Sept. 16, 1930. H. R. GRABLE 1,775,720

ADJUSTABLE DOOR FRAME

Filed April 2, 1929 3 Sheets-Sheet 1

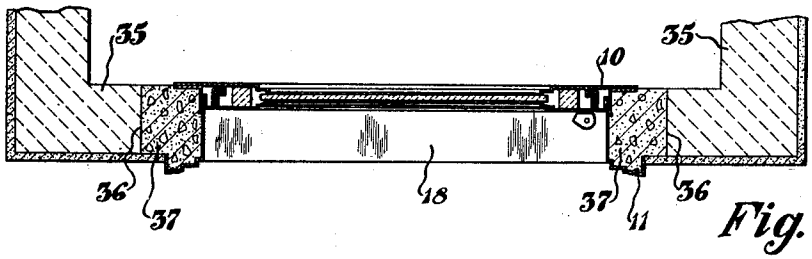


Fig. 2

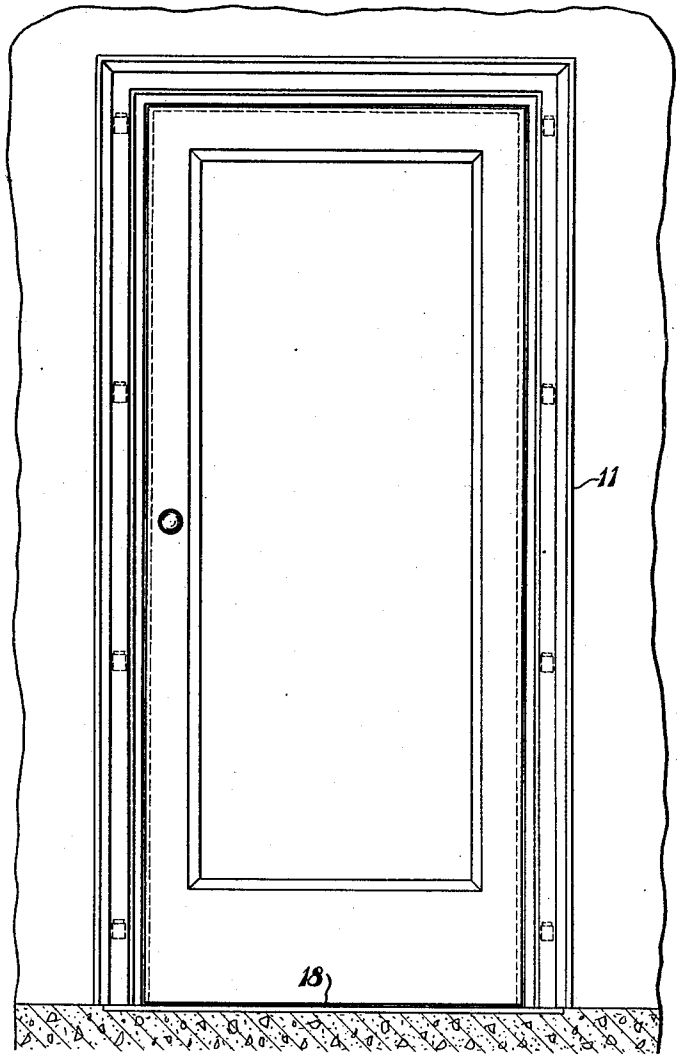


Fig. 1

Inventor

Hugh R. Grable

By Harry Grease

Attorney

Sept. 16, 1930. H. R. GRABLE 1,775,720

ADJUSTABLE DOOR FRAME

Filed April 2, 1929 3 Sheets-Sheet 2

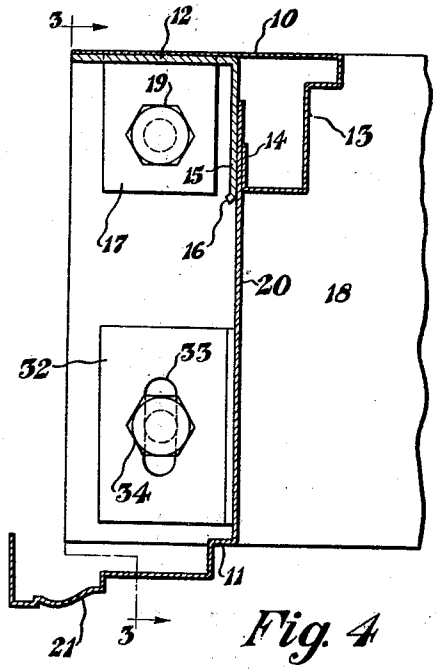


Fig. 4

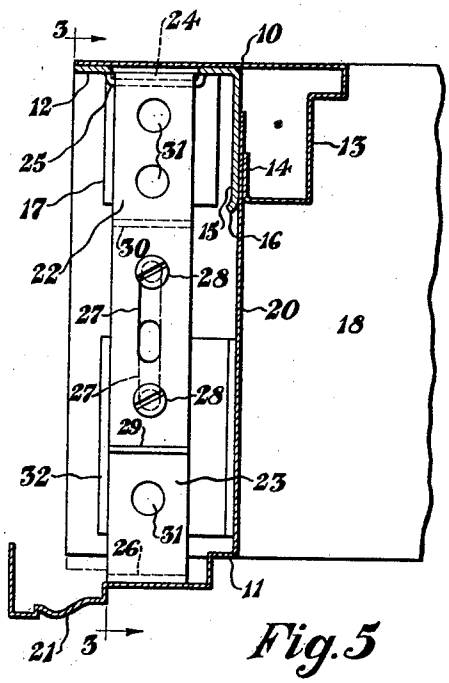


Fig. 5

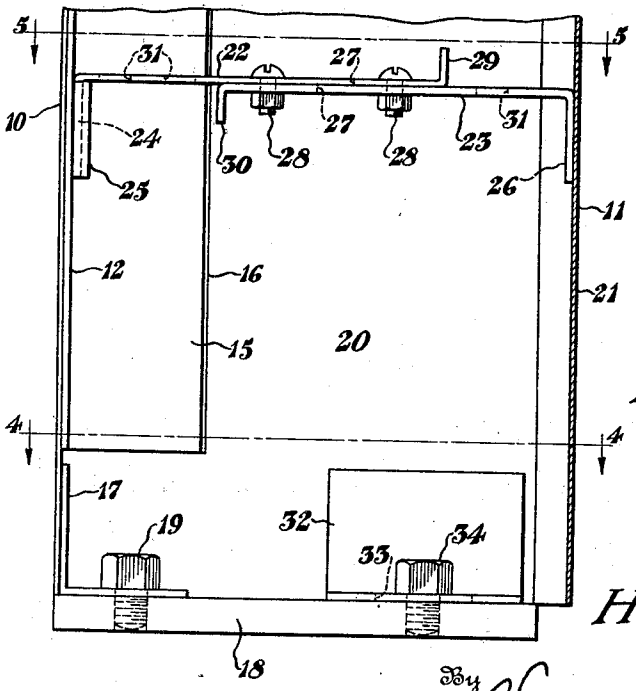


Fig. 3

Inventor

Hugh R. Grable

By Harry Grease Attorney

Sept. 16, 1930. H. R. GRABLE 1,775,720

ADJUSTABLE DOOR FRAME

Filed April 2, 1929 3 Sheets-Sheet 3

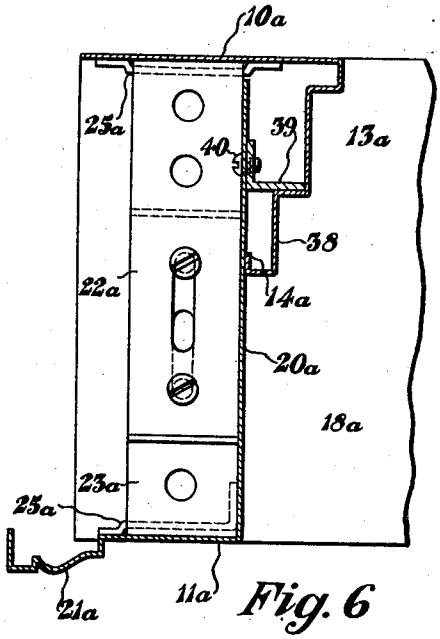


Fig. 6

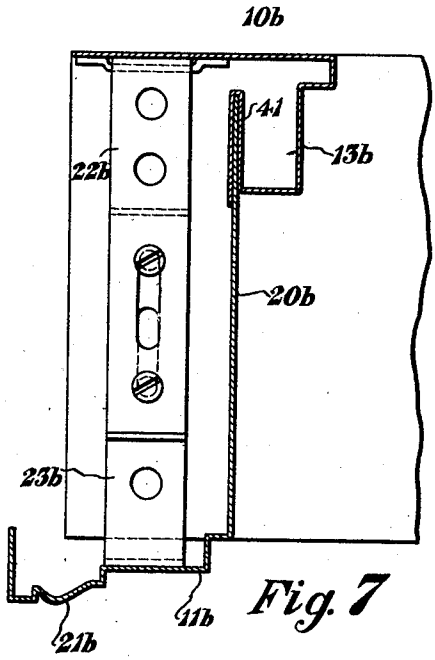


Fig. 7

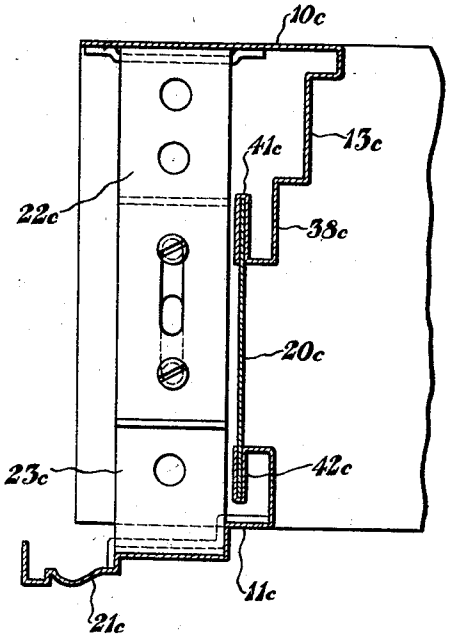


Fig. 8

Inventor

Hugh R. Grable

By Harry Frease

Attorney

Patented Sept. 16, 1930 1,775,720

UNITED STATES PATENT OFFICE

HUGH R. GRABLE, OF CANTON, OHIO

ADJUSTABLE DOOR FRAME

Application filed April 2, 1929. Serial No. 351,923.

The invention relates to metal door frames for elevator doors and other door openings in a building and more particularly to a frame of this general character which may be adjusted to compensate for variations or discrepancies in the thickness and alinement of the wall surrounding the elevator shaft or other door opening.

