

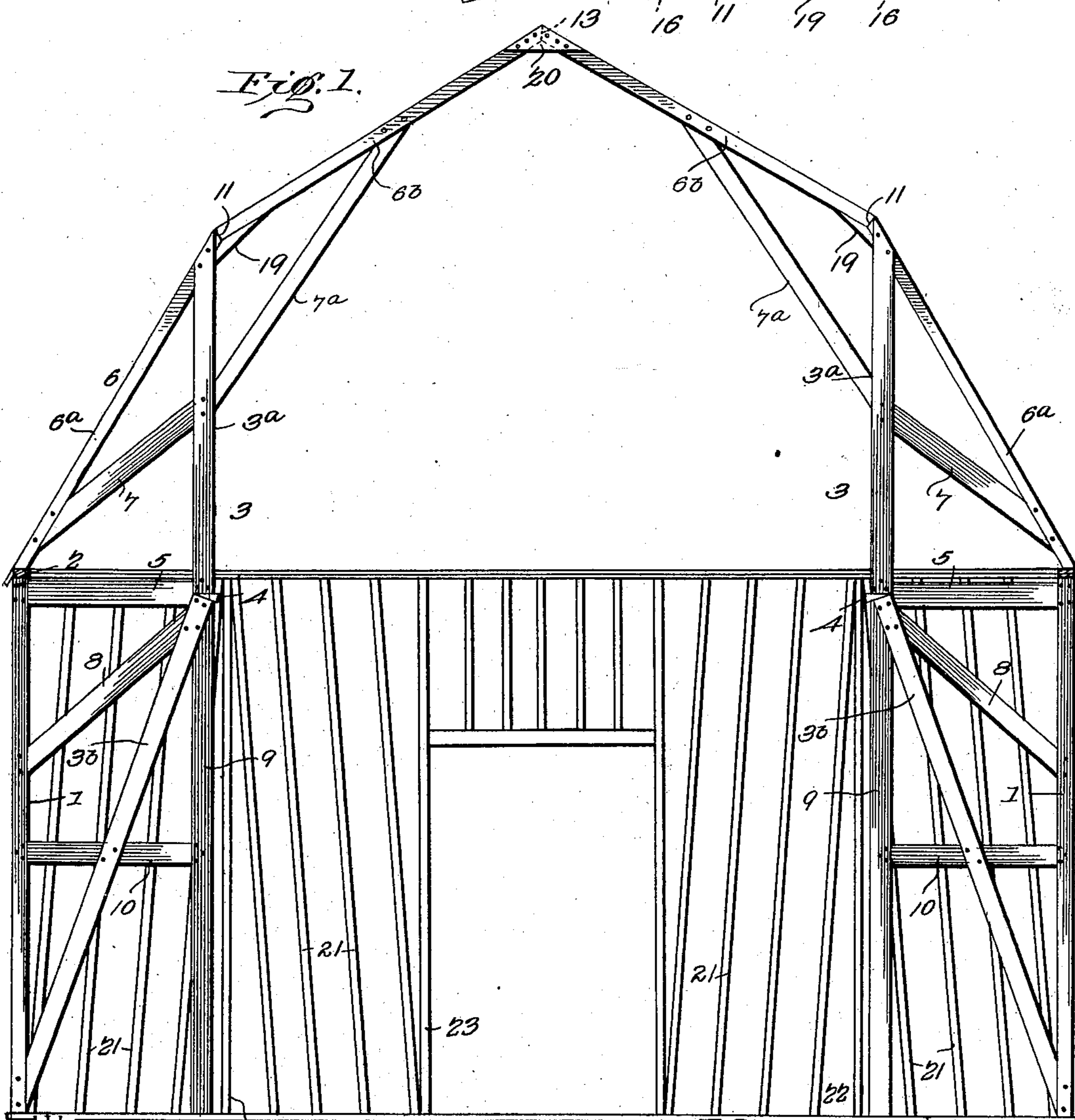
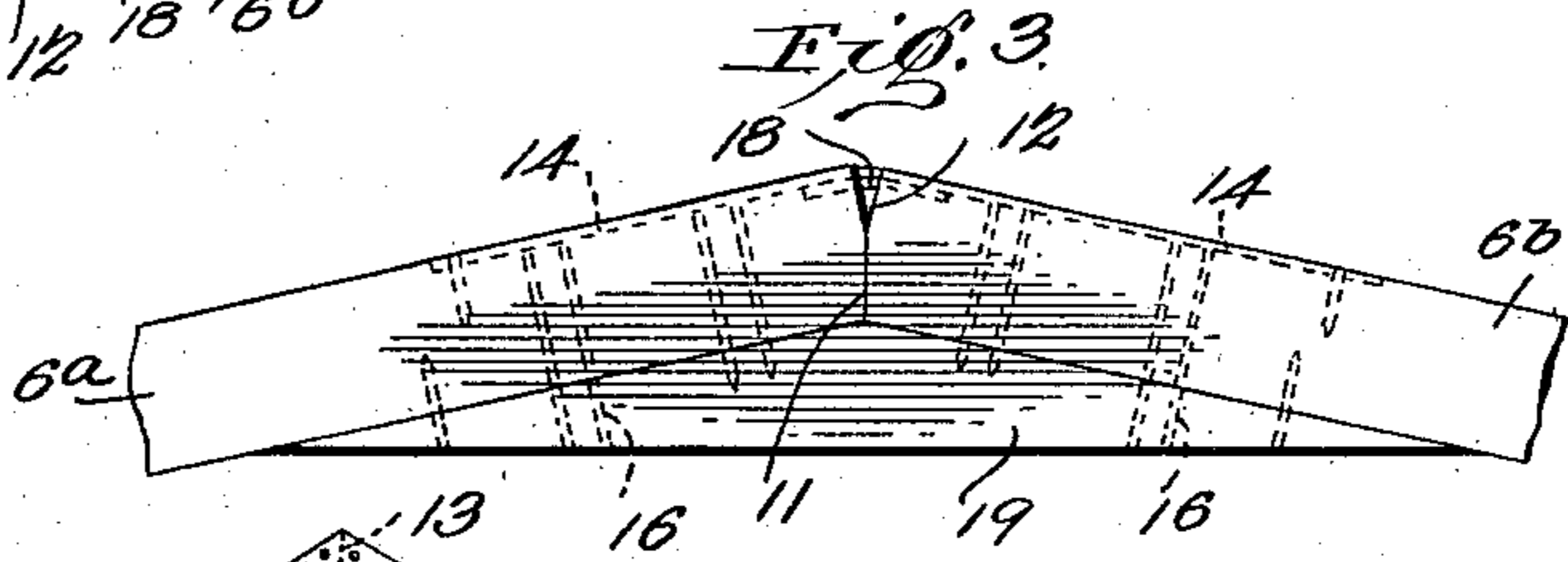
