley Ry. for joint use. The line from Hope to a junction with the Canadian Northern Pacific Ry. has already been built, and the V. V. & E. Ry. operates over that line to New Westminster, where connection is made with its own lines to Vancouver, Port Guichon and the ferry to Vancouver Island, and the line formerly known as the New Westminster Southern Ry. to the U.S.

Vancouver Terminals.—R. Budd, Assistant to the President, G.N.R., and G. R. Martin, Comptroller, left Vancouver, B.C., Feb. 4, after having spent some time there in discussing the False Creek terminal plans. The agreement with the city provides for the erection of station buildings, the laying out of yards and other terminal facilities by the end of 1916. Up to the present time, several hundred acres of the False Creek flats have been filled in under the terms of the agreement, and the visit of the company's officials had to do with the arrangements for starting building operations. The city council passed a resolution calling upon the company to proceed with the building of the station and the laying out of the terminal yards at once. (Feb., pg. 61.)

MARCH
1915

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[April, 1915.]

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Government Advances to C.N.R. and G.T.P.R.

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Under the authority of orders in council, dated Sept. 5 and 26, and Oct. 24, 1914, the Dominion Government advanced to the Canadian Northern Ry. \$10,000,000 in the form of an issue of Dominion notes against a pledge by the company of its guaranteed securities issued in pursuance of the provisions of the Canadian Northern Railway Guarantee Act, 1914, by placing the sum so advanced to the credit of the Minister of Finance for payment out under the provisions of the trust deed securing the issue of these securities.

A similar advance of \$6,000,000 was made to the Grand Trunk Pacific Ry., against a similar pledge by the company in pursuance of the provision of the Grand Trunk Pacific Guarantee Act, 1914.

The Government's action in both cases has been ratified by Parliament.

April
1915

Marconi Wireless Telegraph Company

Canadian Northern Railway Construction, Betterments, Etc.

Montreal-Ottawa-Port Arthur Line.—It was stated in the Ontario Legislature recently that no application had been made to the Department to designate any part of the lands to be granted to the C.N.O. Ry. under the provisions of chap. 71 of the statutes of 1909. This act provides that the Government may grant 4,000 acres of land per mile as a subsidy in aid of the building of a line from Selkwood Jct. to Port Arthur, not exceeding 500 miles, subject to certain provisions as to location, selection, etc.

Sir Wm. Mackenzie is reported to have stated in Winnipeg, Mar. 14, that freight service on the line east from Port Arthur will be started May 1, and passenger service June 1.

Canadian Northern Ontario Ry.—The bill asking for confirmation of an agreement with the Campbellford, Lake Ontario and Western Ry. respecting certain lines to be constructed as joint lines in Belleville, Ont., and the confirmation of an agreement with the Georgian Bay and Seaboard respecting certain lines to be considered joint lines in the vicinity of Orillia, was withdrawn from consideration in the House of Commons, Mar. 2. R. Blain, M.P., who had charge of the bill, said there were some points about which the companies desired to negotiate further.

The bill to confirm an agreement with the C.P.R. for the construction and operation of joint terminals at North Toronto was also withdrawn. For full particulars see under "Canadian Pacific Ry. Construction, Betterments, etc."

Engineers were in Hamilton recently, making certain investigations, and subsequently the City Engineer was in Toronto in consultation with the Secretary of the C.N.R. Nothing is definitely known of Hamilton discussed, but the Mayor of Ham-

board. In case of difference between the members of the board, and the failure of the companies to agree, appeal may be made to the Board of Railway Commissioners. The G. T. P. R. shall have the right to erect its own freight shed at a point indicated on the plans annexed to the agreement. The cost of maintenance shall be borne equally by the two companies, but capital expenditures shall be borne by the company upon whose land it is expended. The rights of the G.T.P.R. under its agreement with the city of Edmonton, dated Mar. 6, 1906, are protected. The value of the property brought into the joint premises by the C.N.R. in excess of that brought in by the G.T.P.R. is declared to be \$743,084.70, and on one-half of this the G.T.P.R. agrees to pay interest at the rate of 5% a year. The agreement is for 99 years, from May 1, 1912.

Lines on Vancouver Island.—In the British Columbia Legislature recently, the Minister of Railways said the line from Victoria to Port Alberni will have a total length of 135.5 miles. Grading is completed on 128.5 miles of this, but no track has been laid. It is estimated that it will require an expenditure of \$889,624 to complete the grading and bridging, and \$1,346,563 to lay the track and put the line in operation so far as now graded. The C.N.P.R. has paid \$2,893,988 to the contractors on account of the work. On the branch to Patricia Bay, 94% of the grading has been completed, but no track has been laid. The estimated cost of completing the branch, including all sidings, stations, freight sheds, telegraph lines, etc., is \$358,700. The contractors had been paid \$127,628 on account of work done to Feb. 1. (Mar., pg. 102.)

Dominion Railway Expenditures for

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quently the City Eng-
in consultation with the Secretary of the
C.N.R. Nothing is definitely known of the
matters discussed, but the Mayor of Hamil-
ton stated that there appeared to be good
ground for thinking that preparations were
being made for the building of the Toronto-
Hamilton-Niagara line.

Canadian Northern Ry.—A press report
says that plans have been prepared for
large additions to the yards at Port Arthur,
Ont., and that about 40 miles of tracks will
be added.

Announcement was made in Winnipeg re-
cently that the new lines to Grand Marais
and Fisher River would be opened for traffic
at once.

The Manitoba Legislature has increased
the Winnipeg River Ry. Co.'s authorized
capital from \$50,000 to \$500,000. The com-
pany has power to build a railway from
Lac du Bonnet along the Winnipeg River
Valley for 10 miles.

The Board of Railway Commissioners has
authorized the C.N.R. to build a spur line
to connect with the C.P.R. at Rosetown,
Sask.

In the Alberta Legislature, Mar. 9, the
Minister of Railways said only partial con-
struction had been done on the line pro-
jected from Blackfalds, on the Brazeau
line to Calgary, and on the line from Cal-
gary to Macleod. Both of these lines were
being built under provincial guarantee of
bonds.

Application is being made to the Domin-
ion Parliament for the confirmation of an
agreement between the C.N.R. and the G.
T. Pacific Ry., respecting the use of ter-
minals at Edmonton, Alberta. Each com-
pany contributes certain areas of land, to-
gether with tracks, buildings and termin-
als, which are to be administered as a joint
section for terminal purposes. The joint
property is to be managed by a terminals
board, consisting of one representative from
each company, and is to be operated by a
superintendent to be appointed by the

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April 1915

CANADIAN RAILWAY AND MARINE WORLD

Railway Finance, Meetings, Etc.

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Canadian Northern Ry.—The following notice was issued towards the end of April: "The directors regret that the net earnings for the half year ended Dec. 31, 1914, are insufficient to enable them to declare any dividend to be payable on the 5% income charge convertible debenture stock on May 2, and they think it proper to point out to the holders of that stock that the earnings of the railway for the first nine months of the current financial year have been so reduced by conditions arising from the war that it is unlikely that any interest on the stock will be payable in Nov. next. The directors hope that a large crop will so improve business conditions throughout the Dominion that the payment of interest may be resumed in 1916. It has been represented to the directors that an effect of the war has been to postpone the rapid development of business on the railway and consequently to postpone the value of the option to holders of the 5% income charge convertible debenture stock to convert their holdings into ordinary shares, which option expires on Jan. 1, 1919. The directors have therefore resolved to extend the period of the option for three years, and on each 1st of January and 1st of July until Jan. 1, 1922, the holders of the stock will have the option on 60 days previous notice of converting their stock into fully paid shares of the company at the fixed rate of \$100, or £20 11s. 5d., of this stock for each \$100 of shares."

Grand Trunk Ry.—The certificate of the chairman of a general meeting of shareholders held in London, Eng., April 15, states

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foregoing. superheaters will be applied to 12 locomotives at the I.R.C. shops at Moncton.

Canadian Northern Railway Construction, Betterments, Etc.

Canadian Northern Quebec Ry.—The Minister of Railways has approved route map in respect of revised location of the projected railway westward from Huberdean, Que. Huberdean is the terminal point of the old Montford and Galineau Colonization Ry., and is situated 45 miles from the connection with the Montreal-Quebec line.

Canadian Northern Ry.—We are officially advised that while it is proposed to add some additional sidings to the terminal yards at Port Arthur, Ont., it is not proposed to make such extensive additions as a recent press report stated.

No official announcement has been made by the management as to its construction programme for the season for the territory from Winnipeg to Edmonton, but it is said that no new work will be put in hand. Whatever is done will be in the way of completing lines on which track has been laid, and going on with grading where there are uncompleted contracts. Even to what extent this is to be done is as yet uncertain. The only definite announcement is one credited to M. H. McLeod, General Manager, to the effect that ballasting on the main line west of Edmonton will be carried on. This will cover the Canadian Northern Pacific Ry. from the Alberta-British Columbia boundary to the Albreda Summit, construction of which was in charge of the Winnipeg office. The first gangs of men were sent out on the line April 29, and it was expected that over 1,200

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THE WORLD.

[June, 1915]

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would have been sent out from Edmonton by May 3. There are also a number of the smaller steel bridges to be put in by the bridge building companies between Yellowhead pass and Albreda Summit. Track is at present being carried over these streams by temporary bridges.

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Two trains a week are being operated on the Peace River Branch, which at present extends from Oudway to Sangudo, Alberta, 38 miles. Grading has been completed from Sangudo, to Whitecourt and settlers are hoping that track will be laid on this section during this year.

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Canadian Northern Pacific Ry.—A regular train service has been placed in operation on the first section of this line from Port Mann to Hope, B.C. This service will be extended as the other sections of the line are finally completed. The work to be done consists of the completion of the ballasting, and the general finishing up of construction work. It is expected to have the entire line opened up by Aug. 1. (May, pg. 180.)

Victims of the Lusitania Disaster.

JUNE 1915

July, 1915.]

CANADIA

Canadian Northern Railway Construc- tion, Betterments, Etc.

Canadian Northern Quebec Ry.—The original route of the projected extension of the old Montford and Gatineau Colonization Ry. from Huberdeau, Que., was approved by the Minister of Railways, Sept. 30, 1912. The new location, which has just been approved, was found necessary for the betterment of grades and curvature. It proceeds along the east bank of the Rouge River to the Argenteuil county line, crossing to the west side of the river, and ties in with the originally approved route about six miles from Huberdeau. The route has been approved to near St. Remi d'Amherst.

Canadian Northern Ontario Ry.—The Hamilton City Council has been notified by the company of its objection to the construction of cement sidewalks on Palmerston Ave., between Gertrude St., and 550 ft. northerly, within the area through which the C.N.O.R. is located.

A start will be made early in July to finish up all the work on the line to Port Arthur, generally referred to as the Sudbury-Port Arthur line, but which actually covers the section of the line westerly from Ruel to Port Arthur. The principal work to be done consists of clearing out cuttings which have been affected by the winter weather, lining and surfacing. It is expected to have this work done by the middle of September.

Canadian Northern Ry.—The terms of the agreement between Port Arthur, Ont., and the company, which was defeated by the ratepayers at the January municipal elections is again under consideration. The company has offered a number of concessions, which are considered reasonable, and it is expected that a new agreement will be

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weather, timing and scheduling. It is expected to have this work done by the middle of September.

Canadian Northern Ry.—The terms of the agreement between Port Arthur, Ont., and the company, which was defeated by the ratepayers at the January municipal elections is again under consideration. The company has offered a number of concessions, which are considered reasonable, and it is expected that a new agreement will be reached at an early date.

A press report states that arrangements are being made for an early start on the construction of the projected line from Bienfait to Esteven, Sask. Construction material was delivered at Bienfait, and Midale early in June, but up to June 12, nothing further had been done.

The Board of Railway Commissioners has authorized the opening for traffic of the line northwesterly from Battleford, from the present terminal at Edam, mileage 37, to Turtleford, mileage 57, Sask.

Construction is reported to have been resumed on the line from Oliver to St. Paul de Metis, Alta. D. F. McArthur took in a grading outfit, May 24, and at a meeting held at St. Paul, a few days previously the Minister of Municipal Affairs stated that on the representations of the Government Mr. McArthur had been given this contract. About 14 miles of grading had previously been done by him.

It is reported that 250 teams, with the necessary men, are grading south of High River, on the Calgary-MacLeod Line, Alberta. The section of the line between Calgary and DeWinton is also being graded. The Northern Construction Co. is the general contractor and the Wilson-Frederick Co. is reported to have a subcontract.

Canadian Northern Pacific Ry.—A Van-

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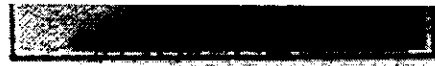
been done by hand.

It is reported that 250 teams, with the necessary men, are grading south of High River, on the Calgary-MacLeod Line, Alberta. The section of the line between Calgary and DeWinton is also being graded. The Northern Construction Co. is the general contractor and the Wilson-Frederick Co. is reported to have a subcontract.

Canadian Northern Pacific Ry.—A Vancouver report, June 5, says that up to May 31 there had been deposited on the company's terminal site at False Creek, 1,500,000 cubic yards of material. Of this amount 400,000 yards had been pumped into the area enclosed by a bulkhead extending transversely down the creek since the reclamation operations were resumed in January. A 64-acre section of the company's holdings are barricaded, the entire tract being nearly 165 acres. It is estimated that it will take 3,250,000 yards of dirt to reclaim the whole of the property. The aspect of

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July, 1915.]

CANADIAN RAILWAY AND MARINE WORLD.

Canadian Northern Railway Construction, Betterments, Etc.

Canadian Northern Quebec Ry.—The original route of the projected extension of the old Montford and Gatineau Colonization Ry. from Huberdeau, Que., was approved by the Minister of Railways, Sept. 30, 1912. The new location, which has just been approved, was found necessary for the betterment of grades and curvature. It proceeds along the east bank of the Rouge River to the Argenteuil county line, crossing to the

the central portion of False Creek is being rapidly changed. At low tide an island of considerable size can be seen where formerly there were mud flats.

The Vancouver City Council decided, June 3, to take steps to compel the company to expedite work on the station and other buildings on the terminal site. (June, pg. 218).

Grand Trunk Railway Betterments, Construction, Etc.

Montreal—The report

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July 1915

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as provided by sec. 207 of the Act, the right of way on Lot 35, Tp. 47, R. 13, W. 4 m., to be completed within 35 days.

Order of Council of July 23, 1915.

Canadian Northern Railway Construction, Betterments, Etc.

Sir William Mackenzie arrived in Ottawa, Sept. 7, after having made a trip over the Canadian Northern Ry. lines, starting at Toronto and travelling via Capreol, Port Arthur, Winnipeg, and Edmonton to Port Mann, B.C., and thence to Vancouver, and on his return going over to the eastern section of the main line between Capreol and Ottawa. The trip occupied over two weeks, and was made in a special train. During its course the newly completed lines between Ruel and Port Arthur, from near the Yellowhead Pass to Port Mann, and the Capreol-Ottawa section, were given special attention, as they are to be put into immediate operation. A freight service on the through line from Toronto to the Pacific Coast is expected to be started in October and a passenger service in November.

The line will only be operated to New Westminster for the present, but will be extended to Vancouver as soon as the terminal work at False Creek has been completed. In the meantime the Great Northern Ry. tracks will be used between New Westminster and Vancouver. In an interview at Vancouver, Aug. 28, Sir William Mackenzie is reported to have said that the company has the necessary funds, and is prepared to go ahead with the terminal project. While certain work has been in progress on the False Creek flats, which are being reclaimed for terminal purposes by the Canadian Northern as well as by the Great Northern Ry. (U. S.), there have arisen certain difficulties respecting which negotiations were in progress which were brought to a definite conclusion during the President's visit. That this is the case appears evident from statements made at a meeting of the city's Bridge and Railway Committee,

of the projected terminal work at Vancouver is estimated at \$5,000,000.

Referring, in the Vancouver interview to the construction of the Vancouver Island line, Sir William Mackenzie is reported to have said the Patricia Bay line will be rushed to a completion, and that a ferry service to the mainland will be put in operation as soon as possible after the inauguration of regular traffic on the line to New Westminster. D. O. Lewis, Division Engineer, on his return to Victoria, after having met Sir William at Vancouver, is reported to have said that track laying would be started at once on the lines on Vancouver Island, and would be gone on with as far as the stock of rails available would carry it.

The Board of Railway Commissioners has authorized the opening for traffic of the following extensions of lines:—From Laird to Carleton, 8 miles, an extension of the branch from Dalmeny in the direction of Prince Albert, Sask.; from Tichfield to Dumbane, 8 miles, an extension of a branch of the line from Saskatoon to Elrose, Sask.; and from Canora to Sturgis, Sask., 22 miles, a line connecting the main line to Saskatoon with the Thunderhill branch.

