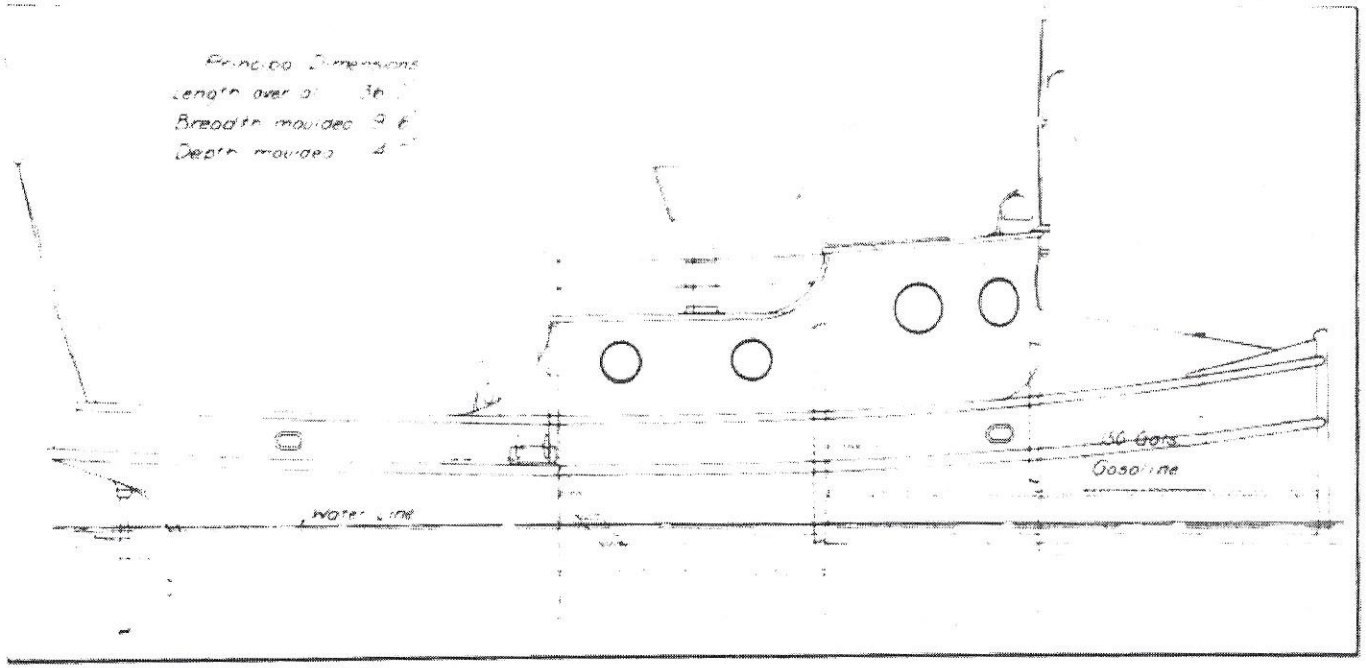
by Grand Trunk Ry. and Buffalo, Rochester & Pittsburg Ry.

Gasoline Tug and Lighters for Hudson's Bay Company.

The Hudson's Bay Co. is having a small gasoline tug and four lighters built for use in lightering vessels at Fort Churchill, the company's principal distributing centre on Hudson Bay. The accompanying illustration shows the elevation of the tug. It is a steel frame craft, with steel upper works and a wooden hull secured on the steel ribbing, which is made up of angles. It is provided with a wooden hull to facilitate beaching, as the provisions for keeping it in condition are necessarily limited at that far northern point. It has a length overall of 36 ft., a moulded width of 9½ ft., 11 ft. over gunwales, and a moulded depth of 4 ft., drawing about 3 ft. of water. It is of [illegible] back design, with the upper works



Hudson Bay Co. Gasoline Engined Tug for Lightering on Hudson Bay.

with its boats in their operations on the Willamette and Columbia rivers, Lake Coeur d'Alene, and the Snake River within the meaning of the act. That the operation of these boats is in the interest of the public and of advantage to the convenience and commerce of the people; that their continued operation by petitioner will neither exclude, prevent, nor reduce competition on the routes by water, and that the application should be granted. That the rates, fares, schedules, and regulations of these boats on the Columbia and Willamette rivers, on Lake Coeur d'Alene, and on the Snake River, governing traffic subject to the act, moved by them, must be filed with the Commission and posted to the public as required by the act and the Commission's rules and regulations.

Canada Steamship Lines Rearrangement of Passenger Territory.

The Erection of Kettle Rapids Bridge, Hudson Bay Railway.

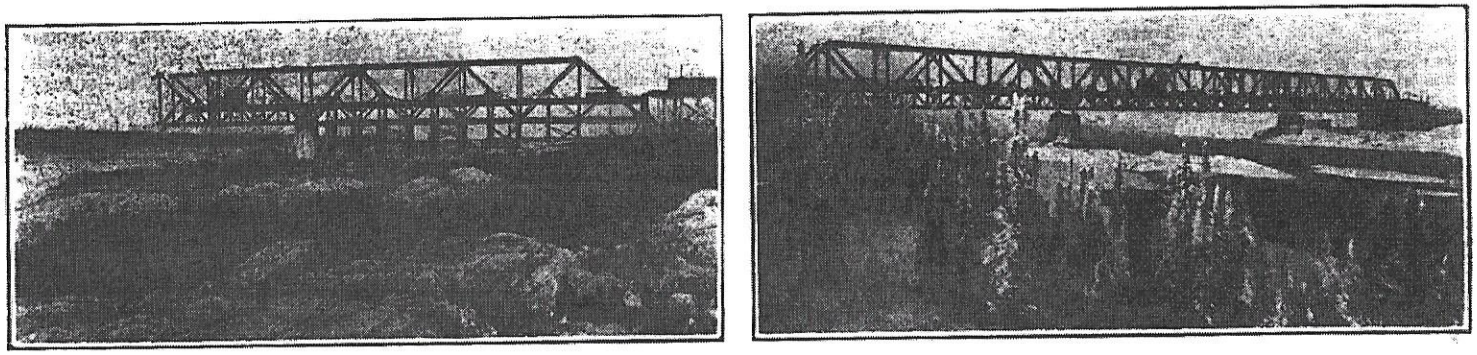
The Kettle Rapids Bridge, on the Hudson Bay Ry., crosses the Nelson River about 332 miles north of Pas, Man. The Nelson River, at this point, forms a deep, narrow gorge, through which flow swift rapids, directly in the way of the site chosen for the crossing. The banks on both sides consist of solid rock for a considerable distance back of the shores, and were a determining factor in selecting the continuous girder type of truss adopted. The design consists of a single track through truss structure, 1,000 ft. long, continuous over 4 supports. These piers are built on small islets of rock, between which and the adjacent shores the stream is shallow, with a slow current. The channel span is 400 ft. long, c. to c. of pier members, and the two flanking arms 300 ft. each. The trusses are the Warren type, having 50 ft. main panels, subdivided to form two 25 ft. stringer panels. They are 50 ft. deep, c. to c. of chords, and are spaced 24 ft. apart. All truss joints are riveted throughout. The floor system is the ordinary open floor type, having wooden ties carried on two lines of built up stringers, which frame into the webs of the floor beams. The simplicity of the design greatly facilitated the fabri- and in place economically, formed one of the chief considerations. The following erection programme was adopted:—

The south arm, between piers 1 and 2 was erected on wooden staging, with an ordinary derrick car, the only unusual features being that L0 was erected 10 in. lower than its normal elevation in order to allow for deflection in cantilevering. The truss, as a whole, was also erected on the permanent pier member rollers, about 5 ins. closer to the shore than its normal position. The main joints were then completely riveted, and the derrick car erected the balance of the south half of the crossing, as a cantilever, from L-12 to L-20. The riveting followed the erection very closely, so as to take care of the erection stresses.

A cableway tower was then erected on the north shore, materials for it being hauled by team over the ice some distance from the crossing. A short cableway bent was also erected on the completed truss at U-18, and a double cableway made of two 2¼ in. diameter cables was erected on these towers and securely anchored at both ends. These two cableways were operated by two double drum hoisting engines, and carried a flexible equalizer ler until L-0 was reached. The traveller was then jacked up, so as to bring the trucks level with the top chord of the span, and the balance of the steel for the north anchor arm completed, going forward from U-2 to U-12. After riveting this anchor arm, the cantilever portion of the truss between panels 12 and 20 was easily completed, with the traveller running out on the top chord.

