No. 788,445. PATENTED APR. 25, 1905.

G. N. WHITE.

PORTABLE HOUSE.

APPLICATION FILED MAY 19, 1904.

2 SHEETS—SHEET 1.

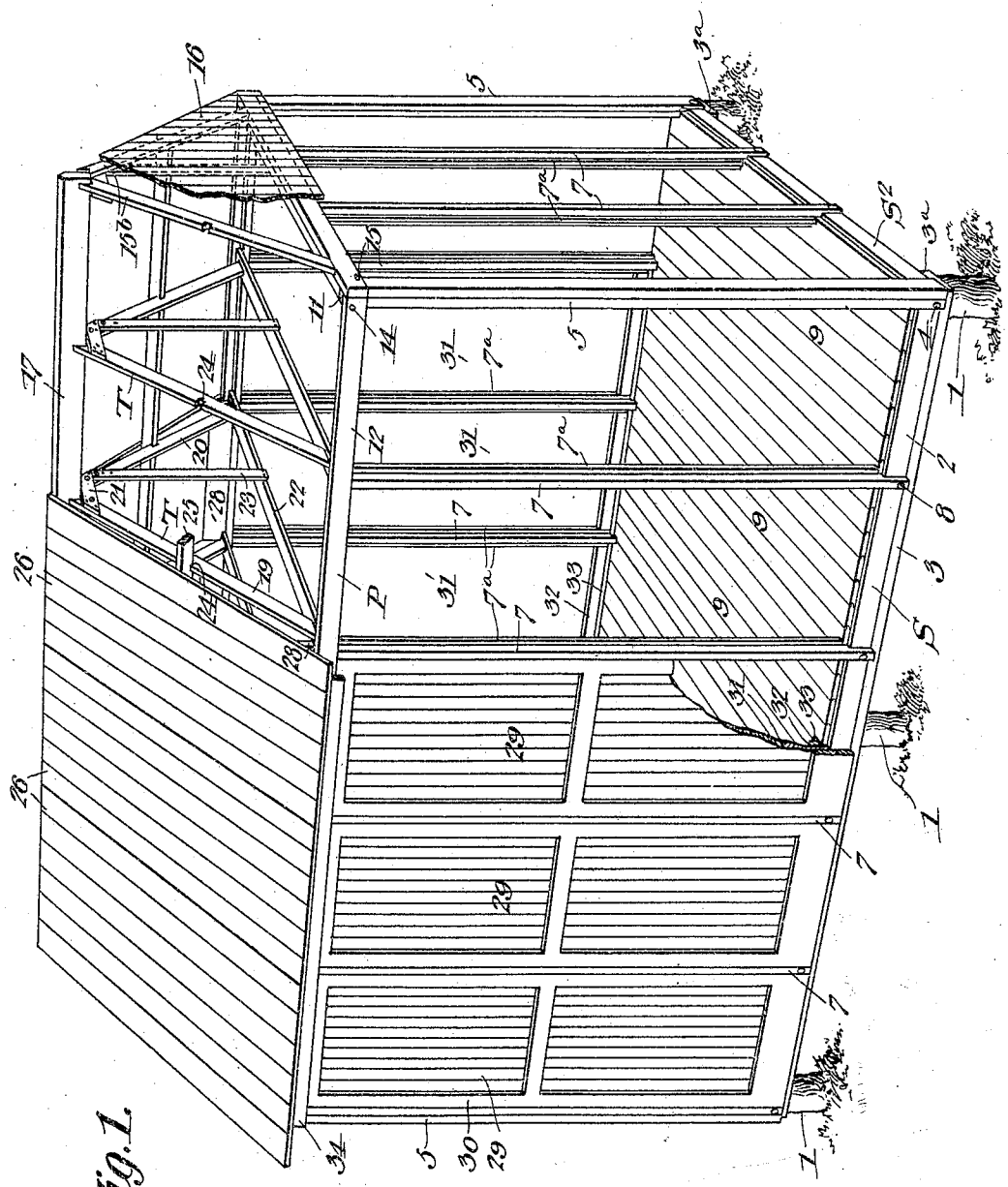


Fig. 1.

