O. M. OTTE.

SHEET METAL FRAME.

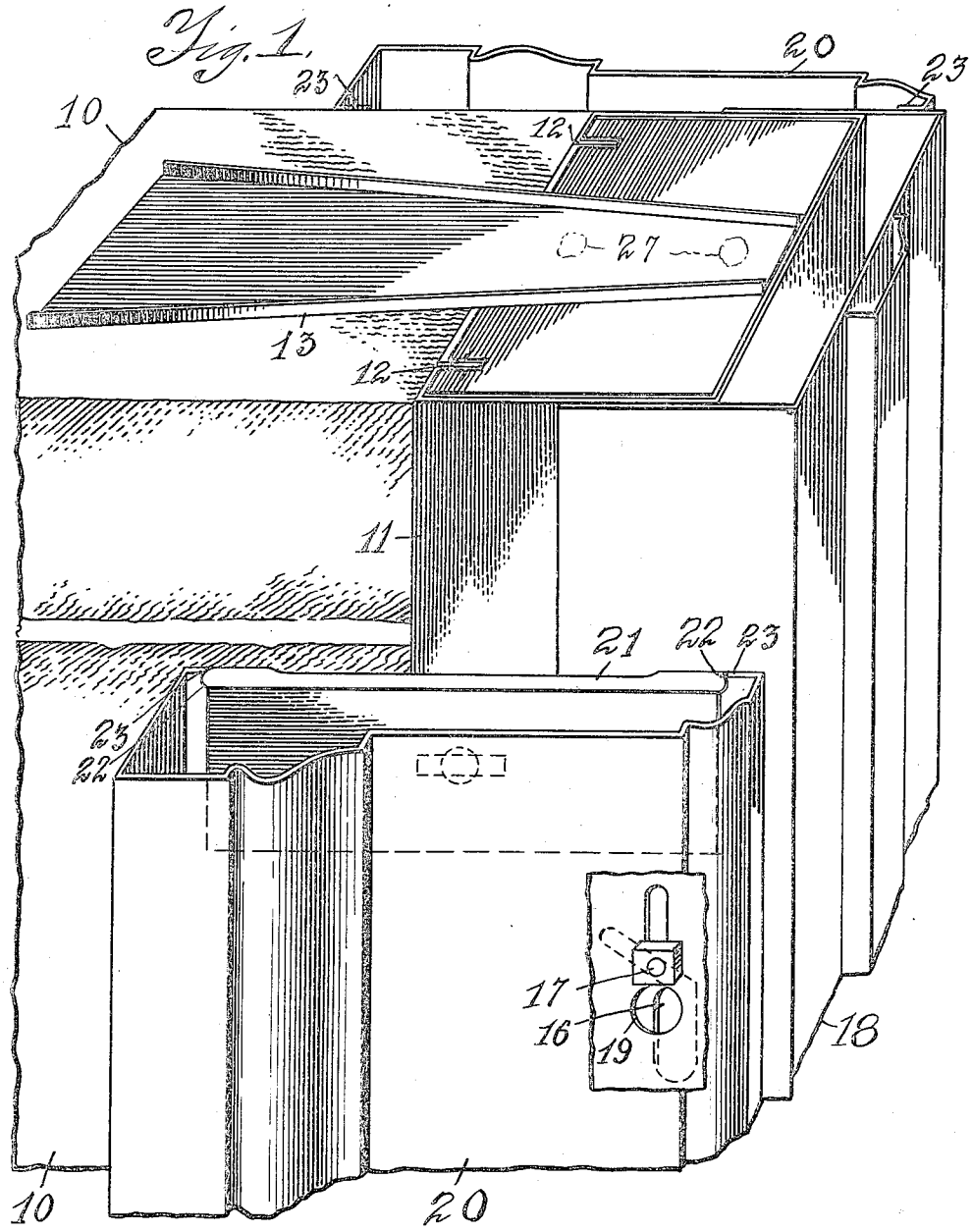
APPLICATION FILED MAR. 16, 1916.