The whole of the south half of the bridge was then jacked forward on the permanent pier member rollers, and a coupling made at L-20. After this joint was riveted, jacks were applied at the two extreme ends of the bridge, points L-0 north and south ends. These ends were raised until the joint at U-20 was closed, after which the four corners were raised simultaneously until a load of 118½ tons was registered on each of the 4 jacks, which fixed the distribution of the dead load stresses throughout the entire structure.

Work on the piers was started in 1916 by the general contractors for the whole line from Pas to Port Nelson, but owing to floods, but little work was done until February and March, 1917. The entire work was under the general supervision



Kettle Rapids Bridge. The completed structure.

Dominion Government Railway to Hudson Bay.

An Order-in-Council was passed, Mar. 2, vesting in the Department of Railways and Canals certain lands for trackage and ballast pits in connection with the railway under construction from Pas to Port Nelson, Man. The lands. 235.70 acres in extent, are situated in tp. 25, range 26 west of the 1st meridian. (Mar., pg. 119.)

Trade with Portugal.—Frederic Nicholls,

Capacity, coal

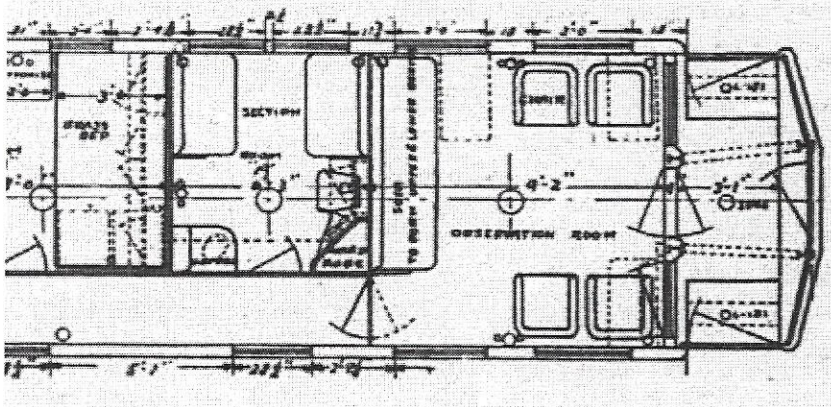
Following are chief details of the seven mogul locomotives which J. D. McArthur Co., railway contractors, have received from the Canadian Locomotive Co. Six for Hudson Bay Ry. construction, and one for the Edmonton, Dunvegan and British Columbia Ry.:—

Weight on drivers	172,800 lbs.
Weight, total	12[illegible],500 lbs.
Wheel base of engine, rigid	12 ft. 6 ins.
Wheel base of engine, total	20 ft. 6½ ins.
Wheel base of engine and tender	40 ft. 3¾ ins.
Heating surface, firebox	133 sq. ft.
Heating surface, tubes	1,301 sq. ft.
Heating surface, total	1,434 sq. ft.
Driving wheels, diar	50 ins.
Driving wheel centres	Cast iron
Driving journals	8½ by 12 ins.
Cylinders, diar. and stroke	19 by 26 ins.
Boiler, type	Extended wagon top
Boiler pressure	180 lbs.
Tubes, no. and diar	240—2 ins.
Tubes, length	10 ft. 5¼ ins.
Injectors	Two, locomotive type
Safety valves	Two, 3 ins.
Brakes	Westinghouse
Packing	Metallic
Weight of tender, loaded	115,400 lbs.
Tank, type	U shape
Truck, type	4 wheel, arch bar
Wheels, diar	33 ins.
Wheels, type	Steel tired
Journals	5 by 9 ins.
Brake beam	Steel
Capacity, water	5,000 imp. galls.
Capacity, coal	9 tons

Since the passing of the guarantee bill [illegible] Parliament, the Canadian

from Pas.

The channel at Port Nelson, from turning basin at docks, to deep water of natural channel, will be about ¾ of a mile long, beyond which some improvements will be made at isolated points in the natural channel for a further distance of 1¼ miles. The depth of water at low tide in the excavated channel will be 20 ft., and the width of that channel will be 500 ft. No separate estimate of cost of dredging in the port and channel, when completed, has been made. The number of men employed on Government works at Port Nelson last summer varied from week to week. The maximum



number on any monthly pay roll was 578. In Dec., 1916, there were 90 on the pay roll.

During the 1916 navigation season two steamships, Durley Chine and Sheba, were employed by the Government to transport men, materials and supplies to Port Nelson. Both vessels are owned by the Government, and the cost of operating them on the Hudson Bay route during 1916 was $31,355. There is no coal on sale at Port Nelson. The cost of each cargo varies with the class of vessel used to transport it.

February 1914

Dominion Government Railway to Hudson Bay.

We are officially advised that track was laid to Dec. 31, 1913, from Pas, Man., for 86 miles. The line is under construction from this point to Port Nelson, on Hudson Bay, 337 miles.

J. D. McArthur, Winnipeg, the general contractor, was in Ottawa, Jan. 9, and is reported to have stated that grading and rock work will be carried on all winter, and that ties and steel are being taken in for the tracklaying during the summer. Over 1,000 men are in the camps.

A report was issued by the Naval Service Department at Ottawa, Jan. 12, respecting Hudson Bay. According to this report navigation is possible to and from James Bay, from July 15 to Nov. 15. Winter conditions generally prevail to the end of June, and navigation is sufficiently safe by the middle of July. The report also deals with conditions in James Bay, which is reported to be navigable from August to the end of November. There is a suitable location for a harbor at Comfort Point, at the east end of Ministikiwatin, on Rupert's Bay. It is a point in this bay which has been suggested as a terminal for grain carriers, crossing from Port Nelson, and transferring the grain to a railway running to Montreal or other points. It is in connection with this project that the North Ry. is being surveyed. (Dec., 1913, pg. 582.)

/pe Locomotive for Montreal Suburban Lines, Grand

Dominion Government Railway to Hudson Bay.

A press dispatch from Pas, Man., Mar. 8, says the frost is rapidly leaving the ground in the country through which the line passes, and an early start on construction is expected. The right of way has been cleared to within 40 miles of Port Nelson. The steel work for the bridge across Manitou Rapids is being taken in. It is expected that 3,000 men will be at work by the end of April along the route, and that the grading will be completed to Port Nelson by the next winter.

A press telegram from Pas, Man., credits J. W. Porter, Chief Engineer, with stating that the contract for the steel cantilever bridge across the Nelson River at Manitou Rapids has been let to Canadian Bridge Co., Walkerville, Ont.

Replying to questions in the House of Commons recently the Minister of Railways said the roadbed is completed and fully ballasted to mile 56, and is partially ballasted to mile 175. Track has been laid on 214 miles of the grading. It is expected that the line will be completed by the autumn of 1917, by which time it is expected also that it will be possible to ship grain from Port Nelson. It will require a couple of year further work on the terminals before they will be completed. The total expenditure on the

April 1915

Dominion Government Railway to Hudson Bay.—J. D. McArthur, the contractor for building this railway, and — MacLachlan, his engineer, arrived in Ottawa, Jan. 12, from Pas, Man. Mr. McArthur is reported as stating that when he left, track had been laid to mileage 200 from Pas, and that in all 300 miles of grading had been completed. The grading would, he expected, be completed right through to Hudson Bay, by the end of this year, and the track laid by the summer of 1916. (Jan., 1914, pg. 10.)

Edmonton, Dunvegan and British Columbia Ry.—Application is being made to the Dominion Parliament for an extension of time for the building of the line now under construction from Edmonton to Dunvegan, and the Alberta-British Columbia boundary. Tracklaying has been completed to McLennan, mileage 245 from Edmonton, where a divisional point is to be laid out, and where the Central Canada Ry. branches off. Grading is reported finished from McLennan to the east bank of the Smoky River, and it is expected to have track laid to that point early in March. Subcontracts are reported let for grading from the west bank of Smoky River to Spirit River, mileage 360. It is expected to have this grading done during the summer and the track laid by the end of the year. (Jan., pg. 10.)

