Oct. 14, 1958 L. E. BUCK 2,855,695

DOOR FRAME JAMB JIG

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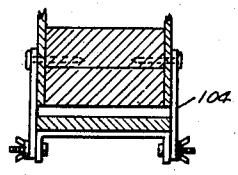


FIG. 11

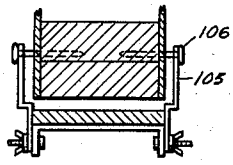


FIG. 13

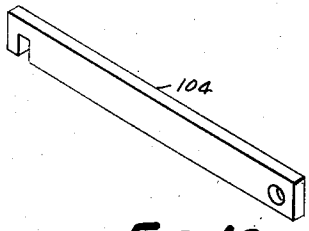


FIG. 10

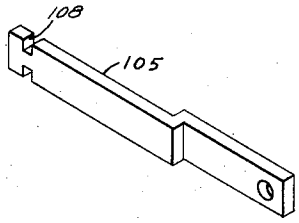


FIG. 12

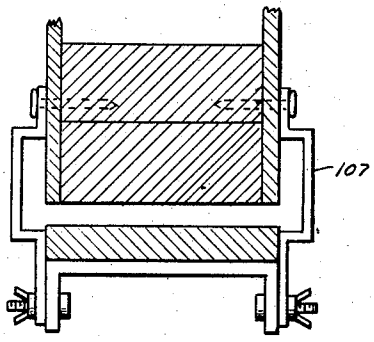


FIG. 15

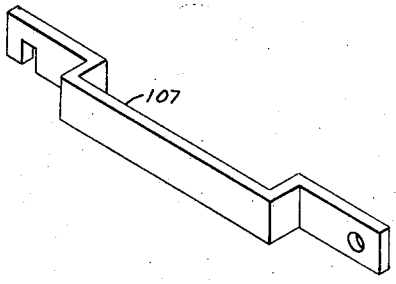


FIG. 14

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DOOR FRAME JAMB JIG

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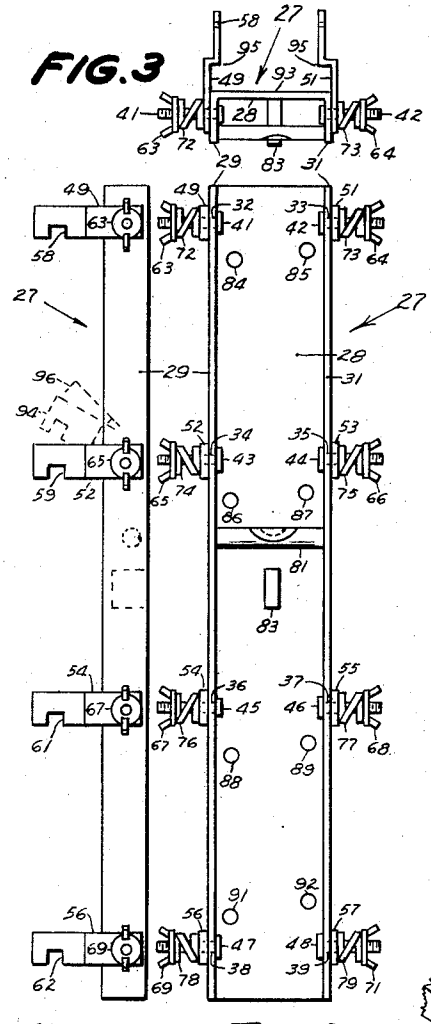


