J. H. WAY.

CONCEALED OR INVISIBLE BUTT HINGE.

APPLICATION FILED SEPT. 23, 1919.

1,336,174. Patented Apr. 6, 1920.

FIG. I.

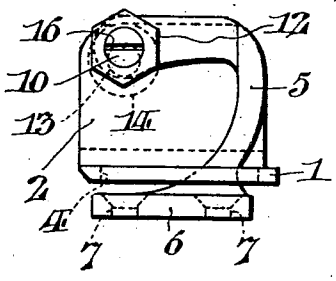


FIG. II.

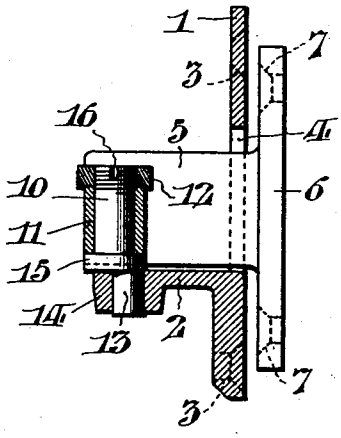
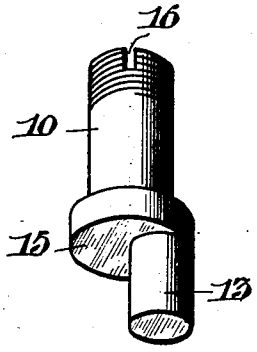


FIG. III.



WITNESSES:

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CONCEALED OR INVISIBLE BUTT-HINGE.

1,336,174. Specification of Letters Patent. Patented Apr. 6, 1920.

Application filed September 23, 1919. Serial No. 325,619.

To all whom it may concern:

Be it known that I, JOHN HOWARD WAY, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Concealed or Invisible Butt-Hinges, whereof the following is a specification, reference being had to the accompanying drawings.

The invention relates to improvements in hinges, and especially concealed or invisible butt-hinges, such as are ordinarily employed in mounting the doors of automobiles or coaches on their supporting structures.

The present invention is directed more particularly to a simple, novel, and inexpensive fulcrum structure, whereby the operative relation between the two constituent elements of the hinge may be readily adjusted to facilitate the fitting of the doors to their mountings without requiring absolute accuracy in initial assembling.

The structure, whereby, I attain the advantage above pointed out will be best understood from the detailed description which follows:

In the drawings, Figure I. is a plan view of a hinge structure conveniently embodying my invention.

Fig. II. is a sectional elevation of the same, and Fig. III. is a perspective of the hinge pin.

The hinge herein shown comprises a fixed member in the form of a face plate 1, having a laterally projecting bracket, which is concealed within an opening initially prepared in the pillar post, or frame to which the door is hung. This face plate may be secured by any approved means, and in the present instance is provided with countersunk holes 3, for the reception of screws, by which attachment may be effected.

The movable member of the hinge is in the form of an arcuate arm 5, which is operative through an opening 4, in member 1, and has a pintle connection with the bracket 2. Integrally formed with the movable member 5, is a face plate 6, similar to that of member 1, and likewise provided with countersunk holes 7, for the reception of attachment means, by which it is secured to the door.

The fulcrum or pintle member or structure of the hinge includes a pin portion 10, received in a hole in the terminal boss 11, of the arcuate arm 5, and capable of being rotatably adjusted therein. Such adjustment is fixable by a nut 12, engaging the protruding threaded upper end of the pin, and clamping against the adjacent face of the boss 11. Said pin is further provided with an eccentric pintle portion or extension 13, engaged in a hole in a bearing lug 14, formed on the bracket 2, of the member 1. The intermediate portion or collar 15, of the pin, serves as a bearing member in cooperation with the lug 14, and is also further functional in opposition to the nut 12, in effecting the clamping of the pin in its adjusted positions.

In practice, when it is desired to adjust the door with respect to its mounting, it is simply necessary to loosen the nut 12, engage the pin by means of a screw-driver or other suitable implement, (slot 16 being provided for this purpose) and to turn the same until the desired adjustment is secured, whereupon, the nut may again be clamped as is already understood. In the course of such adjustment, it will be readily seen that by virtue of the eccentric disposal of the extension 13, of the pin 10, the movable member 6, (and the attached door) will be shifted relative to the fixed member 1, (and the door mounting).

If desired, provisions may be made in the mounting frame of the door structure, so that access, for the purpose of adjustment may be had to the pin 10, from the exterior without detaching the door. However, if the other alternative should be deemed advisable, the structure of the hinge is such as to permit ready dismounting of the door, since the opening 4, in the plate 1, is of ample dimensions to permit withdrawal of the member 5, together with the attached fulcrum pin 10, without danger of displacement either before or after, the adjustment is made.

Having thus described my invention, I claim:

1. In a concealed hinge, the combination of a fixed member, or face plate; a movable member or hinge arm operative through an opening in the fixed member; and a fulcrum structure comprising a pin rotatably adjustable in one of said members and provided with an eccentric extension pivotally engaged in the other, and also having an intermediate bearing collar coöperative in the rotary adjustment of said pin, and

adapted to engage with the bearing support on the fixed member.

2. In a hinge, the combination of fixed and movable hinge members each having a hole therein; a fulcrum member having a pintle portion pivotally engaged in the hole in one of said hinge members, a pin portion eccentric to said pintle portion rotatable for adjustment in and extending through the other of said hinge members, and screw threaded on its projecting end, and an intermediate enlarged collar portion interposed between said hinge members, abutting against the one containing the pin and bearing against the other in their relative movement; and a nut on the projecting threaded end of the pin member coacting with said collar to clamp and secure said fulcrum member in adjusted position in the hinge member containing it.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 22nd day of September, 1919.

JOHN HOWARD WAY.

Witnesses:
JAMES H. BELL,
E. L. FULLERTON.