Dominion Government Railway to Hudson Bay.—J. D. McArthur, the contractor for building this railway, and — MacLachlan, his engineer, arrived in Ottawa, Jan. 12, from Pas, Man. Mr. McArthur is reported as stating that when he left, track had been laid to mileage 200 from Pas, and that in all 300 miles of grading had been completed. The grading would, he expected, be completed right through to Hudson Bay, by the end of this year, and the track laid by the summer of 1916. (Jan., 1914, pg. 10.)

Edmonton Dunvegan and British Columbia

MARCH 1916

feated Jan. 28 by 38 votes to 3. (Feb., pg. 49.)

Dominion Government Ry. to Hudson Bay.—It was stated by Mr. Blondin, on behalf of the Minister of Railways, in answer to questions in the House of Commons, Feb. 3, that there had been expended on account of this railway to Jan. 6, $15,465,304.70. Of this amount, $10,446,592.90 was expended upon the railway proper, including $683,166.75 on bridges, trestles and culverts, while there had been expended on harbors and approaches $5,018,711.74, including $163,012.30 expended upon bridges. There were 378 miles of grading completed and steel had been laid to mileage 242. It is expected that steel will be laid to Port Nelson early in 1917, and that the harbor will be ready for traffic, though incomplete, about the time the railway will be ready for operation. The Marine Department had expended $21,293.96 on the project.

Delivery has commenced of 10,000 tons of 80 lbs. steel rails ordered for this line last year from the Algoma Steel Corporation and is expected to be completed by the end of March. They are being shipped by rail from Sault Ste. Marie to Pas, Man. (Jan., pg. 10.)

Edmonton, Dunvegan & British Colum

building. (July, pg. 319.)

Dominion Government Railway to Hudson Bay.

Steel is reported to have been laid to mileage 150 north east of Pas, Man. Work is in progress on the erection of the 480 ft. steel bridge across the Nelson River, at the Manitou Rapids. It is expected that this point will be made the junction at which other lines will join, as there are large areas of good agricultural land, stretching away for miles on both sides of the line. Grading is being pushed ahead in the direction of Port Nelson, and it is expected that a further stretch of 200 miles will be laid with steel by the end of this year. (July, pg. 320.)

August 1916

October 1916

has been let to J. H. Hicks & Sons, Bridgewater, N.S.

Dominion Government Railway to Hudson Bay.—We are officially advised that grading is progressing favorably on the last 40 miles to Port Nelson, Man., from mileage 285 to 425. Track laying has reached mileage 300, and it is expected it will reach Kettle Rapids, the second crossing of Nelson River, by Oct. 20. The track has received the first lift of ballast to mileage 280, and the telegraph line has been erected up to the same point. The putting in of the substructure for the bridge at Kettle Rapids will be started during October. The construction season now drawing to a close has been very wet and labor has been very scarce, both of which facts have impeded progress. J. W. Porter is Chief Engineer. The head office was removed from Winnipeg to Pas, Man., Sept. 1. (Sept., pg. 364.)

St. John and Quebec Ry.—There has been deposited with the Minister of Public Works at Ottawa

structed and it is not expected that track work can proceed beyond this point until the spring of 1917, but, when resumed, it will be carried through to Port Nelson without further delay.

At Port Nelson good progress has been made on the permanent work of harbor development. Previously the work done at that point has been of a preliminary character, consisting of the establishment of the camp, construction of plant, shops for repair of plant, temporary wharves, drydock, etc., necessary for the prosecution of the work. The substructure for the bridge approach to the main dock has been carried out half a mile from shore, and the whole of the bridge superstructure will be completed this coming season. The suction dredge was employed excavating the approach chamel with satisfactory results, the remaining dredges, tugs and scows being chiefly occupied in procuring stone filling for cribs and riprap.

The total expenditure upon the H.B.R. and terminals to Dec. 31, 1915, was as follows:

General expenses, engineering, etc.		$ 721,974
Pas bridge and terminals		388,172
Pas to Thicket Portage:		
On contract account	$3,229,994	
Rails, bridges, etc.	2,680,896	
		5,910,890
Thicket Portage to Split Lake Jct.		1,661,291
Split Lake Jct. to Port Nelson		1,815,869
Port Nelson terminal		4,977,208
		$15,465,304

Delaware, Lackawanna & Western Rd.

the situation.

Dominion Government Ry. to Hudson Bay.—The Dominion Parliament has voted a further sum of $3,000,000 on capital account towards the construction of terminal facilities and elevators for this railway, running from Pas to Port Nelson, Man. In connection with this vote, the acting Minister of Railways informed the House of Commons, May 3, that the total expenditure on the railway up to Feb. 29, was $10,404,182.26, and on the terminal facilities at Port Nelson, $4,861,071.69, a total of $15,265,960.95. The estimated cost of the line complete is $16,000,000, and the estimated cost of the terminals $10,000,000, a total of $26,000,000. The line will have a total length of 425 miles. There will be some dredging necessary at the entrance to the harbor. The channel is from half a mile to 15 miles wide, 19 or 2 ft. deep at low water, with a 16 ft. rise at spring tides. This will give a depth of water sufficient for all navigation purposes. The last report on construction sent into the department gave the following details: Miles of steel laid, 241; miles of steel laid in sidings, 24; miles of steel laid on temporary track, 33; grading completed (with exception of a few depressed grades), 378 miles; track surfaced, 225 miles. (April, pg. 106.)

Essex Terminal Ry.—The Ontario Leg-

January 1917

solicitors for applicants.

Dominion Government Ry. to Hudson Bay.—The suspension of work on this railway from Pas to Port Nelson, Man., is merely the ordinary suspension for the winter months. Certain bridge work at Kettle Rapids will be gone on with during the winter. The nature and extent of the work for next year will not be decided upon until the spring, but it is generally anticipated that the line will be completed during the year.

Nothing definite has been decided, we are officially advised, as to the various terminal buildings to be erected at Pas.

It is reported that the dock for ocean going steamships at Port Nelson has been completed. It is 3,000 ft. from the shore line, with which it is connected by a steel trestle over which trains will be run. Considerable progress was made with the

January 1917

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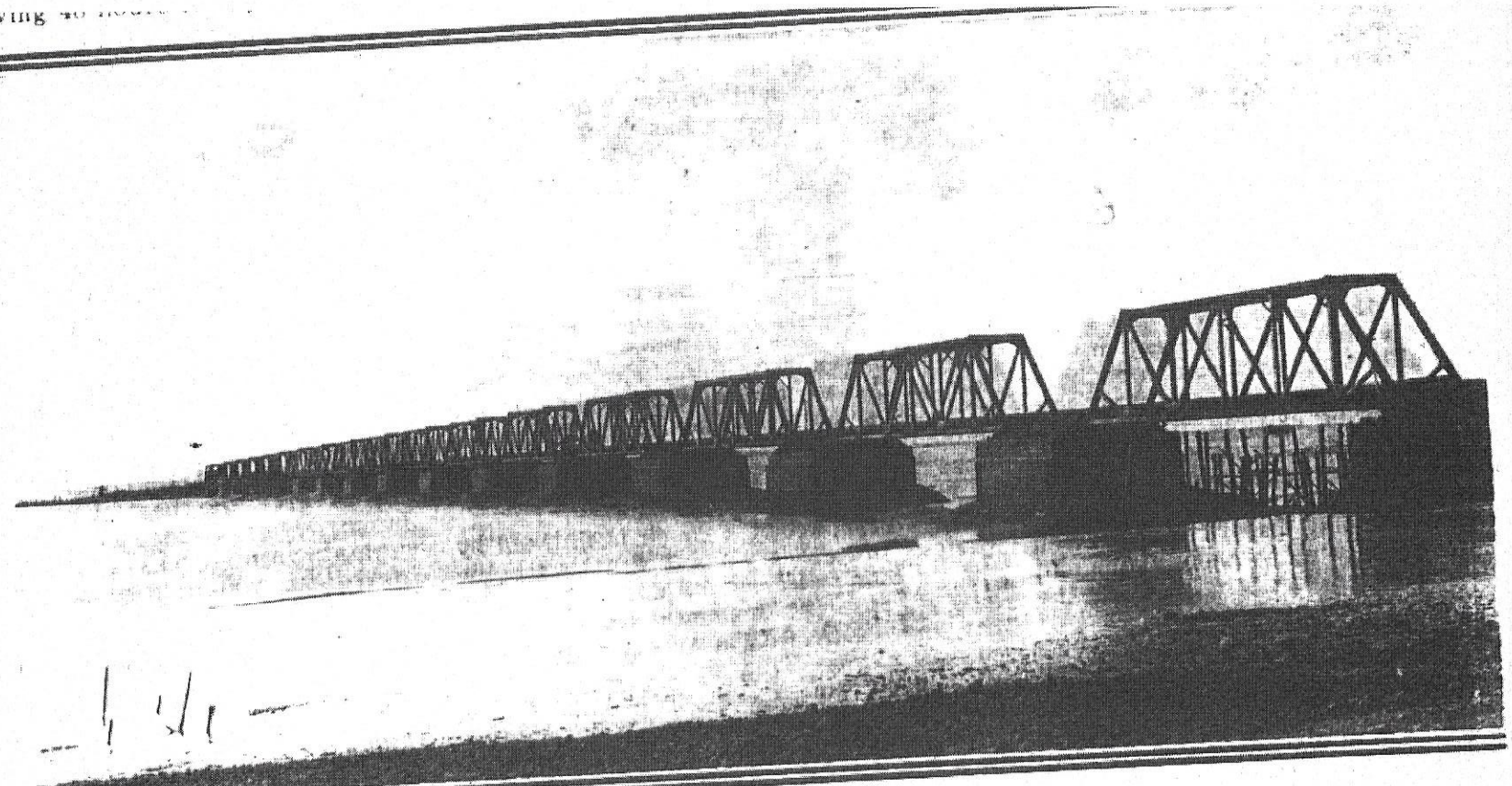
other harbor works during the past year.
(Dec., 1916, pg. 484.)

