July 7, 1953 H. R. DAVIS 2,644,204

WOOD WALL STRUCTURE

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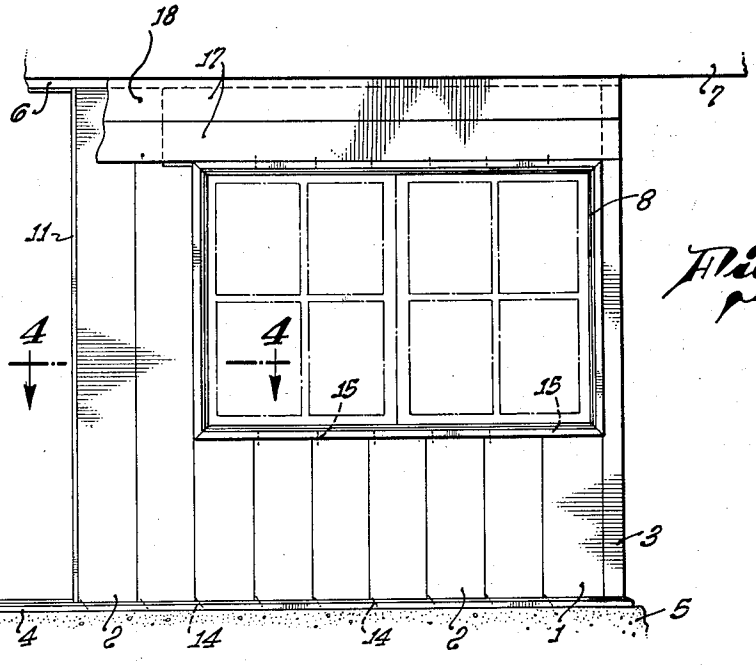


Fig. 1.

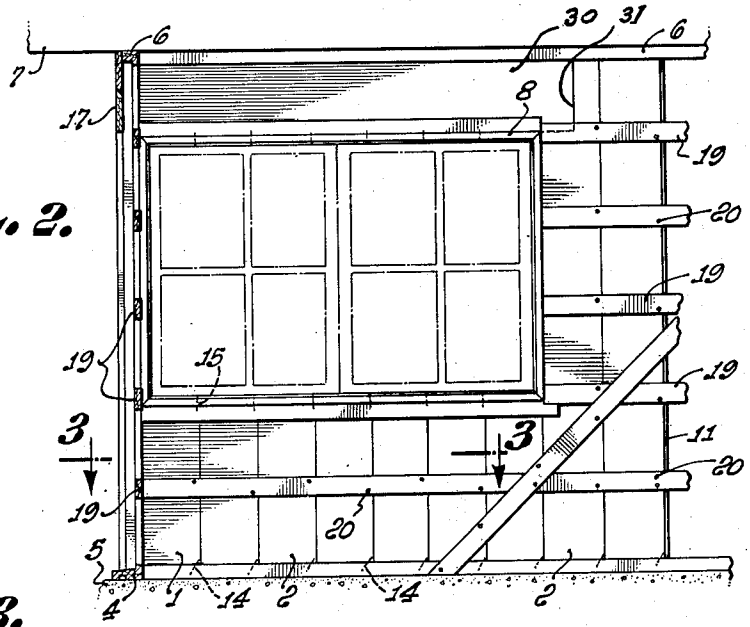
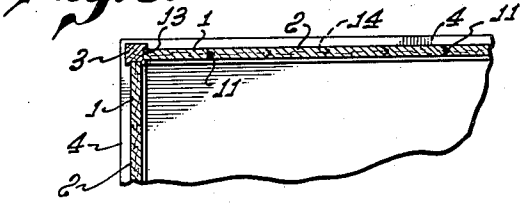


Fig. 2.

Fig. 3.



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Fig. 4.

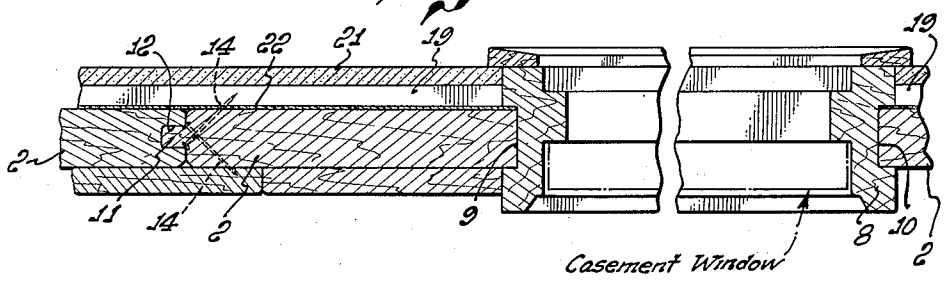


Fig. 5.

