

N. J. MacDONALD.
PORTABLE HOUSE.

APPLICATION FILED JULY 28, 1916.

1,297,379.

Patented Mar. 18, 1919.

3 SHEETS—SHEET 1.

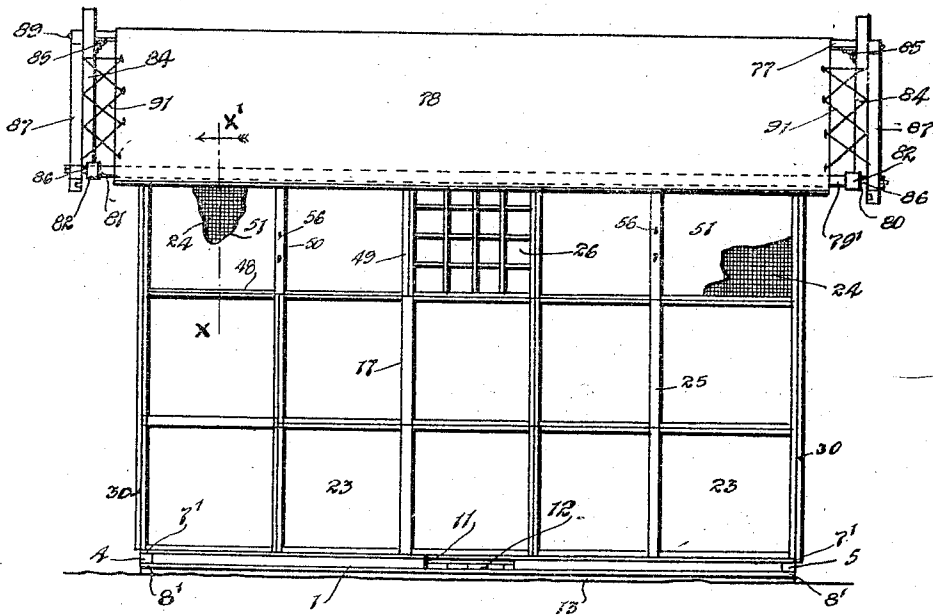


Fig. 1

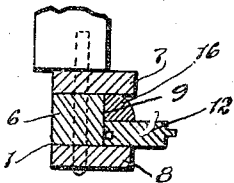


Fig. 13

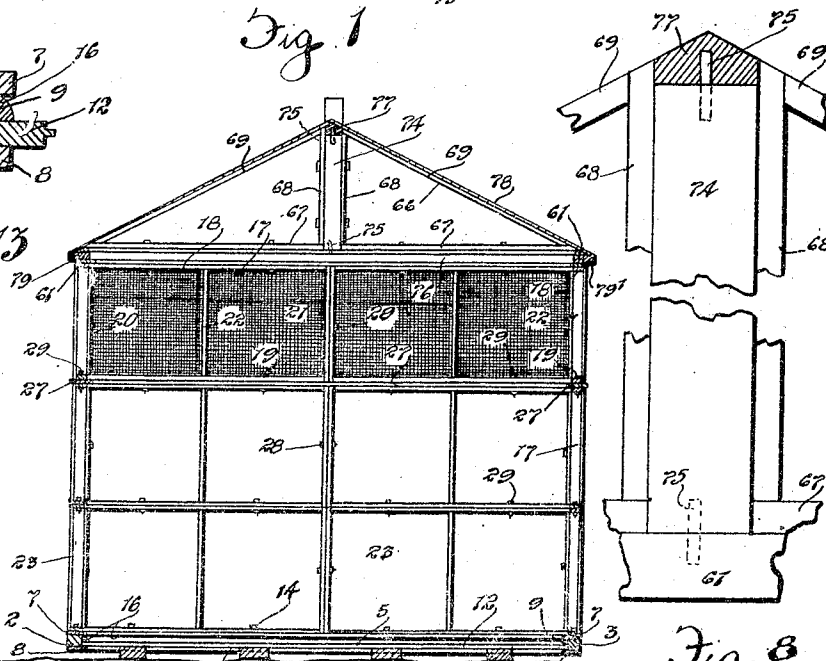


