

Jan. 3, 1933.

E. E. SHIVELY

1,893,450

DOOR HINGE

Filed April 16, 1930

Fig. 1.

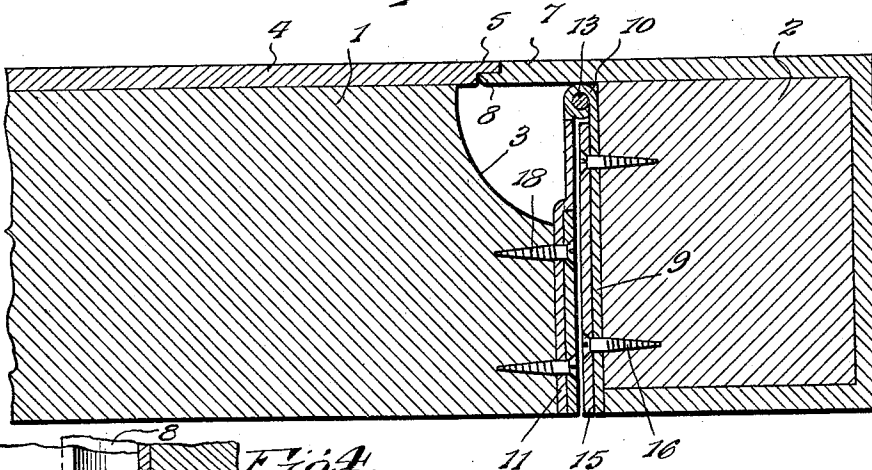


Fig. 4.

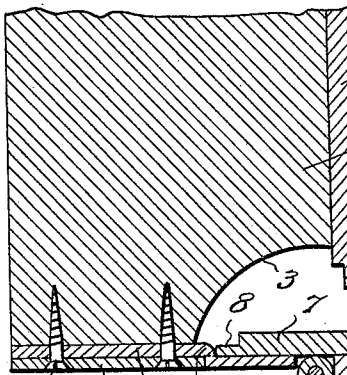
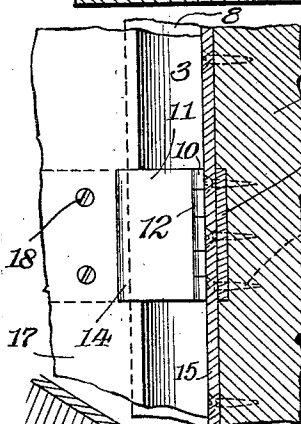
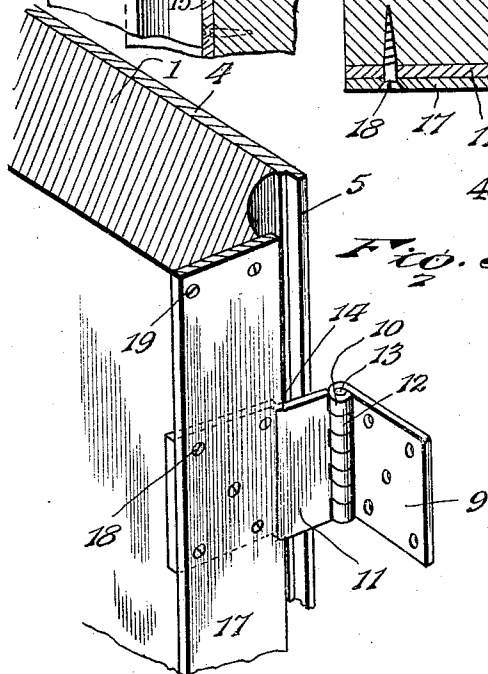


Fig. 2.

Fig. 3.



Inventor

E. E. Shively.

By

Lacey Lacey,

Attorneys

UNITED STATES PATENT OFFICE

EVERETT E. SHIVELY, OF NEW PHILADELPHIA, OHIO, ASSIGNOR OF ONE-THIRD TO S. E. SMITH, J. H. MILLER, AND E. H. MILLER, ALL OF NEW PHILADELPHIA, OHIO; WILHELMINA E. SHIVELY ADMINISTRATRIX OF SAID EVERETT E. SHIVELY, DECEASED

DOOR HINGE

Application filed April 16, 1930. Serial No. 444,783.

This invention relates to an improved door mounting and seeks, among other objects, to provide a mounting of this character wherein the hinge employed will be effectually concealed from view exteriorly of the door.

Another object of the invention is to provide a door mounting wherein the hinge will be normally protected so that rust and dirt will be largely prevented from collecting and impairing the proper functioning of the hinge.

A further object of the invention is to provide a door mounting which will permit the door to swing through a full ninety degree arc.

And the invention seeks, as a still further object, to provide a door mounting which will embody a stop for the door, thereby obviating the necessity of employing special door stops.

Other and incidental objects of the invention will appear hereinafter.

In the drawing:

Figure 1 is an enlarged transverse sectional view showing the improved mounting in conjunction with a door, the door being closed.

Figure 2 is an enlarged transverse sectional view showing the door in full open position.

