

D. JENNINGS.
Barn.

No. 218,031.

Patented July 29, 1879.

Fig. 1.

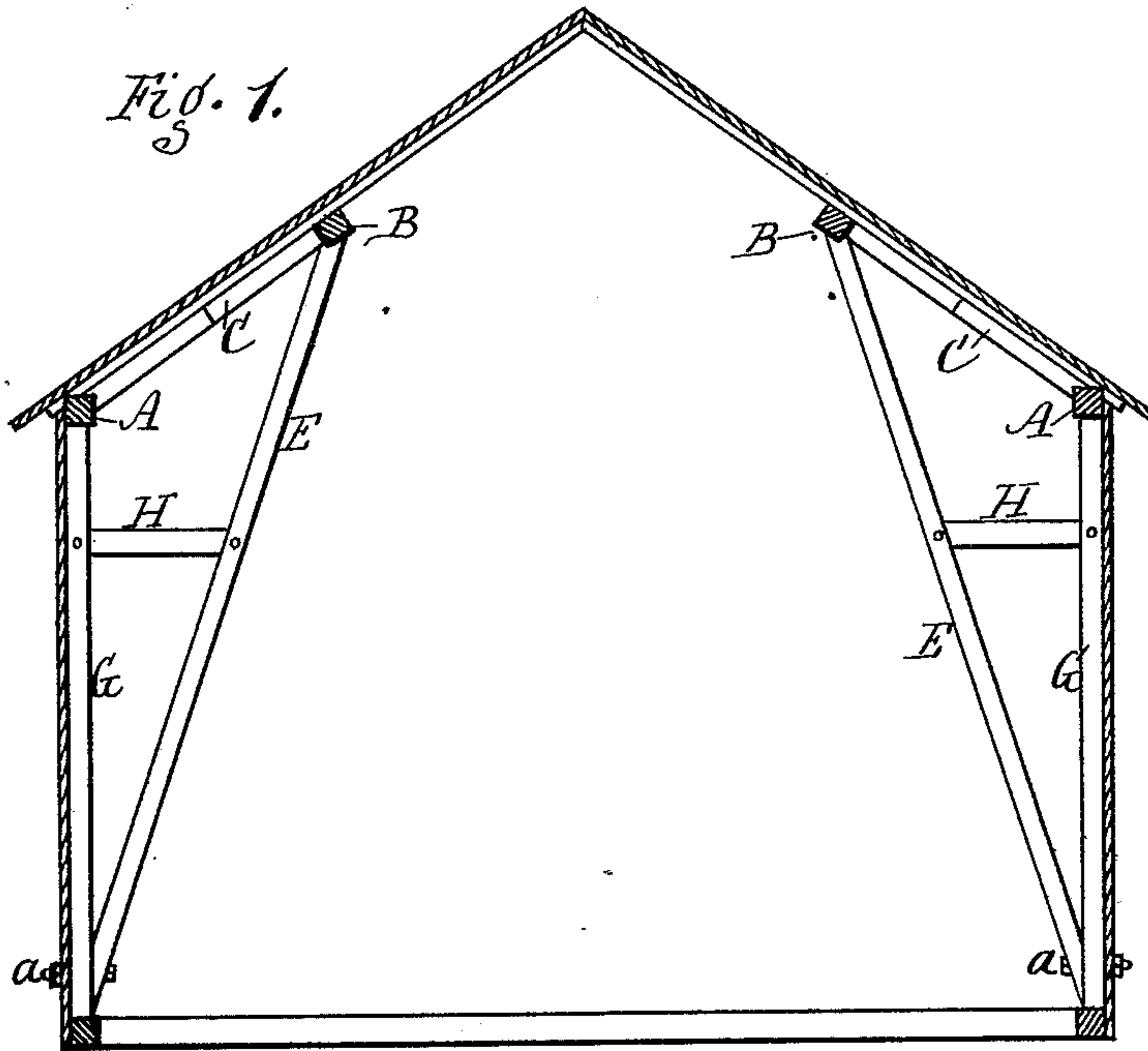


Fig. 2.