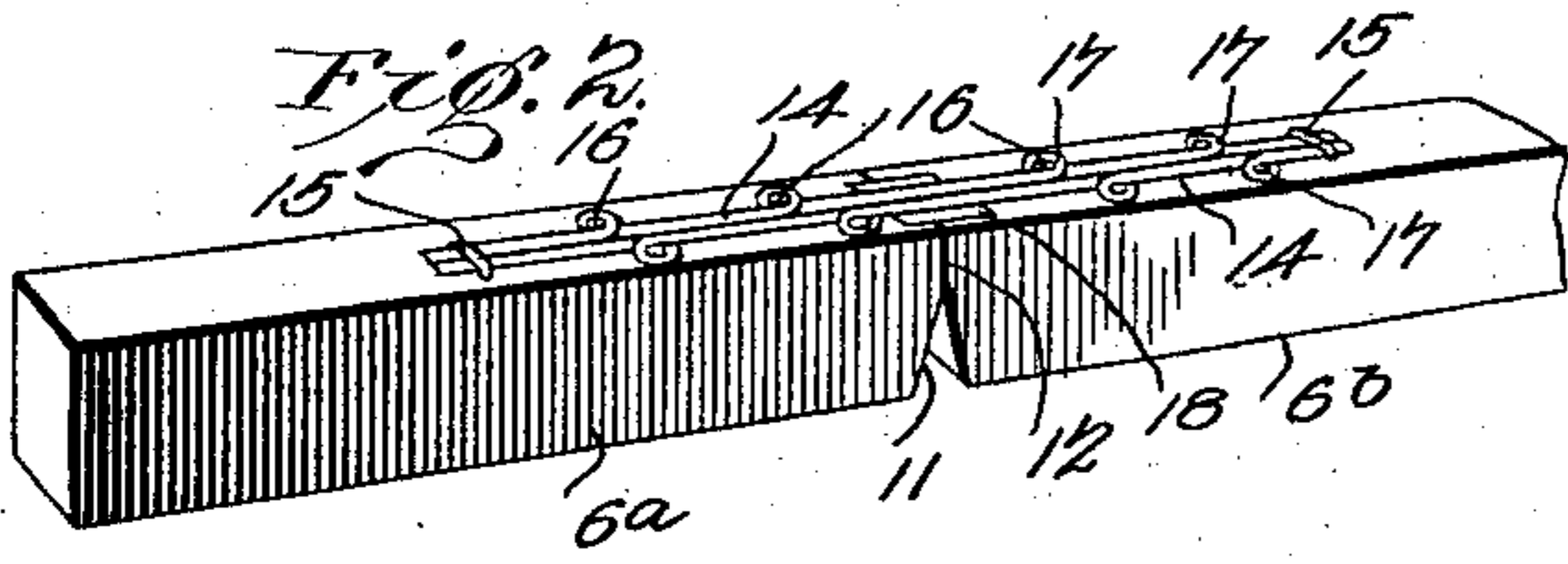
No. 732,787.

