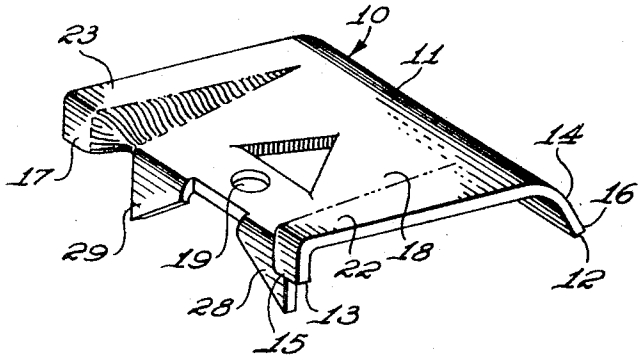
May 23, 1967 L. R. DOWNING, JR 3,320,705

DOOR FRAME FASTENER

Filed June 15, 1965

Fig. 1



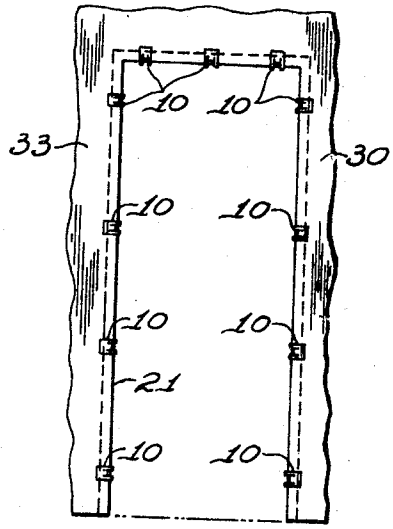


Fig. 2

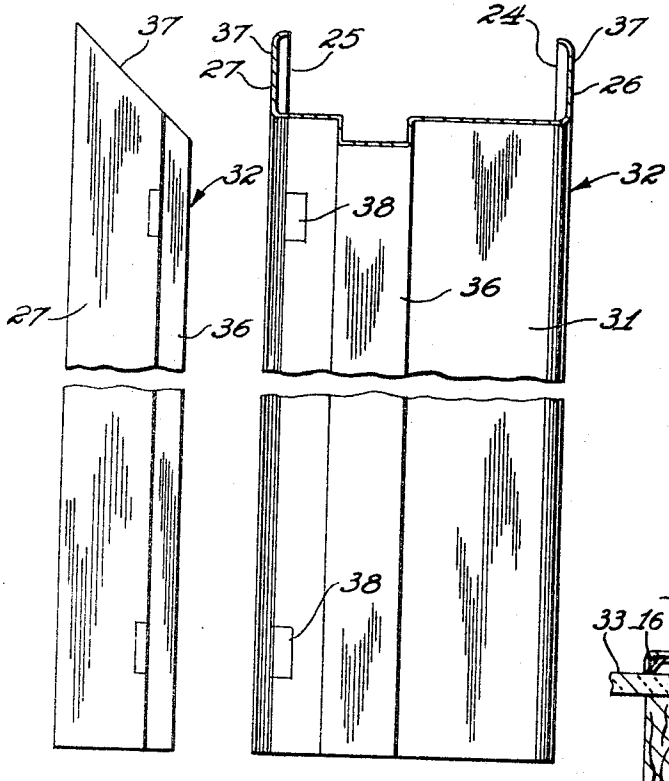


Fig. 4

Fig. 3

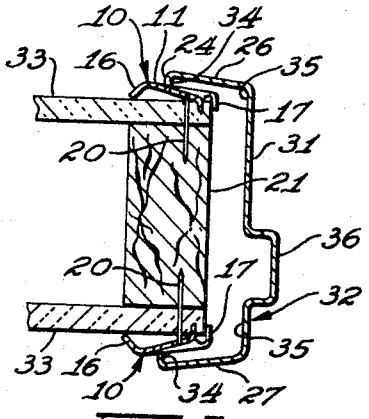


Fig. 5

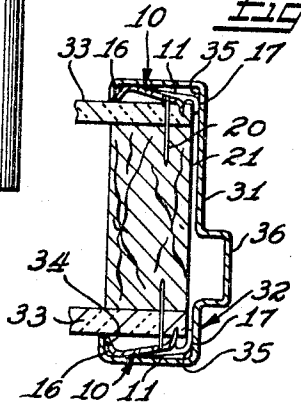


Fig. 6

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3,320,705
DOOR FRAME FASTENER

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This invention relates generally to fastening devices, and more particularly to a fastener for securing a metal door frame to a partition wall.

