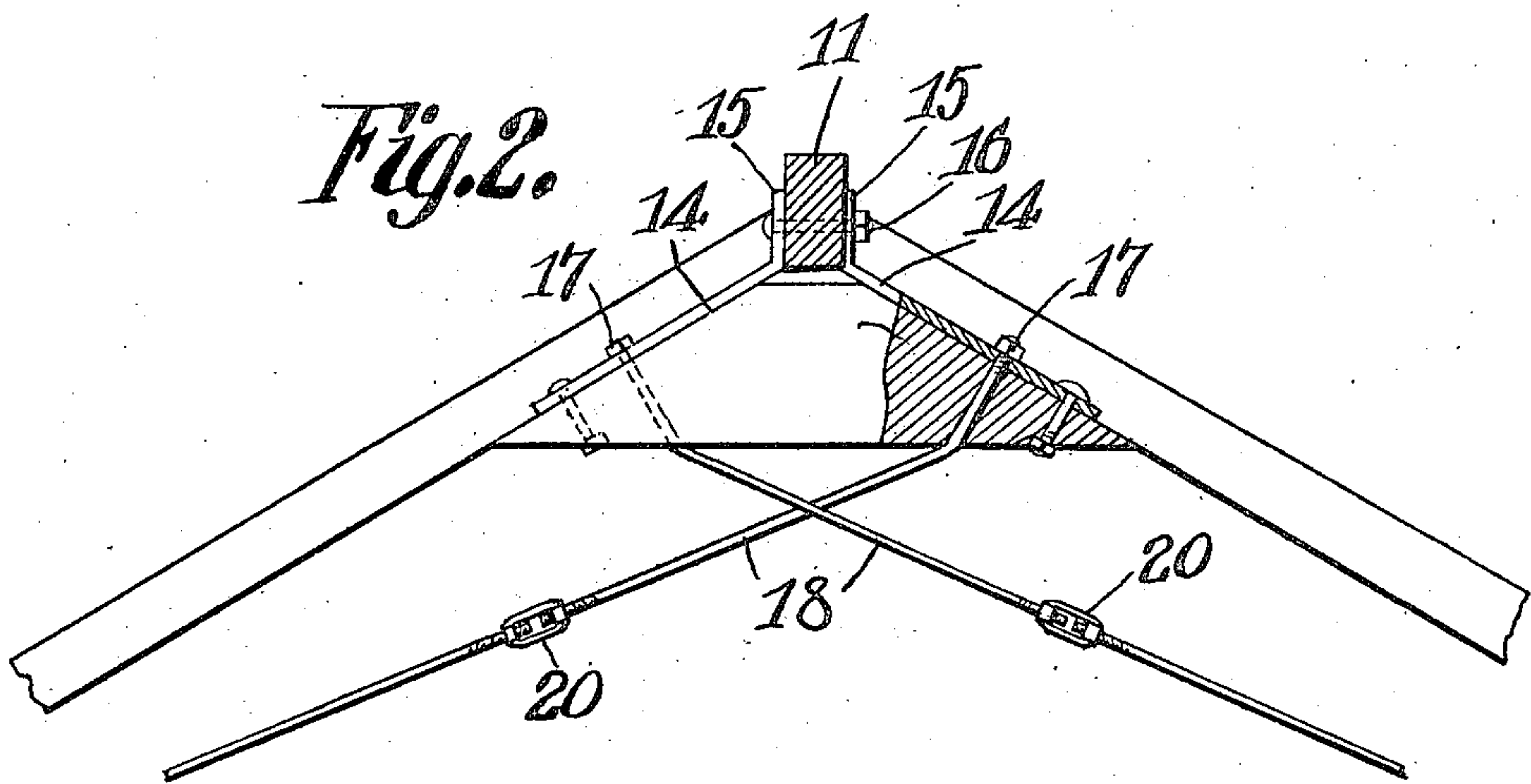