Edmonton, Dunvegan & British Colum-

nish, allowing



Bridge Pier at Port Nelson, Man.

This pier, consisting of a number of stone filled, cribwork piers and a series of steel spans extends from the shore at the Hudson Bay Ry. terminus at Port Nelson to a handmade island, also of stone filled cribwork, which will be used as the loading and unloading berth for ocean steamships, as the water is not deep enough to allow them to approach nearer to shore. The photograph was taken in September, 1916. The above mentioned work was described as follows by D. W. McLachlan, Engineer in Charge, in a report to the Railways Department May 6, 1916: "It has been found a most difficult matter to decide the design and form of the harbor works in the Nelson estuary, but after close observation and study it has been decided to build a cigar-shaped island near the natural channel of the estuary, and from this island to the end of the present works construct a bridge on piers, which, though unusually large, can be safely protected from ice action by the liberal use of riprap.

underneath tion from rain and dampness. When ca way. For all movements requiring tran it does not portation over more than one line, t

February 1917

Enquiries About Hudson Bay Ry.

In answer to enquiries in the Senate recently, by Senator Casgrain, Sir James Lougheed gave the following information respecting the Hudson Bay Ry.: The total amount expended to Dec. 1, 1916, was $17,557,100.42, viz.: on the railway itself, $12,103,603.43, and on the Port Nelson terminals, including the port, wharves and excavation of channel, $5,453,496.99. The estimated cost of the railway when completed is $16,000,000, of the terminals $10,000,000, and of the grain elevators $1,000,000.

About 413 miles of the railway have been graded from Pas, Man., ready for track. Eleven miles remain to be graded. Rails have been laid for 332 miles from Pas.

The channel at Port Nelson, from turning basin at docks, to deep water of natural channel, will be about ¾ of a mile long, beyond which some improvements will be made at isolated points in the natural channel for a further distance of 1¼ miles. The depth of water at low tide in the excavated channel will be 20 ft., and the width of that channel will be 500 ft. No separate estimate of cost of dredging in the port and channel, when completed, has been made. The number of men employed on Government works at Port Nelson last summer varied from week to week. The maximum

March 1917

Hudson Bay Ry.—J. W. Porter, Chief Engineer, is reported to have stated in Winnipeg recently, that the bridge over the Nelson River at Kettle Rapids was expected to be completed by Dec. 31, that all the other grading was completed to Port Nelson, that track laying on this section of 92 miles will be started in the spring if the rails are on hand, that ballasting had been completed to the Kettle Rapids, and that the roadbed for 332 miles to that point is in good shape for any sort of traffic. (Nov., 1917, pg. 433.)

[illegible] Ry.—Tenders are under

January 1918

Hudson Bay Ry.—The spec[illegible]
tee of which Senator Fowler is chairman, appointed by the Senate to enquire into the navigability of Hudson Bay and Strait, reported Oct. 8, that it had not had time to consider the evidence collected, and recommended that it be empowered to sit during the parliamentary recess and to present a report at the next session. The report was adopted.

The Minister of Railways in replying to questions in the House of Commons, Oct. 9, said approximately 425,000 ties were taken from the Hudson Bay Ry. during 1917 and 1918, and turned over to the Canadian National Rys., for use on C.N.R. lines in Western Canada. During 1917 and 1918 and this year, 825 gross tons of steel rails and part of J. D. McArthur's equipment were taken over, the rails being bought by the Grand Trunk Pacific Ry., and the equipment by the C.N.R. No part of the rails, etc., were sent to France. A small amount of ballasting only has been done on the Hudson Bay Ry., during this year. The contract for ties let in May to be delivered on the H.B.R. were for renewals on that

1919

Pas, Man., to Flin Flon Mine—A press report states that the Flin Flon Mine, about 70 miles from Pas, Man., has been sold to Hayden, Stone and Co., of Boston, Mass., which controls a number of low grade copper mining concerns in Utah, Nevada and elsewhere in the United States. It is reported that the sale was only concluded on the definite assurance having been made that a railway would be built to the property. The new owners, it is stated, propose to spend from $12,000,000 to $15,000,000 to fully develop the property, erect smelters, etc. It is estimated that the property contains 20,000,000 tons of copper bearing ore. Hayden, Stone & Co., advised Canadian Railway and Marine World, Oct 20, that they had not bought the mine, but it is said they have an option on it.

A railway from the Hudson Bay Ry., near Pas, to the mine, would be about 70 miles long. The Canadian National

1979

Railway Development.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—J. D. McArthur, President, is reported to have said Sept. 3, that track laying would be started immediately on the section of the line from Lac la Biche to Fort McMurray, 165 miles, and that, as the grading was practically completed, track laying was expected to be completed by Dec. 31. The line from Carbondale, the junction with the Edmonton, Dunvegan and British Columbia Ry., to Lac la Biche, 114 miles, is reported to be practically ready for traffic. (Sept., pg. 341.)

Alberta Oil Fields.—E. A. Cunningham, of the Alberta Petroleum Consolidated Co., Calgary, is reported to have said recently:—"The key to the oil situation is transportation and refining. As to the former we have a railway planned to tap the northern field, and we are working to get thing started."

Athabasca and Fort Vermillion Ry.—The preliminary survey being made for a projected railway from Athabasca Landing to Fort

the trestle bridge over Armstrong Lake gave way, had not interfered materially with the summer's work on the line. When the two big bridges are completed over the Nelson River, which it is expected will be the case next spring, he anticipates that there will be very little work left to be done to complete the line for operation. At the time of the accident a locomotive and a track layer were precipitated into the lake, these have been definately located, and it is expected that they will be recovered during the winter.

From the experiences of the past summer it is believed that navigation of the Hudson Strait and Bay will be possible in July. The supply boats have left the wireless equipment for installation at several points on the straits and bay. Five dipper and clam shell dredges have been built at Port Nelson for harbor dredging work. Good progress is being made with the laying out of the railway terminals at Port Nelson, the work be-

timber bridge is being built at Grand Nar rows, which will raise the track 4 ft. above the present level. The bridge is expected to be completed early in November.

The new station at Humphreys, N. B., wa reported, Sept. 10, to be nearly completed and the new freight shed at Levis, Que., re placing the one burned down, was expecte to be completed Oct. 31. (Sept., pg. 341.)