FIG. 3

FIG. 4

FIG. 2

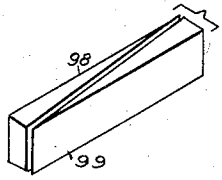


FIG. 5

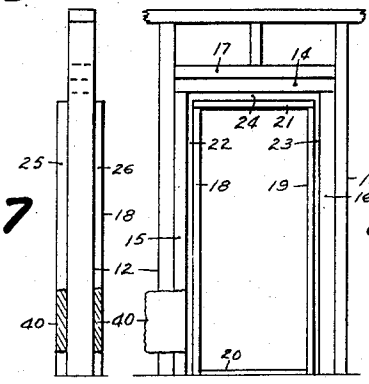


FIG. 7

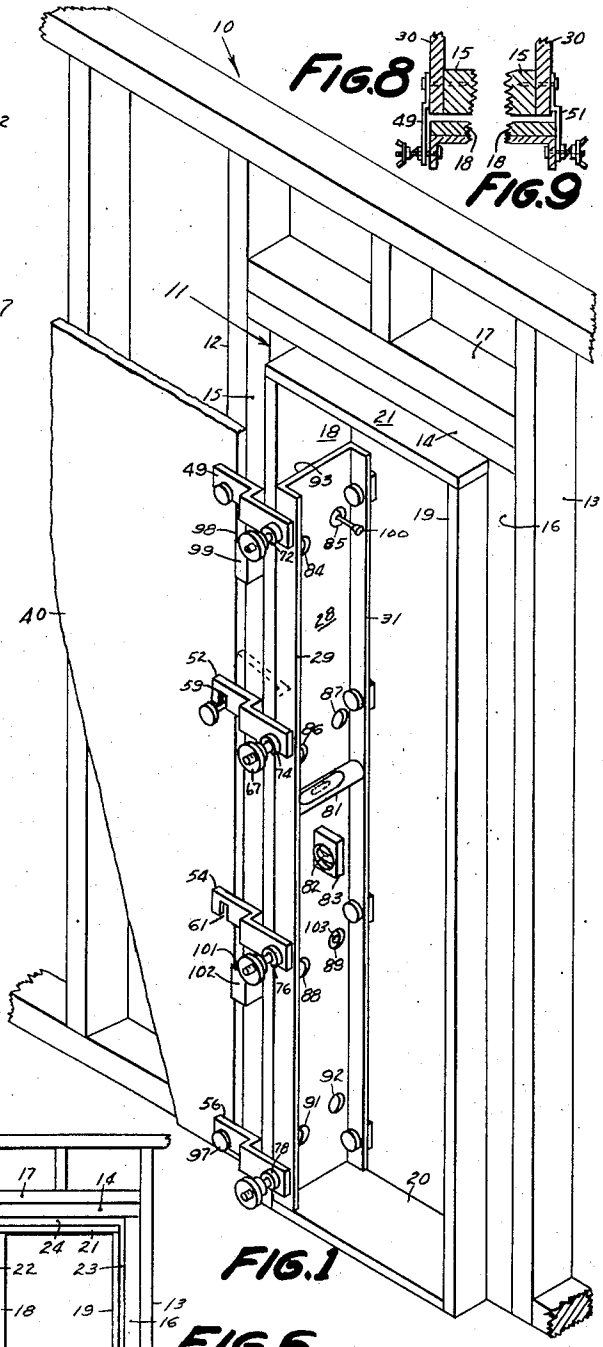


FIG. 1

FIG. 8

FIG. 9

FIG. 6

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DOOR FRAME JAMB JIG

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Application December 3, 1956, Serial No. 625,908

5 Claims. (Cl. 33—194)

This invention relates generally to door installations, and more particularly to a door frame jamb jig for enabling a workman to quickly and accurately set the jambs of a door frame.

The accuracy with which a door frame is set in a rough door opening determines the speed with which the door itself will be hung in said door frame, and it will also determine to a great extent the accuracy with which the door is hung.

With the present invention, the accurate setting of door frames is made relatively easy thereby enabling a man, having no particular skill or training in hanging doors, to hang considerably more doors than heretofore, and such doors will be far more accurately hung.

An object of this invention is the provision of a jamb jig that is adapted to be used by workmen possessing no unusual skill.

Another object is to provide a jamb jig adapted for rapidly setting door frames with a high degree of accuracy.

Still another object of this invention is the provision of a jamb jig adapted to be held in its operable position in the door frame during the time when the frame is nailed in its adjusted position.

