

D. M. Curdy,

Truss Bridge.

No. 104,869.

Patented June 28, 1870.

Fig. 1.

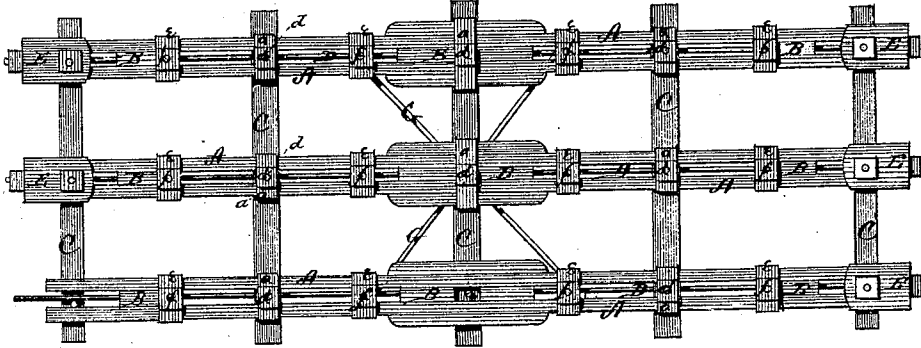


Fig. 2.

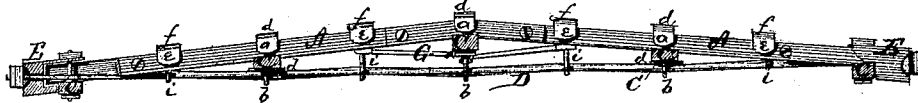
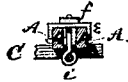


Fig. 3.



Witnesses;

Jerry King
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United States Patent Office.

DAVID McCURDY, OF OTTAWA, OHIO.

Letters Patent No. 104,869, dated June 28, 1870; antedated June 17, 1870.

IMPROVED BRIDGE.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, DAVID McCURDY, of Ottawa, in the county of Putnam and in the State of Ohio, have invented certain new and useful Improvements in Bridges; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a bridge, having an oval arch, with the floor on top.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of the bridge;

Figure 2 is a side view of the same; and

Figure 3 is a cross-section of one of the girders composing the arch.

Each of the girders of which my arch is composed, is formed of two bars A A, running parallel, at a suitable distance apart, and having blocks B B inserted between them, at convenient points, through which blocks bolts are passed to secure the bars A A together.

The girder thus formed is made in an oval shape, and, when three or more of these girders are placed in position to form the arch, they are connected on the under side by cross-ties C C, placed at any desired distance apart.

The cross-ties C C are secured to the bars A A in the following manner: Clamps *a a* are placed across the upper side of the bars A A, and a rod, *b*, passed through the same, between the bars and through the cross-tie, said rod being fastened by nuts *d d*, one above the cap *a* and the other below the cross-tie C.

The lower ends of the rods *b b* form loops or eyes, which are all on a line with the ends of the bars A A, so that the chord D may pass through the same.

The chord D passes through the shoes E E, put on the ends of the bars A A, and is secured by nuts.

At suitable points across the bars A A, between the caps or clamps *a a*, are placed other clamps *e e*, through which are passed rods *i i*, secured by nuts *f f*

on top of the clamps, said rods passing downward between the bars A A, and are, at their lower ends, also provided with eyes or stirrups. These eyes or stirrups are on a line higher than the line of eyes at the lower ends of the rods *b b*.

The chord D passes also through the eyes or stirrups formed on the lower ends of the rods *i i*, and is, consequently, drawn upward at those points. By this means, a portion of the tensile strength of the chord is transferred upward to the girder, so as to resist compression, the rise to be proportioned to the span.

I use three or more girders, of the form herein described, so that, in crossing with a load, the weight will always be on two girders.

The floor is to be secured on top of the girder by means of clamps at the sides, and the railing will be put on by staples on the sides, like those on platform-cars.

The girders may be made of wood or metal, and under the center I may connect them by means of a cross-tie, G, as shown in fig 1. In small bridges, or bridges having short spans, the cross-ties may be dispensed with.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the clamps *a a*, rods *b b*, and nuts *d d*, substantially as shown and described.

2. In combination with the clamps *a a*, rods *b b*, and nuts *d d*, the clamps *e e*, rods *i i*, diagonal cross-ties G, and nuts *f f*, all constructed as described, so as to transfer the tensile strength of the chord D upward, substantially as herein set forth.

3. The combination and arrangement of the bars A A, blocks B B, cross-ties C C, shoes E E, chords D D, and the clamps and rods herein mentioned, for transferring the tensile strength of the chords upward, and with or without the cross-ties G, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of October, A. D. 1869.

DAVID McCURDY.

Witnesses:

J. J. MOORE,
CORTUS EWING.