G. H. DAVIS.

HINGE.

APPLICATION FILED NOV. 17, 1908.

923,250. Patented June 1, 1909.

Fig. 1.

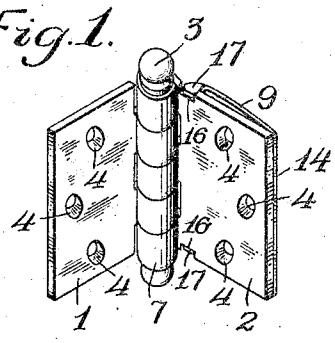
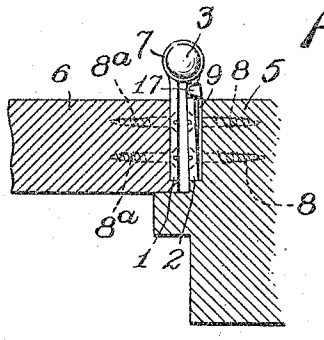


Fig. 2



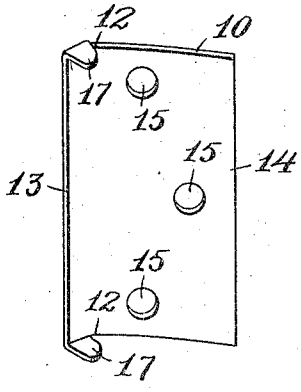


Fig. 3.

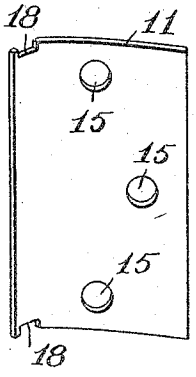


Fig. 4.

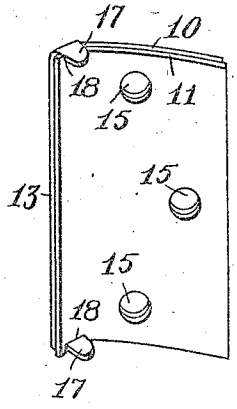


Fig. 5.

Witnesses

R. H. Tolman

Penelope Bomberbach.

Inventor

George H. Davis.

By Rufus B. Fowler

Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. DAVIS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO BROWN DAVIS HARDWARE COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

HINGE.

No. 923,250. Specification of Letters Patent. Patented June 1, 1909.

Application filed November 17, 1908. Serial No. 463,003.

To all whom it may concern:

Be it known that I, GEORGE H. DAVIS, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Hinges, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents a perspective view of a door hinge embodying my present invention. Fig. 2 is a sectional view of a portion of a door and door jamb showing one of my improved hinges in end view as applied thereto, and Figs. 3, 4 and 5 are detached views of the elastic leaves constituting the spring which is inserted between one of the leaves of the hinge and the door jamb.

Similar reference figures refer to similar parts in the different views.

The object of my invention is to provide means for adjusting the door relatively to the door jamb to which it is hinged, without removing the hinge, and this object is accomplished by the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

In the drawings 1 and 2 denote the leaves of a door hinge connected in the usual manner by a pin or pintle 3, and having holes 4 for attaching screws.

In Fig. 2, 5 denotes a door jamb and 6 a door united by a hinge 7, having leaves 1 and 2 which are attached to the door and door jambs, respectively, by attaching screws 8 in the usual manner. Between the leaves 2 and the face of the door jamb 5 I insert an elastic plate or spring 9, preferably consisting of two leaves 10 and 11, although the outer leaf 10 may be used alone, if desired, or the number of leaves employed may be more than two.

In Figs. 1 and 2 a single leaf is employed. In Fig. 5 the spring is shown as composed of two leaves 10 and 11, which are shown separated in Figs. 3 and 4. The spring is substantially of the same width as the leaf of the hinge, so that when the hinge is applied to the door jamb one edge of the spring will project beyond the door jamb. A sharp bend is given to the spring between the points 12, 12, and adjacent to the outer or projecting edge 13 of the spring. When the spring is applied to the hinge the edge 13 bears against the leaf of the hinge next the pintle 3, while the opposite edge 14 bears against the inner edge of the leaf of the hinge. The spring is provided with holes 15 corresponding with the holes 4 in the hinge for the attaching screws to pass through.

In hanging the door the attaching screws 8 are screwed tightly into the door jamb sufficiently to compress and flatten slightly the spring 9. If it becomes necessary thereafter to adjust the door relatively to the door jamb it is accomplished by tightening the screws 8 in order to bring the door nearer the door jamb 5, or by loosening the screws 8 and allowing the spring 9 to push the hinge farther from the door jamb. Small notches 16 are formed in the opposite ends of the leaf 2 near the pintle of the hinge to receive lugs 17, 17, formed on the end of the spring and when two or more leaves are used to form the spring said lugs are formed upon the outer leaf. The interlocking of the lugs 17 in the notches 16 prevents the lateral or longitudinal movement of the spring. When an additional leaf is used, as shown at 11, Fig. 4, corresponding notches 18 are formed in the ends of the leaf to receive the lugs 17, so that the intermediate leaves will be likewise held from movement. Should any of the leaves of the hinge become broken, they may be easily replaced without requiring a new hinge, and the elasticity of the hinge may be increased or diminished by varying the number of the leaves. The interlocking connection between the lugs of the outer leaf of the spring and the notched intermediate leaves of the spring, and the notched leaf of the hinge hold the several parts in alinement while the hinge is being applied to the door jamb. But one set of attaching screws are required for both spring and hinge leaf. By adjusting individually the upper and lower hinges of the door, the opposite edge of the door may be raised or lowered as desired, and by tightening the screws 8 of both upper and lower hinges, the entire door may be drawn bodily away from the opposite door jamb.

By forming a sharp bend in the spring between the points 12, 12, and near the outer edge 13 of the spring a maximum amount of adjustment may be obtained with a minimum variation of the screws 8, and the curved edge 13 of the spring also closes the gap from view which exists between the spring and the leaf 2 of the door hinge.

I am aware that it is not new to place a spring between a door jamb and the leaf of a hinge for the purpose of adjusting a door, and I do not claim such broadly.

I claim,

1. The combination with one of the leaves of a hinge, of an elastic curved plate substantially covering the outer surface of the leaf and having its axis of curvature parallel with the pivot of the hinge.

2. The combination with one of the leaves of a hinge provided with holes for attaching screws, of an elastic curved plate having corresponding screw holes, said plate being curved between its screw holes and the edge next the pivot of the hinge.

3. The combination with one of the leaves of a hinge, of an elastic plate having a longitudinal curvature and with its opposite edges in contact with the surface of the leaf parallel with the pivot of the hinge.

4. The combination with one of the leaves of a hinge, of an elastic plate having its opposite edges parallel with the pivot of the hinge and in contact with the surface of the leaf, with the edge next the pivot of the hinge curved to bring the central portion of the plate out of contact with said leaf.

5. The combination with one of the leaves of a hinge, provided with notched edges, of a curved elastic plate bearing against the outer surface of said leaf having lugs entering the notched edges of the leaf.

6. The combination with the leaf of a hinge, of a spring composed of two or more similarly curved elastic plates with means for interlocking said plates with each other and with said leaf.

7. The combination with one of the leaves of a hinge, of a curved elastic plate, with a portion of said plate in contact with the surface of said leaf, and said plate provided with an integral extension arranged to engage a corresponding recess in said leaf.

Dated this 14th day of November, 1908.

GEORGE H. DAVIS.

Witnesses:

PENELOPE COMBERBACH,

RUFUS B. FOWLER.