

# F. C. Lowthorpe. Truss Bridge.

N<sup>o</sup> 62,278.

Patented Feb. 19, 1867.

Fig. 2;

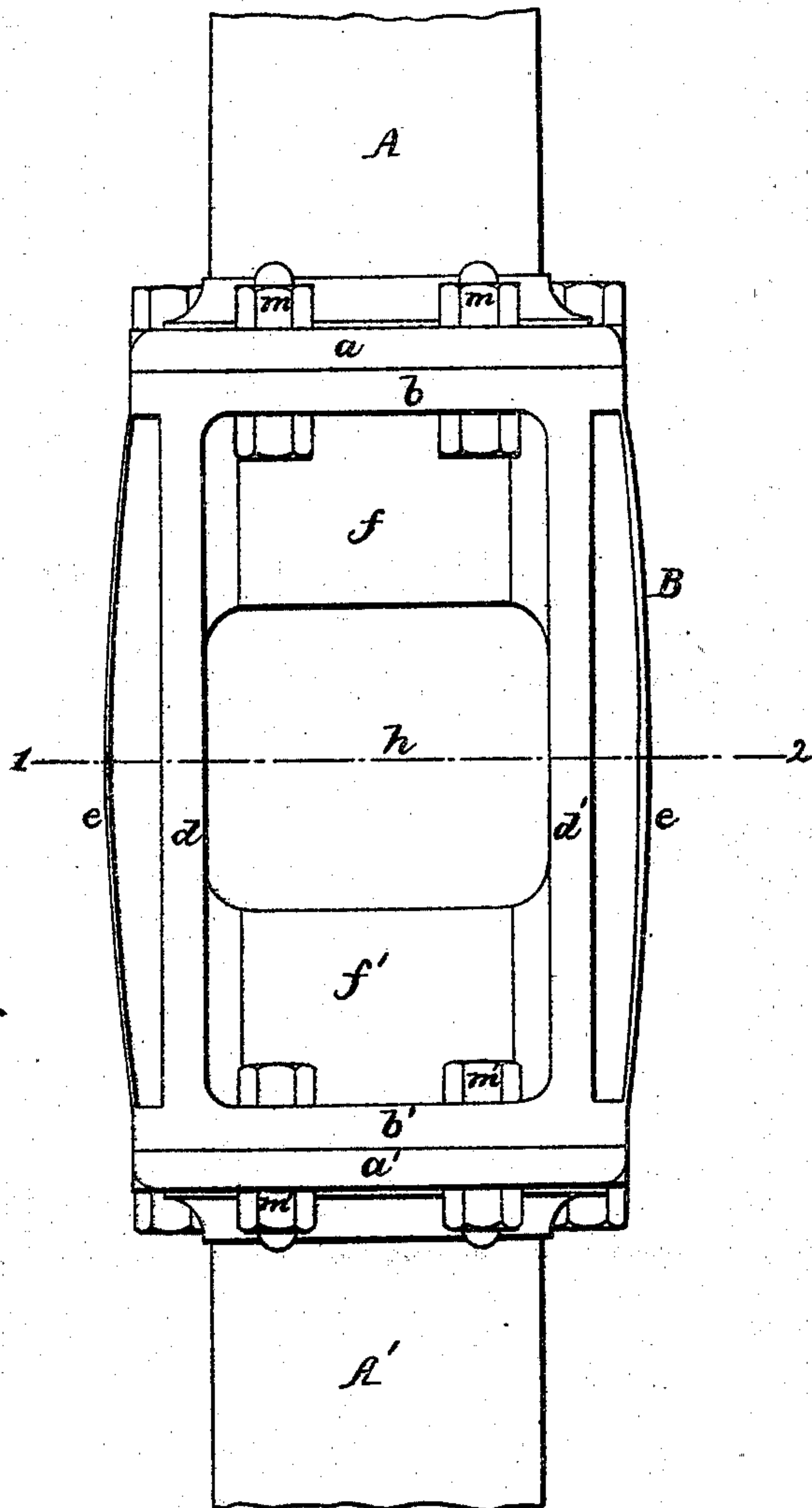


Fig. 1;

