

Witnesses:
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104902

L. E. Truesdell's Emp. & Bridge Clamps.

Fig. 1.

PATENTED JUN 28 1870

Inventor
L. E. Truesdell

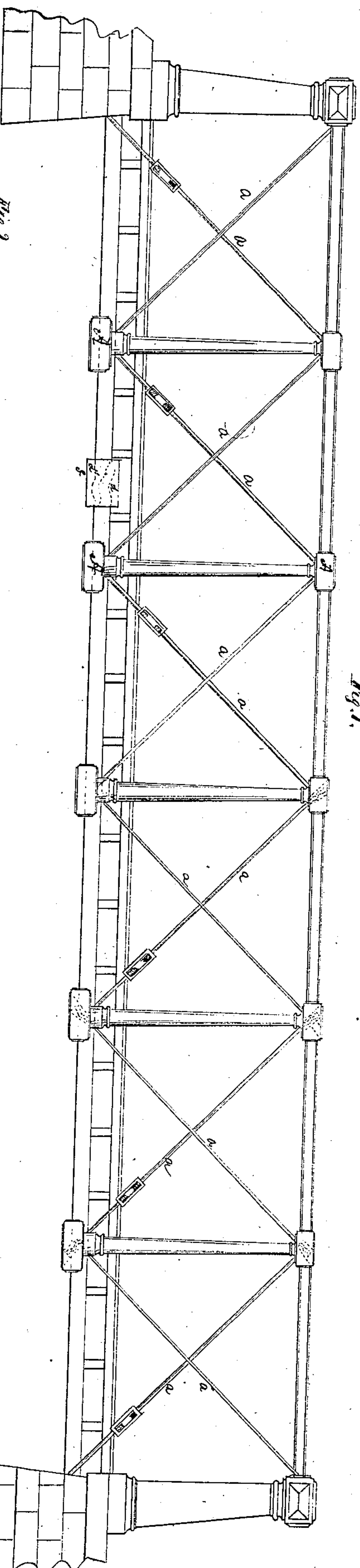


Fig. 2.

