United States Patent

Bjork

[15] **3,648,421**

[45] **Mar. 14, 1972**

[54] DOOR FRAME BRACE

[72] Inventor: **Willard L. Bjork,** 7341 W. 114th Place, Worth, Ill. 60482

[22] Filed: **Oct. 7, 1969**

[21] Appl. No.: **864,369**

[52] **U.S. Cl.**.....**52/99,** 52/127, 52/714, 248/351

[51] **Int. Cl.**.....**E04g 21/18,** E04g 21/26

[58] **Field of Search**.....52/98, 99, 127, 146, 149; 248/357, 353, 351; 182/169

[56] **References Cited**

UNITED STATES PATENTS

2,032,132	2/1936	Koralik	248/353
1,508,392	9/1924	Heun	248/351 X
1,587,202	6/1926	Tompkins	248/353
1,716,779	6/1929	Kanter	248/353
2,914,813	12/1959	Christian et al	52/127
3,226,781	1/1966	Schnabel	52/98 X

FOREIGN PATENTS OR APPLICATIONS

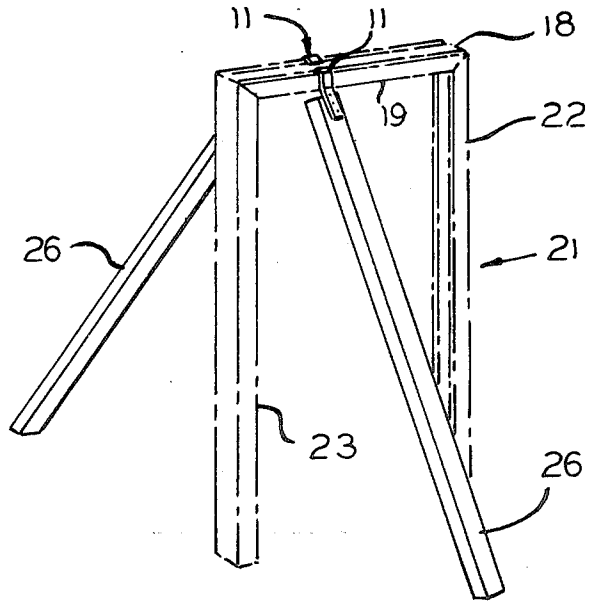
1,199,190	6/1959	France	182/169

Primary Examiner—Alfred C. Perham
Attorney—Alter, Weiss & Whitesel

[57] **ABSTRACT**

A unique brace for supporting metal door frames during construction therearound of masonry walls. The brace comprises a characterized hook section which because of its conforming shape removably but securely fastens to accessible portions of the frame. Means are provided for readily attaching 2 × 4's to the hook section to extend the hook section to a supporting surface.

