

J. G. STADELMAN.
WOODEN BUILDING.
APPLICATION FILED JUNE 23, 1917.

1,372,206.

Patented Mar. 22, 1921.

3 SHEETS—SHEET 1.

Fig. 1

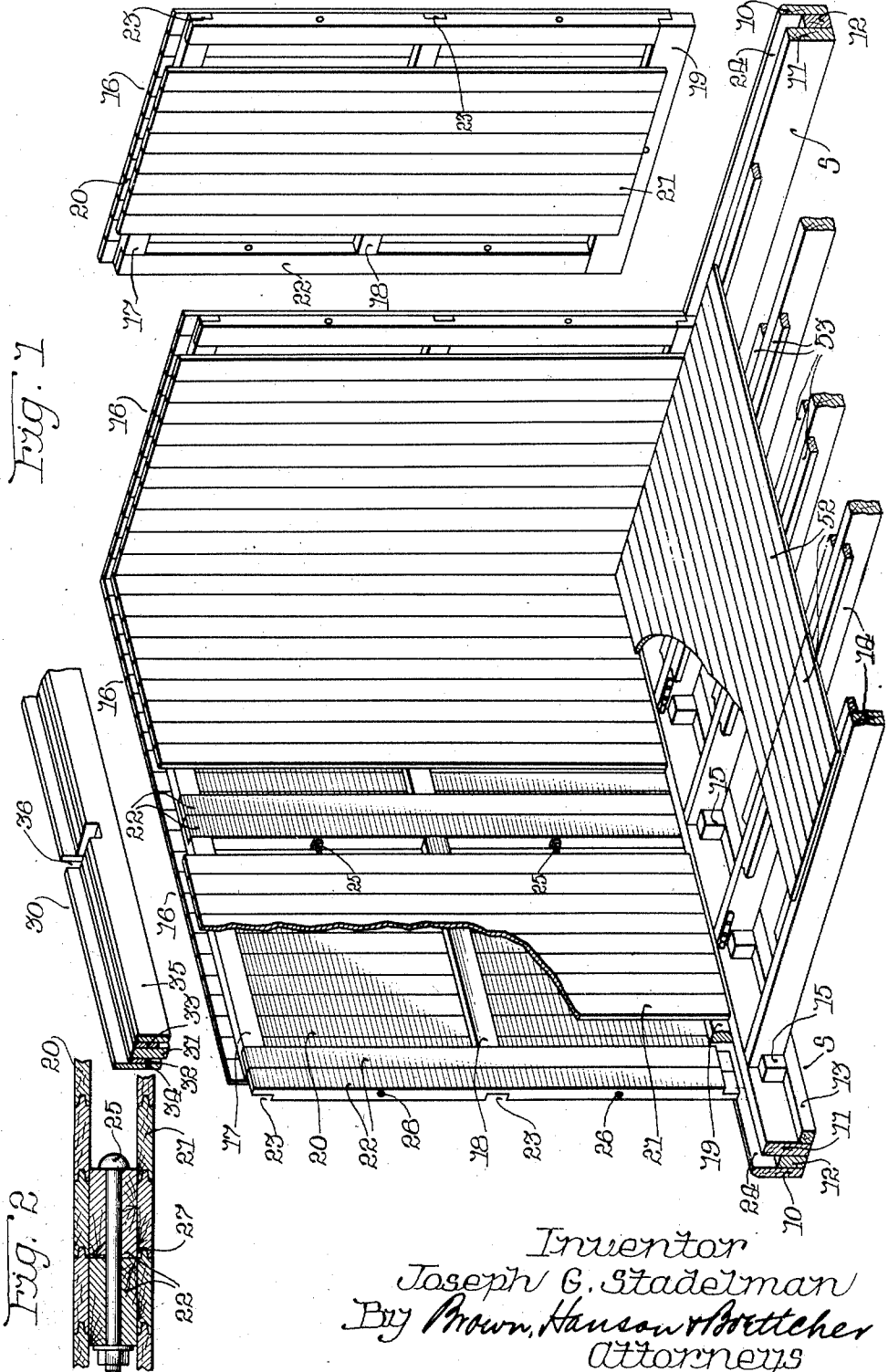


Fig. 2

