April 18, 1939. M. L. ANDERSON 2,154,716

HINGE

Filed June 1, 1937

Fig. 1

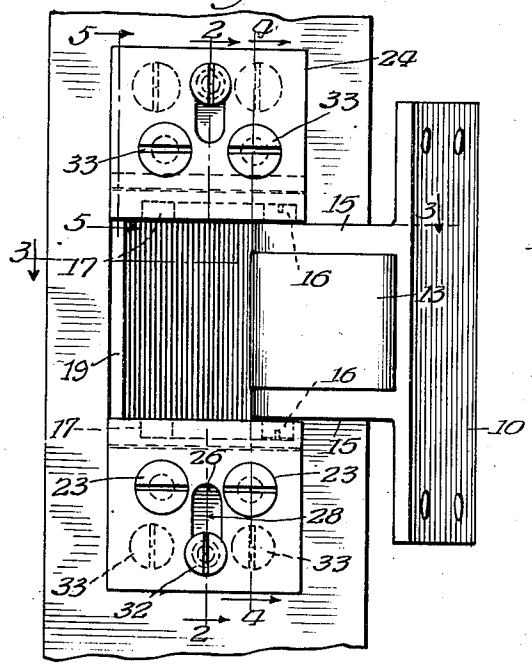


Fig. 2

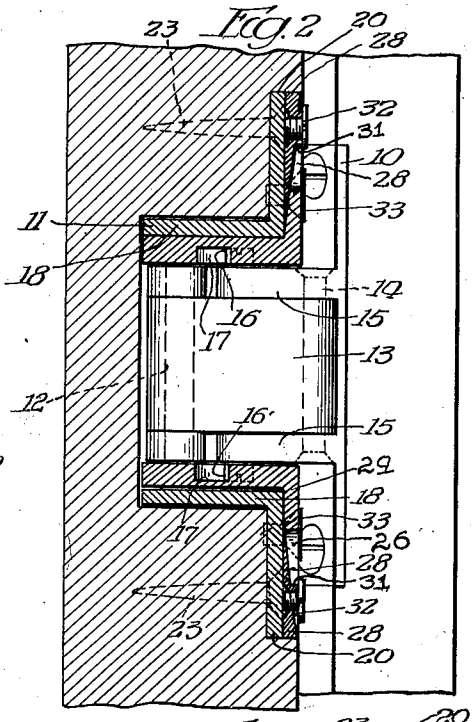


Fig. 3

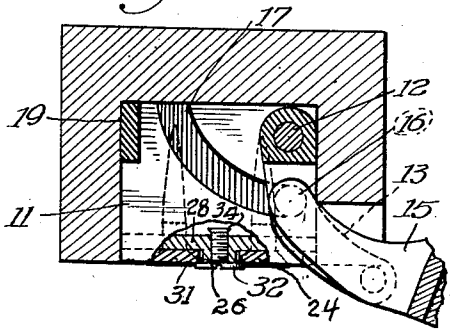


Fig. 5

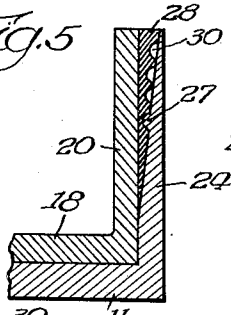


Fig. 4

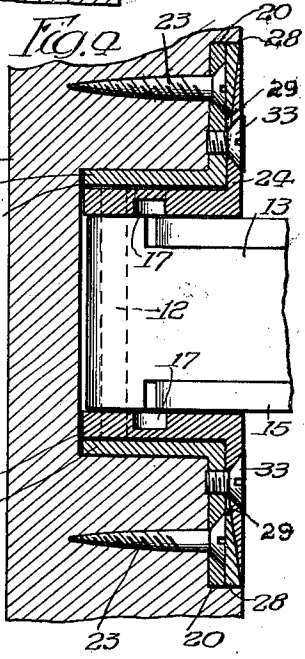


Fig. 8

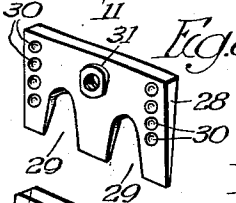


Fig. 7

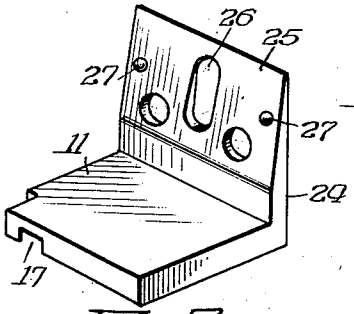
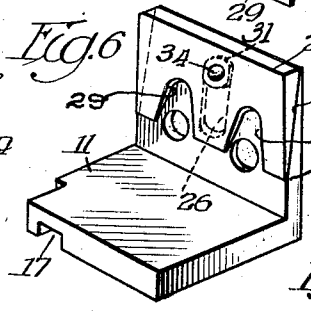


Fig. 6



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UNITED STATES PATENT OFFICE

2,154,716

HINGE

Maud L. Anderson, Aurora, Ill.