1 Claims, 9 Drawing Figures



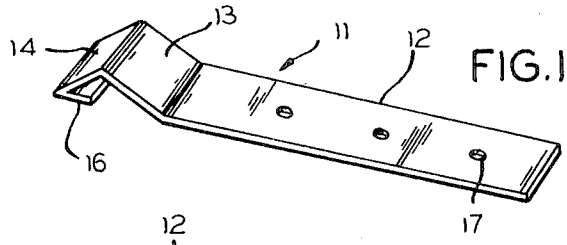


FIG.1

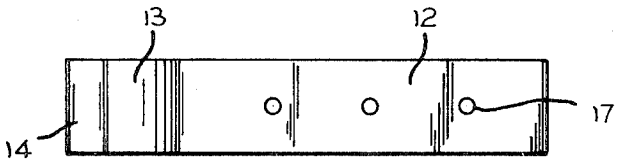


FIG.2

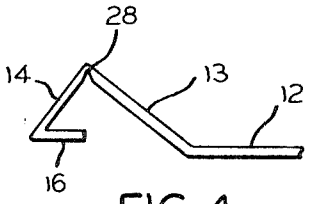


FIG.4

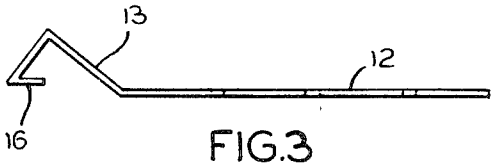


FIG.3

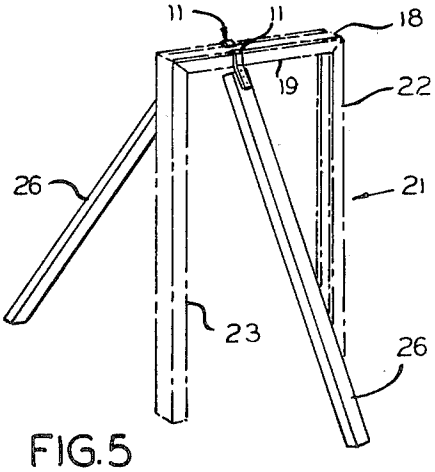


FIG.5

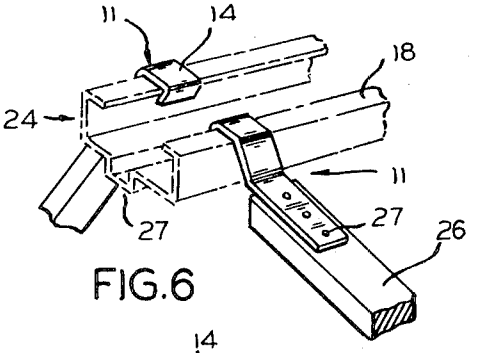


FIG.6

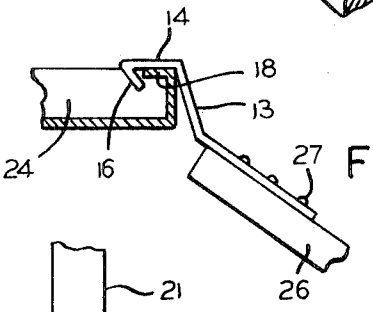


FIG.7

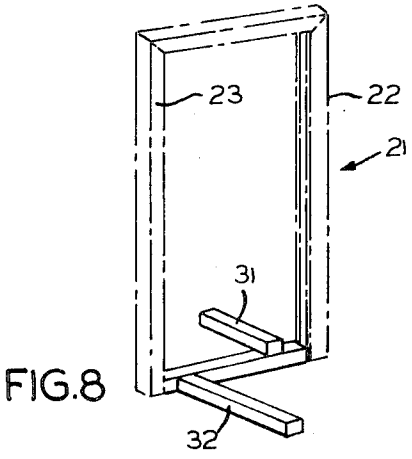


FIG.8

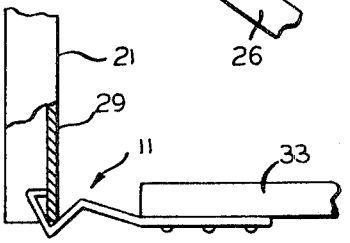


FIG.9

INVENTOR
WILLARD L. BJORK

BY Alter and Weiss
ATTORNEYS

DOOR FRAME BRACE

This invention relates to supporting braces and particularly to braces for use in supporting metal door frames while the walls of a structure are constructed about the frame.

Preassembled frames, usually fabricated from metal, are being used to a greater extent in the construction industry. These frames are presently braced in the desired position on a floor surface and the wall, usually of the masonry type, is built around the frame being braced. The bracing is generally hand constructed on the construction cite. Since the door frame is of metal, it is relatively difficult to securely attach 2 × 4's for the bracing directly to the door frame portions. Accordingly, the door frames generally are complicated "Rube Goldberg" type constructions, which take valuable time to fabricate and then do not reliably do their job in that the door frames often tend to "walk" during the construction process.

