

Aug. 12, 1924.

1,504,318

E. BERGLUND
JOINT CONSTRUCTION

Filed May 1, 1922

FIG. 1

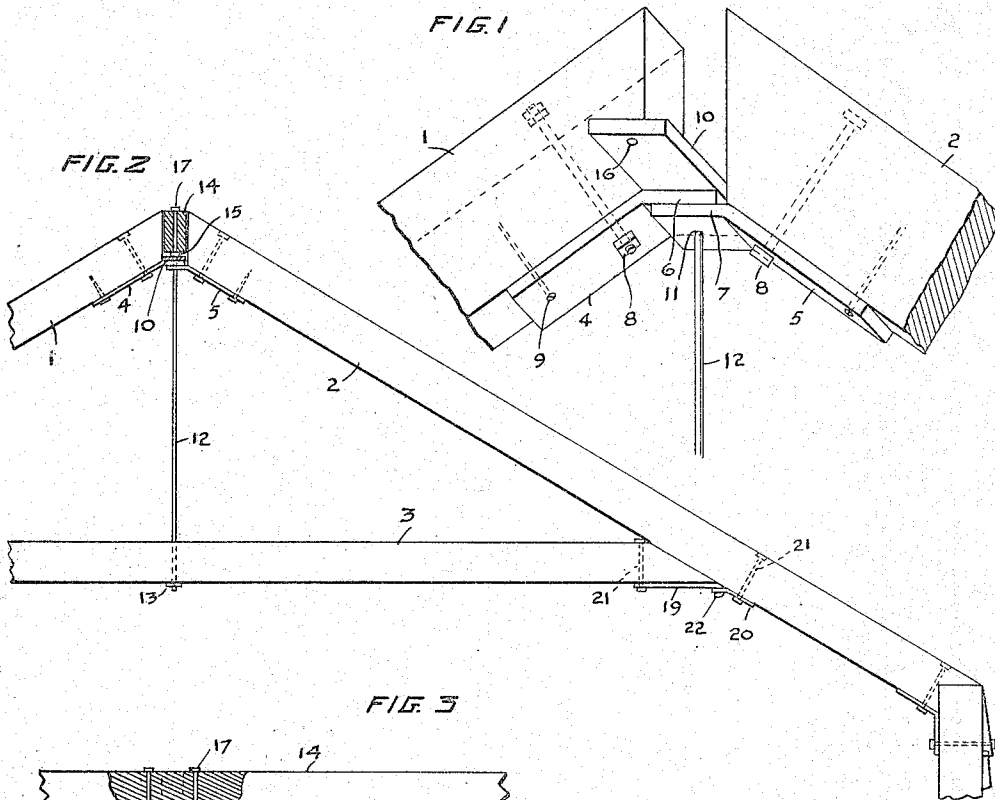


FIG. 2

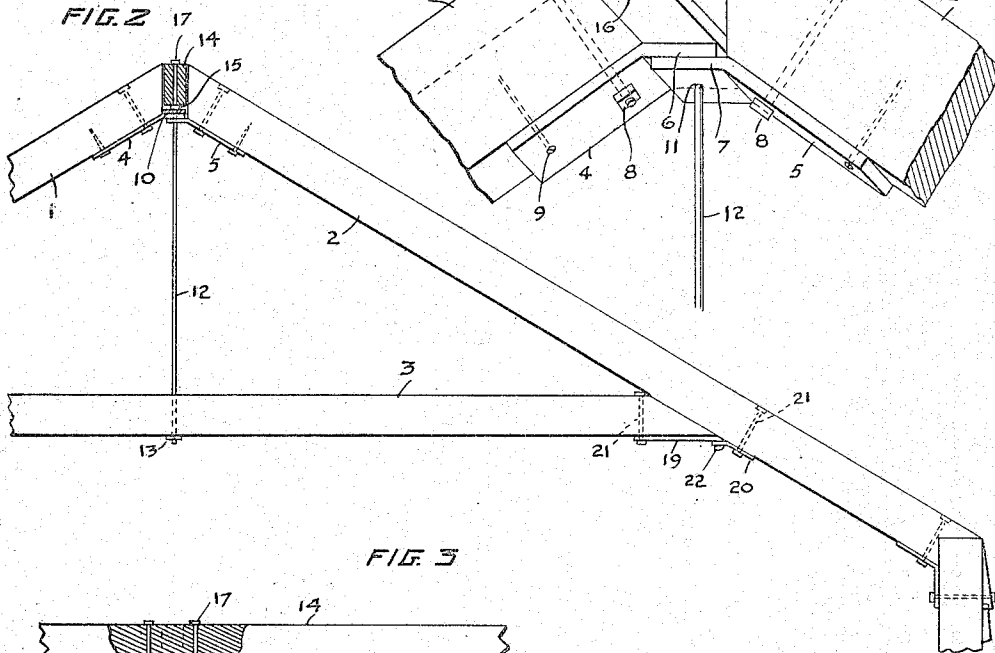


FIG. 3

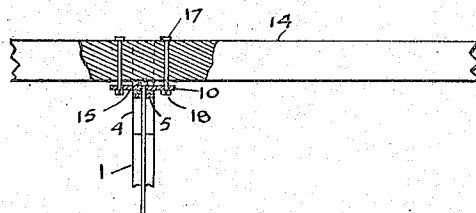


FIG. 4

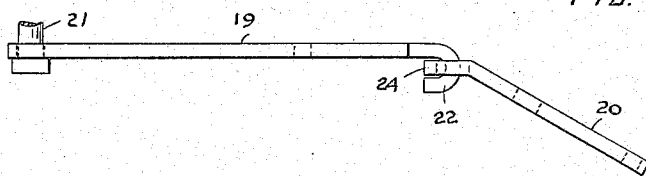
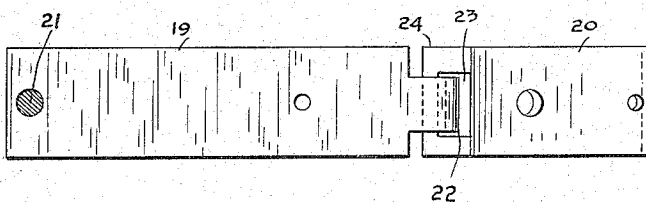


FIG. 5



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BY *[Signature]*
ATTYS.

UNITED STATES PATENT OFFICE.

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JOINT CONSTRUCTION.

Application filed May 1, 1922. Serial No. 557,578.

To all whom it may concern:

Be it known that I, EMANUEL BERGLUND, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Joint Construction, of which the following is a specification.

This invention relates to improvements in portable buildings and has particular reference to an improved joint construction for securing in proper assembly the rafters and ridge-boards of buildings.

The primary object of the invention is to provide a simply constructed, inexpensive and strong joint construction for rafters and ridge-boards of portable buildings, which joint construction consists of a minimum number of parts, may be quickly and easily set up or taken down and which will eliminate a number of operations and parts such as ordinarily required in assembling portable buildings.

The invention possesses other advantages and features some of which, with the foregoing will be set forth at length in the following description where I shall outline in full that form of the invention which I have selected for illustration in the drawings accompanying and forming a part of the present specification. In said drawings I have shown one form of the construction of my invention, but it is to be understood that I do not limit myself to such form since the invention as expressed in the claims may be embodied in a plurality of forms.

Referring to the drawings:

Fig. 1 represents a fragmentary perspective view of a joint construction forming a part of this invention, shown as when joining the upper ends of rafters and as adapted for connection with a ridge-board, the latter being omitted.

Fig. 2 represents a side elevation of a roof rafter unit, the ridge-board being shown in section and the joint construction of my invention in elevation.

Fig. 3 represents a fragmentary longitudinal sectional view thru the ridge-board and joint construction, parts of the ridge-board being shown in elevation as likewise are the rafters.

Fig. 4 represents the joint construction as applied to the roof and bracing rafters.

Fig. 5 represents a top plan of the joint shown in Fig. 4.

