(No Model.) 2 Sheets—Sheet 1.

I. R. McCORMICK.

BARN TRUSS.

No. 368,844. Patented Aug. 23, 1887.

Fig. 1.

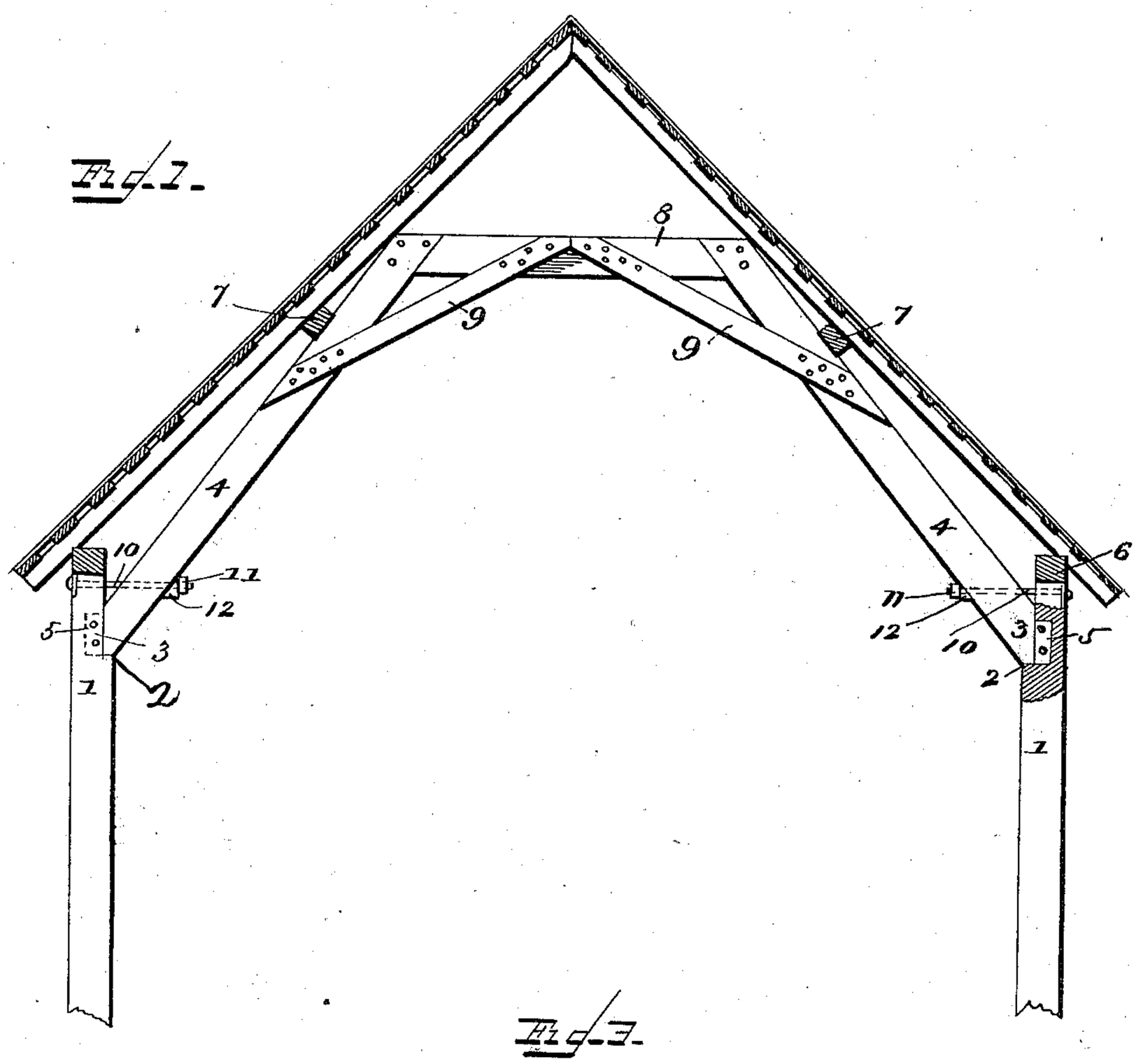
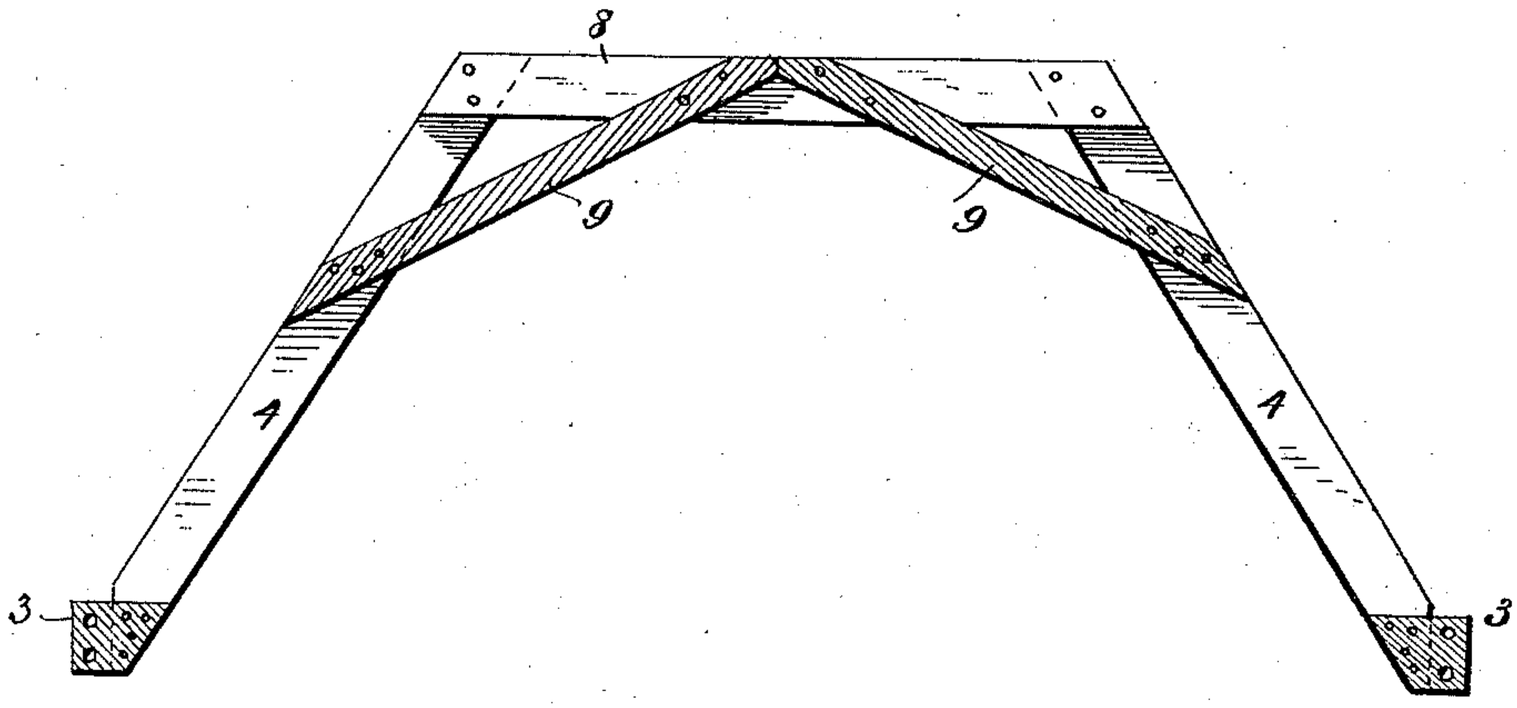