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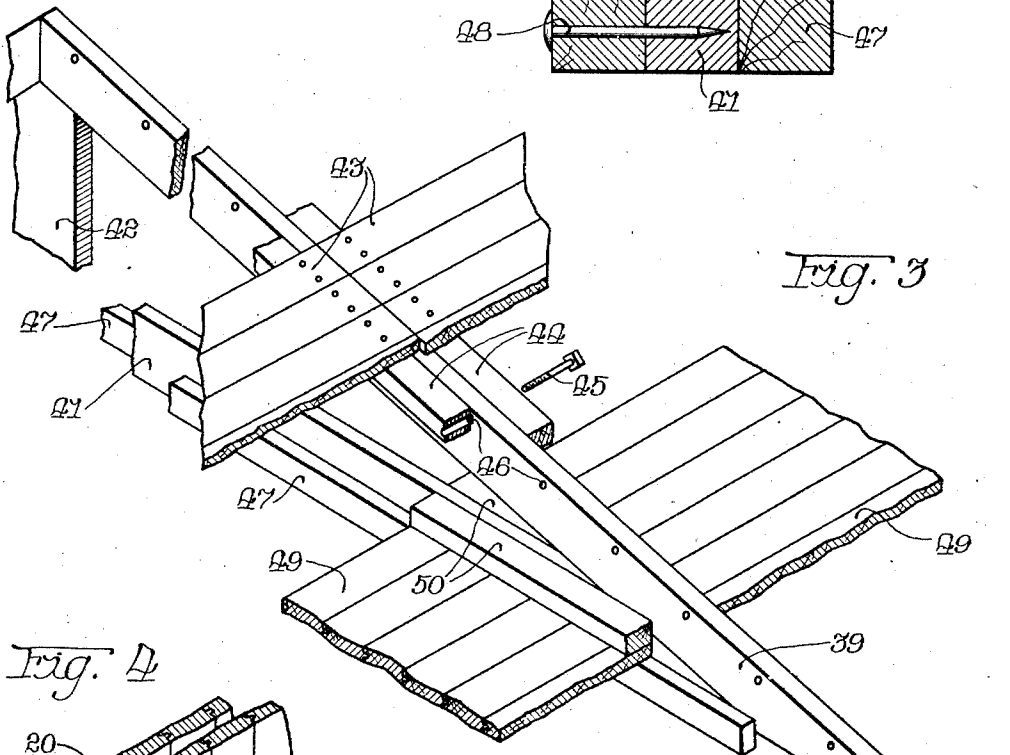
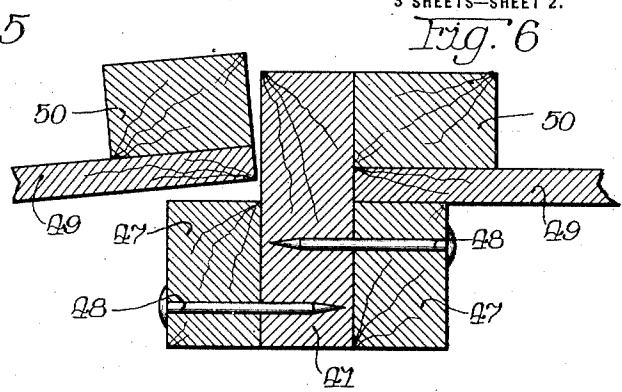
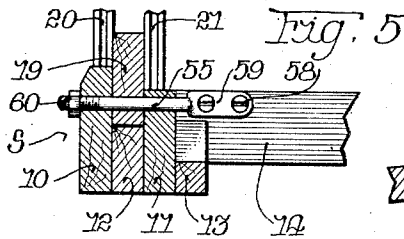
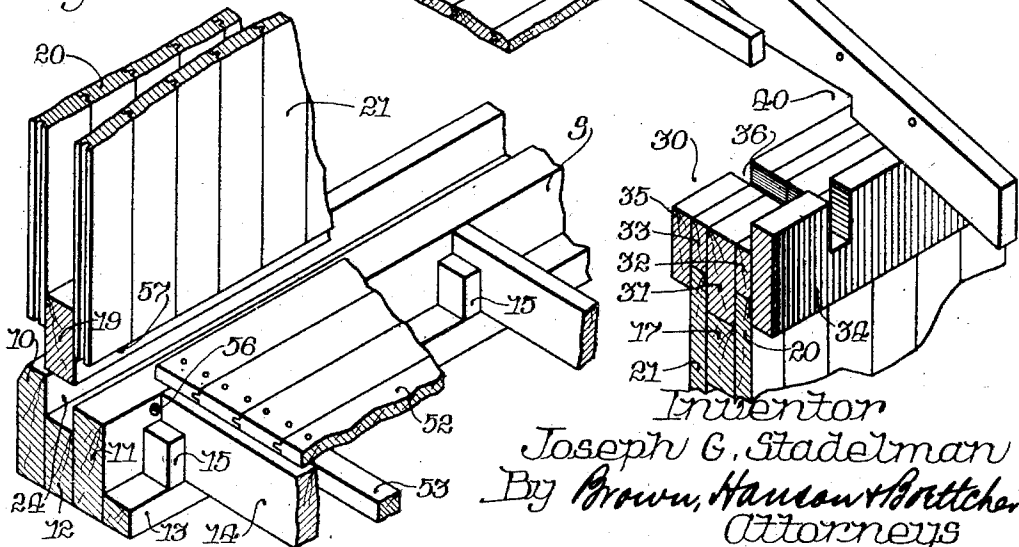


