J. A. McKay,

Truss Bridge.

No. 111,662. Patented Feb. 7, 1871.

Fig. 1.

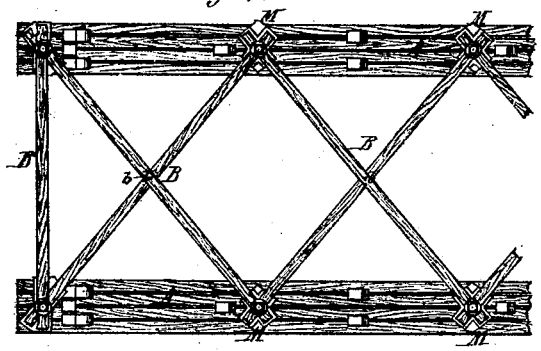


Fig. 2.

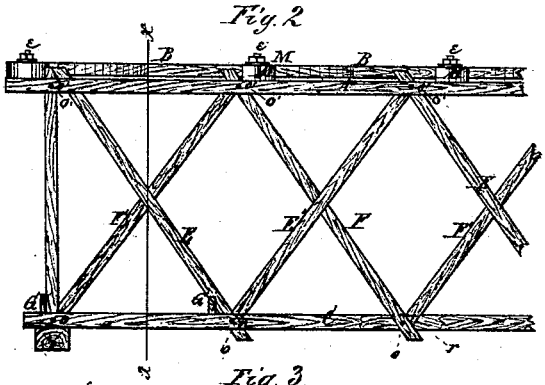


Fig. 3.

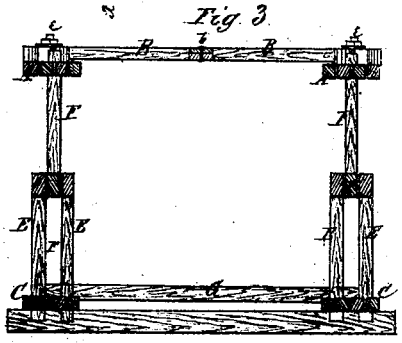


Fig. 4.

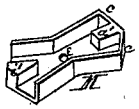


Fig. 5.

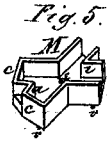
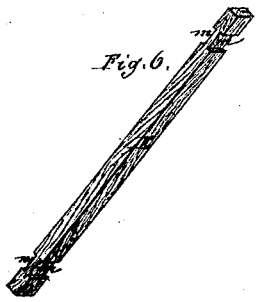


Fig. 6.



Witnesses:

F. J. Stretz

Thos. D. D. Evans.

Inventor:

John A. McKay

Jacob S. Coshow

PER

Attorney.

United States Patent Office.

JOHN A. McKAY, OF AUBURN, INDIANA.

Letters Patent No. 111,662, dated February 7, 1871.

IMPROVEMENT IN TRUSS-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, JOHN A. McKAY, of Auburn, in the county of De Kalb and State of Indiana, have invented a new and improved Truss-Bridge; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top view;

Figure 2, a side elevation, with a small space at the foot of a brace in section;

Figure 3, a vertical cross-section through line *x x* of fig. 2;

Figure 4, a perspective view of one of the sockets or caps for the horizontal end braces of the upper chords;

Figure 5, a perspective view of one of the sockets or caps for the intermediate counter-braces; and

Figure 6, a perspective view of one of the side-braces.

The object of this invention is to render truss-bridges more firm and stiff under heavy pressure or concussion; and

It is accomplished by the use of a metallic socket or cap of peculiar construction which rests on the upper chords and holds the end of the cross counter-braces.

In the drawing—

A A are the upper chords, connected by horizontal counter-braces, B B, and by the terminal braces B′, the counter-braces being bolted together at *b b*.

C C are the lower chords, connected each to the upper one above it by means of the vertical double braces E E′ and single braces F F′.

The lower chords are also connected and laterally braced by the floor-timbers G G, which are provided with shoulders that fit against the chords, holding them apart, as shown in fig. 3, and with gains that fit around the edges of the side-braces, as shown in fig. 2, preventing lateral movement either outward or inward.

Such being the general construction of the truss, my improvement consists in the employment of a metallic cap, M, shown in figs. 1, 4, and 5, which is attached to the upper side of the top chords by means of pins, *r r*, projecting down into holes made in the chords, and serves as a socket to confine and hold the ends of the cross-braces.

The braces cross each other at the center of the socket, and are bolted down through it, as shown at *e e*.

The socket is a plate of metal cast with crossed beds or grooves in its upper side to accommodate the crossed braces, the grooves terminating at their outer end at a wall or flange, *c c*, against which the ends of the timbers abut, and being, of course, open at their inner end.

Between the outer ends of the timbers the space may be filled by a re-entrant angle of the flange, as at *a*, in fig. 5, or by a solid projection, as at *a*, in fig. 4, and a similar angle or projection, *i i′*, may be cast or formed between the inner ends of the grooves to brace the timbers firmly on that side.

To complete the bridge to which my improvement is shown applied, I employ braces E with gains *m m* into which the chord-timbers fit.

Bolts *o* connect the parts.

Cross-braces F are constructed and arranged substantially in the same manner.

The braces E′ and F′ are provided with tenons fitting in mortises in the chords, and abutting with their shoulders against the surface of the chords.

They are bolted as shown at *o o′* and *r r′*.

Having thus described my invention,

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

The caps M M, when constructed and applied substantially as and for the purposes set forth.

The above specification of my invention signed by me this 14th day of September, A. D. 1870.

J. A. McKAY.

Witnesses:

DAVID H. COLERICK,

W. G. COLERICK.