

W. W. LUMMUS.
Composite Beams.

No. 139,902.

Patented June 17, 1873.

Fig. 2.

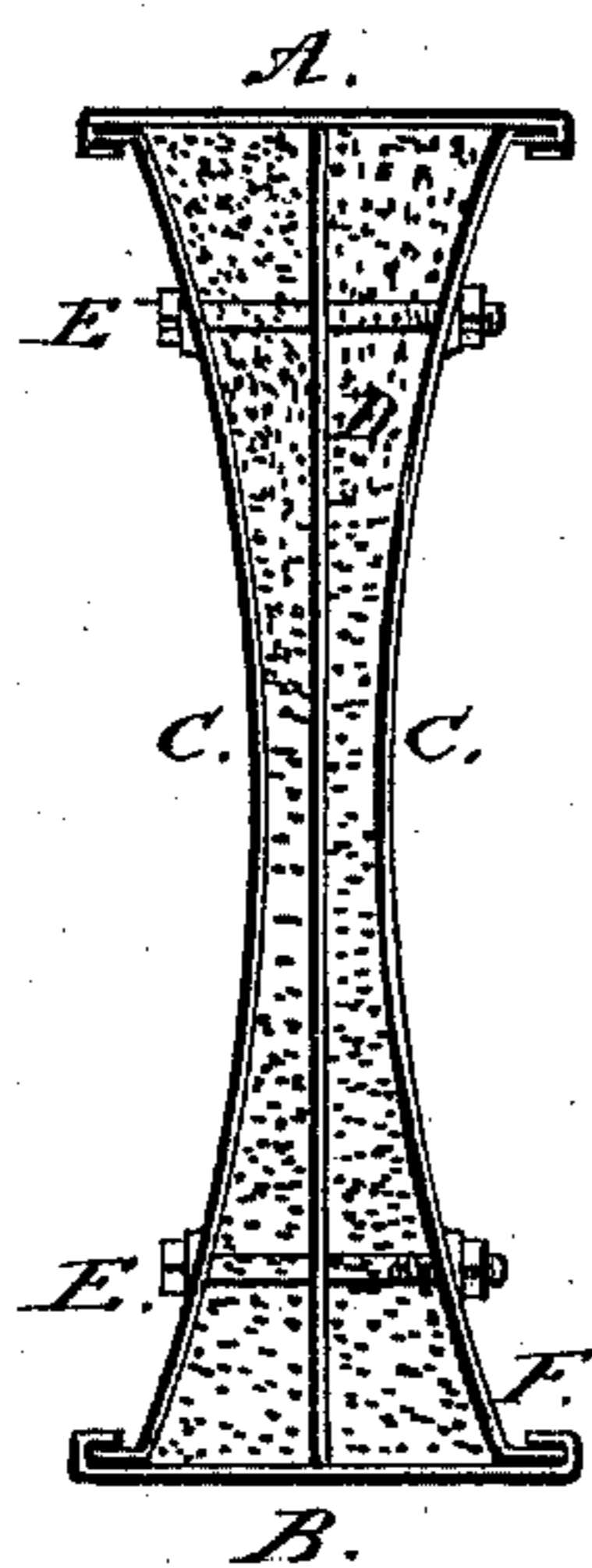


Fig. 1.

