

(No Model.)

H. A. LOOMIS.  
IRON BRIDGE.

No. 482,017.

Patented Sept. 6, 1892.

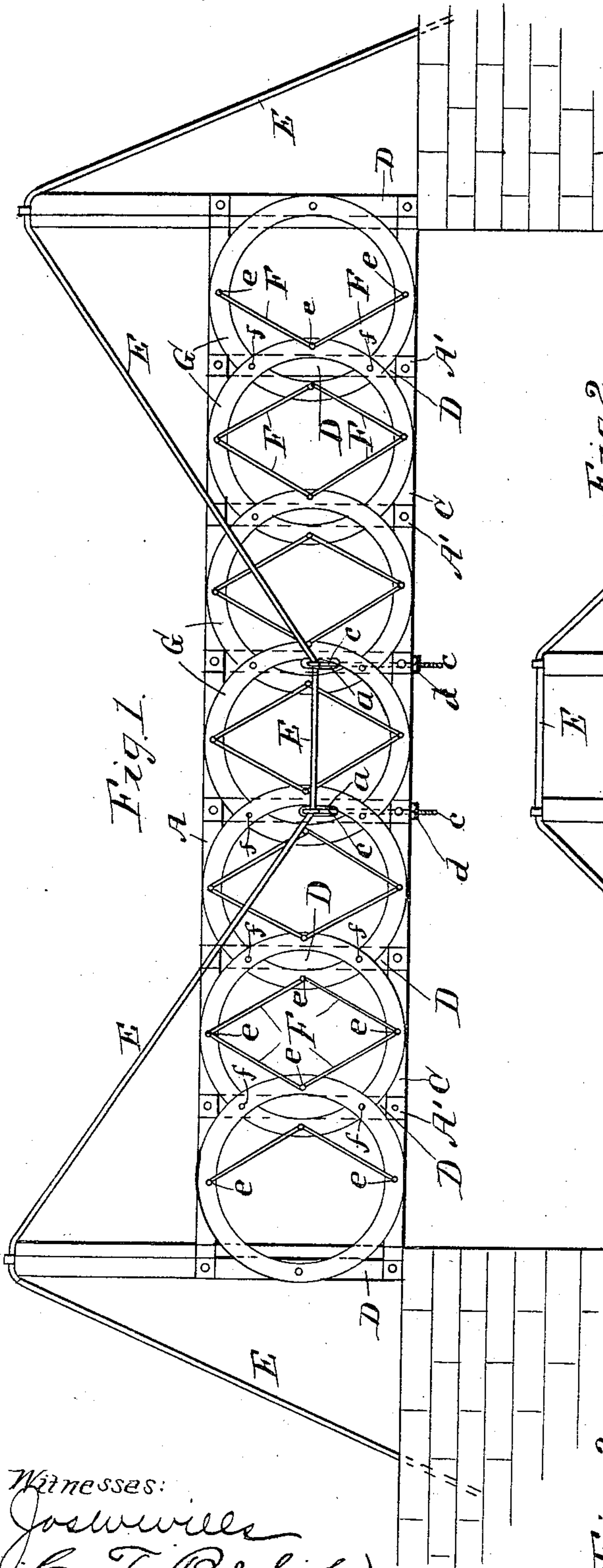


Fig. 1.

