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DOOR FRAME PROFILE GAUGE

Filed Oct. 10, 1958

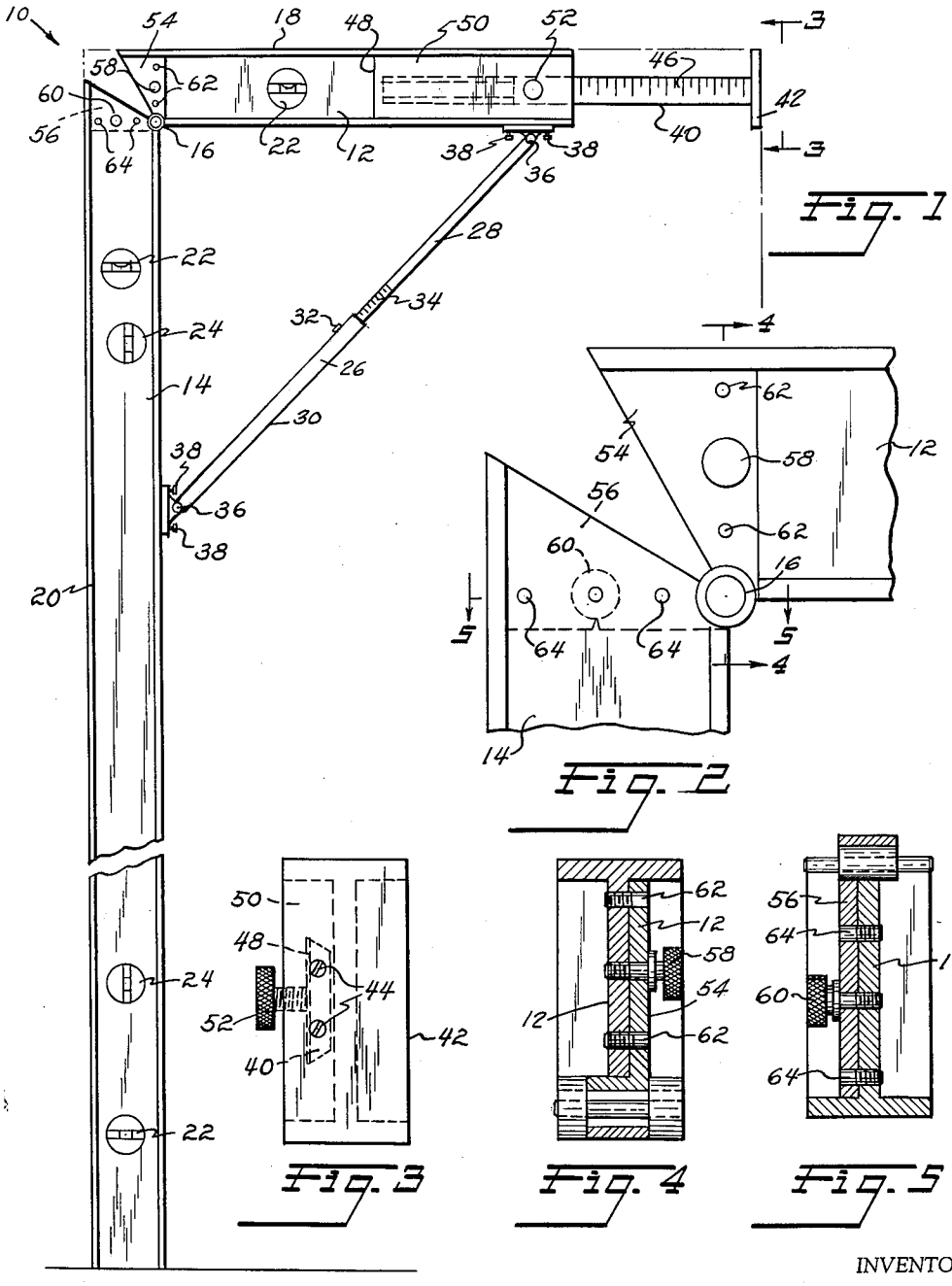


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

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DOOR FRAME PROFILE GAUGE

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1 Claim. (Cl. 33—194)

This invention relates to a door frame profile gauge, and more particularly to a door frame gauge for use in hanging doors in a building so that each will have a uniform and symmetrical clearance in the door frame in which the door is hung.

In the construction of a building, it is impossible as a practical matter to make all the door jambs exactly vertical. In order to compensate for the human error in erecting door jambs, it is desirable that each door have substantially the same clearance between the faces of the door jamb and edges of the door to provide symmetry and a workmanlike appearance to the finished room or building.

Various door frame gauges are known and patented in the prior art, an example being the U.S. patent to A. J. Kronquist, No. 2,636,282 issued April 28, 1953, however, none of these have a head straight edge and a jamb straight edge adjustable in angular relation to each other to selected positions greater than and less than 90°, respectively. Furthermore, such door frame gauges are cumbersome to store when not in use and carry from one construction site to another.

With the foregoing considerations in view, an object of this invention is to provide a door frame profile gauge that has a substantially horizontal head straight edge and a substantially vertical jamb straight edge adjustable in relation to each other to selected angles greater and less than 90°, respectively.

Another object of this invention is to provide a door frame profile gauge assembly that can be readily dismantled or assembled, the components of the assembly when dismantled being adapted for packing into a compact space and carried from one construction site to another with a minimum of effort.

Other objects and advantages of the invention will become apparent from the following detailed description and drawings, in which:

Figure 1 is a side elevational view of the door frame profile gauge of this invention, with parts shown in dotted lines for clarity;

Figure 2 is an enlarged side elevational view of the hinged portion of the door frame profile gauge illustrated in Figure 1;

Figure 3 is an end view taken along the line 3—3 of Figure 1, with parts shown in dotted lines for clarity;

Figure 4 is a sectional view taken along the line 4—4 of Figure 2; and

Figure 5 is a sectional view taken along the line 5—5 of Figure 2.

