

to suit the inequalities in the bottom. In addition to the wire cables attached to the feet of the posts, and as a further precaution against slipping, they were furnished with a heavy pointed spike bolt driven into the timber.

The last bent was successfully placed in position on the 27th of June the "traveller" was completed on the 20th, and the erection of the span commenced on the 30th.

Superstructure. The following table gives the more important particulars of the superstructure of the three bridges:

Number of Spans.	Length Centre to Centre of Piers.	Net length of Girders.	Width Centre to Centre of Girders.	Weight of each Span. lbs.	Price per lb. erected.	Remarks.
	Ft. In.	Ft. In.	Ft. In.		Cts.	
1	324.0	323.3*	20.0	931,749	4.80	Pin connected "Through" Truss.
3	104.9	104.4		176,870	4.15	Riveted Lattice "Girders.
1	101.5½		10.0	108,478	4.15	" " "Deck" "
11	100.9		10.0	108,478	4.15	" " " " "
7	71.2½		10.0	64,337	3.77	" Plate " " "
8	66.1½		10.0	55,541	3.77	" " " " "
2	65.0		10.0	55,300	3.77	" " " " "

*Centre to centre of end pins.

Plates 1 to 4 give general elevations of spans 324 ft. 104 ft. 9 ft. 100 ft. 9 ins. and 66 ft. 1½ ins., and extracts from the specification are given in an appendix.

The whole of the spans are of steel, built under the direct supervision of the Company's inspector.

The contractors for the work were the Union Bridge Co. of New York. The sub-contractors who actually built the spans were as follows:—For the 324 ft. span, Arrol Bros, Glasgow (except for the eye-bars, which were made at the Union Bridge Company's own works in Buffalo). For the 104 ft. 9 ins. spans, The Horsely Co., Tipton, Staffordshire, England. For the 101 ft. 5½ ins. and the 100 ft. 9 ins. spans, The Cleveland Bridge Co., Darlington, England. For the 71 ft. 2½ ins., 66 ft. 1½ ins. and the 65 ft. spans, Arrol Bros., Glasgow.

The cost of the bridges described is given by the following statement:

ST. ANNE'S BRIDGE.

ITEM.	QUANTITIES.	RATE.	AMOUNT.	AMOUNT.
Earth excavation. Cub. yds.	1,830.4	\$0.31	\$567 42	
Loose rock..... " "	112.6	0.90	101 34	
Earth and loose rock excavation under water. C. yds.	573.3	2.00	1,146 60	
Concrete. Cub. yds.....	474.00	15.00	7,110 00	
1st class masonry. Cub. yds.	5,290.94	15.00	79,364 10	
Rough rip-rap. " "	147	1.50	220 50	
				\$88,509 96

Sundry Extras.—Removing buildings from site of E. abutment, cutting checks for girder bed-plates in pier copings, handling timber, etc., etc 1,110 97

Iron and Steel in Superstructure.—

747,566 lbs.	@	0.04 ¹⁵	31,023.99
444,328 " "	@	0.03 ⁷⁷	16,751.17
931,749 " "	@	0.04 ⁸⁰	44,723.95
			92,499 11

Timber in Floor.—

181,852 ft. B. M.	@ per M.	15 ⁰⁰	2,727 78
11,560 " " "	"	18 ⁰⁰	208 08
Extra work on floor, labour, etc.			150 68
			3,086 54

Total cost of St. Anne's Bridge..... \$185,206 58