On branch line work, press reports state that track laying is being gone on with on the extension of the Thunderhill Branch for about 25 miles from Preeceville, Sask.; and on the extension of the Camrose line southeasterly towards Battle River. It is also reported that contracts have been let for building two 200-ton automatic locomotive coaling plants at Kindersley, Sask., and Big Valley, Alberta. (Sept., pg. 348.)

Canadian Local Freight Agents' Association.

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is expected to be in passenger service in November.

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Canadian Local Freight Agents' Association.—A branch of this association for Fort William and Port Arthur, Ont., was organized at a meeting held at Fort William, Sept. 9, when the following officers were elected:—President, G. H. Drowley, Canadian Northern Ry., Port Arthur; Vice President, C. E. Legg, C. P. R., Fort William; Secretary-Treasurer, M. Travers, C. P. R., Fort William.

Steam Railway Electrification in England. The section of the Lancashire and Yorkshire Ry. between Manchester and Bury, which is being electrified, will, it is expected, be ready for operation during November. The third rail system has been adopted, the same as is used on the line between Liverpool and Southport, which has been in operation several years. Corridor cars will be adopted.

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The Canadian Northern Railway's Use of Toronto Union

Sir Henry L. Drayton, Chief Commissioner, Board of Railway Commissioners, gave the following judgment, Sept. 24, which was concurred in by Commissioners McLean and Goodeve:

The question of the facilities that the Grand Trunk Ry. must provide the Canadian Northern Ry. in Toronto union station has been several times before the Board. Apparently the underlying cause of the present difficulty, or at least the reason why the present issue was raised, is the non-pay-

An agreement was arrived at on Nov. 7, 1906, between the companies. Paragraph 5 of the memorandum which evidences it is as follows:

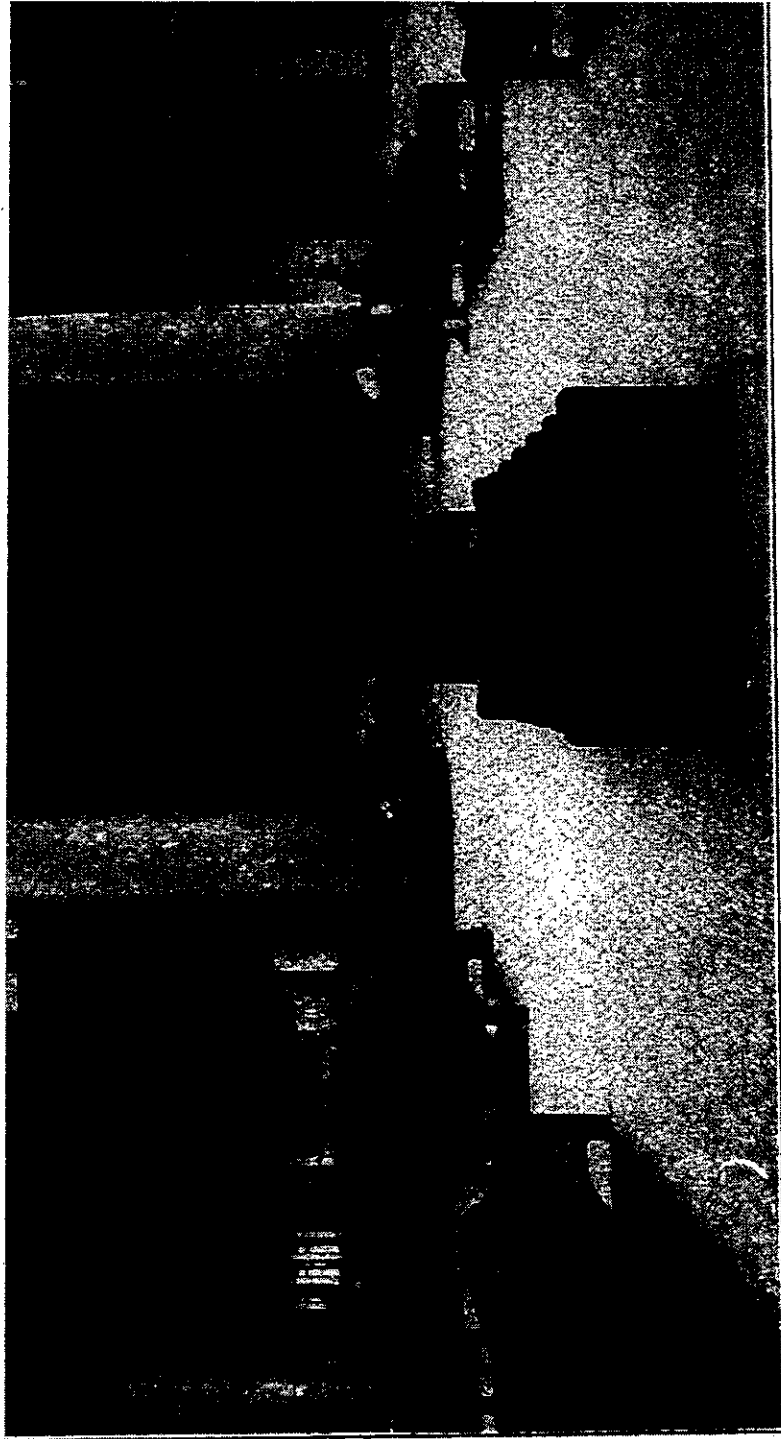
"5. The following is made as a temporary arrangement, viz.: The Canadian Northern Ontario to have the right to run its passenger trains to and from the union station, Toronto, on the Grand Trunk track from and to the said point of connection between the lines at the Canadian Northern Ontario freight yards under the usual terms relating to similar rights given by one company to another. For this right the Canadian Northern Ontario shall pay the Grand Trunk as follows, viz.: For use of tracks of

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General Waiting Room, Canadian Pacific Railway Station, Winnipeg

ment of and disputes as to rendered accounts.

The rights of the Canadian Northern appear in the first instance to have been secured by order 356, Feb. 23, 1905, paragraph 6 being as follows:

"That the applicant company make provision in the present union station for the passenger trains and traffic of the James Bay Ry. Co. as soon as the said company requires the use thereof, and until the proposed new union station hereby authorized is completed and ready for use, which provision and accommodation shall be paid for by the James Bay Ry. Co. on such terms as may be agreed upon between it and the applicant company; and, in case the interested companies cannot agree on the amount to be paid, or on other terms and conditions, the points in dispute shall be settled by order of the Board."

Grand Trunk for said temporary arrangement the charge shall be \$1 for each baggage, mail, express coach and sleeping car entering the union station, and the same amount for each such car departing from the station, and subject to the consent of the Canadian Pacific there shall be another charge of \$1 for each such car to cover the use and service of the station, the total charge to the Canadian Northern Ontario being \$2 per each such car to cover use of tracks and use and service of said station, each way on cars arriving and departing from station."

"6. The payments above mentioned shall cover all charges against the Canadian Northern Ontario under this temporary arrangement, including share of maintenance, operating expenses, station use, including switchmen, ticket agent, and other employees, rental, and for such payments the Canadian Northern Ontario shall be entitled to all proper services and accommodation."

Toronto Union Station.

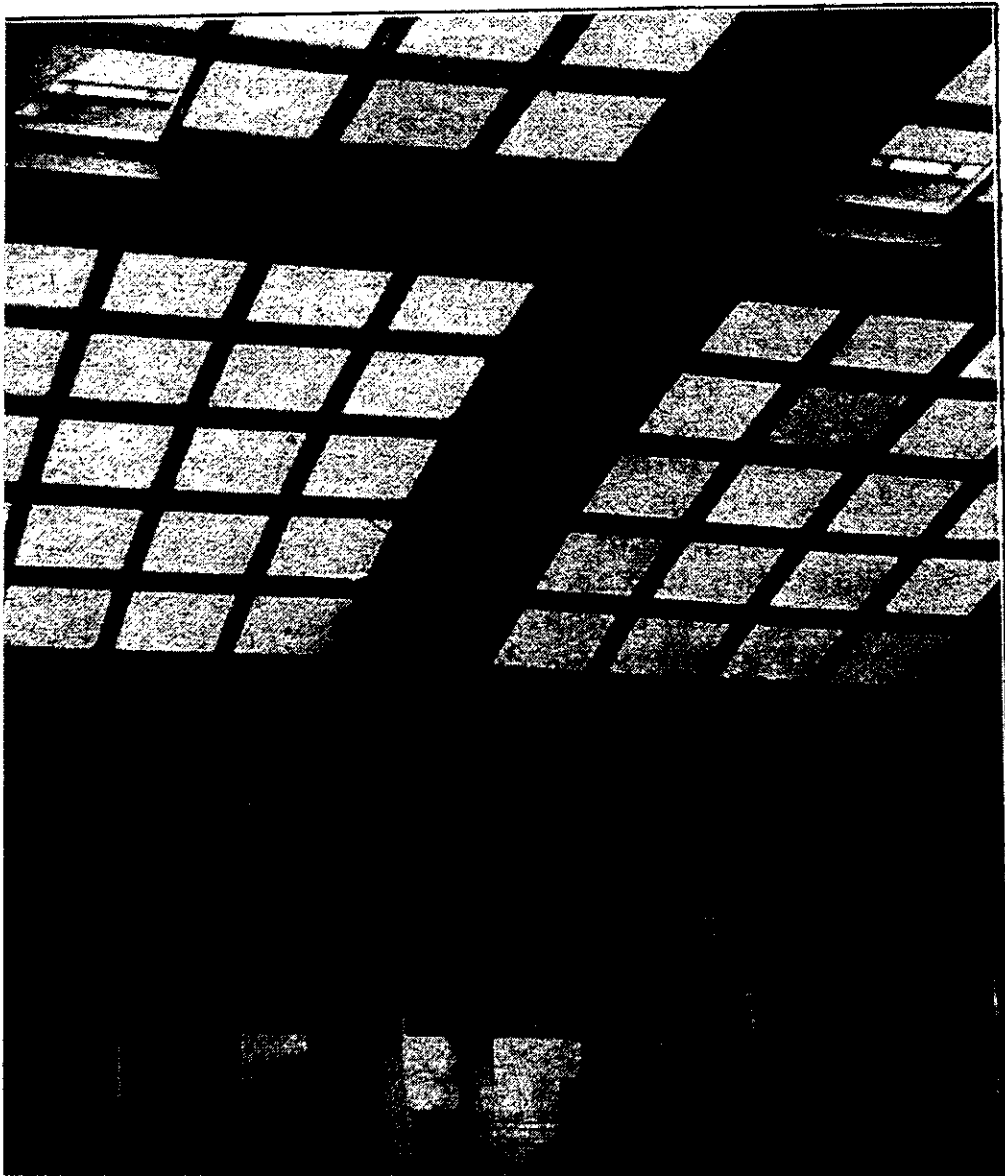
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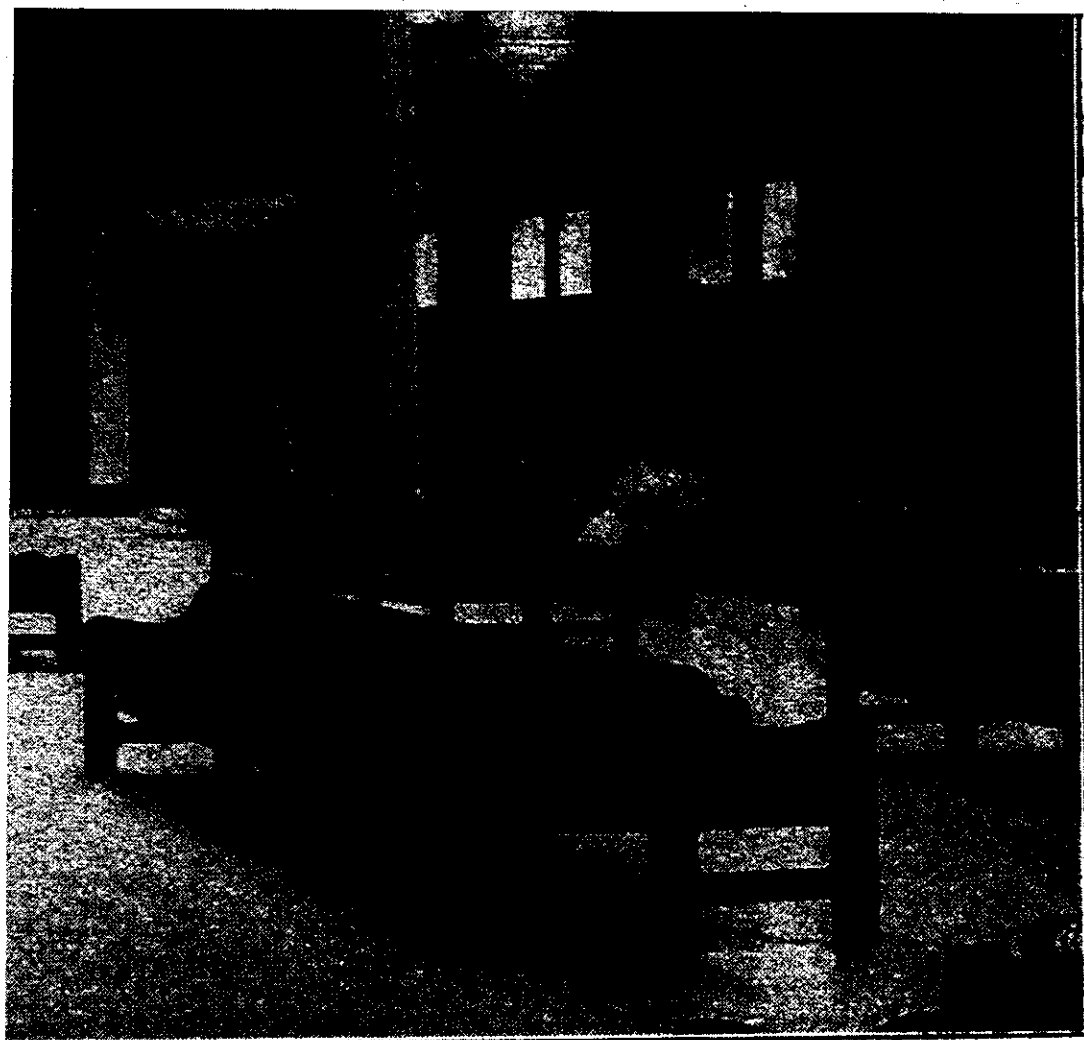
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The memorandum also makes the provisions of the Winnipeg agreement between the Canadian Northern and the Grand Trunk Pacific Railway Companies relative to liability in case of accidents and damages, applicable to the Toronto situation.

A joint application was subsequently made by the Grand Trunk and Canadian Pacific requiring the Board to settle the amount of money to be paid by the Canadian Northern and other terms and conditions. The Board's judgment on this appli-

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cation, delivered June 1, 1909, refused the application, which was to increase the payments to be made by the Canadian Northern; and directed that the agreement of Nov. 7, 1906, should govern. The Board did not pass upon the issue one way or the other as to whether the prices fixed by the agreement were just; but, recognizing that the whole arrangement was merely of a temporary character, determined to continue it until such time as the union station was completed. The judgment was carried into effect by order 7199, which provides that the Canadian Northern shall continue to pay the Grand Trunk for the use of the present union station and yards, the amount

November, 1915.]

CANADIAN RAILWAY AND MARINE WORKS

agreed upon between these companies under the agreement of Nov. 7, 1906.

No further application was made to the Board until March, 1915, when the Canadian Northern complained that the Grand Trunk had notified it that on and after March 26 it would not take care of the Canadian Northern equipment and locomotives arriving on passenger trains at the union station. The Board thereupon made an ex parte direction that the services and facilities extended to the Canadian Northern at the union station and yards in the past should be continued until after a hearing, which took place in Toronto March 30, 1915. At this hearing, the claims advanced by the Grand Trunk were that the Canadian Northern had not paid a bill since March or April of 1907. On the other hand, the Canadian Northern claimed that the Grand Trunk Pacific had not paid the Canadian Northern a cent of rental at Edmonton since Nov. 22, 1909. Mr. Fritch (Assistant to President and now also General Manager, Eastern Lines, Canadian Northern) stated that as a railway, the Canadian Northern did not owe the Grand Trunk as much as the Grand Trunk owed the Canadian Northern. He also said: "We are willing to pay their bills promptly as soon as accounts are rendered," and a direction was made at the hearing for a temporary continuance of the service, until such time as the Board's Chief Engineer and Chief Operating Officer could go into the whole question of the actual operation at the union station.

