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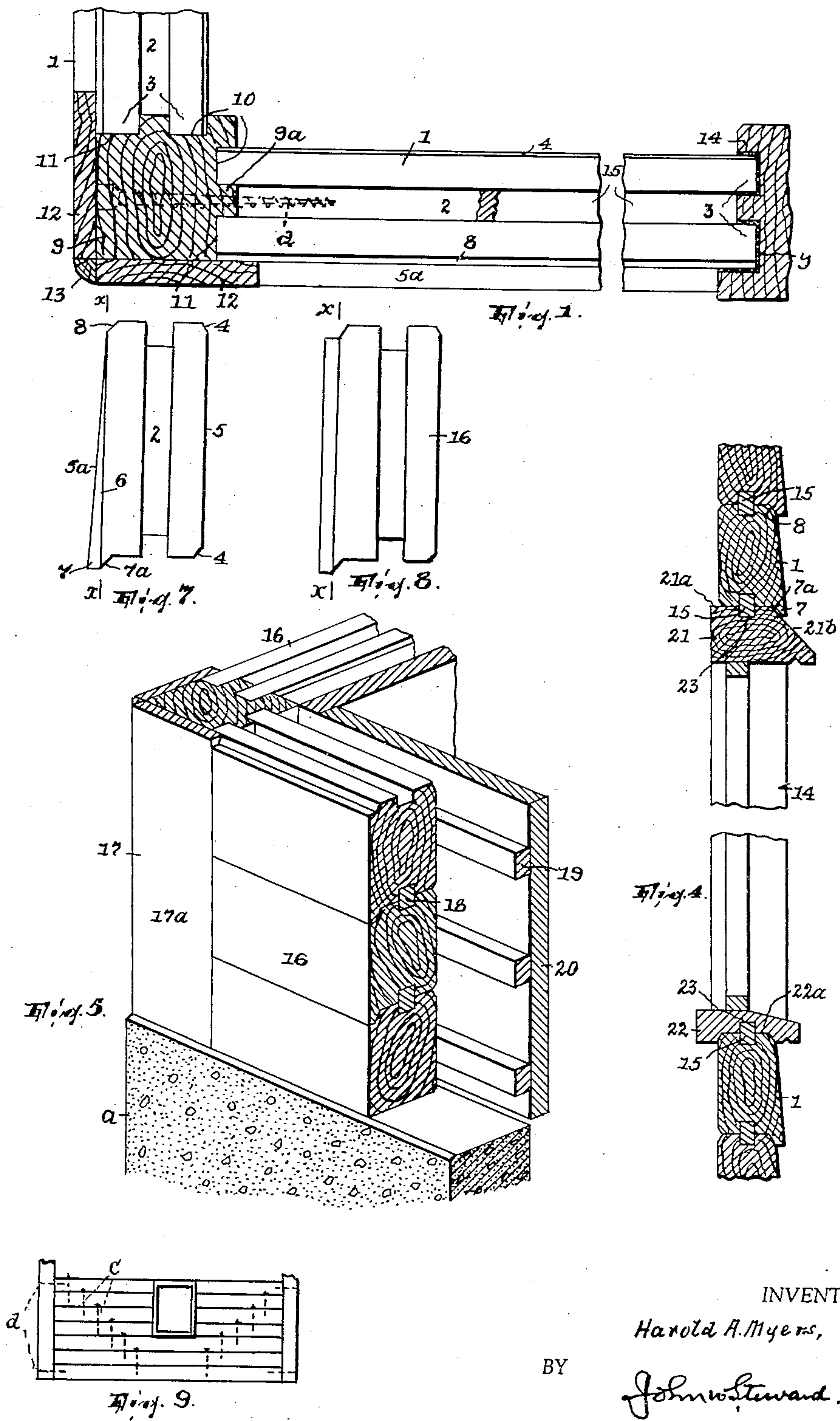
H. A. MYERS