Fig. 3

WITNESSES

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H. B. Wakefield

Fig. 3
By

INVENTOR
N. J. MacDonald

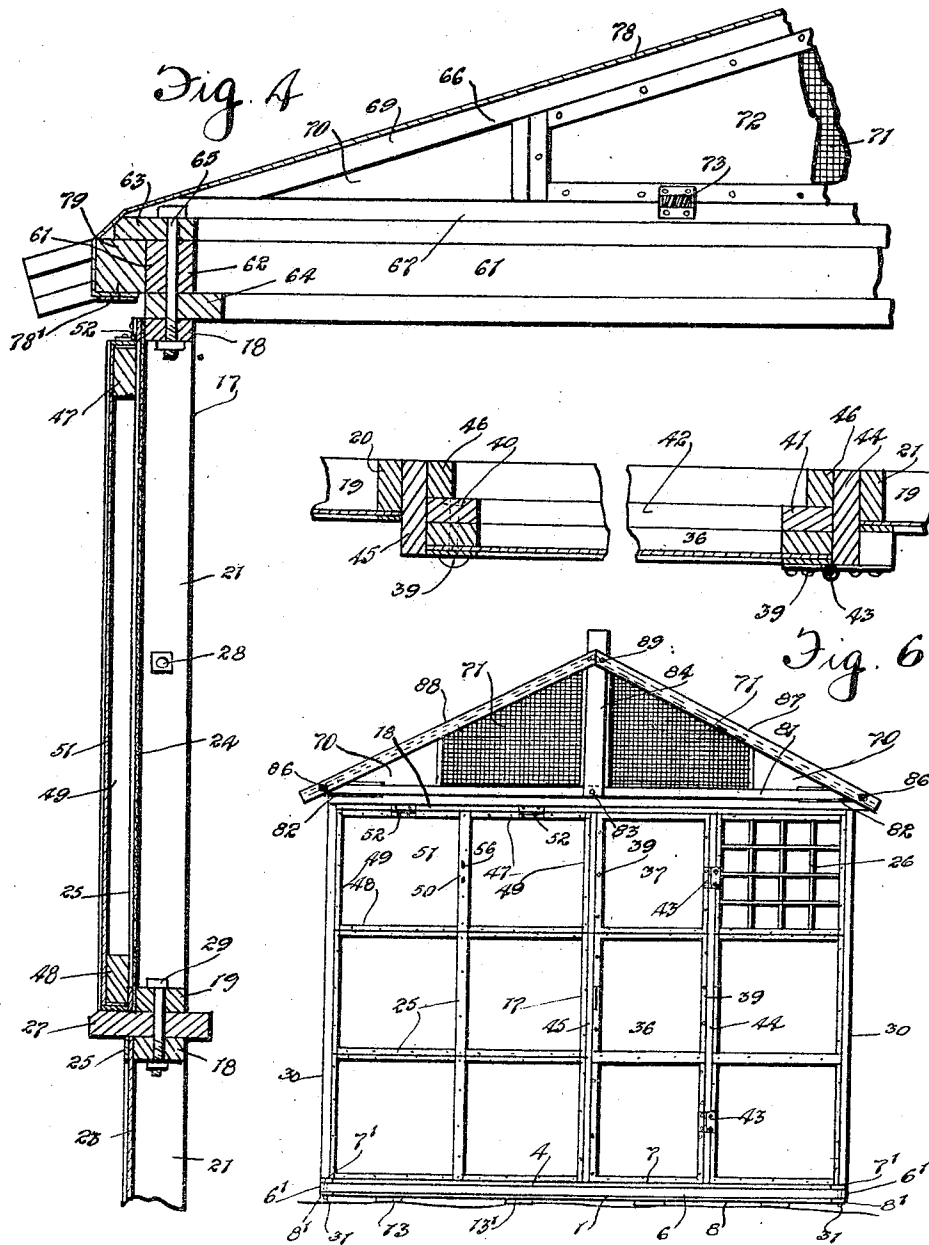
Lehmann & Co. Attorneys

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3 SHEETS—SHEET 2.



