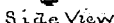


No. 125,117.

Patented April 2, 1872.



Front View

Alfred P Boller
for John Dane & Atty

UNITED STATES PATENT OFFICE.

ALFRED P. BOLLER, OF ORANGE, NEW JERSEY.

IMPROVEMENT IN WROUGHT-IRON BRIDGES.

Specification forming part of Letters Patent No. 125,117, dated April 2, 1872.

To all whom it may concern:

Be it known that I, ALFRED P. BOLLER, of Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Wrought-Iron Bridges and other truss-frames; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification.

Figure 1 represents a side elevation of a post, showing the mode of connection of the upper and lower chords and diagonal brace-bars. Fig. 2 represents a front view of the post, with sections of chords and connections. Figs. 3 and 4 are enlarged details of lower chord-connections and foot of post. Figs. 5 and 6 are enlarged details of upper chords, connections, and top of post. Fig. 7 shows the sway-brace attachment, the elevation of which is shown in Fig. 5. Fig. 8 is a cross-section through center of the post.

To enable others skilled in the art to construct my invention, I will describe the same more in detail.

First, my invention consists of an improved construction of posts for iron bridges; and, second, of an improved connection for the sway-braces and rods to the chords. The posts are constructed of channel-bars in pairs, being latticed together by narrow strips, as shown in the drawing. These bars are slightly curved, that, when united, the post may be wider at the center, drawn together at either end upon the caps and bases, which is more clearly shown in the enlarged details, Figs. 3, 4, 5, and 6. The lattice-strips are riveted to the channel-bars, in the usual manner.

The center plate *a* is used principally to keep said bars in position and at a suitable distance apart. The ends of said bars are riveted to caps and bases. These caps and bases are formed of two plates bent at right angles to each other, as is more clearly shown in the enlarged detail, Fig. 3. To these are riveted the plates *c*, said plate being bent into a rectangular shape as shown in drawing Fig. 4, the object being to make a firm bearing, against which the floor-beams are drawn, by means of the hanger-bolt *d*. Intermediate yokes may be attached to the base-plates and angles, as at *e*, in case the computed strain

requires that much additional bearing on the pin or bolt. For the cap, the flat plate resting upon the angle-pieces is no longer than the width of the upper chord which rests upon the same. Yokes are riveted to the plates and the angle-pieces, as shown in drawing, Fig. 5, at *e e*. The upper chord is composed of wrought-iron girders, formed from channel-bars and plates, after the usual manner, with the exception of the lower side, which is left open for painting and inspection; said bars being joined by narrow strips at suitable intervals apart for the purpose. The upper sway-brace consists of a strut, *m*, at each panel-joint, with diagonals *n n*, as shown in the drawing. These are secured in position by means of a bent plate, *p*, of proper length and form, through the center of which passes the bolt *h*, by which it is secured. The plates are bent at such an angle as to form skew-backs for adjusting the diagonals *n n*, and for closing in upon the strut-beams, to the web of which it is bolted. This single bar of iron, thus made from one piece, forms the connections of the brace to the chord, and it forms also convenient and strong fastening for the tension-rods *s s*, as shown in drawing, Figs. 5 and 7.

I have thus described the construction of my invention. The object of it is to lighten and at the same time to strengthen the posts, the details being so arranged that I am enabled to inspect and paint without any detachment. The skew-back thus formed enables me to produce and make firm and strong connections.

What I claim, and desire to secure Letters Patent of the United States for, is—

1. Channel-bar posts swelling gradually from ends to center, and joined by means of lattice-strips of iron, and uniting upon the wrought-iron caps and bases, substantially as described, and for the purposes hereinbefore described.

2. The connection of the top lateral bracing (sway-brace and diagonals) by means of a bent plate having skew-backs for supports for the diagonals, substantially as shown and described, and for the purposes set forth.

ALF. P. BOLLER.

Witnesses:

JOSHUA W. GASKELL,
EDWD. L. BROWN.