In the building of apartment houses and the like of inexpensive construction, it frequently happens, owing to the unskilled labor employed and the lack of care in the work, that the walls of the building are out of plumb.

Where such a condition exists in the walls of an elevator shaft or elsewhere in the building considerable difficulty is experienced in installing the door frames to the elevator entrances upon the several floors or for the door openings elsewhere in the building.

It is obvious that especially in the construction of elevator shafts, all of the door frames upon the various floors must be vertically alined upon the shaft side so that the elevator car will have just the proper clearance at each doorway and no more.

In using the type of door frame now in common use in a case where the walls of the elevator shaft are not exactly plumb, it will be seen that when the door frames are all erected and properly alined vertically upon the shaft side, a great many of these door frames will not properly fit with the wall upon the corridor side, thus causing considerable difficulty in the erection and installation of the door frames, and finishing of the wall around the same and producing an unsightly appearance.

The object of the present improvement is to provide an adjustable metal door frame especially adapted for use in elevator doorways, where the walls of the shaft are not plumb, or for use in doorways elsewhere in the building where there are variations in the thickness of the walls, the improved door frame being arranged so that it may be easily and readily alined vertically with all of the other door frames on the shaft side, after which the corridor side of the frame may be adjusted to properly fit the wall, thus overcoming the difficulties and objections above referred to.

An embodiment of the invention thus set forth in general terms is illustrated in the accompanying drawings, in which

Figure 1 is an elevation of the improved door frame mounted in an elevator doorway and showing a door hung therein;

Fig. 2, a plan sectional view of the same;

Fig. 3, an enlarged vertical sectional view of the lower portion of the improved door frame as on the line 3—3, Figs. 4 and 5;

Fig. 4, a plan section taken substantially on the line 4—4, Fig. 3;

Fig. 5, a similar section as on the line 5—5, Fig. 3;

Fig. 6, a section similar to Fig. 5, showing a modified form of adjusting means;

Fig. 7, a similar view showing a further modification of the adjusting means; and

Fig. 8, a still further modification.