Application June 1, 1937, Serial No. 145,707

9 Claims. (Cl. 16—131)

It is well known that it is quite difficult to set or position a hinge, or at least the part thereof which is attached to the door frame so that when the parts are connected together, that is, if the hinge is a separable one, the door will accurately fit or hang properly with respect to the door opening.

If the hinge is not properly positioned it must be loosened and shims must be placed under the hinge member if it is set too low, and if the mortise in which the hinge is anchored is not deep enough, then the hinge member must be detached and the mortise must be made deeper by cutting away a part of the door opening frame.

It is one of the objects of the present invention to provide a hinge having means associated therewith whereby the hinge member may be adjusted with respect to its support without necessitating the removal of the hinge member when it has once been secured to its support

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts, hereinafter more fully described and claimed and shown in the accompanying drawing illustrating this invention, and in which

Figure 1 is a view in front elevation showing the hinge mounted upon a support and in a position which might be termed an open position.

Figure 2 is a detail sectional view taken on line 2—2, Figure 1.

Figure 3 is a horizontal sectional view taken on line 3—3, Figure 1, with parts broken away.

Figure 4 is a sectional view taken on line 4—4, Figure 1, on an enlarged scale and with parts omitted.

Figure 5 is a detail sectional view taken on line 5—5, Figure 1, on an enlarged scale.

Figure 6 is a detail perspective view of a portion of the hinge.

Figure 7 is a detail perspective view similar to that shown in Figure 6 with parts omitted.

Figure 8 is a detail perspective view of a wedge member.

This invention will be shown and described in connection with the hinge disclosed in my Patent Number 2,018,909 October 29, 1935, but it is to be understood that the invention is well adapted for use with any other form of hinge.

Throughout the claims the term "pillar member" will be employed to designate the member to which the wedge element is adjustably secured, and with which the wedge member cooperates to effect the adjustment of the hinge, but this term is not to be construed as a term of limitation, but is to be construed broadly to include the pillar or door member of the hinge.

The hinge consists essentially of a door member and a pillar member, the door member being designated by the reference numeral 10, while the pillar member consists of an upper and lower section 11, the door member being pivotally mounted between the sections 11 by means of a pivot pin 12 and a rocker member 13 having connection with the door member by means of a pivot 14. Arms 15 are also connected to the door member 10 and stand on each side of the rocker member 13. Projecting from the arms 15 are pins or extensions 16 that move in grooves 17 in the respective sections of the pillar member 11, all as described and as fully illustrated in my aforesaid patent.

An anchor member 18 is associated with the pillar member and this anchor member embodies a top and bottom section, the two being connected by an upright 19 preferably at the rear of the member 18 and at the front portions of each of these sections is an upright flange 20. These parts form a housing into which the hinge parts are foldable, and which housing is adapted to be set into a mortise 21 in the pillar 22 of a door opening the flanges 20 resting against the face of the pillar 22, or if desired may be recessed into said faces.

The anchor member is held in position by means of suitable screws 23.

The sections 11 of the pillar member are each provided at their forward ends with flanges 24 of any suitable size, and portions of these flanges, on the rear faces thereof, are beveled as at 25, a slot 26 being provided in the beveled portion and projections 27 extend laterally from said beveled portions.

The numeral 28 designates a wedge member which is provided with slots 29 opening through one edge thereof and in the rear face of this wedge member recesses 30 are provided. A projection 31 also extends from the rear face of the wedge member 28.

The wedge member is placed with that face thereof in which the recesses 30 are provided, adjacent and in contact with the beveled surface 25 of the flange 24 so that the projection 31 will extend into the slot 26. At the same time each of the projections 27 will enter one of the

recesses 30 according to the position in which the wedge member 28 is placed.

Passing through the front of the flange 24, that is, from the side opposite to the side adjacent which the wedge 28 is located, is a fastening screw 32 which is threaded into the projection 31 on the wedge member, the head of the screw 32 contacting the face of the flange 24 for binding or securing the wedge member in its adjusted position; the projections 27 entering the recesses 30, cooperate with the screw 32 and hold the parts in position.

The pillar member is secured to the anchor member by means of screws 33 which pass through the flanges 24 and into the flanges 20 of the anchor member.

It is of course to be understood that one of these wedge shaped formations and its associated parts is arranged at the top and bottom of the pillar member.

In use the anchor member 18 is placed in position in the mortise and is anchored by the screws 23.

The pillar member is then placed in position with the wedge member 28 between the flange 20 of the anchor member and the flange 24 of the pillar member, and the pillar member is secured to the anchor member by means of the screws 33. It is of course understood that the door member is secured to the door in the usual manner.

When the parts are thus assembled and the door has been hung with respect to the door opening, and in the event that it is not properly hung so that it will not fit the door opening, or if for any reason it is desired to adjust the pillar member, all that is necessary is to loosen the screws 33 which are freely accessible, but the screws 33 are not removed sufficiently to detach the pillar member from the anchor member. The screw 32 is then loosened and the wedge member 28 may then be bodily adjusted upwardly or downwardly with respect to the beveled face 25 of the flange 24.