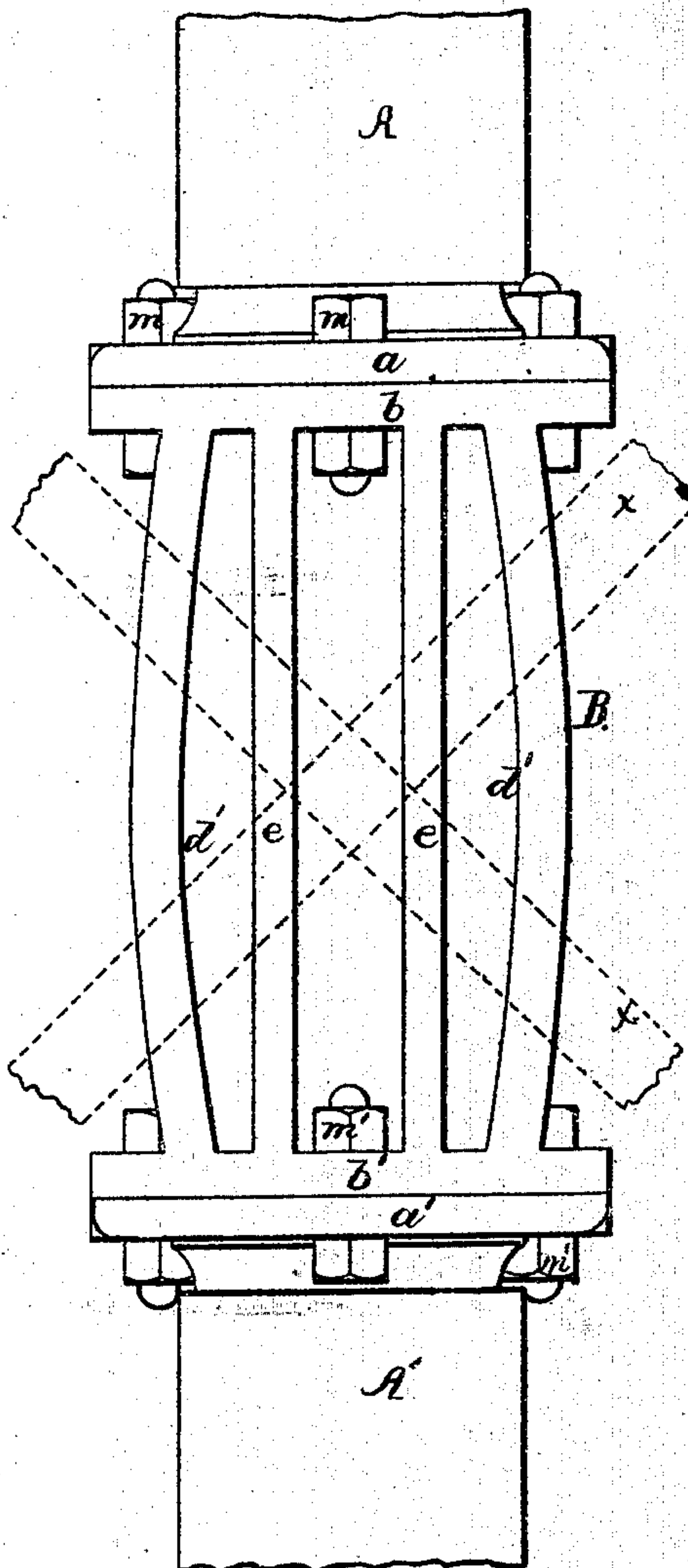
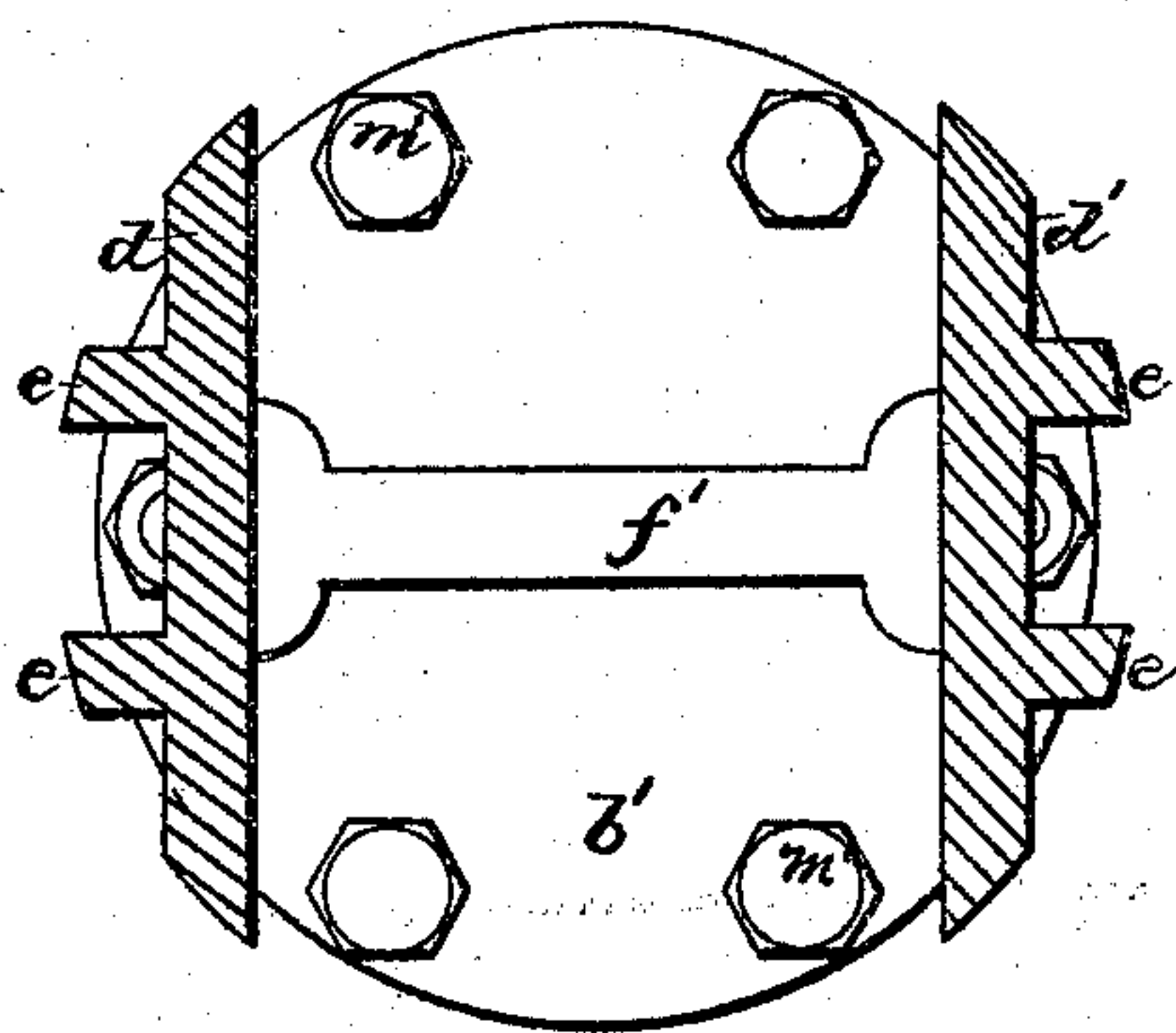