Yet another object is to provide a jamb jig adapted to be used from either the right or left side.

A further object of this invention is the provision of a one piece jamb jig requiring no adjustment.

Still a further object is to provide a jamb jig that is simple in construction, light in weight, easy to handle, durable, and inexpensive to manufacture.

Yet a further object of this invention is the provision of a jamb jig hookedly secureable to a rough opening frame member.

Other specific objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings in which like reference numerals designate like parts throughout the figures thereof and wherein:

Fig. 1 is a perspective view of a preferred embodiment of the jamb jig invention shown in operative position on a door frame set in a rough door opening;

Fig. 2 is a front elevation view of the jamb jig shown in Fig. 1;

Fig. 3 is a plan view of the jamb jig shown in Fig. 2;

Fig. 4 illustrates a side elevation view of the jamb jig shown in Fig. 2;

Fig. 5 is a perspective view of a pair of cooperating wedge elements;

Fig. 6 is a front elevation view of the rough door opening and door frame in operative relation, showing the spaced relation of the frame relative to the opening;

Fig. 7 is a side elevation view of Fig. 6, showing the wider jambs symmetrically disposed relative to the narrower studs, and showing fragmentary plaster portions flush with the jambs;

Fig. 8 is a fragmentary cross-section showing the relation of an offset arm to a plumb wall and plumb jamb;

Fig. 9 is a fragmentary cross-section showing the relation of an offset arm to a wall that is not plumb and a jamb that is plumb;

Fig. 10 is a perspective view of a first modification showing a straight arm that can be used in lieu of the offset arms shown in Figs. 1 and 3;

Fig. 11 is a cross-section view illustrating the above straight arm modification embodied in the jamb jig and applied to a wall margin of a door opening;

Fig. 12 is a perspective view of a second modification, showing an offset arm having an outwardly disposed offset portion; which can be used in lieu of the inwardly disposed offset arms shown in Figs. 1 and 3;

Fig. 13 is a cross-section view illustrating the above outwardly disposed offset arm embodied in a jamb jig and applied to a wall margin of a door opening;

Fig. 14 is a perspective view of a third modification, showing a double offset arm that can be used in lieu of offset arms shown in Figs. 1 and 3; and

Fig. 15 is a cross-section view illustrating the above double offset arm embodied in a jamb jig and applied to a wall margin of a door opening.

Referring now to the drawings, wherein like reference numerals designate like or corresponding parts throughout the several views, there is shown in Fig. 1 a conventional wall frame structure, generally indicated at **10**, having a conventional rough door opening, generally indicated at **11**.

The rough opening **11** comprises a pair of spaced two by four inch studs **12** and **13**, and a header **14** which is also a two by four inch member, extending across or between the upper end portions of the studs.

Additional shorter confronting studs **15** and **16** are nailed in side by side engagement with studs **12** and **13**, respectively, for added strength. These shorter studs shoulder under the header **14**.

An additional header **17** may also be used, for added strength, superposed on header **14**.

The shorter studs **15** and **16**, the header **14**, and the floor ordinarily define a rough door opening.

No great attempt is made for precise framing of the rough door opening; and a door frame, having vertical jambs and a horizontal header, is adapted to be easily and loosely received within said rough door opening.

The conventional door frame comprises a pair of horizontally spaced, vertically extending jambs **18** and **19**, and a horizontal jamb header **21** secured across the upper ends of said jambs. The frame is loosely received in the rough opening with the jambs disposed adjacent the confronting studs **12** and **13**, respectively, and the jamb header **21** being disposed under the opening header **14**.

A temporary spacer **20** secured across the lower end of the jambs, and braces not shown, may be used to maintain the rectangularity of the door frame.

The door frame is normally space related from the rough opening (Fig. 6) so that substantially equivalent spaces **22** and **23** exist between the jambs and their associated studs, and the jamb header **21** is also spaced from the opening header **14** as indicated at **24**.