Witnesses
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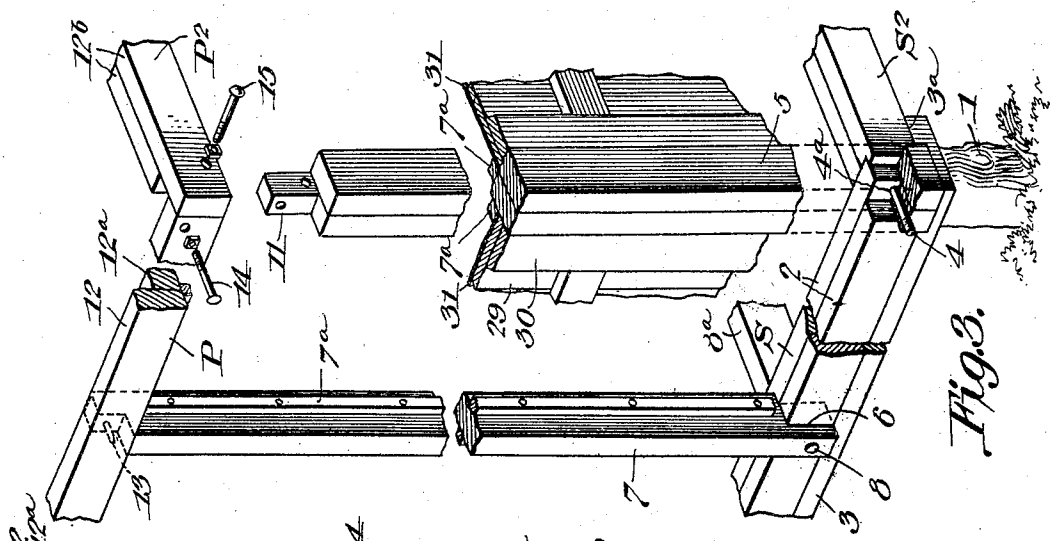


Fig. 3.

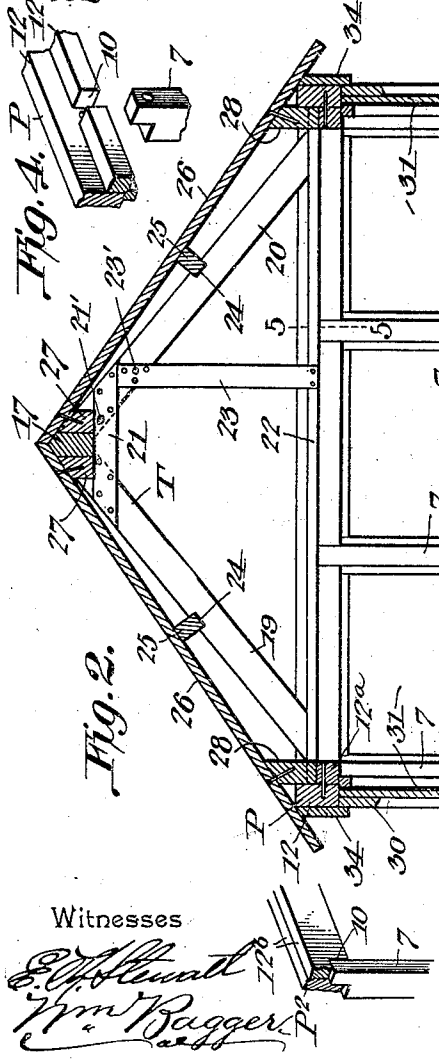


Fig. 4.

Fig. 2.

Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE N. WHITE, OF COLORADO SPRINGS, COLORADO.

PORTABLE HOUSE.

SPECIFICATION forming part of Letters Patent No. 788,445, dated April 25, 1905.

Application filed May 19, 1904. Serial No. 208,749.

To all whom it may concern:

Be it known that I, GEORGE N. WHITE, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Portable House, of which the following is a specification.

This invention relates to portable houses of the type in which the house is made up of a plurality of frame members and sections adapted for ready attachment to the frame members to form the siding and roof of the house.

Generally stated, the object of the invention is to provide an improved portable house characterized by great simplicity of construction, ease of assembling and disassembling the parts thereof, and perfect rigidity and stability when the house is set up and all the parts are properly secured in position.

As is well known, portable houses have long been in use in which the framework of the house is so constructed that it may be readily set up or knocked down, as required, and the siding and roof so secured upon the framework that it is easy to detach both roof and siding when it is desired to transport the house to any locality. In such structures some of the principal practical difficulties to be overcome are the leaky joints in the roof and siding, insecurity of fastening where the frame members are connected and the roof and siding joined thereto, and difficulty of separating the various parts of the house structure when it is desired to knock down the structure for transportation. In the portable house which forms the subject of the present invention these difficulties have been overcome, and at the same time a structure has been produced which is well adapted to the purpose for which it is intended, is durable, and is susceptible of considerable modification after erection without entirely dismantling the structure.