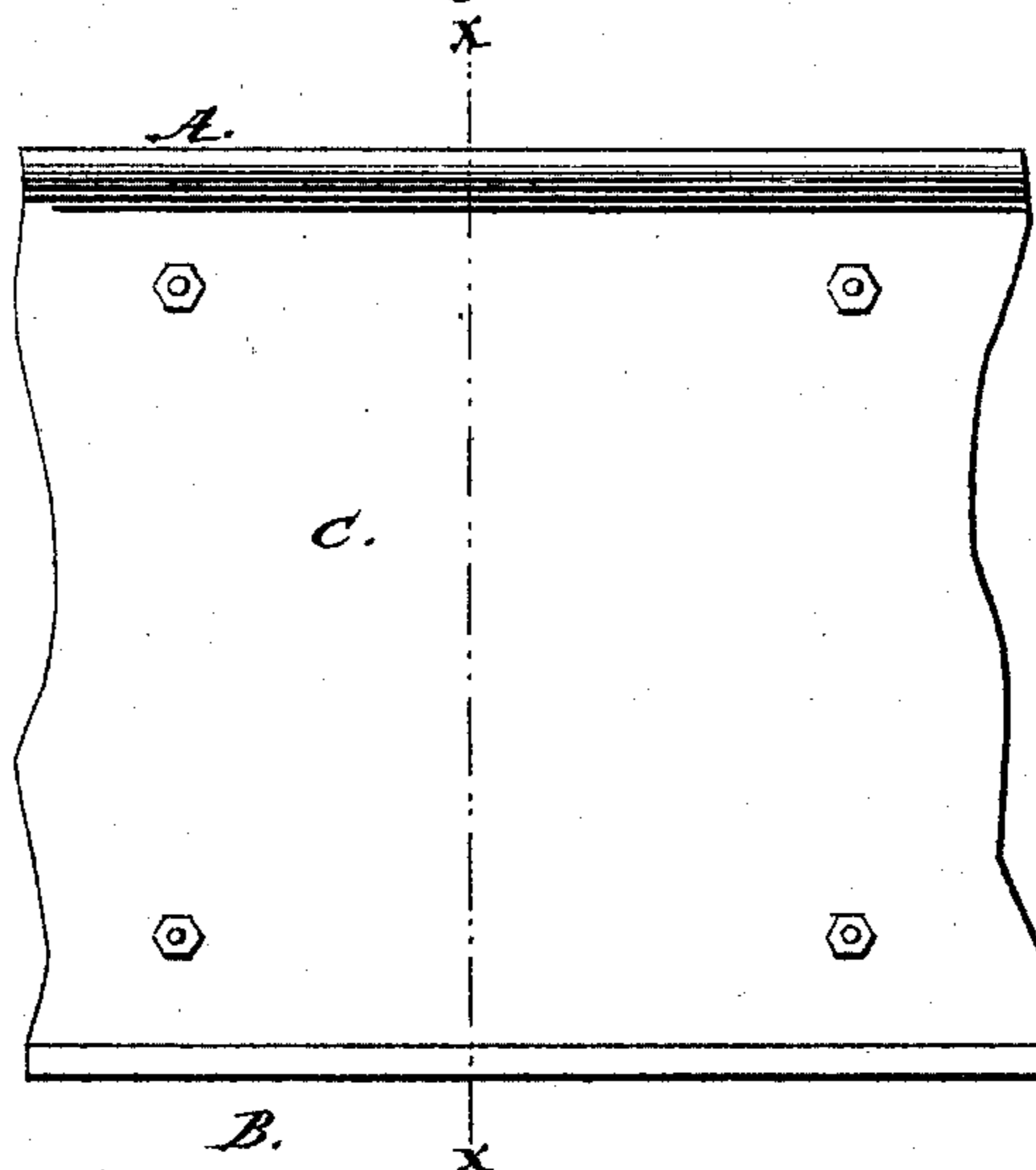
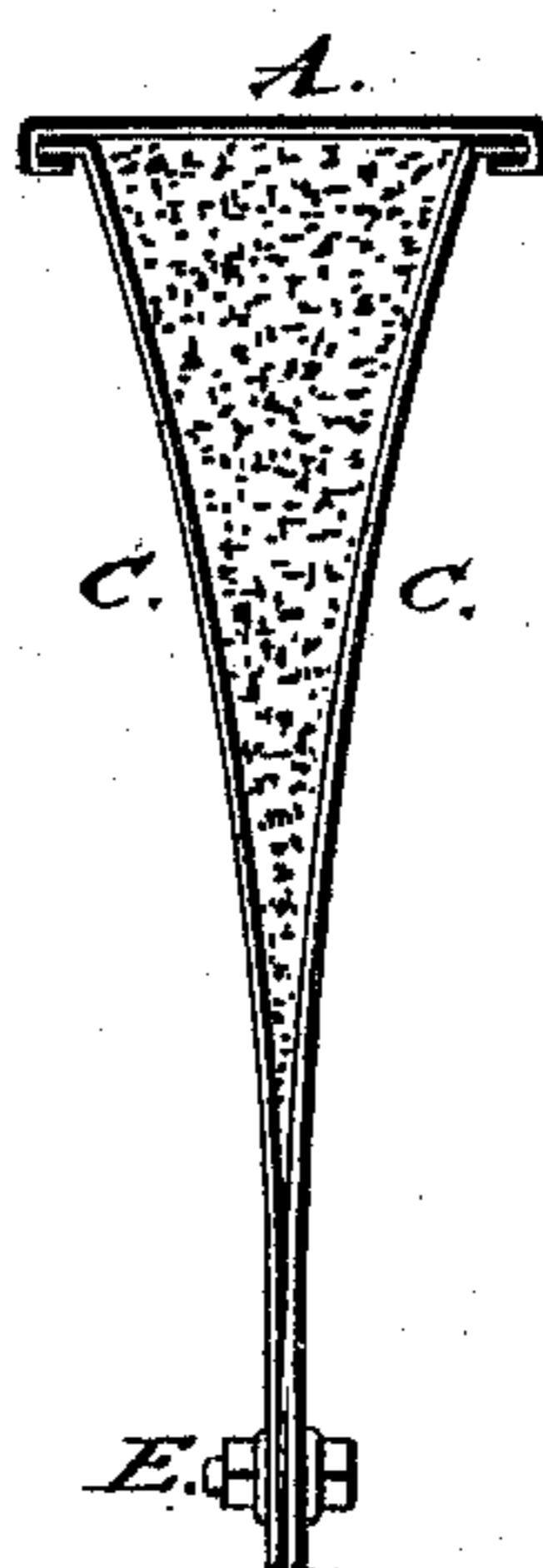


