

THE LOCOMOTIVES OF THE
NATIONAL TRANSCONTINENTAL
RAILWAY.

THE CANADIAN GOVERNMENT
RAILWAYS.

SOURCE: Don McQueen; Canadian
National Steam Locomotives, Railfare,
2013

LOCOMOTIVES USED ON THE NATIONAL TRANSCONTINENTAL
RAILWAY;

THE LOCOMOTIVES OF THE CANADIAN GOVERNMENT RAILWAY.

G.G. R. No.	C.N.R. No.	BUILDER	DATE
2-8-0			
201 - 205	2180-2184	C. L.C.	1912
206 - 210	2185-2189	C. L. C.	1913
211 - 215	2190-2194	Montreal	1913
216 - 221	2105-2200	Cda. Foundry	1915-1916
251- 255	2385-2389	Cda. Foundry	1913
256 - 265	2390-2399	Cda. Foundry	1913-1914
266 - 270	2334-2338	Montreal	1913
271 - 280	2339-2348	C.L.C.	1913-1914
281 - 286	2349-2354	C. L. C.	1914
287 - 301	2355-2369	C.L.C	1915
302 - 316	2370-2384	C.L.C	1916

THE LOCOMOTIVES OF THE CANADIAN GOVERNMENT RAILWAY.

CGR No.	CNR No.	BUILDER	DATE
4-6-2			
401 - 412	5500-5511	C.L.C.	1905
413 - 427	5517-5531	Montreal	1906
438	5542	Montreal	1910
439 - 441	5512-5514	C.L.C.	1911
442 - 443	5515-5516	C.L.C.	1911
444 - 447	5543-5546	Montreal	1913-1914
448 - 452	5547-5551	Montreal	1914
453 - 457	5080-5084	M.L.W.	1914
463 - 467	5085-5089	C. L. C.	1916
468 - 477	5090-5099	Montreal	1918

2-10-2

2000-2009	4000-4009	Brooks	1916
2010 -2019	4010-4019	Montreal	1918

THE LOCOMOTIVES OF THE CANADIAN GOVERNMENT RAILWAY.

CGR No.	CNR No.	BUILDER	DATE
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2-8-2

2800 - 2849	3200-3249	C. L. C.	1916-1917
2850 - 2899	3250-3299	C. L. C.	1917-1918
2900 - 2929	3300-3329	Montreal	1917
2930 -2989	3330-3389		

LOCOMOTIVES USED ON THE NATIONAL TRANSCONTINENTAL RAILWAY THAT WERE ACQUIRED FROM THE INTERCOLONIAL RAILWAY.

CGR No.	CNR No,	BUILDER	DATE
2-8-0			
1 - 10		Richmond	1901
11 - 30	1811-1830	Baldwin	1901
31 - 35	1831-1835	Dickson	1901
36 - 55	1836-1855	C. L. C.	1901
56 - 74	1856-1874	C. L. C.	1903
75	1875	C. L. C.	1903
76 - 85	1876-1885	C. L. C.	1903
86 - 105	1886-1905	C. L. C.	1906-1907
106 - 115	1905-1915	C. L. C.	1908
116 - 137	1916-1937	C. L. C.	1908
138 - 147	1938-1947	C. L. C.	1910
148 - 157	1949-1956	Manchester	1901

SOURCE: Donald McQueen, Canadian National Steam Locomotives, Railfare, 2013.

National Transcontinental Railway Car Ferry for St. Lawrence River.

The ice breaking car ferry steamboat, which is under construction at Birkenhead, Eng., for the transportation of N.T.R. trains across the St. Lawrence River pending the completion of the Quebec Bridge, was launched at Birkenhead, Jan. 31, and delivery at Quebec is expected in May or June. A preliminary description was published in Canadian Railway and Marine World for May, 1913, and the following fuller information is now available.

Principal dimensions are:—Length overall, 326 ft.; beam, 55 ft.; with a mean draught of about 15 ft. The propelling machinery will consist of two sets of triple expansion condensing engines, steam being supplied by 8 single ended cylindrical boilers working under natural draught. An ice propeller will be fitted at the forward end, driven by a compound condensing engine. The vessel will be built to Lloyds' special survey and will be arranged for the carriage of passenger and freight trains at all seasons.

The trains will be carried on a tidal deck arranged above the main deck of the vessel, on three lengths of track, the length of each

the tidal deck, a promenade will be arranged all round the vessel, with a bridge platform forward, from which all the operations of steering and manoeuvring will be directed.

The boiler rooms will be arranged in wing compartments amidships, with the coal bunkers and the tidal deck engine room between them. The main propelling engines will be situated abaft the boiler rooms and the engine for the ice propeller will be placed in the hold just abaft the fore peak bulkhead. The vessel will be fitted with electric light throughout and electric gear will be provided for raising and lowering the end gangways and for hauling the cars on or off. Special arrangements will be made for heating the passenger cars during transit. Double windlasses will be fitted, one on each side, with slip drum for mooring. Accommodation will be arranged on flats below the main deck forward on both sides of ship for officers and crew.

