

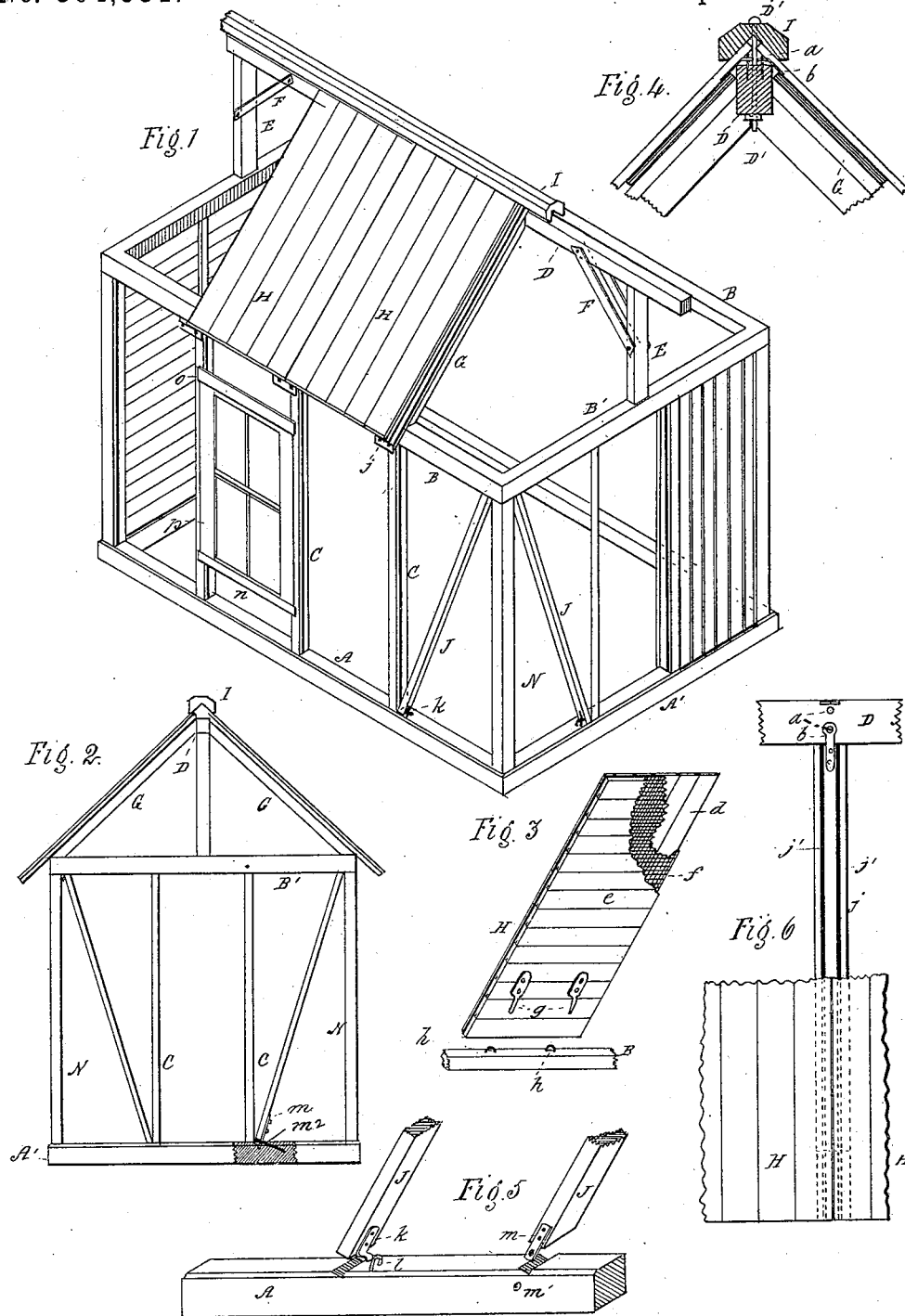
(No Model.)

2 Sheets—Sheet 1.

E. LEE.  
PORTABLE HOUSE.

No. 304,531.

Patented Sept. 2, 1884.



