# A. BURNESON.

## Iron-Bridges.

No. 154,644. Patented Sept. 1, 1874.

*Fig. 1*

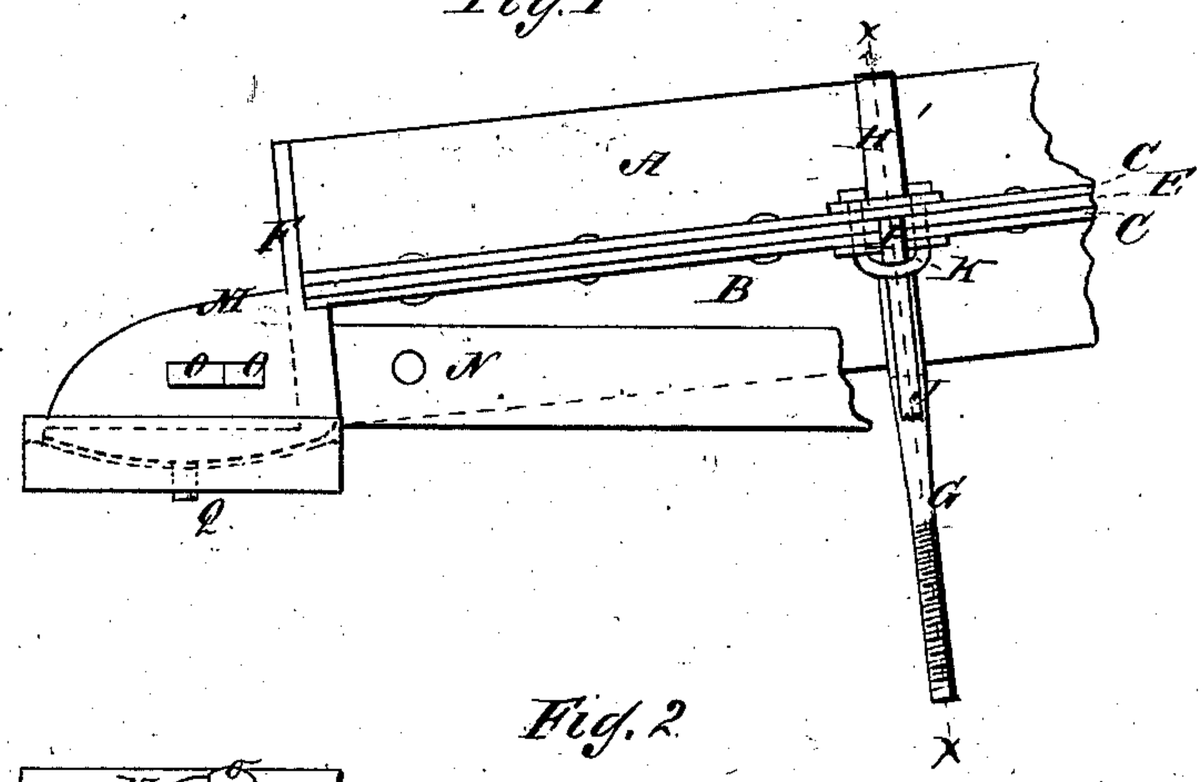



*Fig. 2*

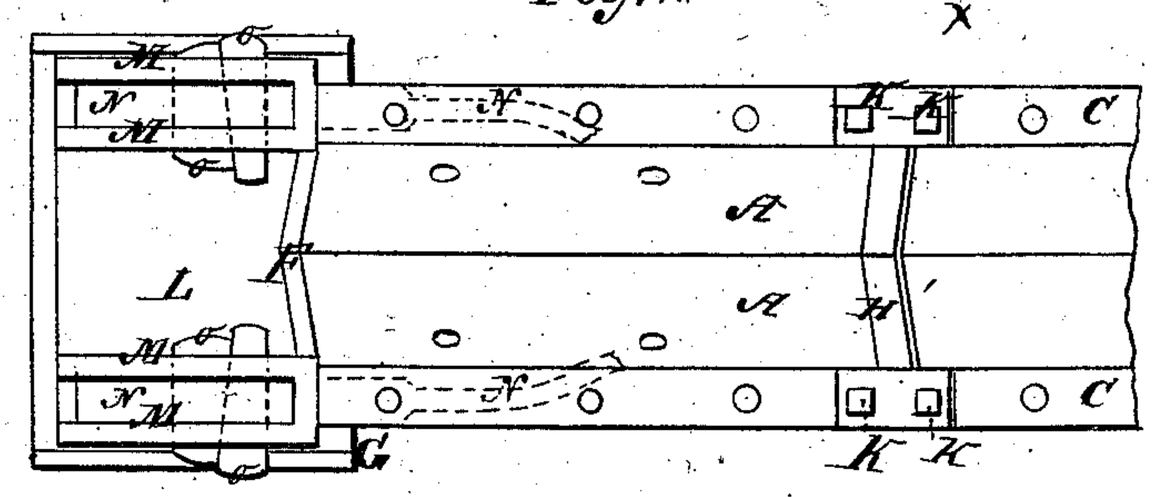



*Fig. 3.*

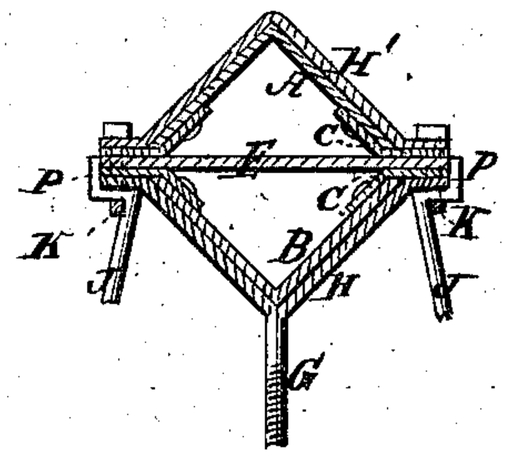
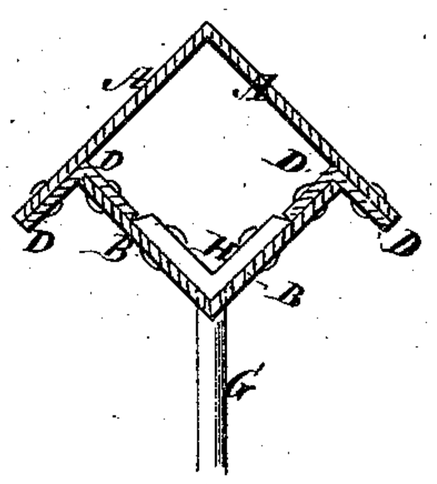



*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

ANDREW BURNESON, OF MANSFIELD, OHIO.

## IMPROVEMENT IN IRON BRIDGES.

Specification forming part of Letters Patent No. **154,644**, dated September 1, 1874; application filed May 29, 1874.

*To all whom it may concern:*

Be it known that I, ANDREW BURNESON, of Mansfield, in the county of Richland and State of Ohio, have invented a new and useful Improvement in Bridges, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a side elevation of the top and bottom chords, and a shoe constructed and arranged according to my invention. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a cross-section of Fig. 1 on the line *x x*, and Fig. 4 is a cross-section of a top chord, showing a modified construction, but on the same general plan.

Similar letters of reference indicate corresponding parts.

I take two angle-plates, A B, of the same size, as shown in Fig. 3, or of different sizes, as shown in Fig. 4, and fasten them together at the edges by riveting them to angle-bars C or D, either with or without a flat plate, E, between them, and arrange them in the bridge, with the corners of the chord thus formed lying in a horizontal plane, resting the end against the vertical plate F of the shoe, and on the bottom plate. The suspending-rods G I attach by a yoke, H, embracing the lower side, and bolted to another yoke, H′, on the top, and thus connect them without