The Chief Operating officer on April 15 made his report as to the conditions, which was concurred in by the Chief Engineer. This report states that, after going into the matter carefully with the companies, he finds that the Grand Trunk makes no com-

situation. Mr. Fritch further stated:

"A promise was made to the Grand Trunk people that shortly after Aug. 1 we would make them a substantial payment on account. Mr. Hanna, our Vice President, went west a few weeks ago and had just returned, and it is his purpose to carry out that promise. That is as far as the financial arrangement is concerned."

The report of the Chief Operating Officer was not challenged by the Grand Trunk, so that the Canadian Northern's right to run its trains along the front and into and out of the union station is not in question. On the other hand, it is confirmed by the arrangement which the Grand Trunk is now willing to enter into, as evidenced by the following telegram from Mr. Kelley (Vice President, G.T.R.) to Mr. Fritch:

"We will permit without trackage charge the movement of your passenger equipment made empty at union station, Toronto, to your proposed coach yard at Rosedale, and also movement of your empty passenger equipment from your proposed coach yard at Rosedale to the union station when destined for passenger trains leaving that station, this to continue as a temporary arrangement the same as your present use of the union station and subject to the same limitations."

This telegram was in reply to a telegram from Mr. Fritch to Mr. Kelley asking if free trackage would be given on deadhead equipment in and out of the union station.

It appeared to the Board that it would be very much cheaper for the Canadian Northern, and prevent the different street crossings and railway tracks being subjected to an unnecessary use, if all the work incidental to cleaning cars, coaling locomotives, and making up trains, was continued to be done by the Grand Trunk, under the verbal arrangement which it was stated that the companies had entered into. Although the position was taken by Mr. Chisholm, who appeared for the Grand Trunk, that the Board had never taken the position that it could order one company to supply another

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continued, on the payment by the Canadian Northern of \$10 a month for the service; and the Canadian Northern was asked to define exactly what work it would like the Grand Trunk to perform for it and at what prices; and at the same time give the Board information on the question of payments and what instalments on account would be furnished. Mr. Fritch has since supplied the Board with details of the service required, including a tariff at which the work should be done. This service includes, not only cleaning of cars of all kinds and trucks, but ice, water, lubricating and illuminating oil, waste, lamp wicks, lamp chimneys, supplies, and inspection and air brake testing. It also includes certain repairs to equipment. The communication, however, did not make any reference to the matter of payment of arrears, which are, although considerably less than originally claimed, substantial. Mr. Fritch, on being written to requiring that his company should submit a statement of what it proposed to do regarding the payments to the Grand Trunk, advised the Board that he was unable to state the exact date or amount that his company was able to pay, but that it was the intention to do everything possible in the near future to make a substantial payment on account of the union station yard indebtedness. Under these circumstances, it is impossible for the Board to do anything further in relief of the Canadian Northern. The result is that the Canadian Northern trains will continue to run into and out of the union station as heretofore, but that the services which the Grand Trunk has been giving the Canadian Northern apart from any order of the Board, such as the furnishing of water supplied for the cleaning of equipment, and repairs, will no longer continue. I regret the result, as the Grand Trunk would be able to do the work cheaper than the Canadian Northern

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will be able to do it, but, in view of the Canadian Northern's neglect, or perhaps inability, to make the Grand Trunk at least a substantial payment on account of its indebtedness, I am of the opinion that it is impossible for the Board to add to any of the orders already made. A further result is that the deadhead equipment of the Canadian Northern will be moved from the union station to its own yards on the terms agreed to by Mr. Kelley in his telegram.

Suits Respecting the Building of the
C. N. Railway between Montreal and Canada

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Biggar, R.O. H. Philips.

November 1915

Canadian Northern Railway Construc- tion, Betterments, Etc.

Montreal Tunnel and Terminal Co.—The work of excavating the tunnel under Mount Royal is reported to be practically completed. The city section, which extends from the McGill campus to the terminal site at Cathcart St., is said to have been the most difficult part of the work. At the back of the Mountain considerable progress has been made, and it is hoped to get some of the electric and other equipment installed during the winter. The power house building at the western portal is reported completed and ready for the installation of the machinery which is in course of delivery. The 80-ton electric locomotives which will be used for the operation of trains through the tunnel are reported to be ready for delivery.

Canadian Northern Ontario Ry.—The Hamilton Board of Health has ordered the C.N.O.R. to instal sanitary conveniences in the houses situated on the company's land in the city. The company has declined to do this and except in some cases has arranged for the wrecking of 28 of the houses. The conveniences ordered will be installed in the remaining houses. The land was acquired for railway construction purposes.

The Board of Railway Commissioners has declined to set aside either in whole or in part an agreement made with the municipality of North Bay, and has approved plans for the erection of a passenger and freight station there.

The section of the company's line between Rideau Jct., just outside Ottawa, and Port Arthur, Ont., has been opened for freight traffic, and will be opened for passenger traffic early in November.

A press report states that construction is a short piece of track

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A press report states that construction is being rushed on a short piece of track which will join up the C.N.R. track to the C.P.R. at the Port Arthur station and allow of a transfer of trains from the east without running them down to the yards. There is a considerable amount of rock work on the line.

Canadian Northern Ry.—**Canadian Northern Pacific Ry.**—The opening of the C.N.R. westerly from Edmonton to the Yellowhead Pass, and the extension, known as the C.N. Pacific Ry., to the Pacific Coast, is referred to further on. A list of stations with distances on the latter part of the line was given

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[November, 1915.]

Coun- in Canadian Railway and Marine World for
Frank October. The line west of Edmonton has
W.H. been operated for some time as far as Ono-
Sir H. way. Following is a list of the stations on
Chau- the section of the line from Onoway to Yel-
ields, lowhead Pass in the order in which they are
afford located going west:—Lake Isle, Evansburg,
union Chiplake, Dayson, Fulstow, Horner, Scriven,
Board. Dandurand, Marlboro, Berks, Everest, Obed,
ldson, Dalehurst, Bliss, Entrance, Errington, Brule,
r; H. Bedson, Snarling, Henry House, Maligne,
Jasper, Mount Gelkio.

Lines M.H. MacLeod, General Manager and Chief
Grand Engineer, arrived in Vancouver, Oct. 9, hav-
anized ing made his first official trip of inspection
in the over the line since its completion. The Pro-
T.P.R. vincial Minister of Railways, and other Pro-
branch vincial officers, started from Port Mann, and
ay has travelled over the line, meeting at Yellow-
head Pass, Mr. MacLeod, and the Dominion
Government inspecting engineer. The ob-
ject of this trip was to pass the line for its
opening for traffic.

Vancouver Terminals.—Tenders for the
seawall construction at False Creek, the site
of the Vancouver terminals, are under con-
sideration by the engineering staff, and an
announcement is expected at an early date
as to the awarding of a contract. The
specifications for this work are reported to
include the following quantities: foundation
excavation (wet) 450 cu. yd., concrete 4,950
cu. yd., reinforcing steel 305,000 lb., concrete
piles 15,900 l. ft., creosoted fir piles 12,200
l. ft., asphalt 2,820 sq. yd., rock fill 15,500 cu.
yd., square timber no. 1 common 19,500 f.b.
m., iron in timber including U-bolts 5,500 lb.,
255 spring coils.

Temporary freight sheds and other facili-
ties will be installed at once in Vancouver
on the reclaimed portion of the False Creek

November 1915

Government inspecting engineer. The object of this trip was to pass the line for its opening for traffic.

Vancouver Terminals.—Tenders for the seawall construction at False Creek, the site of the Vancouver terminals, are under consideration by the engineering staff, and an announcement is expected at an early date as to the awarding of a contract. The specifications for this work are reported to include the following quantities: foundation excavation (wet) 450 cu. yd., concrete 4,950 cu. yd., reinforcing steel 305,000 lb., concrete piles 15,900 l. ft., creosoted fir piles 12,200 l. ft., asphalt 2,820 sq. yd., rock fill 15,500 cu. yd., square timber no. 1 common 19,500 f.b. m., iron in timber including U-bolts 5,500 lb., 255 spring coils.

Temporary freight sheds and other facilities will be installed at once in Vancouver on the reclaimed portion of the False Creek flats. These will be situated on the south side near the production of Front St., east of Main St. The connection from the end of steel of the C.N.P.R., at the south side of New Westminster bridge, with this shed will be over the Great Northern Ry. The freight shed plans call for a building 193 x 40 ft., and a passenger station 120 ft. x 30 ft.; the construction to be of wood. A spur line will be built to give connection with the Great Northern Ry. lines. (Oct., pg. 395.)

Railway Payments on Queen St. Bridge,
The City of Toronto applied to

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Canadian Northern Passenger Service Between Sydenham and Harrow

J.W. Edwards, M.P., filed the following application with the Board of Railway Commissioners some little time since:—"In 1892 Loughboro Township passed a bylaw granting a bonus of \$5,000 to the Kingston, Napanee, and Western Ry. Co., which was to extend its line from Harrowsmith to Sydenham, Ont., a distance of three of four miles. The agreement between the township and the company required the company to run a train for passengers and freight from Sydenham to Harrowsmith in the forenoon and another in the afternoon, these trains to connect with trains going to and coming from Kingston. This was to be daily, Sundays excepted. It was further agreed that the company could only fall in carrying out this service, upon the repayment of the bonus to the township. Since this agreement, the road has been taken over and now forms a part of the Canadian Northern Ry. About the first of the year, the railway company took off the morning train, so that the people of Sydenham have no connection whatever with the trains running to Kingston. This is, of course, a very great inconvenience to that place, which is the largest village in the County of Frontenac."

The Chief Commissioner, Sir Henry L. Drayton gave judgment Sept. 30, Commissioner McLean concurring. After reciting the complaint the judgment says:—

The company in its reply submits that the bylaw the basis of the complaint reads as follows,—"The said company are to run a train for passengers and freight from said station (Sydenham) in the forenoon and one back to it in the afternoon, making connection with the trains at Harrowsmith every day in the week except Sunday."

The company further states that the by-

total express earnings \$31.30; resulting in gross earnings of about \$811.91 for the period. The Inspector, dealing with the question of course as entirely a matter of reasonable service for traffic offered, proceeds in his report as follows,—

"After going carefully into this matter with the agent and making full inquiries, there would seem to be little or no room for complaint, as Sydenham is on the main line of the C.N.R. between Toronto and Ottawa, and all trains stop at this station. The service between Sydenham and Kingston is not so good as it might be, but there is an up to date stage coach or motor, which runs between Sydenham and Harrowsmith and makes the connections for Kingston. The handling of freight at Sydenham is the same as it always was, and it would be unfair to the railway company to ask it to put on a train, or run train 71 through from Yarker to Sydenham, a distance of about 10.6 miles, which could not be done except at a great loss to the company. It would cost at least \$20 or \$25 a day to do this, and you will note by the earnings for the three months when the train was on, that it was a losing proposition. The fact that Sydenham is now located on the C.N.R. main line between Toronto and Ottawa, and gets the benefit of all the through service, should form some compensation for the slight inconvenience of the poor connections to Kingston. I have no doubt that when business increases, the proper service will be put on and better connections made for Kingston; but under the present strenuous conditions, it would be unfair to ask the company to run train 71 to Sydenham."

The company also filed a statement showing freight and passenger business between Sydenham and Kingston which covers the period from June 1, 1910, to June 5, 1911. At this time Sydenham had no service on the main line, and the railway was not operated by the Canadian Northern. The return shows that 1007 passenger tickets were issued at a gross return of \$798.90, and 481,764 lbs. of freight handled at a gross return of \$270.38. Under such circumstances, it is made direct.

Harrowsmith to Kingston. So service is concerned, there is no it is much better looked after Sydenham is concerned under train service, carried as it is directly, than by what was formerly a transfer to Kingston. While the east and west traffic is some Sydenham was interested in a one of the reasons why the town to give the bonus of \$5,000 to the of the line, undoubtedly, local service between Sydenham and Kingston was a matter of moment; service, between Kingston and which is without any reservation the bylaw. The company does that its predecessors pledged to observe the terms of the bylaw no doubt that the \$5,000 was a accepted subject to those terms the company has to run a train moon and one back in the afternoon with the trains at Kingston connection at Harrowsmith from Sydenham to Harrowsmith a.m. train, arriving at Harrow a.m.; and the morning train to Smith to Kingston on the C. Harrowsmith at 9.15 a.m., end of seven hours at Harrowsmith Smith both railways run into tion, and trains on the Canadian conveniently be taken from Harrow Kingston. The first train Smith on the C.P.R. leaves at 10 a.m. apart from any question of however, I am of the opinion that to supply a train in the morning at Harrow one hour a

December 1915

one back to it in the week except Sunday."

The company further states that the by-law had been complied with, as train 7 left Sydenham at 1.59 a.m. and arrived at Harrowsmith at 2.09 a.m.; and that a train left Kingston at 2.45 p.m. arriving at Harrowsmith Jct. at 3.40 p.m. connecting with train arriving at Sydenham at 3.50 p.m. The company's answer proceeds,—

"There is no doubt that at the time the bylaw referred to was passed, the people in Sydenham did not contemplate being on an important trunk line between Ottawa, Toronto, and Montreal, and Sydenham being now on the main line of our railway between these points is, we think, of very much greater advantage to the community than the local service at Harrowsmith, the distance between Harrowsmith and Sydenham being 4.3 miles. Sydenham now gets the benefit of all through trains, and when business improves and the line opens through to Montreal we expect to have a local service between Ottawa and Kingston, in addition to the present main line service. Sydenham now being on the main line has a day and night service east to Ottawa and west to Toronto and intermediate points, and while the morning connection to Kingston is at an awkward hour and involves a wait at Harrowsmith Jct., we still feel that it is a technical compliance with the bylaw and that the only question that should be decided is whether Sydenham gets a reasonable service from the railway at present."

Sydenham lies about four miles east of Harrowsmith, and the Inspector reports that there is a good stage service between Harrowsmith and Sydenham by which connection can be made for Kingston. The discontinuance of train 71, of course, gives rise to the complaint. It was a local from Deseronto to Sydenham and return. The receipts at Sydenham station have been gone into by the Board, with a view to ascertaining whether or not, under the general provisions of the Act, the Board could order the service to be re-instated. Taking the six months period commencing on Oct. 1, 1914, and ending March, 1915, it was found that the total passenger earnings were \$130.00; the total freight earnings \$650.61; and the

issued at a gross return of \$100.00, and 481,764 lbs. of freight handled at a gross return of \$270.38. Under such circumstances, it is clear that no order can be made directing the company to maintain the service, which, in view of the total earnings shown, was entirely unremunerative, resulting in losses to the company which could only be made up from earnings supplied by other localities. Adequate service under the provisions of the Railway Act is a service which it is the duty of the Board to see furnished; and, so far as service is concerned, under the circumstances of this case, no order can be made.

The right of the municipality under its bonus bylaw stands, however, on a different basis. A hearing by the Board was had in Toronto, at which the company was called on to show cause why the bylaw should not be carried out. The clauses of the bylaw applicable are,—

"The said company are to run a train for passengers and freight from said station (Sydenham) in the forenoon and one back to it in the afternoon, making connection with trains at Harrowsmith every day in the week except Sunday."

"Should the said company at any time hereafter fail to maintain said road and station or run said trains they can only do so upon repaying said bonus of \$5,000 to said municipality."

The company is maintaining the station. It is giving Sydenham, owing to the fact that it is now on the main line of the Canadian Northern, greater railway accommodation than that called for by the bylaw, in that the company runs two eastbound trains and two westbound trains between Toronto and Ottawa daily, all stopping at Sydenham and at Harrowsmith,—the westbound trains leaving Sydenham at 1.59 a.m. and 3.10 p.m., and the eastbound trains arriving at Sydenham at 4.18 a.m. and 4.10 p.m. Before the installation of the Canadian Northern service, through east and west traffic, either from or to Sydenham, was carried by the Kingston, Napanee & Western by way of

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Harrowsmith to Kingston. So far as this service is concerned, there is no doubt that it is much better looked after so far as Sydenham is concerned under the present train service, carried as it is east and west direct, than by what was formerly practically a transfer to Kingston. While no doubt the east and west traffic is something which Sydenham was interested in and probably one of the reasons why the township agreed to give the bonus of \$5,000 to the construction of the line, undoubtedly, however, the local service between Sydenham and Kingston was a matter of moment; and it is a service, between Kingston and Sydenham, which is without any reservation covered by the bylaw. The company does not dispute that its predecessors pledged themselves to observe the terms of the bylaw. There is no doubt that the \$5,000 was accepted, and accepted subject to those terms. Under it, the company has to run a train in the forenoon and one back in the afternoon connecting with the trains at Harrowsmith. This connection at Harrowsmith is a Kingston connection. The only morning train from Sydenham to Harrowsmith is the 1.59 a.m. train, arriving at Harrowsmith at 2.09 a.m.; and the morning train from Harrowsmith to Kingston on the C. N. R. leaves Harrowsmith at 9.15 a.m., entailing a wait of seven hours at Harrowsmith. At Harrowsmith both railways run into the same station, and trains on the Canadian Pacific can conveniently be taken from Harrowsmith to Kingston. The first train from Harrowsmith on the C.P.R. leaves at 6.55 a.m., making a wait of four hours.