Similar numerals refer to similar parts throughout the drawings.

The improved door frame comprises two independent frame members, one on the shaft side and the other on the corridor side with means for adjustably securing the frame members together in the desired position.

Referring more particularly to the form of the invention illustrated in Figs. 1 to 5 inclusive, the frame includes the two independent, relatively adjustable frame members 10 and 11 upon the shaft and corridor sides, respectively.

The frame member 10 may be spot welded or otherwise connected to the buck 12 and has formed integrally thereon the door jamb portion 13 terminating in the backwardly disposed vertical flange 14, parallel with and slightly spaced from the flange 15 of the buck, the outer edge of which may be outturned as at 16 for a purpose to be later described.

An angle member 17 may be spot welded or otherwise connected to the lower portion of the frame member 10 and rigidly attached to the sill 18 as by the cap screw 19, the frame member 10 being thus located substantially flush with the shaft side of the sill.

The frame member 11 includes the casing flange 20 and the molding or trim portion 21 which is located upon the corridor side of the frame. The flange 20 is adapted to be slidably entered between the flange 15 of the buck and the flange 14 of the jamb, the outturned edge 16 of the buck flange permitting the same to be easily entered.

For the purpose of adjustably securing the frame members 10 and 11 together in any desired position, a plurality of pairs of relatively adjustable tiebars 22 and 23 are provided.

Each of the bars 22 may be provided with the downturned outer end 24 adapted to be received within the keeper 25 formed upon the buck or otherwise rigidly attached.

The bar 23 is similarly provided at its outer end with a downturned flange 26 which may be spot welded or otherwise rigidly connected to the inner side of the frame member 11. These bars are provided with the elongated slots 27 to receive the bolts 28 and permit of the bars being adjusted with relation to each other and then rigidly held in the adjusted position.

The inner ends of the bars 22 and 23 are upturned and downturned respectively forming angular flanges, as shown at 29 and 30, and each bar may be provided with apertures 31 to permit cement or the like to enter the same and permanently hold the bars against movement after the wall is completed around the frame, thus permanently holding both members of the frame in the adjusted position.

For the purpose of adjustably connecting the frame member 11 to the sill, and angle member 32 may be spot welded or otherwise connected to the lower end portion of the flange 20 and provided with an elongated slot 33 to receive a cap screw 34 whereby when the frame 11 is properly adjusted with reference to the frame 12 the cap screw 34 may be tightened, forming a rigid connection between the frame 11 and the sill.

In building the walls of an elevator shaft, the walls as indicated at 35, in Fig. 2, are completed only to about the point shown at 36, leaving a considerable space around the door opening.

The improved door frames are then installed within these door openings, the shaft side member 10 of each frame being vertically alined with the members 10 of all of the other door frames on the floors above and below.

The corridor side member 11 is then properly adjusted, in the manner above described, to compensate for any discrepancy in the walls, and fastened in the adjusted position.

Cement or the like as shown at 37 is then filled in entirely around the door frame and within the opening 36, the cement passing through the apertures 31 in the adjusting bars and engaging around the bolts and nuts therein and the flanges 29 and 30 thereof, whereby when the cement hardens, the two frame members 10 and 11 are rigidly and permanently held in the adjusted position.

Thus, regardless of any discrepancy or variation in the alinement or thickness of the wall, the improved door frame may be easily and readily installed and adjusted so that the shaft side of the frame is accurately alined with all of the other frames in the shaft, while the corridor side thereof may be adjusted to properly fit the wall and overcome the objections and difficulties present in the frames now in common use, as above referred to.

Slight modifications of the invention are illustrated in Figs. 6 to 8 inclusive which, while differing in minor details of construction, embody the same adjustable principle illustrated and described as to Figs. 1 to 5 inclusive.

In Fig. 6, the shaft side member 10^a has the jamb portion 13^a formed thereon and an offset portion 38 terminating in the backturned flange 14^a. An angle iron 39 may be spot welded or otherwise attached to the inside of the jamb portion.

The corridor side member 11^a may be provided with the casing flange 20^a adapted to be connected to the angle iron 39 as by screws 40 and also includes the molding portion 21^a.