Fig. 4



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3 SHEETS—SHEET 3.

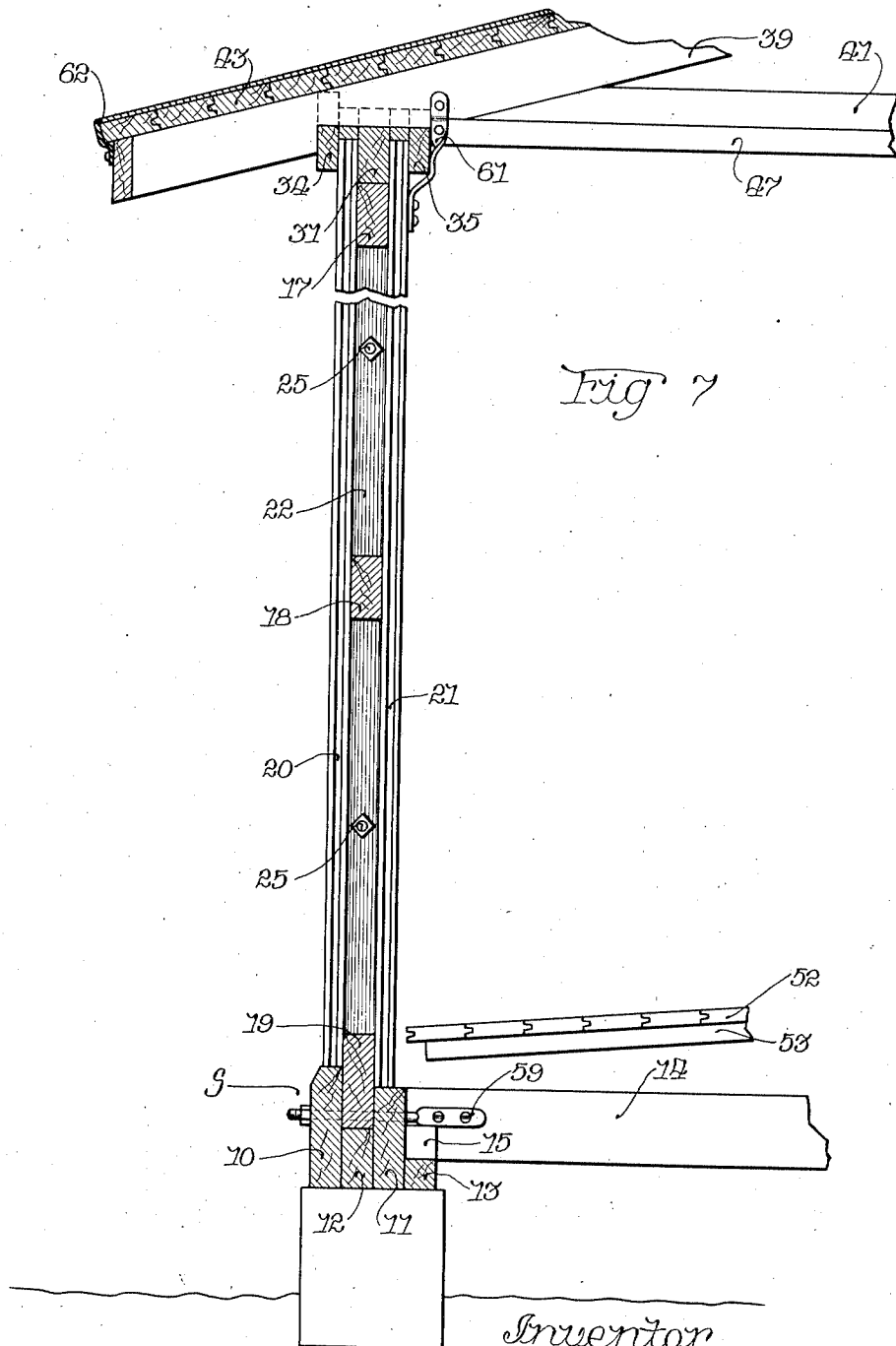


Fig. 7

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UNITED STATES PATENT OFFICE.

JOSEPH G. STADELMAN, OF CHICAGO, ILLINOIS.

WOODEN BUILDING.

1,372,206.

Specification of Letters Patent.

Patented Mar. 22, 1921.

Application filed June 23, 1917. Serial No. 176,488.

To all whom it may concern:

Be it known that I, JOSEPH G. STADELMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Wooden Buildings, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to wooden buildings.

My invention is particularly concerned with portable buildings or houses, constructed of wood, and made to be quickly and easily assembled and disassembled. This type of house is ordinarily manufactured in sectional style, each unit accurately cut and jointed for quick erection. This type of construction has heretofore generally entailed some sacrifice in the staunchness and solidity of the house for resisting the weather as compared with a permanent house.

My invention provides a sectional house which can be quickly and easily erected and which I find to be equal to a permanent house of the same character in ability to resist the weather.

Chief among the features of construction achieving this result is a siding panel construction having double walls, wherein an inclosed volume of air in each of the siding panels tends to insulate the walls of the house against heat conduction inward or outward.