1,241,243.

Patented Sept. 25, 1917.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

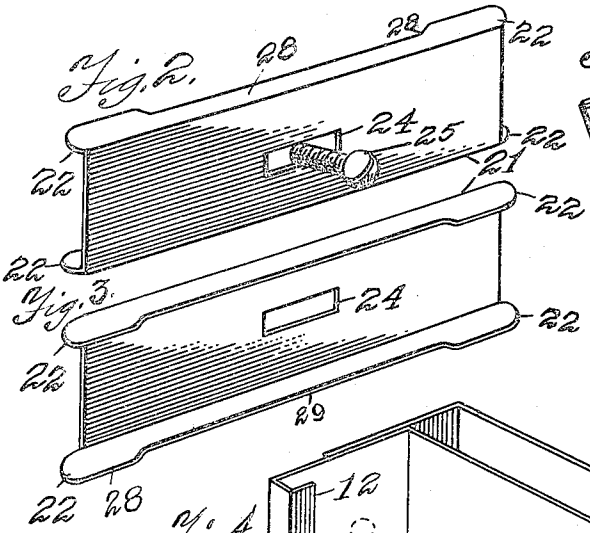


Fig. 3.

Fig. 5.

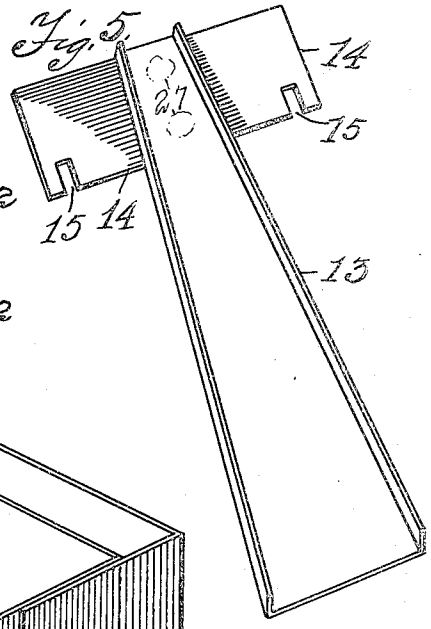


Fig. 4.

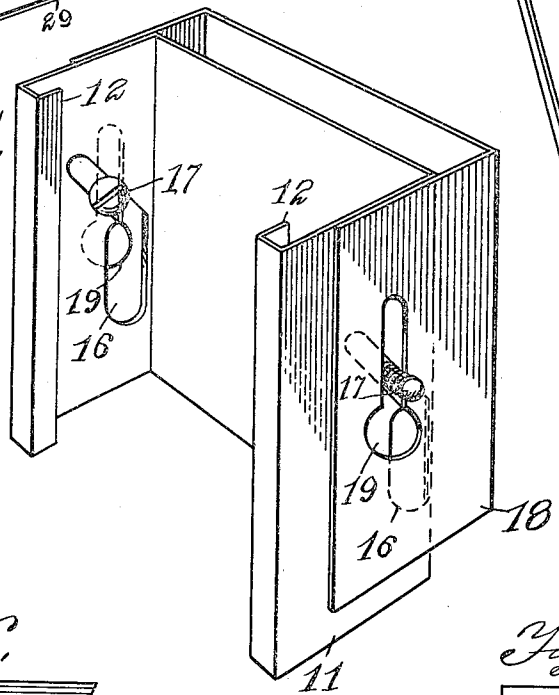


Fig. 6.

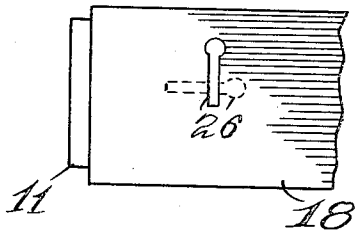
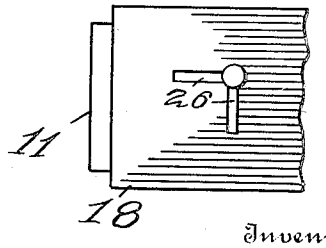


Fig. 7.