Fig. 3;



Witnesses;  
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John Parker.

Inventor;  
F. C. Lowthorpe  
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# United States Patent Office

F. C. LOWTHORP, OF TRENTON, NEW JERSEY.

*Letters Patent No. 62,278, dated February 19, 1867.*

## IMPROVEMENT IN TRUSS-FRAME 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, F. C. LOWTHORP, of Trenton, Mercer county, New Jersey, have invented an Improvement in Truss Frames for Bridges, Aqueducts, &c.; 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, and to the letters of reference marked thereon.

My invention consists of a casting, constructed and arranged for the reception of the diagonals, and secured to or forming a part of the upper and lower portions of a vertical of a truss frame for a bridge, aqueduct, &c., all substantially as described hereafter, so as to form a substantial, rigid, and ornamental part of the said vertical, and one which permits the arrangement of the diagonals in juxtaposition to each other, and nearly in line with the centre of the vertical, the casting at the same time serving to exclude rain and snow from the interior of the lower portion of the vertical.

In order to enable others skilled in the construction of truss-frame bridges, aqueducts, &c., to make my invention, I will now proceed to describe the manner of carrying it into effect, reference being had to the accompanying drawing, in which—

Figure 1 represents a side view of part of the vertical of a truss-frame bridge with my improvement.

Figure 2, an end view; and

Figure 3, a sectional plan on the line 1, 2, fig. 2.

Similar letters refer to similar parts throughout the several views.

In the construction of truss-frame bridges it is usual to make the vertical parts of cast or wrought iron, and in one or more pieces, as circumstances may require, the diagonals and counter-diagonals passing on each side of the vertical, or through openings or recesses prepared in the same.

My improved vertical consists of three or more pieces, the upper column A, lower column A', and the intermediate casting B. This casting is composed of the two plates *d* and *d'*, on the outside of each of which are two strengthening ribs, *e e*; and between the plates are the two webs *f f*, separated from each other by an opening, *h*, through which pass the diagonal and counter-diagonal *x* and *x'*, shown by red lines in fig. 1. The intermediate casting terminates above in the circular plate *b*, adapted and secured by bolts *m* to the flange *a* of the upper portion A of the vertical, there being at the lower end of the intermediate casting a similar plate, *b'*, adjusted and secured by bolts *m'* to the lower portion A' of the vertical. The casting, thus constructed, and properly strengthened by the ribs described, affords a substantial, rigid, and ornamental piece for each vertical, and at the same time permits the arrangement of the diagonals in juxtaposition to each other, and nearly in line with the centre of the vertical. At the same time the lower plate *b'* of the intermediate casting serves to cover the top of the lower portion A' of the vertical, and to exclude the rain and snow from its interior—an important feature, as the lodgment of water in recesses of castings in truss-frame bridges, especially where such recesses are not accessible to the painter's brush, has a most deteriorating effect, and endangers the permanency and safety of the bridge or other structure. It will be seen that the casting described is of such construction that it can be readily coated with paint, to protect it from these injurious effects. In some instances the casting B may be cast with and form a part of the upper and lower portion A and A' of the vertical.

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

The casting B, constructed and arranged for the reception of the diagonals, and secured to or forming part of the upper and lower portions A and A' of the vertical of a truss-frame bridge, aqueduct, &c., all substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

F. C. LOWTHORP.

Witnesses:

H. HOWSON,

WM. HALL WAXLER.