The jambs, being wider than their associated studs, normally project substantially equal distances on each side of the studs as indicated at **25** and **26** (Fig. 7), to allow for a corresponding thickness of plaster **40**.

The present jamb jig invention used in accurately setting the door frame in the rough door opening, comprises an elongated, vertically disposed standard, having parallel side edges, and generally indicated at **27**. It is preferred, though not necessary, that said standard be a light weight, straight, aluminum channel section having

a body or web 28 and parallel flanges 29 and 31, sufficiently strong and stiff for the intended purpose.

In as much as the standard door frame sizes are six-feet six-inches or six-feet eight-inches high, the jig standard 27 is slightly shorter in length with respect thereto to facilitate the easy ingress therein and egress therefrom.

The width of the channel standard 27 is as wide as the jambs being set; that is, when working with a standard door frame having five and one-quarter inch jambs, the standard 27 therefor should likewise measure five and one-quarter inches in width.

The flanges 29 and 31, of the standard 27 are provided with pairs of oppositely disposed apertures 32 and 33, 34 and 35, 36 and 37, and 38 and 39, uniformly spaced along said flanges.

Each of said apertures receives an outwardly extending bolt, such as indicated at 41, 42, 43, 44, 45, 46, 47 and 48, respectively (Fig. 2).

Flexible offset arms (Fig. 3), such as indicated at 49, 51, 52, 53, 54, 55, 56, and 57 are pivotally mounted on said bolts, respectively, and disposed in juxtaposition with the outer surface of their associated flanges. The inner ends of said arms are provided with apertures which receive the bolts in pivotal engagement. The outer portions of the arms are offset equally, about one-eighth inch, and disposed inwardly. The offset allows for a little sidewise adjustment of the jamb and jig in the event the wall opening margins are not plumb. See Fig. 8 for the situation where the wall and jamb are mutually plumb; and Fig. 9 for the situation where the wall is not plumb, and the jamb is shifted or tilted relative to the wall within the accommodation of the offset. Additional, or initial, sidewise adjustment can be provided by the flexibility inherent in the arms or provided by the spring construction to be hereinafter described.

Each of the offset end portions of the arms is provided with openings such as slots, notches, apertures or the like, such as indicated at 58, 59, 61 and 62 (Fig. 4), to receive ordinary securing nails, or the like, therein. Notches are preferred disposed along the bottom edges of the arms.

Threadedly engaging thumb or wing nuts are provided for each bolt, such as indicated at 63, 64, 65, 66, 67, 68, 69 and 71, respectively (Fig. 2).

Interposed between said wing nuts and said arms, and surrounding said bolts, are disposed helical compression springs 72, 73, 74, 75, 76, 77, 78 and 79, respectively (Fig. 2). The use and embodiment of said springs is optional. The wing nuts are advanced on their associated bolts so as to initially tension compression springs, thereby generating sufficient friction between the arms and their associated flanges to frictionally maintain the arms in any angular position desired. In their normal operating position the arms are disposed at right angles to the standard 27. While offset arms are preferred, it is obvious that straight arms may also be used.

A horizontal spirit level 81 is mounted across the flanges 29 and 31, of the standard 27, by any means such as welding.

A second horizontal spirit level 82, carried in a block 83, is mounted on the web 28, of the standard 27, by any means such as welding. This spirit level 82 is disposed at right angle to spirit level 81.

The web 28 of the standard 27 is provided with spaced and slightly staggered apertures, disposed adjacent the offset arms, such as indicated at 84, 85, 86, 87, 88, 89, 91 and 92. Said oversize apertures receive nails therethrough for securing jamb and wedge elements to the rough opening studs, as hereinafter described.

In operation, assume that the door frame is normally and operatively spaced and disposed within the rough door opening, ready for setting, the margins of the rough opening having been previously plastered as at 40.