One serious objection to houses of this type heretofore has been the inability to withstand a high wind. Due to the sectional nature of the construction, a high wind usually blows away a section of the roof, the side walls or the like. My invention aims to provide such a staunch construction so well interconnected that the house will resist any wind short of blowing the whole structure away. To this end I have provided means for interconnecting the roof sections with each other and with the wall panels, for interconnecting the wall panels with each other and with the sills, and for interconnecting the sills and joists of the floor.

The structure forming the subject matter of this application is related to, and is an improvement upon, the structure disclosed in my co-pending application, Serial No. 85,825, filed March 22, 1916.

It is to be understood that my invention may be embodied in other forms than that herein set forth, as for example, garages, poultry houses, barns and the like, without departing from the invention.

In the drawings:

Figure 1 is a fragmentary perspective view, from the interior of a house constructed in accordance with my invention, showing the siding under erection;

Fig. 2 is a horizontal sectional view through the joint of two wall panels;

Fig. 3 is a fragmentary perspective view of the roof truss, roof panels, ceiling panels, wall panels and wall plate in position for assembling;

Fig. 4 is a perspective view of the sill and the lower end of a wall panel adapted to rest in the sill;

Fig. 5 is a sectional view of the same after assembling;

Fig. 6 is a sectional view through the roof truss showing the manner of supporting the ceiling panels; and

Fig. 7 is a vertical section through the side wall, floor and roof.