Apart from any question of connections, however, I am of the opinion that an obliga-

of seven hours at Harrowsmith. At Harrowsmith both railways run into the same station, and trains on the Canadian Pacific can conveniently be taken from Harrowsmith to Kingston. The first train from Harrowsmith on the C.P.R. leaves at 6.55 a.m., making a wait of four hours.

Apart from any question of connections, however, I am of the opinion that an obligation to supply a train in the forenoon is not met by supplying one 1 hour and 59 minutes after midnight. The bylaw, accepted by the company's predecessors as it was, is one, which as I construe it, was intended to provide, and did provide, for a service which could be used by the people of Sydenham, a service which would enable them to leave Sydenham in the morning and not at night, and return in the afternoon. There is no difficulty about the afternoon train, as one leaves Harrowsmith at 3.55. I am of the opinion, therefore, that the company has not provided the morning service, which, under the bylaw, it is obliged to do; and that, again under the bylaw, unless this service is given, the bonus of \$5,000 has to be repaid. I have no doubt that the people at Sydenham would sooner that a proper morning service to Harrowsmith with proper connection to Kingston would be given than that the township should recover this \$5,000. In view of the earnings, however, as already pointed out, the Board cannot order that to be done. The company, however, will be given the option of restoring the service within one month, and thereafter maintaining it, or of repaying the \$5,000 bonus. No order will, therefore, issue, until Nov. 1, when, in the absence of the restoration of the service, an order will go directing repayment of the \$5,000 by the Canadian Northern to the municipality.

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ment of the Board. A summary of the provisions was given in Canadian Railway and Marine World for June, pg. 220.

Canadian Northern Railway's Through Service From Toronto West.

The C.N.R. will, on Nov. 1, inaugurate a passenger train service between Toronto and Winnipeg, the most important intermediate points being Parry Sound, Sudbury, Nipigon, Port Arthur, Fort William, Fort Frances, and Rainy River. The service will be tri-weekly, the west bound train leaving Toronto Union Station Monday, Wednesday and Friday at 10.45 p.m., arriving at Winnipeg Union Station, Wednesday, Friday and Sunday at 5.45 p.m., and connecting there with the Alberta Express leaving 10.30 p.m. daily for Edmonton and intervening points, and with the Capital Cities Express leaving 8 p.m. daily for Prince Albert and intervening points. The east bound train will leave Winnipeg Union Station, Monday, Wednesday and Saturday at 5.15 p.m., reaching Toronto Union Station, Monday, Wednesday and Friday at 2.30 p.m. The new trains, it is announced, will have electric lighted standard sleeping cars, dining cars, first and second class cars, and electric lighted tourist sleeping cars will be added about Nov 25.

A freight service has also been established between Quebec, Montreal and Toronto and other eastern points and Winnipeg.

December 1915

Canadian Railway and Marine World

December, 1915.

Canadian Northern Bridges Over the Carp, Mississippi and Ottawa Rivers and Stoney Creek.

The Canadian Northern Ry.'s main continental line, about 35 miles west of Stoney Creek, are four closely located bridges. The first bridge, over the Carp River, is of two 75 ft. half through girder spans with a 200 ft. truss span between them. The next crossing, the Mississippi River bridge, is of two 75 ft. half through and a

girder span was first erected, then the bottom chords and floor system of the truss span were placed in position as fast as the falsework was built. The trusses were erected by a locomotive crane after the floor system was completed. An air hammer was used for driving the piles, air being supplied by a steam compressor, which was also used

each, and were erected by using a gallows frame, in connection with the 50 ton locomotive crane.

Piles were driven at Stoney Creek, on which a temporary track was constructed, and the girders carried into place from a side track by the locomotive crane. These girders weighed about 25 tons each. This



Carp River Bridge.

2 ft. half through girder span, between two 75 ft. spans. A mile farther down the Stoney Creek bridge, which had three



Chats Rapids Bridge, Ottawa River.

for driving rivets. This bridge was completed so that the construction trains crossed on July 16, 1914, and track laying was started to the Mississippi bridge and

bridge was completed on Sept. 5, 1914, but a serious delay occurred after this. About the time the track was laid to Chats Rapids, the grader's locomotive upset in a sink hole, and a very difficult job of rescuing it was

December 1915

Canadian Northern Bridges Over the Carp, Mississippi and Stoney Creek.

On the Canadian Northern Ry.'s main transcontinental line, about 35 miles west of Ottawa, are four closely located bridges. The first bridge, over the Carp River, consists of two 75 ft. half through girder spans with a 200 ft. truss span between them. The next crossing, the Mississippi River, is of two 75 ft. half through and a

girder span was first erected, then the bottom chords and floor system of the truss span were placed in position as fast as the falsework was built. The trusses were erected by a locomotive crane after the floor system was completed. An air hammer was used for driving the piles, air being supplied by a steam compressor, which was also used



Carp River Bridge.

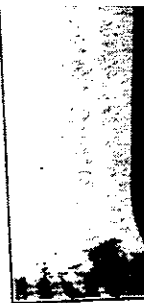
121½ ft. half through girder span, between the two 75 ft. spans. A mile farther down is the Stoney Creek bridge, which had three 85 ft. half through girder spans. The fourth is a long crossing over the Chats Rapids of the Ottawa River, and is made up of 10 deck girder spans, including 5 plate girder spans each 115 ft. long, 2 of 121½ ft.,



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for driving rivets. This bridge was completed so that the construction trains crossed on July 16, 1914, and track laying was started to the Mississippi bridge and completed so as to allow erection of that bridge to start on Aug. 1, 1914.

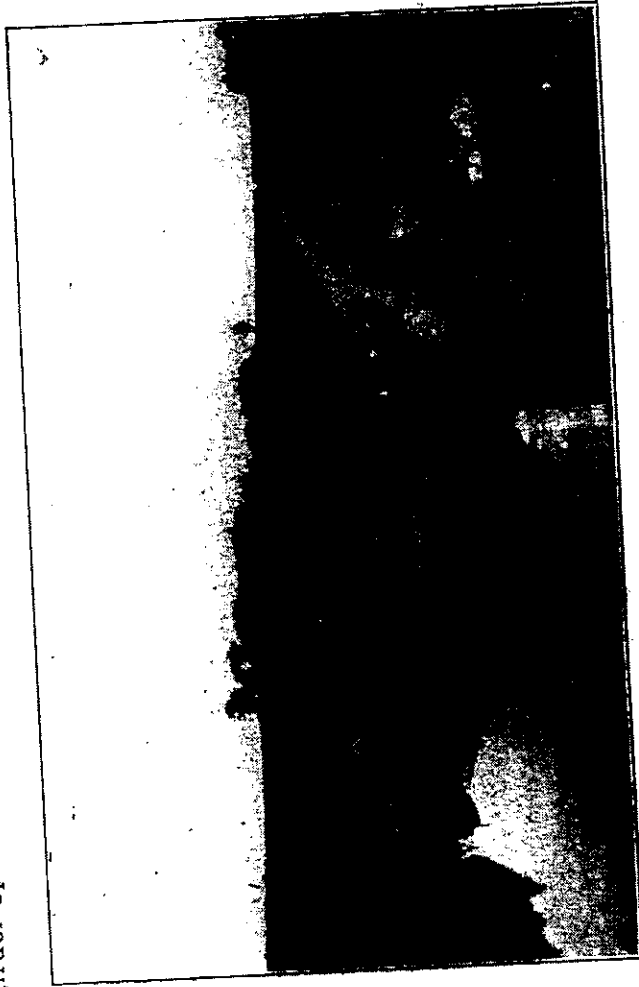
A camp was established at this point and maintained until the erection work was



December 1915

Carp River Bridge.

121½ ft. half through girder span, between the two 75 ft. spans. A mile farther down is the Stoney Creek bridge, which had three 85 ft. half through girder spans. The fourth is a long crossing over the Chats Rapids of the Ottawa River, and is made up of 10 deck girder spans, including 5 plate girder spans each 115 ft. long, 2 of 121½ ft.,



Mississippi River Bridge.

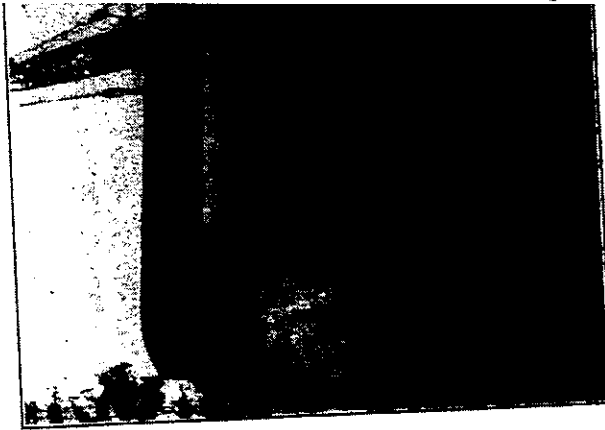
one 200 ft. through rivetted truss and one 290 ft. through rivetted truss spans. The total weight of the bridges is about 2,800 tons.

The masonry foundations were all in at the time the superstructure contractor's men arrived on the job on June 20, 1914. The plant arrived a day later and at the Carp River, driving piles and building falsework started at once. The easterly

December 1915

for driving rivets. This bridge was completed so that the construction trains crossed on July 16, 1914, and track laying was started to the Mississippi bridge and completed so as to allow erection of that bridge to start on Aug. 1, 1914.

A camp was established at this point and maintained until the erection work was



Stoney Creek Br

started at Chats Rapids, at which point a splendid camp for use through the winter was built, and the men were made as comfortable as they could be at home. The river bed at the Mississippi is rock, so that a temporary timber bent trestle was erected, which permitted running out the girders on the cars, from which they were unloaded into place. The centre girders of the Mississippi River Bridge weighed 52 tons

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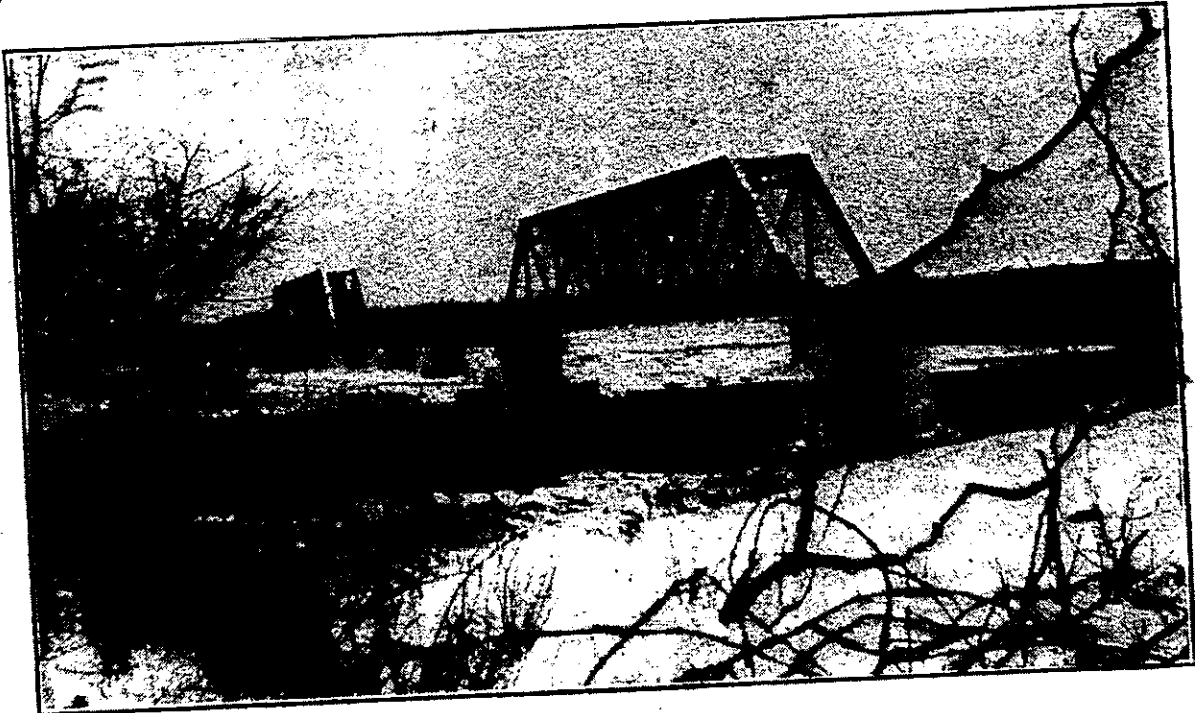
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The Carp, Mississippi and Ottawa Rivers Stoney Creek.

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each, and were erected by using a gallows
frame, in connection with the 50 ton loco-
motive crane.

Piles were driven at Stoney Creek, on
which a temporary track was constructed,
and the girders carried into place from a
side track by the locomotive crane. These
girders weighed about 25 tons each. This

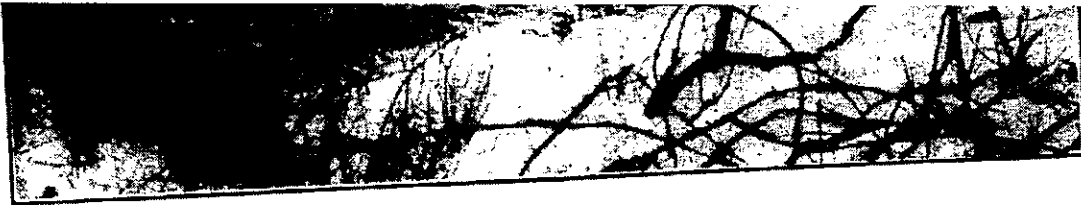


Chats Rapids Bridge, Ottawa River.

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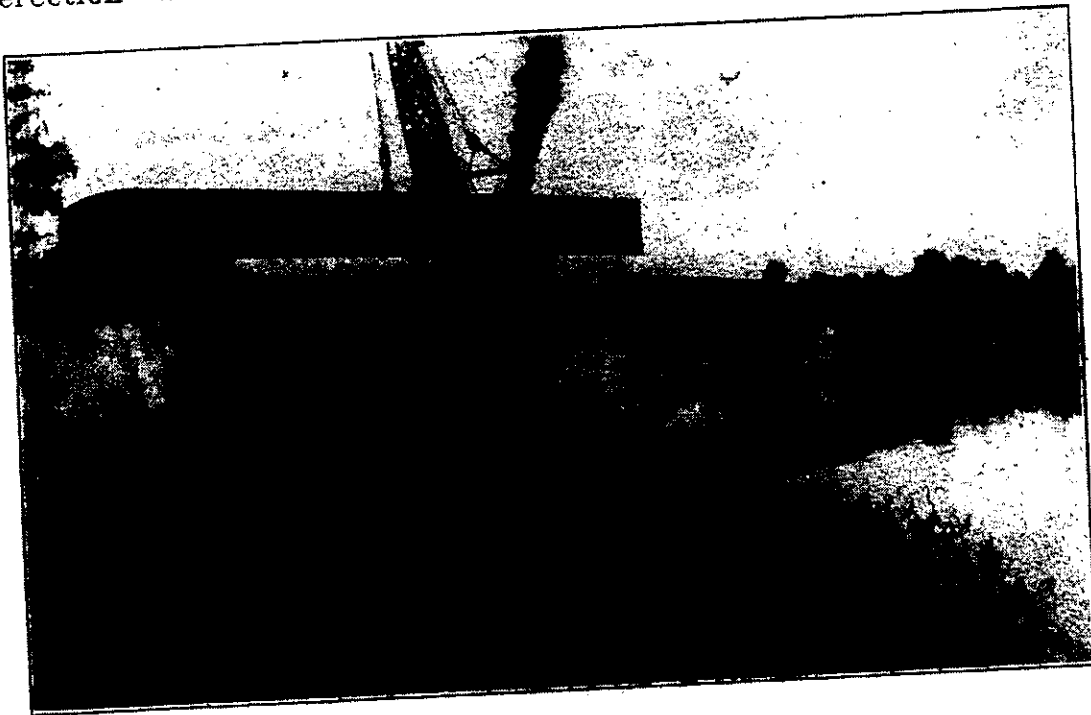
December 1915



Chats Rapids Bridge, Ottawa River.

