Sept. 4, 1951 P. A. BERNHARDT 2,566,872

HINGE

Filed Jan. 8, 1946

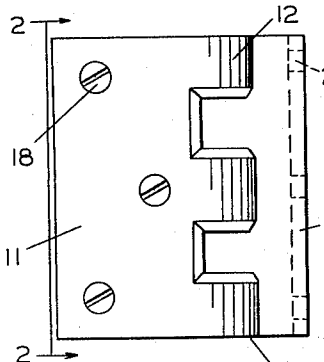


Fig. 1

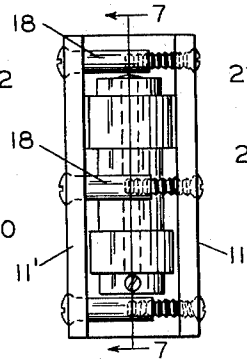


Fig. 2

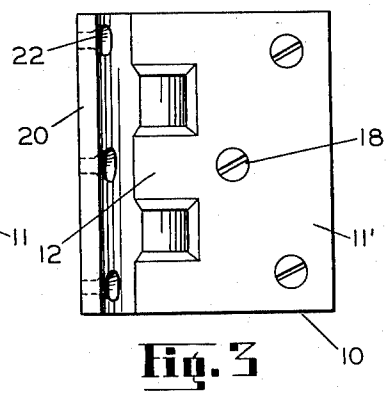


Fig. 3

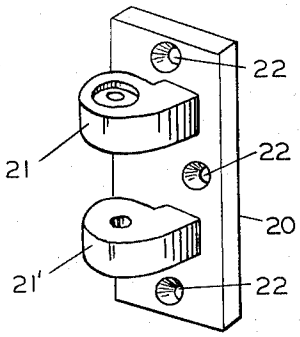


Fig. 4

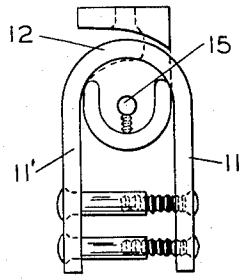


Fig. 5

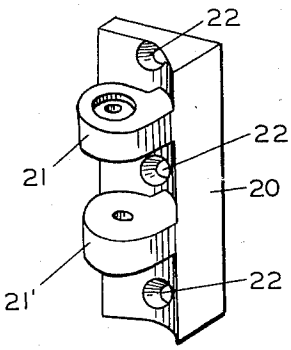


Fig. 6

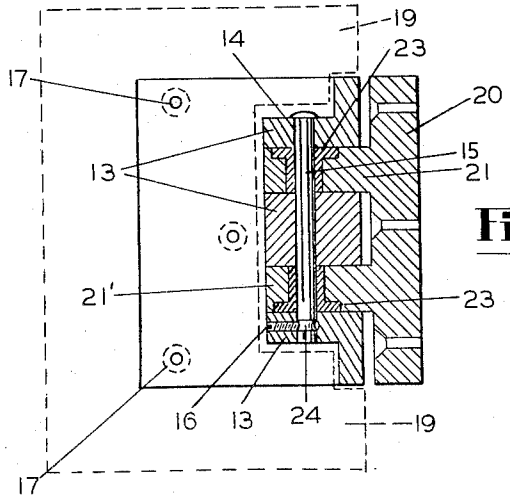


Fig. 7

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2,566,872

HINGE

Paul A. Bernhardt, Milwaukee, Wis.

Application January 8, 1946, Serial No. 639,752

1 Claim. (Cl. 16—128)

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My invention relates to hinges and more particularly to a type of hinge used for supporting doors in homes, railway coaches, and the like.

An object of my invention is to provide a hinge in which the pintle, supporting the door, is in the center of the door, thereby distributing the weight of the door evenly on the hinge.

Another object of my invention is to provide a hinge that will eliminate the danger and hazard of wedging fingers and articles between the door and the support jamb.

A still further object of my invention is to provide an easy means for mounting the door, for with my device it is possible to fit the hinges near the top and bottom of the door or at any intermediate position, applying the support plates onto the door jamb at corresponding positions and attaching the hinges to the door plates prior to inserting the door in position within the plates.

