

W. J. SUMMERBELL.  
WINDOW.

APPLICATION FILED JAN. 21, 1908.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.

900,893.

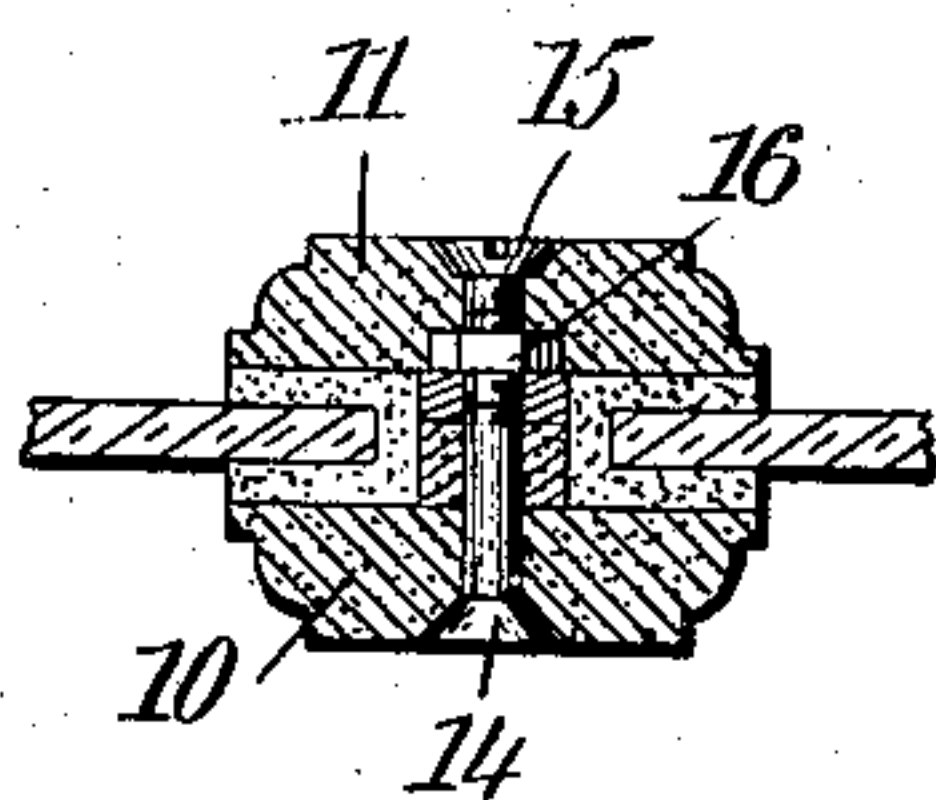
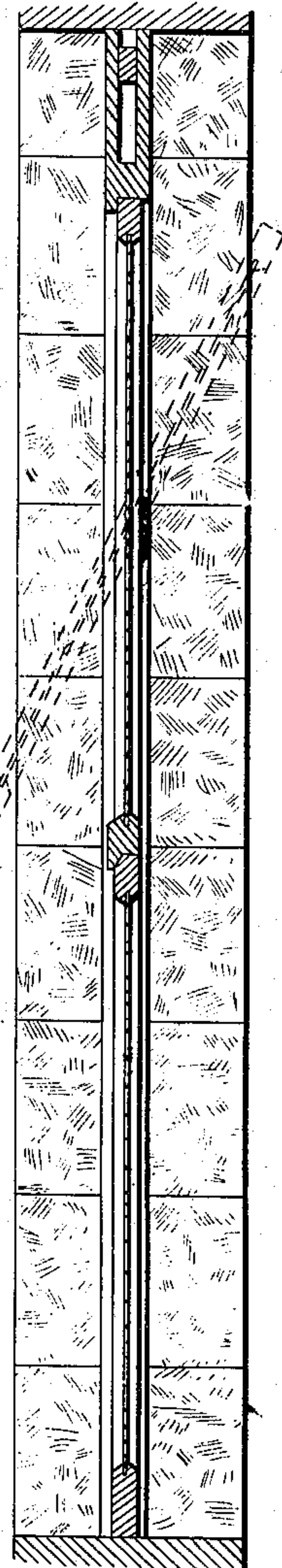
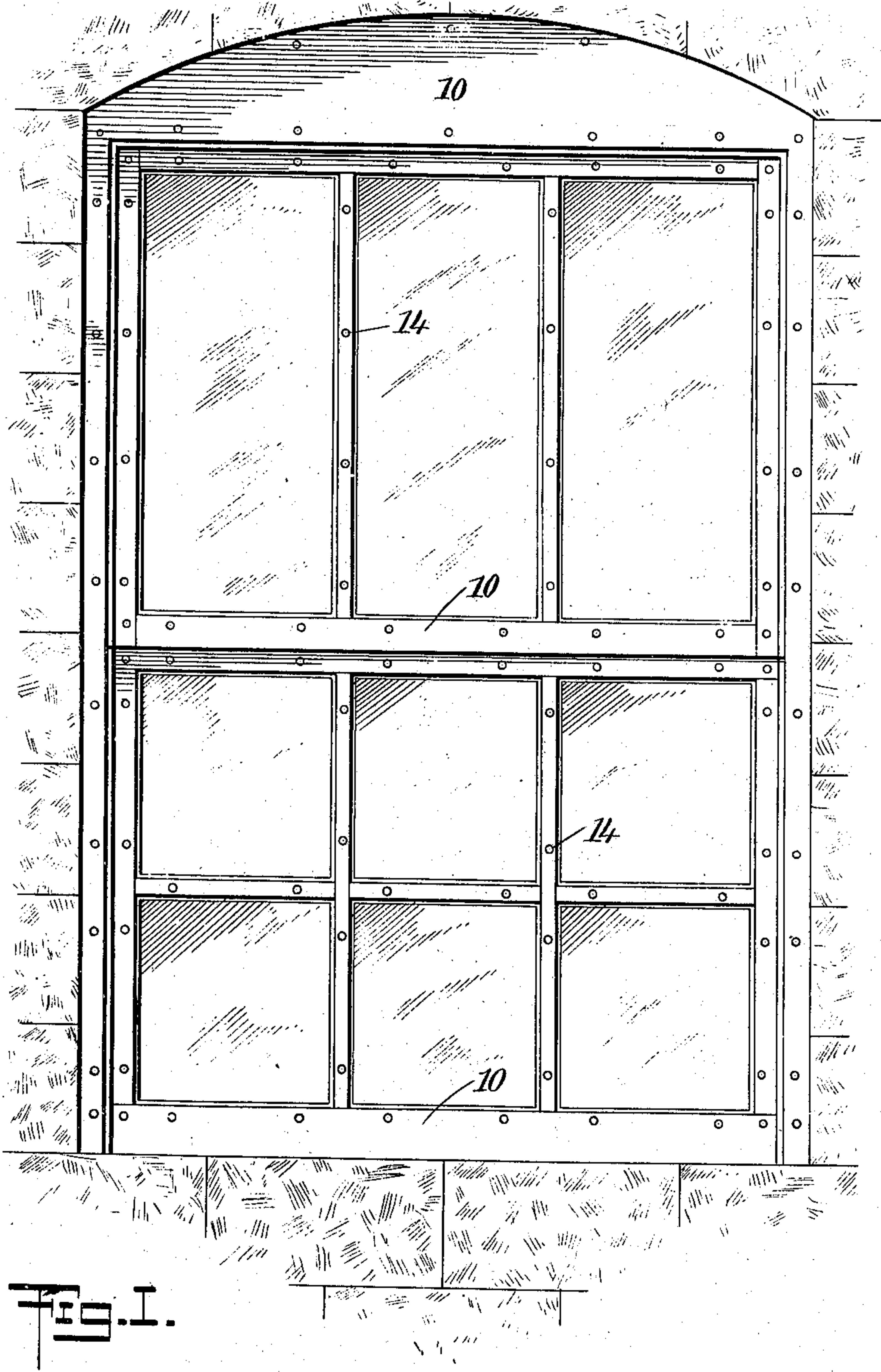


FIG. 7.

