

H. C. LUEDEKE.
Beams and Rafters.

No. 146,350.

Patented Jan. 13, 1874.

Fig. 1.

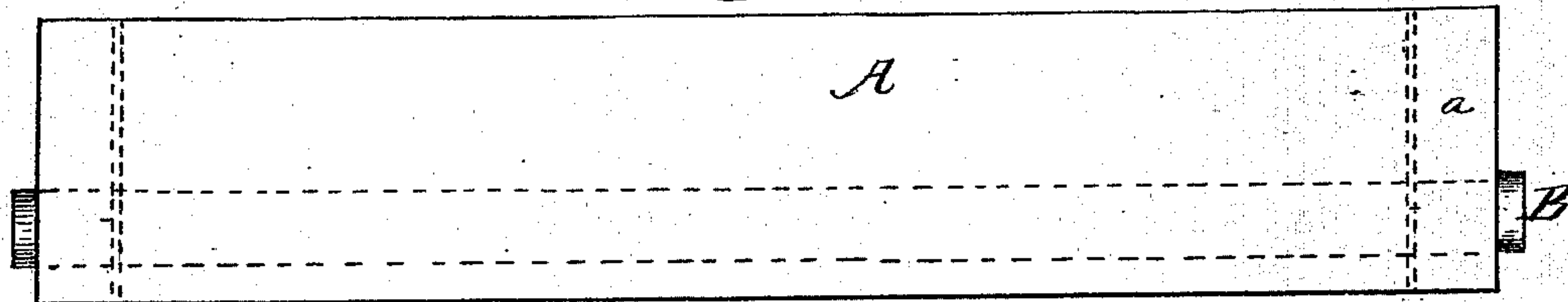


Fig. 2.

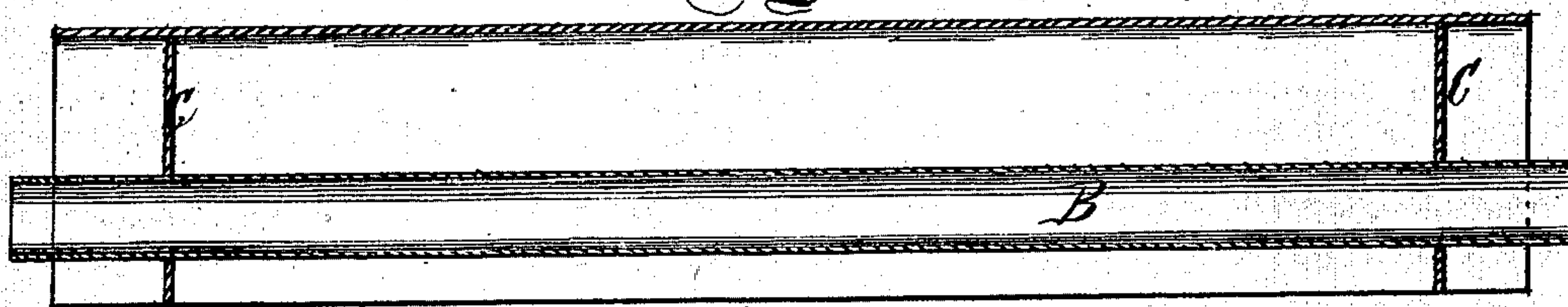
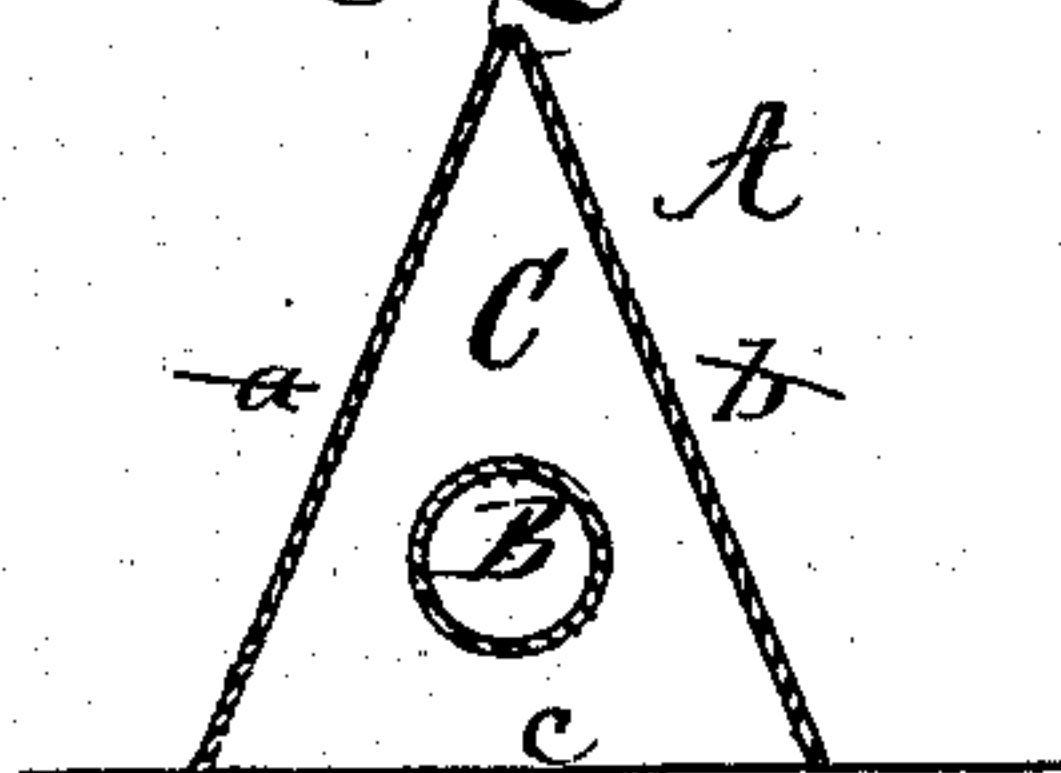


