

Erection and Floating of Central Span

New Span Differs from the One that was Lost Last Year Only In Lower End Joints
—Floating Arrangements, Influence of the Tides and the General Plan of Operations

WITH the exception of the XLo joints, which were redesigned to suit the new form of bearings, and which were also strengthened, the new suspended span of the Quebec Bridge is exactly the same as the former span. It is 640 ft. long centre to centre of end supports, 88 ft. wide centre to centre of trusses, 113 ft.

points with shop or field splices at the intermediate sub-panel points. The web members were connected and riveted together at the main panel points of the top and bottom chords by means of gusset plates which engage the pins of the top and bottom chord members.

Nickel steel was used throughout for all the main truss members and the bottom lateral system, but the top lateral system and the sway bracing were built of carbon steel, as well as the minor web members which carried no moving-load stresses.

The top and bottom lateral systems, as well as the sway bracing, are double intersecting systems, designed to take both tension and compression in each member.

The erection site for the suspended span was the same as used last year,—about three miles below the bridge site, in the shallow waters of

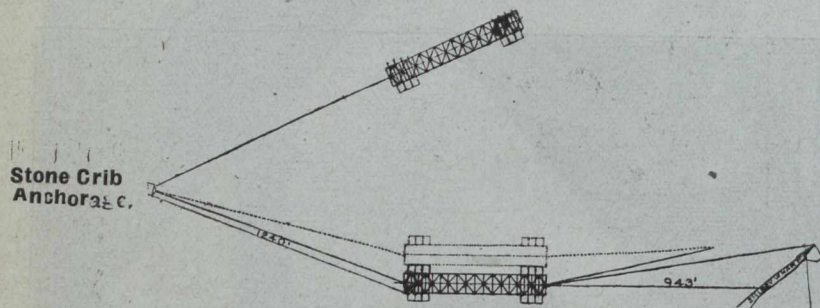


Fig. No. 1.—Diagram Showing Method of Anchorage While Floating Span Away from Erection Site

high overall, and will weigh about 5,600 tons when completed with floor system, stringers, track, etc.

As lifted, the weight of the permanent structure was 4,831 tons, but there were 20 tons of erection steel on the span and 69 tons of timber, hoists, etc. The lifting girders weighed 160 tons, so that the total load carried by the hanger chains was 5,080 tons.

The top chords are in the form of a parabola, the depth of the trusses at the hip being 70 ft. and at the middle of the span 110 ft. centre to centre of chords. The web is a subpanel Pratt system, the main verticals being compression posts, and the main diagonals, tension members. The main panels vary in length from 65 ft. in the end panels to 80 ft. for the panels at the centre of span.

For the bottom chords throughout and for the first main tension diagonals of the web, eye-bars were used. All the other truss members were of built-up construction. The top chords were pin-connected at all the main panel

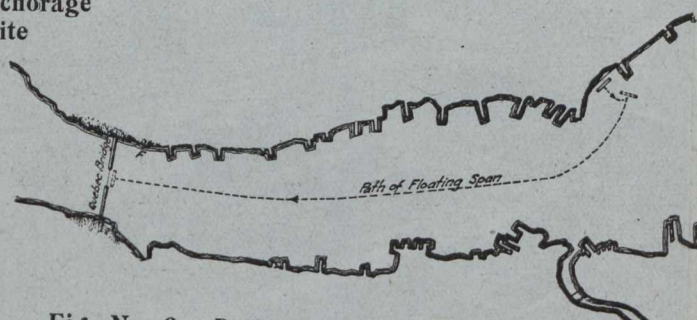


Fig. No. 2.—Path of Floating Span from Erection Site to Bridge

Sillery Cove, where the bed of the river is exposed at low tide. The old falsework bents, approach tracks, etc., were used again.

During erection, the span was supported on staging bents placed under each panel point. These bents each consisted of two columns, spaced 6 ft. apart and tied together by batten plates and latticing. In designing the

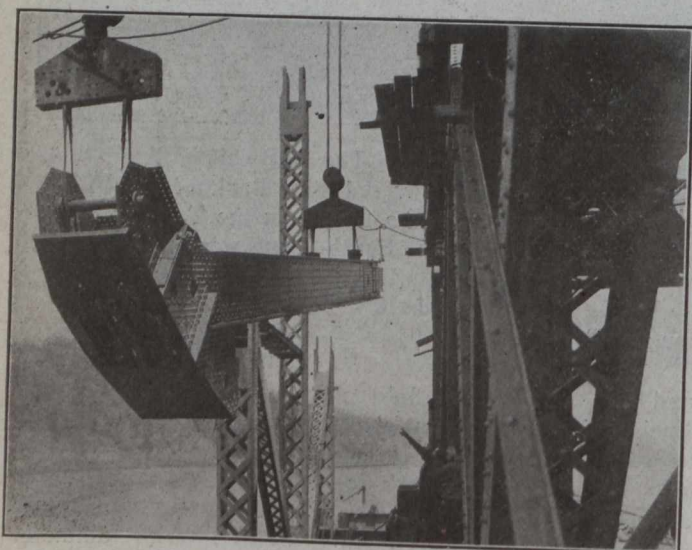


Fig. 3.—Traveller Placing End Batter Post and XLo Joint of Suspended Span



Fig. 4.—Driving Pin Connecting Bottom Chord Eye Bars at XLo Joint