The International Union Terminals Co. o Seattle, Wash., through A. F. Gillies and I C. Matheson, laid a proposal before th Bridge and Railway Committee of the Va couver City Council, Aug. 30. The compan proposes to lay out a union terminal on Bu rard Inlet, between Main St. and Heatle Ave., with tunnels to False Creek, and a electric railway from Vancouver to Seattl Wash., at which place the company plans lay out a similar terminal. The officers the company, it is stated, are: President, C. Eden; Vice President, M. McDougal Treasurer, J. McMasters; and Secretary, C. Jackson, all of Seattle. The cost of t entire Canadian end of the project is me tioned as $50,000,000, and the first unit wou involve an expenditure of $15,000,000. option, it was said, had been secured on t Hastings Mill site. The financial end of t

1919 p 392

dispatch.

Dominion Government Ry. to Hudson Bay.

The report of the Chief Engineer on the construction of the line, presented to Parliament by the Minister of Railways, states that the located line shows a variation of only 24 miles from being an air line between Pas and Port Nelson, Man. About 350 out of the 412 miles have been graded, on which 204 miles of track has been laid. The telegraph line has been completed for 175 miles.

The estimates laid before the House of Commons include $5,500,000 for construction of railway, terminals and elevators. (Feb., pg. 56.)

British Colum-

Development.

Construction, Betterments, Etc.

22 miles, is being pushed forward with dispatch. (Feb., pg. 56.)

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The estimates laid before the House of Commons include $5,500,000 for construction of railway, terminals and elevators. (Feb., pg. 56.)

Edmonton, Dunvegan and British Columbia Ry.—A. T. Kerr, of the Board of Railway Commissioners' engineering staff, inspected the line to McLennan, mileage 245 from Edmonton, Alberta, at the end of January and is said to have favorably reported upon it. The contractors are operating a train service to McLennan, but it is expected that the line will be taken over and placed in the charge of a permanent operating staff early in March. (Feb., pg. 56.)

Entwistle and Southern Alberta Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from the Grand Trunk Pacific Ry. at Entwistle, Alta., southerly to the Sas- [illegible] River near the boundary be- [illegible]

to the Progress Construction Co., Winnipeg, for the erection of a three stall locomotive house, with concrete pits, at Deacon, Man., at a cost of $3,996.87.

Three trains a day each way are being operated over the line, construction supplies being taken in and cord wood being hauled out. (Feb., pg. 57.)

Intercolonial Ry.—The estimates laid before Parliament recently ask for the authorization of the following expenditures on capital account, among others:—

Dock and wharves, $30,000; new terminal facilities, $3,000,000 (which includes a revote of $750,000); to increase accommodation and provide new machinery, $3,500 (revote), and for Willow Park service, $39,500 (revote). These expenditures are proposed to be made at Halifax, N.S.

Elimination of level crossings and grades at Moncton, N.B., $125,000, of which $85,000 is a revote, and a revote of $22,500 for roofing at the same place is also included.

General improvements at Levis, Que., $200,000.

To bring the New Brunswick and Prince Edward Island Ry., and the International Ry. of New Brunswick up to Intercolonial branch line standard $25,000 and $11,200 respectively. These two lines were taken over by the Railways Department, July 31, 1914.

For construction of a railway from near Dartmouth via Musquodoboit Harbor, and the Musquodoboit River Valley to Dean's Settlement, N.S., $510,000, of which $210,000 is a revote. (Feb., pg. 56.)

Kettle Valley Lines.—We are officially advised that track is laid continuously on the extension of the line from Midway to Pen- [illegible] 122.7 miles and from Penticton to

June, 1920.

Railway Development, Projected Lines, Surveys, Constru

Burrard Inlet Tunnel & Bridge Co.—The Dominion Parliament has extended for two years the time within which the company may commence the construction of a tunnel under the first narrows of Burrard Inlet, and a bridge over the second narrows for railway and general traffic purposes, with approaches and railways connecting with existing lines of railway. The charter is owned by the cities of Vancouver and North Vancouver and surrounding municipalities. (Jan. pg. 18.)

Canadian Niagara Bridge Co.—A meeting of shareholders will be held at the Toronto, Hamilton & Buffalo Ry. offices, Hamilton, Ont., June 2, to elect officers and transact other business. E. D. Cahill is Secretary of the provisional directors. This is the company which proposes to build a new bridge across the Niagara River near Welland, Ont.

Dolly Varden Mines Ry.—A press report states that an agreement has been reached between the Dolly Varden Mines

ft. in the centre, and two of 16 ft. each at the sides, or a capacity of 12,000 tons of ocean traffic, leaving similar passage ways. (April, pg. 175.)

Great Northern Ry.—A press report states that the company proposes to build a permanent station at Crescent Beach, B.C. A number of improvements to the highway approaches to the station site, including a subway under the tracks, were reported to be in progress May 6. (May, pg. 235.)

Hudson Bay Ry.—The Minister of Railways informed the House of Commons recently that the department had been advised by the Canadian National Rys. management that it is intended to renew a large number of ties, to do some surface ballasting, and other work on the line between Pas and the Kettle Rapids of the Nelson River, in order to continue operation on the line. (May, pg. 235.)

Kettle Valley Ry.—The Dominion Parliament has extended for five years the

June 1920

(May, pg. 235.)

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Hudson Bay and Arctic Ocean.

Western Arctic Ocean.—It was reported from Edmonton, Alta., Dec. 7, 1934, that the Hudson's Bay Co.'s auxiliary schooner Margot A had become icebound at Letty Harbor, on the Arctic coast, and that her crew of six were threatened with privation on account of diminishing food supplies. The Captain of the schooner, C. H. Roberts, Vancouver, was reported as having been trying to make the mouth of the Mackenzie River, but as having been caught by the early freeze-up. The schooner's auxiliary power is furnished by a Diesel engine. It was reported from Edmonton, Dec. 11, that an airplane had left there for Great Bear Lake en route to the point at which the Margot A was imprisoned, to take off the captain, engineer and cook, and that arrangements had been made to leave the other three members of the crew aboard for the balance of the winter.

Radio advice received at Ottawa, Dec. 13, 1934, from the Dominion Marine Department radio station at Coppermine, stated that the Canalaska Trading Co.'s schooner Hazel, which left Herschel Island early in the Arctic navigation season, for the west coast of Victoria Island, had been driven ashore near Cape Baring on Sept. 22, 1934, and had become a total loss, her cargo of mail and supplies also having been lost. The advice stated that all members of the schooner's Eskimo crew were safe at Reid Island, and that the report of the schooner's loss and of the crew's safety had been carried to Coppermine radio station by dog team.

January 1935

THE HAMILTON SPECTATOR SATURDAY OCTOBER 3 1931

View of the Harbor at

Over the Hudson Bay Railway To Port Churchill and Back

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BY J. E. WODELL, STAFF WRITER CALGARY HERALD. (ARTICLE No. 1)

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October 3 1931

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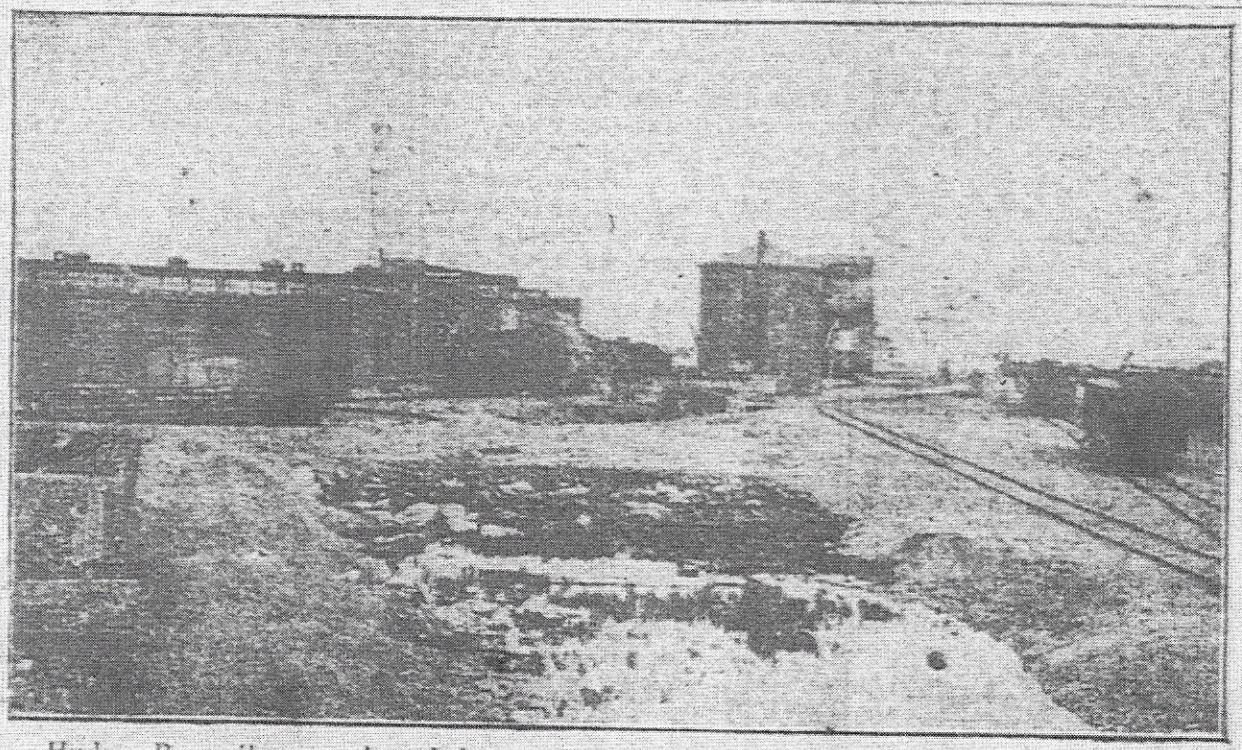