Figure 3 is a fragmentary perspective view showing more clearly one of the hinge plates secured in position under one of the face plates employed.

Figure 4 is an enlarged fragmentary sectional view on the line 4—4 of Fig. 2, looking in the direction indicated by the arrows.

Referring more particularly to the drawing, the numeral 1 indicates a portion of an automobile door which is associated with a jamb 2. It is to be understood, of course, that the use of the improved mounting is not limited to automobile doors and may be employed in conjunction with any type of door desired.

Formed in the outer right hand corner of the door, as appearing in Figure 3 of the drawing, is an arcuate groove 3 which extends throughout the length of said door. Overlying the outer face of the door 1 and overhanging the arcuate groove 3 is a preferably metal facing 4 having a stepped outer edge

5 and overlying the jamb 2 is a preferably metal facing 6 having an extension 7 which overhangs the jamb 2 and is also stepped to form a mating edge 8. The edges 5 and 7 will cooperate to provide a stepped joint which will effectually prevent the entrance of dirt and moisture when the door 1 is in closed position.

The hinge of the improved mounting comprises a flat plate 9 having lugs rolled to form hinge loops 10, and, as may be seen more clearly in Figures 1 and 2, the plate 9 overlies the end face of the jamb 2 so that the loops 10 abut the extension 7. Swingly connected with the plate 9 is a plate 11 having lugs rolled to provide hinge loops 12 which coact with the loops 10, and extending through the loops is a pin 13. As may be seen more clearly in Figures 1 and 2 of the drawing, the plate 11 is offset medially, as indicated at 14, and the offset outer end portion of the plate is secured to the end face of the door 1.

Overlying the end face of the jamb 2 and the plate 9 is a face plate 15 which serves to protect said jamb and also protects said hinge plate against displacement. The plate 15 extends throughout the length of the jamb, and extending through the plates 9 and 15 and into the jamb 2 are screws 16 which anchor said plates in position. Overlying the end face of the door 1 and the outer offset portion of the hinge plate 11 is a similar face plate 17 which protects the end face of the door and tends to prevent displacement of said hinge plate. The plate 17 extends throughout the length of the door and is held in position by screws 18. As may be observed, the offset 14 in the plate 11 permits the face plate to lie flush with the inner end portion of the hinge plate 11, thereby providing a uniform flat surface to cooperate with the corresponding flat surface of the face plate 15. The portions of the face plates remote from the hinge plates are secured to the jamb and door respectively, by means of additional screws 19. Attention is directed to the fact that the face plate 17 is notched to receive the hinge plates and that the notches define overlapping portions which are adapted to abut the end por-

tion of the extension 7 when the door is swung to full open position, thereby providing an effectual door stop. These overlapping portions extend from the top of the door post
 5 downwardly to the top of the lowermost hinge plate so that the area of contact will be uniformly distributed.

It is pointed out that as many of the improved hinges as desired may be employed in
 10 conjunction with a given door, three being the usual number.

When the improved hinge is in place and the door is in closed position, the stepped edges 5 and 8 will be disposed in mating relation and, as can be readily understood from
 15 the foregoing description, the hinge will be effectually concealed from view exteriorly of the door. This feature is particularly advantageous when used with automobile doors
 20 in that the collection of dirt and rust on the working surfaces of the hinge is largely prevented. Also, a better appearance is presented.

When the door is swung to open position,
 25 the extension 7 will be accommodated in the arcuate groove 3, and after the door has swung through a full ninety degree arc, the inner end portion of the hinge plate 11 will, as shown in Figure 2, abut said extension.
 30 The extension thus provides a door stop and prevents strain upon the hinges. Furthermore, the use of a special door stop is obviated.

What is claimed is:

35 1. A door mounting including a door, a jamb provided with an extension overhanging the inner edge of the jamb, a hinge plate secured to the inner edge of the jamb, and a
 40 coacting hinge plate secured to the inner edge of the door and movable to engage said extension for limiting the door in its travel to open position, said plates being concealed
 from view when the door is in closed position.

45 2. A door mounting including a door, a facing overlying the door, a jamb associated with the door, a facing overlying the jamb and provided with an extension, a hinge plate
 50 carried by the jamb and having hinge loops disposed at the base of the extension, a hinge plate carried by the door and provided with hinge loops mating with said first mentioned
 loops, and means extending through the loops and swingingly connecting the plates, said
 55 second mentioned plate abutting the rear face of the extension when the door is in open position to provide a door stop.

3. A door mounting including a door, a hinge plate mounted on the door, a face plate
 60 overlying the hinge plate and notched to accommodate said hinge plate, said notched face plate providing a reinforcing means for the hinge plate whereby said hinged plate will
 be limited against vertical movement, a jamb,
 65 a hinge plate mounted on the jamb and adapt-

ed to coact with said first mentioned hinge plate, a face plate overlying said second mentioned hinge plate and cooperating with said first mentioned face plate to protect said
 70 hinge plates from mutilation, and means pivotally connecting the hinge plates.

In testimony whereof I affix my signature.

EVERETT E. SHIVELY.

75

80

85

90

95

100

105

110

115

120

125

130