

# The Canadian Engineer

A weekly paper for Canadian civil engineers and contractors

## QUEBEC BRIDGE DISASTER

HISTORY OF FAMOUS STRUCTURE—SOME DETAILS OF LIFTING APPARATUS  
—RECORD OF INCIDENTS LEADING UP TO COLLAPSE OF SUSPENDED SPAN.

AS early as 1852 a project for a bridge over the St. Lawrence River at Quebec was considered, and again in 1884 a design was prepared and submitted to the Quebec Board of Trade for a bridge at about the present site, but nothing actually was done

Clear headway over high tide, 150 feet, for a width of 1,200 feet.

Height of peaks of main posts above the river, 400 feet.

Capacity, two railway and two electric railway

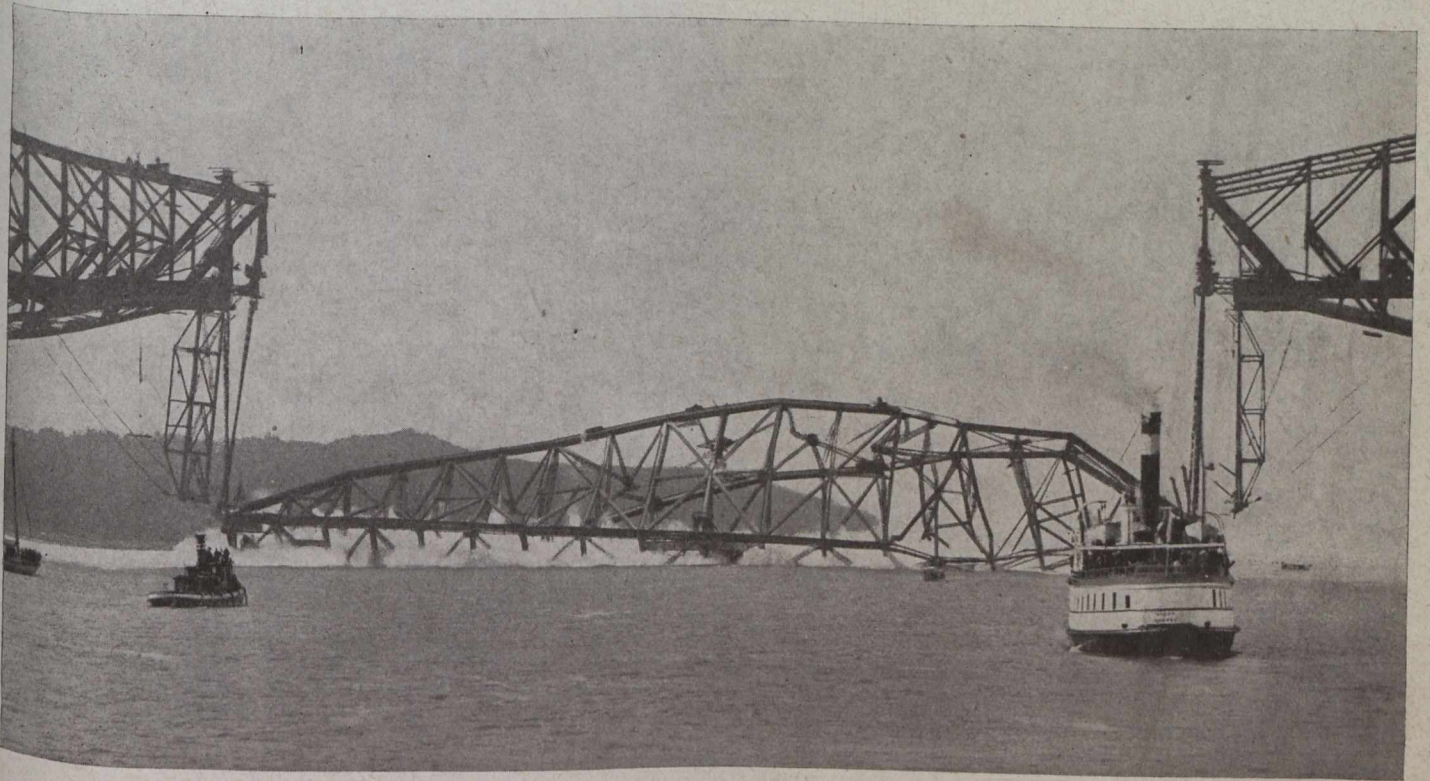


Fig. 1.—Taken Just as Centre Span is Falling into River After Failure of Casting on South Lifting Girder.

As the photograph shows, the hoisting connection on one of the southern extremities of the centre span became detached. That corner of the span dropped twisting the whole structure out of shape. - Copyrighted in Canada, Great Britain and the United States by Chesterfield and McLaren.

until about 1900, when the Quebec Bridge and Railway Company located a site near Cap Rouge and took definite steps towards the erection of such a structure.

### Main Dimensions of the First Quebec Bridge.

Type of bridge, cantilever.

Total length of bridge between abutments, 3,220 feet.

Consisted of: Two deck truss approach spans, each 210 feet long; two anchor arms, each 500 feet; two cantilever arms, each 562½ feet long; one suspended span, 675 feet long.

Central span, centre to centre of main piers, 1,800 feet; the longest in the world.

Type of trusses, pin-connected.

Width, centre to centre of trusses, 67 feet.

Depth of trusses varied from 97 feet at the portals to 315 feet over main piers.

tracks, two roadways and two footwalks, all on same level.

Total weight of steel in bridge, 38,500 tons.

Weight of heaviest single pieces handled, 100 tons.

Longest single section shipped to bridge site, 105 ft.

Eyebars, the largest yet used, with a maximum of 56 on one pin.

Diameters of pins, from 9 to 24 inches, and up to 10 feet in length.

Type of traveller used for erecting anchor and cantilever arm trusses, gountry, running outside of trusses, on tracks at about floor level, and spanning highest point of bridge.

Weight of gountry traveller, fully rigged, with all accessories, 1,000 tons.

Steel wire cable on traveller, seven miles of seven-eighths.