

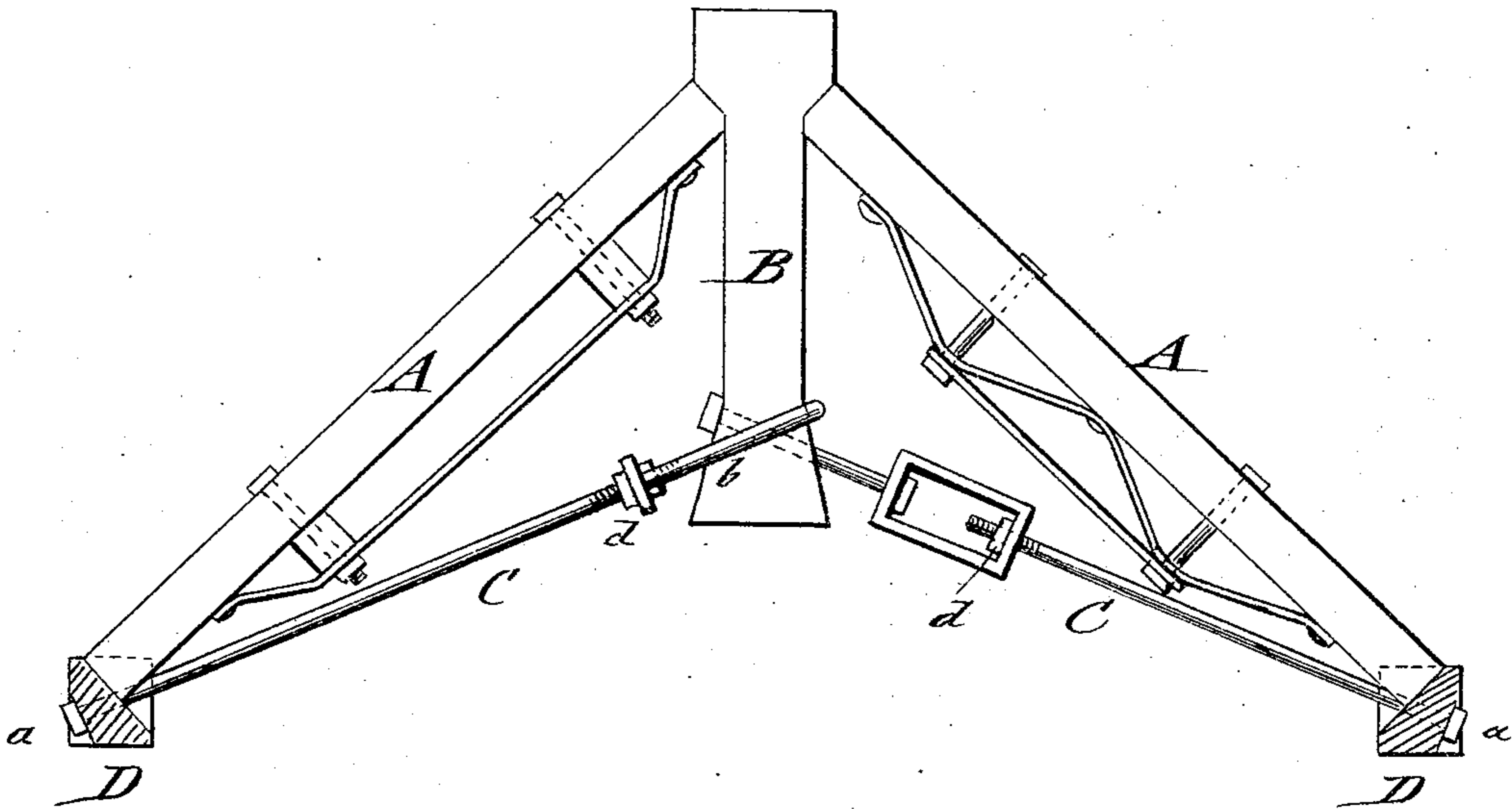
U. G. SPOFFORD.

Roof-Trusses.