The next step in setting the door frame is to vertically position the lower end of the standard 27 on the floor or spacer 20 adjacent one jamb of the door frame, such as at jamb 18, with the offset arms normally projecting horizontally toward said jamb. Since the spacing between the offset portions of the offset arms is of a measure insufficient to receive said jamb 18 therebetween, the spacing is obviously also insufficient to receive the equivalent width of the plastered opening margins. However, the offset end portions of the offset arms can be spread apart sufficient to accommodate the wider jamb 18 due to the yielding of the associated compression springs such as at 72 and 73. Thus, with the spreading apart of the offset arms, the outer face 93 (Figs. 1 and 3) of the web 28 can be juxtaposed with the inner face of jamb 18.

The spreading apart can best be accomplished and the spread apart position can be best held fixed by pivoting the arms upwardly until the arms contact the flanges (see dotted line position 94, Fig. 4). Then spreading apart the arms sufficiently to allow the knees 95 of the offsets (Fig. 3) to rest on their associated flanges as indicated by dotted line position 96, Fig. 4. In this raised and fixed position of the offset arms, the standard can be freely moved into juxtaposed engagement with the jamb 18 and held there by one's foot. Thereupon the offset arms can be disengaged from the flange, pivoted, and restored to their original and normal horizontal position, receiving the jamb 18 therebetween, and embracing the plastered wall margins, between pairs of said offset end portions.

The associated jig and jamb is now ready for plumbing, in the rough opening.

The plumb position of the jamb can be readily determined by observing the spirit levels 81 and 82. When the jamb is positioned plumb, a nail 97 (Fig. 1) is securely driven through the slot of the lowest offset arm 56, through the plaster, and into the stud 12. The opposite offset arm 57 is similarly secured. The foot holding the jig against the jamb can now be released.

The spirit levels are then checked for plumb, and the top-most offset arms 49 and 51 are similarly secured.

Then the intermediate pairs of offset arms 52 and 53, and 54 and 55 are similarly nailed secure.

The jamb, with the juxtaposed jig, is now held to the margin of the opening for further operations.

Paired cooperating wedges such as 98 and 99, and 101 and 102 are then driven between jamb 18 and stud 15, the spirit levels checked, and the jamb is then secured to the stud 15 by driving finishing nails 100 through suitable apertures such as indicated at 85 and through said wedges, and then driven flush as indicated at 103, Fig. 1. Other wedges can likewise be disposed and nail secured adjacent the remaining offset arms. Thus the jamb is disposed plumb and secured to the stud 15, through means of the novel jig.

The jig is now released by forcing and pivoting the offset arms upwardly, thereby disengaging the slots, such as 59, from associated nails. The jig can now be freely withdrawn from the jamb.

To set the opposite jamb 19, the jig is applied adjacent thereto and the cycle of operations repeated.

In the above procedure, the door opening, wall face margins were presumed practically vertical to begin with, thereby providing a most favorable situation for the setting of a door frame. In such vertical wall situation, the arms, embracing the wall, hold the jig and jamb in a corresponding vertical position without too much resort to the corresponding spirit level 81.

However, should the walls be out-of-plumb, a modified procedure is followed. In this out-of-plumb wall situation, the jig is first vertically positioned with respect to spirit level 82 and then approximately vertically positioned with respect to spirit level 81, and the nails driven in arm slots, as described above. Paired wedges are then temporarily driven between the jamb 18 and the stud 15, as described above. By manipulating the jig and the wedges, and checking the spirit level 81, the jig is now truly vertically set with respect to spirit level 81, and the finishing nails 100 driven through the jamb and wedges to

permanently fix and secure the jamb in place. The arms being bendably flexible, offset, and spring loaded, provide means, either separately or jointly, whereby the out-of-plumb variation of the wall relative to the truly plumb position of the jig and jamb is allowed for in the setting operation.

Fig. 10 is a perspective view of a first modification showing a flexible straight arm **104** that can be used in lieu of the offset arms **51**, etc. shown in Figs. 1 and 3 and embodied in the structure of said figures.

Fig. 11 is a cross-section view illustrating the above straight arm **104** embodied in the structure of Figs. 1 and 3, excepting therefrom the springs.