2,183,620

BUILDING CONSTRUCTION

Filed March 30, 1938

2 Sheets-Sheet 1



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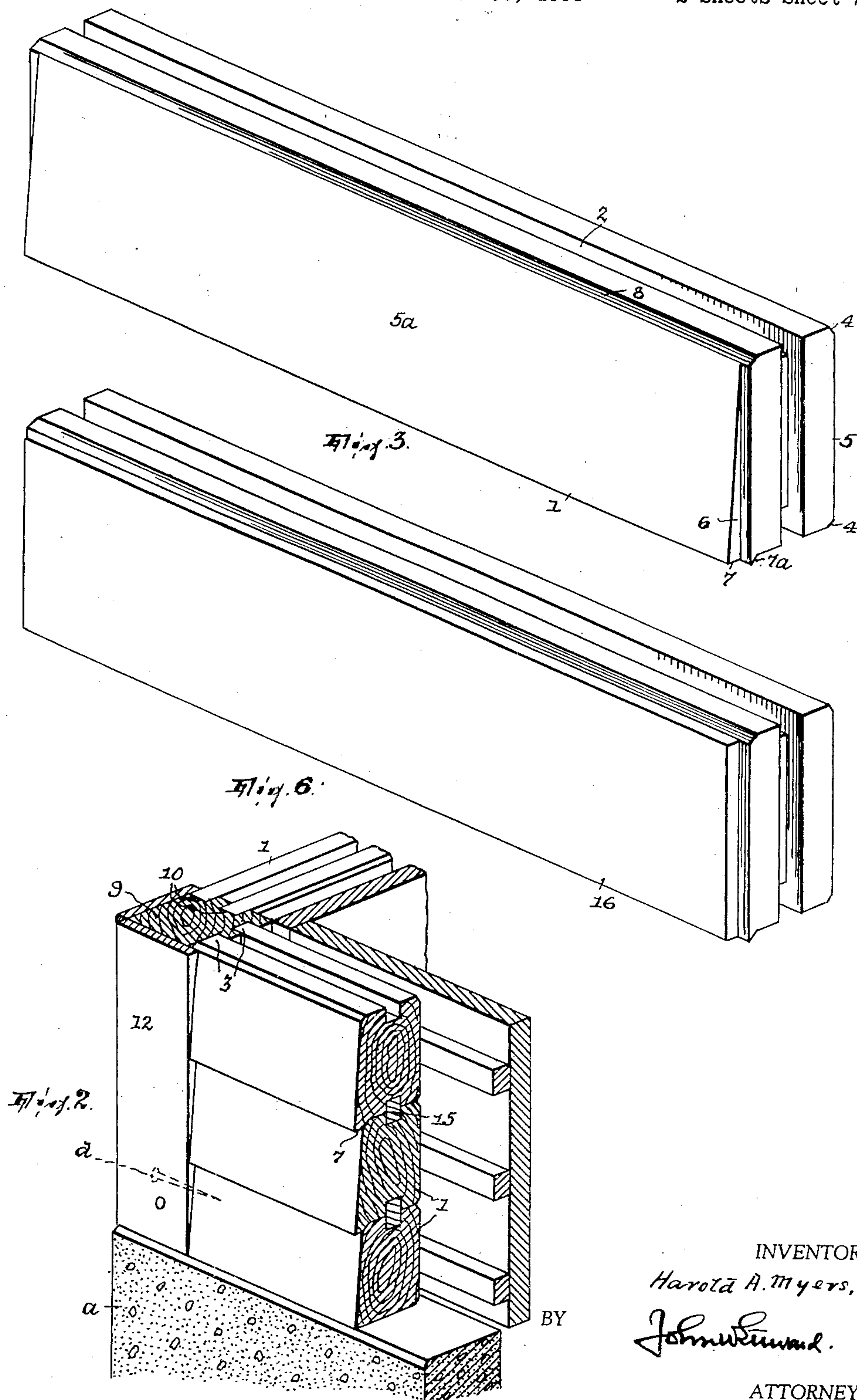
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UNITED STATES PATENT OFFICE

2,183,620

BUILDING CONSTRUCTION

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2 Claims. (Cl. 20—5)

This invention consists in certain improvements in the construction of buildings by which, as has been shown by practice on a quite substantial scale and extending over a considerable time, a building suitable for living and allied housing purposes may be produced which is quite as substantial and durable as any usual frame building, if not more so; which on the laying of the foundation can be completed, inclusive of the lining of its room and the like spaces as well as whatever roof is required, within a far shorter time than ordinary buildings; which is durably proof against leakage of air or moisture; which can be built at very considerably less expense, as well with respect to materials as to labor, than a frame building of the same size and type because all of its main horizontal and vertical elements are subjected to similar steps in forming them; and which will have a quite attractive appearance and simulate as to its exterior a frame building having a clapboard outer shell.