WITNESSES

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Fig. 2

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3 SHEETS—SHEET 3.

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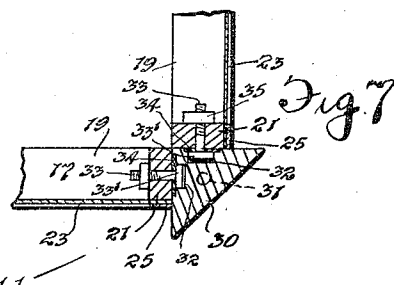
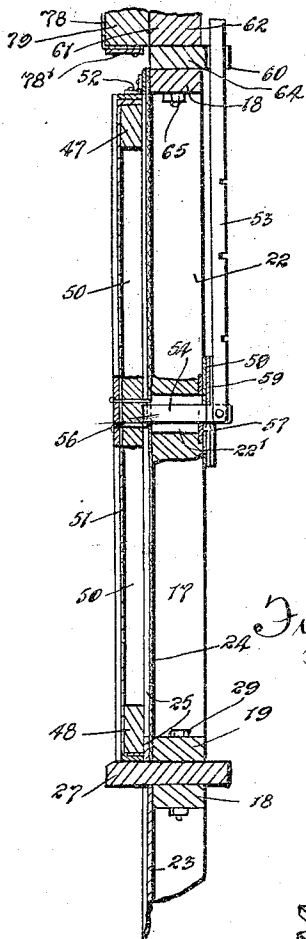


Fig. 5

Fig. 16

Fig. 7

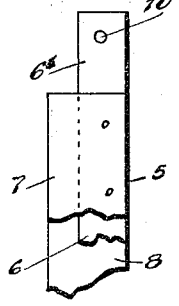
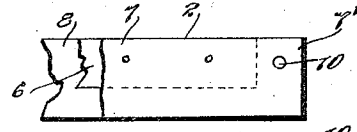
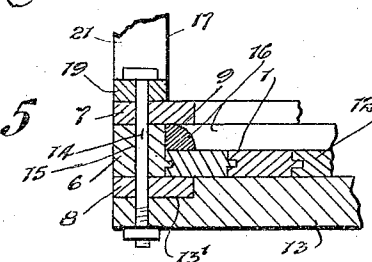


Fig. 12

Fig. 14

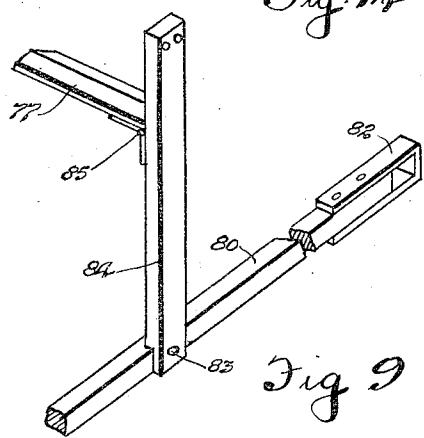
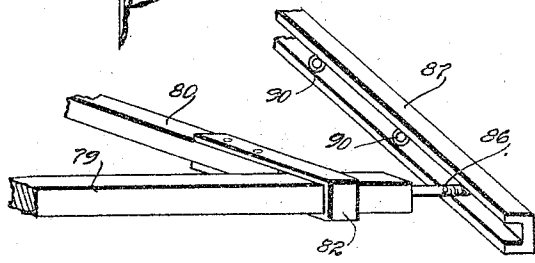


Fig. 10

Fig. 9

WITNESSES

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UNITED STATES PATENT OFFICE.

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PORTABLE HOUSE.

1,297,379.

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To all whom it may concern:

Be it known that I, NORMAN JOHN MACDONALD, of the city of Winnipeg, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Portable Houses, of which the following is the specification.

