main girders are proportioned to carry the following loads:—

Portion of span in ft.	Lbs. per sq. ft. Lbs. per cu. of remaining ft. in each car track.	floor, including walks.
100	1,800	100
110	1,740	98
120	1,680	96
130	1,620	94

the reinforcement to consist of plain, round rods placed at right angles to the centre line of the bridge. The floor mix will be 1 :2 :4. The surface will be crowned 3 in. from sides to centre. The specifications call for a cement and sand cushion ½ in. thick with a 3½ in. creosoted wood block pavement or an alternative No. 1, sheet asphalt on the fixed spans, this to have a 2-in. surface on a 1½ in. binder.

It has recently been announced that alternative tenders will be considered on other designs for this
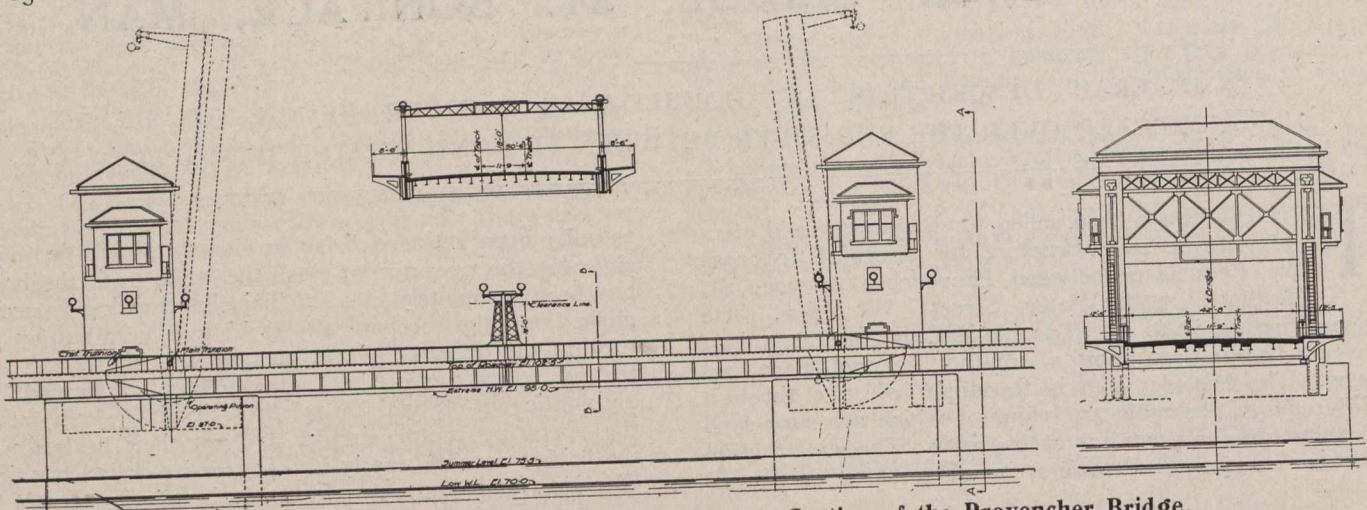

Fig. 2.—Elevation and Sections of the Bascule Section of the Provencher Bridge.

The floor beams are designed for a concentrated load of 30 tons on two axles, 14 ft. apart, for each car track, assumed to occupy the width of 11 ft. and 100 lbs. per sq. ft. remaining floor surface. Stringers are designed for a concentrated live load of 15 tons on two axles, 14 ft. centres and 16 tons, 10 ft. centres. A uniform

bridge to comply with the specifications. If trusses are used in them instead of plate girders it is necessary, however, that they be not over 14 ft. in height.

The work is to be completed by Nov. 1st, 1915. The bridge itself is designed by the Strauss Bascule Bridge Co., of Chicago. Col. H. N. Ruttan is consulting en-
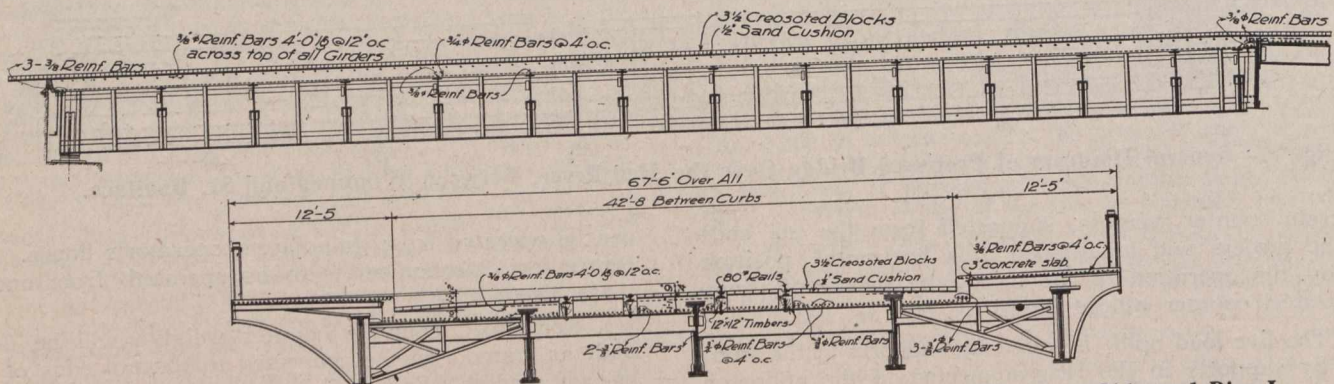

Fig. 3.—Longitudinal and Cross-sections of Span Between Abutment on the Winnipeg Side and Pier 1.

form load of 100 lbs. per sq. ft. is the basis of the side-walk stringer and bracket design, while the floor slab on roadway is proportioned to support a concentrated load of 3 tons per foot in width of the slab.

Specifications consider the reinforced concrete floor and floor beams to have a sufficient bracing for wind load. A temperature variation of 150° F. is provided for, and the traction load is estimated at 20 per cent. of the greatest live load on any part of the structure. The impact load is taken as a percentage of the live load, equal to $\dfrac{10,000}{L+150}$ where L is the length and feet of portion of span covered by the live load when the member considered receives its maximum stress.

The floor of the bridge will be of reinforced concrete, 6 in. in thickness, and supported on steel stringers,

gineer of the work. M. P. Blair, city engineer of St. Boniface, will supervise its erection.

SEVENTH CONGRESS OF THE INTERNATIONAL ASSOCIATION FOR TESTING MATERIALS.

The Seventh Congress of the International Association for Testing Materials will be held under the patronage of H.M. the Czar of Russia, in St. Petersburg, from August 12th to 17th, 1915. Four days will be devoted to the discussion of the most important problems on testing materials. After the Congress extensive excursions in the interior of Russia have been arranged.

The president of the Association is N. Belelubsky, St. Petersburg; vice-presidents, A. Martens, Berlin; A. Mesnager, Paris; G. C. Lloyd, London: R. W. Hunt, Chicago, and general secretary, E. Reitler, Vienna.