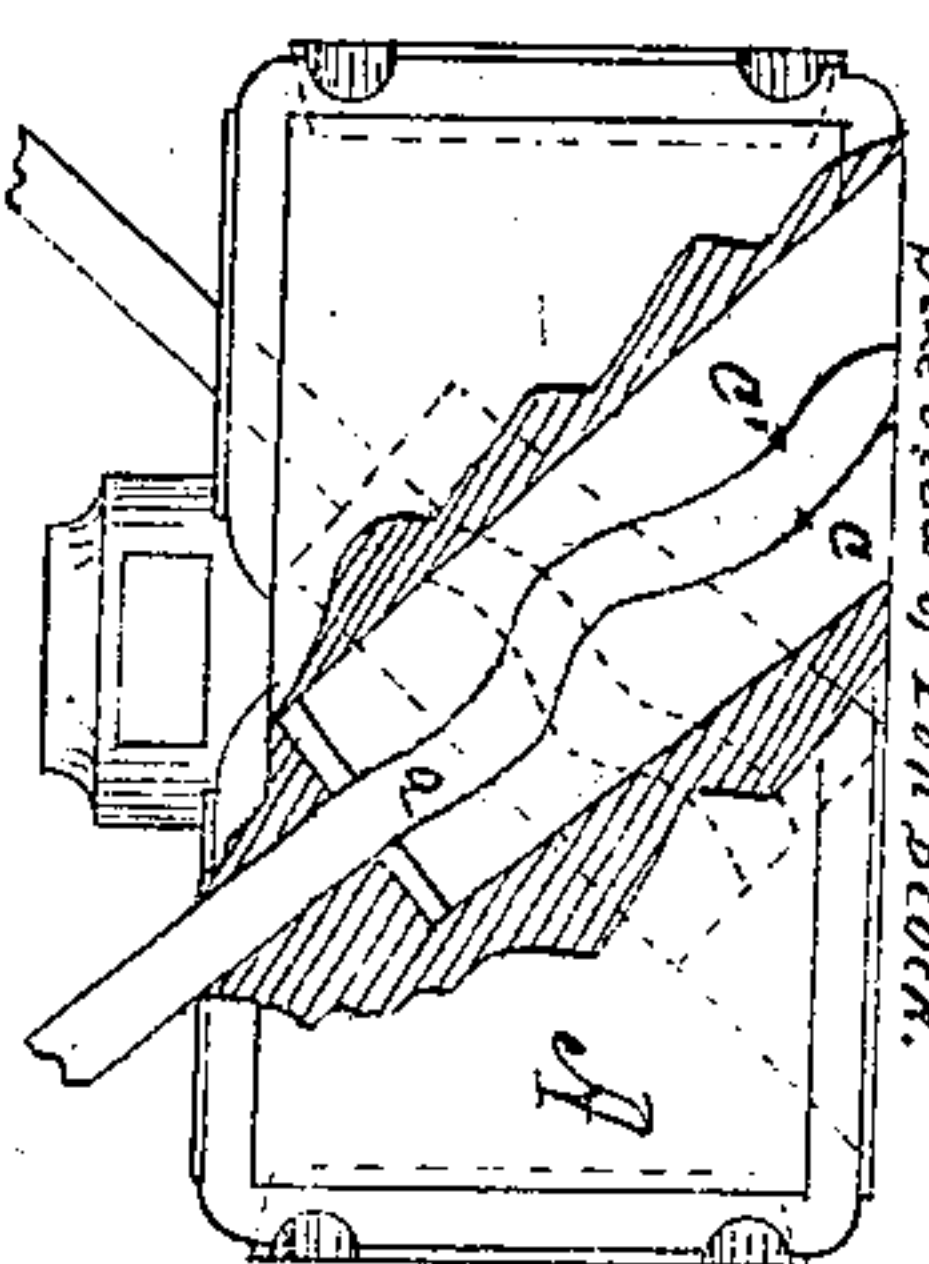


Fig. 3.

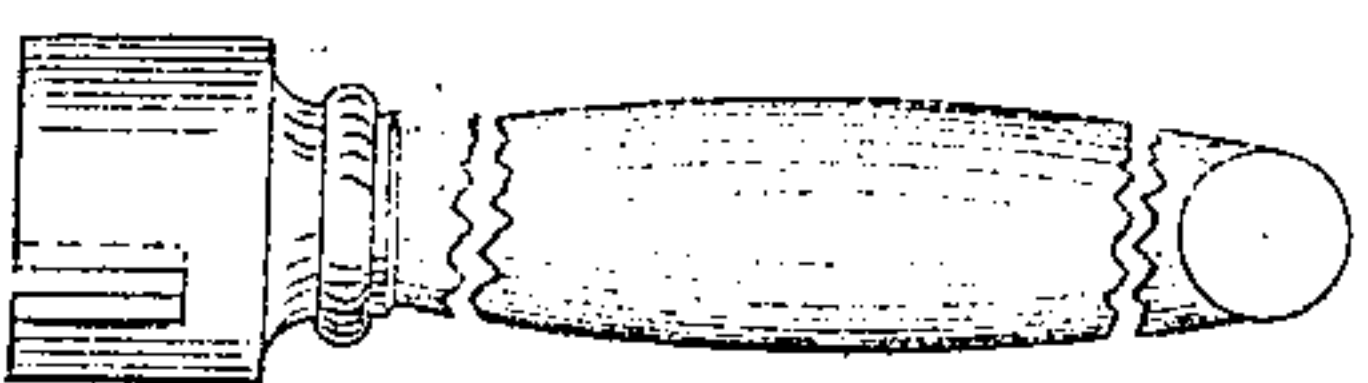


Fig. 4.



Fig. 5.



Fig. 6.