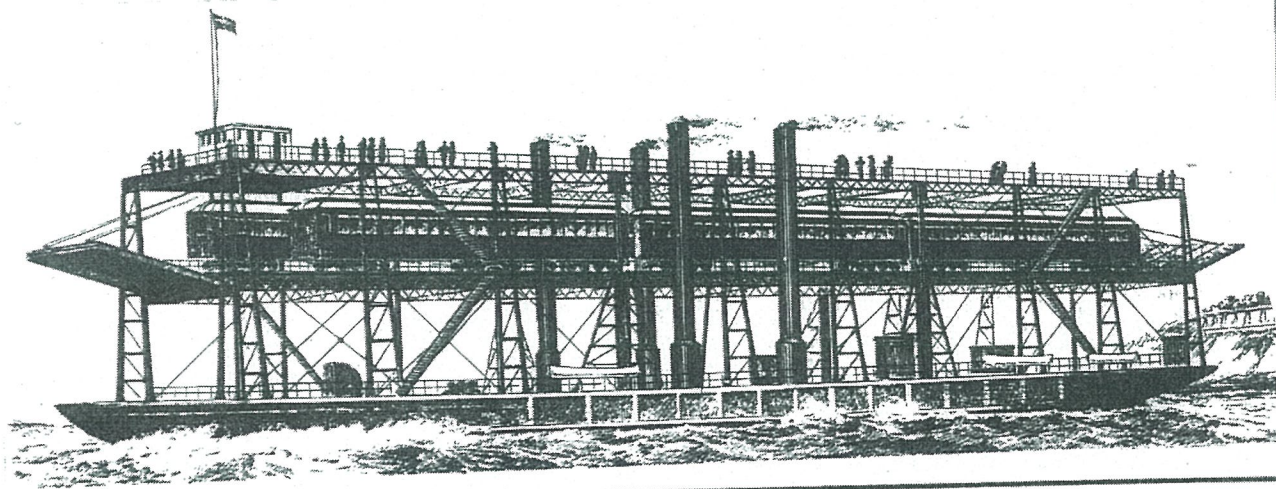
The propelling machinery will consist of two sets of triple expansion surface condensing engines, the size of cylinders being 23, 35, and 55 dia. by 33 in. stroke. They are designed to run at 120 revolutions a minute; and a special feature of the en-

a loose forged steel sleeve and sliding key arrangement fitted into the box of wheel; the screws will be fitted with heavy gun-metal nuts, screwed with buttress threads, and will be supported from the upper structure of the vessel by ball bearings of special design. A complete installation of auxiliary machinery will be fitted, and the whole made to Lloyds' requirements. It is said that she will be named Leonard, after the Chairman of the N.T.R. Commission.

We are indebted to W. J. Press, Mechanical Engineer, N.T.R. Commission, for the foregoing information.

The Recent Great Lakes Disaster.

The Minister of Marine stated in the House of Commons recently, in connection with the suggested appointment of a commission to investigate the wrecks caused on the Great Lakes in the storm of Nov. 9, 1913, that soon after the disaster steps were taken to ascertain if it was the intention of the United States, whose shipping had sustained greater loss and damage than the Dominion's, to appoint any commission of investigation, and it was learned that



National Transcontinental Railway Car Ferry for St. Lawrence River.

track being about 272 ft., which will accommodate a standard passenger train of 1 locomotive, 3 express and baggage cars, 3 passenger cars, and 3 sleeping cars; or a standard freight train of 18 loaded freight cars. The tidal deck will rest on large gunmetal nuts working up and down on 10 vertical lifting screws on each side, supported on columns, the columns being stayed by lattice buttresses against longitudinal and transverse thrusts. The lifting screws will be hung on ball bearings from the top and will be manipulated by means of worm wheels driven from horizontal shafting which will run the length of the vessel on each side. The horizontal shafting will be worked by bevel gearing from a four cylinder high pressure engine of special design situated below the main deck. The gearing will be arranged to lift the tidal deck fully loaded at a rate of 1 ft. a

minute and 12 ft. which

gines is the shafting, which is made much stronger than usual, to stand the shock it will receive when the propellers strike ice during the winter trips. The propellers themselves will be specially strong for the same reason, being made of nickel steel. The engines will be supplied with steam by eight single ended boilers, under natural draught at a pressure of 165 lbs. per sq. in.

The forward end of the vessel will be fitted with an ice breaking propeller, driven by a set of compound surface condensing engines, the size of cylinders being 15, 32 by 21 in. stroke. This propeller, which will also be of nickel steel, will run idly during the summer. The engine will be of the four cylinder, high pressure type of massive design, driving through double helical spur wheels, a second motion shaft running athwartship; at both ends of this shaft will be arranged a pair of mitre wheels,

there was no such intention. His department believed that any inquiry, to be effective, should be international in character, and in view of this, and of the further fact that it was the announced intention of a member of Parliament to move for the appointment of a parliamentary committee of inquiry, it was decided that the appointment of a commission was not desirable, nor necessary.