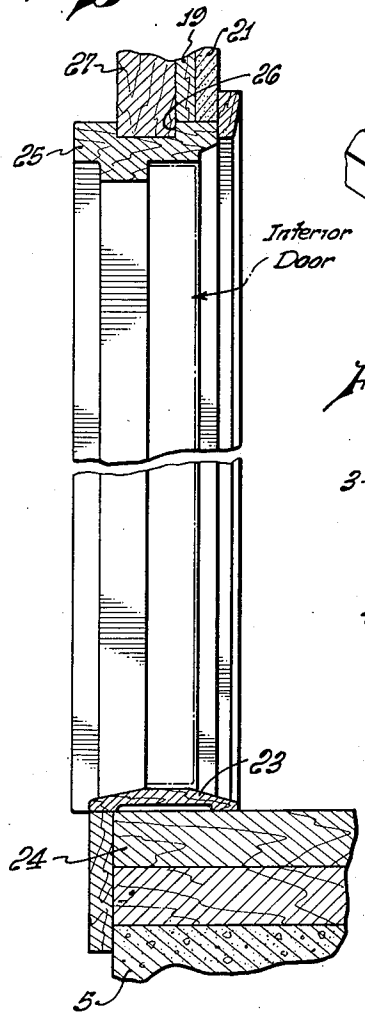


Fig. 6.

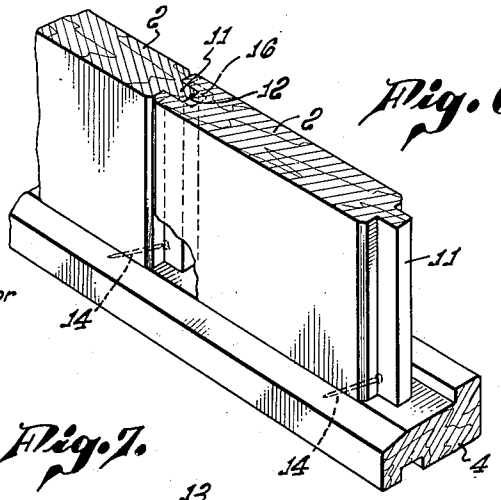


Fig. 7.

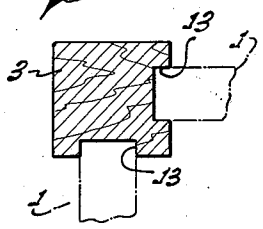


Fig. 8.

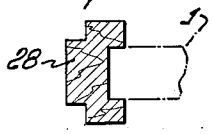
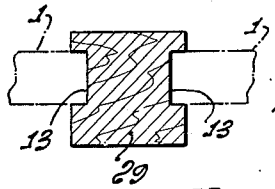


Fig. 9.



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WOOD WALL STRUCTURE

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Application June 26, 1950, Serial No. 170,369

11 Claims. (Cl. 20—4)

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This invention relates to buildings, and especially buildings having wood walls.

For inexpensive construction, it has been proposed to use boards or planks, running vertically or horizontally, to form an exterior wall. Such structures have not been found practicable, since lumber of this character is apt to be quite green. Normal shrinkage in the process of drying after the structure is completed often causes unsightliness as well as cracks that reduce the strength and utility of the structure.

It is one of the objects of this invention to provide a wall structure that may be formed of green planks and yet that retains its strength and appearance.

