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3,152,355  
**PIVOTED DOOR MOUNTING**  
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This invention relates to pivotally mounted doors, pivoted-door mounting arrangements, and to correlated inventions and discoveries appertaining thereto.

While the upper pivots of pivoted door constructions are in many instances simple, slightly, and efficient, the lower, weight-carrying pivots tend to be objectionable as complicated, cumbersome, unsightly, and yet the provision of constructions overcoming these objections and at the same time providing for the necessary procedures and adjustments in properly installing or servicing a door has presented many difficulties.

It is important in such constructions that the door be tiltable when being installed and removed and that it be adjustable toward and away from the jamb when in place, and other considerations require, in particular instances, vertical adjustment of the door when in place, and certainty as well as adaptability of mounting of the door.

With the foregoing and other considerations in view, the present invention contemplates the provision of pivoted door constructions and mounting means therefor which are simple, highly efficient, and effective and which do not detract from the pleasing appearance of a well-designed door and door-frame, and more especially the provision of means which is adapted both to support and to horizontally adjust a door, and, more specifically, the provision of such means which is adapted to permit tilting of the door when installed or removed.

The invention further contemplates the provision of improved means for adjusting and locking a vertical supporting screw.

The invention accordingly comprises the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the constructions hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a vertical sectional view illustrating one form of embodiment of the invention; and

FIG. 2 is a transverse sectional view on the line 2—2 of FIG. 1.

The exemplified construction in certain of its aspects includes, and in other of its aspects is adapted for use with, a door 10 of conventional hollow metal construction comprising sides 12 and 13, an inner edge stile 15 and an open bottom. A horizontal transverse reinforcing piece 16 is provided between the sides at a position spaced above their lower ends. A vertical adjusting screw 18 is adapted to be screwed into a base member 20 or other fixed element beneath the door at a point toward its edge 15. Any of a number of conventional upper pivoting means adapted for fastening as the door is put in place may be provided.

Resting on the screw 18 is a swivel mounting which, in the present instance, is in the form of an inner ball race 22 carried by the head 23 of the screw, an outer ball race 24, and ball bearings 25 therebetween. Fixed to the outer ball race 24 is a yoke 25a having upwardly-extending arms 26 and 27, the upper ends of which have arcuate surfaces, as shown at 28, to permit the piece 16

to move thereover when the door is tilted when put into place or removed, and which are formed with bearings 29 and 30 in which the unthreaded stem 31 of a horizontal adjusting and pivoting screw 32 is rotatably mounted. The threaded front end 33 of the screw 32 is partially screwed into a threaded bore 34 in a bracket 35 which is fixed to the door—in the present instance, to the transverse piece 16. The stem 31 of the screw 32 also extends thru a bore 36 in a bracket 37 secured to the transverse piece 16. A sleeve 40 fixed to the screw 32, as by a roll-pin 41 stamped therein after assembly with the arms 26 and 27, is interposed between the arms 26 and 27 and prevents the horizontal movement of the screw 32 relative to the arms 26 and 27 and the screw 18. The brackets 35 and 37 may be secured to the transverse piece 16 as by screws 44 and 45, the screws 45 being inserted after the screw 32 is in place. The screw 32 may be rotated, as by a tool inserted thru an opening 46 in the inner edge 15 of the door, to properly adjust the position of the edge 15 with respect to the jamb 48 of the doorway. The screw 32 not only adjusts the position of the door but also guides the door during its horizontal adjusting movement. In addition, it is adapted to serve the purpose of permitting easy tilting of the door, without damage to the vertical adjusting means, when the door is put in place or removed.

In order to properly adjust the vertical position of the door, the screw 18 is rotatable, as by a tool inserted horizontally in a radial slot (or, as exemplified, one side of a diametrical slot 50 in the screw). The screw 18 carries a nut 52 (threaded thereon before the screw is screwed into the base member) which, after the proper adjustment of the screw, is screwed down against the base member where, because of the weight of the door, it prevents movement of the screw 18 until the nut is screwed upwardly. The nut is formed with a radial slot (one side of a diametrical slot 53 as exemplified) by which it may be readily operated and thru which, when the nut is turned to aline the 53 with the slot 50, the tool operating screw 18 may be inserted.

Since the screw 32 carries the weight of the door, unintentional axial movement of the screw is prevented, and the assembly is held firmly in place; but the screw 32 can be positively moved to adjust the position of the door when desired.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. In or for a pivoted door construction, a lower vertical pivot bearing for a door and comprising two rotatably-connected parts, bottom mounting means for one of said parts, a supporting member carried by the other of said parts, a horizontal screw carried by said supporting member, and means to wholly support a door on said screw and comprising a second supporting member, said screw being threadedly connected with one of said supporting members and being held against axial movement with respect to the other of said supporting members.

2. A pivoted door construction which includes a door, a lower vertical pivot bearing for said door and comprising two rotatably-connected parts, bottom mounting means for one of said parts, a supporting member carried by the other of said parts, a horizontal screw carried by said supporting member, and means to support said door on said screw and comprising a second supporting member, said screw being threadedly connected

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with one of said supporting members and being held against axial movement with respect to the other of said supporting members, and wherein said pivot bearing and said screw are wholly contained within the confines of said door, and wherein said door is entirely supported on said horizontal screw.

5 3. A pivoted door arrangement as set forth in claim 2 and comprising also a vertically-adjustable screw, a vertical swivel mounting carried by said screw, and means for supporting said horizontal screw on said mounting.

10 4. A door pivot arrangement as in claim 3, wherein said horizontal screw is in the form of a partially threaded screw arranged for the horizontal adjustment of said door with respect to said mounting.

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