Referring particularly to the form of my invention illustrated in the accompanying drawings, the numerals 1 and 2 designate inclined rafters of a roof construction such as ordinarily employed in portable and other buildings, and 3 designates a cross rafter, the ends of which are joined to mediate portions of the rafters 1 and 2. The main joint construction of my invention comprises like, substantially rectangular, metal plates 4 and 5, certain ends of which are bent so as to extend angularly, that is substantially horizontally, as at 6 and 7. The body portions of the plates 4 and 5 are secured by bolts 8 to the under inclined faces of the rafters 1 and 2 in such position that the portions 6 and 7 thereof will overlap as shown in Fig. 1. A single bolt may be used for securing each plate and a single screw 9 or other fastening element is employed in connection with each bolt, to hold the plates in place.

Mounted upon the portion 6 of the plate 4 is a ridge-board attaching plate 10 of substantially rectangular form, which plate 10 is provided centrally of its ends with an opening 11 registering with similar openings in the angularly disposed end portions 6 and 7. A brace rod 12 is extended thru these registering openings and thru the rafter 3, being held thereto at its lower end by a nut 13 engaging the under face of the girder 3. A ridge-board 14 is mounted between the upper ends of the girders 1 and 2 and rests upon the head or nut 15 carried on the upper end of the rod 12, said head or nut engaging the upper side of the plate 10. It will thus be seen that the single bolt or rod 12 serves as an assembling and connecting medium for the portions 6 and 7 and plate 10 and as a means of connection between the girder 2 and ridge-board 14. The plate 10 is of such length that it will extend several inches on either side of the portions 6 and 7 and at its free ends is formed with openings 16 adapted to receive bolts 17 which are inserted thru the ridge-board and held in place by nuts 18. It will be seen that the joining of the girders with the ridge-board may be quickly and

easily set up with the employment of a minimum number of parts and operations and that the joint will be extremely durable and strong. The disassembling operation is easily effected when desired.

By having the upper ends of the plates 4 and 5 overlapped and angularly disposed, and the plate 10 balanced upon the overlapped portions, the joint members are compactly arranged and so balanced as to equally distribute and take up the strains and stresses placed thereon. As shown particularly in Figs. 4 and 5, I join the cross girder 3 to the girders 1 and 2 by a simply constructed joint device comprising metal plates 19 and 20 secured by bolts 21 to the under faces of the girders 1, 2 and 3. The plates 19 are provided at their outer ends with downwardly directed hook portions 22, which are adapted to engage in eyes 23 formed in angularly disposed end portions 24 of the plates 20. In securing the plates 19 and 20 it is only necessary to use a single bolt or other fastening element for each plate. By this joint construction it is not necessary to employ bolts extending thru the two rafters which engage one another and yet a strong and durable joint is provided which may be quickly and easily set up or taken down.

I claim:

1. A joint construction for portable buildings comprising the combination with rafters and a ridge-board contiguous to one another, of angular plates secured to the under sides of the rafters and overlapping one another beneath the ridge-board, a plate resting upon and extending on opposite sides of the said overlapped portions between them and the ridge-board, means for securing said plates together and bolts extending thru the ridge-board and fastened

to said last named plate at points adjacent the ends thereof.

2. In combination with rafters a ridge-board contiguous therewith and a cross rafter extending between and joining the rafters, plates secured to the under sides of the first named rafters and overlapping one another at points beneath the ridge-board, a plate mounted upon the uppermost of the overlapping portions and extending outwardly from opposite sides of said overlapping portions, a rod extending thru said plate and the overlapping portions and secured to the cross rafter and bolts connecting end portions of the last named plate with the ridge-board.

3. In combination with rafters, a ridge-board extending between opposed ends of the rafters and a cross rafter joining the first named rafters, of plates bolted to and extending along the under sides of the first named rafters with end portions thereof overlapping one another and being horizontally disposed beneath the ridge-board, a plate mounted intermediate of its ends upon the uppermost of the overlapping portions, means for securing end portions of said last named plates to the ridge-board and a bracing rod extending thru said plate and the overlapping portions and secured to the cross rafter.

4. The combination with rafters, a ridge-board disposed between opposed ends of the rafters and a cross rafter connecting the first named rafters, of plates bolted to the respective first named rafters and to the ridge-board and overlying and engaging one another beneath the ridge-board and a brace or rod extending thru the overlying portions of the plates and connected with the cross rafter.

EMANUEL BERGLUND.