Referring now more specifically to the drawings, there is illustrated in Figure 1 a door frame profile gauge indicated generally at 10 which comprises a substantially horizontally disposed arm 12 pivotally connected to a substantially vertical standard 14 by a hinge indicated generally at 16. The arm 12 and standard 14 are of like I-beam cross-sectional configuration and the outer surfaces thereof which form the outside of the gauge assembly 10 provide a head straight edge 18 and a jamb straight edge 20, respectively. A series of horizontally and vertically disposed spirit levels 22 and 24, respectively, are mounted in the web portion of the I-beams forming the arm 12 and standard 14 to indicate the positions of the respecitve straight edges thereon.

A selected angular relation between head straight edge 18 and jamb straight edge 20 is maintained by a variable length brace member indicated generally at 26 which has opposite ends thereof pivotally and detachably connected to the inside of arm 12 and standard 14, respectively. The brace 26 comprises a tubular arm 28 telescopically slidable in tubular arm 30. A thumb set screw 32 threaded through a wall of arm 30 has an end adapted to abut tightly against a portion of the arm 28 extending in arm 30 to lock the brace 26 at a desired selected length by preventing relative movement between the arms 28 and 30.

A scale indicated generally at 34 is provided on arm 28 to indicate the angular relation between straight edges 18 and 20. If desired, a single mark may be used to indicate only the 90° angle between the respective straight edges.

Opposite ends of brace 26 are pivotally connected by any suitable well-known means to bracket plates 36 detachably secured to the inside of arm 12 and standard 14, respectively, by removable studs 38 extending through the plates and threaded into the arm and standard.

Arm 12 has an extension 40 longitudinally slideably mounted thereon for varying the length thereof. An end face plate 42 is secured flush against the end of extension 40 by screws 44 as shown in Figure 3. When extension 40 is in a fully retracted position, the distance from the point of intersection of the plane of head straight edge 18 with the plane of jamb straight edge 20 to the end face of plate 42 is 22". The extension 40, when in a fully extended position, provides an additional length of 12" to the arm 12 and a scale indicated generally at 46 on the extension indicates the total distance of the end face of plate 42 from the plane of jamb straight edge 20.

Standard 14 may be of any suitable length, but for most construction jobs, 6'–6" has been found more desirable.

The extension 40 is dovetailed as shown in Figure 3, in a channel 48 extending longitudinally through a mounting member 50 rigidly secured, as by welding or the like, to the web portion of arm 12. A stud 52 is threaded through a side of mounting member 50, adjacent an outer end thereof, into channel 48 and is adapted to abut against the portion of extension 40 disposed in the channel so that as the stud 52 is tightened, the extension is wedged in the channel and locked at a selected length.

The hinge 16 comprises a pair of hinge plates 54 and 56 detachably clamped to the web portions of arm 12 and standard 14, by removable studs 58 and 60, respectively, threaded into the respective web portions of arm 12 and standard 14. A series of spaced guide studs 62 and 64 are threaded into the webbed portions of arm 12 and standard 14, respectively, and are received in correspondingly spaced guide bores aligned therewith in hinge plate 54 and 56, respectively, so that they are rigidly secured thereto in the same exact position each time the door frame profile gauge of this invention is assembled. The inner end of arm 12 and the upper end of standard 14, and the inner-opposed edges of hinge plates 54 and 56 are correspondingly beveled in flush relation to each other at angles of less than 45° from the pivot point of hinge 16 as illustrated in Figures 1 and 2 in order that head straight edge 18 and jamb straight edge 20 may be adjustable to positions in relation to each other at selected angles considerably greater than 90°, the bevels shown, for example, allowing pivotal movement to a max-

imum of about 120°. Pivotal movement in the opposite direction is to a minimum of about 45° between head straight edge 18 and jamb straight edge 20, the limit of such movement being determined by the minimum length of telescoping brace 26.

From the foregoing description and drawing, it is obviously a simple matter to dismantle the assembly 10 by loosening the studs 58 and 60 so that arm 12 can be disconnected from standard 14. If desired, arms 28 and 30 can be removed from arm 12 and standard 14 respectively by loosening studs 38. All of the individual components of the assembly can then be made into a compact package for easy storage or carrying from one construction site to another.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claim rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

In a door frame profile gauge including a vertical standard portion and a horizontal arm portion, each of I-beam form and being disposed in substantially right angular relation, adjacent ends of said portions diverging outwardly from the inner corner of the gauge, and a hinge connection between the said vertical standard portion and said horizontal arm portion at said inner corner;

the improvement wherein said hinge connection comprises a hinge plate of substantially triangular form removably supported on the web of each of said vertical standard and horizontal arm portions, with the oblique edges of the hinge plates aligned with said outwardly diverging ends of said standard and arm portions, said plates being provided with cooperating hinge members disposable at said inner corner of the gauge, said hinge plates each being provided with a smooth walled aperture intermediate the relatively wide and narrow ends thereof and being further provided with a similar aperture on each side of said first aperture in spaced relation thereto, said standard and said arm each being provided with a tapped aperture alignable with one of said smoth walled apertures, a threaded stud extendable through the central aperture in each of said plates and being removably threaded in the threaded aperture in the respective profile gauge portions, and an aligning pin threaded into each of said profile gauge portions and extending freely through the smooth walled apertures in said hinge plates at each side of said first named aperture therein, whereby said hinge is readily removably from said door frame profile gauge portions for expediting transportation and storage thereof.

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