

A. J. ELLIS & C. E. NELLIS.
HOLLOW METAL DOOR FRAME.
APPLICATION FILED SEPT. 1, 1910.

1,031,331.

Patented July 2, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

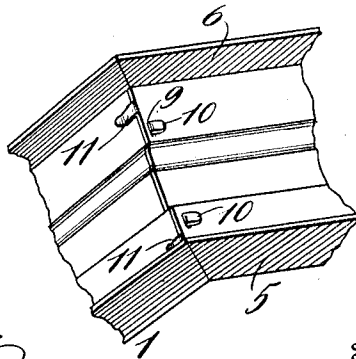
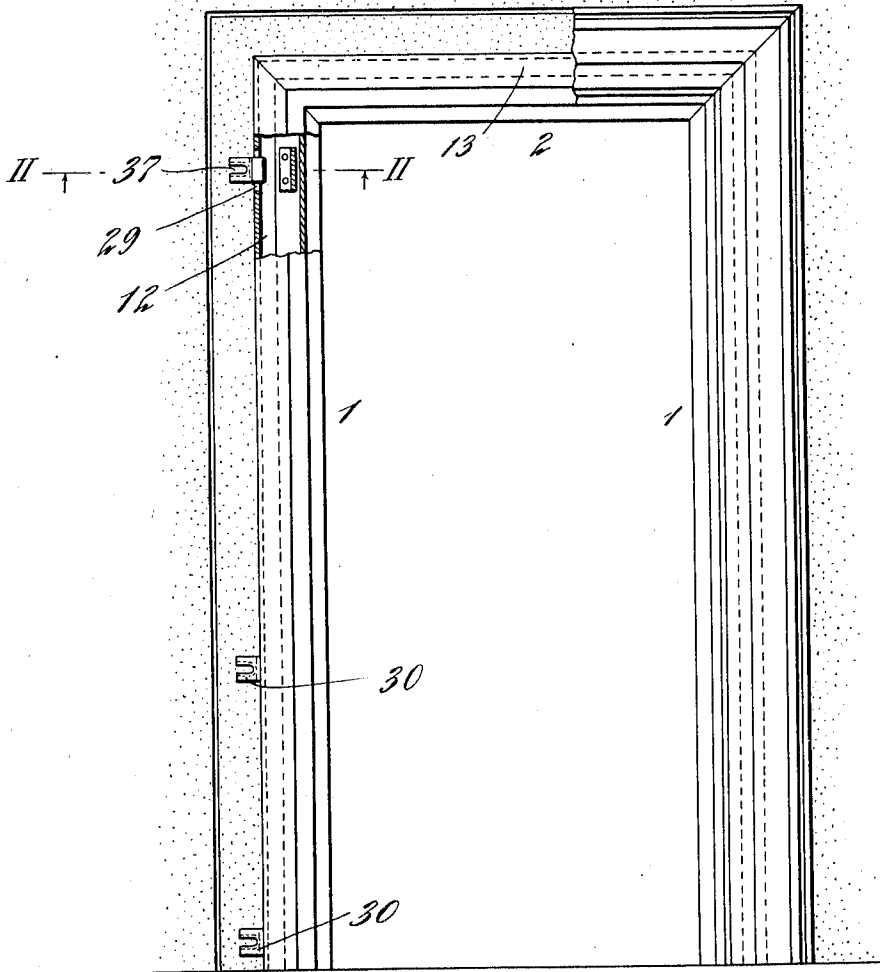


Fig. 5.

Witnesses:
George H. Hines
Charles H. Hines

Inventors
Alfred J. Ellis and
Charles E. Nellis.
By his Attorneys
Rosenbaum & Starkbrock

A. J. ELLIS & C. E. NELLIS.
HOLLOW METAL DOOR FRAME.
APPLICATION FILED SEPT. 1, 1910.

1,031,331.

Patented July 2, 1912.

2 SHEETS—SHEET 2.

Fig. 2.

