Dec. 5, 1939. T. E. RAYMOND 2,182,546

HINGE

Original Filed Aug. 5, 1938

Fig. 1.

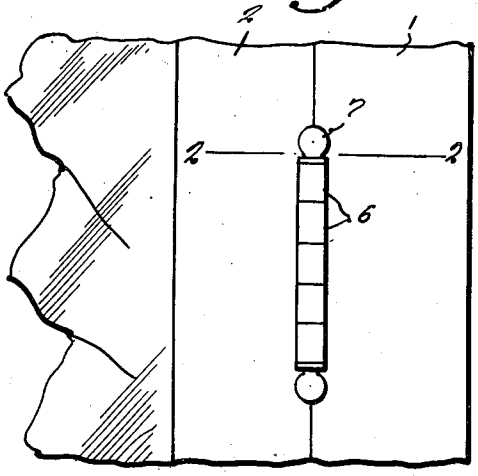


Fig. 3.

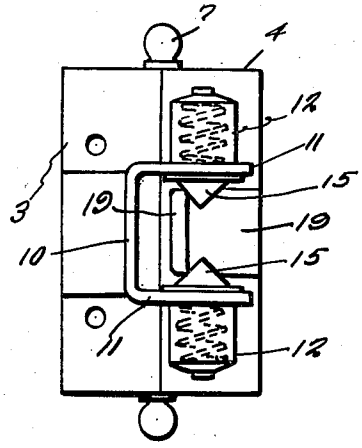


Fig. 2.

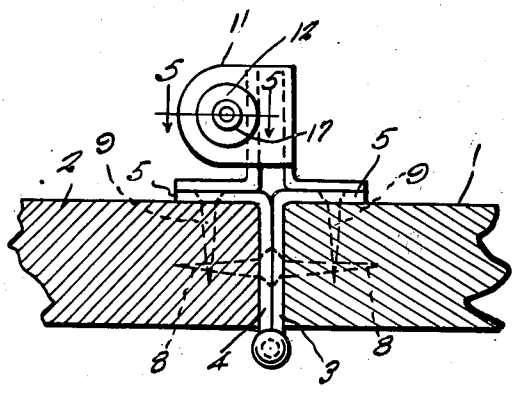


Fig. 4.

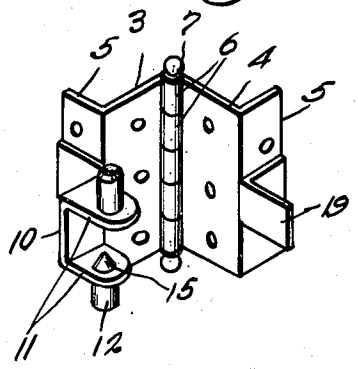
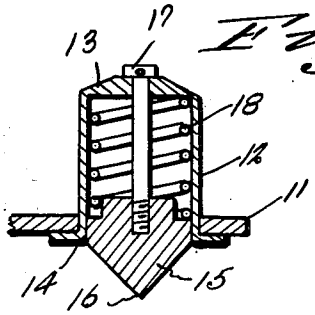


Fig. 5.



Inventor

T. E. Raymond.

By Clarence A. O'Brien and Hyman Berman

Attorneys

Patented Dec. 5, 1939 2,182,546

UNITED STATES PATENT OFFICE

2,182,546

HINGE

Thomas E. Raymond, Zanesville, Ohio

Application August 5, 1938, Serial No. 223,337
Renewed October 20, 1939

1 Claim. (Cl. 16—140)

My invention relates to improvements in hinges for use more particularly in connection with cabinet doors and the like.

The principal object of the invention is to provide a simply constructed, easily applied, inexpensive hinge adapted to latch the door closed and easily operated by a slight pull on the door to unlatch the same.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawing, set forth in detail in the succeeding description, and defined in the claim appended hereto.

In said drawing:

Figure 1 is a fragmentary view in front elevation illustrating my improved hinge applied and the door closed,

Figure 2 is a fragmentary view in transverse section taken on the line 2—2 of Figure 1 and drawn to an enlarged scale,

Figure 3 is a view in rear elevation, the hinge being latched,

Figure 4 is a view in perspective with the hinge unlatched and open, and

Figure 5 is a detail view in vertical section taken on the line 5—5 of Figure 2 looking in the direction indicated by the arrows.

Referring to the drawing by numerals, 1 designates the door frame of a cabinet, and 2 the door thereof. My improved hinge comprises a pair of plate-like leaves 3 and 4 having right angled flanges 5 whereby one leaf 3 is adapted to fit around the inner face of the frame 1 and the rear side thereof and the other leaf 4 may be similarly fitted to the door 2. The edges of the leaves 3 and 4 opposite the flanges 5 are pivotally secured together in the usual manner by hinge barrels 6 on said edges and a pintle 7 extending through said barrels. The leaves 3 and 4 are secured to the frame 1 and door 2 by means of screws 8 extending through the same intermediate the flanges 5 and described pivots and other screws 9 extending through the flanges 5. One of the flanges 5 has suitably secured thereto, as by welding not shown, a right angled bracket 10 including a pair of vertically spaced ears 11. A pair of cylindrical housings 12 are suitably mounted in said ears 11 to extend above and below said ears, respectively, in vertically aligned relation, each of said housings 12 having a closed outer end 13 and an inner end 14 opening into the space between said ears 11. A pair of conical latches 15 are slidably mounted in the inner ends 14 of the housings 12, respectively, with pointed ends 16 opposed and adapted for movement toward and from each other. A bolt 17 slidably extended through the closed end 13 of each housing 12 and threaded into the related latch 15 limits movement of said latch toward the other. A compression spring 18 interposed between each latch 15 and the closed end 13 of the housing 12 urges each latch 15 toward the other. The other flange 5 has suitably secured thereto a right angled latch member 19 arranged so that when the door 2 is closed, said member wipes between and past the latches 15 to be yieldingly blocked against movement in a reverse direction by said latches 15.

Referring briefly to the operation of the invention, normally the latches 15 are urged toward each other by the springs 18 into the limit of their movement in that direction as established by the bolts 17. Consequently, under closing movement of the hinge and the door, the latch member 19 wipes past and between said latches 15 thereby camming the same away from each other against the reaction of the springs 18, the arrangement being such that in the closed position of said hinge and door said member 19 is brought to rest against said latches in said limit of movement of the latter. Obviously, by virtue of the described shape of the latches 15, under opening movement of the hinge and door, said latches 15 may be easily cammed by the latch member 19 to permit the latter to pass in a reverse direction between and past the same and thus provide for opening of the door 2 under a slight pull exerted thereagainst.

The foregoing will, it is believed, suffice to impart a clear understanding of the preferred embodiment of the invention illustrated, but it is to be understood that the invention as described is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the subjoined claim.

What I claim is:

A hinge comprising a pair of plate-like leaves pivoted together at edges thereof for opening and closing movement, devices on the opposite edges of said leaves, respectively, coacting under closing movement of said leaves to yieldingly latch the same together with a snap action against opening movement, said devices comprising a U-shaped bracket mounted on said opposite edge of one leaf and including a pair of upper and lower horizontal bearing ears, a pair of cylindrical housings extending oppositely from said ears, respectively, vertically in axial alignment, a pair of spring pressed conical latches in said housings, respectively, adapted for relative separative movement and projecting through said ears, and a plate-like vertically disposed keeper on said opposite edge of the other leaf fitting between said ears with a slight clearance and adapted to wipe past said latches.

THOMAS E. RAYMOND.