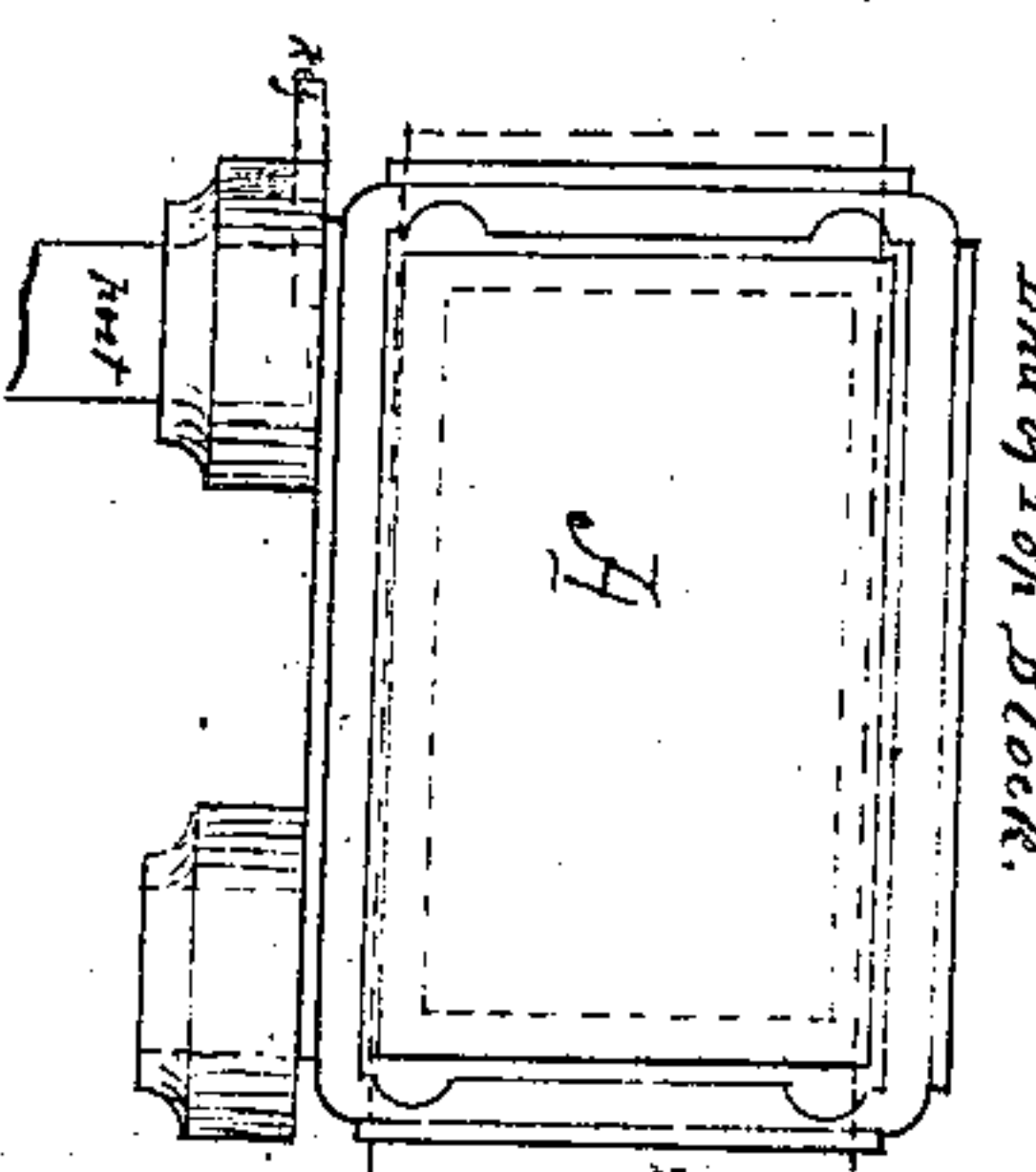


Fig. 7.