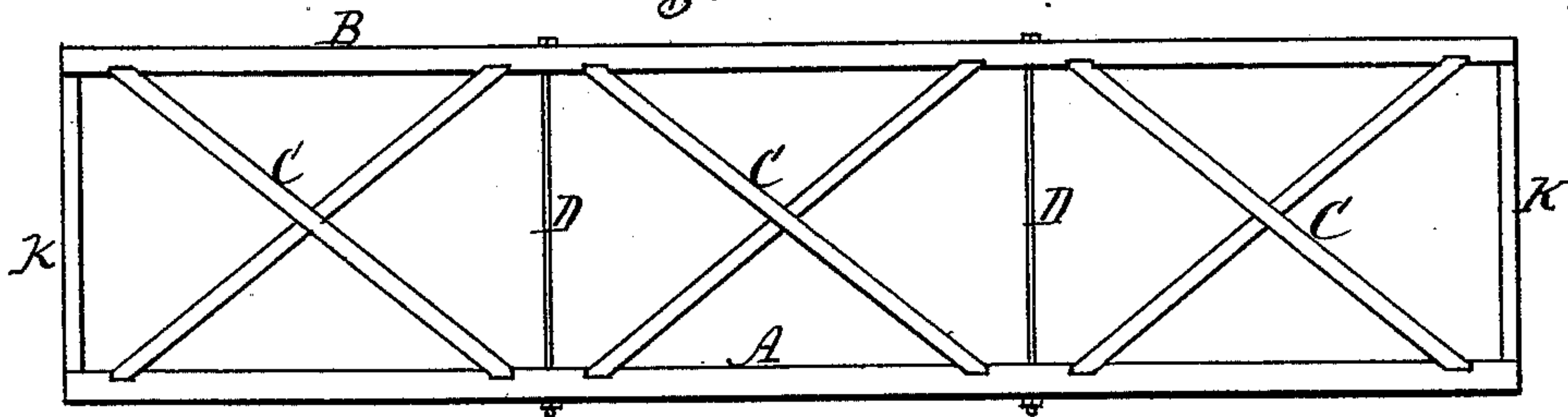


Fig. 3.