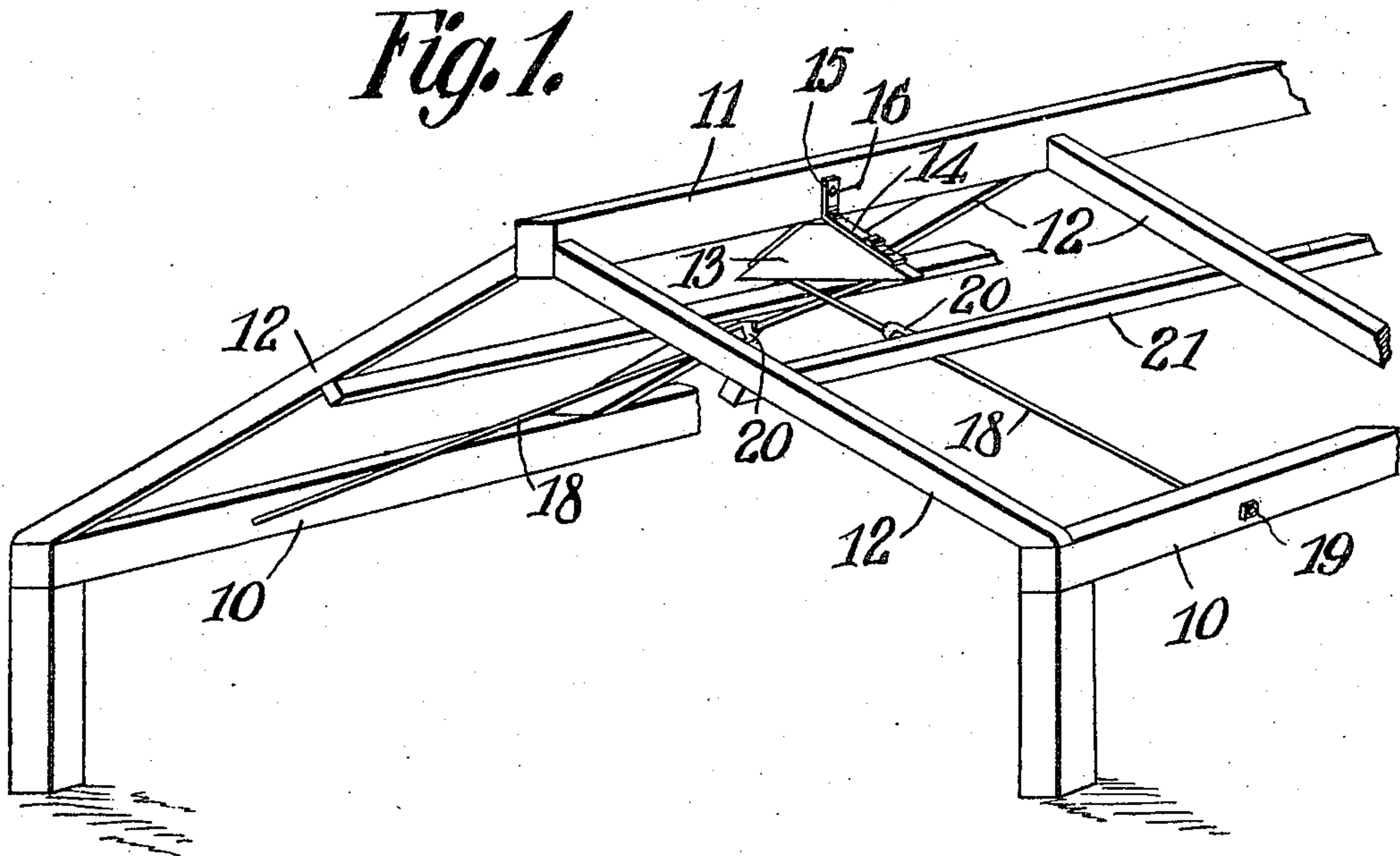