Hudson Bay railway yards and shops at Port Churchill, showing how the muskeg is being conquered by a heavy covering of the finest gravel, with which the whole line is ballasted.

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October 3 1931

A Magnificent Hazard

Naturally one is intrigued by this magnificent financial dash into what is more or less the unknown by the people of Canada. The Hudson Bay railway and the Port of Churchill enterprises, coupled with the expenditure necessary to prove the truth or falsity of the claim that the bay route is not only a feasible but a profitable export trade project, are adding greatly to the national debt. It is not only capital charges which have to be met, but all those further unknown and uncertain charges connected with operation and maintenance, which the country is pledged to and which must be continued until such time as the project has proved itself either a failure or a success.

Primarily the Hudson Bay railway was promoted with the idea that it would open up a new trans-Atlantic ocean port. It was undertaken as a government enterprise with this object in view. At the time the work started opinions as to the feasibility of the idea were as varied as they had been years previously when western farmers first began talking "on to the bay." There seemed to be a lamentable lack of what might be termed authoritative data concerning navigation possibilities and the average length of the navigation season through Hudson strait into the bay. For that matter this is still true. The nearest approach to real authority on the subject is probably a second report on Hudson bay marine insurance rates, issued by the imperial shipping committee recently.

With data covering four seasons, 1927-1930, the following conclusions are drawn:

(a) The ice conditions vary considerably from year to year. The strait may be regarded as normally free from ice, apart from stray bergs, at least from August 10 to a date which may vary from about the middle of October to the middle of November.

(b) In the season of open navigation fog appears to be least prevalent in the latter part of September and in October.

(c) The prevailing winds tend to blow the ice into the east of Hudson bay and along the south side of the strait.

(d) The movement of the Foxe channel ice varies from season to season. Sometimes it does not come down at all. It may flow on along the east side of Hudson bay; it may be driven along the south side of the strait. From the observations at the radio stations and from information brought in by the Esquimaux it should be possible to forecast these movements with some degree of certitude.

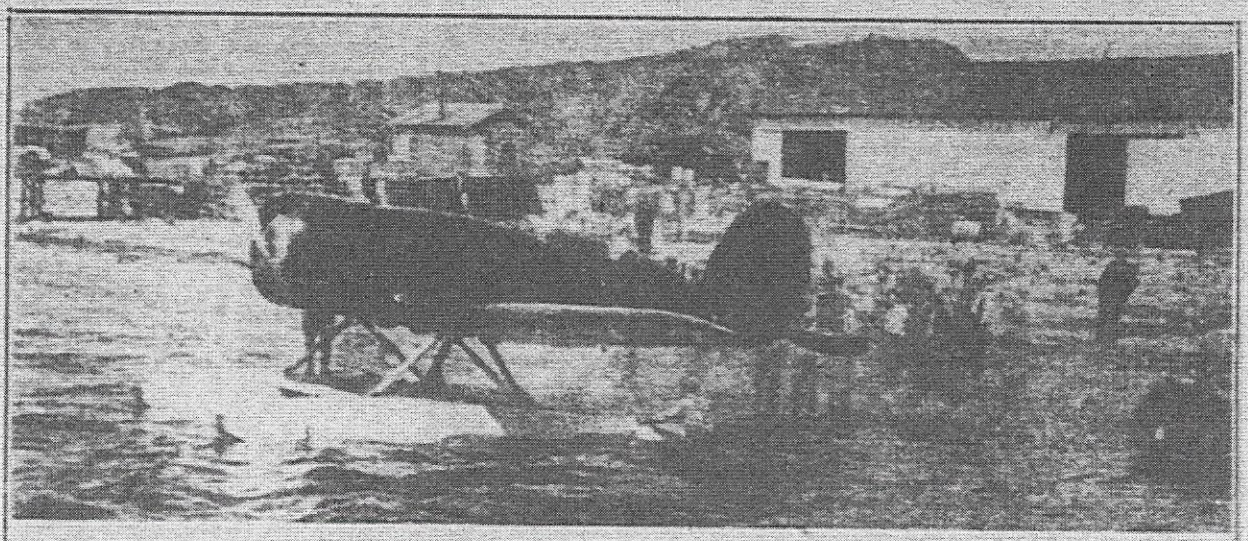
(e) Churchill ought to be safe for shipping from the time that the earliest vessel can get through the strait until the middle of October and in some seasons until much later. The port itself is, as a rule, quite free from ice during the three months, August to October, and it is probable that such ice as may collect during the latter half of October could be dealt with by an ice breaker.