The adjusting bars 22^a and 23^a may be substantially the same as above described and connected to the frame members 10^a and 11^a respectively as by the keepers 25^a or other suitable means.

Otherwise the frame may be the same as that shown in Figs. 1 to 5 inclusive and arranged to be connected to the sill 18^a in the manner above described. When the two frame members are properly adjusted, holes may be drilled in the flange 20^a at the proper point to receive the screws 40 so that this flange may be connected to the angle iron 39.

In Fig. 7 the frame member 10^b has the jamb portion 13^b formed integrally therewith and this jamb portion has the channel portion 41 formed thereon to receive the edge portion of the casing flange 20^b formed upon the frame member 11^b which may also be provided with the molding 21^b. Otherwise the frame may be as above described, the adjustment being produced by means of the bars 22^b and 23^b.

When the proper adjustment is arrived at, the flange 20^b is cut off to the proper width and inserted into the channel 41 and the parts tightened in adjusted position, as above described.

In Fig. 8 the frame member 10^c may be provided with the jamb portion 13^c and offset portion 38^c terminating in the channel portion 41^c. The frame member 11^c may be

provided with the molding portion 21e and with the channel portion 42e.

The adjusting bars 22e and 23e may be as above described and when the proper adjustment is determined the casing strip 20e is cut to the right length and inserted into the channels 41e and 42e and the parts adjusted and locked in the adjusted position, as above described.

In each of these modified forms of the invention the frame members may be connected to the sill in the same manner as shown and described regarding the form of the invention illustrated in Figs. 1 to 5 inclusive.

Although the improved adjustable door frame is illustrated and described more particularly for use in elevator door openings, it should be understood that the same is equally applicable to all kinds of door openings. The adjustability of the door frame makes it easily and quickly adaptable to walls of varying thickness, thus making it possible to accommodate one size of door frame to walls which may vary several inches in thickness, and obviating the necessity of building a separate size of frame for each thickness of wall.

I claim:

1. A door frame for a door opening in a wall including a pair of frame members, means for adjusting the frame members relative to each other, means for locking the frame members in adjusted position, a sill, means for attaching one of the frame members to one side of the sill and means for adjustably attaching the other frame member to the other side of the sill.

2. A door frame for a door opening in a wall including a pair of frame members, means for adjusting the frame members relative to each other, means for locking the frame members in adjusted position, a sill, and means for adjustably attaching the frame members to the sill.

3. A door frame for a door opening in a wall including a pair of frame members, adjusting bars for adjusting the frame members relative to each other, means for locking the bars in adjusted position, a sill, and means including angular flanges on the bars for attaching the frame members to the sill.

4. A door frame for a door opening in a wall including a pair of frame members, adjusting bars for adjusting the frame members relative to each other, means for locking the bars in adjusted position, a sill, and means for adjustably attaching the frame members to the sill.

5. A door frame for elevator openings including a shaft side frame member and a corridor side frame member, independently adjustable with relation to each other, a sill, means for attaching the shaft side member to the sill substantially flush with the adjacent edge thereof, and means for adjustably attaching the corridor side member to the sill.

6. A door frame for elevator openings including a shaft side frame member and a corridor side frame member, independently adjustable with relation to each other, a sill, means for attaching the shaft side member to the sill substantially flush with the adjacent edge thereof, means for adjustably attaching the corridor side member to the sill, adjusting bars carried by the frame members, and means for locking the bars together in adjusted position.

7. A door frame for door openings in an elevator shaft including a shaft side frame member and a corridor side frame member independendtly adjustable with relation to each other, a sill, means for attaching the shaft side member to the sill in proper alignment with the shaft side members of other door frames in said elevator shaft, and means for adjustably attaching the corridor side frame member to the sill.

8. A door frame for door openings in an elevator shaft including a shaft side frame member and a corridor side frame member, adjusting bars for adjusting the frame members with relation to each other, a sill, means for attaching the shaft side member to the sill in proper alignment with the shaft side members of other door frames in said elevator shaft, means for adjustably attaching the corridor side frame member to the sill, and means for locking the frame members in adjusted position.

In testimony that I claim the above, I have hereunto subscribed my name.

HUGH R. GRABLE.