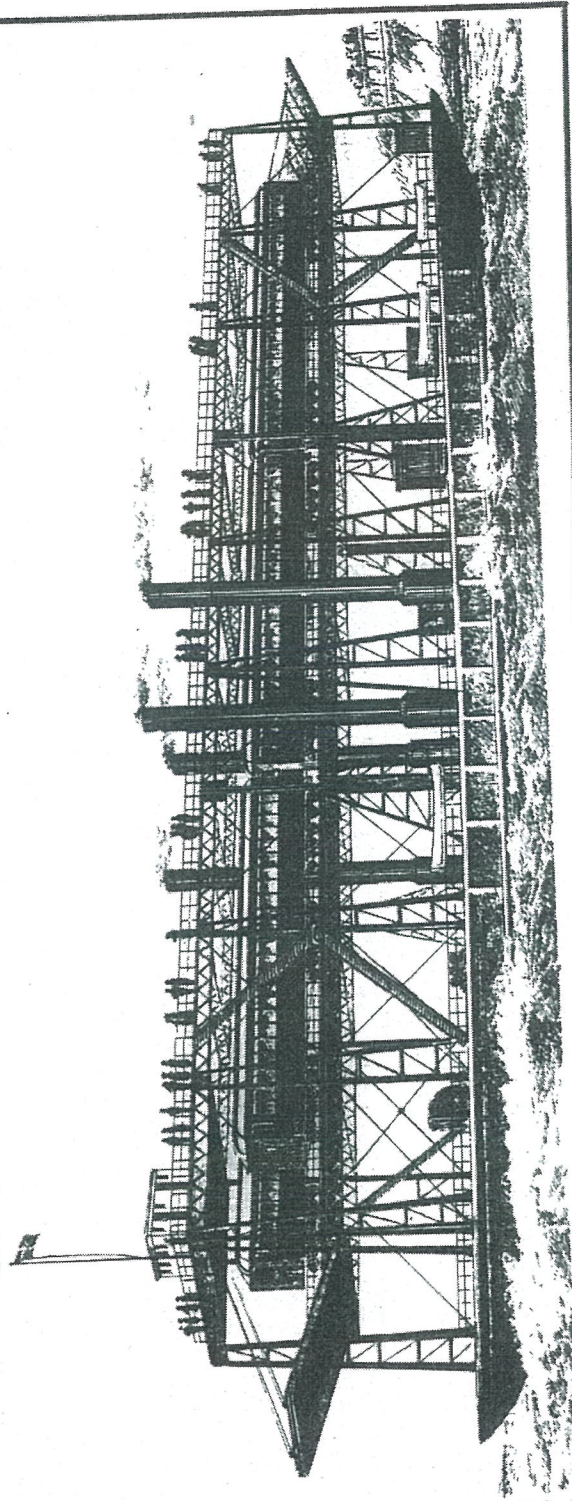
The following Canadian vessels which were stranded during the storm have been the subjects of investigation by the Dominion Wreck Commissioner:—Turret Chief, owned by Canadian Lake and Ocean Navigation Co.; Acadia, owned by Canada Inter-lake Line; results, masters censured.

National Council Marine Engineers of Canada.—The following officers were elected at a meeting in Kingston, Ont., re-Grand President. L. B. Cronk.

The trains will be carried on a dual deck arranged above the main deck of the vessel, on three lengths of track, the length of each

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Transcontinental Railway Car Ferry for St. Lawrence River.

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engines is the shafting, which is made much stronger than usual, to stand the shock it will receive when the propellers strike ice during the winter trips. The propellers themselves will be specially strong for the same reason, being made of nickel steel. The engines will be supplied with steam by eight single ended boilers, under natural draught at a pressure of 165 lbs. per sq. in.

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National Council Marine Engineers of Canada.—The following officers were elected at a meeting in Kingston, Ont., recently:—Grand President, L. B. Cronk, Windsor, Ont.; Grand Vice President, A. F. Hamelin, Montreal; Grand Secretary Treasurer, N. J. Morrison, St. John, N.B.; Grand Conductor, E. Reid, Vancouver; Grand Doorkeeper, A. J. Ross, Halifax, N.S.; Grand Auditors, J. Gille and A. E. Kennedy, Kingston, Ont.

Marine Department

National Transcontinental Railway Car Ferry Leonard, for St. Lawrence River.

A detailed description of the construction and equipment of the car ferry Leonard, which is intended for conveying trains across the St. Lawrence, pending the completion of the Quebec Bridge, was given in Canadian Railway and Marine World for March, page 143, with an illustration, showing the train deck raised to the upper level. The vessel was recently completed at Birkenhead, Eng., and underwent a series of exhaustive trials, covering her propelling machinery, as well as the train deck raising and lowering mechanism, with entirely satisfactory results. The owners were represented at the trials by Chas. Duguid, Chief Constructor, Department of Marine, Ottawa, and J. E. Hamilton, Resident Surveyor.

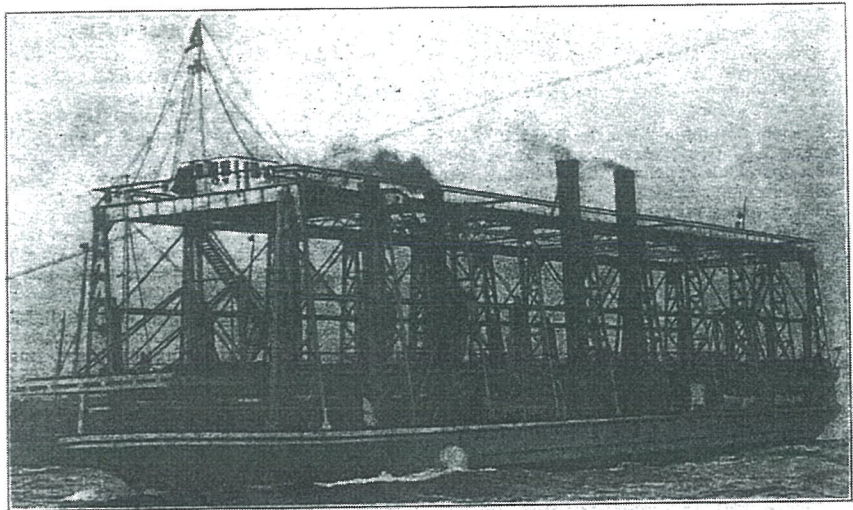
It has been designed for transporting standard passenger and freight trains across the river at all seasons of the year, between Quebec and Levis, the average weight of such train being 1,285 tons. It is calculated that the time taken in running the train on to the ferry, traversing the river, $2\frac{1}{2}$ miles, landing and coupling up the train on the other side, will not take more than three quarters of an hour.