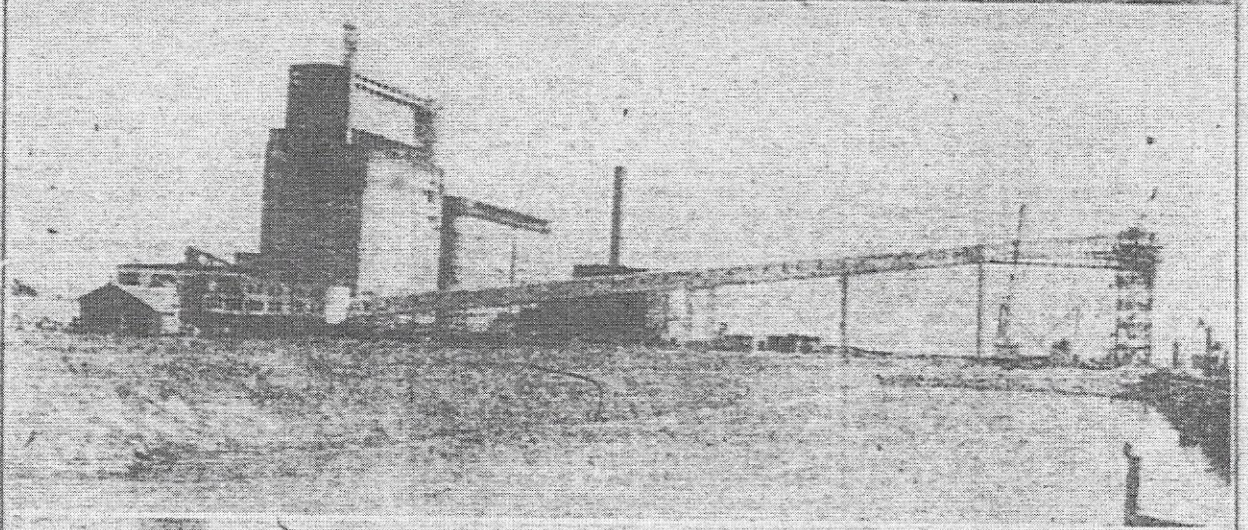
A Four-Month Limit

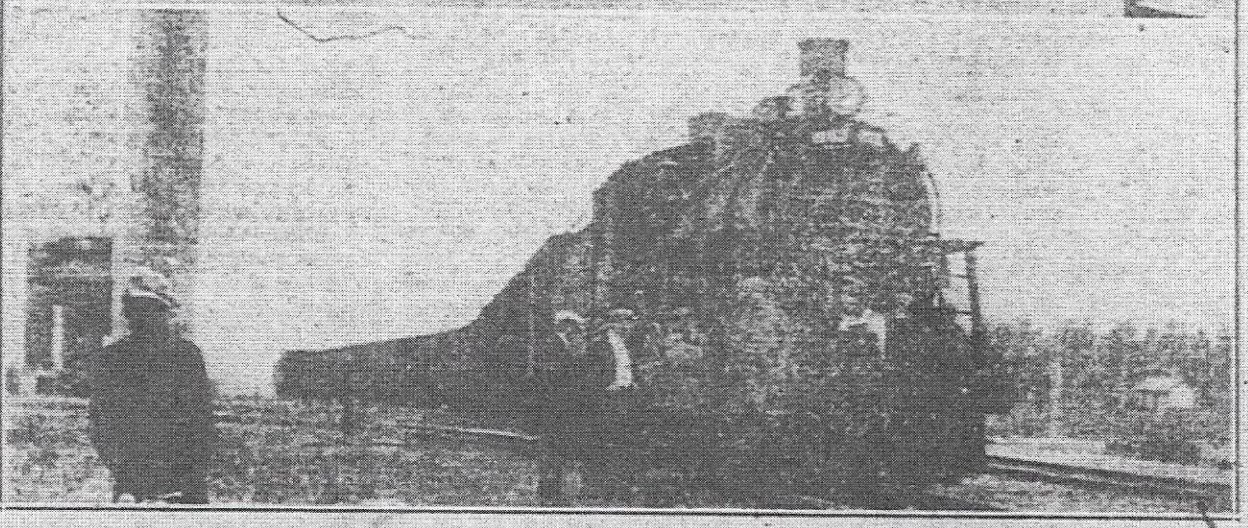
This report indicates a fairly certain three-month navigation period with possibility of occasion-

October 3
1931

AT CANADA'S NEW NORTHERN PORT







Above are seen three views taken at Churchill recently. At top Col. Charles A. Lindbergh's plane is seen at rest on the harbor waters at the time of his flight across the northwest. At center is the great elevator erected to provide grain storage space and at bottom is the first wheat train arriving.

Hudson bay and strait waterway can be traveled regularly by ocean carriers with no greater hazard than is to be found on the St

WILL STAY OUT

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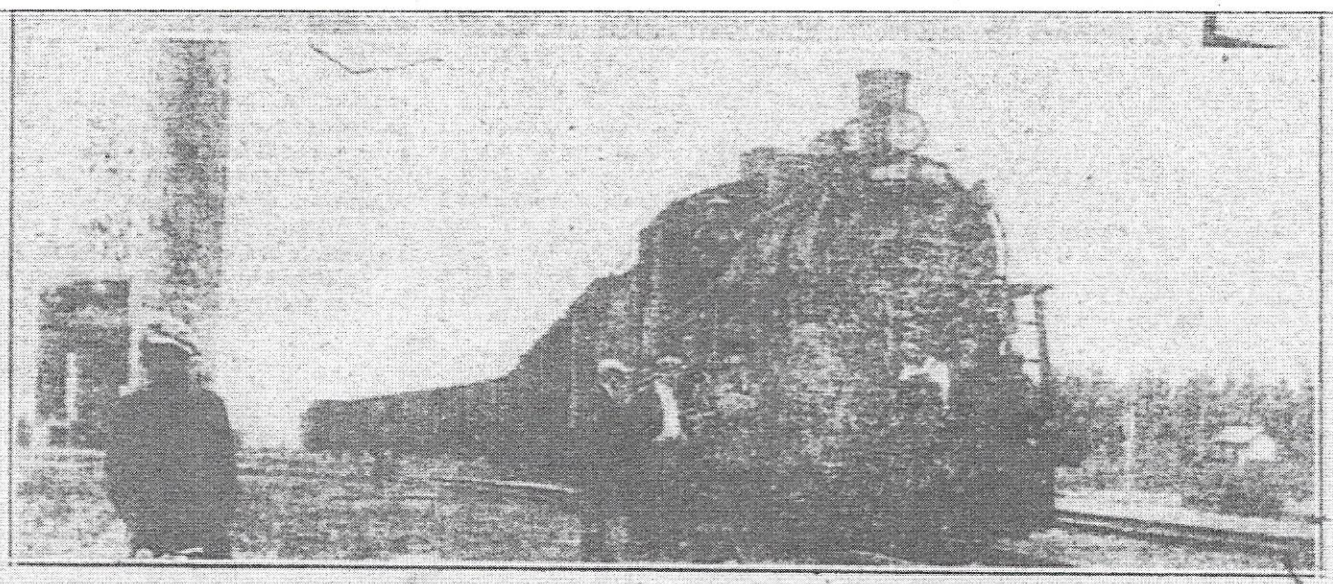

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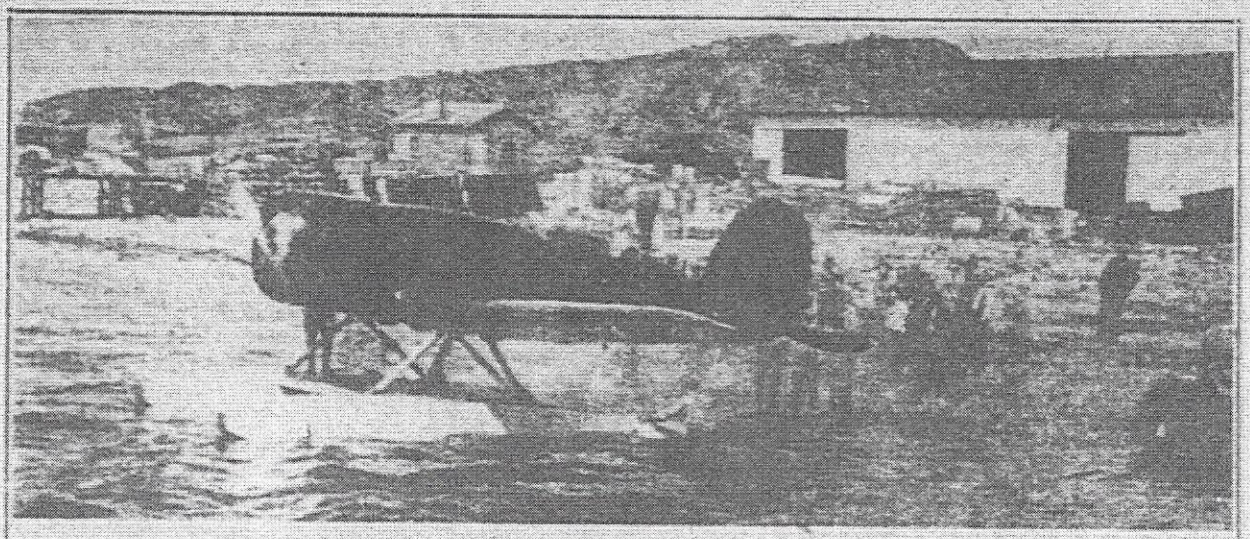