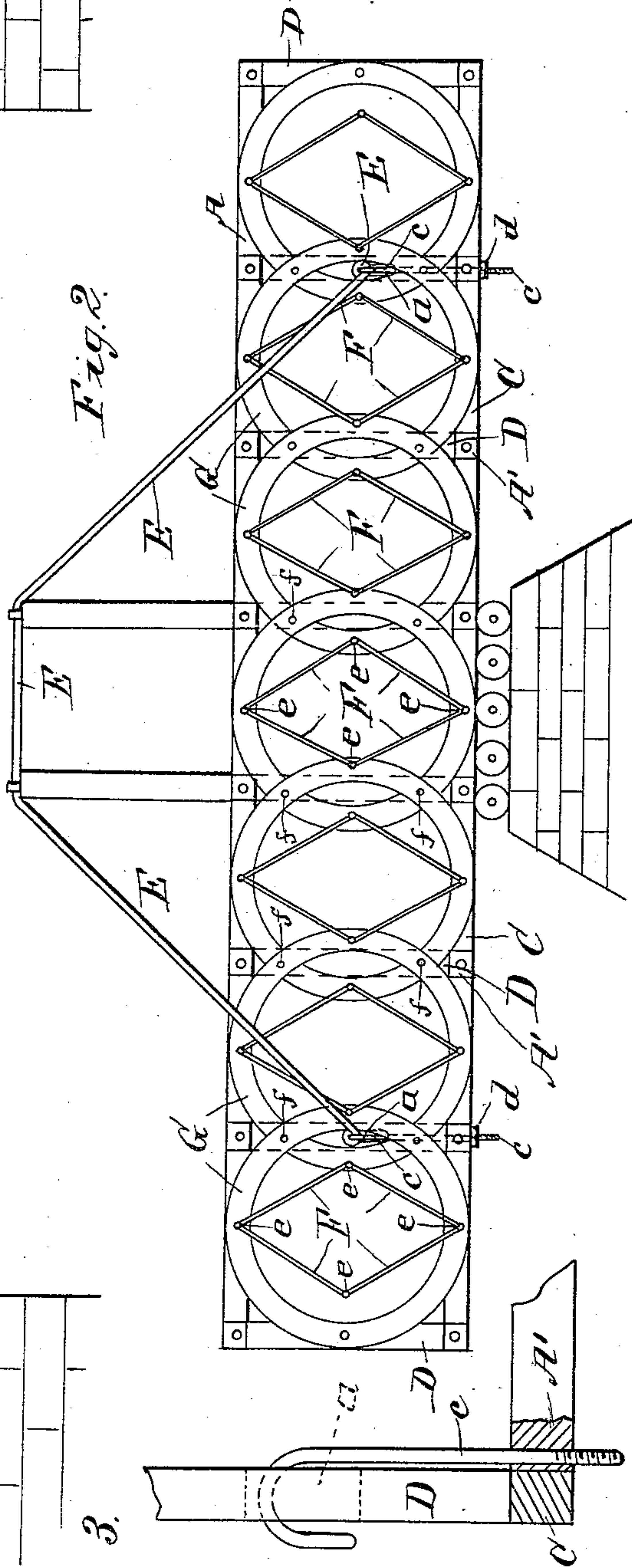


Fig. 2.

