The old bridges of the road are being renewed with stronger structures, to carry the increased train loads. Riveted truss construction is being followed for the longer spans. The bridges at the crossing of the Northwest Miramichi and Southwest Miramichi rivers, six spans of 200 ft. each, at each point, have recently been renewed with spans of this character. They were built by the Dominion Bridge Co., and the details throughout are designed on the same substantial plan as the main members. A peculiarity of the design of the floor system of these bridges is the use of four heavy plate-girder stringers under each track, close to the rails. Each rail is supported by two plate-girder stringers spaced 2 ft. apart, one on either side of the rail. The stringers are 4 ft. deep and head into the floor beams, the latter being carried by being riveted at each end into the vertical posts of the trusses. The panel length is 30 ft.

The deck ties are 8x10 ins., laid 4 ins. apart in the clear, and they are long enough to reach within 2 ins. of the bottom chords of the trusses. Outside each rail 4x8x12 ins. chock blocks are placed between the ties, nailed on with steel spikes as each tie is laid. The bridge trusses stand 16 ft. 9 ins. apart in the clear, and the clear headroom over the track is 23 ft.

On either side of each station, at a distance of 1,000 to 1,800 ft., there is a high semaphore signal operated in connection with the order board at the station. While a train is waiting at the station these distant signals are set to danger, and other trains approaching the station are held at the distant signal. No train is allowed to pass into a station or out from it until the distant signal ahead of it is set to clear. In other words, a train is not allowed to pass a station until it first gets a clear signal to approach it, and it may not pass the distant signal beyond the station unless the semaphore is cleared. The operation of these signals is by a single line of wire cable five-sixteenths inch in diameter, counterweighted for the back pull. It is carried on posts about 7 ft. high, painted white, with a pulley on one side, near the top of each post.

An interesting feature of the station building construction of this road is a so-called "frost proof" floor. The sills (outer and cross sills) of the building are old plate-girder bridge beams 15 ins. deep. On the flanges of these there is a floor, and on this there is a bed of concrete 6 ins. deep. This bed of concrete supports the wooden joists of the service floor, which consists of 3-in. plank overlaid with straw paper and matched hardwood flooring.—Railway and Engineering Review.

December Birthdays.

Many happy returns of the day to—

A. H. Anderson, Cashier, Paymaster, and Purchasing Agent, Quebec Central Ry., at Sherbrooke, Que., born at Cookshire, Que., Dec. 19, 1859.

J. H. Barber, Division Engineer, C.P.R., St. John, N.B., born at Cobourg, Ont., Dec. 20, 1856.

N. E. Brooks, C.P.R., Division Engineer, Calgary, Alta., born at Sherbrooke, Que., Dec. 25, 1866.

D. Brown, Manager Milwaukee and Michigan Line and Grand Trunk Despatch, Detroit, Mich., born at Glasgow, Scotland, Dec. 21, 1843.

J. C. M. Buntzen, General Manager British Columbia Electric Ry. Co., at Vancouver, born at Copenhagen, Denmark, Dec. 16, 1859.

P. E. Demers, Trainmaster Central Vermont Ry., at Farnham, Que., born there Dec. 10, 1859.

A. Price, Superintendent C.P.R. at Fort William, Ont., born Dec. 6, 1861.

H. P. Dwight, President Great Northwestern Telegraph Co., Toronto, born at Belville, Jefferson Co., N.Y., Dec. 23, 1828.

P. Gitkins, General Manager Dominion Atlantic Ry. at Kentville, N.S., born at Harpenden, Herts, England, Dec. 25, 1850.

A. J. Gorrie, General Superintendent Great Northern Ry. of Canada at Quebec, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

D. B. Hanna, Third Vice-President Canadian Northern Ry. at Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

S. P. Howard, General Freight Agent Eastern and Lake Superior Division C.P.R. at Montreal, born there Dec. 30, 1865.

R. R. Jamison, General Superintendent Western Division C.P.R. at Calgary, Alta., born at Westover, Ont., Dec. 12, 1856.

W. Kennedy, Master Mechanic Middle Division G.T.R. at Toronto, born at Belleville, Ont., Dec. 23, 1869.

J. Niblock, Superintendent C.P.R. at Calgary, Alta., born in York County, Ont., Dec. 21, 1849.

J. V. Paul, Locomotive Fuel Inspector C.P.R. at Montreal, born at Mokelumne Hill, Cal., Dec. 29, 1863.

C. Schrieber, C.E., Deputy Minister of Railways and Canals, Ottawa, Ont., born at Bradwell, Essex, Eng., Dec. 14, 1831.

A. J. Shulman, City Passenger and Freight Agent C.P.R. at Buffalo, N.Y., born at Syracuse, N.Y., Dec. 11, 1873.

A. J. H. Stewart, Secretary Gulf Shore Ry. at Bathurst, N.B., born at Dalhousie, N.B., Dec. 3, 1860.

C. E. E. Ussher, General Passenger Agent C.P.R. lines east of Lake Superior, at Montreal, born at Niagara Falls, Ont., Dec. 20, 1857.

B. D. Webber, General Manager Canadian Pacific Despatch at Boston, Mass., born at Beverley, Mass., Dec. 3, 1851.

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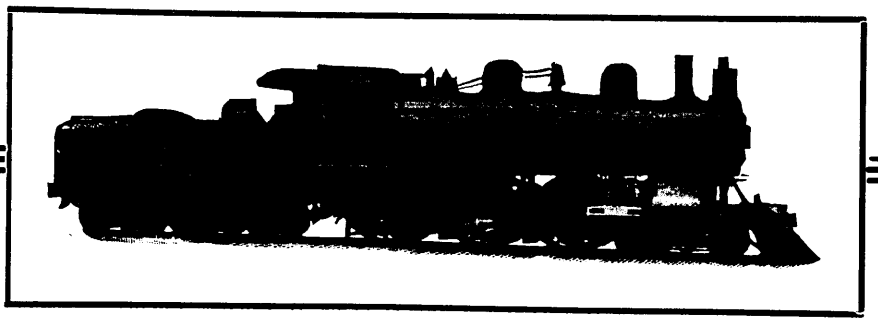

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