Witnesses:  
M. H. Ripping  
Aubrey C. Wilson

Inventor:  
Earl Lee,  
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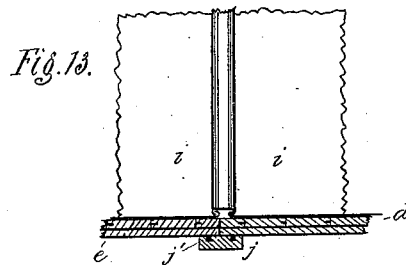
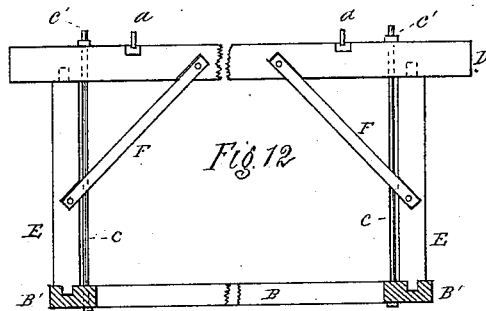
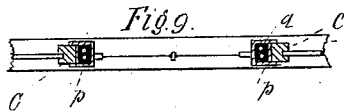
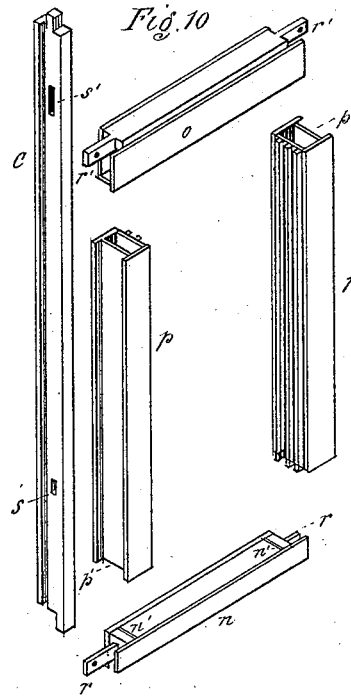
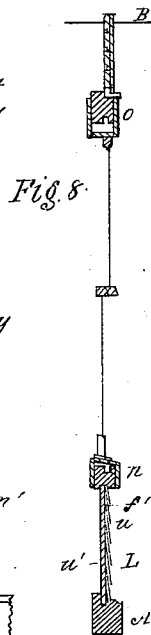
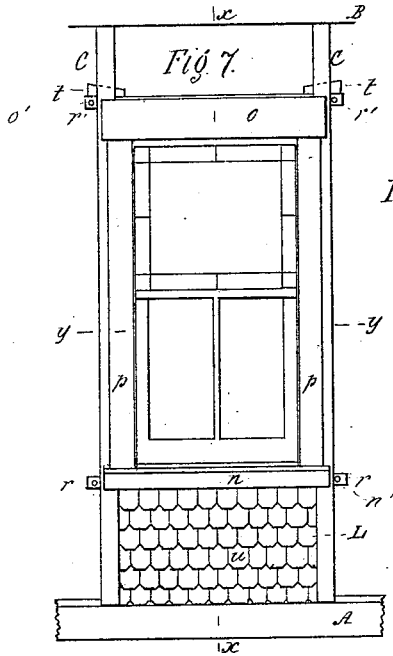
(No Model.)

2 Sheets—Sheet 2.

E. LEE.  
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# UNITED STATES PATENT OFFICE.

EARL LEE, OF CORONA, NEW YORK.

## PORTABLE HOUSE.

SPECIFICATION forming part of Letters Patent No. 304,531, dated September 2, 1884.

Application filed December 29, 1883. (No model.)

### *To all whom it may concern:*

Be it known that I, EARL LEE, of Corona, in the county of Queens and State of New York, have invented new and useful Improvements in Portable Houses; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, on two sheets, which form a part of this specification.

My said invention consists in the improved constructions of parts of a portable house, all of which, as well as the objects and purposes thereof, are hereinafter particularly set forth and described.

