

The inspection of all bridges, covering mill, shop and erection inspection, was in accordance with the above specifications, and rigidly adhered to.

All contracts were let to Canadian firms, and although numerous difficulties were encountered in the way of getting the fabricated material on the ground, etc., the erection was in most cases fairly close to the time allotted for completion, and very few casualties occurred.

The total length of the main line from Moncton to Winnipeg is 1,803.4 miles (not including the Quebec bridge).

Of this length there is a total of 10.961 miles of steel bridges and viaducts, and 1.752 miles of permanent timber trestles, or a total of 12.713 miles of permanent bridges, representing seven-tenths of one per cent. of the total main line mileage constructed.

Table II. gives the location and lengths of permanent timber trestles, and Table III. gives the lengths, weights, etc., as constructed in the different provinces through which the line runs.

The total weight of steel in bridges and viaducts is 123,771,905 lbs., or 61,886 tons, and the average contract price paid for the material in place was 4.61 cents per pound.

The total amount of sawn ties, etc., used for flooring steel bridges and viaducts (not including permanent timber trestles, or five overhead crossings in Winnipeg where concrete was used), was 7,943,772 feet B.M., and the



Frederickhouse River Bridge, Ontario. Mile 1034 from Moncton. Length, 622 ft. Height, 78 ft. Tons Steel, 670.

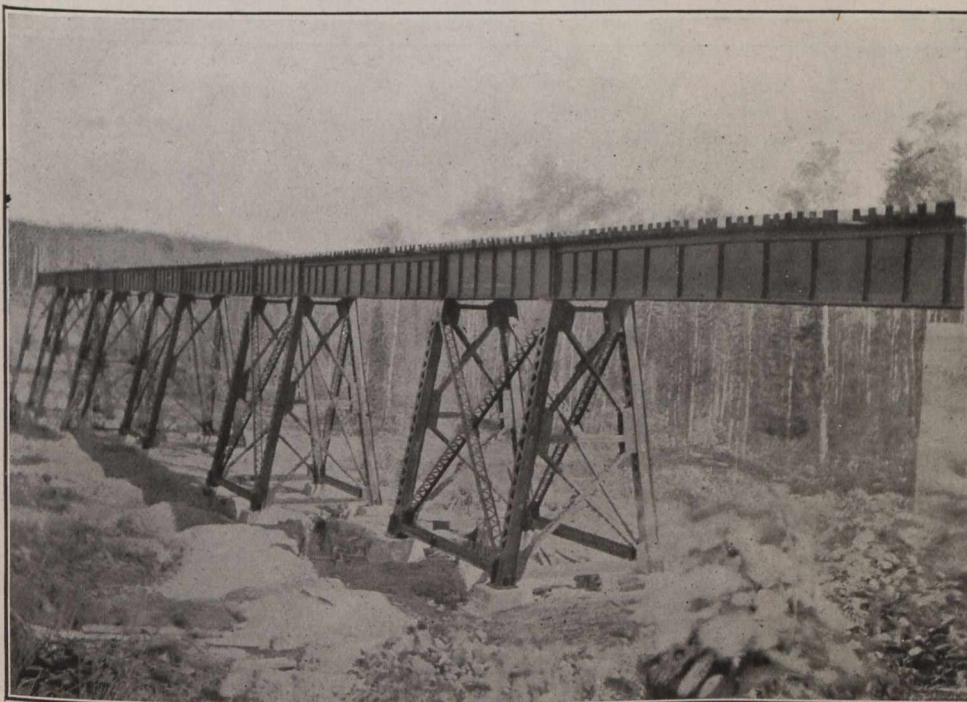
average contract price paid for this material in place was \$51.44 per M.B.M.

The total cost of superstructure in steel bridges and viaducts, including machinery, electrical equipment, signals, etc., at the Red River bridge; flooring, inspection, etc., was approximately \$6,185,000.

The total number of permanent bridges erected has been 230, the shortest single crossing being 20 feet, and the longest 3,918 feet.

Allowing an average of 40,000 lbs. to a car, or 20 tons, the number of cars that would be required for the transportation of the steel used in the bridges and viaducts would be about 3,100, representing a solid train of cars over twenty miles long.

The longest crossing occurs in New Brunswick, and is known as Little Salmon River viaduct. This is a single-track structure, and, as noted above, is 3,918 feet long, with a height from deck to water line in the valley beneath of approximately 200 feet. A through plate girder system was adopted for the entire length, resting on twenty-four towers of 58 ft. 9 in. centres, and having twenty-five intermediate spans of 100 ft. 3 in. centres—the two end spans being increased to 100 ft. 10½ in. from centre of bent to outer end of steel. The actual quantity of steel in this viaduct is 13,991,310 lbs., or nearly 7,000 tons, and 518,041 ft. B.M. of 8-in. x 12-in. bridge ties were used for flooring. The total cost of the super-



Mistongo River Bridge, Ontario. Mile 1001 from Moncton. Length, 1,072 ft. Height, 80 ft. Tons Steel, 892.