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UNITED STATES PATENT OFFICE.

OTHO M. OTTE, OF JAMESTOWN, NEW YORK.

SHEET-METAL FRAME.

1,241,243. Specification of Letters Patent. Patented Sept. 25, 1917.

Application filed March 16, 1916. Serial No. 84,528.

To all whom it may concern:

Be it known that I, OTHO M. OTTE, a citizen of the United States, residing at the city of Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Sheet-Metal Frames, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to sheet metal frame construction for doors, windows and similar openings; and the object of the improvement is to provide a simple and efficient means for attaching the sheet metal structural frame to the wall around the opening, and of attaching the sheet metal jamb or trim to said structural frame whereby the entire frame construction can be quickly and accurately attached to the walls around the opening, and the parts of the frame to one another so as to hold all parts firmly in position; and the invention consists in the novel features and combinations hereinafter set forth and claimed.

In the drawings, Figure 1 is a perspective view of a portion of the wall with a short portion of the structural frame attached thereto and the jamb and trim or molding each side of the jamb, a portion of the molding being broken away to show the manner of attaching the jamb to the structural frame. Fig. 2 is a perspective view of the outer side of a holding clip for the molding; and Fig. 3 is a perspective view of the inner side showing the channel shape of the holding clip. Fig. 4 is a perspective view of a portion of the structural frame with a portion of the jamb attached thereto by means of crossed slots in said jamb and frame and screw-bolts in said slots. Fig. 5 is a perspective view of the dovetail T-shaped clip for attaching the structural frame to a cement or brick wall. Fig. 6 is an elevation of a portion of the jamb and structural frame showing a modification of the crossed slots, with said slots in the crossed position; and Fig. 7 is a similar elevation with said slots in the coinciding position as to the keyhole ends thereof.

Like characters of reference refer to corresponding parts in the several views.

The numeral 10 designates the wall adjoining the opening as for a window or door which is to receive the sheet metal frame or casing.

The wall 10 around the opening is first faced with a structural frame 11 which is called a buck in the factory because the other parts are attached thereto, which buck is channel shaped with inturned angular flanges 12 at each side, the opening of the channel being placed toward the wall and the flanges 12 bracing against said wall at each side of the buck.

The buck 11 is secured against the wall 10 by means of the dovetail T-shaped plates 13, the dovetail shaped flanged ends of which are built into the wall 10. The cross plate 14 having spaced notches 15 therein which engage the spaced flanges 12 and securely attach the buck 11 to the wall 10.

The buck 11 is of sufficient depth to permit the slots 16 in the opposite sides thereof which slots have a vertical portion and an angular portion extending diagonally therefrom toward the wall 10. The vertical portion 16 is of sufficient size to receive the head of the screw bolt 17 therethrough, but the inclined portion is only wide enough to receive the shaft of said bolt 17.

A channel shaped jamb 18 is attached to the buck 11 by means of keyhole shaped slots 19 one to each side which are preferably vertical so that the enlarged end of the keyhole slot may be placed so that it coincides with the enlarged end of the slot 16 and the head of the bolt 17 inserted therethrough, after which the parts may be adjusted as desired so as to plumb the jamb 18 in its relation to the door or window, the two slots 16 and 19 permitting adaptation of the buck 11 and jamb 18 so as to adjust said jamb as desired, after which the bolts 17 are tightened firmly securing the jamb and holding it in place against the rigidly held buck 11. A sufficient number of spaced bolts 17 with crossed slots 16 and 19 are provided to securely hold said buck and jamb in the adjusted position.