Fig. 3.



Witnesses:
Richard Gerner.
Franklin Barrett.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN BEAMS AND RAFTERS.

Specification forming part of Letters Patent No. **146,350**, dated January 13, 1874; application filed November 24, 1873.

To all whom it may concern:

Be it known that I, HERMAN C. LUEDEKE, of the city, county, and State of New York, have invented certain Improvements in Beams and Rafters, of which the following is a specification:

The object of my invention is to provide a beam or rafter to be used in the construction of buildings which will be fire-proof, and at the same time cheaper, lighter, and stronger than those heretofore used.

In order to describe my invention more fully, I will refer to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side view of my improved beam or rafter. Fig. 2 is a longitudinal section through the center of the same, and Fig. 3 is an end view.

The two sides A A of the beam or rafter may be made either of metal or wood, and are placed together in such a manner that a triangle is formed in an acute angle, leaving one side open; or, if metal is used, the two sides may be made in one piece and bent into that shape. A bar or tube, B, is placed in the interior of this triangle, about the center, but a little nearer to the open side or base, and is held in position by the cross-supports C C.

If it is desired, the interior of the triangle may be filled with mortar or cement, which, when it hardens, will be held in place by the

bar or tube B, and thus make the beam solid and somewhat stronger.

When my improved beam is used in the construction of buildings and for other purposes, the base or open side is placed downward, and, the acute point of the triangle being upward, the brick arches or other material which forms the ceiling and flooring will rest against the inclined sides A A, and be wedged in between the rafters, and the iron or wooden sides of the beam, being entirely covered, are thereby protected from fire.

The principal use of the bar or tube B is to hold the filling of cement in place in the beam; and when it is desired to use the beam open and without the filling, the supports C C being fastened to the sides A A, the tube B may be entirely dispensed with.

I claim—

1. A beam or rafter composed of the sides A A and supports C C, substantially as shown and described.

2. A beam or rafter having sides A A and supports C C, in combination with a tube or bar, B, and filled with cement or other analogous substance, substantially as and for the purpose shown and described.

HERMAN C. LUEDEKE.

Witnesses:

FRANKLIN BARRITT,
RICHARD GERNER.