Still another object of my invention is to conceal the pintle entirely within the door, eliminating the possibility of removing the door from the hinges while the door is in a locked position.

The construction of the hinge is such that permits its manufacture at a nominal cost, and permits its installation with simple tools.

Other and further objects of my invention will become more apparent as the description proceeds, when taken in conjunction with the drawing, in which:

Figure 1 is a side view of the one side of the assembled hinge and mounting plate arrangement.

Figure 2 is an end view of the device, shown in Figure 1, taken at the line 2—2 thereof.

Figure 3 is a side view of the other side of the assembled device, showing the hinge and wall or mounting plate arrangement.

Figure 4 is a perspective view of a flat support or mounting bracket which allows the door to swing in both directions.

Figure 5 is a top view of the assembled device showing a radial faced support or mounting plate.

Figure 6 is a perspective view of a wall or mounting plate provided with a radial face, as shown in Figure 5, and

Figure 7 is a fragmentary, cross-sectional view of the entire assembled device, taken on the line 7—7 of Figure 2.

Similar characters of reference indicate corresponding parts throughout the several views, and referring now to the same, the character 10 shows a door member consisting of two vertical plates 11 and 11', joined by an arcuate shaped or semi-circular portion 12. There are horizontally disposed inwardly projecting members 13, provided with apertures 14 which are adapted to receive the pintle 15, which is vertically inserted therein, and shown retained in position by a set screw 16, threadedly engaging the lowermost member 13.

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The two vertical plates 11 and 11' are shown provided with apertures 17, spaced in opposite relation to one another, to receive the bolt members 18, which pass through the door. The door is suitably mortised upon its edge to accommodate the door member 10, with the plates 11 and 11' disposed upon opposite sides of the door, as shown in phantom at 19 in Figure 7, the plates being secured by means of bolt members 18.

There is a wall bracket or mounting plate 20, having outwardly extending members 21 and 21', arranged to be inserted between the inwardly projecting members 13 of the door member 10. This wall bracket or mounting plate 20 is attached to the door frame, not shown, by means of screws inserted into the apertures 22. The outwardly extending members 21 and 21' are shown provided with flanged bushings 23 for engaging the pintle 15, when the hinge assembly is completed.

The pintle 15 is shown provided with a groove 24 to accommodate the set screw 16, shown threadedly engaging the lowermost horizontal member 13, but any other means of retaining the pintle 15 in position may be employed.

In Figures 5 and 6 I show a wall bracket or mounting plate 20, having an arcuate face to accommodate the arcuate or semi-circular section 12 of the door plate 10. This construction further prevents engagement of fingers or any article between the door and the jamb.

It is manifest to anyone familiar with the art that this type of hinge construction adapts itself very readily for installation where the door is kept ajar periodically, like in railway coaches or the like, when jarring may have a tendency to close the door suddenly without warning. The use of special guards is thus eliminated.

In the chosen embodiments of my invention there are features not heretofore disclosed in the prior art, and while I have shown a single embodiment of my invention, I am fully cognizant of the fact that many changes in the form and configuration of the various parts may be made, without in any way effecting the efficiency and function of the device, and I reserve the right to make such changes as I may deem necessary and convenient, without departing from the spirit of my invention or the scope of the appended claim.

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

A device of the character described comprising a door support, said door support being of U-shaped construction having a part of its construction semi-circular in contour, said semi-circular part terminating into a pair of spaced parallel vertical flat support plates, members projecting inward from the semi-circular part of said door support and being spaced apart to define slots, said projecting members being provided with an aperture, attaching means for fastening said flat plates to a door, a mounting plate having outwardly projecting members, said projecting members being positioned for engagement within respective slots of the door support and having a recessed aperture, a flanged bushing seated in the recessed aperture of the outwardly projecting members of said mounting plate, means for attaching said mounting plate to a door frame, and a pintle for engagement through the apertures of the projecting members of the door support and the bushings of said mounting plate.

PAUL A. BERNHARDT.

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