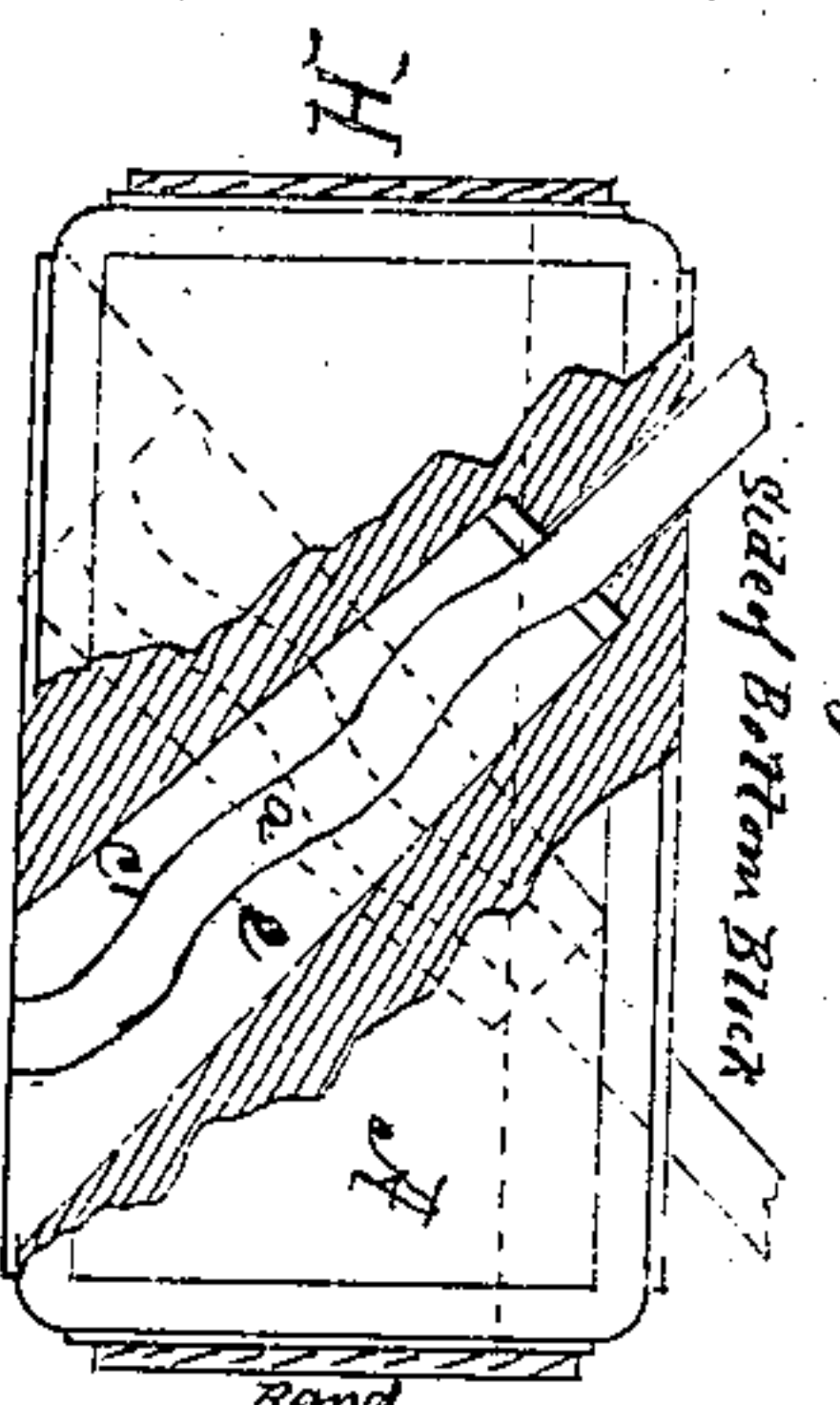


Fig. 8.