In order to enable others to understand the invention, I will now proceed to describe its embodiment in a comparatively simple form of house, reference being had to the accompanying drawings, in which the construction of the house is fully illustrated, it being understood that the plan of the house may be greatly altered without departing from the spirit of the invention or sacrificing the advantages thereof.

In the accompanying drawings, Figure 1 is a perspective view of a portable house constructed in accordance with the invention, portions of the roof, sides, and floor being removed in order to more clearly illustrate the construction. Fig. 2 is a transverse sectional elevation of the house. Fig. 3 is a perspective detail view showing one of the corner-posts and one of the adjacent uprights, together with the sills, plates, and related parts, parts having been broken away for the purpose of making the construction clear. Fig. 4 is a perspective view showing the inner side of a portion of one of the side plates and the upper end of one of the uprights. Fig. 5 is a sectional detail view taken on the line 5 5 in Fig. 2.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference throughout, the blocks 1, which must, of course, be suitably leveled, form the supporting structure for the entire house, which is erected thereon in the manner now to be explained. After the blocks 1 have been set in position or any other preferred form of foundation erected and leveled the sills S, S^2, forming the supports for the uprights of the house-frame, are placed in position upon the foundation and the corner-uprights set in position and secured. The side sills S and the end sills S^2 are substantially similar, each being formed, preferably, of two timbers 2 2, two inches thick and four inches wide, nailed together, the members of the side sills being secured upon a timber 3 two inches thick and six inches wide. Each of the end sills S^2 is preferably provided at each end with a bolt 4, which is secured between the two timbers of the sill and projects beyond the end of the latter. Each of the side sills has the inner timber 2 thereof extended beyond the outer timber at each end and has an opening 4^a formed in each extension for the reception of one of the bolts 4. The ends of the side and end sills are cut, as shown in Fig. 3, in order to permit the formation of a joint

with one of the corner-uprights 5 by means of the bolt 4, the ends of the end sills being supported upon the flanges formed by the projecting parts of the members 3 of the side sills. The corner-posts 5 are provided at their lower ends with recesses to receive the extensions of the side sills, said recesses being so formed that the corner-post shall overhang the sills about seven-eighths of an inch and are transversely bored to receive the bolts 4, projecting from the ends of the end sills. Owing to this construction of the end and side sills and the corner-uprights of the house, which has been clearly shown in Fig. 3 of the drawings, a single bolt serves at each corner to hold the two sills and upright in rigid association.

Both the end and side sills are provided at suitable intervals on their outer surfaces with recesses 6 to receive the lower ends of the uprights 7, which are arranged intermediate of the ends of the sills and are secured in position as shown in Fig. 3. The side uprights 7 are preferably constructed each of a two-by-four timber, said timbers being notched or recessed at their lower ends to engage the recesses 6 in the sills with which said uprights are thus framed together, the outer edges of the uprights being extended about seven-eighths of an inch beyond the sills. The upper ends of said timbers or posts are to be likewise recessed in order to enable them to be framed to the plates, as will be understood. To each side of each of the uprights 7, as well as to the corner-posts, is nailed a one by one inch strip 7^a, to which the wall-sections of the building are to be attached, as will be hereinafter described.

The sills and uprights of the house-frame having been placed in position and secured together in the manner above outlined, the floor will ordinarily be laid before the construction of the frame is carried further. The joists 8^a of the floor are supported upon the flanges 3^a, formed by the projecting inner edges of the members 3 of the side sills, with their upper surfaces flush with the upper surfaces of the sills, so that the floor will extend from the joists over the sills. The floor-sections 9 are preferably made of matched flooring of any suitable thickness, connected by battens 9^a, and are laid so that the outer edges of the floor lie, preferably, three-quarters of an inch from the outer edges of the sills for the purpose of enabling the side sections to be supported upon the sills, as will presently appear.

It is not essential that a house constructed in accordance with this invention shall be provided with floors; but a floor is desirable if the house is to be occupied as a dwelling, and the floor adds considerably to the stability of the house, as its weight is the main factor in preventing the overthrowing of the house if exposed to hard winds.