More recently, preassembled metal type braces have been used in supporting the door frames. These preassembled metallic braces have been extremely complicated. Generally they comprise a clamping arrangement which adjustably fits onto one or both of the door frame jambs and thereby brace the door frame to the floor structure. These complicated clamping arrangements have not proved suitable because of many factors. Among these factors are the extreme complication of the clamps themselves, which often become jammed because of the adverse ambient conditions including the various types of lose building materials in the vicinity. Also, these type of arrangements are heavy and unwieldy and have not proved to save that much time and effort in bracing the door frames.

Accordingly, an object of this invention is to provide a unique and simple door frame which adequately and reliably braces the preassembled door frames while the walls are constructed therearound.

A related object of this invention is to provide a characterized hook structure which conforms to a desired section of the door frame to securely but removably attach to the preassembled door frames.

A still further related object is to provide a door frame brace which utilizes readily available 2 × 4's to extend from the attached door frame section to a supporting surface.

A still further object of this invention is to provide a hook for the door frame brace. The hook provides means for facilitating the attachment thereof to the 2 × 4's.

In accordance with one aspect of the invention, the door frame brace comprises a characterized hook section which is shaped to conform to a portion of the door frame. Mean such as nail receiving apertures are provided on the hook section for attaching thereto 2 × 4's of sufficient length to reach from the attached door section to support surface such as the floor for bracing the metallic door frame.

The foregoing and other objects and advantages of this invention, and the manner of obtaining them will become more apparent, and the invention itself will be best understood by reference to the following description of preferred embodiments of the invention taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a pictorial view of the brace hook section;

FIG. 2 is a top view of the brace hook section;

FIG. 3 is a side view of the brace hook section;

FIG. 4 is a partial side view of another embodiment of the brace hook section;

FIG. 5 pictorially shows the door frame brace in cooperation with a door frame;

FIG. 6 shows the connection of the brace hook section to the head section of the door frame;

FIG. 7 shows a partial sectional view of the head section of the door frame and the cooperating hook section of the door frame brace;

FIG. 8 shows another embodiment of the door frame brace; and

FIG. 9 shows details of the door frame brace of FIG. 8.

Referring now to the drawings, FIGS. 1 thru 3 show a brace hook section generally designated as 11. The hook section 11 comprises means such as extension attaching section 12 for attaching 2 × 4's of the requisite length to the hook section 11.

A biased section 13 leads to means for attaching the brace to a prefabricated door from such as a conforming section 14, and a locking section 16.

The means for attaching the hook to an extension can be a fitted sleeve section, for example, whereby the hook section is slipped over a 2 × 4. Most efficiently, however, the means used for attaching the extension attaching section to the extension comprises a plurality of apertures such as aperture 17 for use in receiving nails therethrough for attaching the hook section 11 to a 2 × 4.

The biased section 13 leads from the extension attaching section at an angle so that the conforming section 14 fits or conforms to the lip 18 of the head section 19 of the door frame 21 shown particularly in FIGS. 5 and 6. Because of biased section 13, a 2 × 4 extension attaching section is biased away from the door frame and thereby acts to support the door frame when such a brace is attached to each side of the door frame. Thus, the prefabricated door frame is readily held in a stable position while a wall is built therearound.

As shown in FIG. 5, the door frame 21 comprises the well known side jambs, 22, 23 attached together with the head section 18. The head section 18 generally is shown comprising a channel section 24 which has lips 18 disposed inwardly from both sides of the channel section. In this particular example, the conforming section 14 fits onto the horizontal lip section and the locking section is juxtaposed underneath the lip section thereby removably locking the hook to the door frame.

As shown particularly in FIGS. 5 and 6, a 2 × 4 26 is attached to the hook section 11. The 2 × 4 is cut so as to provide a stable bias bracing section reaching from the extension attachment section of the hook to a floor structure. The 2 × 4 is shown attached with nails such as nail 27 slip fitted through aperture 17 and driven into the 2 × 4, 26. In FIG. 6, one can also see that the channel section 24 also may include a sub channel section 27. Regardless of whether or not the head section 19 includes a sub channel section, they all include the upper lip 18. It is this upper lip to which the brace hook conforms to provide the attaching means for attaching the brace to the door frame.