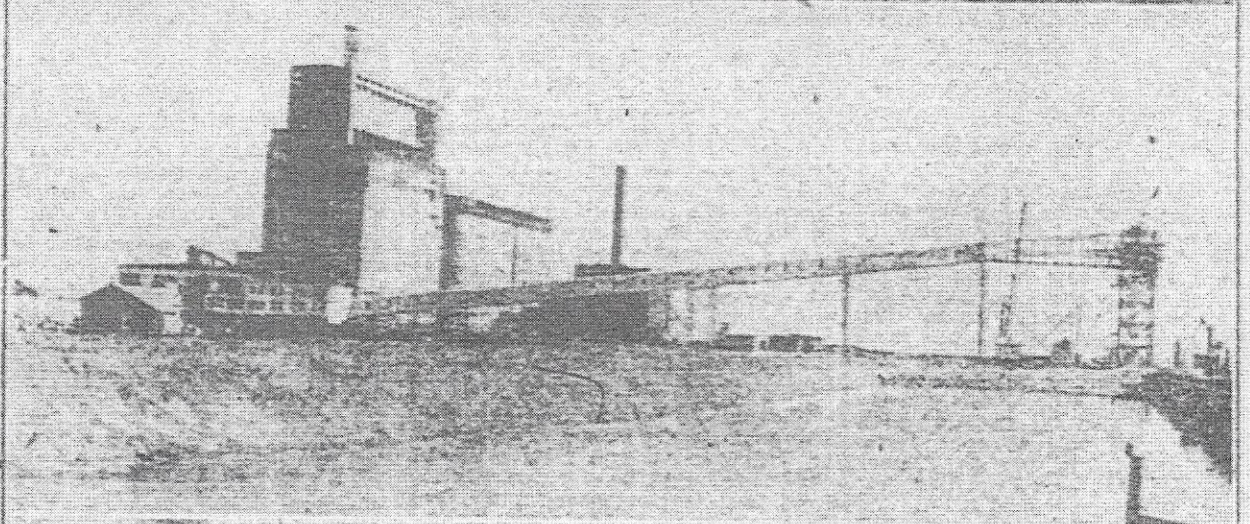

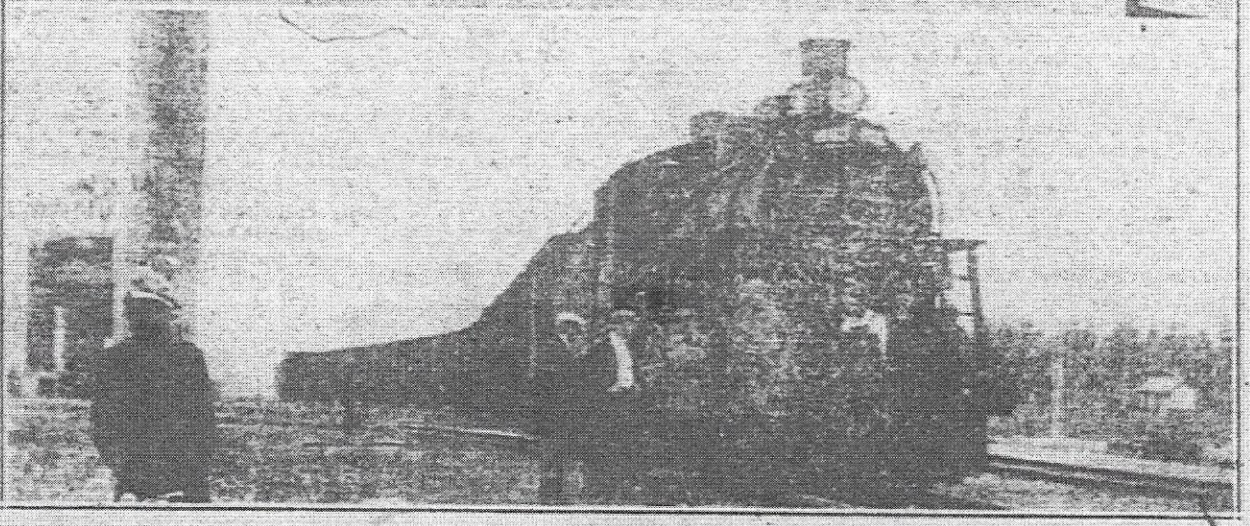

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He Was Ridiculed

When Beach squatted at the mouth of the Churchill river with the avowed intention of staying there until prosperity came his way, he was an object of derision to both traders and trappers. They laughed at and ridiculed him. To-day with a completed railway line from The Pas to the Churchill townsite, with an immense government grain elevator rearing its form away above the rock-ribbed shoreline and with half a dozen steamers and dredges working satisfactory ocean port. Port Churchill seems to be ideal for the purpose.

Nature has given this river almost everything needed to make it just right as a safe and commodious harbor for ocean craft. The rocky headlands on both sides of the 1,600 feet outlet into the bay make the most magnificent natural breakwaters one could imagine. For 850 feet, this harbor entrance has a depth of 30 feet at low water, and the balance has depths exceeding 60 feet. Inside the entrance an area of 140 acres of surface has a low water depth of 30 feet with 180 acres varying from 18 to 30 feet. In addition there is a vast protected area of water of lesser depths. It is on the east shore of the harbor that the townsite and wharves are located and this shore is entirely protected from any rough water from Hudson bay by the natural breakwaters. The wharfage accommodation already planned will accommodate twenty vessels in a straight line, with moorings for twenty more. Possibilities for extension would double this.

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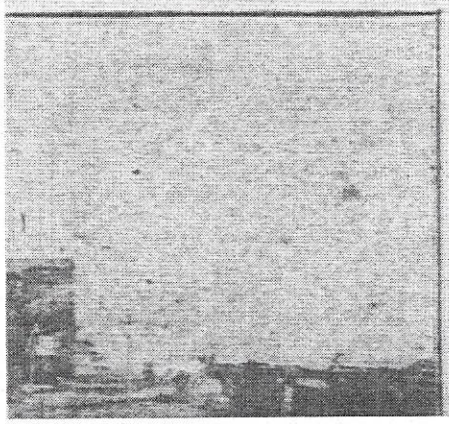
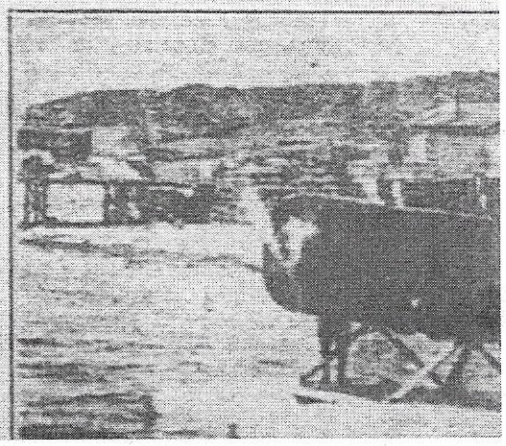
Insurance Rates

So far as marine insurance rates are concerned at present they are high and militate against the commercial success of the route. But marine underwriters are willing to be shown. There was a time when the St. Lawrence river route was heavily penalized by the insurance people. To-day, with all the navigation safeguards that have been undertaken by the government, the St. Lawrence route is a no more serious insurance risk than any other of the low rate ones. If it should be demonstrated that the

AT CANADA'S





October 3 1931

Dominion Government Railway to Hudson Bay.

The Minister of Railways stated in the House of Commons recently that the total length of the line, if completed according to present location, would be 424 miles. The first 250 miles are nearly completed; the next 50 miles are well advanced, and track has been laid on 214 miles. The total estimated cost of the completed line is $16,000,000, and the amount expended $7,647,197.41. The estimated cost of the proposed harbor improvements at Port Nelson, on Hudson Bay, is $10,000,000, less credits for steamships, plant, etc., about $1,000,000, and there has been expended on plant, steamships, wireless telegraph stations, etc., $3,480,277.08.

J. D. McArthur, the general contractor for the line, is reported to have said, on a recent visit to Ottawa, that the grading into Port Nelson will be completed next autumn, if labor or other difficulties do not intervene. The construction camps are fully supplied, the plant on the job is ample, and track and other materials are going forward promptly. It will not, he said, be possible to get the track laid into Port Nelson this year on account of the two large steel bridges which have to be built across the Nelson River, the first at the Manitou Rapids. This bridge, upon which work has been started, is at mileage 241.5 from Pas, Man. It will consist of a single track symmetrical cantilever span, with one deck plate girder approach span, resting on three concrete piers and abutments, having a total length of 612.2 ft. from face to face of ballast wall. The foundations of piers and abutments are in solid rock, the piers themselves being 30½ ft. high above foundations. The piers are spaced from the west end ballast wall, 111 ft., 304½ ft., 110½ ft., and 85½ ft. each centre to centre. The concrete work is being done by the general contractor, J. D. McArthur, and the steel work has been let to Canadian Bridge Co., Walkerville, Ont.

The grading subcontract is being carried out by McMillan Bros., and the track laying, ballasting, and telegraph subcontract by the Hudson Bay Construction Co., of which J. D. McArthur is President.

The engineering and construction parties began, starting out from Winnipeg for the season's work, Mar. 28.

The House of Commons has voted $5,500,000 on account of construction of the railway, terminals and elevators, in the main estimates, and $350,000 in the supplementary estimates this year.