WITNESSES  
G. Robert Thomas  
*G. Robert Thomas*

INVENTOR  
William J. Summerbell  
BY *Wm. J. Summerbell*  
ATTORNEYS.

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2 SHEETS—SHEET 2.

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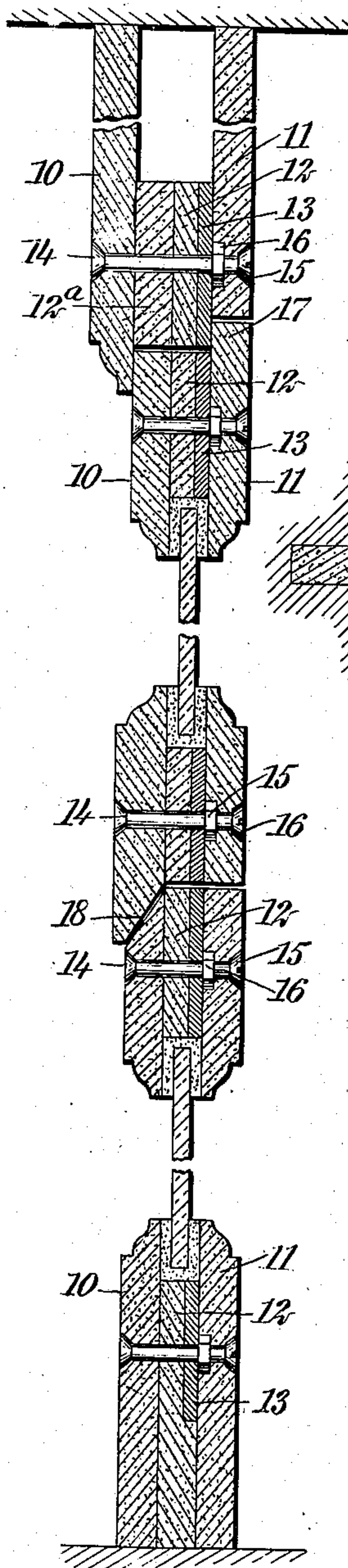
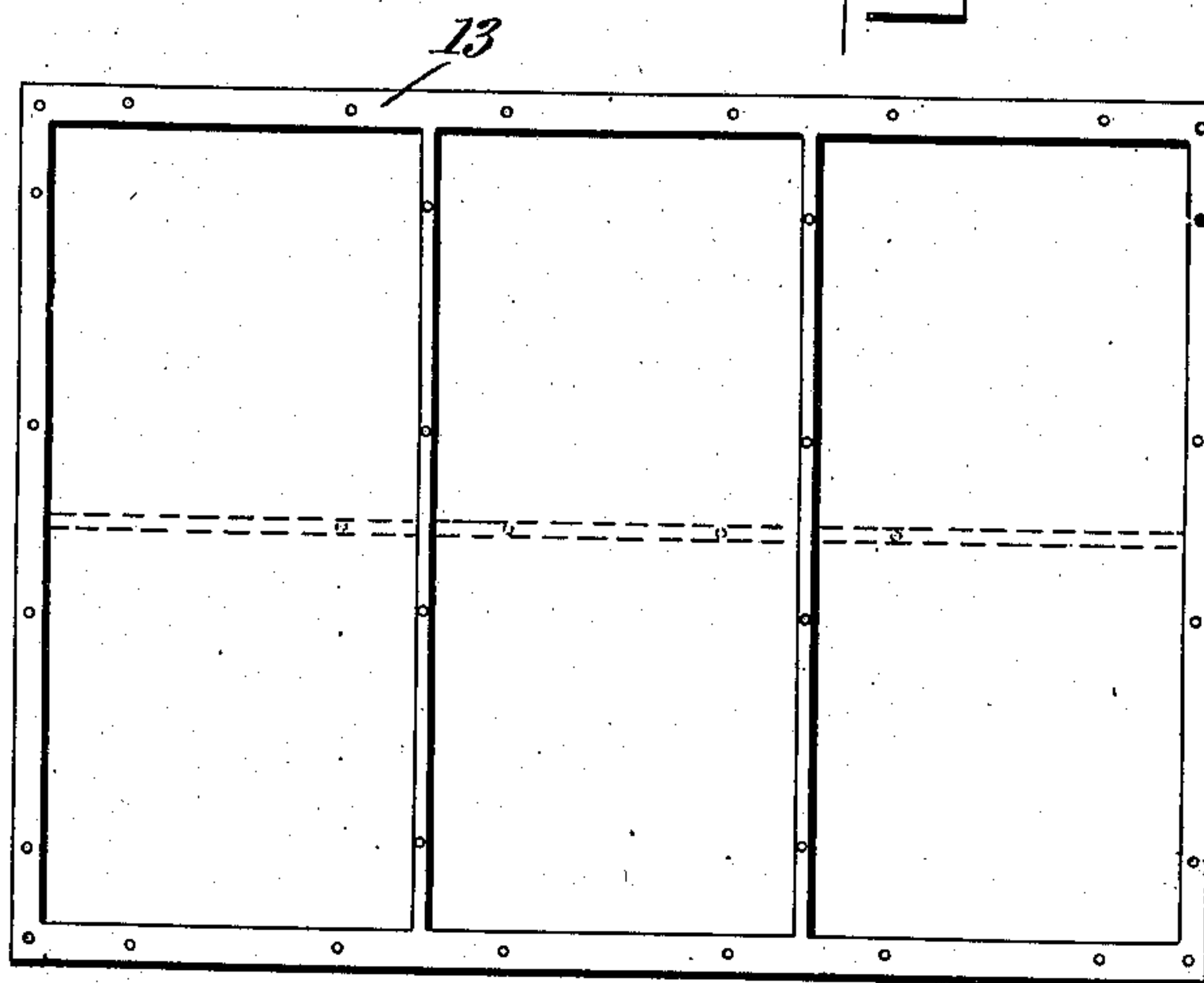
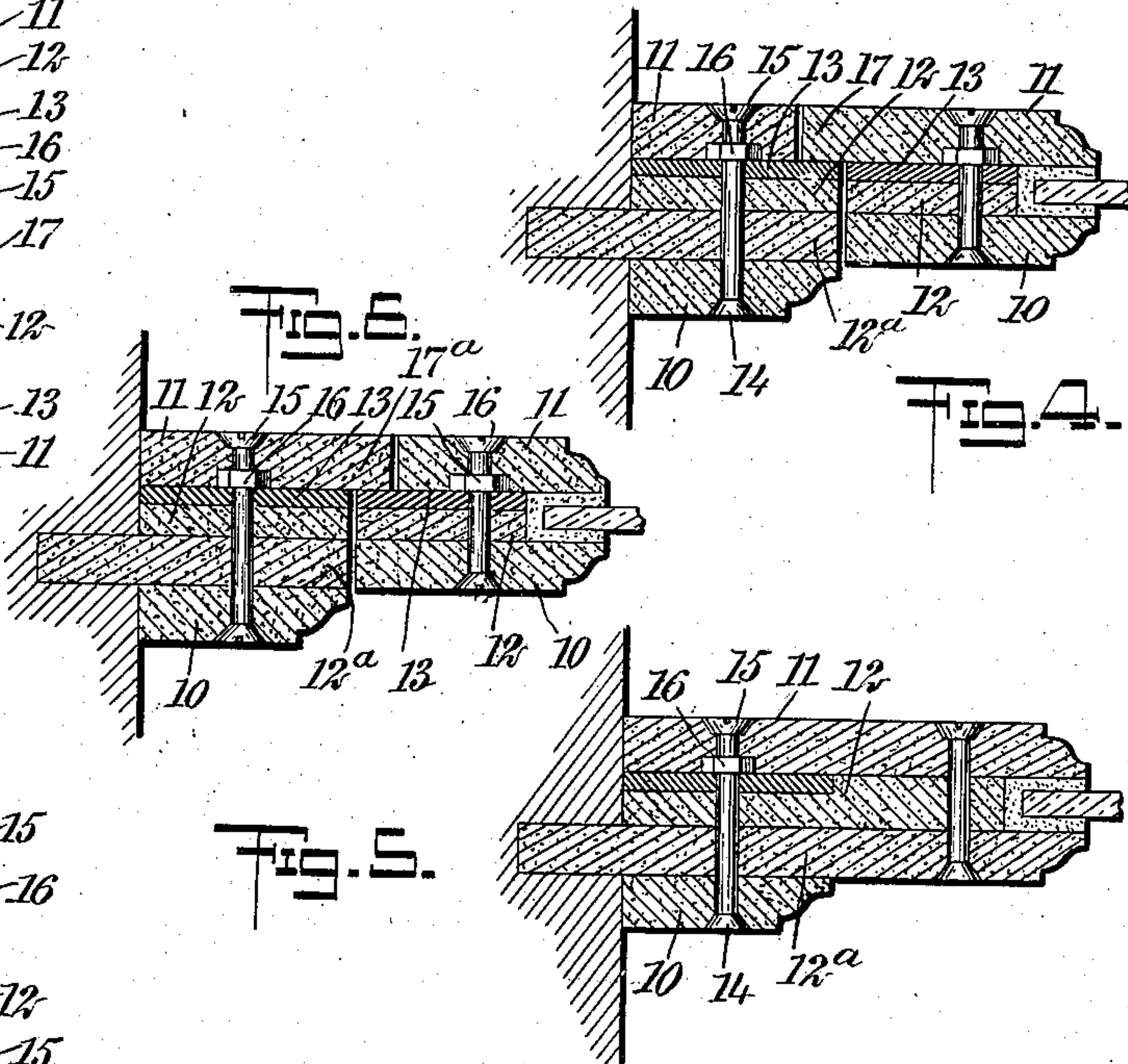