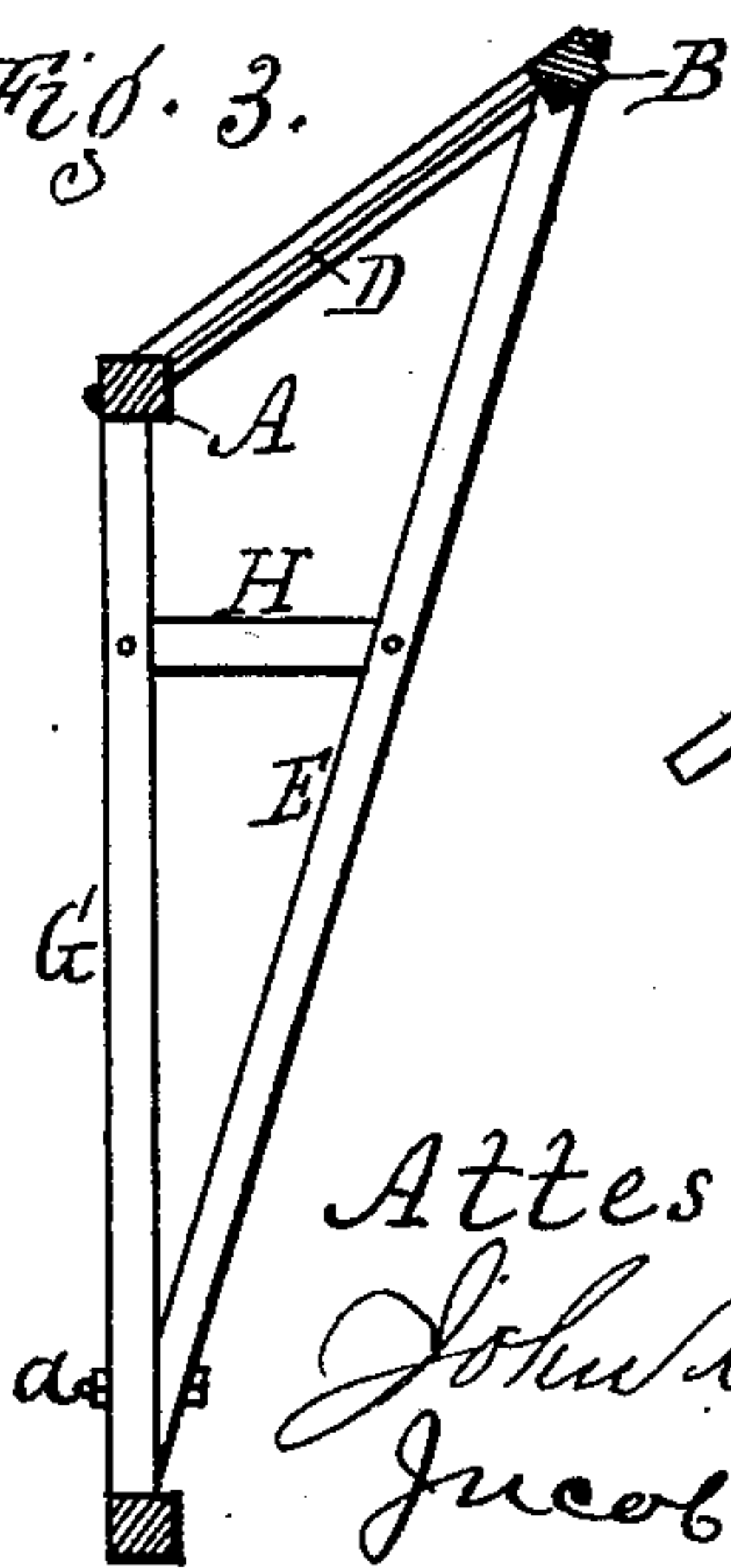
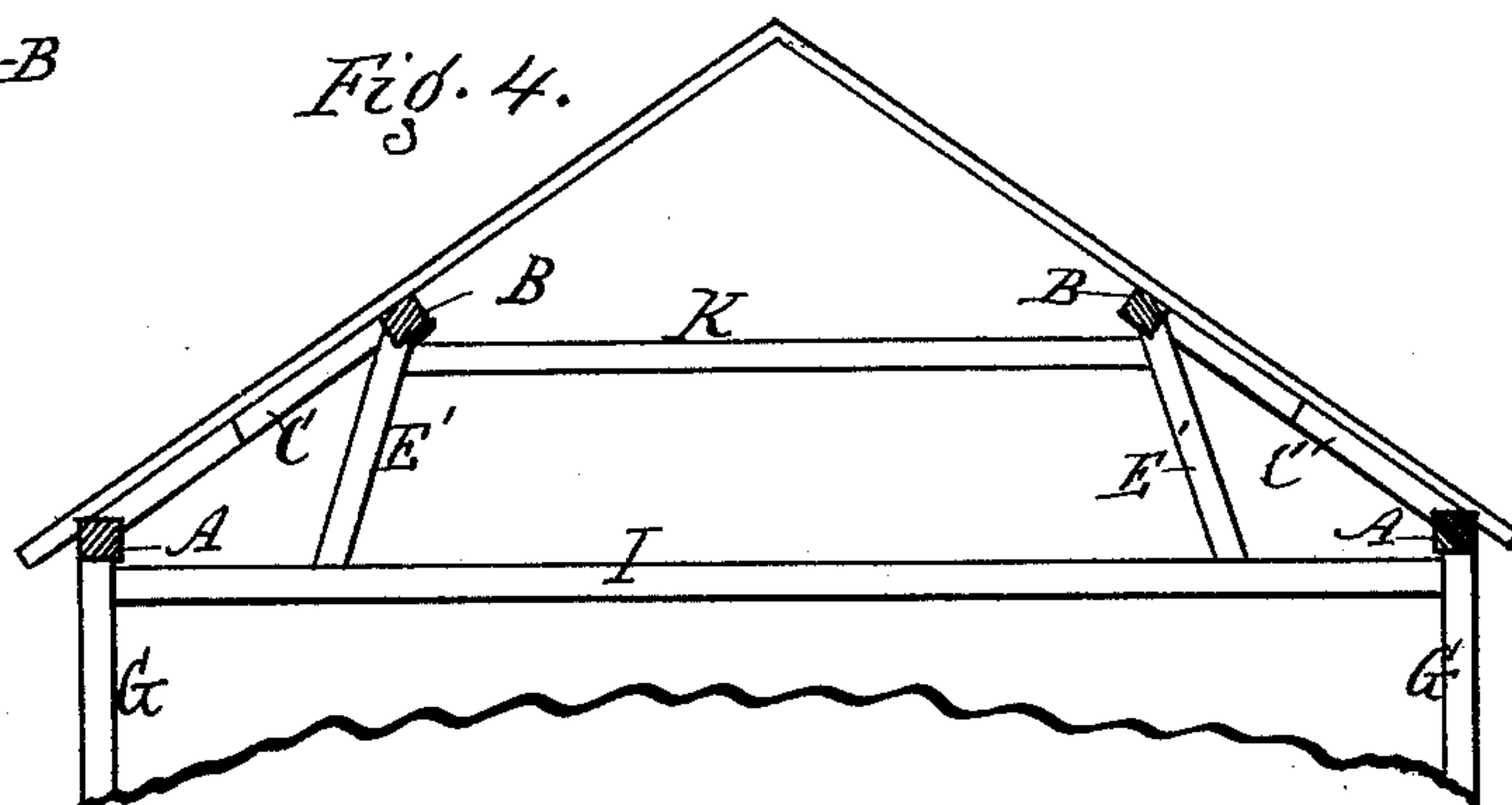


Fig. 4.