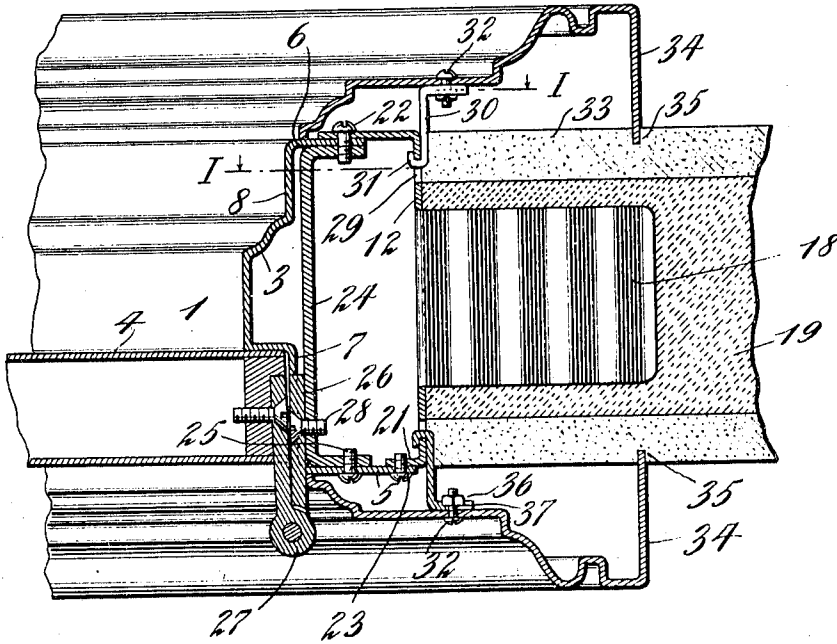


Fig. 3.

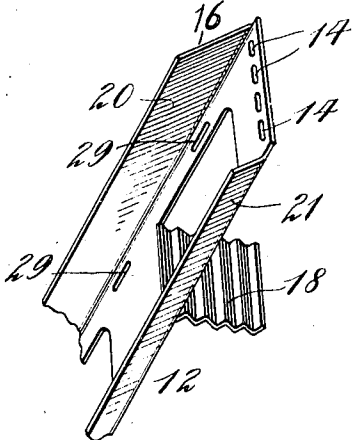


Fig. 6.

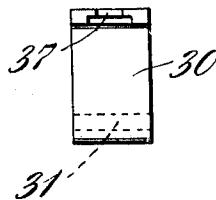
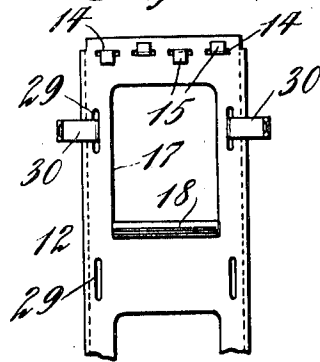


Fig. 4.



Witnesses:
Geo. C. Cheney
Chas. J. Brown

Inventors,
Alfred J. Ellis, and
Charles E. Nellis.
By *Attorneys*
Rosenbaum & Son, New York

UNITED STATES PATENT OFFICE.

ALFRED J. ELLIS, OF WOODCLIFF-ON-HUDSON, NEW JERSEY, AND CHARLES E. NELLIS, OF NEW YORK, N. Y., ASSIGNORS TO A. J. ELLIS, INC., A CORPORATION OF NEW JERSEY.

HOLLOW METAL DOOR-FRAME.

1,031,331.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed September 1, 1910. Serial No. 579,977.

To all whom it may concern:

Be it known that we, ALFRED J. ELLIS and CHARLES E. NELLIS, citizens of the United States, residing, respectively, at Woodcliff-on-Hudson, township of North Bergen, county of Hudson, State of New Jersey, and city of New York, borough of Brooklyn, State of New York, have invented certain new and useful Improvements in Hollow Metal Door-Frames, of which the following is a full, clear, and exact description.

This invention relates to hollow metal door frames, and has for its object the simplification of such structures providing a hollow metal door frame the parts of which may be readily assembled; our construction also obviating the necessity for extreme exactitude in laying out bolt or screw holes, and the like. The frame is preferably composed solely of straight members, means being provided for uniting such members to form a unitary structure.