She is of the twin screw type with a third ice breaking propeller at the forward end, and is generally strengthened for service in ice. As a train ferry she represents a new departure, several unique ideas being embodied in her construction. The special feature of the design is the movable tidal car deck. The railway tracks on land at either

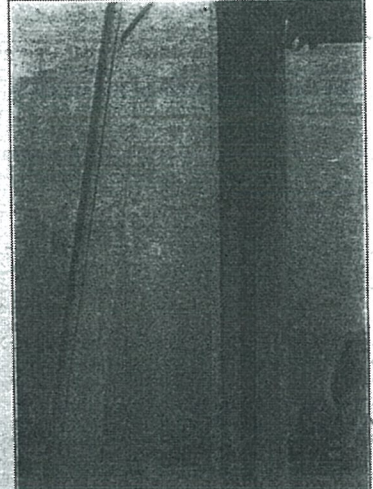
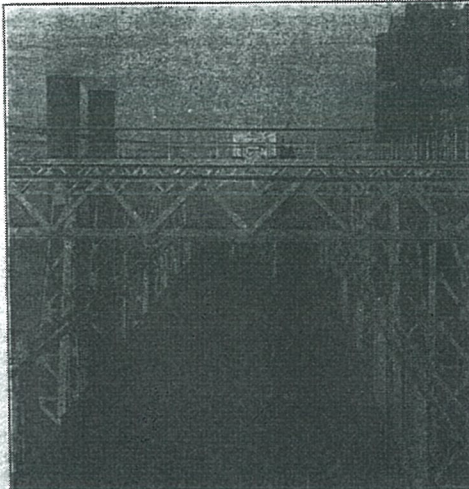
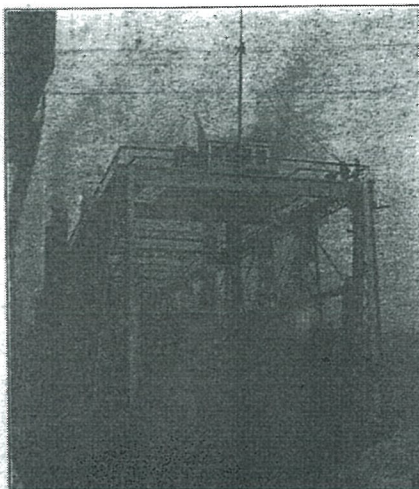
deck the necessary range of action to suit the various conditions of the tide. Three lengths of track are placed on the tidal deck, each supported on lattice girders. The length of each track is 272 ft. At each end of the tidal deck is an adjustable hinged gangway suspended by means of treble purchases from struts fixed on the deck. These

ball bearings supported on strong columns, which in turn are stayed by lattice buttresses against fore and aft and transverse thrusts, while below the main deck a specially strong braced strut is built, in way of each column, which distributes the load to the keel.

Accommodation is arranged for officers



National Transcontinental Ry. Car Ferry, Showing Adjustable Tidal Deck.



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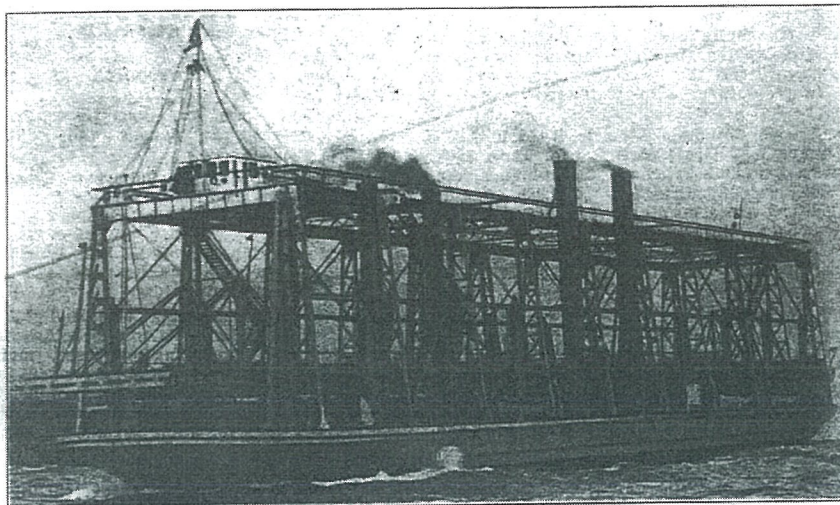
It has been designed for transporting standard passenger and freight trains across the river at all seasons of the year, between Quebec and Levis, the average weight of such train being 1,235 tons. It is calculated that the time taken in running the train on to the ferry, traversing the river, 2½ miles, landing and coupling up the train on the other side, will not take more than three quarters of an hour.