To provide an attractive exterior appearance, the wood may be finished without painting, as by an oil or stain. Redwood is especially adapted to such treatment, due to its natural reddish brown color. Green redwood, however, is especially apt to shrink considerably; hence this invention, obviating the difficulties attendant upon shrinkage, is particularly useful in the adaption of redwood lumber to wall structures.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of one embodiment of the invention. For this purpose there is shown a form in the drawings accompanying and forming part of the present specification. The form will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of this invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a fragmentary external view of a wall structure embodying the invention;

Fig. 2 is an interior view of the wall structure shown in Fig. 1;

Fig. 3 is a sectional view, taken along a plane corresponding to line 3—3 of Fig. 2;

Fig. 4 is an enlarged sectional view, taken along a plane corresponding to line 4—4 of Fig. 1;

Fig. 5 is an enlarged vertical section through a door opening of a wall incorporating the invention;

Fig. 6 is a fragmentary pictorial view, illustrating the manner of constructing the wall; and

Figs. 7, 8, and 9 are horizontal sectional views of posts that may be utilized in connection with the invention.

In the present instance, the wall structure

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includes the end planks 1 (see particularly Fig. 3) and the succeeding planks 2. The planks 1 are shown as accommodated in recesses in the post 3, which may be a corner post. The bottom edges of the planks rest upon a sill 4 (see, particularly, Figs. 1, 2, and 6). This sill 4 may rest upon appropriate foundation 5, shown in Fig. 5.

A top plate 6 (Figs. 1 and 2) engages the top edges of the planks 1, 2. It may serve as an anchor for roof structure 7.

In the present instance, a window frame 8 (see, particularly, Fig. 4) is incorporated in the wall structure. The right and left sides of this frame are each provided with a recess 9 or 10, into which the edge of the contiguous plank 2 may be accommodated.

The lower side of the window frame 8 serves as an anchor for the planks 2 terminating at the window frame. The upper side of the frame 8 serves as a bottom support for the horizontal plank 30. This plank extends to the top plate 6, thus rendering the use of very short planks in this area unnecessary. When there is no door or window opening, the planks 2 extend completely between the sill 4 and plate 6. That plank 2 which is adjacent the frame 8 may be cut away, as indicated at 31 (Fig. 2), to accommodate the right-hand edge of plank 30.

The planks 2 are provided along one longitudinal edge with a tongue 11. At the opposite longitudinal edge there is provided a groove 12. As shown most clearly in Fig. 6, the tongue 11 and the groove 12 of adjacent planks are engaged in overlapping relation.

In forming the wall structure, the end plank 1 is first placed so that the edge opposite the tongue edge is accommodated in the recess 13 (Fig. 7) of the corner post 3. The right-hand edge of this end plank 1 is provided with a tongue 11. The succeeding planks 2 of that series are successively placed so that the adjacent tongues and grooves are in engagement.

After plank 1 is positioned so that its plane edge is accommodated in the recess 13, it is fastened to the sill, or other support 4, by nailing, as indicated by nail 14 in Fig. 6. This nailing occurs near or at the tongue edge 11. Similarly, the upper edge of the plank is fastened at the tongue edge, as by the aid of the nail 15 (Figs. 1 and 2).

A succeeding plank 2 is then placed so that the tongue and groove edges engage. This succeeding plank 2 is then nailed, as indicated, only adjacent the tongue edge 11. All of the other

planks are similarly nailed, as indicated most clearly in Figs. 1 and 2.

Since only one edge of each of the planks forming the wall is attached to the supports 4 and 6, the planks, in drying, simply shrink at the free edge, that is, the groove edge, as shown by the dotted lines 16 in Fig. 6, where the groove edge has moved slightly away from the tongue 11. However, since there is a substantial amount of overlapping between the tongue and the groove, this shrinkage is permitted without the formation of any cracks, or the like.

In providing the window frame 8, the planks above and below the frame 8 are similarly attached. Furthermore, a frieze 17 (Fig. 1) may be attached adjacent the top ends of the planks, and may extend completely around the building. The frieze 17 may include one or two boards laid horizontally and attached to the wall structure by nails 18 that are placed only adjacent the tongue edges of the planks 2.

Similarly, when stripping 19, for supporting lath and plaster, as indicated in Fig. 2, is attached to the inside of the wall structure, the strips are attached to the side of the planks 1 and 2 by nails 20 only adjacent the tongue edge of each plank. A finish plaster wall 21 (Fig. 4) is indicated above the stripping 19. Furthermore, if desired, a layer of paper or felt 22 may be interposed between the stripping 19 and the interior surface of the wall structure.

In Fig. 5, a door frame is shown incorporated in a wall structure. Here a threshold 23 is disposed over the floor 24, and the door frame 25 is formed with a recess 26 at its top side to accommodate the short lengths of plank 27.

