E. HEMBERLE.

Iron Truss Bridges.

No. 152,489. Patented June 30, 1874.

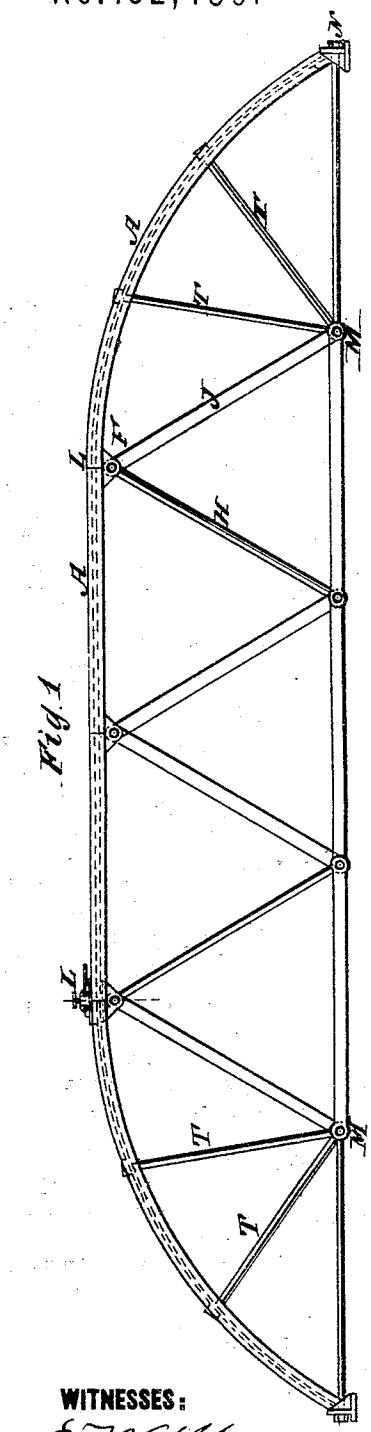

Fig. 1.

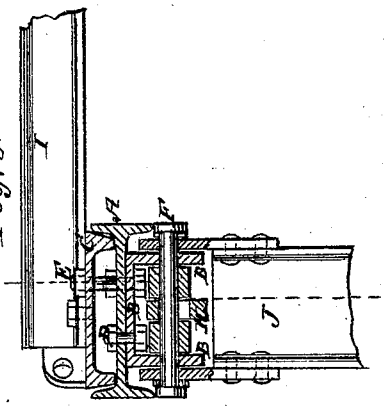

Fig. 3.

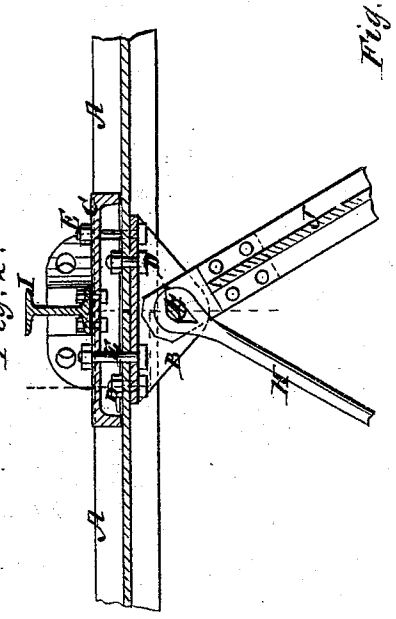

Fig. 2.

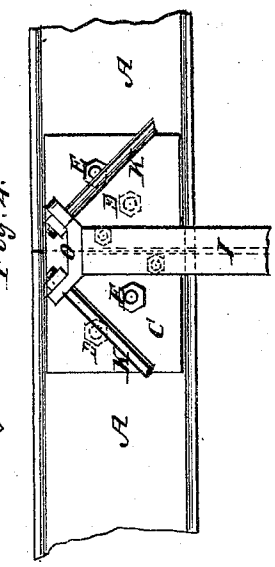

Fig. 4.

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UNITED STATES PATENT OFFICE.

EDWARD HEMBERLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN IRON TRUSS-BRIDGES.

Specification forming part of Letters Patent No. **152,489**, dated June 30, 1874; application filed March 28, 1874.

To all whom it may concern:

Be it known that I, EDWARD HEMBERLE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Iron Bridges, of which the following is a specification:

Figure 1 is an elevation of my improved iron bridge-truss. Fig. 2 is a longitudinal section of the top chord-connection. Fig. 3 is a cross-section of top chord-connection. Fig. 4 is a plan of the same.

Similar letters of reference indicate corresponding parts.

The invention consists, first, of a peculiar construction of the ends of iron bridge-trusses; second, of a peculiarly-constructed top chord-connection, as will be fully described hereinafter.

A represents the top chord of a bridge-truss, made of I-shaped rolled beams, jointed together at the ends and straight in the middle of the truss, from a point, L, Fig. 1, one and a half panel lengths from the end of the truss; from L to the end the chord is bent in a circular arc down to the shoe at N. The arc is held in shape by two or more tie-rods, T, entering at the bottom chord-pin M, to distribute and transmit the load from point M to the arc, as shown in Fig. 1. The top chord A is spliced and connected over the pin F in the following manner, viz: A wrought-iron plate, B, Figs. 2 and 3, bent in double-angle form to fit the web of the beams, is bolted on the ends of the two beams, so that its flanges project downward to receive pin F, for connection of the tie-rods H and struts G of the truss. This plate is bolted to the under side of chords A by two short bolts, making a temporary connection to the top chord. On top of the chords, at the joint of the sections, there is a cast block, C, fitting into the trough of the I-beam, as shown by Figs. 2, 3, and 4, which is bolted down, by two bolts, E, passing through the block C, to the web of the beam A, and the wrought iron connecting-piece B. The block C has lugs O cast on the top, in which the top lateral ties K are secured.

The advantages of my improved truss over others known and in use are, first, saving in the amount of material required to build the trusses and top lateral bracing of a bridge, particularly in the bracing of the ends by the tie-rods T, by which a rigid truss is produced with fewer members, and the erection is facilitated by the more simple form. The tie-rods T, being adjustable by nuts at the upper end, admit of transferring and adjusting the load equally over the arched ends of the top chord, and keep it thereby in proper shape. Second, the construction of the top chord-sections is so simple that it requires no skilled labor to make the connection of the top chord and erect the truss.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The arch shaped ends of the top chords of iron bridge-trusses, stiffened and held in shape by several tie-rods centering on the first joint of the bottom chord-sections, as shown and set forth.

2. The combination, with the top chord I-shaped beams, of the double-angle plate B and top plate C, secured together by bolts, as shown and described.

3. The combination of the horizontal braces I, tie-rods H, studs J, and pin F with the chord A, plate C, angle-plate B, and bolts D E, as shown and described.

EDWARD HEMBERLE.

Witnesses:

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