Fig. 3.



Witnesses
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Benj. F. Dwol.

Inventor
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Louis Bagger & Co.

(No Model.) 2 Sheets—Sheet 2.

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BARN TRUSS.

No. 368,844. Patented Aug. 23, 1887.

Fig. 2.

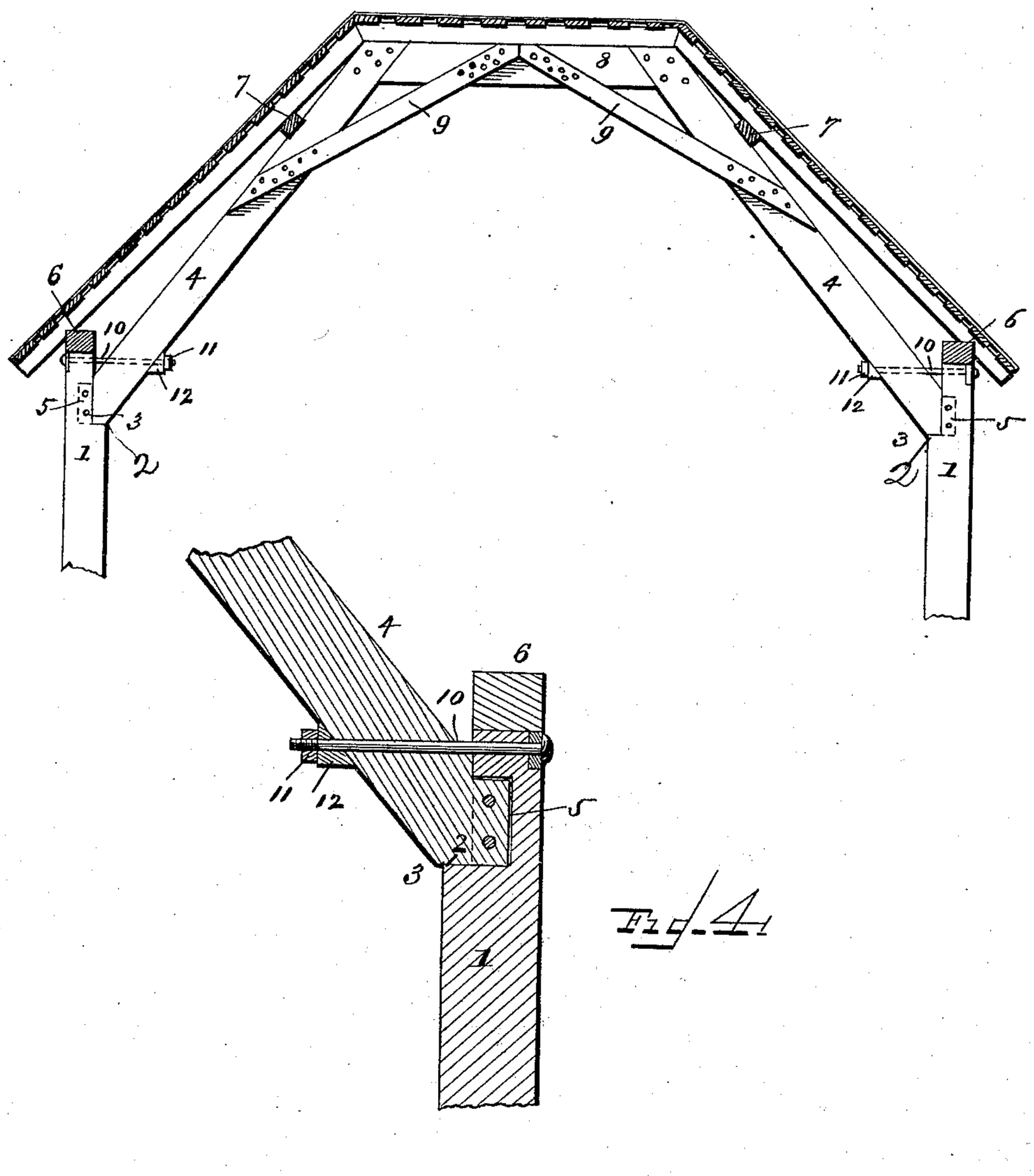

Fig. 4.

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UNITED STATES PATENT OFFICE.

ISAAC ROSS McCORMICK, OF LOGANSPORT, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES E. HALE, OF SAME PLACE.

BARN-TRUSS.

SPECIFICATION forming part of Letters Patent No. 368,844, dated August 23, 1887.

Application filed March 21, 1887. Serial No. 231,726. (No model.)

To all whom it may concern:

Be it known that I, ISAAC ROSS MCCORMICK, a citizen of the United States, and a resident of Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Barn-Trusses; and I do hereby declare that the following is a full, clea , and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a transverse sectional view of a barn or other building having my improved truss, showing the building provided with a high sloping roof. Fig. 2 is a similar view showing the building provided with a partly flat roof. Fig. 3 is a sectional view of the truss made from planks instead of square timber, and Fig. 4 is an enlarged sectional view of the upper end of one of the main posts and of the lower end of the principal rafter and the connecting-bolt or tie-bolt.