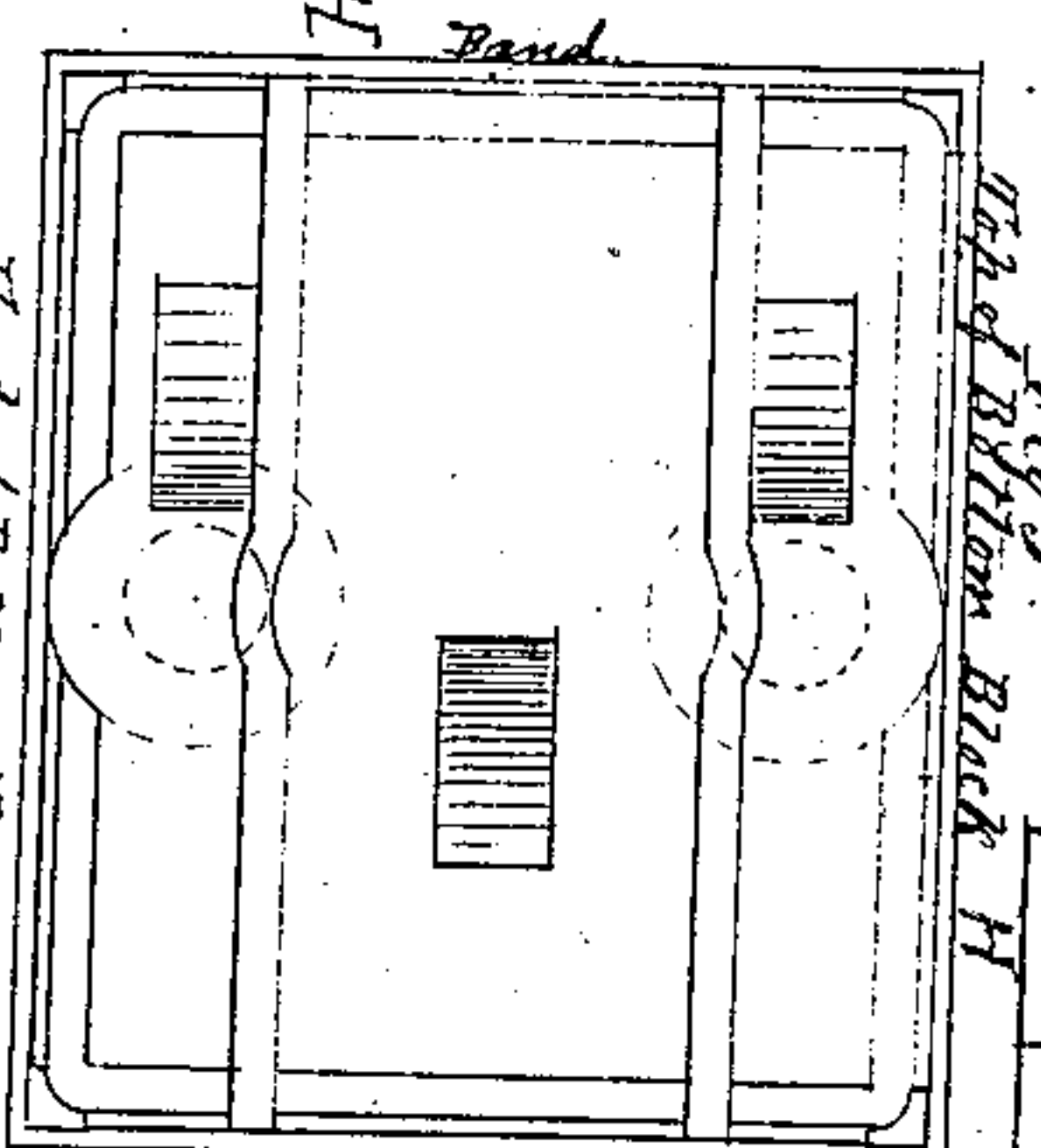


Fig. 9.

