piles, and workmen down the river together. When the excitement had passed—and it fortunately happened that no lives were lost—an examination showed that most of the sand had disappeared. Fresh piles, however, were driven, surrounded at the bottom by the cribs, and tied together at the top. This structure remained steadfast, and the 200 ft. span was erected upon it from pier No. 3, while pier No. 4 was being proceeded with; when the superstructure was completed the pier was built up to it. The span between Nos. 4 and 5, 250 ft. long, was erected upon temporary piles driven into the sand, which were afterwards removed. The other length of the superstructure presented no difficulties.

The width of the bridge platform is 18 ft., and is used in common for vehicles and trains, care being exercised that both classes of traffic shall not be upon it at the same time. The floor is laid with a Nicholson pavement, and on the west, or up-river side, a footpath 4 ft. wide is placed. But although the bridge is made for a single line of rails the foundations were laid in for a double track.

The total cost of the bridge was about 150,000L., including the approaches, on the north, half a mile of trestle-work, and on the south, a mile of earthwork, upon which was a cutting 1400 ft. long, with a maximum depth of 73 ft.

On the 3rd of July, 1869, the bridge was tested as follows:

Span 7. Length of span 177 ft. Load at north quarter of span, 46 tons; north quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.

Load at centre and north quarter, 92 tons; north quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; south quarter deflection, $\frac{3}{4}$ in.

Load at south quarter, centre, and north quarter, 112 tons. North quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; south quarter deflection, $\frac{3}{4}$ in.

Span fully loaded, 170 tons. North quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; south quarter deflection, $\frac{3}{4}$ in. Elongation of bottom chord under full load, $\frac{1}{4}$ in. Set after load passed off, $\frac{1}{4}$ in.

Span 6. Length 200 ft. Loaded with four engines, total weight, 187 tons. North quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; south quarter deflection, $\frac{3}{4}$ in. Elongation of bottom chord, $\frac{1}{4}$ in.; set, $\frac{1}{4}$ in.

Span 5. Length 250 ft. Fully loaded, 233 tons. North quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; south quarter deflection, $\frac{3}{4}$ in. Elongation of bottom chord, $\frac{1}{4}$ in.; set, $\frac{1}{4}$ in.

Span 4. Length 200 ft. Loaded, 187 tons. Centre deflection, $\frac{3}{4}$ in.; set, nil.

Draw span. Length 363 ft. North half of draw span loaded with 170 tons. North quarter deflection, $\frac{3}{4}$ in.; north centre deflection, $\frac{3}{4}$ in.; quarter adjoining pivot, $\frac{3}{4}$ in.; centre of south half, unloaded, rose under above $\frac{3}{4}$ in. Draw span fully loaded, 313 tons. On south half of span south quarter deflection, $\frac{3}{4}$ in.; centre deflection, $\frac{3}{4}$ in.; quarter adjoining pivot deflection, $\frac{3}{4}$ in.; north half of span centre deflection, $\frac{3}{4}$ in.; set in south half-truss, $\frac{3}{4}$ in.; set in north half-truss, $\frac{3}{4}$ in. The time occupied in opening the draw to an angle of seventy-two degrees, was two minutes and ten seconds, with four men. The elongation of span under the moving load of five engines and loaded train was $\frac{3}{4}$ in.