PATENTED JULY 7, 1903.

J. SCHEIDLER.
BARN.

APPLICATION FILED MAY 7, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN SCHEIDLER, OF COLDWATER, MICHIGAN, ASSIGNOR OF ONE-HALF TO
JOHN N. NEAL, OF COLDWATER, MICHIGAN.

BARN.

SPECIFICATION forming part of Letters Patent No. 732,787, dated July 7, 1903.

Application filed May 7, 1902. Serial No. 106,358. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHEIDLER, a citizen of the United States, residing at Coldwater, in the county of Branch and State of Michigan, have invented a new and useful Barn, of which the following is a specification.

My invention relates to improvements in the construction of barns and other buildings designed to contain grain and similar stuffs.

My invention consists in the peculiar construction hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a cross-sectional view of the framing of a barn embodying my improvements. Fig. 2 is a detail perspective view of a portion of one of the rafters, showing the sections thereof secured together. Fig. 3 is an elevation of the same, showing the sections of the rafter disposed to form the angle at the hip and showing the gambrel-block secured to the sections of the rafter.

In practicing my invention I employ the usual end and side sills, which are spiked together at their ends or otherwise suitably joined. From the side sills rise the vertical studs 1, on the upper ends of which are secured the plates 2. The hips of the roof are supported by upright trusses 3, each of which comprises an upper section 3^a, disposed in a vertical position, and a lower section 3^b, disposed in an inclined position, with its lower end secured to the lower end of one of the studs 1. Between the meeting ends of the said sections 3^a 3^b is driven a wedge-shaped key 4. The upright truss 3 is connected to the upper end of the stud 1 by a horizontally-disposed tie 5, which is nailed or spiked to the said stud and to the lower end of the section 3^a and the upper end of the section 3^b of the said truss. The upper section 3^a is connected to one of the rafters 6 by a tie 7, which is preferably disposed in an inclined position, as shown. The lower section 3^b of the truss is connected to the stud 1 at a point intermediate its length by a tie 8, which is also preferably inclined. I employ a vertical strut 9 in connection with the truss, the said strut being disposed in line with the vertical upper section of the truss and secured to the upper end of the lower section of the

truss by nails or other suitable means. The lower section of the truss, together with the said strut, is connected to the stud 1 by a tie 10, which is here shown as disposed in a horizontal position, but which may be disposed in any suitable position. It will be understood that the upright truss braces the side of the barn against lateral displacement from within, whereby a building constructed in accordance with my invention is effectually prevented from having its sides and ends bulged outwardly by the weight of the grain or other contents thereof. It will be furthermore understood that the truss and strut, which are connected by the ties to the rafters and studs of the building, greatly strengthen the walls thereof and prevent the same from being racked by the wind.

It will be understood that my improvements enable a barn or similar building to be framed of comparatively light stuff, whereby a substantial economy of material is effected and the cost of the building greatly reduced. It will be understood that the strut 9 also serves, in connection with the truss with which it is associated, to sustain the hip of the roof. The sides and ends of a barn or other building so framed are so strong as to enable me to dispense with the cross beams or ties which are usually employed to connect the sides of a building together. In this particular also a material economy is effected and the capacity of the barn is increased.