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bridge was completed on Sept. 5, 1914, but a serious delay occurred after this. About the time the track was laid to Chats Rapids, the grader's locomotive upset in a sink hole, and a very difficult job of rescuing it was accomplished by calling in the Terry & Tench Co.'s erecting plant. The compressor was set up, and the pile driver used to



December 1915

Stoney Creek Bridge, Placing Last Girder.

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build a trestle across the sink hole. Then the big locomotive crane was used to pick up the locomotive and set it on the track. This caused a delay of three weeks, and threw the erection of the Chats Rapids Bridge long into the late autumn and winter.

Work was finally started at Chats Rapids on Sept. 16, 1914, and a 25 ton guy derrick, having an 88 ft. mast and a 75 ft. boom, was erected alongside the track, about 200

yards from the first or easterly span, where a storage and sorting yard was established. The first span, 121 ft. deck girder, was erected after the temporary falsework was built, by using the same method as at Mississippi River. The next span was a 200 ft. through truss over deep water, running very swiftly, the bottom being rock with great boulders, making it very difficult to secure a safe footing for the piles. The piles used were 14 in. x 14 in. 50 to 60 ft. long, sawed British Columbia fir, with cast iron points. They were driven into the rock by the air hammer, sufficiently to get a good bearing. In addition to the deep water and swift current at this crossing, immense quantities of saw logs were constantly being floated down the river to mills at Hull, and other places, and it was necessary to keep watchmen day and night to protect falsework from destruction. On top of the falsework the bottom chords and floor systems of both the 200 and 290 ft. through spans were built, and the permanent track laid as the work advanced. From this track the trusses were erected by the use of the locomotive crane, the material being pushed in on cars by the railway locomotive from the sorting yard. The shop work on these trusses was such that on the 290 ft. span the end posts, which were erected last, did not even require a wedge to be driven in order to connect them to the top and bottom chords. As all of the girder spans in this bridge were of the deck type, without cover plates on the top chords, the greatest care had to be used in handling them. The work of erecting this bridge, which was 1,589 feet long, was completed on Jan. 16, 1915, the camp abandoned and the plant skinned away. The falsework and a large

December 1915

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The falsework timber used in the whole of the above work was British Columbia fir of the best quality, cut for the purpose. In addition about 200 piles were purchased locally. Throughout the whole work there was not a single serious accident, and the health of the men was splendid.

The contract for the fabrication and erection of the above work was let by Mackenzie, Mann and Co., to Canadian Allis-Chalmers Ltd., Toronto, who sublet the erection to the Terry & Tench Co. Inc. of New York. W. H. Grant, Manager of Construction, Mackenzie, Mann and Co., had general charge. C. T. Smith was Superintendent of the work for the Terry & Tench Co., and much credit is due him for the successful carrying out of the undertaking; Geo. Fisher was his assistant; Nicholas Dowd had charge of the locomotive crane. About 60 men were employed throughout the job, and were all hired locally. The contractors state that it would be difficult to get a better working force of men together. The weather in the summer was greatly in favor of the work but storms in the winter caused some delay.

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December 1915

Canadian Northern Railway Construction, Betterments, Etc.

Quebec and Lake St. John Ry.—We are officially advised that the company is building under the St. Charles and Huron River Ry.'s charter a line from Lorette station up the St. Charles River Valley to Stoneham, Que., at the mouth of Huron River, 7.5 miles. The line was located about two years ago by S. S. Oliver, and the location was revised early this year by — Morrison. A contract for grading has been let to a Quebec firm and grading is being done. The principal traffic on the line will be pulpwood. (May, 1912, pg. 231.)

Canadian Northern Ontario Ry.—The Board of Railway Commissioners has authorized the building of an interchange track with the C.P.R., near Ottawa.

The coal handling plants at Rideau Jct., Hornepayne and Capreol, on the Montreal-Ottawa-Port Arthur line, were reported, Nov. 12, to be practically completed.

The Port Arthur, Ont., City Council on Nov. 9 granted the company a year's extension of time to Mar., 1917, within which to connect up its tracks from Arthur St., with the main line at Current River.

Canadian Northern Ry.—The Board of Railway Commissioners has authorized the opening for traffic of the line between Grand Marais and Birds Hill, Man., 50 miles. It was authorized to be opened temporarily in February last. An extension to Victoria Beach, 14 miles, is reported to have been graded.

We are officially advised that track has been laid on the line between Bientait and Estevan, Sask., 8 miles. An order has been made by the Board of Railway Commissioners authorizing its opening for traffic.

The Board of Railway Commissioners has approved of revised location of a branch line through sections 3, 4 and 5, tp. 35, range 7, east 2nd meridian, Saskatchewan, mileage 83.99 to 87.71.

We are officially advised that grading is

work in progress at Vancouver, that the present contract covers the erection of a sea wall, located 300 ft. west of Main St. bridge, for the purpose of enclosing the head of False Creek, which is being reclaimed by the company for the purpose of its terminals. This contract has been let to A. G. Creelman and Sons, Vancouver, and covers the building of a reinforced concrete sea wall, with two slips for the accommodation of steamships. It is expected that the work can be completed in five or six months. The reclamation work on False Creek itself is being carried on by the Pacific Dredging Co., which is dredging a channel for the Dominion Government from Main St. to English Bay. The material dredged from this channel is being deposited on the False Creek flats, through a pipe line. The C.N.R. has at present an area of 64 acres, contained within a temporary bulkhead completely filled in and ready for the laying of tracks. It was intended to erect a temporary station and freight sheds on this area pending the completion of the remaining filling, and the erection of the permanent station buildings, but owing to a change in policy this work has been suspended pending negotiations being completed with the Great Northern Ry.

Lines on Vancouver Island.—Rails sufficient for the 16 miles between Victoria and Patricia Bay are reported to have been delivered, for immediate laying. Provincial Government officials are reported to have stated, Nov. 4, that the line would be ready for operation within three months; that tracklaying on the line from Victoria to Alberni would be started early next spring, and that a contract had been let for two car ferries to be operated between Patricia Bay and the mainland. The landing piers at Patricia Bay and on Lulu Island will, it is reported, be put under contract as soon as the ferry plans reach Vancouver. The connecting line with the ferry slip at Lulu

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We are officially advised that grading is being done on the line projected from Calgary to MacLeod, Alberta.

We are officially advised that grading has been carried on this year on the line from Oliver towards St. Paul de Metis, Alta. A press report states that over 100 miles of grading will be completed by the end of the year on this line, which as at present projected will be 117 miles long.

Canadian Northern Pacific Ry.—The Minister of Railways for British Columbia has issued a certificate authorizing the opening for traffic of the line from the summit of the Yellowhead Pass, on the eastern boundary of the province, to Port Kells, 491 miles. To secure a connection with New Westminster the company acquired the Great Northern Ry.'s Port Kells branch from the southern end of the New Westminster bridge to Port Kells, 8.3 miles. These two mileages total 499.3 miles, practically agreeing with the total of 499 miles given in the table of distances from New Westminster bridge to Yellowhead, given in our Oct. issue on pg. 370. From the bridge to New Westminster and Vancouver the company's trains run on the Great Northern tracks under an agreement.

The Minister of Railways for British Columbia has approved of plans for the erection of protective shed where needed along the line to protect the track from rolling gravel and disintegrated rock.

The report that an order has been given

(Great Northern Ry.)

Lines on Vancouver Island.—Rails sufficient for the 16 miles between Victoria and Patricia Bay are reported to have been delivered, for immediate laying. Provincial Government officials are reported to have stated, Nov. 4, that the line would be ready for operation within three months; that tracklaying on the line from Victoria to Alberni would be started early next spring, and that a contract had been let for two car ferries to be operated between Patricia Bay and the mainland. The landing piers at Patricia Bay and on Lulu Island will, it is reported, be put under contract as soon as the ferry plans reach Vancouver. The connecting line with the ferry slip at Lulu Island starts off from the north end of the New Westminster bridge, follows along the North Arm, and crosses over to Lulu Island at the easterly apex of the triangle, and is then continued to road 5 near Ladner's Ferry. Steel is reported to have been laid on a portion of the line, which it is proposed to extend to the canneries at Steveston. (Nov., pg. 424.)

Vancouver Branch United Yardmasters' Association.—A branch of the United Yardmasters' Association was organized in Vancouver, B.C., No. 1, with the following officers:—President, D. Nicks, General Yardmaster, C.P.R.; Vice President, D. Robinson, General Yardmaster, Great Northern Ry.; Treasurer, R. V. Mills, Yardmaster, British Columbia Electric Ry.; Secretary, S. M. Willis, Chief Clerk, C.P.R. Yardmaster's office, Coquitlam.

The C.P.R. trains heretofore running between Lethbridge and Cardston, Alberta, are now being run through to Calgary, via MacLeod, with stopover privileges at Lethbridge. The train heretofore running between Medicine Hat and Calgary, only runs as far as Aldersyde, connecting there with the Cardston-Calgary train.

THE VICTORIA ROLLING STOCK & REALTY CO., OF ONTARIO, LIMITED.

Notice is hereby given that a dividend of three per cent. on the paid-up capital of the company, for the year ended

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December 1915

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The Minister of Railways for British Columbia has approved of plans for the erection of protective shed where needed along the line to protect the track from rolling gravel and disintegrated rock.

The report that an order has been given for two car ferries is incorrect. One has been ordered and full particulars of it are given in the Marine Department of this issue.

Vancouver Terminals.—We are officially advised in connection with the terminal

New Westminster North Arm, at the east end then continue to Ferry. Steamer on a portion proposed to extend to (Nov.,

Vancouver Association. Masters' Association, Vancouver, B.C. Officers:—President, C.P. General Y. Treasurer, Columbia Willis, Ch. office, Coquitlam.

The C.P. between Let are now by MacLeod, bridge. T between Med as far as the Cardston

THE VICTORIA CO.

Notice is and a half stock of the Nov. 30th, 1st, 1915, the 30th of By order

Toronto,

December 1915

Way Construction, Betterments. Etc.

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Lines on Vancouver Island.—Rails suffi-

December 1915

It had not then been decided whether the shops would be rebuilt or not.

Mount Royal Tunnel, Canadian Northern Railway.

The last barrier in the C.N.R. tunnel under Mount Royal, Montreal, was blasted out Dec. 10, at 7 a.m., when the gangs working from both ends met. In the afternoon, a party of engineers and other officials were taken through the tunnel by S. P. Brown, Chief Engineer, and H. T. Fisher, Tunnel Engineer of the Canadian Northern Montreal Tunnel and Terminal Co., in a train of work cars from the west portal at the back of the mountain to the Dorchester St. shaft, on the site of the proposed Montreal station.

This tunnel, which was described in detail in Canadian Railway and Marine World for August, 1913, is 3 1-3 miles long, with east portal, station 137.0, between Lagauchetiere and Latour Sts., in Montreal, and the west portal, station 318.0, at the back of the mountain at the C.P.R. crossing. Briefly, the tunnel extends practically the full length through Trenton limestone and essexite, with igneous dykes. The interior section

December 1915

Link Railway Car Shops at Port Huron Before and After the Fire

will be 22 by 30 ft. neat excavation, except near either portal, where it will be arched with concrete blocks. The estimated quantities to be excavated for the tunnel are 390,000 cu. yds. of rock and 13,000 cu. yds. of earth, and there will enter into its construction 61,000 cu. yds. of concrete and 1,000 tons of steel and iron. In addition, the work has necessitated 1,400 lineal ft. of shafting and tunnelling, not in the main tunnel line.

In the pushing forward of the work, four headings were used, with part of the time a fifth. Apart from preliminary work of preparing approaches, the actual tunnel work commenced from the west portal in Sept., 1912, and at the same time work was begun on the sinking of shafts at Dorchester St., station 145.0, and Maplewood Ave., station 265.0, the former 55 ft. deep, and the latter, 240 ft. From the Dorchester St. shaft, the tunnel heading, which in each case was from 8 to 10 by 12 ft., was pushed towards the west portal, with a short section to the east, towards the city portal. From the Maplewood Ave. shaft, the heading was driven in both directions, meeting that from the west portal at station 285.0 in April, 1913. The two headings from Maplewood Ave. and Dorchester St. were the ones that met Dec. 10, at station 208.0, completing the heading the full length of the tunnel.

Following up the smaller heading, principally from the west end, which was

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through first, the smaller heading has been timbered and the upper section of the bore removed to full dimensions. A large portion of the west end has been completed in this manner, leaving only the benches, which, through a short section, have also been removed. On the completion of the upper heading, the benches will be removed by steam shovel.

The tunnel at the Dorchester St. shaft, the terminal site, is level, at elevation 144.4, ascending from that point on a 0.6% grade to the west portal. The greatest depth of rock over the tunnel is near the point where the last headings met, where there is 600 ft. of rock above.

The small working heading was pushed through in the short period of 15 months. The best progress made was 810 ft. in 31 working days. The monthly progress in each heading averaged 420 ft., giving a gross monthly progress of 11,000 ft.

Following is comparative data of progress with other well known railway tunnels:—

Tunnel	Size of Heading	Distance	Time	Material
Arlberg		641	1 mo.	Gneiss.
Simplon	6.5x9.5	685	1 mo.	Hornblende and Mica.
Loetschberg	6.5x10	1013	1 mo.	Triassic limestone.
Mount Royal	8x12	810	31 days	Hard limestone and dykes of igneous rock.

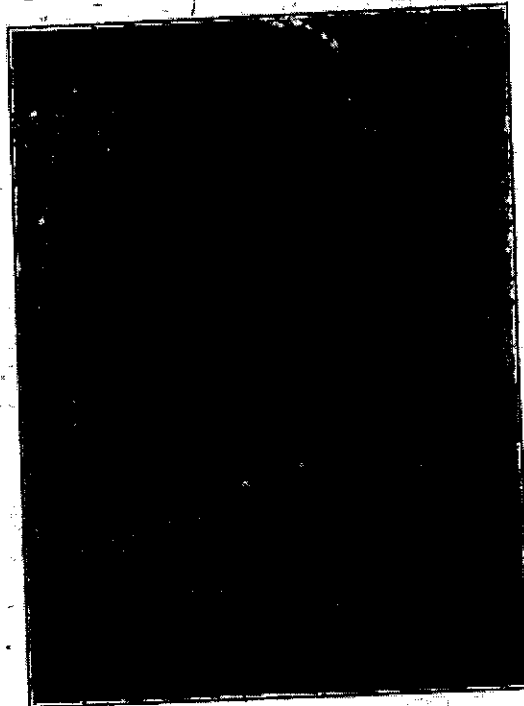
The distance driven in 31 consecutive working days at the Loetschberg tunnel was greater than that in the Mount Royal tunnel, but it is said that the Triassic limestone in the former was ideal for making distance.

December 1915

voyage from a north Atlantic port through the Panama Canal.

A Small Sighting Tunnel on the Canadian Northern Pacific Ry.

The tunnel interior shown in the accompanying view is that of tunnel 14, 2837 ft. long, under Battle Bluff on Kamloops Lake, on the C. N. P. R. in British Columbia. Near the far portal the centre line is curved for 300 ft., and the daylight seen in the centre of the bore comes through a 4 by 4 ft. sighting tunnel 300 ft. long, driven to check up



January 1915

Sighting Tunnel to Check Alignment.

the alignment. By the use of the sighting tunnel it was possible to produce the tangent sight to a point several miles distant across the lake, whence the ridge immediately over the tunnel centre line could be seen clearly.

—Engineering Record.

Information on an Accident Re-

O. G. Walker, inspector, Winnipeg, vice, C.P.R. Western Lines, Winnipeg, born at Newport, Mon., Eng., Jan. 31, 1877.

tral Division, C.N.R., Winnipeg, born at Kincardine, Ont., Jan. 2, 1865.

Comparison of Canadian Pacific and Canadian Northern Locomotives.

A subscriber at Winnipeg wrote Canadian Railway and Marine World recently as follows: "To decide a bet will you kindly answer the following question: Are the 2,400 class, 2-8-0 type, locomotives on the C.N.R. more powerful, and can they in all conditions haul more than the 5,000 class 2-8-2 type locomotives on the C.P.R.?"

Data.—Following are the data of the two types of locomotives referred to:

	C.P.R. 2-8-2	C.N.R. 2-8-0
Class	2-8-2	2-8-0
Weight of locomotive	255,600 lbs.	231,000 lbs.
Weight on drivers	197,300 lbs.	208,000 lbs.
Cylinders	23½ x 32 ins.	24 x 32 ins.
Boiler pressure	180 lbs.	200 lbs.
Diameter of drivers	63 ins.	63 ins.
Capacity rating	210% or 42,000 lbs.	50% or 50,000 lbs.