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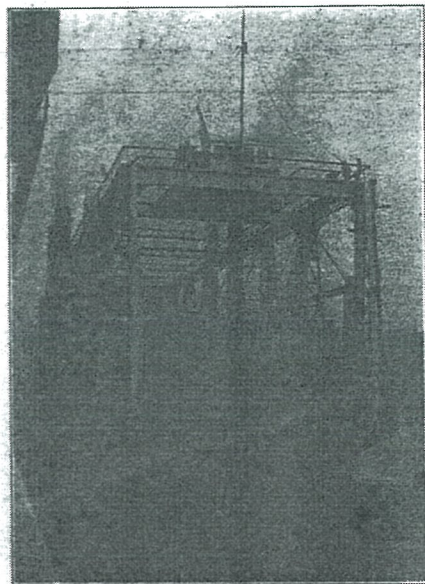
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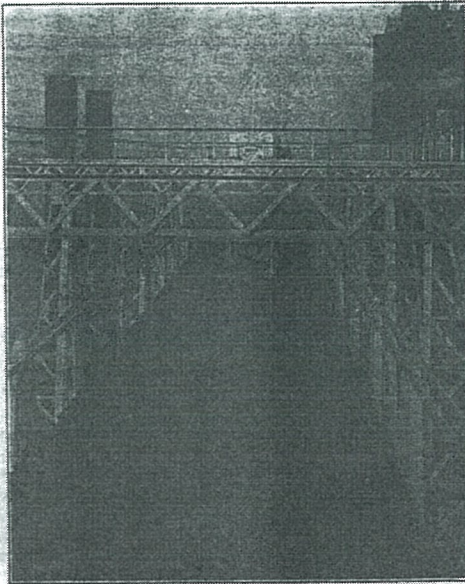
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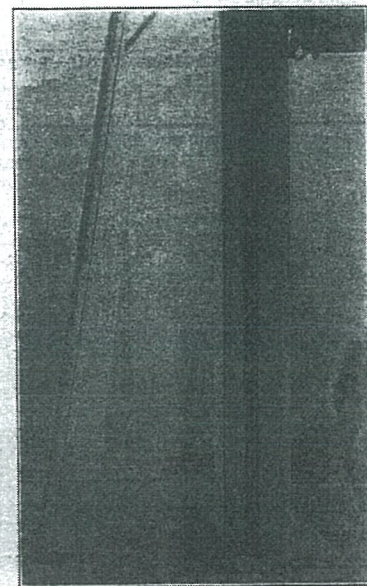
National Transcontinental Ry. Car Ferry, Showing Adjustable Tidal Deck.



Bow View of Car Ferry, Showing Tidal Deck and Hinged Apron.



Looking Down on the Tidal Deck, Showing Two of the Three Tracks Loaded.



One of the Elevating Screws for Raising the Tidal Deck.

side of the river are at a fixed level, and the vessel is arranged with a tidal deck to take the cars from the fixed track at any state of the tide, the range being 18 ft. The tidal deck is arranged above the main deck and has 10 transverse girders, each end of which rests on a large nut which works up and down on a vertical screw, giving the

gangways are arranged with ball and socket joints at the ends of each of the girders carrying the rails, to allow for any heel of vessel, or change of trim which takes place when loading or unloading the cars. A special motor is arranged in conjunction with each gangway for controlling same. The tidal deck lifting screws are hung from

and crew on a flat below the main deck forward on both sides, and everything necessary for full day and night crews is provided. The vessel is fitted with electric light throughout, and an electric winch with two winding drums is fitted between girders of the tidal deck for hauling cars off and on the vessel. Two powerful steam windlasses

are fitted, one on each side with slip drums for mooring. A complete installation of auxiliary machinery has been provided and the hull and machinery complies with Lloyd's requirements.

Although it was anticipated that some delay would occur in allowing the vessel to cross the Atlantic, she arrived at Quebec safely, Aug. 18.

Shipping Interests Oppose Vancouver Harbor Dues.

Considerable opposition has materialized to the recently announced scale of harbor dues to be imposed by the Vancouver Harbor Commission. Until the incorporation of the Harbor Commission, about a year ago, Vancouver was practically a free port, apart from the dockage dues charged by private dock owners. The completion of the Panama Canal, and the admitted unpreparedness of Vancouver to meet any important increase in shipping, led to an agitation for the improvement of the port in this direction. The Dominion Government awarded contracts for dredging the First Narrows from 440 to 1,400 ft. wide, and for dredging False Creek from its mouth to the Main St. bridge, about $1\frac{1}{4}$ miles, to a depth of 20 ft. at low tide, and a width of 250 ft. The first contract will

Montreal.	
Inward pilotage from Father Point to Quebec	\$85.14
Inward pilotage from Quebec to Montreal	55.00
Outward pilotage from Montreal to Quebec	55.00
Outward pilotage from Quebec to Father Point	74.80
Harbor dues, sick mariners dues	50.00
Port Warden dues, inward, say on 2,000 tons of cargo at 2c.	40.00
Port Warden dues, outward, say on 6,000 tons of cargo at 2c.	120.00
	\$479.94

Vancouver.	
Pilotage in and out, \$1 per ft. and 1c. a ton, at \$52	\$104.00
Sick mariners dues at $1\frac{1}{2}$ c. per net registered ton, five times a year ..	45.00
Harbor dues, 3c. per net registered ton, five times a year	90.00
	\$239.00

San Francisco.	
Dockage per day or fraction thereof at \$4 for first 200 net reg. tons and $\frac{1}{4}$ c. for each additional net reg. ton ..	\$ 25.00
Approximate time discharging, four days	100.00
Inward pilotage dues, \$3 a ft. draught and 3c. per net reg. ton	156.00
Outward pilotage dues, \$3 per ft. draught and 3c. per net reg. ton ..	156.00
Inward dues, tonnage, taxes, etc.	188.20
	\$625.20

Portland.	
Dockage per day or fraction thereof \$2.50 for first 200 net reg. tons and $\frac{1}{4}$ c. for each additional net reg. ton ..	\$13.00

The Cause of Accidents on the Welland Canal.