The invention relates to improvements in portable houses and the principal object of the invention is to provide a sectional portable house which has the sections thereof reversible and for the greater part interchangeable, thereby not only allowing of the quick and easy assembly of the house but also of the compact stacking of the same when disjointed and further which allows of the enlarging of the house in an inexpensive and simple manner.

A further object of the invention is to provide a strongly reinforced portable house having no interior supports from the floor nor outside stays and also one wherein by the interchanging of the sections any desired arrangement of netting or canvas can be had.

A still further object of the invention is to provide a portable house supplied with combination shutter awnings which can be manipulated from the interior of the house and used as awnings when opened or shutters when closed as desired.

A still further object of the invention is to provide a portable house having a canvas roof which can be quickly and easily applied thereon and which, when once applied, cannot be lifted off by the wind.

A still further object of the invention is to provide a knockdown floor for the house which can be readily put together or taken apart as desired and is arranged such that it can be conveniently stored and which is constructed so that when set up it is tightly jointed and presents an attractive appearance.

With the above objects in view the invention consists essentially in the arrangement and construction of parts hereinafter more particularly described and later pointed out in the appended claims, reference being had to the accompanying drawings in which like characters of reference indicate corresponding parts in the several figures.

Figure 1 represents a side view of the erected house, parts being torn away to expose construction.

Fig. 2 represents an end view of the house.

Fig. 3 represents a vertical cross sectional view through the house.

Fig. 4 represents an enlarged detailed vertical sectional view through one side of the house at the roof, the section being taken in the plane denoted by the line X—X' Fig. 1 and looking in the direction indicated by the applied arrow.

Fig. 5 is an enlarged detailed vertical sectional view through a portion of the side of the house, the section passing centrally through one of the combination shutter awnings and certain parts being shown in side elevation.

Fig. 6 is an enlarged detailed horizontal sectional view through the door and door frame.

Fig. 7 represents an enlarged detailed horizontal sectional view through one of the corner posts showing the manner in which the wall sections are attached to the corner posts.

Fig. 8 represents an enlarged detailed face view of one of the roof posts showing the dowel pins at the ends of the post.

Fig. 9 is a perspective view of one of the end posts of the roof, a portion of the ridge pole and a portion of one of the end stretchers.

Fig. 10 represents a perspective view of a portion of one of the roof poles, a portion of the attached end stretcher and a portion of one of the applied peak bars.

Fig. 11 is a perspective view of one of the slides.

Fig. 12 is an enlarged detailed vertical sectional view through the floor, the section being taken at the point where the section fastening bolt passes through the floor.

Fig. 13 represents a sectional view similar to that shown in Fig. 12, the section being taken toward the end of the house and looking toward the corner post.

Fig. 14 represents one of the corners of the floor with the members disjointed.

Referring now to the drawings:—

The floor of the house is indicated generally by the reference numeral 1 and comprises a substantially rectangular frame, floor joists and floor boards arranged and constructed in detail as now described.

The floor frame embodies side members 2 and 3 and end members 4 and 5 all of which are actually constructed from body strips fitted at the upper and lower sides with top and bottom strips 7 and 8. The inner edges

of these latter strips extend beyond the body strips and form in each instance a channel as indicated at 9. The parts forming these members are nailed or otherwise fastened together and they are arranged at the ends so that they can be jointed together in a special way and releasably fastened. The particular type of joint made at the corners between the side and end members is best shown in Fig. 14 of the drawings where it will be observed that the body strip of the end member projects, as shown at 6', beyond the top and bottom strips and is arranged so that it can be inserted between the projecting ends 7' and 8' of the top and bottom strips of the side member. The projected portions of the side and end members are supplied with registering openings 10 to receive a bolt or fastening pin, as the case may be.

An opening 11 is reserved in one of the side members, this being actually formed by cutting away the body strip of said member and through this opening I insert the floor boards 12, which are all of an equal length, and are adapted such that their ends will lie within the channels of the opposing side members of the floor frame.