C.P.R. and C.N.R. capacity ratings differ in the unit, the C.P.R. unit being 20,000 lbs. for 100%, and the C.N.R. unit 1,000 lbs. for 1%. Hence the wide difference in the percentage capacity rating.

Computation.—The tractive effort of a locomotive is the average maximum tractive force at the tread of the driving wheels, assuming a 100% cutoff in the cylinder. It is given by the following equation:

$$F = \frac{d \cdot p \cdot s}{D}$$

F is the tractive effort at the driving wheels in lbs.; p, the average maximum pressure in the cylinder in lbs. per sq. in., usually taken as 85% of the boiler pressure; s, the piston stroke in ins.; d, the diameter of the cylinder in ins.; and D, the diameter of the drivers in ins. Hence,

for C.P.R. locos.,

$$F = \frac{(23\frac{1}{2})^2 \times (180 \times 0.85) \times 32}{63} = 42,918 \text{ lbs.}$$

for C.N.R. locos.,

$$F = \frac{(24)^2 \times (200 \times 0.85) \times 32}{63} = 49,737 \text{ lbs.}$$

However, the available tractive effort of the locomotive is limited by the grip of the drivers on the rails, which is only about 23% of the weight of the locomotive on the drivers. Hence, the maximum gripping effect of these locomotives is:

for C.P.R. locos., $197,300 \times 0.23 = 45,379$ lbs.

for C.N.R. locos., $208,000 \times 0.23 = 47,840$ lbs.

Conclusions.—From the above, it will be seen that the C.N.R. locomotives have a greater gripping effect on the rails than the C.P.R. ones. They also have a greater tractive effort; in both types the tractive effort exceeds the gripping effect. It will, therefore, be seen that the C.N.R. locomotives

by the capacity of the boiler to supply the cylinders with steam, falling much below the gripping effect of the tires on the rails, so that the full extent of the latter cannot be realized. Hence, the C.P.R. locomotives, having a larger boiler capacity, can supply a greater volume of steam, and in consequence, under similar loadings, can maintain higher speeds than the C.N.R. locomotives.

It will thus be seen that for low speeds, the C.N.R. locomotives are more powerful, but as the speed increases beyond the point where the tractive effort and gripping effect lose their balance, the C.P.R. locomotives, on account of their greater boiler capacity, have a greater capacity.

After the foregoing answer had been prepared in Canadian Railway and Marine World's office, copies of it were sent to H. H. Vaughan, Assistant to Vice President, C.P.R., Montreal, and to S. J. Hungerford, Superintendent of Rolling Stock, C.N.R., Winnipeg for criticism or suggestions. Mr. Vaughan replied that it was satisfactory to him, and that he had no suggestions to make. Mr. Hungerford has written as follows: "In general our locomotive was designed to haul bulk freight at a maximum running speed of 25 miles an hour, as experience has shown the economy of handling ordinary freight traffic in heavy trains at moderate speed. We believe that this statement is true in relation to the coal consumption, but it is also true in respect to wear and tear on equipment and track. Beside this there is the important advantage of greatly reducing the element of danger; the ordinary type of freight car truck not being safe at high speeds.

"I take exception to the assumption that the gripping effort upon the rails is 23% of the weight thereon, as experience has shown a great diversity of results. The factor of adhesion of the Canadian Northern locomotive is practically 4.16 (24%, Editor C. R. and M. W.), admittedly low, but the results in service have been entirely satisfactory, and on a dry rail the full tractive effort can be employed without slipping. The actual adhesion upon slightly wet, muddy or greasy rails varies so widely that no factor can be safely assumed, but with modern sanding appliances this trouble is almost entirely overcome and the employment of the highest possible tractive effort is undoubtedly justified.

"The boilers of the Canadian Northern locomotives have proved their ability to supply all the steam required by the cylinders.

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Class	2-8-2	2-8-0
Weight of locomotive	255,500 lbs.	231,000 lbs.
Weight on drivers	197,300 lbs.	208,000 lbs.
Cylinders	33½ x 32 ins.	24 x 32 ins.
Boiler pressure	180 lbs.	200 lbs.
Diameter of drivers	63 ins.	63 ins.
Capacity rating	210% or 42,000 lbs.	50% or 50,000 lbs.

C.P.R. and C.N.R. capacity ratings differ in the unit, the C.P.R. unit being 20,000 lbs. for 100%, and the C.N.R. unit 1,000 lbs. for 1%. Hence the wide difference in the percentage capacity rating.

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However, the available tractive effort of the locomotive is limited by the grip of the drivers on the rails, which is only about 23% of the weight of the locomotive on the drivers. Hence, the maximum gripping effect of these locomotives is:

$$\text{for C.P.R. locos., } 197,300 \times 0.23 = 45,379 \text{ lbs.}$$

$$\text{for C.N.R. locos., } 208,000 \times 0.23 = 47,840 \text{ lbs.}$$

Conclusions.—From the above, it will be seen that the C.N.R. locomotives have a greater gripping effect on the rails than the C.P.R. ones. They also have a greater tractive effort; in both types the tractive effort exceeds the gripping effect. It will, therefore, be seen that the C.N.R. locomotive can start a heavier train load under similar conditions than the C.P.R. ones, and maintain a heavier load at low speed.

However, the principal reason for the introduction of the mikado locomotive, with its reduced proportional weight on the drivers, was the demand for a locomotive with greater boiler capacity, which is possible by lengthening it over the trailing wheels, as at higher speeds the tractive effort is limited

but as the speed increases beyond the point where the tractive effort and gripping effect lose their balance, the C.P.R. locomotives, on account of their greater boiler capacity, have a greater capacity.

After the foregoing answer had been prepared in Canadian Railway and Marine World's office, copies of it were sent to H. H. Vaughan, Assistant to Vice President, C.P.R., Montreal, and to S. J. Hungerford, Superintendent of Rolling Stock, C.N.R., Winnipeg for criticism or suggestions. Mr. Vaughan replied that it was satisfactory to him, and that he had no suggestions to make. Mr. Hungerford has written as follows: "In general our locomotive was designed to haul bulk freight at a maximum running speed of 25 miles an hour, as experience has shown the economy of handling ordinary freight traffic in heavy trains at moderate speed. We believe that this statement is true in relation to the coal consumption, but it is also true in respect to wear and tear on equipment and track. Beside this there is the important advantage of greatly reducing the element of danger; the ordinary type of freight car truck not being safe at high speeds.

I take exception to the assumption that the gripping effort upon the rails is 23% of the weight thereon, as experience has shown a great diversity of results. The factor of adhesion of the Canadian Northern locomotive is practically 4.16 (24%, Editor C. R. and M. W.), admittedly low, but the results in service have been entirely satisfactory, and on a dry rail the full tractive effort can be employed without slipping. The actual adhesion upon slightly wet, muddy or greasy rails varies so widely that no factor can be safely assumed, but with modern sanding appliances this trouble is almost entirely overcome and the employment of the highest possible tractive effort is undoubtedly justified.

"The boilers of the Canadian Northern locomotives have proved their ability to supply all the steam required by the cylinders when working at maximum cut off at speeds under 10 miles an hour, and also when working at the speed limit at an economical cut off.

"It should be borne in mind that nearly all railways are more or less undulating, and only a few lines have very long continuous grades of maximum rise. The result of this is that under usual conditions a locomotive

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light in freight service is only required to supply the maximum amount of steam for a comparatively short period, and the average consumption of steam over a subdivision is greatly below the maximum requirements.

A careful consideration of the above facts led us to the decision that it would be unwise to adopt the mikado type with its greater gross weight, higher initial cost and subsequent maintenance while the consolidation type was amply capable of performing the work under our conditions, particularly as the question of employing longer and stronger turntables and increasing the size of roundhouses had to be considered. It is freely admitted that for very high speed service approximating passenger service the mikado type is preferable, on account of greater ultimate boiler pressure, but we do not believe that any considerable portion of the freight in this country is handled under such conditions.

On the whole our locomotives have shown their ability to furnish all the steam required under all ordinary conditions, and in addition have shown a high efficiency in connection with the consumption of fuel. Reducing the whole proposition to its simplest terms, why should large additional expense be incurred to provide abnormal power that is not required by the service, as conclusively shown by extensive experience?"

Consolidation

pg. 544.)

Pacific Great Eastern Ry.—It was reported, Dec. 5, that a train service would be put in operation on the line from Squamish, B.C., to the head of Anderson Lake, 85 miles, Dec. 15, an extension of 27 miles beyond Pemberton, to which point a train service had previously been operated. Track is reported to have been laid to Lillooet 120 miles from Squamish, and it is expected to have this additional 35 miles ready for operation in February. Between Lillooet and Fort George, 317 miles, grading is reported to be approaching completion. Grading of one section has been completed to Horse Lake Summit, 250 miles from Squamish, and another section of 30 miles has been completed south of Fort George. On the intervening section of 167 miles, about 78% of the grading has been completed. With the exception of one section, on which there is some heavy work to be done, the grading is expected to be completed by the end of February and the last section in June.

J. W. Stewart, President, after completing a trip of inspection over the line, is reported to have said that surveys had been completed for the extension of the line from Fort George to the Peace River Valley, where connection would be made with the Edmonton, Dunvegan and British Columbia Ry. and the Canadian Northern Ry. The company, however, was not yet ready

January, 1915.]

CANADIAN

to proceed with construction on this section of the line.

F. G. Gambia, Chief Engineer of the British Columbia Railways Department, in a report on the progress of construction, confirms the figures mentioned above, and gives the following additional details:—A temporary bridge has been erected at Anderson's Creek on the Lillooet River, which will be replaced by a steel one, when the Dominion Government has decided whether it will contain a movable or a fixed span. Between Lillooet River and Anderson Lake there will be two truss bridges, one over Oriole Creek, with a 100 ft. span, and the other over Birkenhead River, with a 125 ft. span, between trestle work. Temporary bridges are being erected. There are several small bridges to be built between Anderson Lake and the Fraser River. Between Squamish and Pemberton Meadows, 33,377 lineal feet of side tracks and sidings have been put in, and ballasting is being carried on. The track laid is in excellent shape. (Dec., 1914, pg. 544.)

Pacific, Peace River, and Athabasca Ry.—C. F. Law, Vancouver, B.C., who is the local representative of this British company, is reported to have stated that the location survey for the first section of this projected railway from the Pacific coast at the Maas River to the Groundhog coal district, B.C., had been completed. He went to London, Eng., early in December to report progress to the company, and possibly to make arrangements for starting construction in the spring. [See also Peace River Tramway and Navigation Co.] (Dec., 1914, pg. 544.)

Peace River Tramway and Navigation Co.—This undertaking is part of the plan of the company proposing to build the Pacific, Peace River, and Athabasca Ry. C. F. Law, Vancouver, B.C., the local representative of the company, is reported to have said the railway and tramway companies would open up for navigation about 2,500 miles of waterways, by way of Slave Lake and Mackenzie River to the Arctic Ocean. Plans for the boats have been prepared. They are of the shallow draft Mississippi River type, and will cost about \$50,000 each. Tramway boats will give connection at certain points on the route where rapids intervene. (Sept., 1914, pg. 419.)

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A lien of claim has been filed in the registry office at Sudbury, Ont., by Foley, Welch and Stewart and the Northern Construction Co., against the Canadian Northern Ontario Ry.'s lands, the claim being \$4,276,000, for work done and material supplied up to Dec. 3, 1914, for Mackenzie, Mann & Co., Toronto, and the British Empire Trust Co., London, Eng. The lien is filed under the 'Mechanics' Lien Act of Ontario on behalf of the contractors for the section of the line from Port Arthur easterly to Ruel, Ont. It is stated that differences have arisen between Mackenzie, Mann & Co., who were the general contractors for building the line, and the plaintiffs who actually did the work, as to the classification of materials, and that in order to bring about a settlement the plaintiffs have filed a general lien on the company's property and lands. Mackenzie, Mann & Co. claim that Foley, Welch and Stewart have been paid in full and that there is nothing owing to them.

Action has been taken at Calgary, Alta., against Mackenzie, Mann & Co., the Northern Construction Co., and the Canadian Northern Ry., by Phalen, Shirley and Co., who claim between \$300,000 and \$400,000 and interest. The plaintiffs had subcontracts on the main transcontinental line west of Edmonton, and allege that the various sums were not paid as they became due under the agreements.

The Safety First Propaganda.—G. Bradshaw, who is in charge of the safety first

31, 1879, to Northern, Rya.; Apr., practice in 1885, Assistant Western Engineer in Oct., 1901, and Branches, t of Moose, 1903, Gen- l; May, 1903, and Lease 1904, to Jan. P.R., Vancou- ed from rail- nt and Engi- General Con- ch he retired hich he prac- rried on con- count. His t Transporta- 7 of this re the news

Y. who died is at different ith a number 1874, during gime, he was Government y. of Canada, oyal commis- te its affairs. Cox, he pur- anada, origin- nd Beaverton d sold to the ong supporter ojects, which ito a railway commissioner Northern On- and on the n, A. E. Ames that office for y Government resigned. He und among the est Pass Coal y, Fernie and ibia. He was e first locomo- n from Good's tracks on the y directorates an to the time the Canadian a Scotia Steel Bank and the

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Great North-Western Telegraph and Canadian Northern Telegraph Companies Merge.

The Great North-Western Telegraph Co. of Canada and the Canadian Northern Telegraph Co. have been merged, and from Jan. 1 will be operated under one system as the Great North-Western Telegraph Co. of Canada. Under the arrangement the Western Union Telegraph Co.'s lines in New Brunswick, from Moncton east, and in the United States, will in the near future become part of the G.N.W. system, except the direct lines from the International Boundary between Maine and New Brunswick to the Atlantic cable landing stations at Canso and North Sydney, N.S., which will be retained by the W.U.

This means that the G.N.W.T. Co., heretofore controlled, if not entirely owned by the Western Union, a U.S. organization, has passed under Canadian ownership. While neither the Canadian Northern, nor the G.N.W. managements have made any official statement to that effect, Canadian Railway and Marine World is in a position to state that the W.U. holdings in the G.N.W. have been bought by Canadian Northern Ry. interests.

Z. A. Lash, K.C., who is a director and Senior Counsel of the C.N.R. and who, since the death of H. P. Dwight in 1912, has been President of the G.N.W.T. Co., remains in that position, and G. D. Perry continues as General Manager, the executive officers remaining at Toronto. W. C. Muir, now General Superintendent, Canadian Northern Telegraph Co. and Canadian Northern Express Co., at Winnipeg, will in future confine himself to the General Superintendency of the latter company.

The following appointments of district superintendents of the G.N.W.T. Co. have been made:

L. S. Humes, Superintendent 2nd district, and will continue to act as Manager, Montreal office.

W. G. Barber, Toronto, heretofore Assistant Manager, local office, Toronto, to be Superintendent 3rd district. Office, Toronto.

J. Paddington, to be Superintendent 4th district, and will continue as Manager, Winnipeg office.

G. H. Stead, heretofore Superintendent at Winnipeg, Canadian Northern Telegraph Co., to be Superintendent 5th district, G.N.W.T. Co. Office, Saskatoon.

The merger will give the G.N.W.T. connection, through Canadian territory, with Manitoba, Saskatchewan, Alberta and British Columbia, which it has had to reach

ized in 1863, and its lines are leased for 99 years, from July 1, 1879, to the W.U.C., which sublets the lines west of Moncton, N.B., to the G.N.W.T. Co., and operates those in N.B., east of Moncton and in Nova Scotia, under its own name. Its capital authorized and paid is \$1,000,000. Dividends of 6% a year are paid quarterly, the rental paid by the W.U. under the lease being equivalent to the dividends.

The Great North-Western Telegraph Co. of Canada was incorporated by the Dominion Parliament in 1880, one of its principal promoters being E. P. Leacock, an Englishman, who a year previously went from Ontario to Manitoba, where he had a meteoric career as a real estate speculator, member of the Legislature, etc., for a few years; after which he returned to England. He interested a number of Winnipeg and Toronto people in the project, and one of the incorporators was the late Hon. John Norquay, then Premier of Manitoba.

Following is a copy of the original notice of application for incorporation of the company which appeared in the Canada Gazette:

"Notice is hereby given that an application will be made to the Parliament of Canada at its next session for an act to incorporate the Great Western Telegraph Co. of Canada and to confer on such company corporate rights with powers to build, lease and purchase lines, and to maintain lines for others, and to carry on the business of telegraphing in the provinces of Manitoba, British Columbia and Ontario the district of Keeweenaw, the Northwest Territories and elsewhere, with power to amalgamate with any other company or companies.

"Acton Burrows, agent for applicants.

"Winnipeg, Dec. 3, 1879."

It was subsequently decided to change the name to the Great North-Western Telegraph Co. of Canada, and the act of incorporation was passed accordingly.