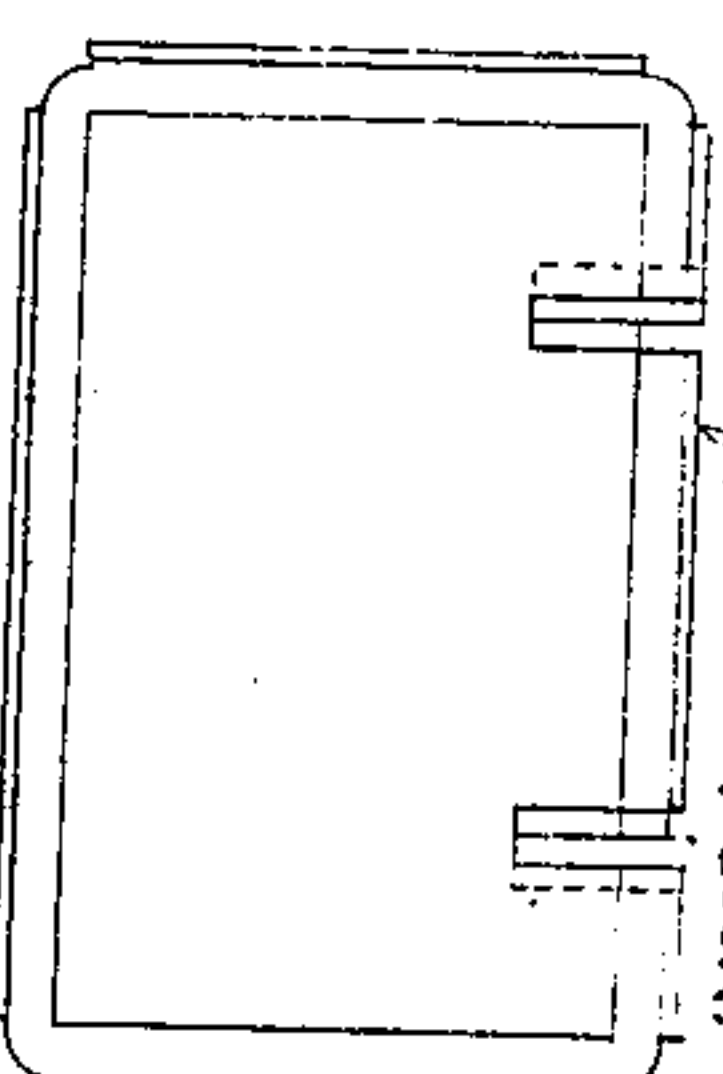


Fig. 10.

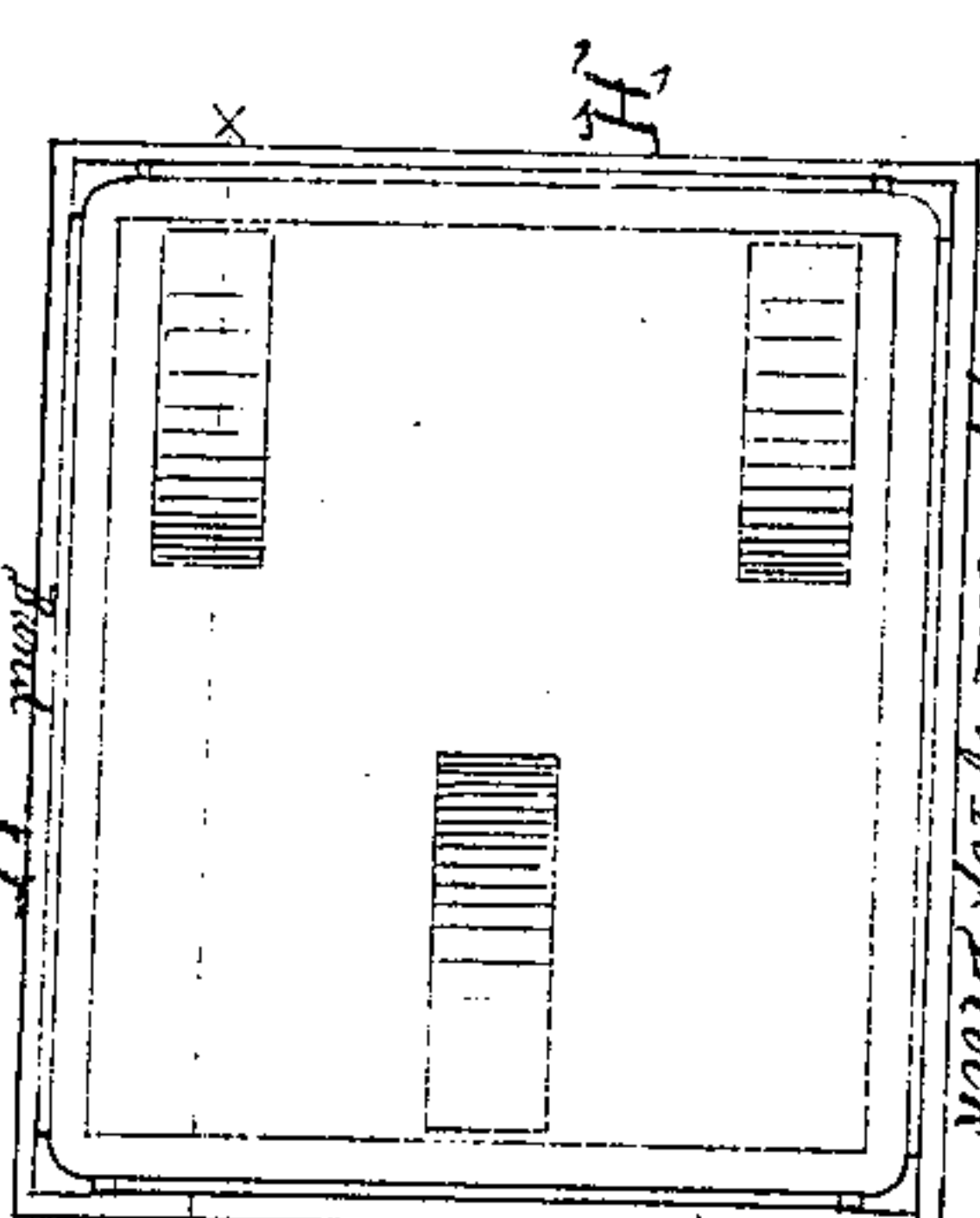


Fig. 11.