The Toronto Globe said recently:—"Accidents on the Welland occur with a frequency that suggests dangerous incompetence. It may or may not be due to the spoils system which impelled the unpardonable dismissal of employees to make places for importunate Government supporters. If this has been a contributing cause it would have been better to pension the seekers for jobs by paying them wages for nothing. Some of the accidents have been clearly due to incompetent management of vessels in the locks. It would be most unfair to charge such accidents against canal employees. But there has been a serious record against the canal operators, and it is time some determined effort were made to avert further loss or injury. Our canals are far too important to be made use of as rewards for election campaign service. If Government supporters must make the public maintain the men who have helped in elections let it be done in or through services in which mistakes do not endanger life and property. Every canal employee should feel that his position depends on the careful and competent discharge of his duties and not on the favor of any man he has helped to elect."



Adjustable Hinged Apron, Connected to Tidal Deck by Ball and Socket Joints.

cost about \$1,500,000, and the second one about \$1,000,000, by the time they are completed. In addition to these works, the Government is building a dock at an approximate cost of \$2,000,000, and it is stated that these are only the commencement of a series of large works, which will make Vancouver a national port of considerable importance. The local shipping interests oppose the new dues on the ground that they are excessive, and that the cost of the improvements should be paid for by the Dominion. The Vancouver Harbor Commission has recently issued a statement showing the relative harbor dues in each of six ports, three in Canada and three in the United States, as follows:—

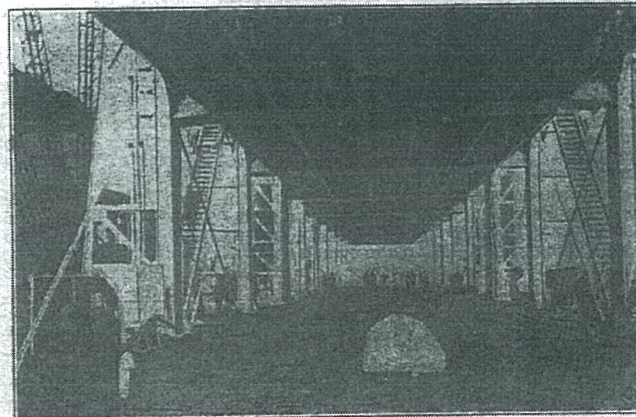
Quebec.	
Harbor dues, 5c. per net registered ton every entry, and not exempt after five entries as at Vancouver...	\$150.00
Sick mariners dues $1\frac{1}{2}$ c. per net registered ton	45.00
Inward pilotage, May 1 to Nov. 10 from Father Point, \$3.87 per ft.	85.14
Outward pilotage, May 1 to Nov. 10 to	" "

Approximate time discharging, four days	52.00
Inward bar pilotage dues, \$1.50 per ft. and 1c. per net reg. ton	63.00
Inward river pilotage, \$1.50 per ft. and 1c. per net reg. ton	52.00
Outward pilotage dues	115.00
Inward dues, tonnage tax, etc.	188.20
	\$483.20

Note.—No dockage charge on vessels receiving discharging cargo, Seattle.

Privately owned wharves charge dockage per day or fraction thereof of \$4 for first 200 net reg. tons and $\frac{1}{4}$ c. for each additional net reg. ton ..	\$ 25.00
Approximate time discharging, four days	100.00
Harbor Commissioners wharves charge dockage per day or fraction thereof, \$4 for first 200 gross tons and $\frac{1}{4}$ c. for each additional gross ton	42.75
Inward dues, tonnage tax, etc.	188.20
Pilotage optional	100.00
	\$455.95

Navigation Employees' Fatalities.—During June, 13 employees were killed in the course of their work in connection with navigation in Dominion waters. Of these fatalities 11



Main Deck, Showing Tidal Deck Above in its Raised Position.

This matter is too important to be dismissed by some story about some Liberal employee. The public want the assurance of competence, not of campaign arguments."

L. D. Hara, acting Superintending Engineer of the canal, replied as follows:—"There have been four bad accidents on the Welland Canal this year, and in not one instance was blame attributed in any way to those in charge of the locks. In every one of these accidents it was clearly the fault of the vessel. There were three breaks to lock gates last year. In each case the vessel was at fault, and was the cause of the accident."