Fig. 12 is a perspective view of a second modification, showing a flexible offset arm **105** having an outwardly disposed offset portion, which can be used in lieu of the offset arms **51**, etc. shown in Figs. 1 and 3 and embodied in the structure of said figures. An additional slot **108** is provided to allow its use on the right or left side of the jig, and for interchangeability from an outwardly disposed offset arrangement to an inwardly disposed offset arrangement.

Fig. 13 is a cross-section view illustrating the above outwardly disposed offset arm **105** embodied in the structure of Figs. 1 and 3, excepting therefrom the springs. It is to be noted that the nails **106** are not driven "home," to their heads, but only to the offset portions which are spaced from the plastered wall by the dimension of the offset. This construction allows a freer relative sidewise adjustment in event the wall is not plumb.

Fig. 14 is a perspective view of a third modification, showing a flexible double offset arm **107** that can be used in lieu of the offset arms **51**, etc. shown in Figs. 1 and 3 and embodied in the structure of said figures.

Fig. 15 is a cross-section view illustrating the above double offset arm **107** embodied in the structure of Figs. 1 and 3, excepting therefrom the springs.

The characteristic features of this invention are the provision of a jamb jig having a plurality of pivotal securing arms including slots on the bottom edges thereof; a jamb jig having pivotal offset arms; a jamb jig having flexible and spring loaded securing arms; and a jamb jig hookedly engageable to opening margins, thereby to resist wedge forces acting between the jamb and said opening frame.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed and desired to be protected by Letters Patent of the United States is:

1. A door frame jamb jig, comprising: an upright channel section standard having a web and parallel flanges at right angle thereto, adapted to be superposed on the face of a door frame jamb, said flanges being provided with oppositely disposed apertures uniformly disposed along said flanges; a bolt in each of said apertures; resilient arms journalled on said bolts and disposed in juxtaposition with the outer faces of said flanges, each arm having an offset end portion disposed inwardly, and each offset portion having a slot on the bottom edge thereof; nuts on said bolts; compression springs around said bolts, disposed between said arms and said nuts; paired apertures in said web adjacent said arms; and plumb means on said standard for indicating vertical dispositionment of said standard.

2. A door frame jamb jig, comprising: an upright channel section standard having a web and parallel flanges at right angle thereto, adapted to be superposed on the face of a door frame jamb, said flanges being provided with oppositely disposed apertures uniformly disposed along said flanges; a bolt in each of said apertures; arms journalled on said bolts and disposed in juxtaposition with the outer faces of said flanges, each arm having a slot on the bottom edge thereof; nuts on said bolts; compression springs around said bolts, disposed between said arms and said nuts; paired apertures in said web adjacent said arms; and a plumb means on said standard for indicating vertical dispositionment of said standard.

3. The apparatus of claim 2 wherein the arms are straight arms.

4. A door frame jamb jig, comprising: a single upright channel section standard having a web and parallel flanges at right angle thereto, adapted to be superposed on the face of a door frame jamb, said flanges being provided with oppositely disposed apertures disposed along said flanges; a bolt in each of said apertures; arms journalled on said bolts and disposed in juxtaposition with the outer faces of said flanges, each arm having a slot on the bottom edge thereof; nuts on said bolts to draw said arms against said flanges; apertures in said web adjacent said arms; and plumb means on said standard for indicating vertical dispositionment of said standard.

5. A door frame jamb jig, comprising: a single upright standard having a web and parallel side flanges at right angle thereto, said web being adapted to be superposed on the face of a door frame jamb; a plurality of substantially oppositely disposed arms pivotally mounted on said flanges externally thereof, said arms being operative to pivot in planes parallel to the faces of said flanges, and each arm having a hook-like means at the outer end portion thereof adapted to engage a nail for anchorage, of said jamb jig to a rough door opening margin, against movement of said jig away from said opening margin; openings in said web in the zones of said arms; and plumb means on said standard for indicating vertical dispositionment of said standard.

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