Fig. 3.



Attest;

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IMPROVEMENT IN COMPOSITE BEAMS.

Specification forming part of Letters Patent No. **139,902**, dated June 17, 1873; application filed January 23, 1873.

To all whom it may concern:

Be it known that I, WILLIAM W. LUMMUS, of Lynn, Essex county, in the State of Massachusetts, have invented certain new and useful Improvements in Iron Beams or Joists; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings forming part of this specification.

The nature or essence of my invention consists in a beam made of sheet-metal plates curved widthwise, with a flange on one or both edges arranged with their rounded sides toward each other, and locked together by a plate or plates of sheet metal with their edges folded over said flanges, or by bolts or rivets; or by a sheet-metal plate and bolts or rivets; also, filling the space between the side plates with some plastic substance, either with or without vertical plates between the sides.

In the accompanying drawings, Figure 1 is an elevation of one side of a beam with my improvements; and Fig. 2, a section on the line *x x* of Fig. 1. Fig. 3 is a section of a modified form of my improved beam.

In the above-mentioned drawings, C C are the side plates of the beam, curved widthwise and provided with flanges F F at each edge, and arranged with their rounded sides toward each other, and locked together at top and

bottom by the plates of sheet metal A and B, with their edges folded over the flanges F F on the plates C C to hold them firmly together. Fig. 3 shows a modification of my improved beam, in which the side plates C C come together at their lower edges, are fastened with bolts or rivets E E, and their top edges are connected by the plate A.

The lower edges of the plates in this beam may be made with flanges turned outward, or the flanges may be bent to form a dovetail-groove between them to receive a piece of wood to nail either laths or ceiling to. The space between the plates of these beams may be filled with mortar or some plastic substance, either with or without one or more vertical metal plates D, Fig. 2, which plate may be corrugated lengthwise, if desired.

I claim—

A beam composed of metal plates C C, curved widthwise and provided with flanges F F at their edges, and locked together by the plates A and B, and strengthened by vertical plates D, of wood or iron, and the remaining space filled with mortar or incombustible material, substantially as described.

WM. W. LUMMUS.

Witnesses:

J. DENNIS, Jr.,

R. A. HYDE.