J. W. RILEY.
Side-Truss for Bridges.

No. 217,409. Patented July 8, 1879.

Fig. 1.

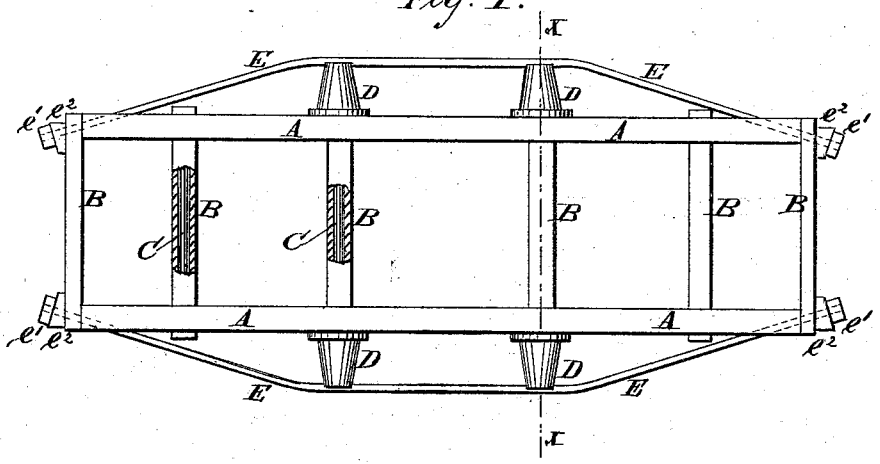
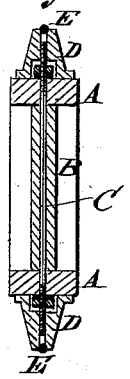


Fig. 2.



WITNESSES:

Achilles Schehl.
C. Sedgwick

INVENTOR:

J. W. Riley
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UNITED STATES PATENT OFFICE.

JOSEPH W. RILEY, OF HOLLIDAYSBURG, PENNSYLVANIA.

IMPROVEMENT IN SIDE TRUSSES FOR BRIDGES.

Specification forming part of Letters Patent No. **217,409**, dated July 8, 1879; application filed April 8, 1879.

To all whom it may concern:

Be it known that I, JOSEPH W. RILEY, of Hollidaysburg, in the county of Blair and State of Pennsylvania, have invented a new and useful Improvement in Side Trusses for Bridges, of which the following is a specification.

Figure 1 is a view of one of my improved trusses, parts being broken away to show the construction. Fig. 2 is a cross-section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of the invention is to furnish improved side trusses for bridges which shall be strong and durable in use and inexpensive in manufacture.

The invention consists in side trusses for bridges formed of the longitudinal bars, the cross-bars, the cross rods or bolts, the studs, and the elliptical braces, as hereinafter fully described.

A represents the longitudinal bars of the truss, between which are interposed cross-bars B, the ends of which rest against the inner sides of the bars A, and which are perforated longitudinally to receive the cross-rods or long bolts C. The bolts C pass through the bars A, and have nuts screwed upon their ends upon the outer sides of the said bars A.

To the outer sides of the bars A are secured the flanged inner ends of the studs D, which may be perforated and recessed to receive the ends and nuts of the long bolts or rods C, and their outer ends are notched to receive the elliptical braces E. The ends of the braces E are passed through inclined holes in the ends of the bars A, and have nuts e^1 screwed upon their said ends, beveled blocks e^2 being interposed between the ends of the bars A and the nuts e^1 to give the said nuts a square seat.

The trusses may be made of wood or of iron, as may be desired.

By this construction the trusses will have an immense strength, so that the bridge can be built without piers.

I am aware that it is not new to make a truss consisting of opposite arcs with a central cord connected by hollow struts through which the tie-rods pass; but the center only is clasped, while I clasp the whole side of structure, my elliptic rod being started from the corners instead of the center of the end cross-tie, and each cross-tie or strut being strung by said rod, all of which gives my side truss greater strength and durability; but

What I claim is—

The combination, in a truss-bridge, with the long bars A, connected by cross-bars B and bolts C, and braces or tension-rods E, of the perforated studs D, arranged on said bolts to support said braces, as shown and described.

JOSEPH W. RILEY.

Witnesses:

DAVID OVER,

JOHN LOWE.