Various forms of upright posts may be utilized for joining the wall sections, or for providing partition posts. Thus, in Fig. 8, an end post 28 is provided for the accommodation of the plank 1 at one edge only. The post 29 of Fig. 9 is provided intermediate wall sections beginning with planks 1.

By providing the fastening means adjacent one edge only of each of the planks 1 or 2, the planks are free to shrink without disturbing the fastening means. Accordingly, green lumber, such as green redwood planks, may be utilized for the wall structure.

The inventor claims:

1. In a wood wall structure: a series of planks having edges that overlap; plates at the opposite ends of the planks; and means fastening each plank to the plates adjacent one edge only of the planks, and only one of a pair of overlapping edges being fastened.

2. In a wood wall structure: a series of planks, each plank having a tongue at one edge and a groove at the other edge, the tongue of one plank engaging within the groove of the adjacent plank; said tongue being attached to the adjacent plank only by engagement with the groove and means anchoring only the tongue edge of each of the planks at opposite ends of the planks.

3. In a wood wall structure: a series of planks, each plank having a tongue at one edge and a groove at the other edge, the tongue of one plank engaging within, but not attached to the groove of the adjacent plank; said tongue being attached to the adjacent plank only by engagement with the groove plates at the opposite ends of the planks; and means fastening only the tongue edge of each plank to the plates.

4. In a wood wall structure: a series of planks having edges that overlap; plates at the opposite ends of the planks; means fastening each plank to the plates adjacent one edge only, and only one of a pair of overlapping edges being fastened; stripping on one side of the plank; and means fastening the stripping to the planks, and attached only adjacent those edges of the planks that are fastened.

5. In a wood wall structure: a series of planks having edges that overlap; plates at the opposite ends of the planks; means fastening each plank to the plates adjacent one edge only, and only one of a pair of overlapping edges being fastened; a frieze adjacent one end of the series of planks and overlying them; and means fastening the frieze only adjacent those edges of the planks that are fastened.

6. In a wood wall structure: a series of planks, each plank having a tongue at one edge and a groove at the other edge, the tongue of one plank engaging within, but not attached to the groove of the adjacent plank; plates at the opposite ends of the planks; means fastening only the tongue edges of each plank to the plates; stripping on one side of the planks; and means fastening the stripping only adjacent the tongue edges of the planks.

7. In a wood wall structure: a series of planks, each plank having a tongue at one edge and a groove at the other edge, the tongue of one plank engaging within, but not attached to the groove of the adjacent plank; plates at the opposite ends of the planks; means fastening only the tongue edges of each plank to the plates; a frieze adjacent one end of the series of planks and overlying them; and means fastening the frieze only adjacent the tongue edges of the planks.

8. In a wood wall structure: a series of vertical planks having overlapping edges; a post having a recess accommodating the end plank of the series; a sill upon which the planks rest; a top plate above the planks; and fastening means for attaching the planks to the sill and the plate, and adjacent one edge only of the planks, and only one of a pair of overlapping edges being fastened.

9. In a wood wall structure: a series of vertical planks having overlapping edges; a post having a recess accommodating the end plank of the series; a sill upon which the planks rest; a top plate above the planks; fastening means for attaching the planks to the sill and the plate, and adjacent one edge only of the planks, and only one of a pair of overlapping edges being fastened; stripping on one side of the planks; and fastening the stripping only adjacent those edges of the planks that are fastened to the sill and the top plate.

10. In a wood wall structure: a series of vertical planks, the adjacent edges being formed of a tongue and groove, the tongue of one adjacent edge engaging within the groove of the other adjacent plank; a post having a recess accommodating the end plank of the series, the edge of said end plank entering the recess; a sill upon which the planks rest; a top plate above the planks; and means fastening the planks to the sill and the plate, and adjacent the tongue edge only of the planks.

11. In a wood wall structure: a series of vertical planks, the adjacent edges being formed of a tongue and groove, the tongue of one adjacent edge engaging within the groove of the other adjacent plank; a post having a recess accommodating the end plank of the series, the edge of said end plank entering the recess; a sill upon which the planks rest; a top plate above the

planks; fastening means for attaching the planks to the sill and the plate, and adjacent the tongue edge only of the planks; stripping on one side of the planks; and means fastening the stripping only adjacent the tongue edges of the planks.

HARRY ROY DAVIS.

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