In the accompanying drawings, on Sheet No. 1, Figure 1 is an isometrical perspective of parts of a house with my improvements. Fig. 2 is an end elevation of the same; Fig. 3, a view of the under surface of a portion of the roof; Fig. 4, a sectional view of the ridge; Fig. 5, a plan view showing the construction and mode of applying the braces; and Fig. 6, a plan view of a rafter, the three last-named figures being on an enlarged scale. On Sheet No. 2, Fig. 7 is a front elevation of one of the windows. Figs. 8 and 9 are sections of the same, taken on the lines *x x* and *y y*, respectively; and Figs. 10 to 13, inclusive, are details, hereinafter explained, all on an enlarged scale.

Similar letters of reference indicate the same parts in all the several figures.

A and A' are the side and end sills; B and B', the side and end plates; C C, the studs. D is the ridge-beam.

One of my improvements relates to the construction of the ridge and the mode of attaching the rafters thereto. E E are posts, the lower ends of which are fitted into mortises in the end plates, B', at the center thereof, and their upper ends fitted into mortises on the under side of the ridge-piece D; and F F are braces, the lower ends of which are secured to the uprights E E and their upper ends to the ridge D. These braces are pivoted or hinged at their upper ends to the ridge D, so that they will lie parallel with said ridge for convenience and compactness in transportation, and will swing downward, so that when their lower ends are secured to the posts E the latter will stand at right angles to the ridge. Metal pins *a a* are driven into the upper side of the ridge-

piece D, and upon the upper ends of the rafters G are provided metal straps *b*, having perforations to receive the pins *a*, and the rafters G are attached to the ridge by passing said straps over the pins *a a*, the body of the rafter forming a brace between the plate B and the ridge-piece D. By these means the roof is firmly braced both longitudinally and laterally. A metal rod, *c*, is passed through each plate B and the ridge-piece D, and provided with a screw-thread and a nut, *c'*, at its upper end, by means of which the parts are tightened up after being placed in position. (See Fig. 12.) If desired, the straps on the upper ends of oppositely-located rafters may be attached to the same pin, *a*, one above the other, instead of using a separate pin for each. Thus constructed, the roof-timbers can be readily taken apart and closely packed for transportation.

Another of my said improvements relates to the construction of the roof, the same being made in sections or panels H, constructed as follows: *d d* are thin boards joined together by tongues and grooves, and *e e* another series of thin boards, also joined by tongues and grooves, and *f* is a sheet of water-proof paper or felt interposed between the two series of boards *d* and *e*, which latter are placed at right angles to each other, as shown in Fig. 3, and nailed together with clinch-nails. The roof thus constructed is made in sections or panels extending from the ridge to the eaves lengthwise, and of such width as to fit between the centers of adjoining rafters G, upon which latter they are laid, as shown in Fig. 6. Near the lower edges, on their under surface, are provided clips *g*, in such position that they will enter loops or staples *h*, secured to the plate B when the panel is placed in position, thus fastening down the lower end of the panel, its upper end being secured in position by the cap-piece I, after all the panels have been laid on. As a modification of the construction of the panels they may be formed of the two series of boards joined at right angles, as above described, and covered with tin or thin sheets of galvanized iron *i*, as shown in Fig. 13. The panels above described may be used for the siding by making them of proper length to extend from the plates B B' to the sills A A', and of proper width to extend between adjoining studs *c*,

grooves being provided on the under side of the plates to receive the upper ends of the panels, and on the sides of the studs to receive the sides of the same.

5 Another of my improvements relates to the construction of the rafters G, and is as follows: On the upper side of the rafter I secure a cap-piece, *j*, having two longitudinal grooves, *j' j'*, running along its entire length, and each about  
10 midway between its center and one of the upper edges. These are for the purpose of catching and carrying to the eaves any water that may pass between adjoining panels H, which latter are simply laid upon the rafters, as above  
15 described. The necessity for any covering of of said joints is thereby obviated, and the removal of the roof is greatly facilitated whenever the house is to be taken down. This construction is most plainly shown in Fig. 11, which  
20 represents a transverse section of a rafter and adjoining panels.