Fig. 12.

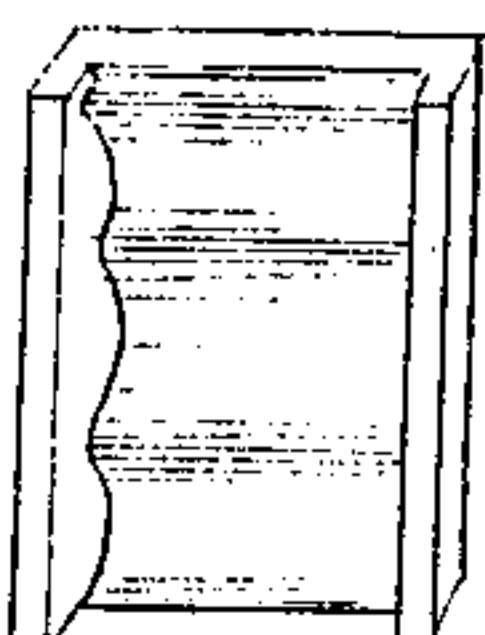


Fig. 13.

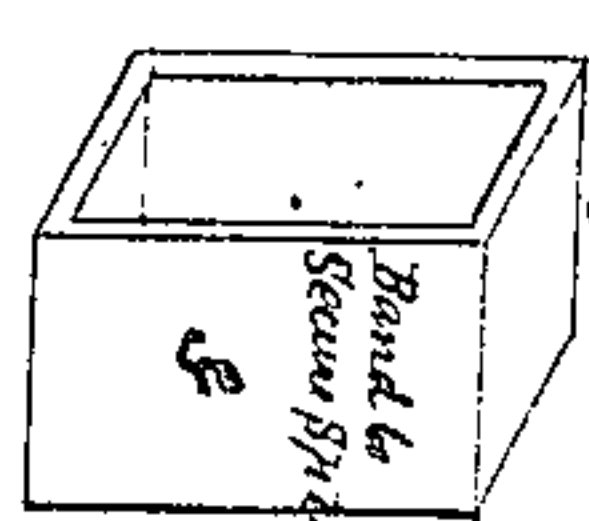
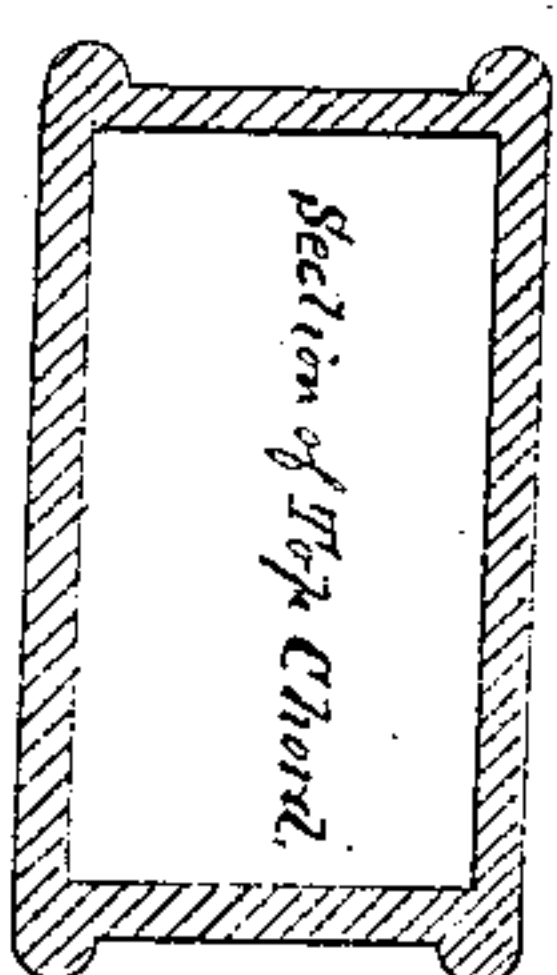


Fig. 14.



Means of splitting
bottom chord

Side view of Top Block.

End of Top Block.