The floor frame is carried by similar spaced floor joists 13 which have their ends notched or rabbeted away as shown at 13' to receive the lower strips 8 of the side members of the frame, the arrangement being such that the upper faces of the joists lie flush with the upper faces of the strips 8.

As will be observed the floor boards lie at right angles to the joists so that the joists form a good support for the body of the floor. The ends of the joists are fastened to the floor frame by releasable bolts 14 which pass through suitable openings 15 provided at proper intervals in the end members of the frame. Once the floor frame has been set up on the joists one can readily put the floor boards in position by entering them, end on through the opening 11 and passing them sidewise in the channels until the frame is filled. It is desirable prior to inserting the last floor board to taper one end of it so that it can be driven in to its final position. This will insure the tight closure of the cracks in the floor.

After the floor has been laid, filling strips 16 are inserted in the channels between the floor and the top strips 7 of the frame.

On the floor I erect the body of the house embodying side and end walls. These walls are formed from similar interchangeable and reversible sections arranged to butt together and be fastened by bolts as later described.

The principal wall sections are formed from substantially rectangular wooden frames 17, constructed from side pieces 18 and 19 and end pieces 20 and 21 permanently

fastened together at the corners and provided more or less centrally of their length with intervening cross pieces 22. In actual practice these frames are preferably four feet long by two feet wide.

The lower wall sections are covered with a canvas covering 23 and the upper sections with an open wire mesh screen 24, the screens and coverings being fastened to the sections by applying fastening strips 25 which are nailed to the frames through the stretched screen and canvas.

I have stated "principal sections" in the above description for the reason that in completing a house such as the one shown which is eight feet wide by 10 feet long; (this corresponding to the overall dimensions of the floor); it is necessary to provide "filling in" sections of one half the size of the "principal sections," these "filling in" sections being constructed from connected side and end pieces similar to the "principal sections" and being closed by glass as shown at 26 so that they are actually window sections. Associated with the sections I supply girts or reinforcing strips 27 which are placed between the upper sections of the walls and the intermediate sections.

To understand just how the body of this particular house is put together I may explain that seven "principal sections" and a "filling in" or window section are taken to make each of the side walls together with a girt, while six "principal sections" and a girt are utilized to form one of the end walls and four "principal sections," a window section and a girt are utilized to form the other of the end walls, this latter wall having the entrance door therein. The sections so taken are all bolted together at the ends and sides as shown at 28 and 29 the side or vertical bolts of the top sections of the walls passing through the girts 27 which, it will be understood, pass around the house in a location between the uppermost wall sections and those immediately below.

In connection with these girts it will be noticed that they are considerably wider than the members forming the sections so that they project both to the outside and to the inside of the walls and further that one of the end girts has to be cut to allow of the insertion of the door as later described.

The walls are connected at the corners to vertically disposed corner posts 30 which corner posts pass the full height of the sections and are fitted at their lower ends with extending dowel pins 31, these pins being adapted to enter the registering openings 10 at the corners of the floor frame and connect the side and end members of the floor frame.

The manner in which the ends of the walls are fastened to these corner posts is now described.

The corner posts are recessed as indicated

at 32 at suitable intervals and in each recess I insert the head 33' of a corner bolt 33, the head being retained within the recess by applying a fastening plate 34. The projecting end of the bolt is provided with a nut 35 and the bolt is utilized to fasten the end members of the wall sections to the post.

The door is formed from a lower "principal section" 36 and an upper fill-in section 37, both canvas covered as shown at 38 and these two sections are fastened by suitable bolts 39 to upright backing strips 40 and 41 between the ends of which I insert cross strips 42. The door, so formed, is swung by suitable hinges 43 from an upright supporting strip 44 and closes in against a second upright strip 45, these two latter strips being secured to the adjacent wall sections. Jamb strips 46 are supplied on the strips 44 and 45 for the door to close against.

The screened wall sections of the house are fitted with combination awning and shutter frames which are rectangular, being formed from side members 47 and 48 connected by end members 49 and intervening cross members 50. These combination frames are covered with canvas as shown at 51 and are hinged at 52 to the side members 18 of the wall sections. When closed down these combination shutter and awning frames completely close over the wall sections and have their lower edges closing in against the girts 27 as best shown in Figs. 4 and 5 of the drawings.