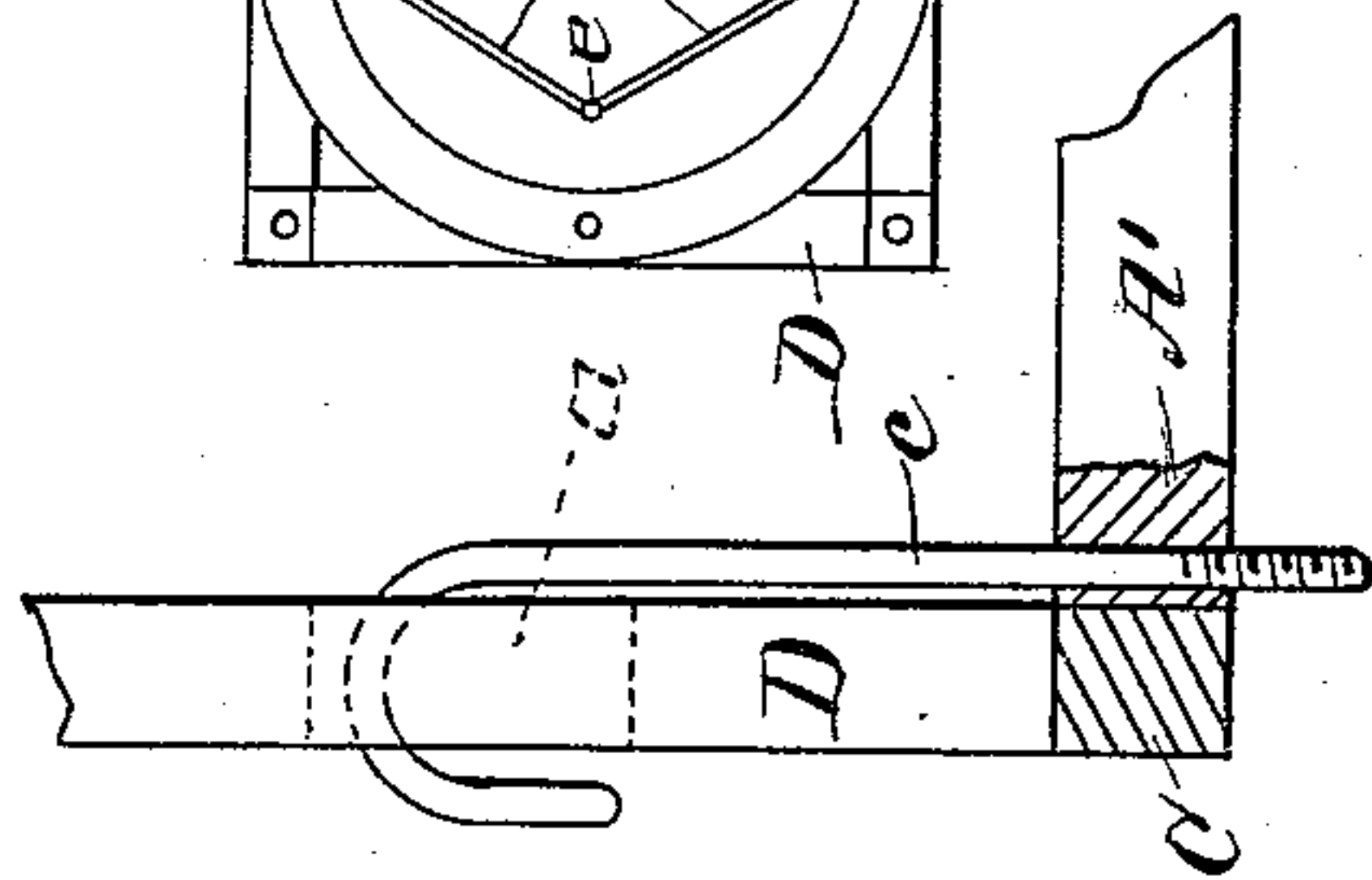


Fig. 3.

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# UNITED STATES PATENT OFFICE.

HIRAM A. LOOMIS, OF SPRINGFIELD, ARKANSAS.

## IRON BRIDGE.

SPECIFICATION forming part of Letters Patent No. 482,017, dated September 6, 1892.

Application filed April 1, 1892. Serial No. 427,356. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM A. LOOMIS, a citizen of the United States, residing at Springfield, in the county of Conway and State of Arkansas, have invented certain new and useful Improvements in Iron Bridges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bridges; and its novelty will be fully understood from the following description and claims when taken in connection with the annexed drawings.

The object of the invention is to provide a bridge of great strength, durability, cheapness, and simplicity.

A further object of the invention is to provide a bridge with a series of brace-rings secured together and to the beams of the bridge to form the main brace for the bridge.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my bridge. Fig. 2 is a side elevation of a drawbridge with my improved braces attached, and Fig. 3 is an enlarged view of my hook-bolt engaging one of the upright supports.

The same letters of reference denote the same parts throughout the several figures.

A denotes the top beams or stringers, C the bottom beams or stringers, and D the upright beams or supports, and A' the cross-beams. Two or more of the uprights D have a slot *a*, through which projects the hook end of a bolt *c*. This bolt *c* extends through the bottom cross-beam A' and is secured adjustably there and along by the side of the beam D to the slot *a*. The straight end of the bolt *c* is provided with a nut *d*, and to the hook end is attached (or the said bolt may hook over it) a wire cable E, which by means of the bolt *c* may be loosened or tightened without detaching them or any part of the bridge.

F refers to four rods bolted together at *e* in

the shape of a diamond to form an angle-brace between the top and bottom stringers. The bolts *e* also extend through the rings G and secure the rods to the rings and to the stringers A and C. Other bolts *f* are employed to secure the said rings together and to the uprights D. The solid portion of the rings is about as wide as the stringers A and C, while the diameter of the said rings is equal to the space between the stringers. It will be observed that the rings are arranged to cross or overlap each other, leaving a space through which the hook of the bolt *c* projects from the slot in the uprights D, and that the rings are bolted together and to the said uprights above and below said space. This arrangement has been found to be of great advantage, as it braces the bridge particularly well just where the greatest strain occurs.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a bridge and the beams A', of the uprights having a slot and the bolt *c*, its straight end passed through one of the said beams and secured there and its hook end passed through the said slot, substantially as and for the purpose set forth.

2. The combination, with a bridge, of the uprights provided with slots, the hook-bolt adapted to engage the slots, and the cables engaging the said hook-bolt, substantially as and for the purpose set forth.

3. The combination of the slotted uprights, the hook-bolts extending through the slots, and the cables engaging the said hook-bolts with the rings G and rods F, connected together, to the rings, and to the said uprights, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HIRAM A. LOOMIS.

Witnesses:

J. D. BOLTON,

J. W. DANCER.