At the tops of the upright members of the house-frame I secure plates P P^2. The side plates P each consist of two timbers 12 12^a, the outer one of which, 12, is two by four inches and the inner one of which, 12^a, is about two by two inches. The end plates P^2 are each composed of two timbers 12^b, each two by four inches, the same being securely nailed or bolted together, as are the timbers composing the side plates. The side plates P and end plates P^2 are both provided along their inner surfaces with recesses 10 to receive the upper ends of the side uprights, which are secured in position with bolts 13, and the ends of the side and end plates are provided with extensions of their outer timbers, as shown in Fig. 3, adapted to be secured in position to the upper ends of the corner-uprights, which are trimmed to form tenons 11, by means of bolts 14 and 15 extending transversely through the upper end of each tenon and through the extensions of the side and end plates. The plates, it will be seen, rest squarely upon the upper ends of the corner-posts, and their outer edges are set out about seven-eighths of an inch beyond the outer edges of the sills, thus maintaining the corner-posts plumb.

The side and end plates having been secured in position upon the frame or uprights, the construction of the house can be carried forward by placing the roof in position or by attaching the sections of siding to the frame, as may be desired. Ordinarily the sections of the siding at all the corners of the house are next put in position between the posts and uprights and are then nailed to the strips 7^a upon said posts and uprights. The corner-sections of the siding serve to brace the house-frame, so that it will not be distorted when the weight of the roof is imposed thereon, and the openings left where the other sections of siding are to be secured enable the builder to have easy access to any part of the house while completing its construction.

In erecting the roof the gable ends 16 are first placed in position and nailed firmly to the outer sides of the end plates. Each gable end is of substantial triangular form, and the outer surface of the gable is formed, preferably, of matched boards secured to battens 15^b and extending downward outside of the end plates upon which the gable is supported. After the gable ends have been erected and secured the roof-trusses are set up between the gable ends, one truss being placed ordinarily at every four feet and the ends of each truss resting above a pair of side uprights in the house-frame. Each truss is generally designated as T and is preferably made up of two rafters 19 and 20, which are connected by means of a cross-piece 21, which is rigidly secured to the rafter 19 near its upper end and is connected by a pivot 21′ with the rafter 20 at a corresponding point, so that the rafter 20 may be folded upon the rafter 19 when the

trusses are removed from the house-frame for transportation. The rafters 19 and 20 are mounted upon a base-piece 22 and are braced by an upright member 23, suitably pivoted at 23′ to the rafter 20 beneath its point of attachment to the cross-piece 21 and detachably secured at its lower end to the base-piece. The rafters 19 and 20 are notched on their outer surfaces, as shown at 24, for the reception of purlins 25, which afford support for the roof-sections. After the trusses have all been set up and secured in position the ridge-pole 17 is set in the notches or recesses provided therefor at the tops of the gables and the trusses.

The ridge-pole having been secured in position, the house is ready to receive the roof-sections 26, each of which is made up of suitable material, such as matched boards, and is provided near its upper end with a transverse cleat 27 for contact with the ridge-pole and is provided near its lower end with a transverse cleat 28 to engage the inner surface of the outer member 12 of one of the side plates P of the house-frame. In order to secure the roof-sections in position, each must be pushed upward over one of the side plates until the cleat 28 is passed over the outer member of the side plate, and the upper end of the roof-sections rests upon the ridge-pole. Then the roof-section is allowed to slide back until the cleat 28 comes into contact with the inner surface of the side plate and the cleat 27 slips down along the side of the ridge-pole, as best seen in Fig. 2. When the roof-sections rest with their upper ends upon the ridge-pole and their lower ends upon the side plates, with the cleats 28 in contact with the side plate, they will resist ordinary strain without other securing means; but in order to prevent any possible displacement of the roof-sections they may be secured in position by means of nails and the like driven into the ridge-pole and the adjacent cleats of the roof-sections and into the side plates and the cleats adjacent thereto.

After the roof-sections have all been secured in position the side sections to complete the side walls of the house are set up and nailed to the strips 7^a on the said uprights and corner-posts. Then the crest or cap and gable ornaments when used are fixed in position upon the roof and the house will be completed except for interior walls.