In order to allow one to adjust the combination shutter and awning frames from the interior of the house I have provided notched levers 53 having pivoted extensions 54 which pass through slots 22' formed in the cross members 22 of the wall frames and have their outer ends fastened, such as by means of staples 56, to the cross members 50, of the combination awning and shutter frames.

Catch plates 57 are supplied on the wall frames so that when the levers are pulled down and pushed through the slots 22' the notches can be caught on the plate to hold the combination frame in a fixed adjusted position.

Channel strips 58 are permanently secured to the wall sections at the points where the extensions pass through and these strips carry slotted slides 59, the slots of which receive the extensions. These slides make it possible to maintain a close fitting joint at all times to the exclusion of insects and flies.

When the combination frames are closed in the levers are preferably swung upwardly as indicated in Fig. 5 of the drawings, their upper ends passing into a notch 60 supplied in the roof structure.

The roof is a canvas one stretched over a

ridge pole and end and center gables, the complete arrangement being as now described.

On the upper edges of the side and end walls of the house I mount side and end substantially Z-shaped wall plates 61, all of which are identical in construction and are formed from body pieces 62 and permanently applied top and bottom strips 63 and 64 the top strips overhanging the outer sides of the body strips, while the bottom strips have their inner edges extending to the inner sides of the body strips.

These wall plates are jointed at the corners in substantially the same manner as the side and end members of the floor frame and they are bolted at suitable intervals and as indicated at 65 to the upper members 18 of the top wall section. On the end wall plates I mount directly the end gables and on the side wall plates I mount the ends of a center gable which gables are all constructed from triangular sections 66, each gable section being actually the half of one of the principal wall sections and being formed from a side member 67, an end member 68 and an inclined connected member 69. The center gable is an open one while the end gables have the acute corners thereof closed with canvas, as shown at 70 (see Fig. 4), and the remaining portions thereof covered over with the wire screen 71.

The screened part of each section is closed by a canvas covered flap 72 fastened to the gable section by spring hinges 73, these hinges holding the flap normally closed but allowing it to be opened at will. Any suitable means, such as a pulling rope, can be used for opening the flaps. Between the gable sections, when set up, I locate in each instance, a roof post 74 which is bolted to the gable sections and is provided at the ends with dowel pins 75, the lower dowel pins of the end roof posts being seated in suitable holes provided in the end wall plates, while the lower dowel pin of the central roof post extends into a suitable hole provided in a cross strip 76 bolted to the central gables and having the ends thereof resting on the side wall plates. The upper ends of the roof posts terminate short of the peaks of the gable sections, to allow of the insertion of a ridge pole 77, which ridge pole receives the projecting ends of the top dowel pins, extends beyond the end gables and has the upper face thereof beveled off to make it flush with the gable sections.

78 represents a canvas roof which canvas roof is stretched over the ridge pole and has the edges thereof permanently fastened as indicated at 78' to roof poles 79 and 79' located at the sides of the side roof rails.

These roof poles project beyond the ends of the canvas and are arranged to lie normally, directly underneath the outwardly

overhanging portions of the side wall plates. They are connected at the ends of the house by end stretchers 80 and 81 which are fastened to the roof poles by means of straps 5 82, these straps being fastened to the ends of the stretchers and being arranged that they just nicely allow of the entrance of the end of the roof poles. Centrally to the stretchers I secure, such as by bolts 83, end 10 posts 84 which project upwardly beyond the ends of the ridge pole to which they are fastened by hinges 85.

The ends of the roof poles are provided with extending threaded end studs 86 on 15 which I mount the outer ends of inclined channel shaped peak rails 87 and 88, the upper ends of which meet on the end posts directly opposite the ends of the ridge pole where they are fastened by bolts 89.