No. 844,212.

PATENTED FEB. 12, 1907.

H. THADEN.  
ROOF STRUCTURE.  
APPLICATION FILED JULY 17, 1906.



Inventor

Witnesses

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# UNITED STATES PATENT OFFICE.

HERMAN THADEN, OF ATLANTA, GEORGIA.

## ROOF STRUCTURE.

No. 844,212.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed July 17, 1906. Serial No. 326,579.

*To all whom it may concern:*

Be it known that I, HERMAN THADEN, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Roof Structures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to roof structures, and has for an object to provide improved means for supporting the ridge, rafters, and purlin.

A further object of the invention is to provide in a roof structure a supporting means adapted to tie together the wall-plate and support the ridge and to equalize the tension upon opposite sides of the roof structure.

A further object of the invention is to provide yielding means secured to the ridge of the roof structure and with truss-rods extending therefrom to the wall-plates in such manner that the tension upon the truss-rods is equalized.

A further object of the invention is to provide in a roof structure a block arranged to conform to the inclination of the roof and provided with yielding means for attaching to the roof.

With these and other objects in view the invention comprises certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a perspective view of a skeleton roof embodying the present invention. Fig. 2 is a view, partly in vertical section and partly in side elevation, of the means for attaching to the ridge of the roof structure.

Like characters of reference designate corresponding parts throughout the several views.

The invention forming the subject-matter of this application is adapted for use in connection with a roof of any ordinary building structure, but is particularly and especially adapted for use in connection with greenhouse structures, wherein the usual rafters are replaced by sash-bars of less rigidity than the usual rafters employed.

A building for use in association with the present invention is shown conventionally in Fig. 1, wherein the wall-plates are represented

at 10 and the ridge at 11, with rafters or sash-bars 12 extending between the ridge and plates. To the ridge is secured one or more blocks 13, the number depending upon the length of the building, said block being formed substantially as a triangle with opposite sides conforming approximately to the inclination of the roof. The block 13 is provided with yielding metallic straps 14, rigidly secured along oppositely-inclined surfaces, and with upturned ears 15, adapted to be secured upon the ridge 11 in any approved manner, as by the bolt 16. The block 13 is provided with openings extending through the said block in a vertical plane and disposed with their axes substantially perpendicular to the edge of the block provided with metallic strap, the said strap being provided with a registering opening, through which extends the ends, as 17, of truss-rods 18. The truss-rods 18 extend in reversely-inclined position to and through the wall-plates 10, as indicated at 19, and are secured thereupon in any approved manner, as by the use of a nut or head, as shown. Intermediate their length the truss-rods 18 are provided with turnbuckles 20, by means of which tension is applied to the truss-rod 18. The distance of the truss-rod 18 from the rafters 12 near the ridge is greater than the distance near the wall-plate, the said rafters and truss-rods converging toward the plate, so that the purlin 21 is supported upon the truss-rod 18 intermediate its length and under the rafter 12 and prevented from moving toward the plate by reason of the convergency of the truss-rods and rafters.

It will be understood that the metallic straps 14 are semiflexible and permit a yielding of the block 13 under tension of the truss-rods 19, so that the tension upon opposite sides of the building is always equalized and that the truss-rods 18 engaging below the ridge 11 and converging toward the wall-plate relative to the rafters the rafters are held in engagement with the ridge and the ridge supported by means of exerting tension upon the truss-rods 18 by the turnbuckles 20, and should the tension exerted be unequal such tension is equalized by the yielding of the block 13.

With the roof structure supported in the manner shown in Fig. 1 the supporting means is disposed substantially within the angle of the roof, so that no ties extend across the structure from wall-plate to wall-plate. Fur-



thermore, the tying of the wall-plates to the structure adjacent the ridge holds the structure rigid with the rafters in rigid engagement with the plates and with the ridge and prevents any sagging of the ridge under weight of accumulated snow or other external pressure. Again, should any sagging occur by reason of shrinking or contraction of the several associated parts such sagging may be compensated for by tightening the turnbuckles to exert additional strains upon the truss-rod 13, thereupon drawing together the wall-plates 10 and raising the ridge 11.

In structures employing long rafters more than one purlin may be advantageously employed, and where one or more purlins are employed each and all may rest and be supported upon the truss-rods 18 and are prevented from sliding downwardly by reason of the convergency of the truss-rods relative to the rafters.

What I claim is—

1. In a roof structure, a ridge, wall-plates spaced on opposite sides of the ridge, and means connecting the wall-plates and ridge arranged to equalize the strain.

2. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, means tying the plates and ridge together, means for exerting tension upon the tying means, and means whereby the tension upon opposite sides is equalized.

3. In a roof structure, a ridge, wall-plates upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and means connecting and arranged to equalize the strain upon the truss-rods.

4. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plate to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, and means connecting and arranged to equalize the strain upon the truss-rods.

5. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and means connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods.

6. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, raf-

ters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions and approaching nearer the rafters at their lower ends, means connecting and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

7. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, means connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

8. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and a block yieldingly secured to the ridge and arranged to equalize the strain upon the truss-rod.

9. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined directions and approaching nearer the rafters at their lower ends, and a block yieldingly secured to the ridge, and arranged to equalize the strain upon the truss-rods.

10. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, a block yieldingly secured to the ridge, and connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

In testimony whereof I affix my signature in presence of two witnesses.

HERMAN THADEN.

Witnesses:

JOHN L. FLETCHER,  
L. L. MORRILL.