A further object of our invention is to provide means integrally formed with certain of the said members whereby the latter may be firmly locked in position in brick-work or the like.

Other objects of our invention will be hereinafter set forth and more particularly pointed out in the appended claims.

Referring to the drawings which form a part hereof: Figure 1 shows an elevation of our improved door frame construction, the left hand side of the molding thereof being broken away to show some of the details of construction; a small section of the jamb and coöperating parts being further broken away to provide a fragmentary section substantially on the line I—I of Fig. 2. Fig. 2 is a fragmentary section of our frame, taken on the II—II of Fig. 1, the section being viewed as indicated by the arrows in Fig. 1. Fig. 3 is a perspective view of one end of one of the upright bucks. Fig. 4 is a fragmentary detail showing means for uniting the buck members. Fig. 5 is a perspective view of a left hand upper corner of the assembled jamb, viewed from above. Fig. 6 is a detail of one of the molding clips.

Like reference characters designate like parts throughout the several views.

Referring to the drawings, the vertical jamb sections have been broadly designated 1, and the corresponding horizontal jamb section 2. These jamb sections are provided with suitable molding 3 and are adapted to receive the door 4, in the usual manner. Each of the individual sections is virtually U-shaped, one of the legs of the U, as viewed in cross section, being designated 5, and the other 6; the leg 5 being considerably longer than leg 6 for reasons hereinafter set forth. The exposed face of the jamb is provided with a molding. Upon either side of the molding 3 of each of the jamb sections are flat portions 7 and 8, and such flat portions in the horizontal sections are adapted to slightly overlap corresponding parts of the vertical sections, or vice versa, as indicated in Fig. 5; the horizontal overlapping section there shown being slotted at 9 for the reception of projections or tongues 10 which extend upwardly from the corresponding portion of the adjacent section; such tongues being adapted to be bent over so that the parts may be firmly locked together. Additional tongues 11 may correspondingly project from the overlapping section, such tongues being bent downwardly and inwardly toward and into contact with the adjoining section, thereby still more firmly locking the parts together.

The buck for our assembled jamb sections is similarly formed of two vertical members and a horizontal upper member; such members being respectively designated 12 and 13. These members are adapted to interlock in the manner shown in Fig. 4, the vertical members being slotted as at 14 for the reception of tongues 15, which extend outwardly from and in alinement with the web of the buck member 13. We prefer to bend such tongues over alternately in opposite directions in the manner shown in Fig. 4, whereby the respective elements are very securely united together. The flanges of all parts are preferably cut at 45° as shown at 16 in Fig. 3. The vertical buck members 12 have a series of U-shaped cuts therein and the tongue 18 so formed is pressed outwardly substantially at right angles to the body of the member, as in Fig. 3. We prefer also to corrugate such

projections or tongues so that when the brick-work or concrete 19 is built up or filled in around the assembled buck members the said members are thereby firmly held in position in the wall.

The respective flanges of the buck members are of unequal width upon opposite sides of the door, the flanges 20 being relatively considerably wider than flanges 21, and by reason of this fact it becomes possible to insert the assembled jamb structure into position within the wall inclosed buck, the flanges 6 of the jamb and flanges 21 of the buck being narrow enough to permit of such insertion. After the jamb has been so positioned, it may be secured to the buck in any suitable manner, as by screws or bolts 22, which engage the wider flanges 20 of the buck and the narrower flanges 6 of the jamb, while corresponding screws or bolts 23 on the other side of the door secure the flanges 5 and 21 together. On the hinge side of the door, U-shaped hinge irons or strips 24 are secured at spaced intervals to the inner sides of the flanges of the jamb, a bolt 22 in such cases passing through one of the legs of such U-shaped strip, while the other end of said strips may be correspondingly fastened by means of a bolt 25. We prefer to recess or slot the exposed face of the jamb for the reception of the fixed elements 26 of the hinges 27, and hence these members may be directly secured to the hinge strips by means of screws or bolts 28. The webs of the buck members are slotted adjacent the edges thereof at spaced intervals as indicated at 29 in Figs. 3 and 4, and substantially L-shaped clips 30 are provided for engagement with these slots, the inner or longer legs of such clips being hooked as at 31 so as to neatly engage the webs. The shorter and laterally projecting legs of these clips are slotted as shown in Fig. 1 for the reception of bolts 32. A buck having been built in position; either before or after the jamb is placed therein, the clips 30 are hooked into engagement with the respective slots, and the plaster 33 is applied therearound. This plaster serves to temporarily hold the clips in position so that they project outwardly from the face thereof, and the respective sections of molding 34 are then applied to the face of the plaster and into engagement with the jamb flanges 5 and 6, the inwardly projecting flanges of the moldings 34 entering into and embedding their edges in the plaster as at 35, the bolts 32 being screwed securely into place to lock the several parts together. Bolts 32 are preferably provided with nuts 36; and the clips 30 are slotted at 37 in the manner indicated in Figs. 1 and 6, so that a certain amount of play is allowed in order that the respective molding sections may be neatly fitted together. The provision of slots 37