20 The channels of these peak rails are turned inwardly and they are provided with eyes 90.

The ends of the canvas roof are laced as indicated at 91 to the eyes, this arrangement allowing me to stretch the canvas in an easy 25 and efficient manner endwise.

When the canvas roof is to be put on the otherwise erected house it is spread over the ridge pole and the end stretchers are applied initially on one of the roof poles and the free 30 ends thereof are then raised up until the straps can be slipped over the ends of the other roof pole. this of course taking place before the peak bars are put in position. A fterward one applies the peak bars and then 35 laces the ends of the canvas roof to them to stretch the roof properly.

From the above description it can be readily seen that this house can be put up or 40 taken down very quickly and that it can be made comparatively light as the sections when bolted together reinforce one another, while the girts, wall plates, floor frame and corner posts give rigidity to the walls.

Further it will be observed that owing to 45 the sections being in all cases either full or half sections they can be easily and conveniently stored and further, owing to the regularity of the sections they can be interchanged in their several places, that is to 50 say, the principal sections are interchangeable as are also the fill-in and gable sections.

When the house is taken down owing to the regularity of its construction it can be readily crated if desired to transport it from 55 place to place.

While I have described certain sections as canvas covered, while others are screen I wish it to be understood that these can be varied at will to suit the requirements of 60 the individual and while one door has been shown, a number of doors can be put in if wanted.

What I claim as my invention is:—

1. In a portable house the combination 65 with side and end walls, of a roof structure

embodying wall plates detachably secured to the tops of the side and end walls, said wall plates presenting overhanging top strips, a ridge pole located at the peaks of the gables, a covering applied over the ridge 70 pole and the gables, roof poles secured to the sides of the covering and located normally underneath the overhanging portions of the side wall plates and means for retaining the roof poles in position beneath 75 the top strips of the side wall plates.

2. In a portable house the combination with side and end walls, of a roof structure embodying wall plates detachably secured to the tops of the side and end walls, said 80 wall plates presenting overhanging top strips, a ridge pole located at the peaks of the gables, a covering applied over the ridge pole and the gables, roof poles secured to the sides of the covering and located nor- 85 mally underneath the overhanging portions of the side wall plates and stretchers connecting the projected ends of the roof poles.

3. In a portable house the combination with side and end walls, of a roof structure 90 embodying wall plates detachably secured to the tops of the side and end walls, said wall plates presenting overhanging top strips, a ridge pole located at the peaks of the gables, a covering applied over 95 the ridge pole and the gables, roof poles secured to the sides of the covering and located normally underneath the overhanging portions of the side wall plates, stretchers interposed between the projected ends of the 100 roof poles and straps carried by the ends of the stretchers and receiving the projected ends of the roof poles.

4. In a portable house the combination with side and end walls, of a roof structure 105 embodying wall plates detachably secured to the tops of the side and end walls, said wall plates presenting overhanging top strips, a ridge pole located at the peaks of the gables, a covering applied over the ridge pole and the 110 gables, roof poles secured to the sides of the covering and located normally underneath the overhanging portions of the side wall plates, stretchers connecting the projected ends of the roof poles, peak rails extending 115 between the projected ends of the roof poles and the ridge pole and a lacing connecting the peak rails with the ends of the covering.

5. In a portable house the combination with side and end walls, of a roof structure 120 embodying wall plates detachably secured to the tops of the side and end walls, said wall plates presenting overhanging top strips, a ridge pole located at the peaks of the gables, a covering applied over the ridge 125 pole and the gables, roof poles secured to the sides of the covering and located normally underneath the overhanging portions of the side wall plates, stretchers connecting the projected ends of the roof poles, end posts 130

detachably secured centrally to the stretchers
and having the upper portions thereof con-
nected to the projected ends of the ridge
pole, peak rails detachable secured to the
5 projected ends of the roof poles and to the
end posts and a lacing connecting the ends
of the covering with the peak rails.

Signed at Winnipeg, this 7th day of July
1916.

NORMAN JOHN MACDONALD.

In the presence of—
G. S. ROXBURGH,
ROLAND FOSTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."