FIG. 4 shows another embodiment of the hook section for use in providing a brace such as that shown in FIGS. 8 and 9. Here again, the brace hook comprises the same extension attaching section 12 having apertures therein for attaching to 2 × 4's. A bias section 13, and a conforming section 14, as well as a hook 16, are also provided. A unique feature of this hook; however, is that the juncture between the bias section and the conforming section is scored at 28. As can be seen from FIGS. 8 and 9, the scoring is necessary to remove the brace after the wall is built, and when the brace is used as shown in FIGS. 8 and 9.

More particularly, the door jambs 22 and 23 of the door frame 21 of FIGS. 8 and 9 is mounted immediately on top of and contiguous to the hook section 11 when the brace is used as shown. Thus, as particularly shown in FIG. 9, the inner wall 29 of door jamb 21 sets right at the juncture of conforming section 14 and bias section 13. The end of locking section 16 abuts the outside portion of the inner wall 29 of door jamb 21. A 2 × 4 can then be attached as shown in FIG. 8 between two brace sections, each mounted under the respective door jambs 23, 22. Alternatively, a 2 × 4 can be mounted to the hook section and transversely thereto so that it extends perpendicularly to the entrance provided by the door frame. When the door brace is mounted to extend across the door entrance at the bottom thereof between the door jambs, additional 2 × 4's are hammered as shown with the 2 × 4, 31 and the 2 × 4, 32 to provide proper support for the door frame. If the brace is used as shown in FIG. 9, where the 2 × 4, 33 is mounted transverse to the hook section, then there is no 2 × 4 extending clear across the door entrance. The 2 × 4, 33 and one mounted on the other door jamb, for example, would be enough to sufficiently support the door frame.

After the wall is built, the door frame brace is disconnected by manipulating the 2 × 4 and attached hook section up and down a few times to break the hook section at the scored intersection **28** thereby leaving a portion of the hook section imbedded beneath the door frame.

Thus, the invention is used by first attaching the hook section to a 2 × 4, either transverse thereto or an an extension of the extension attaching section of the hook. The hook and 2 × 4 are then attached to the lip of the head section to brace the door frame until the built up wall sufficiently supports the frame. The hooked brace is then removed and the wall is completed.

The drawings illustrate a specific construction and arrangement of the parts and features, however, many changes may be made in their construction without effecting the performance of the device, and I reserve the right to make such changes as I may deem convenient without departing from the spirit of my invention, or the scope of my claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent in the United States is:

1. The door frame brace for temporarily supporting prefabricated door frames while a wall is constructed around the frames,

said brace comprising:

a single hook section for removably securing said brace to said frame,

said hook section means being an integral unit fabricated from one piece of material,

an extension section integral to said hook section for attaching said hook section to one end of extending means to extend said hook section for propping it against a supporting surface to thereby support said prefabricated door frame while said wall is being constructed around said door frame and readily enabling the removal of said brace from the door frame after the construction of said wall,

said hook section comprising a conforming section arranged to be contiguous to a defined portion of the door frame while said frame is braced,

locking means integral to and extending at an acute angle from said conforming section to fit around the defined portions of the door frame to lock said brace thereto,

a biased section extending between said extension section and the conforming section,

said biased section being at an obtuse angle from said extension section,

the angle between said conforming section and said biased section being no smaller than a right angle,

said extending means being non-attached at the other end thereof to enable propping said other end against said supporting surface to thereby facilitate removing said brace means after construction of the wall and also enabling varying the angle between said extending means and the supporting surface to implement the grasping of the door frame by the hook section, and wherein the junction of said bias section and said conforming section is scored to enable detaching said bias section from said conforming section.

* * * * *