in the clips and slots 29 substantially at right angles to such slots in the webs of the buck sections, allows for adjustment of the molding sections in all lateral directions and obviates the necessity for any great exactitude in the positioning of bolt holes and the like.

It will thus be seen that our door frame construction may be most readily assembled, preferably but one portion of the same, to wit, the buck, being built into the brick-work at the time such brick-work is erected, the remaining portions being adapted to be applied thereto after the wall has been faced with plaster.

What we claim, is:

1. In a hollow metal door frame, a sheet metal buck having flanges upon opposite sides thereof projecting from the body of the buck out into the door space, flanges on one side of said door projecting more than the flanges on the other side, a jamb insertible into said buck, and means for securing said jamb in place, said jamb being adapted for direct engagement with the said flanges.

2. In a hollow metal door frame, a sheet-metal buck formed in sections, the assembled parts being substantially U-shaped, means for locking said parts together, a jamb constructed of proper size to fit into said buck when the parts of the latter have been assembled, and means for securing said buck and jamb together.

3. In a hollow metal door frame, a slotted sheet-metal buck, a plurality of clips having hooks adapted to engage the slots in said buck, said clips being hooked into engagement with said buck and being readily disengageable therefrom, a molding, and means for securing said molding to said clips.

4. In a hollow metal door frame, a flanged sheet-metal buck, the flanges whereof are of different widths, a flanged sheet-metal jamb, the flanges of which are of different widths, said jamb being insertible into said buck, the narrower flanges of the jamb engaging the wider flanges of the buck when the parts are assembled.

5. In a hollow metal door frame, a sheet-metal buck member, a sheet-metal jamb member, molding, hooked clips for adjustably securing said molding to one of the members aforesaid, and clamping devices for securing all of the parts in assembled relationship.

6. In a hollow metal door frame, a slotted buck, detachable hooked clips engageable with the slots in said buck, the slots being larger than the width of the hooks, said clips being thereby adjustable in one direction with respect to said buck, a molding, bolts carried thereby, said clips having slots with which said bolts are adapted to engage for adjustably uniting said molding and said clips, the molding being adjustable

with respect to the clips in a direction substantially at right angles to the direction aforesaid, said molding further being adapted to be firmly clamped in position by the 5 bolts aforesaid.

7. In a hollow metal door frame, a buck, clips engageable therewith and so disposed thereagainst that the plaster facing of the wall may retain said parts in engagement 10 while assembling, molding, and means for uniting said molding and clips.

8. In a hollow metal door frame, a flanged sectional buck, a flanged sectional jamb, means for securing said buck and jamb together, molding sections, and means comprising clips and members engageable therewith, said members being accessible from the 15

outside of the molding for rigidly clamping said sections to said buck and jamb.

9. A hollow metal door or window frame 20 comprising a sheet-metal buck formed in sections, and a sectional jamb constructed of proper size to fit into said buck when the parts of both have been respectively and separately assembled, and means for securing 25 said buck and jamb together.

In witness whereof, we subscribe our signatures in the presence of two witnesses.

ALFRED J. ELLIS.
CHARLES E. NELLIS.

Witnesses:

WALDO M. CHAPIN,
WILLIAM C. LARY.