During this adjustment of the wedge member the recesses 30 will be moved out of engagement with the projections 27 and when the wedge member has been adjusted to the desired position, the projections 27 entering the recesses 30 will hold the wedge member in place.

These projections 27 and recesses 30 also serve as an indicating means to indicate the extent of and facilitate the proper adjustment of the wedge member. The slot 26 is of sufficient length to permit the proper adjustment of the wedge member.

If desired and in order to prevent the screw 32 from becoming disengaged from the wedge member, the extremity of the screw may be provided with a head 34 (as shown in Figure 3). With this improved construction it will be manifest that the proper adjustment of the pillar member may be obtained so as to cause the door to swing with respect to and fit accurately within the door opening and that these adjustments may be effected without the necessity of having to detach or remove the pillar member after it has been once secured to the pillar.

Obviously by the adjustment of the wedge member between the flanges 20 and 24 respectively of the anchor and pillar members, the angle of inclination of the pillar member with respect to the pillar, as well as the angle of inclination of the hinge pivot, may be varied so as to obtain the proper adjustment or positioning of the door.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction, and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:

1. A door hinge embodying a pillar member, a wedge shaped element, means adjustably securing said element with one face thereof contracting one face of said member, said element being operable from the other face of said member for varying the position of said member with respect to the pillar of a door opening, and while the member is attached to the pillar, a projection on one of said contacting faces, and recesses in the other of said faces for selectively receiving said projection to assist in maintaining the wedge shaped element in its adjusted position.

2. A door hinge embodying a pillar member, a wedge shaped element, means adjustably securing said element adjacent one face of and between said member and the pillar, said element being operable from the other face of said member for varying the position of said member with respect to the pillar, and while the member is attached to the pillar, the said element being adjustable along the one face of said member, and means for guiding said element in its adjustment.

3. A door hinge embodying a pillar member, a wedge shaped element, means adjustably securing said element on one face of and for adjustment along said face of said member between said member and the pillar and operable from the other face of said member for varying the position of said member with respect to the pillar, and while the member is attached to the pillar, and means for guiding said element in its adjustment, the contacting surfaces of said member and element being provided with inter-engaging projections and recesses for assisting in positioning the said element with respect to said member.

4. A door hinge embodying a pillar member having a beveled surface adapted to be positioned adjacent a pillar of a door opening, a wedge shaped element contacting said beveled surface, and fastening means passing through said member and engaging said element for adjustably securing the latter to said member and accessible from the side of said member opposite to the side adjacent which said element is located, there being a slot in said member in which said fastening means is movable during the adjustment of said element with respect to said member.

5. A door hinge embodying a pillar member having a beveled surface adapted to be positioned adjacent a pillar of a door opening, a wedge shaped element contacting said beveled surface, fastening means passing through said member and engaging said element for adjustably securing the latter to said member and accessible from the side of said member opposite to the side adjacent which said element is located, there being a slot in said member in which said fastening means is movable during the adjustment of said element with respect to said member, and cooperating means on the proximate faces of said member and element for assisting in positioning the element during its adjustment, and for also assisting in holding the element in its adjusted position.

6. A door hinge embodying a pillar member, a portion of one face being beveled, a wedge shaped element, means securing said element adjacent said beveled portion, said element, when

said member is secured to a pillar of a door opening, being disposed between the member and said pillar, and fastening screws anchoring said member to the pillar, the said means being accessible from the face of said member opposite to that face adjacent which the said element is mounted, whereby said element may be adjusted with respect to said member while the latter is secured to the pillar, there being slots opening through an edge of said element to receive said screws, whereby the adjustment of said element will not be interfered with.

7. A door hinge embodying a pillar member, a portion of one face being beveled, a wedge shaped element, means securing said element adjacent said beveled portion, said element, when said member is secured to a pillar of a door opening, being disposed between the member and said pillar, fastening screws anchoring said member to the pillar, the said means being accessible from the face of said member opposite to that face adjacent which the said element is mounted, whereby said element may be adjusted with respect to said member while the latter is secured to the pillar, there being slots opening through an edge of said element to receive said screws, whereby the adjustment of said element will not be interferred with, there being a slot in the said member, and a projection on said element extending into and movable within the last said slot for guiding said element in its adjustment.

8. A door hinge embodying a pillar member, an element having portions of different thicknesses and disposed adjacent one face of said member and positioned between said member and a pillar of a door opening, and means securing said element to said member for slidable and bodily adjustment with respect thereto, the said means adapting the said element for adjustment from the other face of said member for varying the position of said member with respect to the pillar and while the member is attached to the pillar, the adjustment of said element with respect to said member being in a plane transverse to the movement of said member with respect to the pillar.

9. A door hinge embodying a pillar member, wedge means adjacent one face of said member and positioned between said member and a pillar of a door opening, and means adjustably securing said wedge means and member together, the second recited means adapting the operation of the said wedge means from the other face of said member for varying the position of said member with respect to the pillar and while the member is attached to the pillar.

MAUD L. ANDERSON.