"Blame for the break at lock No. 12 recently is placed on the vessel, as the mistake was clearly made by canal helpers, who are employed by the steamers for the trip through the canal, and not upon the locktenders. The lockmaster at this lock, who was in charge at the time of the accident, is one of our most experienced and reliable men, having been appointed before 1896. He has been employed continuously ever since, and went through the Liberal regime. There

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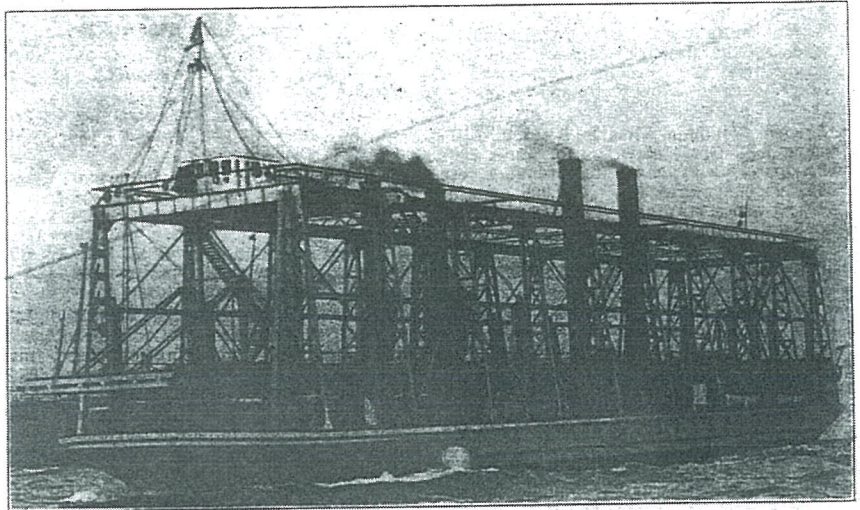
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She is of the twin screw type with a third ice breaking propeller at the forward end, and is generally strengthened for service in ice. As a train ferry she represents a new departure, several unique ideas being embodied in her construction. The special feature of the design is the movable tidal car deck. The railway tracks on land at either

deck the necessary range of action to suit the various conditions of the tide. Three lengths of track are placed on the tidal deck, each supported on lattice girders. The length of each track is 272 ft. At each end of the tidal deck is an adjustable hinged gangway suspended by means of treble purchases from struts fixed on the deck. These

ball bearings supported on strong columns, which in turn are stayed by lattice buttresses against fore and aft and transverse thrusts, while below the main deck a specially strong braced strut is built, in way of each column, which distributes the load to the keel.

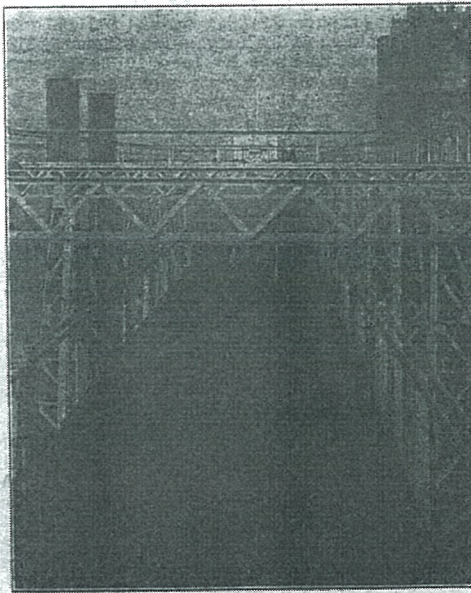
Accommodation is arranged for officers



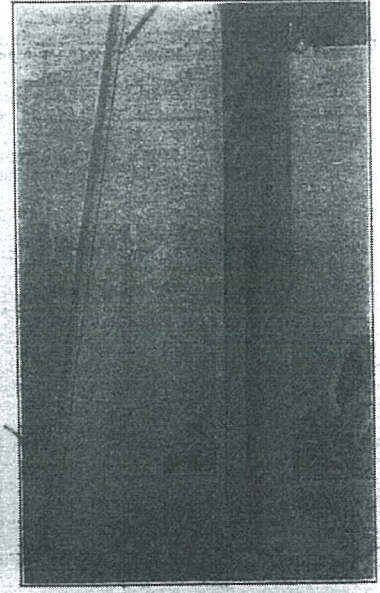
National Transcontinental Ry. Car Ferry, Showing Adjustable Tidal Deck.



Bow View of Car Ferry, Showing Tidal Deck and Hinged Apron.



Looking Down on the Tidal Deck, Showing Two of the Three Tracks Loaded.



One of the Elevating Screws for Raising the Tidal Deck.

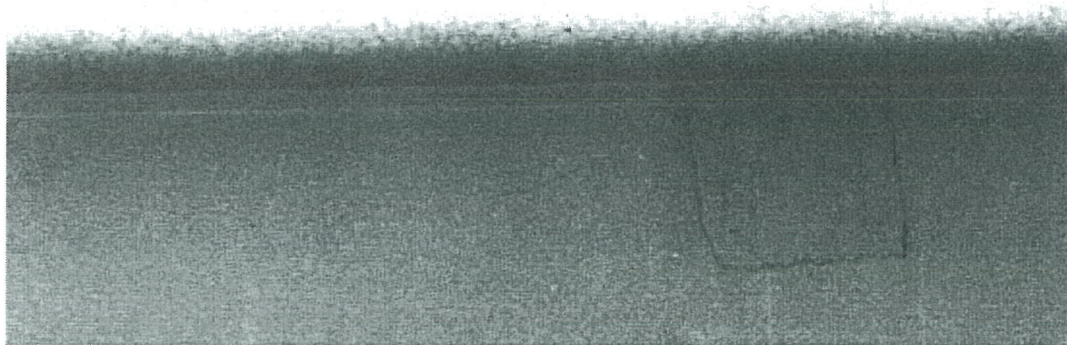
side of the river are at a fixed level, and the vessel is arranged with a tidal deck to take the cars from the fixed track at any state of the tide, the range being 18 ft. The tidal deck is arranged above the main deck and has 10 transverse girders, each end of which rests on a large nut which works up

gangways are arranged with ball and socket joints at the ends of each of the girders carrying the rails, to allow for any heel of vessel, or change of trim which takes place when loading or unloading the cars. A special motor is arranged in conjunction with each gangway for controlling same.

and crew on a flat below the main deck forward on both sides, and everything necessary for full day and night crews is provided. The vessel is fitted with electric light throughout, and an electric winch with two winding drums is fitted between girders of the tidal deck for hauling cars off and on the main deck. Powerful steam windlasses

Edmonton, Alberta,
Wainwright, Alta.