In the drawings:

Fig. 1 is a horizontal section of a portion of a building constructed in accordance with the invention and including uprights formed by a corner-post and the jamb of a door frame or a window frame;

Fig. 2 is a horizontal sectional isometric view of what is shown by Fig. 1 and showing how the wall is finished interiorly;

Fig. 3 is an isometric view of one of the timbers appearing in Figs. 1 and 2;

Fig. 4 is a vertical sectional view through a window or door frame;

Fig. 5 is a view similar to Fig. 2 but showing a modified form of timbers;

Fig. 6 is an isometric view of a timber of the type shown in Fig. 5;

Figs. 7 and 8 are end views of the timbers respectively shown in Figs. 3 and 6; and

Fig. 9 shows diagrammatically how the stacked timbers are preferably secured together.

Referring, first, to Figs. 1 and 2, *a* being the foundation in Fig. 2;

1 designates wood timbers. These will vary in length according to the space to be occupied by them but will all have the same contour as viewed in any side elevation excepting for the sill timbers which will be without the depending flange to be referred to. Preferably the vertical will be greater than the horizontal dimension of each timber. Each is routed at its top and bottom faces and at its ends in a longitudinal vertical plane which is medial with respect to its body portion, to wit, all that portion of the timber

which is to the right of the line *x—x* in Fig. 7; such routing forms a continuous groove *2* which at the top and bottom of the timber affords a keyway or spline-groove and at each end of the timber produces tongues *3*. Except for bevelling *4* which may exist where the plane of the inner face *5* of the timber intersects that of its top or bottom face the body portion in end elevation is generally rectangular, which is true also of the timber as viewed in any direction transversely. To the left of said line *x—x* is a portion of the timber which I term the panel or facial portion. It extends short of each end of the timber, thus leaving rabbets *6* at each end thereof and, whereas it has about the same depth as the body portion, it is displaced downwardly somewhat relatively thereto thus forming on the timber a depending flange *7*. In this example this panel portion is triangular in cross-section, tapering upwardly, wherefore its outer face slopes outwardly and downwardly. Where such face terminates at its upper margin a bevel *8* is formed on the timber. The flange is reinforced by what amounts to an integral web *7a* inwardly adjoining the flange and providing a surface substantially parallel with the bevel *8*. This reinforcement provided by the web protects the (exposed) flange against being broken away or damaged, which would render the whole timber useless for the purpose intended. So far as I am aware I am the first to provide in a building wall structure of the class set forth timbers each having a panel of the indicated horizontal dimension (reaching from upright to upright) and the indicated vertical dimension (substantially the same as the body portion of the timber) and displaced downwardly, such displacement, taken with the vertical dimension of the panel as specified, making it possible, by way of one advantage, to reinforce the resulting flange by the web and also accommodate the web of the next superjacent timber by the beveling at *8*. Where a timber is to adjoin the foundation the flange *7* will usually be omitted. The timbers are to be interlocked with each other and with uprights, which may be a corner post, as at the left in Fig. 1 or the jamb of a window or door frame, as at the right in that figure. So where a vertical face of the upright is to form a joint with the stacked timbers, as will appear, it is formed with a pair of longitudinal grooves. Thus:

To form a corner post there is a vertical timber *9* generally rectangular in cross-section but having in two adjacent faces a vertical groove *10*, such grooves being near the angle of juncture of the faces, each being of approximately the same

width as the inner timber tongues 3 to be received thereby. Outward of each such groove and spaced therefrom the same as the tongues of each timber there is in each such face a rabbet 11 of approximately the same width as the outer timber tongues to be received thereby. The other two faces of the timber 9 are covered by facias formed by strips 12 of wood which project to form grooves with the mentioned rabbets. The angle formed by the two strips 12 may be filled by a quarter-round strip 13. The facia strips and strip 13 are nailed to the uprights. Preferably, as shown by Fig. 1, the facias extend laterally further than the tongue 9a of the post-forming timber 9 existing between the grooves of the upright. The profile of the jamb 14 in horizontal section is grooved the same as that of the upright formed by a corner post.