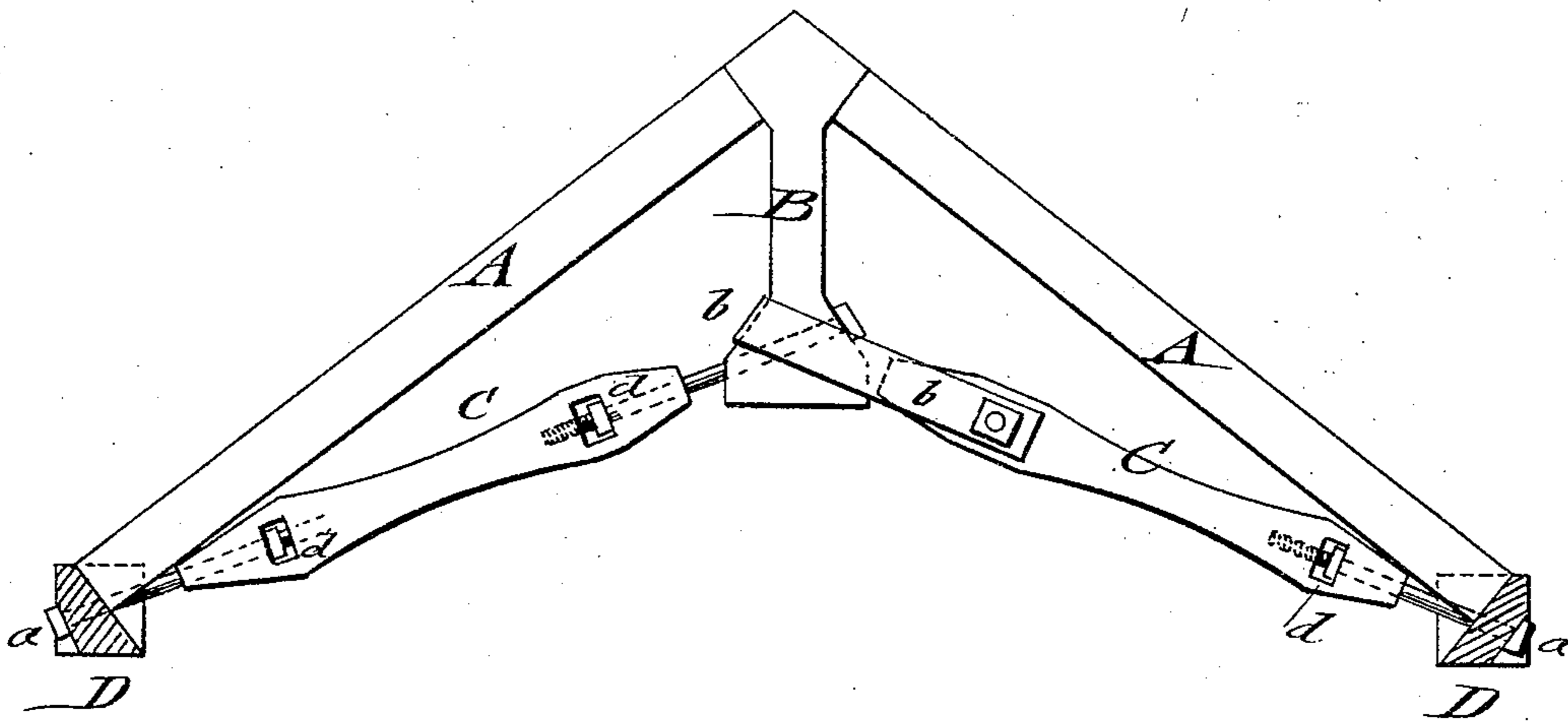
No. 157,238.

Patented Nov. 24, 1874.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*E. Mott*  
*A. F. Terry*

INVENTOR:

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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

URIAH G. SPOFFORD, OF APPLETON, WISCONSIN.

## IMPROVEMENT IN ROOF-TRUSSES.

Specification forming part of Letters Patent No. **157,238**, dated November 24, 1874; application filed September 26, 1874.

*To all whom it may concern:*

Be it known that I, URIAH G. SPOFFORD, of Appleton, in the county of Outagamie and State of Wisconsin, have invented a new Improvement in Constructing Roofs, of which the following is a specification:

In the accompanying drawing, Figures 1 and 2 represent, respectively, side elevations of my improved mode of constructing roofs, showing modifications of the same.

The invention has for its object to substitute an improved construction for the truss-roof framing ordinarily used; and it consists in the combination of a suspended king-post of peculiar construction with the rafters and tie-rods, as hereinafter described and claimed.

In the drawing, A represents the rafters, B the king-bolt, C the inclined tie-rods, and D the wall-plates, of my improved roof. The rafters A are either constructed in the simple and customary form indicated in Fig. 2, or may be strengthened by struts and braces, in the manner shown in Fig. 1. The rafter ends rest on inclined seats or facings of the head of the king-post and of the wall-plates, while the tie-rods form the connection of the lower end of the king-post and the wall-plates.

The tie-rods C may be constructed, according to the nature of the roof, either entirely of iron, or of wood with iron end rods, as shown, respectively, in Figs. 1 and 2.

The lower ends of tie-rods C pass through the wall-plates D, and are secured there by

suitable heads *a*, the upper end of one rod C passing through the wedge-shaped lower end of the king-bolt B, while the end of the symmetrically-opposite tie-rod is hung, by means of a sleeve part, *b*, over the inclined end of the king-bolt, both tie-rods being made adjustable, to greater or less length, by means of screw-nuts *d* acting on suitable threaded parts of the rods, as shown in the drawing.

By turning the nuts *b*, so as to contract the tie-rods, the wall-plates bear upon the base parts of the rafters, and carry the rafter-heads against the head of the king-bolt, relieving thereby the wall from the outward pressure of the roof, and raising the roof at the same time. The walls are thereby strengthened and held together, while the roof is sustained in a substantial and strongly-braced manner.

I do not claim the prior conception or use of tie-rods formed in two or more parts to adapt them for lengthwise adjustment or change of length; but

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

The pendent king-post B, constructed substantially as specified, in combination with the abutting rafters A and the lengthwise-adjustable tie-rods C, as described.

URIAH G. SPOFFORD.

Witnesses:

GEO. H. MYERS,

WILLIAM KINNEY.