The side sections 29 are all of the same dimensions and are constructed of frames 30, with other materials secured therein, such as match-boards, canvas, glass, or wire-gauze. When made of matched boards, a lining 31 of waterproof paper or other suitable material is preferably employed. Even the sections in which doors D or windows W are secured are of exactly the same dimensions as the other side sections, so as to be interchangeable therewith and to permit the shifting of the doors or windows at will. The roof-sections are made of the same width as the side sections, so that the roof-trusses may correspond in position to the side uprights of the roof-frame, and the sections forming the partitions within the house, if any are used, are also of the same dimensions as the sections forming the side walls and may, in fact, be constructed in the same manner as the side sections. The floor is also made in sections, which are preferably so arranged that the joints will come beneath sections inside the house.

In order to make the house proof against the entrance of air or water, the side sections 29 are preferably constructed as illustrated in Figs. 1 and 2. The bottom of the frame 30 of each side section proper is adapted to rest against the outer surface of one of the sills of the house-frame, the filling 29 being made to rest upon the sill between the strips 7^a and under the plate, the frame being nailed onto the strips 7^a and to the sill, as will be readily understood. A mop-board 32 is nailed to the inner surface of the side sections adjacent to the floor-sections, which are thereby secured. A quarter-round finishing-strip 33 may also be used, if desired. At the upper ends the side sections contact with the plates secured upon the upper ends of the frame-standards, and the joints of the side sections with these plates are covered by the boarding of the gable ends or by boards 34, extending longitudinally of the house immediately under the eaves of the roof.

When it is desired to make hollow walls in order to secure greater warmth, side sections similar to those above described may be secured on the inside of the house, so inclosing an air-space between the outer side sections and the inner ones.

From the foregoing description it will be clearly seen that the parts of the improved portable house are of such character that they can be quickly assembled and so secured as to form a thoroughly rigid and durable structure. It will also be noted that no special apparatus is required in removing and disassembling the parts of the house, as the fastening means employed are ordinary carriage-bolts, common wood-screws, or nails of suitable sizes, the nails being always driven in only to such a distance as may be necessary to hold the parts in proper association and leaving the heads of the nails projecting sufficiently to permit them to be readily engaged by a hammer-claw or other nail-extracting device. It will also be noted that the parts of the house are interchangeable to a great extent, the side posts of the frame being all alike, the roof-trusses being similar. The floor-sections, side sections, and the roof-sections also are for the most part interchangeable. By making the parts interchangeable in this way the ease with which the house

may be set up is greatly increased and a minimum of time is required in fitting parts into proper position.

Having thus described the invention, what is claimed is—

1. In a portable house, a sill having a bolt projecting from the end thereof, a second sill having a transversely-bored extension through which said bolt passes, the second sill being disposed at right angles to the first sill, and a corner-upright having a transverse bore for the reception of said bolt and having a recess formed in the lower end thereof for the reception of the extension of the second sill.

2. In a portable house, the combination with sills recessed on their outer surfaces, of top frame-plates recessed on their inner surfaces and side uprights having downward extensions at their lower ends to engage the recesses in the sills and upward extensions at their upper ends to engage the recesses in the top frame-plates, and bolts extending transversely through said side uprights and said sills and bolts extending through said side uprights and said top frame-plates to hold said side uprights in association with said sills and said top frame-plates.

3. In a portable house, sills having inwardly-extending ledges or flanges, joists supported upon said flanges, floor-sections supported upon said joists and upon the upper surfaces of the sills, said floor-sections having cleats upon their under sides and said floor-sections terminating at a distance from the outer edges of the latter, corner posts and uprights supported upon the sills, plates supported by said corner posts and uprights, and side sections supported upon the sills exteriorly of the floor-sections and having their upper ends extended under the plates.

4. In a portable house, a frame including sills, corner posts and uprights connected at their lower ends with the sills and set out beyond and overhanging the latter, plates supported squarely upon the corner posts and uprights, vertical side strips upon said corner posts and uprights, and side sections consisting of frames having a filling supported upon the sills, the lower ends of said frame abutting upon the outer sides of the sills and the upper ends of said frames being projected under the plates, means for securing said frames to the vertical side strips of the corner posts and uprights and strips secured to the plates and overlapping the upper ends of the frames of the side sections.

5. In a portable house, the combination with a frame including plates, each consisting of two members, the outer one of which is wider than, and extended above, the inner member, of a roof-supporting structure comprising a plurality of roof-trusses and a ridge-pole, and a roof composed of sections, each having near its upper end a cleat adapted to contact with the side of the ridge-pole and having near its lower edge a second cleat adapted to rest upon the inner member and to bear against the outer member of the plate.

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

GEORGE N. WHITE.

Witnesses:
H. H. McINDOO,
C. E. OLMSTEAD.