St. Malo Shops Fire.—Building 3 at the Canadian National Ry. St. Malo Shops in Quebec, in which a considerable quantity of lumber, paint, etc., was stored, was considerably damaged by fire on June 11. Some flat cars on an adjoining siding caught fire, and some machinery on them was damaged.



Railway Operating Revenues and Expenses.

(Continued from preceding page)

	Gross earnings	Working expenses	Net earnings	Increase
	1933	1932	1933	1932
January	\$7,676,661	\$9,203,971	\$7,352,233	\$8,686,492
February	7,096,888	9,043,278	7,000,277	8,813,844
March	8,800,156	10,272,787	7,922,660	9,102,285
April	7,921,873	9,511,106	7,383,408	8,692,623
May	8,789,285	9,517,355	7,813,476	8,779,990
June	10,439,631	10,496,301	8,330,244	8,913,185
Decrease.	50,723,495	53,045,299	45,962,354	52,793,420
C.P.R. approximate gross earnings in July were \$10,142,000, an increase of \$473,000 over July, 1932.			4,861,141	5,251,879
				d 396,738

Minneapolis, St. Paul and Sault Ste. Marie Ry. and Wisconsin Central Ry.

Following are the combined revenue, expense and income figures for M., St. P. and S.S.M. Ry. and Wisconsin Central Ry., for June, and the first six months of 1933, with comparisons with the same periods in 1932. The M., St. P. and S.S.M. is a Canadian Pacific Ry. subsidiary, and the Wisconsin Central is leased to and controlled by the M., St. P. and S.S.M., the

	June, 1933	June, 1932	June 30, 1933	June 30, 1932
Total revenues	\$2,108,488.37	\$1,819,387.85	\$9,770,115.75	\$10,456,240.69
Total expenses	1,468,293.34	1,665,878.12	8,779,029.84	10,284,694.29
Net railway revenues	640,195.03	153,509.73	991,085.91	191,546.40
Net after taxes	471,800.81	795.78	874,871.00	153,509.73
Net after rents	346,292.36	d 148,982.41	d 600,226.55	d 1,672,604.16
Other income, net	d 104,018.55	d 105,849.69	d 547,064.53	d 584,284.47
Interest on funded debt	571,280.58	d 514,995.33	3,431,092.44	3,132,677.62
Net profit	d 329,006.77	d 769,827.43	d 4,575,388.52	d 6,309,566.25

M., St. P. and S.S.M. deficit, after all charges, in June, was \$267,532.69, compared with \$490,672.92 in June, 1932, and, in the first six months of 1933, was \$3,098,572.92, compared with \$3,526,726.57 in the same part of 1932. Wisconsin Central Ry. deficit, after all charges, in June, was \$61,474.08, compared with \$279,754.51 in June, 1932, and, in the first six months of 1933, was \$1,484,810.60, compared with \$1,782,840.68 in the same part of 1932.

Long Passenger Locomotive Runs on Canadian National Railways.

Particulars of long runs made regularly by passenger locomotives on Canadian Pacific Ry. were given in Canadian Railway and Marine World for August.

Toronto and Capreol and trains 1 and 2 between Capreol and Armstrong are handled by mountain type locomotives. Trains 5, 6, 14 and 15, between Mont-

Winnipeg run crews are changed at Sioux Lookout, 139 miles from Armstrong, and at Redditt, 123 miles from Sioux Lookout. Between Winnipeg and Edmonton crews are changed at Rivers, 142 miles from Winnipeg, at Melville, 138 miles from Rivers, at Watrous, 129 miles from Melville, at Biggar, 126 miles from Watrous, and at Wainwright, 140 miles from Biggar. On the Edmonton-Jasper run the crew is changed at Edson, 129 miles from Edmonton. On the Jasper-Kamloops Jet run the crew is changed at Blue River, 132 miles from Jasper. On the Kamloops Jet-Vancouver run, the crew is changed at Boston Bar, 128 miles from Kamloops Jet. At Rivers, Redditt and Sioux Lookout fires and ash pans are cleaned and locomotives greased. Locomotives are serviced and fires and ash pans cleaned at Melville, Watrous, Biggar, Wainwright and Edson. At Blue River and Boston Bar locomotives are inspected and big end and side rod grease cups are filled, also the flange oilers which are generally in use on the British Columbia District.

Grand Trunk Western Lines.—On trains 5, 6, 14, 15, 17 and 20, one locomotive is used between Port Huron and Chicago, 334 miles, crew being changed at Battle Creek, 156.7 miles from Port Huron. Both mountain and Pacific type locomotives are employed. Fires are cleaned and locomotives greased at division points when necessary.

Freight Traffic on Railways.

Dominion Bureau of Statistics, Transportation and Public Utilities Branch, Canadian Railways.