Side of Bottom Block.

End of Bottom Block.

Top & its section

Section of Top Chord

Upper side of Top Block

End of Bottom Block.

United States Patent Office.

LUCIUS E. TRUESDELL, OF WARREN, MASSACHUSETTS.

Letters Patent No. 104,902, dated June 28, 1870

IMPROVEMENT IN IRON 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, LUCIUS E. TRUESDELL, of Warren, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Iron Bridges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 represents a side elevation of the improved bridge, and

Figures 2, 3, and 4, a side elevation of the blocks to which my present improvement is more immediately confined, a portion of their side being removed to illustrate the peculiar construction of the connection, fig. 2 being the top block and fig. 3 the lower block.

Figure 5 represents a plan of the bottom block, and

Figure 6 an end view of the same.

Figure 7 represents a top view of the top block, and

Figure 8 a section of the top chord.

Figure 9 represents the post foreshortened by breaking, and

Figure 10 a cross-section of its bottom.

Figure 11, a key sometimes used for the purpose of tightening the top chord.

Figure 12 represents the splicing of the ends of two of the lower chords with the clamps that confine them, and

Figure 13 a plan of the inside of one of the clamps, and

Figure 14 the metallic band that confines the clamps.

My invention relates—

First, to a new and improved mode of fastening the diagonals or ties of an iron bridge to the chords of the bridge; and,

Secondly, to a new and improved mode of securing the ends of the lower chords to each other.

The first part of the invention consists—

First, in corrugating each end of the ties or diagonals *a*.

Secondly, in forming a corresponding counter-corrugated key-wedge in two parts, *c* and *c'*, so as to embrace the corrugated end of the ties *a*, the outer sides of the double key *c* and *c'* being made of a wedge-shaped form, so that, when drawn down into a wedge-shaped opening formed in the upper and lower block for its reception, and driven home, the end of the ties will in this way become firmly wedged in the block, and require no further aid to retain them, the operation being the same in both, with this exception, that, in fastening the tie to the upper block, the diagonal *a* is passed through the block *A* from its under side, and the key-blocks *c* and *c'* then fitted over its corrugated end, and the whole then drawn down and driven home tightly in the block, the large end of the wedge-shaped opening in the upper block being on the upper side for this purpose, while the

reverse is true of the lower block, the lower end of the tie *a* being passed through from the upper side of the lower block, and then fitted with the key, and drawn up into the block, and forced home as the one above.

By this means, it will be apparent that the tie can never be withdrawn from either, unless great violence should be used either in forcing the upper chord down or the lower one up, a condition which cannot arise under ordinary circumstances. But, as there may be danger of bursting the blocks *A*, either when driving the ties and their wedges home, or under severe and sudden strains on the bridge—the blocks being made of cast-iron—I shrink, for the purpose of preventing such a casualty, a strong wrought-iron band, *H*, figs. 4, 5, and 6, around the blocks, which is amply sufficient for the purpose.

The next part of my invention consists in splicing the ends of the parts of the chord together, which form the lower chord, by a corresponding corrugation on the end of each, so as the corrugation of the one shall fit into that of the other, as represented in fig. 12, in which position they are embraced by two corrugated clamps, *d* and *d'*, as shown in said figure, and a plan of the inside of one of which is shown in fig. 13.

Previous to their being placed together, a band, *s*, fig. 14, is first slipped over the end of one of the chords, when the two ends are brought together, and the clamps put in place, and the band *s*, fig. 14, (it having first been heated for this purpose,) shrunk upon it, thereby forming a connection of the strongest and most enduring character.

It will be apparent that any number of parallel chords may be thus spliced together by one band, each chord, however, having its own set of clamps.

Having thus described my invention,

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

1. Fastening the end of the tie *a* of an iron bridge to the block *A*, either of the upper or lower chord, in the manner described; that is to say, by corrugating its end and using, in connection therewith, wedge-shaped corrugated keys *c* and *c'*, which are made to take into a correspondingly-shaped opening in the block *A*, as described, for the purposes set forth.

2. The combination of the wrought-iron band *H* with the block *A*, as described, for the purposes set forth.

3. The combination of the band *s*, fig. 14, and clamps *d* and *d'*, with the corrugated ends of the chords, for the purposes set forth.

L. E. TRUESDELL.

Witnesses:

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