The company, which had its first headquarters in Winnipeg, built and operated a few local lines in Manitoba. Its act of incorporation was a comprehensive one, giving very wide powers, and in 1881, when the Western Union wanted to amalgamate the Montreal and Dominion Telegraph Companies' properties, it bought out the G.N.W.T. Co.'s shareholders' interests and acquired the charter. Its operations hitherto have been confined to New Brunswick, Quebec and Ontario, with a small mileage in Manitoba connecting with the W.U. lines at the International Boundary, and also a small mileage at different points near the border in the United States.

The Canadian Northern Telegraph Co., a subsidiary of the Canadian Northern Ry. Co., was organized June 30, 1902. It has an

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Canadian Northern Railway Construc- tion, Betterments, Etc.

Montreal, Ottawa, Port Arthur Line.—It was expected to connect up the several sections of this line by Dec. 31, with the exception of two or three steel bridges, which are not completed. The section of the line from North Bay to Capreol is being operated under a temporary order of the Board of Railway Commissioners, which will run to July, by which time it is expected that the ballasting, etc., on the line between Montreal and North Bay will be completed. The remainder of the line from Capreol to Port Arthur is fully completed, and is being partially operated.

The Canadian Northern Ontario Ry. is applying to the Dominion Parliament for the confirmation of an agreement with the Campbellford, Lake Ontario and Western Ry. (C.P.R.) respecting joint terminals at Belleville, Ont., and also respecting joint tracks and terminals at Orillia, Ont.

The Dominion Parliament is being asked to confirm an agreement made between the company and the C.P.R. respecting the use of joint terminals in North Toronto.

Canadian Northern Ry.—The ratepayers of Port Arthur, Ont., will vote on Jan. 1, on a bylaw confirming an agreement made between the City Council and the C.N.R., Nov. 14, adjusting certain differences between the parties respecting terminals. The city agrees to convey to the C.N.R. portions of streets and broken fronts of streets near the water's edge, and to release its interest in certain water lots, and to convey to the C.N.R. its interest in the original road allowance along the water's edge from Arthur St. to the north limit of William St., except a small section of the same which is to be conveyed by the C.N.R. to the city, and to aid the company in obtaining the withdrawal of certain registered plans affecting the streets in question. The C.N.R. agrees to hand over to the city a certain piece of land specifically described, subject to the restrictions that other railway than the C.N.R. is to be permitted to run spur tracks over it, and that the property is not to be leased or sold to any competing railway, but it is to be understood that boats belonging to competing railways may use the dock on the property. Pending the reconstruction of the dock a specific means of access is provided for. The company is also to pay the damages to property by the closing of the streets and to convey to the city a right of way to the present government elevator and certain other rights of way.

Contracts are reported let along the route of the Port Arthur and Duluth Ry., and in the Rainy River District for 250,000 ties.

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Contracts are reported let along the route of the Port Arthur and Duluth Ry., and in the Rainy River District for 250,000 ties.

The Dominion Parliament is being asked to confirm an agreement between the C.N.R. and the G. T. Pacific Ry., for the establishment, control and operation of joint terminals at Edmonton, Alta.

Canadian Northern Pacific Ry.—It was reported in Vancouver, Dec. 3, that there remained about 105 miles of track to be laid to connect up the various sections of the line between Port Mann and the Albrechts.

Marine Department

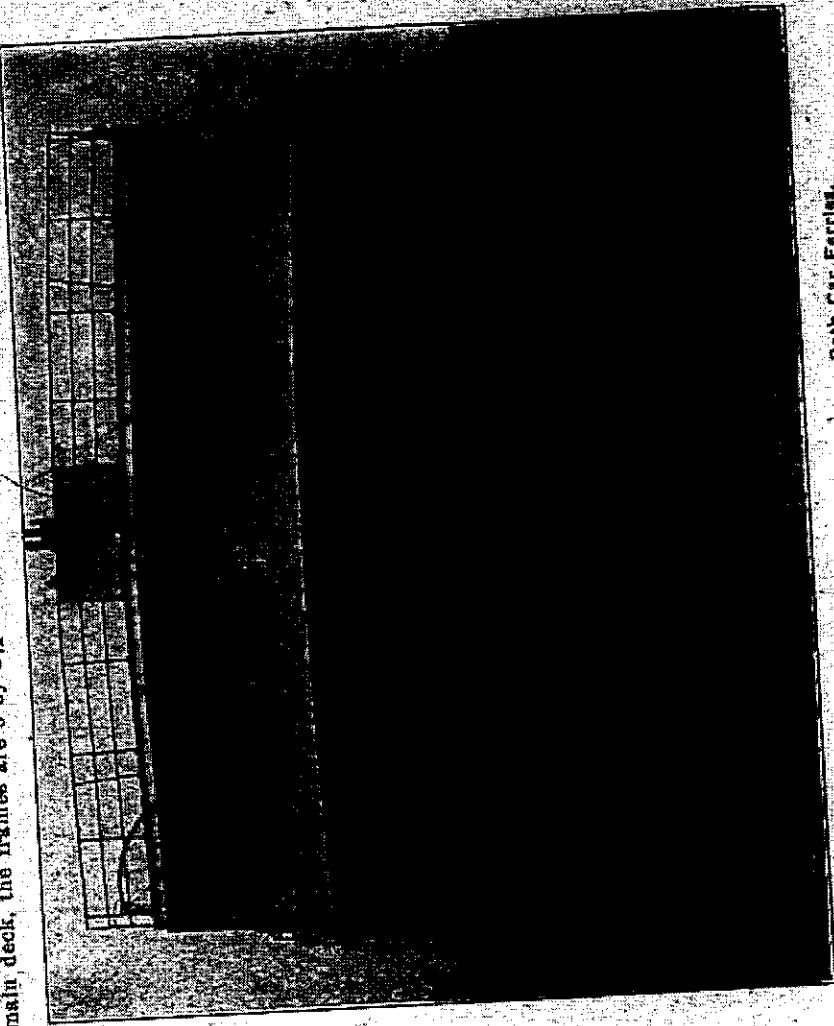
Ontario No. 2, Another Car Ferry for the Ontario Car Ferry Company.

An all steel car ferry, Ontario No. 2, a sister ship to Ontario No. 1, which is being operated between Cobourg, Ont., and Charlotte, N.Y., by the Ontario Car Ferry Co., under construction by the Polson Iron Works, Toronto, will probably be launched this month. The Ontario Car Ferry Co. is a combination of the G.T.R. and Buffalo, Rochester and Pittsburgh Ry. interests, formed some years ago to handle the coal traffic originating on the latter company's lines, destined to points in Eastern Ontario on G.T.R. lines, the object being to eliminate the long haul around the west end of Lake Ontario. The business handled by the company has increased to such a degree that the addition of another vessel became necessary. The new one is almost identical with the one at present in service, which was described in Canadian Railway and Marine World, May, 1907.

It is of the shelter deck type, with four tracks for cars on the main deck, and will be propelled by twin screws. The main deck is of steel throughout, without wood coverings; the shelter deck is of steel laid flush, with a deck house running throughout its greatest length, and containing accommodation for passengers, officers and crew. It has a wooden pilot house and bridge on top of the deck house forward, and a pilot house at the after end of the deck house. It is divided into six transverse watertight bulkheads, extending from the keel to the main deck, with a longitudinal bulkhead along the centre line in three watertight ballast tanks 18 ft deep. Two of the these ballast tanks are immediately forward of the boiler room, and the third immediately aft of the engine room. The steel lower deck, laid throughout the forward and aft holds and both peaks, forms the top of the deep water ballast tanks. There are two shaft alleys, leading back from the engine room, one on each side, extending into the stuffing box bulkhead. The boiler room contains four single ended Scotch marine boilers placed amidships, with one firehold athwartships and one wing coal bunker on each side of the boiler room. The hull is bossed out on each side to enclose the propeller shafts. There are two steel pole spars without

of mild open hearth steel; the stem, stern frame and rudder of hammered scrap iron; and the spectacle frame of cast steel in two parts. The frames from the after peak bulkhead to the stern post are 8 by 3 1/4 in., 19 1/2 lb. bulb angles, spaced at 24 in. centres; from the collision bulkhead to the after peak bulkhead, 10 by 3 1/4 in. 26.6 lb. bulb angles, 24 in. centres; and forward of the collision bulkhead, they are of the same section as in the after peak, but spaced 18 in. centres to the water line. All the frames extend the main deck in one length. Above the main deck, the frames are 8 by 3 1/4 in. 19 1/2

lb. first or inner keelson, at 8 1/2 ft. from the centre keelson is of double 7 by 3 in. 16.1 lb. bulb angles, placed on top of the floor, fitted with a 17.5 lb. filler intercostally between the floors, and connected to the floors and shell by 3 1/4 by 3 1/4 in. 2.8 lb. angle clips. The second keelson, 13 1/2 ft. from the centre keelson, along the inside of the side stanchions, on top of the floor is a single 10 by 3 1/4 in. 26.6 lb. bulb angle, with 17.5 lb. plates fitted intercostally. The third, or outer keelson, is of double 7 by 3 in. 16.1 lb. bulb angles, attached to the main frames by 4 by 3 in. 8.8 lb. angle clips. Extra keelsons are fitted forward, one in each strake



Stern View of Car Deck, Exactly the Same on Both Car Ferries. of the shell plating, and there are also additional bulkheads under the engine space.

be propelled by twin screws. The main deck is of steel throughout, without wood covering; the shelter deck is of steel laid flush, with a deck house running through out its greatest length, and containing accommodation for passengers, officers and crew. It has a wooden pilot house and bridge on top of the deck house forward, and a pilot house at the after end of the deck house. It is divided into six transverse watertight bulkheads, extending from the keel to the main deck, with a longitudinal bulkhead along the centre line in three watertight ballast tanks 13 ft. deep. Two of these ballast tanks are immediately forward of the boiler room, and the third immediately aft of the engine room. The steel lower deck, laid throughout the forward and aft holds and both peaks, forms the top of the deep water ballast tanks. There are two shaft alleys, leading back from the engine room, one on each side, extending into the stuffing box bulkhead. The boiler room contains four single ended Scotch marine boilers placed amidships, with one firehold athwartships and one wing coal bunker on each side of the boiler room. The hull is bossed out on each side to enclose the propeller shafts. There are two steel pole spars without masts or sails.

The vessel has a capacity for 28 standard coal cars of 68 tons gross weight each, and 200 tons of coal in the bunkers. The draught will be about 16½ ft. when fully loaded, and the vessel will have a normal working speed of 13 miles an hour, with reserve power to make 15 miles an hour under emergency conditions. Following are the principal general dimensions:

Length overall	318 ft.
Length between perpendiculars	307½ ft.
Beam moulded	54 ft.
Beam on main deck	56 ft.
Depth at centre, main deck to promenade deck	17 ft.
Depth at side, main deck to promenade deck	17 ft.
Draught of water, full loaded	15½ ft.
Camber of main and promenade decks	3 ins.
Depth to promenade deck	20¼ ft.
Rise of floor	2 ft.

The vessel is built on the transfer system, with solid plate floors and bulb angle frames, with the steel plate extra heavy for working in ice, and not reduced forward. It is built to pass the inspection of the Great Lakes Register, and to receive its highest rating. The plates and shapes are

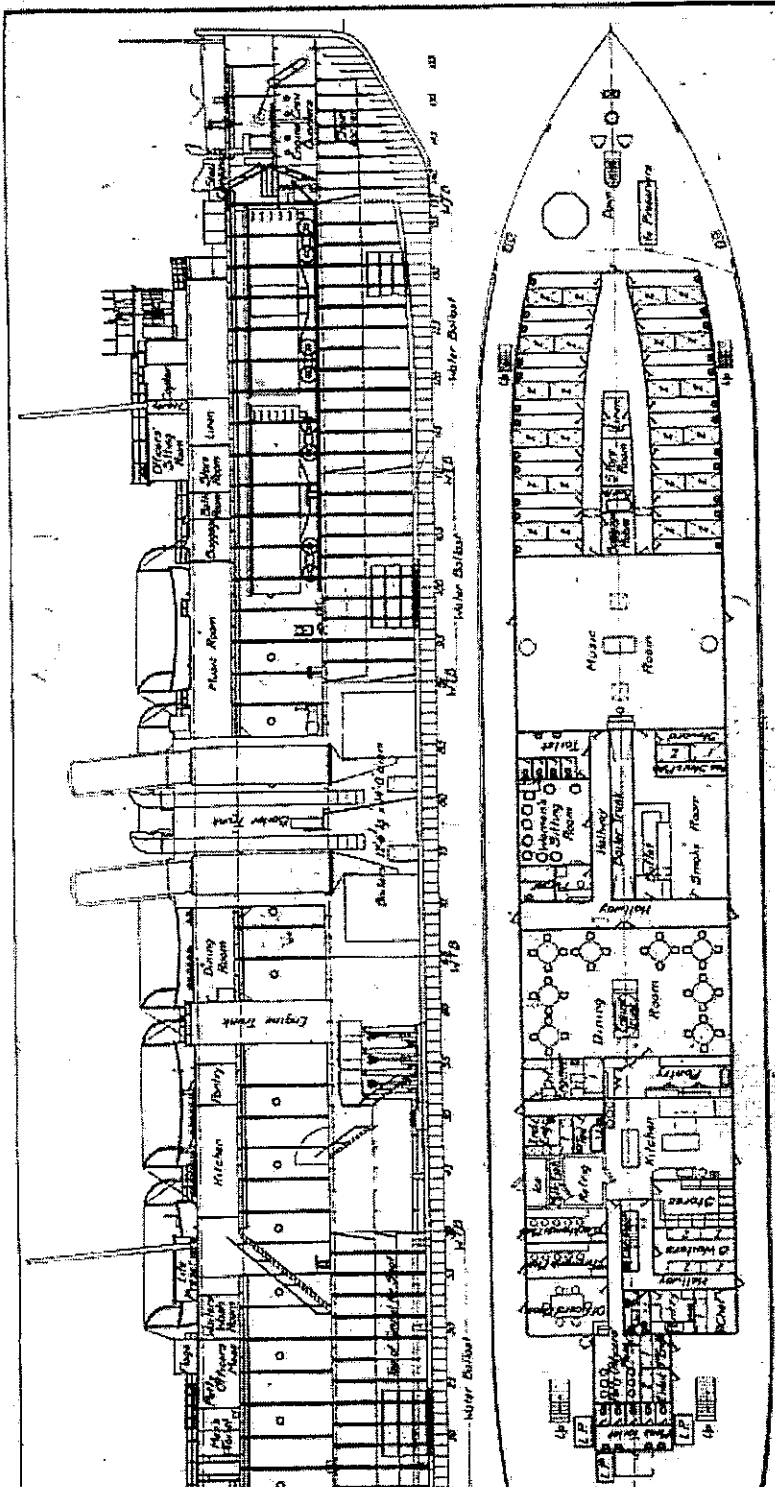
Stern View of Car Deck, Exactly the Same on Both Car Ferries.

of the shell plating, and there are also additional keelsons under the engine space.

The keel plates are 48 ins. wide, of 32.5 lb. plate amidships, reducing to 30 lb. plate fore and aft. The hull plating below the main deck is in 8 courses, the first 5 from the keel plate of 25.5 lb. plate, reducing aft to 21.5 lb., and the remaining 3, of 30.6 lb. plate, reducing aft to 25.5 lb. Above the main deck, there are 3 courses, the lower of 12.75 lb. plate, increasing to 15 lb. for ward, and the upper two respectively 12.75 and 15 lb. plate throughout. The bilge keel is a 13 in. 27.95 lb. bulb plate, fitted to the plating by double 5 by 3½ in. 13 lb. angles, and carried amidships for 110 ft. Connection between the plating above and below the main deck is by a 20 lb. plate throughout from the lower strake of the upper plating, on each side of which, near the top, on each side is a 4 by 4 in. 14.3 lb. angle, the inner one of which connects to the main deck stringer. This side plate connects to the end of the main floor beams by 4 by 4 in. 11.3 lb. angle clips. On the outside, at the bottom of the side connecting plate,

lb. bulb angles, spaced at 36 in. centres. The bulkhead frames are 5 by 5 in. 16.2 lb. angles, double rivetted on both flanges, with 4 by 3½ in. 15 lb. angles for stiffeners. The frames below the main deck, in the way of the bossing, are of 4 by 3½ in. 11.9 lb. angles and 15 lb. plate, with 3 by 3 in. 7.2 lb. angle reverse bars. The reverse frames are 3 by 3 in. 7.2 lb. angles, and on all the floors in the engine space, double reverse bars are used. The floors are 33 ins. deep, of 17.5 lb. plate, except in the engine and boiler space, where they are of 20 lb. plate. The 17.5 lb. plates for the floor at the end of the vessel are increased in depth wherever necessary to suit the shape of the vessel. The floors are connected to the centre keelson by double 3½ by 3½ in. 8¼ lb. angles.