The term "frame" as hereinafter used means an integral member comprising a door jamb, stop and casing.

Many of the metal door frames presently used are complete units; that is, the side frames are integral with the head or top frame. Installing such a frame presents a problem. For example, if the door frame is set after the partition wall is built, but prior to semi-finishing the wall, e.g. plastering or drywall, the rough door opening should be at least as wide as the overall width of the frame to permit its installation. The frame is then secured to the studs of the rough wall member surrounding the opening, with clips or other suitable fastening devices. These clips, however, are not too satisfactory as they permit relative movement of the frame in the opening. Another method for installing the frame is to initially set the frame, and then build the partition wall to the frame. However, this is not too practical as the frame is difficult to work around. In both installations, the frame is subject to damage by workmen performing their various trades. This invention solves this problem by providing a novel fastening device for securing the frame to the partition wall after compleition of the wall; i.e. after it has been semi-finished by plaster or drywall or completely finished by painting or decorating the semi-finished wall.

Briefly stated, this invention is a fastening device and the method of installing a door frame in an opening in a partition wall having semi-finished or finished wall surfaces using a plurality of the novel fastening devices. The door frames used are not complete unitized door frames; that is, the sides are separate from the head or top frame. The sides and head each include a pair of oppositely disposed integral casings held in spaced apart relation by a door jamb, and are individually installed using the novel fastening device or clip. A plurality of fastening clips are secured around the rough door opening on either side of the partition wall. The individual frames, i.e. head and sides are placed in the opening adjacent the clips, and forced over the clips into position forming a complete frame for the door. Each fastening device or clip has a sloped wedging surface which diverges from the opening and wall surfaces for engaging the free marginal edges of the integral casings forcing them away from the wall surfaces as the frame is installed. When in position, the free edges of the casings resiliently spring behind the clips and abut the finished wall surface. The clips lockingly engage the integral door casing on the frame for holding the frame securely to the partition wall.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the appended claims, the following description and annexed drawings setting forth in detail certain illustrative embodiments of the invention, such disclosed means constituting, however, but a few of the various forms in which the principle of this invention may be employed.

The following description will be better understood by having reference to the annexed drawings, wherein:

FIG. 1 is a perspective view of the fastening clip of this invention;

FIG. 2 is a fragmentary view of a partition wall illustrating how the fastening clips are secured around the rough door frame opening;

FIG. 3 is a front view of a metal door frame;

FIG. 4 is a side view of the metal door frame;

FIG. 5 is a sectional view of the door frame being secured to a partition wall using the fastening clips of this invention; and

FIG. 6 is a sectional view of the door frame in its installed position.

Referring more particularly to FIG. 1 of the annexed drawings, there is shown a fastening clip generally indicated at **10**. The fastening clip may be made of any suitable material, e.g. metal or plastic. The clip **10** is generally U-shaped having a sloped wedging or prying surface **11**. The wedging surface **11** of the clip **10** is formed by disparately crimping or bending the free marginal edges **12** and **13** of the clip **10** forming unequal flanges or legs **14** and **15**, respectively. The legs **14** and **15** form a pair of spaced apart abutments **16** and **17**.

A portion **18** of the wedging surface **11** is recessed, being deformed out of the plane of the wedging surface **11**. A hole or opening **19** is disposed in the recessed portion **18**. A nail **20** (FIGS. 5 and 6) or other suitable fastening device is driven through the hole **19** into the material surrounding the rough door frame opening **21** (FIGS. 5 and 6).

The recessed portion **18** divides the wedging surface into a pair of oppositely disposed wedges **22** and **23**. The recess portion **18** is provided to keep the nail or fastening device **20** out of the plane of the wedging surface **11**. In other words, the nail **20** will not hit or interfere with the free marginal edges **24** and **25** of the opposing metal door frame casings **26** and **27** respectively, (FIGS. 5 and 6) as they ride over the wedges **22** and **23**.

A pair of projections or grippers **28** and **29** may be provided. The grippers **28** and **29** are, preferably, punched or formed from the recessed portion **18**. The grippers **28** and **29** are pointed and driven into the material surrounding the door opening **21** in the same manner as the fastening devices or nails **20**.

