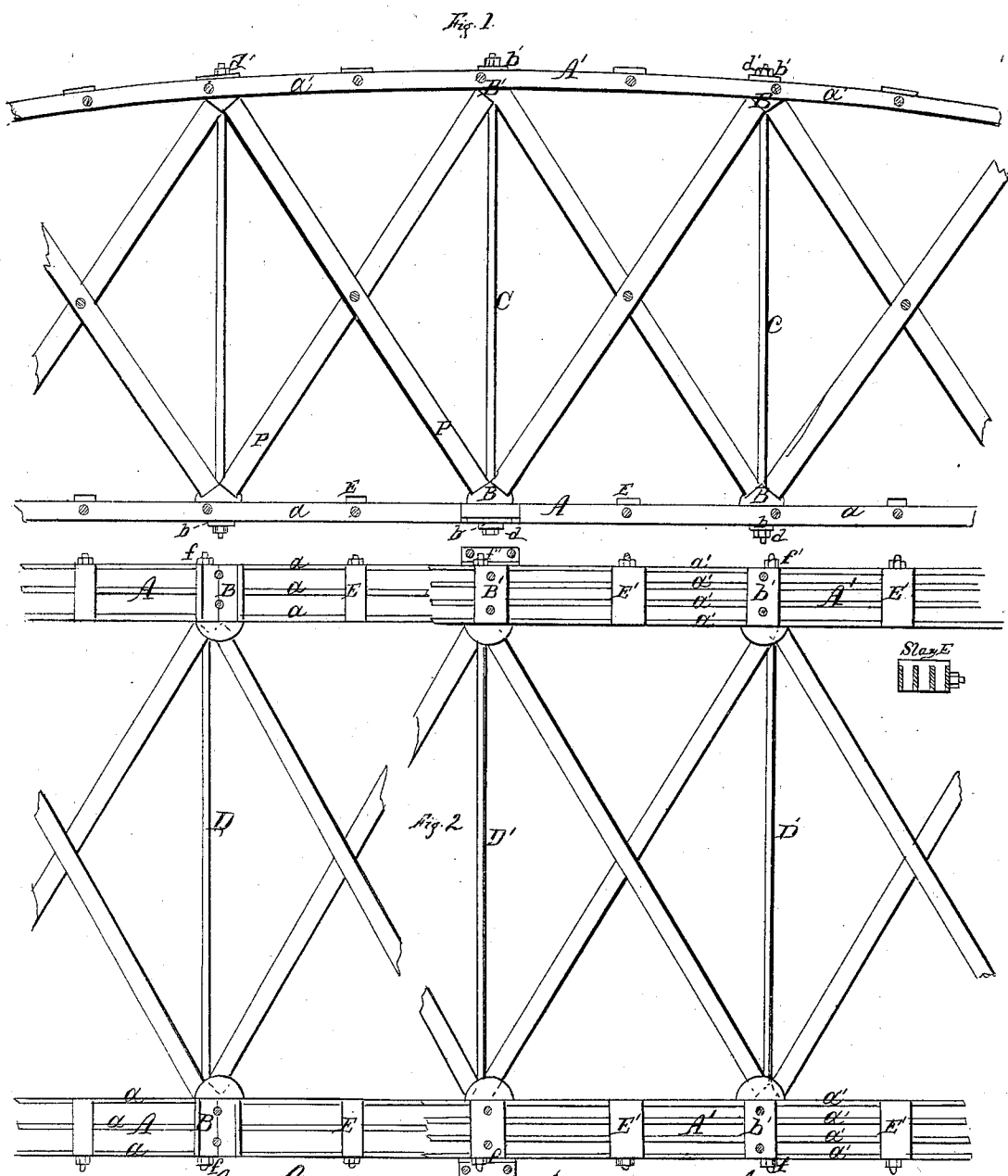


J. K. Thompson, *Truss Bridge.*

No. 81,960.

Patented, Sep. 8. 1868.



Witness: J. B. Lorching
N. R. Kroeber

James K. Thompson
Inventor

United States Patent Office.

JAMES K. THOMPSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
WILLIAM B. HOWARD, OF SAME PLACE.

Letters Patent No. 81,960, dated September 8, 1868.

IMPROVEMENT IN BRIDGES.

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, JAMES K. THOMPSON, of the city of Chicago, in the county of Cook, and State of Illinois, have invented certain new and useful Improvements in "Howe Truss-Bridges;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

In the accompanying drawing—

Figure 1 represents a side elevation, and

Figure 2 a plan of a draw-bridge with my improvements.

The nature of my invention consists in the construction and arrangement of the wrought-iron lower and upper chords, to be used for draw or permanent bridges, in such a manner as to adapt them to be readily substituted for the wooden chords of the so-called "Howe truss," and to be easily combined with other parts of the said "Howe truss," thereby improving the said truss and making it more durable.

Each of my chords A A' consists of three or more continuous wrought-iron bars, *a a'*, placed edgewise, and spaced so as to conform themselves to the width of the bearings or shoes B B, generally used in the Howe truss.

In draw-bridges, the upper chord may be strengthened in the middle of the bridge by one or more additional bars, *a' a'*, as represented on fig. 2, in which case the central two or more bars may be drawn into one or two bars at a proper distance from the centre of the bridge, so as to form the chords toward the ends of the bridge of the same number of bars as there are in the lower chord, or of more, if desirable.

In order to connect the bars *a a'* of my chords, and to give a bearing to the nuts *d d* of the suspension-rods C C, I place wrought-iron plates, *b b*, under and across the bars *a a* of the lower chord, and plates *b' b'* over and across the bars *a' a'* of the upper chord, the suspension-rods C C passing through the bearings B B, and plates *b b* of the chords are tightened by the nuts *d d* and hold the structure together. The bars *a a'* of the chords are also provided with holes for the lateral tension-rods D D' to pass through and be tightened and secured by the nuts *f f* on the outside of the bars of the chords A A'.

In order to stiffen the chords between the counter-braces P P, iron stays E E are placed over and across the bars *a a'* of each chord, and the said stays and bars are bolted together.

It is evident from the above description, that I substitute for the wooden chords of the Howe truss the wrought-iron chords, and construct said chords in such a manner as to adapt them to readily combine with other parts of the "Howe truss;" the advantage of such a combination consisting in the additional strength of the truss, economy of its construction, and greater durability of the bridge, as the wooden braces can easily be removed and renewed from time to time, without any material disturbance to the iron chords.

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

The wrought-iron chords A A', each consisting of several bars placed apart and edgewise, and the plates *b b'* and stays E E, connecting the said bars, when used and arranged substantially as herein described and specified.

JAMES K. THOMPSON.

Witnesses:

J. B. TURCHIN,
N. K. KROEBER.