A suitable foundation of posts, blocks, or a concrete sub-sill is first laid, after which the sill members S are secured thereupon to define the perimeter of the house. The sill members each comprise an outer plate 10, a sill beam 11, and a filler strip 12 therebetween and the side walls have a shoulder strip 13 upon which the joists 14 are supported. Blocks 15, 15 on opposite sides of the joists 14 prevent lateral movement of the joists along the shoulder strip 13. The frames of each of the wall panels 16 consist of the top, intermediate and lower cross rails 17, 18, and 19 respectively. The boarding of both the outer wall 20 and the inner wall 21 is tongue and groove jointed to provide a weather-tight surface and this boarding is nailed or otherwise secured to the three cross rails 17, 18 and 19. Studding members 22, 22 are fastened to the side margins of each panel section 16 and these studding members are scarfed or notched as at 23 to cooperate with corresponding scarfs or notches in the cross rails. The studding members 22 strengthen the frame of the panels 16 and prevent twisting or warping of the boarding 20 upon the cross rails and in addition afford convenient connecting members for securing the edges of adjoining wall panels together, as will be described hereinafter.

The lower cross rail 19 is considerably wider than the other rails and protrudes below the lower edges of the siding boards of a depth approximately equal to the depth of the groove 24 in the sill S. Referring to Figs. 1 and 4, the wall panels 16 are placed upon the sill S with the lower cross rails 19 resting upon the filler strip 12 and with the boarding of the outer and inner walls 20 and 21 in contact with or slightly above the tops of the plate 10 and beam 11, respectively. Any number of panel sections may be contiguously arranged upon the sill S, dependent upon the length of wall desired and the length of the sill. Obviously these sections may be provided with windows and doors therein, wherever desired. After erection of the series of panels the same are bolted together by bolts 25 passed through holes 26 alined in the adjacent studding members 22 of adjoining wall panels. As shown in Fig. 1 the inner wall 21 of the panels is incomplete as purchased by the builder, two or three boards thereof being "absent" adjacent the studding members 22 to permit access to both faces of the studs for insertion of the bolts 25. These "absent" boards are to be applied after bolting of the sections has been completed, as shown in Fig. 2. These boards are applied alternately to each of the inner walls of the adjoining panels until one board remains. This last board has one side of the groove therein cut away, as shown at 27, thereby permitting its insertion over the tongue of the companion board. Thus far, it will be apparent that the lower ends of the wall panels will be restrained from lateral movement by engagement of the cross rails 19 in the groove 24 in the sill and longitudinal or separating movement of the panels will be prevented by the bolts between the studs of adjoining panels.

The wall plate member 30 which is built up as shown in Fig. 3 is arranged to seat astride the tops of the wall panels 16. A framing beam 31 has nailed on opposite sides thereof the filler strips 32 and 33 and to these are secured the outer and inner wall plates 34 and 35, respectively. The filler strips 32 and 33 are comparatively narrow and afford recesses or grooves for the reception of the tops of the outer and inner walls 20 and 21. The framing beam 31 projects down between the walls of the panel and seats upon the upper cross rail 17. The outer and inner wall plates 34 and 35 overlies the tops of the outer and inner walls and conceal any slight irregularities in the lengths of the boarding of these walls. The wall plate member 30 is adapted to be positioned upon the wall panels and nailed or otherwise secured to said panels after the wall panels have been bolted together and the "absent" boards all applied. The wall

plate member absolutely secures the upper ends of all the wall panels against lateral movement therebetween. These wall plate members are supplied in lengths identical with the lengths of the sill members S and the two combine into a bundle which is readily transportable.

Bonding notches 36 are cut in the top of the wall plate member 30 at regular intervals, preferably coincident with the joints between adjacent wall panels. Each of these bonding notches is adapted to receive a correspondingly notched rafter 39. Adjacent the notch 40 in the rafter is secured one end of a horizontal tie beam 41 having erected in the center thereof a kingpost 42 to the top of which are strung the rafters 39. This inclined roof truss is intended to support a hip or gable roof which type I find preferable in portable house construction. The roof proper is divided into roof sections or panels 43, similarly to sections of the wall structure. These roof panels also consist of tongued and grooved boarding extending longitudinally of the roof and having cleats 44 nailed transversely across said panels to bind the individual boards of the panel together. The cleats 44 are spaced a short distance from the edges of the panels and the cleats of two contiguous roof sections are arranged to lie on opposite sides of the rafter 39 when the panels are in place upon the rafters, as shown in Fig. 3. Bolts 45 passing through alined holes 46 in the cleats and rafter bind the roof trusses and roof panels together. The roof panels 43 extend in length from center to center of successive rafters 39 and extend in breadth from the peak of the roof to beyond the wall plate member 30 to form projecting eaves for obtaining symmetry and for improving the appearance of the house. The end roof panels are preferably of greater length so as to extend out over the gables to form projecting eaves, though this is not essential. These details are of minor importance in the present application and reference therefore should be made to my co-pending application, previously mentioned, wherein they are fully shown and described. The meeting lines between adjoining roof panels may be weatherproofed by applying battens over the joints though I prefer to apply a prepared pliable roofing fabric 62 over the entire roof as shown in Fig. 7. The edges of the roofing 62 are carefully fastened down as shown in Fig. 7 to prevent the wind from getting under the same.