It is apparent that crossed keyhole shaped slots 26, as shown in the modification in Figs. 6 and 7, would serve a good purpose though not as fully or easily adjustable as the inclined or diagonal slot 16 in combination with a keyhole slot 19.

The molding 20 or sheet metal trim for each face of the frame and wall around the opening is held in place by means of spaced channel shaped holding clips 21 which are formed from the metal plates by turning in the channel shape with the projecting rounded ends 22 at each end. The molding

or trim 20 is provided with inturned flanges 23 which are spaced apart and the length of the holding clips 21 is adapted to the distance between said flanges 23 so that said flanges may be sprung over the curved projecting ends 22, as shown in Fig. 1, the spring of the molding 20 between the flanges 23 being sufficient to permit one of said flanges 23 being inserted beneath the curved end 22 at one side of the clips 21 and the other side can then be pressed over the curved opposite ends 22 of the holding clips 21.

The channel shaped holding clips 21 are placed with the flanged sides 28 against the wall 10 or the jamb 18 or buck 11, being attached preferably to the buck 11 by means of a screw bolt 25 through a lengthwise slot 24 in the clip 21 which permits the adjustment of the clip 21 in the accurate setting up of the parts. The flanged sides 28 of the holding clips 21 are preferably cut away throughout the intermediate portion of each of their edges as shown at 29 to provide bearing ends for said flanges 28 so that each holding clip 21 will have four legs or bearing ends for said flanges 28 of each clip 21 which thereby better adapts the clip to the inequalities of the wall.

It is apparent that the T-shaped plates 13 may be made from scrap pieces of sheet metal, the dovetail shaped part having the flanged sides turned thereon before the two parts are attached to one another, after which they may be united preferably by spot welding as shown at 27. The flanged sides hold strongly against the mortar, cement or other building material of the wall 10 which is flowed freely around the same when placing the dovetail shaped plate in the wall 10 and thereby provides a permanent attaching means for the buck 11 to the wall, forming a convenient structural frame for attaching the jamb and molding or other trimming parts.

The holding clips 21 are preferably formed in the channel shape from sufficiently heavy sheet metal so that said holding clips shall be rigid, that is without spring, though light compared with solid metallic clips. Solid metallic holding clips would serve the purpose however. The rigid holding clip holds the metal trim firmly in line without stress or torsional strain and does not loosen or give way under the continued spring tension from the sheet metal molding.

I claim as new:—

1. In sheet metal construction, a channel-shaped buck member, a channel-shaped finishing member fitting over said buck member, the flanges of each of said channel members having elongated slots, a bolt for locking said members together, said slots having enlarged parts of a size to enable the head of the bolt to be received therethrough upon registry of said enlarged parts and engaged with the inner face of the flange of the buck member, and while the finishing member remains fitted over said buck member, the major parts of said slots being of a width so as to allow the shank of the bolt to be moved therealong to obtain different adjustments of the finishing member, and a nut on the bolt engaging the outer face of the finishing member to rigidly secure same to the buck member, the slot of one of said members having a part thereof inclined with respect to the slot of the other member whereby to obtain various characters of adjustments of the finishing member.

2. In sheet metal construction, a channel shaped buck member, a channel-shaped finishing member fitting over said buck member, the flanges of each of said channel members having elongated slots, said slots having enlarged parts, and fastening means adjustably connecting said members, said enlarged parts of the slots being of a size to admit the fastening means upon registry of said enlarged parts of the slots, so as to allow the latter to engage the inner faces of the flanges of the buck member, while the finishing member remains fitted over the buck member, the major parts of the slots being of a width to allow the fastening means to be moved therealong to obtain different adjustments of the finishing member, said fastening means including a part operable from the exterior of the finishing member to allow of the fastening means being operated to rigidly secure the finishing member to the buck member.

In testimony whereof I have affixed my signature in the presence of two witnesses.

OTHO M. OTTE.

Witnesses:
H. A. SANDBERG,
A. W. KETTLE.