Each of the rafters 6 is composed of a lower section 6^a and an upper section 6^b. The same have their meeting ends partially cut on the angles 11 required by the roof and partially cut at right angles, as at 12. The right-angled portions of the meeting ends of the rafter-sections are at the outer or upper sides of said rafter-sections. The upper ends of the upper rafter-sections are cut on the required angles 13. Prior to raising each rafter the sections thereof are disposed end for end in the same plane and are connected together by wires 14, which are embedded in the upper sides of the rafter-sections, are of suitable length, and are secured thereto by staples 15 at the ends of the said wires and nails or spikes 16 in eyes 17, formed in the wires at points intermediate their ends. A pin or

other suitable metallic strip or plate 18 overlaps the meeting ends of the rafter-sections on their upper sides and is disposed under the tie-wires. When the sections of the raf-

5 ter have been thus secured together, the rafter is bent to close the ends 11 of its sections together and open the portions 12, thereby stretching the tie-wires 14 and tightening them to the maximum extent, and a gambrel-
10 block 19 is then secured on the under side of the rafter at the angle thereof, as shown in Fig. 3. As shown in the drawings, the gambrel-block is secured to the sections of the rafter by nails or spikes; but I do not limit
15 myself in this particular. When the rafters have been thus constructed, they can be readily raised and secured without the necessity of building scaffolds for this purpose. The meeting ends of the rafters for the opposite
20 sides of the roof are secured together at the ridge or comb by short collar-beams 20 before they are raised.

In order to strengthen the construction of the sides and ends of the barn to prevent the
25 same from being racked and twisted by the winds, I incline the studs 21 between the vertical corner-studs 1 and the vertical intermediate studs 22 and door-posts 23, the inclined studs 21 in each bay or space between a cor-
30 ner and a stud or post 23 inclining in opposite directions, as shown in Fig. 1, thus bracing a side or end of the barn in both directions longitudinally thereof. For the purposes of this specification I have shown a door-
35 way framed in the side of the barn in Fig. 1 of the drawings; but this may be omitted. In practice the doors are usually in the sides of the barn. The inclined studs 21, which are disposed on opposite sides of each inter-
40 mediate stud 22, converge upwardly thereto, as shown, and hence each bay or space between a pair of vertical corner or door posts or studs is braced against stress in opposite directions, as will be understood.

45 The pressure in a barn of this character is upward and outward upon the hips of the roof, especially when heavy downward pressure is brought upon the ridge of the roof, as when hoisting hay or grain when unloading
50 a wagon driven into the barn. In order to further strengthen the construction of the roof at the hips, I employ ties 7^a, which are connected to the upper vertical sections 3^a of the trusses and the upper sections 6^b of the
55 rafters.

My improved upright trusses are employed at suitable distances apart in the sides of a building, usually at intervals of twenty or twenty-five feet. They are not used in the
60 end walls of a building nor at the corners thereof. Where the barn is not provided with an upper floor, my improved upright trusses enable me to dispense with cross joints or ties to connect the plates together trans-
65 versely. In the spaces between the upright trusses I employ on the inner sides of the

plates the lateral or horizontal trusses described and claimed in Letters Patent of the United States, No. 506,732, granted to me October 17, 1893.

Having thus described my invention, I claim—

1. In a building, the combination of an upright truss, a stud to the lower end of which the lower end of the truss is secured, a plate 75 on the upper end of the stud, the upper end of the truss extending above the upper end of said stud, and a hip-rafter secured on the plate and having its angle supported by the truss, substantially as described. 80

2. In a building, the combination of an upright truss, a stud to the lower end of which the lower end of said truss is secured, the upper end of the truss extending above the upper end of said stud, and a hip-rafter con- 85 nected to the upper end of said stud and having its angle supported by the truss.

3. In a building, the combination of a side frame, an upright truss on the inner side thereof and secured thereto, a rafter secured 90 to said frame and to the upper end of said truss, the latter extending above said frame, and a strut connected to said truss, substantially as described.

4. In a building, the combination of a side 95 frame, a truss comprising an upper and a lower section, the latter being secured at its lower end to said frame, said upper section extending above said frame, a tie connecting said truss to said frame, a rafter secured to 100 said frame and to the upper end of said truss, and a strut having its upper end secured to said truss and supporting said rafter, substantially as described.

5. A hip-rafter, comprising two sections 105 having their meeting ends beveled from opposite sides, connecting-wires secured on the upper sides of said sections, and a gambrel-block, secured on the under sides of said sections, whereby the latter have their meeting 110 ends opened on their upper sides to exert tensile stress on said connecting-wires, substantially as described.

6. In a building, the combination of a side 115 frame, a truss comprising an upper and a lower section, the latter being secured at its lower end to said frame, said upper section extending above said frame, a hip-rafter, comprising a lower and an upper section, the former being secured to the upper end of said 120 truss, and on said side frame, a tie connecting said lower rafter-section to said truss and a tie connecting the latter to said upper rafter-section, substantially as described.

In testimony that I claim the foregoing as 125 my own I have hereto affixed my signature in the presence of two witnesses.

JOHN SCHEIDLER.

Witnesses:

INA A. BABBITT,
W. E. HODGMAN.