On opposite sides of the tiebeam 41 are the shoulder strips 47, 47 (see Figs. 3 and 6) secured thereto as by nails 48 or the like. These shoulder strips support the ceiling panels 49, extending from tiebeam to tiebeam. The ceiling panels 49 consist of tongue and groove boarding or wall board

running longitudinally of the house and having cross rails or cleats 50, 50 nailed across the ends of the boarding or wall board to hold the same together. The width of the panels is equal to half the width of the house, adjacent panels meeting directly beneath the king post 42, and thus they may be positioned after the roof panels 43 are in place by inserting them diagonally up between the rafter trusses and dropping them upon the strips 47. The strips 47 extend across the entire width of the house abutting the interior faces of opposite wall plate members 30.

The engagement of the notch 40 formed in the rafter 39 with the notch 36 cut in the top of the wall plate member 30 effectually ties the side wall plate members 30, 30 and the wall panels 16 together against lateral displacement. The rafter 39 is secured to the upper rail 17 by a strap of iron 61 so that the roof is securely held to the siding panels 16.

The flooring is constructed in sections 52, 52 similarly to the roofing panels, but has parallel cleats or cross rails 53, 53 in spaced relation thereunder, to embrace the sides of the joints 14, as shown in Fig. 1.

In Fig. 5 I have shown in detail the manner of interconnecting the sill S, the joists 14 and the wall panels 16. After these parts are assembled a tie bolt 55 is inserted through the alined holes 56 and 57 in the sill S and the cross rail 19, respectively, as seen in Fig. 4. Screws 58 are screwed through holes in the lug portion 59 of the bolt into the joist 14 and a nut 60 serves to draw the bolt up. The bolts 55 thus hold the floor joists, the sill 11, and the wall panels 16 together.

The space between the double walls of the siding panels provides a dead air space which forms a good heat insulator.

It can now be seen that all the parts of the house are joined together so that there

is no danger of it being blown apart by a high wind.

The roof sections are held together by the bolts 45 which also join them to the roof trusses. The roof trusses are held to the sidewalls by the iron straps 61. The sidewall sections 16 are joined together by the bolts 25. The sidewalls 16, the sills 11, and the floor joists 14 are joined together by the bolts 55.

The interconnection between all of the sections and parts results in a house of great rigidity and staunchness. As herein-after explained, the lower portions of the house consisting of the joists, sill and wall panels are all interconnected by the tie bolts 55 and the upper portions consisting of the wall panels, wall plate and roof panels are all interconnected by the roof trusses. Thus destructive winds acting upon the roof or walls are resisted by the house as an entirety.

I claim:

In combination, a plurality of wall panels, having outer and inner walls composed of vertically extending boards, cross rails adjacent to the tops of said outer and inner walls of said wall panels, a wall plate having grooves for receiving the tops of the walls of said wall panels, said wall plate resting on said cross rails, a roof truss comprising rafters and a tie beam, each rafter cut to form shoulders to contact with the outer face of the wall plate, ceiling supporting strips on the tie beam, the ends of said strips forming shoulders to engage the inner face of the wall plate, the wall plate provided with a notch to receive each rafter, and a fastening strap secured to said roof truss and to the inner wall of the wall panel to secure said roof truss and said wall plate upon the wall panels.

In witness whereof, I hereunto subscribe my name this 20th day of June, A. D. 1917.

JOSEPH G. STADELMAN.