FIG. 3.

WITNESSES

G. Robert Thomas  
*G. Robert Thomas*



INVENTOR

William J. Summerbell

BY *Mumma & Co*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

WILLIAM JOHN SUMMERBELL, OF CHICAGO, ILLINOIS.

## WINDOW.

No. 900,893.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed January 21, 1908. Serial No. 411,891.

*To all whom it may concern:*

Be it known that I, WILLIAM JOHN SUMMERBELL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Window, of which the following is a full, clear, and exact description.

This invention is an improvement in fireproof window frames and sash frames, having in view such frames which will not become battered and dented with ordinary wear, but will, at the same time, be strong and very durable. To this end I construct the said frames of a plurality of layers of material, the outer and inner layers forming the outer and inner facings respectively, being of fireproof material, preferably hard asbestos board, and a further intermediate layer of reinforcing, ordinarily sheet metal, the whole being secured together by bolts with the nuts located on the inside, whereby it will not be possible to unbolt the frame at the outside of the building and in this manner enter the window.

The invention further resides in certain other novel features of the frame construction hereinafter particularly described and pointed out in the annexed claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of a window embodying my improvements; Fig. 2 is a vertical section of the same illustrating in dotted outline the manner in which the upper sash opens; Fig. 3 is a vertical section through the window frame and sash frames on an enlarged scale; Fig. 4 is a cross-section through the window frame and the upper sash frame just above the latter's point of pivotal support; Fig. 5 is a corresponding view of the window frame and the frame of the lower sash; Fig. 6 is a face view of the reinforcing for the sash frames, showing the transverse muntin in dotted outline as when the reinforcing is used for a sash constructed in accordance with the bottom sash shown in Fig. 1; Fig. 7 is a cross-section through one of the sash muntins; and Fig. 8 is a cross-section through the window-frame and the upper sash - frame just below the latter's point of pivotal support.

More specifically described, a window frame or a sash frame constructed in accordance with my invention is composed of a

plurality of layers of material, an outer layer 10 forming the outer facing, composed of such fireproof material as hard asbestos board, and an inner layer 11 forming the inner facing, of the same material. These facings or layers are separated by an intermediate layer 12 of like material, and a reinforcing member 13 of sheet metal. In the case of the sash frames this reinforcing is made in a single piece, as illustrated in Fig. 6.