The centre keelson is 45 ins. deep, of 25 lb. plate throughout, with double 5 by 4 in. 14.5 lb. angles top and bottom. On top of the floors, rivetted to the sides of the centre keelson by one flange, there is on each side a 12 by 3.05 in. 25 lb. channel. The side keelsons are of several kinds. The



Section and Plan of Promenade Deck on Ontario No. 2, for Ontario Car Ferry Company.

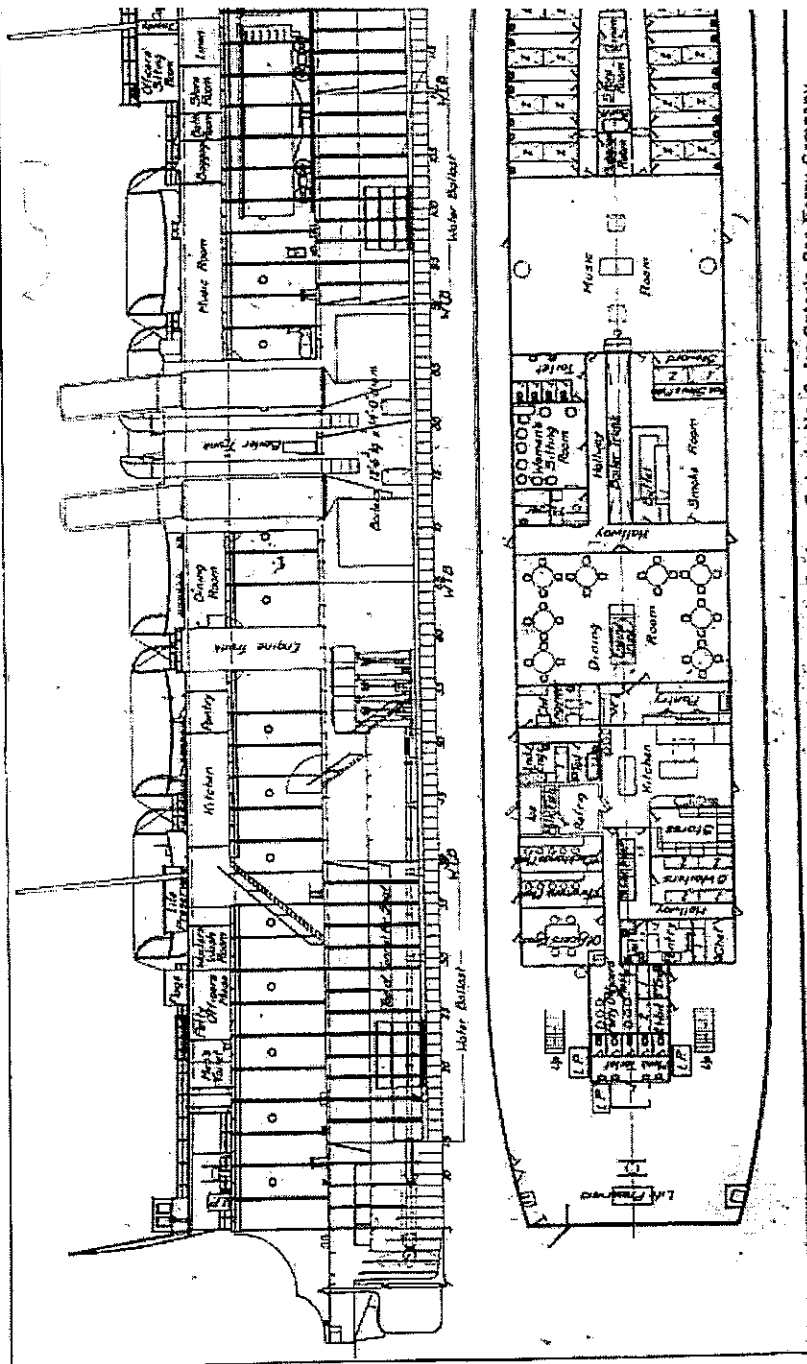
There is a 5 by 4 in. 14.5 lb. angle connecting this plate to a horizontal 22.5 lb. plate, which is connected to the upper strake of the hull plating below the main deck, by a 5 by 5 in. 14.3 lb. angle, narrowing the lower part of the hull 2 ft. in beam less than the upper portion. Between the outwardly projecting flanges of the two angles on the outside of the side connecting plate, there is a 13½ by 10 in. oak beam throughout, protected on the outside by a 10 by ¾ in. face plate.

The main deck stringer is a 30 lb. plate, 65 ins. wide for two thirds the length, tapering at the ends to 22.5 lb. plate 36 ins. wide, and rivetted to the connecting strip between the upper and lower part of the hull by the 4 by 4 in. 14.3 lb. angle mentioned before. The hold stringer is of double 7 by 3 in. 16.1 lb. bulb angles, with a 17.5 lb. plate fitted intercostally, and connected to the shell by 3½ by 3½ in. 9.8 lb. angles, and to the main frames by 4 by 3 in. 8.5 lb. angle clips. The lower deck stringer is a 14.75 lb. plate, 48 ins. wide for three quarters the length, reduced to a 15 lb. plate 36 ins. wide, fore and aft, and is connected to the shell and frame by a 3½ by 3½ in. 9.8 lb. angle. The upper hold stringer is 17.85 lb. plate, 39 ins. wide for three quarters the length, reducing to 15 lb. plate, 30 ins. wide, and connected to hull and frame by 3½ by 3½ in. 9.8 lb. angles. The promenade deck stringer is a 17.85 lb. plate, 72 ins. wide for two thirds the length, reducing to 15 lb. plate 42 ins. wide, and connected to the shell by 3½ by 3½ in. 11.1 lb. gunwale angles. The web plate is 17.85 lb. plate, with a 9 in. hole in each, midway between the stringers.

The deck plating for the main deck is 13 lb.; windlass deck, 12.5 lb. except under the windlass, where it is 20 lb.; lower deck, 12.5 lb.; and promenade deck, 10.2 lb. The deck beams for the main deck are 13 by 4 in. 32 lb. channels at 4 ft. centres; windlass deck, 10 by 4 in. 20 lb. bulb angles at 3 ft. centres; lower deck, 10 by 3.5 in. 26.6 lb. bulb angles at 4 ft. centres.

The six transverse bulkheads are watertight, with the collision bulkhead 32 ft. abaft the stem. The central stanchions in the hold and from lower to main deck are double 6 in. 13.3 lb. channels, spaced at 4 ft. centres. From the main to promenade deck, the central stanchions are the same size, only at 6 ft. centres. The side stanchions are also the same size, at 4 ft. centres, but are only carried up to the main deck. The upper ends of all the stanchions are braced by 17.5 lb. plate brackets. The coal pockets have 10 by 2.74 in. 20 lb. stiffener stanchions at 4 ft. centres, 15 ft. from the centre line. The coal pockets are formed by 12.5 lb. plating on the inner face of these stiffeners. The decking of the coal pocket consists of a double layer of 1½ by 8 in. pine planking, laid on 4½ by 3 in. 9.1 lb. beams at 24 in. centres.

The propelling machinery consists of two triple expansion, 20½ by 33 by 54 by 36 in. jet condensing engines, operating normally at about 110 revolutions per minute, both engines turning outward. The four boilers are fitted with forced draught, and they carry 180 lbs. pressure. Each boiler has



Section and Plan of Promenade Deck on Ontario No. 2, for Ontario Car Ferry Company.

10. plate 17.85 lb. plate, 39 ins. wide for three quarters the length, reduced to a 15 lb. plate 35 ins. wide, fore and aft, and is connected to the shell and frame by a $3\frac{1}{2}$ by $3\frac{1}{2}$ in. 9.8 lb. angle. The upper hold stringer is 17.85 lb. plate, 39 ins. wide for three quarters the length, reduced to 15 lb. plate, 30 ins. wide, and connected to hull and frame by $3\frac{1}{2}$ by $3\frac{1}{2}$ in. 9.8 lb. angles. The promenade deck stringer is a 17.85 lb. plate, 72 ins. wide for two thirds the length, reducing to 15 lb. plate 42 ins. wide, and connected to the shell by $3\frac{1}{2}$ by $3\frac{1}{2}$ in. 11.1 lb. gunwale angles. The web plate is 17.85 lb. plate, with a 9 in. hole in each, midway between the stringers.

The deck plating for the main deck is 13 lb.; windlass deck, 12.5 lb. except under the windlass, where it is 20 lb.; lower deck, 12.5 lb.; and promenade deck, 10.2 lb. The deck beams for the main deck are 13 by 4 in. 32 lb. channels at 4 ft. centres; windlass deck, 10 by 3 in. 20 lb. bulb angles at 3 ft. centres; lower deck, 10 by 3.5 in. 26.6 lb. bulb angles at 4 ft. centres.

The six transverse bulkheads are watertight, with the collision bulkhead 32 ft. abaft the stem. The central stanchions in the hold and from lower to main deck are double 6 in. 13.3 lb. channels, spaced at 4 ft. centres. From the main to promenade deck, the central stanchions are the same size, only at 8 ft. centres. The side stanchions are also the same size, at 4 ft. centres, but are only carried up to the main deck. The upper ends of all the stanchions are braced by 17.5 lb. plate brackets. The coal pockets have 10 by 2.74 in. 20 lb. stiffener stanchions at 4 ft. centres, 16 ft. from the centre line. The coal pockets are formed by 12.5 lb. plating on the inner face of these stiffeners. The decking of the coal pocket consists of a double layer of $1\frac{1}{2}$ by 8 in. pine planking, laid on $4\frac{1}{2}$ by 3 in. 9.1 lb. beams at 24 in. centres.

The propelling machinery consists of two triple expansion, $20\frac{1}{2}$ by 33 by 54 by 36 in. jet condensing engines, operating normally at about 110 revolutions per minute, both engines turning outward. The four boilers are fitted with forced draught, and they carry 180 lbs. pressure. Each boiler has three furnaces, 42 ins. diam. and 42 ins. long. The auxiliary machinery consists of two 12 by 16 by 18 in. duplex piston type ballast pumps, connected so as to individually fill or empty the ballast tanks; a 12 in. centrifugal pump, direct connected to an engine in the engine room and so arranged as to act as an air pump in emergencies; a fire pump; a 6 by 5 by 7 in. sanitary pump; a $4\frac{1}{2}$ by 4 by 5 in. fresh water pump; and a $4\frac{1}{2}$ by 4 by 5 in. cooler pump. There is also a 2 ton ice machine, working

on the carbon anhydride principle. The electric lighting plant consists of one 15 k.w. and one 20 k.w. generator. There will be a 16 in. searchlight.

There is accommodation on the main deck for 6 coal passers and 6 firemen on the port side, and 2 oilers, 2 watchmen, 4 deckhands and 2 water tenders on the starboard side, all situated forward. The windlass deck is directly over these quarters, from which lead the anchoring chains, which are normally stored in the chain locker on the hold deck, an enclosed pipe connecting the windlass deck with the chain locker, through the crew's quarters.

The promenade deck has accommodation for the ship's officers and passengers, with a promenade extending nearly the full length of the vessel. Forward on this deck are the passenger staterooms, 12 on each side of a double hallway leading forward to the music room. Each stateroom has two berths, giving accommodation for 48 altogether. Between the double hallway, there are the linen room, storeroom, bath room and baggage room. The music room extends the full width, and has a piano. Leading back from the music room, there is a hallway alongside the boiler trunk, connecting into which are the women's sitting room and toilet, and the purser's office and room. The other side of the boiler trunk contains the smoking room, with a buffet in one corner, and the steward's, assistant steward's and assistant purser's quarters. Back of this, there is a cross hall, leading out at either end to the deck, and in the centre leading into the dining room, which has 8 tables, with a seating capacity of 32. The engine trunk passes up through this room.

The kitchen, messes, and quarters for most of the officers are located back of the

out into the harbor to the outer harbor line. It will be provided with a depressed track for its entire length, with a landing berth on the outside and with numerous adjustable cargo slips, and with a flush driveway the entire length made of Australian blue gum. The piling, as well as the bracing and capping, which will be submerged, will be erected. The general arrangement of the dock will be materially different from the former dock as dictated by the experience in the traffic of the port for the past five years. About 85,000 yards of gravel and rock were placed underneath the dock just previous to the fire, so that it will be very substantial and first-class in every respect.

The warehouse and office building to be placed on the dock will be three stories high at the street end, the design of the original building being restored. There will be six stores on the ground floor, 28 offices and stores on the second floor, and 20 on the third floor. The waiting room and other passenger accommodation will be as near to the street end as possible. The waiting room will be about 60 ft. square, extending from the north side of the building to the main corridor leading to the steamboats, and will be finished in stained Douglas fir, with an artistic domed roof the entire width of the building. There will be a roomy balcony over the corridor and offices on the outside of the building, reached by an ornamental staircase from the waiting room. Ticket offices, baggage check room, ladies' rest room and other conveniences will be provided, and the illumination will be by indirect method from the dome of the waiting room. The ends of the waiting room will be worked out into a transept in the building proper, which will make a very agreeable break and an ornamental feature. Other than this the balance of the shed

frequent intervals sufficient to give the protection required by the city fire ordinance.

The company's steamboats will be berthed on the south side, as usual, but well up the slip against the street end, and the landing stage and inclined walk leading to the waiting room floor will be entirely enclosed in the building itself, so that passengers going to and from the boats will be quite under cover all the year around. This arrangement has been decided on because of the convenience in getting passengers to and from the boats, and as a result of the experience with the fire, and all passenger accommodation is, therefore, arranged as near to the street end as possible, and in addition to that to make access to and from the boats as convenient as possible, thereby avoiding the long and unnecessary walk from the street to the outer end of the dock, which is still the present practice on all of the other docks in Seattle.

On Dec. 8 we were officially advised that a contract for reconstructing the dock had been given to Nattleton-Bruce-Eschbach Co. of Seattle, the work to be completed in three months. The total cost will be about \$75,000.

Vancouver Dry Dock Projects.

Some information on this subject was published in Canadian Railway and Marine World for Oct., pg. 481, and Dec., pg. 555. Enquiry by Dominion Shipbuilding, and Drydock Co., elicited the following information on Nov. 25: "The clearing of our site has been completed, and last week the foundations were finished for the six buildings as outlined in the prospectus, viz., machine shop, boiler shop, forging shop, foundry, pattern shop, stores, and general offices. Each of these buildings will be 250 by 68½ ft. in the clearing of the

locomotive house at North Trenton, Ont., with equipment, and considerable other property was destroyed by fire, Jan. 4. The damage is estimated at \$100,000. The company has under survey, a line from Toronto to Niagara Falls, Ont., 79.13 miles. The surveys are practically completed, and the negotiations with the local authorities are well advanced. The section has been reported on several occasions to have been put under contract, but nothing is likely to be done on it at present.

The Dominion Parliament is being asked to extend the time for the building of the following lines: From Washago to Kincardine; from Arnprior to Gananoque; from Pembroke to Cobourg or Port Hope; from Frenchman's Bay to Owen Sound; from Niagara River to Goderich; from Hawkebury to or near Lanark; from Berlin through Guelph, Acton and Brampton to Toronto; from Berlin to St. Marys and Woodstock; from Sarnia to Chatham and from Orillia to Goderich, with a branch to Owen Sound, all in Ontario.

Canadian Northern Ry.—The ratepayers of Port Arthur defeated the bylaw confirming the agreement for the transfer of certain lands on the waterfront. The City Council has arranged to reconsider the agreement, with a view of having the matters about which there is a difference amicably adjusted.

The Board of Railway Commissioners has authorized the opening for traffic of the line between Grand Marais and Bird's Hill, Man., 50 miles temporarily.

The Board of Railway Commissioners has authorized the opening for traffic of the line from the junction with the Balke River subdivision, north of Camrose, Alberta, to a junction with the C. N. Western Ry. near Strathcona, 45 miles.

It was reported in Edmonton, Alberta, Jan. 13, that the bridge over the Pembina River, on the Onoway-Peace River line had been completed. The grading on Whitecamp, will, it is expected, be finished in the spring, and the track laid, so as to get the steel in for the bridge across the McLeod River. The approaches and abutments have already been completed for this bridge. A train service has been put in operation to Sangudo, at the Pembina River, 32 miles from Onoway.

The Dominion Parliament is being asked to extend the time for the building of the following lines:—From Strathcona southerly to Calgary; from near Swan River westerly to the Saskatchewan River; from Regina to Red Deer with a branch to Dalmeny; from

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