bolting through the chords, except at the flanges, so as to avoid weakening them by holes. The top chord is composed of two angle-plates, secured together by angle-bars and a flat plate. The suspension-rods are secured to the flange of the chord by a yoke and yoke-shaped bolts. The braces J are secured to the chord by angle ends and yoked bolts, as clearly illustrated in Fig. 3. The yokes H may, however, be arranged inside of the chord, or on the upper side of the lower plate, by making a hole through it for the rod, as shown in Fig. 4; but this plan will not be employed where the greatest attainable strength is required. The shoe consists of a bottom plate, L, and vertical plates F and M, besides the separate bottom plate G, and the lower chords are received through mortices in the front plate F, between the vertical plates M, where they are secured by keys O, driven through them and the said plates. The bottom plate G has a concave upper side, in which the convex under side of the shoe rests, so as to rock a little if necessary in coming to rest, or the plate may be adjusted to the shoe after it has assumed its position, if necessary.

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

1. The top chord or arch, composed of two angle-plates, A B, secured together by bars C and a flat plate, E, substantially as specified.

2. The suspending-rods, secured to the flanges of the chord by a yoke, H, yoke-shaped bolts K, and the yoke H′, substantially as specified.

3. The braces J, secured to the chord by the angle end P and yoked bolts K, substantially as specified.

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Witnesses:

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