The window frame as shown in Figs. 3, 4 and 5, in addition to the intermediate layer 12, is provided with an adjacent layer 12<sup>a</sup>, equal in thickness to the outer layer 10 of the sash, which makes the combined thickness of the layers 11, 12 and 12<sup>a</sup>, and the reinforcing, equal to the total thickness of the sash frames, leaving the outer layer 10 of the window frame to project beyond the sash frames and thereby give the window a neat finish.

The several layers of the window frame and the sash frame are respectively secured together by bolts 14, which preferably have plain conical heads countersunk in the outer facing and corresponding slotted nuts 15 likewise let into the inner facing, this arrangement of the bolts obviously preventing the frames from being disassembled from the outside and the building and the window entered in this manner.

Before the inner facings of the frames are applied, a nut 16 is threaded on the bolts 14 and bears directly against the sheet metal reinforcing and thus relieves the nut 15 of considerable strain in binding the several layers of material together, and also holds the parts of the sash-frame together with the inner facing removed while the sash are being glazed. Suitable recesses are cut in the inner faces of the inner layers of the frame, for receiving the nuts 16 and permitting of the said layers seating flat against the reinforcing and intermediate layer.

As will be observed from Fig. 3, the frame of the lower sash is immovable within the window-frame, and is formed at the sides as a part thereof. The upper sash is pivotally supported at opposite sides intermediate its length within the window frame, so that it is adapted to swing within the opening, as illustrated in dotted outline in Fig. 2. In order that this sash may form a good weather joint with the window-frame when closed and be brought to a stop when swung to closed position, I preferably cut away the inner layer or facing of the window frame above the line



of pivotal support of the upper sash, as shown in Figs. 3 and 4, and extend the adjacent inner facing of this sash, as indicated at 17, to fill up these cut-out or rabbeted portions of the frame when the sash is closed. Below the line of pivotal support of the upper sash I cut away or rabbet at the side edges its inner facing and correspondingly extend the inner facing of the window-frame, as indicated at 17<sup>a</sup> in Fig. 8. The outer facing of the lower rail of the upper sash is also extended and beveled on its inner face, as indicated at 18, and fits against a counterpart beveled portion of the top rail of the upper sash. In this manner abutting shoulders are provided between the window-frame and upper sash-frame above the latter's line of pivotal support, and corresponding shoulders are provided below this line between the upper and lower sash-frame and between the upper sash-frame and window-frame.

It will be observed from Fig. 3 that the outer facing of the window frame at the top is extended slightly below the intermediate layers 12 and 12<sup>a</sup>, so that the parting line between this portion of the window-frame and the upper sash-frame is obscured at the outside when the sash is closed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A frame constructed of an outer facing of fireproof material, an intermediate layer of the same material, a reinforcing of sheet metal arranged between one of said facings and the intermediate layer, and bolts passing through the facings, intermediate layer and reinforcing of the frame, having nuts threaded thereon, one of which bears directly on the reinforcing and the other arranged on the inside of the frame.

2. In a window, a window frame, an upper and lower sash frame in the window frame, all of said frames being constructed of a plurality of layers of material, with the layer forming one face of the top rail of the lower sash cut out at the edge, the layer forming one face of the window frame being cut out at the edges for a portion of the depth of the upper sash frame and the layer of material forming the opposite face of the window frame being cut out at the edges for the remainder of the depth of the upper sash frame, and the corresponding layers of material of the upper sash being extended to fill the cut-out edges of the window frame and the cut-out edge of the top rail of the lower sash frame.

3. In a window, an upper and lower sash, the frames of which are constructed of a plurality of layers of material, the outer layer of the top rail of the lower sash being beveled off, and the outer layer of the bottom rail of the upper sash being extended below the inner layer and beveled on its inner face to fit the beveled layer of the top rail of the lower sash.

4. A frame comprising an outer facing, an inner facing, a reinforcing between said facings, and bolts passing through the facings and reinforcing having nuts threaded thereon, one of which bears directly on the reinforcing and the other bearing on the inner facing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM JOHN SUMMERBELL.

Witnesses:

THEODORE NELSON,  
PETER A. JOHNSON.