Another of my improvements relates to the bracing of the sills, plates, and corner-posts, and is for the purpose of dispensing with the  
25 use of bracing-rods. To the upper and lower ends of braces J, I attach hooks *k* and *k* in such position that their free ends will pass through loops or staples *l* and *l*, secured to the plates B B' and sills A or A', respectively, thereby  
30 forming a strut and brace, which effectually prevents the plates B B' from moving in any direction. This is most plainly shown in Fig. 5, which represents a portion of a sill and the lower end of a strut or brace J. The upper  
35 end of the latter is similarly provided with a hook, *k*, and a staple, *l*, is secured to the plate to receive the same. As a modification, a plate, *m*, may be substituted for the hook, said plate having a perforation, *m'*, to receive a  
40 bolt passed through it and the sill, as shown at the right of said Fig. 5.

Another of my improvements relates to the construction of the window-frames for the purpose of adapting the same to be taken apart, so  
45 that they can be compactly arranged for transportation. In order to accomplish this, the sill *n*, head-piece *o*, and side pieces, *p p*, are made separate and detachable, as shown in Fig. 10. The side pieces, *p*, are made hollow to admit  
50 the usual sash-weights, *q*, and are formed with recesses *p' p'*, the edges of which overlap the studs C, between which the window is fitted and secured. Projecting pieces or tongues *r* and *r'* are formed on each side of the sill *n*  
55 and head-piece *o*, which are passed through mortises *s s'*, respectively, formed in the studs C, and secured by pins or bolts *n'* and *o'*. The sill being thus secured to the studs, the head-piece is placed in position over the side pieces  
60 and pinned, after which the parts are tightened up by means of wedges *t t*, which are passed through the mortises *s s'*. The upper and lower ends of the side pieces may be made to fit into suitable depressions or stub-mor-  
65 tises, *n'*, on the sill *n* and head-piece *o*, to pre-

vent them moving laterally. The door-frames may be constructed in similar manner, if desired.

L represents an improved form of ornamental panel, which I place under the win-  
70 dows or in similar positions, but which I do not claim as part of my present invention. Said panels are composed of shingles *u*, nailed to a wooden back of thin boards, *u'*, with  
75 clinch-nails, which boards are fitted at their edges into grooves in the studs and plates. A sheet of felt, *f'*, is interposed.

I may state that the whole or any portions of the siding and roof may be composed of  
80 panels constructed, as just described, in imitation of the Swiss cottage architecture. After all the roof-panels have been placed in position and the cap-piece I put on, the latter is bolted down to the ridge-piece D by means of  
85 a bolt, D', having a nut and screw-threads at its lower end.

As a modification of the devices for attaching the strut-braces J to the sill, the plate *m* (shown in Fig. 5) may be attached to the under side of the brace, and its perforation be  
90 located in proper position to receive a pin, *m'*, fixed in the sill, as shown in Fig. 2.

What I claim as my invention is—

1. In combination with the ridge-piece D, uprights E E, plates B and B', and rafters G,  
95 the braces F F, pivoted to the ridge-piece D, as described, for the purpose set forth.

2. The roof-panels H, composed of the tongued and grooved boards *d* and *e*, crossing  
100 each other, and a sheet of felt, *f*, or similar material interposed between, and provided with the clips *g*, adapted to engage with the staples *h*, fixed in the side plate, B, as and for the purpose set forth.

3. In a roof, the combination of the rafters  
105 G, provided with cap-pieces *j*, having longitudinal grooves *j' j'*, extending their entire length, and the roof-sections H, as shown and described.

4. In combination with the sills A A', plates  
110 B B', and posts N, the strut-braces J, provided with the hooks *k k*, adapted to engage with loops or staples fixed in said plates and sills, respectively, as and for the purpose set forth.

5. The detachable window-frame herein described, composed of the sill *n*, head-piece *o*,  
115 and side pieces, *p p*, each constructed substantially as described, and adapted to be pinned and wedged to the studs C C, as and for the purpose set forth.

6. In combination with the ridge-cap I, plate  
120 B, and rafters G, each having a cap-piece, *j*, with longitudinal grooves *j' j'*, as described, the roof-panels H, having clips *g*, adapted to engage with staples *h* on said plate B, as and  
125 for the purpose set forth.

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Witnesses:

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