

A. BORNEMAN.
Truss-Bridge.

No. 219,846.

Patented Sept. 23, 1879.

Fig. 1.

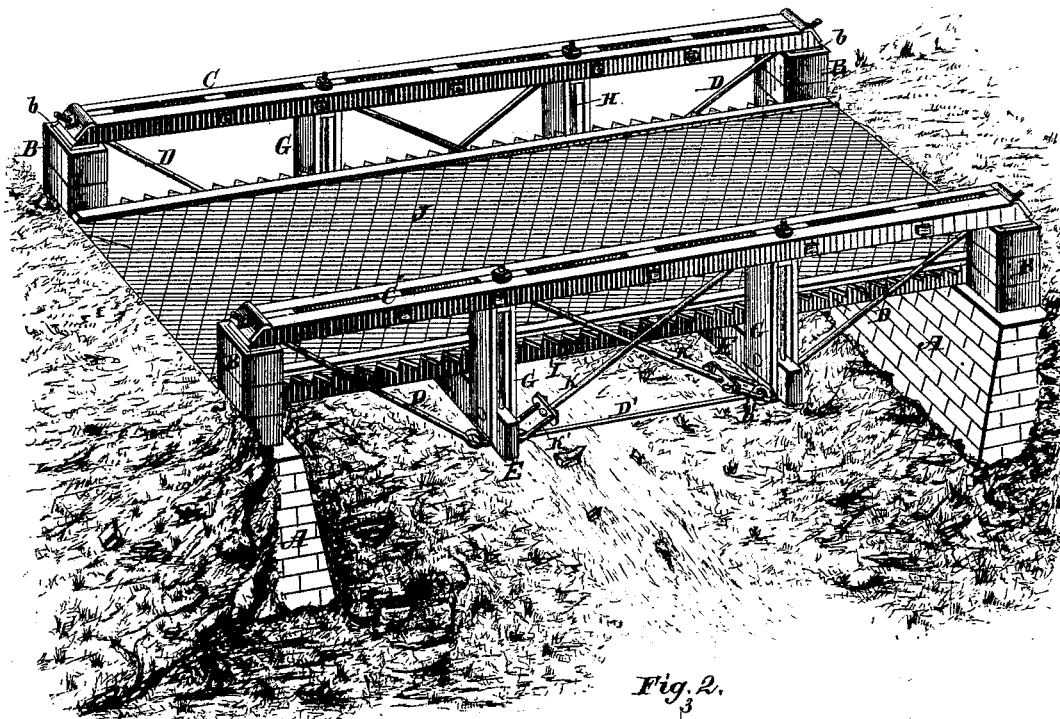


Fig. 2.

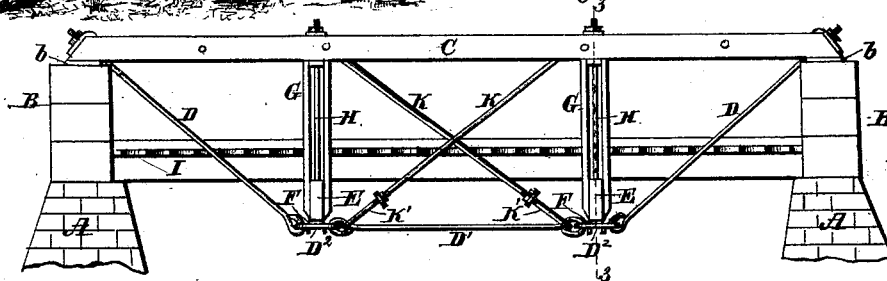


Fig. 3.

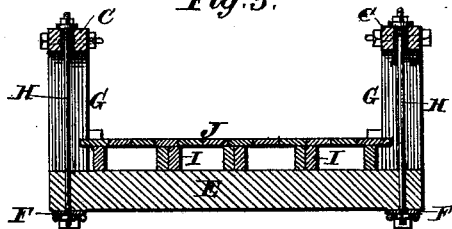
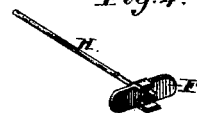


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

AUGUST BORNEMAN, OF LANCASTER, OHIO.

IMPROVEMENT IN TRUSS-BRIDGES.

Specification forming part of Letters Patent No. **219,846**, dated September 23, 1879; application filed March 1, 1879.

To all whom it may concern:

Be it known that I, AUGUST BORNEMAN, of Lancaster, in the county of Fairfield and State of Ohio, have invented a new and useful Truss-Bridge, of which the following is a specification.

My improved bridge is constructed with chords resting at their extremities on upright pillars, and truss-rods extending obliquely downward from the ends of the chord, and attached at their inner ends by welded links to a horizontal connecting-rod, the said links affording seats for seat-plates which support the under bearers on which the road-bed rests. Shouldered posts are applied between the upper chords and the under bearers to distribute the load.

In order that my invention may be fully understood, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved bridge. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical transverse section on the line 3 3, Fig. 2. Fig. 4 is a perspective view of the under side of the seat-plate and a part of the rod attached thereto.

A A represent abutments, preferably of masonry, serving as foundations for stone pillars B B, upon which the ends of the top chords, C C, rest on interposed bearing-plates *b b*. In the ends of each chord C are securely bolted truss-rods D D, extending obliquely downward, and connected at their lower ends by a horizontal rod, D¹, through the medium of links D².

The top chord, C, is made of either wood or iron. When of wood it is constructed in two pieces, packed and bolted together, as shown, to keep it straight.

The truss-rods are made of wrought-iron, and constitute a continuous solid welded chain, consisting of straight bars D D¹, with eyes welded into the links D². These links form level bearings for the under bearers, E, a plate, F, of cast-iron, being placed on top of the link D² to form a seat for the under bearer.

Intermediate posts, G, are gained or shouldered into the under bearers near their ends,

and extend upward to the chord C. Vertical rods H, extending down through the center of these posts, connect the cast seat F, under bearer, E, and top chord, C. There is no strain on these rods. They are only employed to keep the link, casting, and under bearer in their proper places.

I I are stringers resting on the under bearers, E, and supporting the flooring J.

K K are brace-rods extending diagonally downward from the junction of the chords C and posts G, and connected at their lower ends to the eyes of the horizontal section D¹ of the truss-rod by means of screw-links K', to provide for tightening up the said brace-rods. These rods are for the purpose of stiffening the structure.

The brace-rods K in the center panel or the tie-rods H can be removed at any time without disturbing the truss.

As my bridge-truss is supported on pillars, it is manifest that it will outlast any which has its main support on abutments on the level of the ground, and is thus constantly exposed to dampness from the earth. In my bridge these parts will dry quickly after each rain, and hence are much less liable to decay or corrode.

The advantage in raising this bridge consists in the fact that it can be done without false works or trestles. In practice I can with four men raise and finish a forty-foot bridge in four hours.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the suspension-rods D D and horizontal rods D¹, connected by welded links D² D², for the reception of the seat-plates F, as set forth, for the purposes stated.

2. The combination of the pillars or abutments B B, chords C, suspension-rods D D, horizontal connecting-rods D¹, links D² D², seat-plates F, and struts or posts G G, substantially as and for the purposes set forth.

AUGUST BORNEMAN.

Witnesses:

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LEVI HITE.