Having the timbers and uprights assembling is effected as follows: With sill timbers and corner post resting on the foundation and the tongues of the sill timbers fitting the grooves of the corner post the other timbers, having the flanges 7, are stacked upon the sill timbers and upon each other, all their tongues being fitted to the grooves of the post and the flange of each lapping the bevel 8 of the next subjacent timber. Before laying any timber on another a spline strip 15 is fitted into the top spline-groove of the latter to be received in the lower spline-groove of the former. Of course, all the panel or facial portions of the timbers are presented outwardly and this, as shown in Fig. 2, gives the finished wall a lapping clap-board appearance. All joints are close-fitting or tight, but to seal them hermetically cementitious substance *y* may intervene, that is to say, wherever surfaces of stacked timbers, uprights and splines oppose each other. Such is only shown at the right of Fig. 1, but as indicated it preferably exists throughout the structure wherever surfaces of timbers, uprights and splines oppose each other.

The timber 16 shown in Figs. 5, 6 and 8 is identical in all respects to the timber already described excepting that the portion thereof to the left of the line *x—x* and forming the panel is rectangular in cross-section or without the upward taper and hence without the outer sloping face. So, also, are the upright 17 and splines 18, as well as the assembly of these parts excepting that in this case instead of the outer face of the wall having the appearance of a lapping clap-board formation the outer faces of the stacked timbers all conform to a common plane, as that of the corresponding outer face of the facia 17a of the corner-post upright.

Having completed the wall structure of the building lathing 19 is affixed to the inner surface of the stacked timbers at suitable intervals and to this is nailed suitable lining material 20 in slab form, as so-called sheet-rock, thus leaving an air insulating space between said wall structure and the lining.

A window or door frame to be included as one

of the stacked units in a wall structure thus formed, besides having the described profile as to its jambs 14 so as to receive the tongues of the stacked timbers flanking it, will have a top and bottom cross-sectional contour adapting it to fit the superjacent and subjacent timbers, which it will be understood will usually respectively overreach and underreach across such frame. Thus the head 21 of the frame has a face 21a to oppose the bottom face of the superjacent timber and a frontal face 21b sloping downwardly at the same angle as the inner face 7a of the timber flange, and the sill 22 is grooved at 22a to receive and fit the beveled upper portion of the subjacent timber; and both such faces have counter-grooves 23 to receive the spline strips.

As the stacking of the timbers proceeds each two adjoining timbers are spiked together preferably as indicated at *c* in Fig. 9, to wit, so that not only are the timbers held against longitudinal displacement but the system of spikes develops in the wall structure a kind of truss, the timbers 9 of the corner posts being also held to the stacked timbers at suitable vertical intervals, as by lag-screws *d*.

The construction is such that, besides the structure having all its parts in permanently rigid relation to each other due to the close-fitting and quite devious character of the joints formed even without presence of the cementitious sealing material *y* (which may be applied to each element of the structure as it is assembled) there is a good insulation of the interior from the exterior of the building. With the sealing material present such insulation is perfect and the sealing hermetic. And the structural conditions being as stated the sealing is actually more complete and stable than exists in any ordinary frame building.

Having thus fully described by invention what I claim is:

1. A building timber including, with a body portion having substantially parallel top and bottom faces and an inner upright face and means at its top and bottom to interlock with adjoining timbers and means at its ends to interlock with uprights and also having a bevel at the outer margin of said top face and extending substantially from end to end of the timber, a panel portion next adjoining the outer side of said body portion and extending lengthwise thereof to near but short of each end of said body portion and also extending from substantially the bevel downwardly and depending below the bottom face of said body portion, the thus depending part of the panel portion forming a depending flange on the timber.

2. The timber set forth in claim 1 characterized also by a web joining said flange and body portion and providing a surface substantially parallel with and in the same vertical zone as the bevel.

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