Referring more particularly to FIGS. 2–6, the rough opening **21** provided in the partition wall **30** is slightly larger than the finished door opening formed between opposing door frame jambs, e.g. jamb **31**. A plurality of clips **10** are secured to the door frame opening **21** and are spaced therearound (FIG. 2). The individual frame sections, that is, the head (not shown) and two similar side frames, e.g. frame **32**, are installed, the head frame preferably being installed first. FIGS. 5 and 6 show in greater detail how the individual frames are installed. The frame **32** is positioned in the rough opening **21** adjacent the clips **10**. The frame **32** is then forced over the clips **10**, the wedges **22** and **23** engage the marginal edges **24** and **25** of the door casings **26** and **27**, respectively, and force them away from the wall surfaces **33**. The frames, e.g. frame **32**, are forced into position until the marginal edges **24** and **25**, respectively, of the casings **26** and **27** interlock behind the metal fasteners **10**. In this manner, the free ends of the casings are kept from scratching or marring the finished wall surfaces **33** as the frames are installed. The distance between the clip abutments **16** and **17** is substantially equal in width to the distance between the abutments **34** and **35** defining the door frame casings **26** and **27**. The clip abutments **16** and **17** coact with the casing abutments **34** and **35** to firmly hold the individual frame, e.g. frame **32**, to the partition wall **30**. The door frame may be of any suitable stock design, that is, a frame comprising a jamb **31**, metal casings **26** and **27**, and a door stop **36**, when needed. The abutting corners of the head and side frames, e.g. corner **37**, are mitered in the manner shown

in FIGS. 3 and 4. If greater rigidity is desired, the mitered joints between the frame sections may be welded together or joined by any other suitable means. The door jamb **31** is routed as at **38** to receive a pair of conventionally designed door hinges (not shown).

Thus there has been provided a new and novel fastening device for securing a door frame in a rough door opening in a partition wall. This fasteneing device permits the partition wall to be semi-finished, e.g. plastered or drywalled, or completely decorated, i.e. painting or papering the semi-finished wall before the actual door frame is installed. The clips are secured to the finished walls and the metal frames snapped into position. The frames are easily installed and securely held within the rough door opening. Using a prefinished door frame and doors, the frame is quickly installed and the door hung to provide a completed finished opening.

Other modes of applying the principle of this invention may be employed instead of those specifically set forth above, changes being made as regards the details herein disclosed, provided the elements set forth in any of the following claims, or the equivalent of such be employed.

It is, therefore, particularly pointed out and distinctly claimed as the invention:

1. In an opening in a partition wall having a pair of oppositely disposed spaced apart planar wall surfaces, a door frame and means for securing it in the opening, comprising:

(a) a door jamb in the opening having a pair of spaced apart, parallel, marginal edges adjacent the wall surfaces;

(b) a casing resiliently secured to each marginal edge of the jamb and having its free marginal edge overlapping the wall surface adjacent the opening;

(c) abutments disposed at the marginal edges of each casing;

(d) a plurality of spaced fastening devices secured on each wall surface adjacent the opening for engaging and holding the adjacent casing, each device comprising:

(1) a sloped wedging surface diverging from the wall surface and opening, and having opposing marginal edges, the wedging surfaces engaging the free marginal edges of the casings and forcing them from the wall surfaces as the casings are forced over the fastening devices; and

(2) a mating abutment at each marginal edge of the wedging surface for interlockingly engaging the abutments at the marginal edges of the casings to hold the door frame in the opening; and

(e) means coacting with the fastening devices for securing them to the wall surfaces.

2. The door frame and frame securing means of claim **1**, wherein the wedging surface includes a recessed portion for receiving the fastening device securing means to keep it out of the plane of the wedging surface.

3. A fastening device used in combination with other such devices, for holding an integrally formed door frame including a door jamb and a pair of oppositely disposed resiliently mounted casings in an opening in a partition wall, having planar wall surfaces comprising:

(a) a sloped wedging surface diverging from the partition wall surfaces and opening, said surface having opposing marginal edges and designed to force the free ends of the casings away from the wall surfaces as the frame is installed;

(b) a first abutment disposed at one of said surfaces' marginal edges and extending into the opening for abutting engagement with the door frame; and

(c) a second abutment disposed at said surfaces' other marginal edge for abutting engagement with the free end of a door casing, said abutments coacting with the frame to restrict lateral movement thereof relative to the fastening device.

4. The fastening device of claim **3**, which includes a recess in the wedging surface for receiving a fastener used for holding said device adjacent the opening, and keeping said fastener out of the plane of said wedging surface.

5. The fastening device of claim **4**, which includes means projecting out of the plane of said wedging surface for gripping a planar wall surface adjacent the opening.

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