Attest.

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DAVID JENNINGS, OF LYONS, NEW YORK.

IMPROVEMENT IN BARNs.

Specification forming part of Letters Patent No. **218,031**, dated July 29, 1879; application filed June 7, 1879.

To all whom it may concern:

Be it known that I, DAVID JENNINGS, of Lyons, in the county of Wayne and State of New York, have invented a certain new and useful Improvement in the Construction of Barns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical cross section of a barn, showing my improvement. Fig. 2 is a plan of one of the bridges or trusses. Figs. 3 and 4 are detail views.

My improvement relates to the construction of barns; and the object is to obviate the use of the cross-beams in the clear of the barn, which are ordinarily used and are much in the way, especially where hay-forks and elevated tracks are employed.

The invention consists in the construction and arrangement hereinafter more fully described.

Ordinarily, in the framing of barns the construction is such that cross-beams extend from plate to plate across the open space of the barn. To obviate the use of these I employ the following arrangement: The ordinary sills, vertical posts, plates, and end beams, constituting the exterior framing, are employed.

On each side of the barn, and beneath the roof, is formed a bridge or truss, which extends longitudinally. This bridge consists of the main plate A and a purlin-plate, B, situated parallel to each other, at suitable distance apart, and extending from end to end of the barn. These stand at an angle corresponding with the pitch of the roof, and support the rafters, which are spiked thereto.

C C are a series of cross-braces, each in the form of an X, which rest between the main and purlin plates, being mortised into said parts at the ends. They serve to complete the bridge and stiffen the parts. The mortising is such that when the parts are clamped and tied together the braces retain their place, and are locked against accidental displacement.

D D are tie-rods or bolts, which connect the main and purlin plates between the braces C C, and in line with the purlin posts or arms, hereinafter described. The ends are threaded

and have nuts, by which the parts are drawn together firmly, thereby tightening upon the braces and forming a truss.

E E are a series of purlin posts or arms, extending angularly from the side posts, G G, up to and supporting the purlin-plate. They are attached at the bottom to the posts by strong bolts *a a*, and at the top are tenoned to the purlin-plate, or attached in any other desired manner.

H H are short girts connecting the purlin-posts and the exterior-frame posts at any desired height, being tenoned in at the ends and pinned in place. They serve to stiffen and brace the parts.

The purlin posts or arms may be carried to the bottom of the frame-posts, or attached above the bottom, as may be desired, or may be attached to the cross-sills.

E' E' are short purlin-posts at the ends of the barn, corresponding in position with the other purlin-posts, but being short and connecting the purlin-plate with the end cross-beams, I, as shown in Fig. 4. They serve to support the ends of the purlin-plates.

K is a purlin-girt at each end of the barn, connecting and embracing the two end posts or arms, E' E'.

The various parts above described may be braced with the ordinary angular braces used in framing.

The prime advantage of this construction is, that it dispenses with the cross-beams in the clear of the barn, which are ordinarily used, and which come so low as to materially interfere with operations of unlading and stowing away, especially where hay-forks and elevated track are used. This construction leaves the whole interior of the barn clear. Greater strength is also secured. In ordinary barns the lateral strain or spread outward is held simply by the pins which secure the cross-beams to the vertical posts. In this construction a separate and independent framed truss supports each side of the barn, which has sufficient strength to resist outward or inward thrust. When the rafters are spiked to the truss very great strength is secured. The cost is less in framing, as there are a less number of bents and no heavy beams to extend across the barn.

This construction can be readily applied to old barns by cutting out or removing the cross-beams and building the trussing within the barn.

This construction is specially applicable to very long or wide barns, as the separate framed truss on each side amounts, in fact, to a structure which has sufficient inherent strength in itself to support its side of the barn. The inward projection of the purlin-posts E is so small as not to materially interfere with the stowing away against the sides of the barn of hay or grain.

What I claim as new is—

In the construction of barns, the independent frame-work at each side of the barn, con-

sisting of the main plate A, purlin B, cross-braces C C, the tie-rods D D, connecting the plates, forming a truss in line with the roof, the purlin-posts E E, supporting the truss, and the girts H H, connecting the purlin-posts with the frame-posts, all in combination, as shown and described, whereby the cross-beams in the clear of the barn may be dispensed with.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

DAVID JENNINGS.

Witnesses:

R. F. OSGOOD,
R. E. WHITE.