Similar numerals of reference indicate corresponding parts in all the figures.

My invention has relation to that class of trusses for barns and similar buildings in which the rafters are connected at their upper ends by a straining-piece, upon which a flat top of the roof may be supported, or the sheathing of the roof may be carried up beyond the ends of the rafters, making a gable roof; and it consists in the improved construction and combination of parts of such a roof-truss, as hereinafter more fully described and claimed.

In the accompanying drawings, the numerals 1 indicate the main posts which form the walls, and which are formed with steps 2 upon the inner sides of their upper ends, having the lower tenoned ends, 3, of the principal rafters 4 secured in mortises 5 in the inner faces of the reduced upper portions above the steps, the ends of the rafters resting upon the steps. The upper ends of the reduced or stepped portions of the main posts are provided with caps 6, upon which the sheathing or outer rafters may rest, the upper portions of the principal rafters being provided with the usual purlins, 7, for supporting the sheathing or rafters.

The upper ends of the principal rafters are suitably secured to the ends of a straining-piece, 8, and this straining-piece is braced by means of struts or braces 9, secured by bolts to the principal rafters and to the straining-piece near its middle.

Tie bolts or rods 10 pass through the upper ends of the main posts and through the lower portions of the principal rafters, and have nuts 11 at their screw-threaded ends, and the nuts upon the inner ends of the tie-rods bear against beveled blocks or washers 12, having vertical outer faces, so that the strain of the bolts or rods will be true horizontal. By having these horizontal tie-rods with their nuts bearing against vertical faces or surfaces the lower ends of the principal rafters may be drawn horizontally outward, forcing the tenons into the mortises, the downward strain of the principal rafters being borne upon the steps of the main posts, there being no downward strain upon the tie-rods.

The outer roof may either be constructed of rafters supported upon the caps of the main posts and upon the purlins, or of plain sheathing, and the roof may either be made gable-ended, the upper portion of the roof being carried beyond the upper ends of the principal rafters, or the roof may be made hipped, which is the form for which this truss is principally intended.

It will be seen that a strong and simple truss for the roof is obtained, and that comparatively little timber is required for its construction.

Square timber may be used for the truss, as shown in the two first and in the last figure of the drawings; or the truss may be made of flat planks, the ends of the struts or braces being in that case secured between the planks forming the principal rafters and the planks forming the straining-piece, as shown in Fig. 3, while where square timber is used the struts or braces are either formed by square timber mortised in the faces of the principal rafters and the straining-beam, or by two flat planks secured to the sides of the timbers.

By thus constructing this truss the horizontal beams or girders as well as the queen-posts and numerous struts used in the usual construction of trusses for barns or similar buildings are dispensed with, the construction thus materially lessening the cost of the structure,

and also lessening the labor required for the construction.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a truss for roofs, the combination of the main posts, having the inner sides of their upper ends formed with steps, with the principal rafters, having their upper ends connected by means of straining-pieces and struts or braces, and having their lower ends mortised in the upper ends of the main posts and bearing against the steps in the same, as and for the purpose shown and set forth.

2. In a roof-truss, the combination of the main posts, having the inner sides of their upper ends formed with steps, the principal rafters having their lower ends mortised in the inner faces of the main posts and resting upon the steps, and horizontal tie-rods passed through the upper ends of the main posts and through the lower portions of the rafters, having the nuts upon the inner ends bearing against beveled washers having vertical outer faces, as and for the purpose shown and set forth.

3. In a roof-truss, the combination of the main posts, having the inner faces of their upper ends formed with steps and with mortises above the steps, the principal rafters, having their lower tenoned ends secured in the mortises and resting upon the steps, a straining-piece connecting the upper ends of the principal rafters, struts or braces secured to the principal rafters and to the straining-piece near the middle of the same, and tie-rods passed through the upper ends of the main posts and through the lower portions of the principal rafters, having nuts upon their ends and having beveled washers upon their inner ends, bearing with their inclined faces against the faces of the rafters and with their vertical faces against the nuts, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ISAAC ROSS McCORMICK.

Witnesses:
WM. S. WINEGARDNER,
J. W. MCGINNIS.