

bottom part of the railing, which acts as a girder for the sidewalk slab, were then built together, and the sidewalk finished before the base had set.

The forms for the hand-rail posts and upper rail were then set up, the spindles, which were cast as the work progressed from C.I. moulds furnished by the county, were set in position and the upper rail cast around the tops of them.

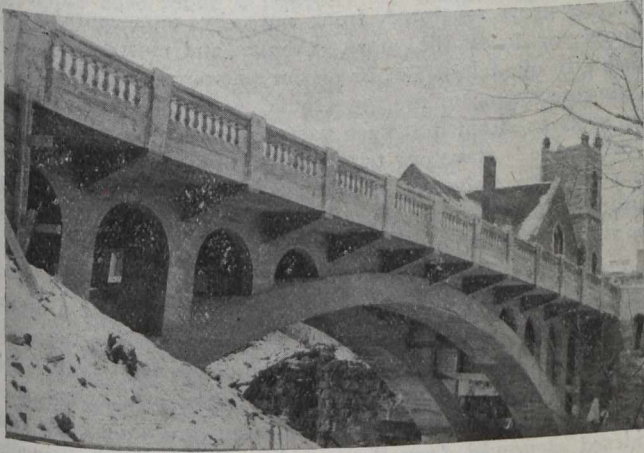


Fig. 2.—View Partially Showing Under Portion of Bridge.

A ledge in the top of the lower rail was left for these spindles and this was then grouted in.

The roadway is finished as an ordinary concrete bridge floor, with a crown of 2 inches. The curb is 9 inches high, so that at some future time asphalt blocks or other paving material may be used.

Concrete cross walls were built up at both ends of the bridge. At the east end retaining walls 85 feet on one side and 135 feet long at the other side carry the roadway down to grade level. The railing on the retaining walls is a solid one with panels and posts at 16-foot centres. It is built to harmonize with the railing on the bridge, but less striking so as not to detract from the arch itself.

The bridge was designed as a parabolic arch without hinges to carry a live load of 125 pounds per square foot of the roadway and 100 pounds on the sidewalks. The roadway is also figured to carry a concentrated load of 10 and 6

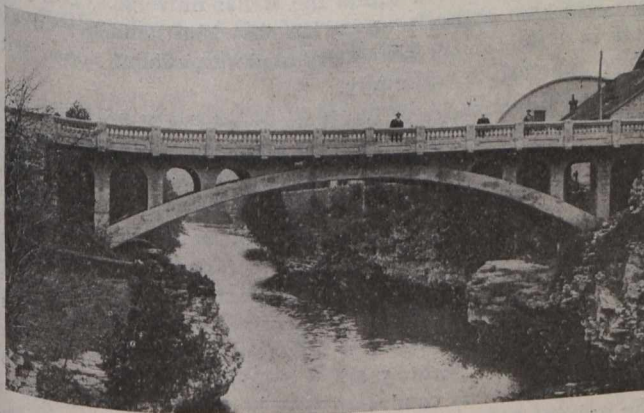


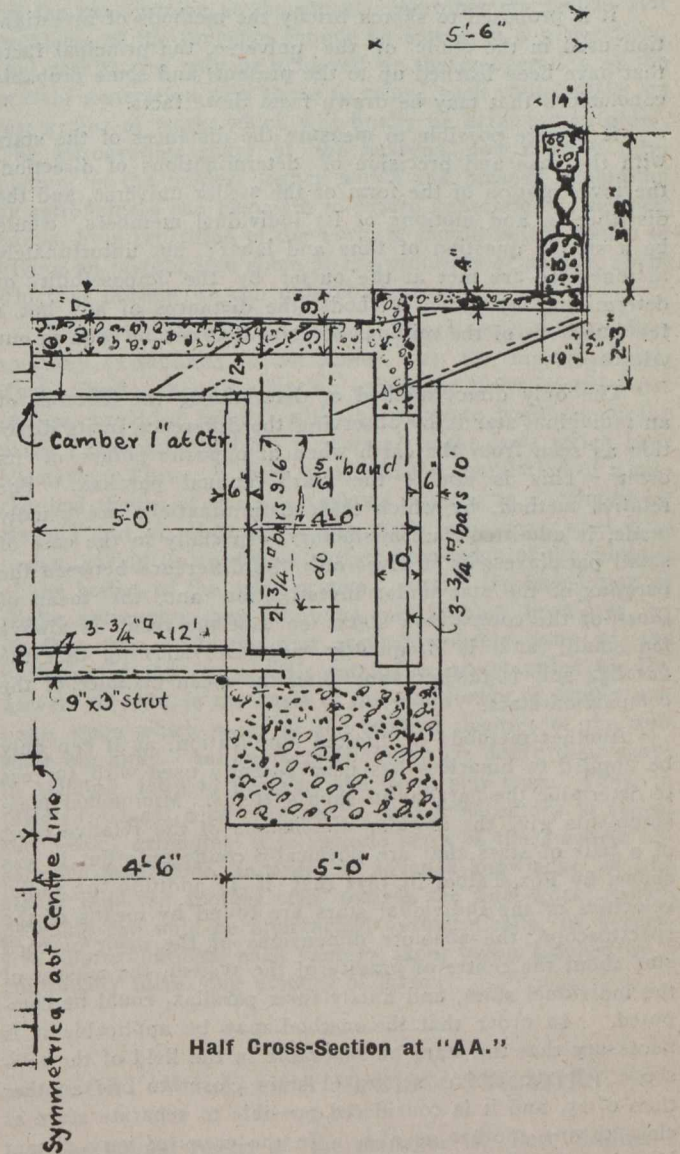
Fig. 6.—View of Bridge on Completion.

tons on two axles 10-foot centres. A temperature variation of 100 degrees Fahrenheit was also allowed for.

There are 316 cubic yards of concrete in the arch proper, with end cross walls, which are 100 feet apart. The cost of this was about \$4,800. The retaining walls on the east approach contained 204 cubic yards of concrete and cost about \$1,300.

All the concrete was mixed in the proportion of 1:2:4. There was no surface treatment except a wash of cement and waterproofing mixture. The finish was very good and reflects great credit on the contractor, Mr. W. M. G. Davies, of Stratford, Ont.

The bridge proper was begun in July, 1911, and finished before winter. The retaining walls were built the following spring. No crack has yet appeared in any part of the bridge.



Half Cross-Section at "AA."

The bridge was built under the following committee: G. M. Fox (warden), J. A. Wilkinson, J. M. Young, C. Steele, and G. Cassie.

The reinforcing steel was supplied by the Trussed Concrete Steel Company and by Steel and Radiation, who supplied twisted squares. The moulds for the spindles were supplied by the London Concrete Machinery Company.

The engineers were Bowman and Connor, 36 Toronto Street, Toronto, Ont.

The Newfoundland government propose to extend the telegraph system around the seaboard of the island, 500 miles having been built in the past four years, with a prospect of 250 more being constructed during the present season; also to build three more wireless stations on Labrador and to establish a telephone system for St. Johns and a number of the outlying places.