Oct. 12, 1937. A. G. HALLENBECK 2,095,866

COMBINATION HINGE AND DOOR STOP

Filed June 26, 1936

Fig. 1

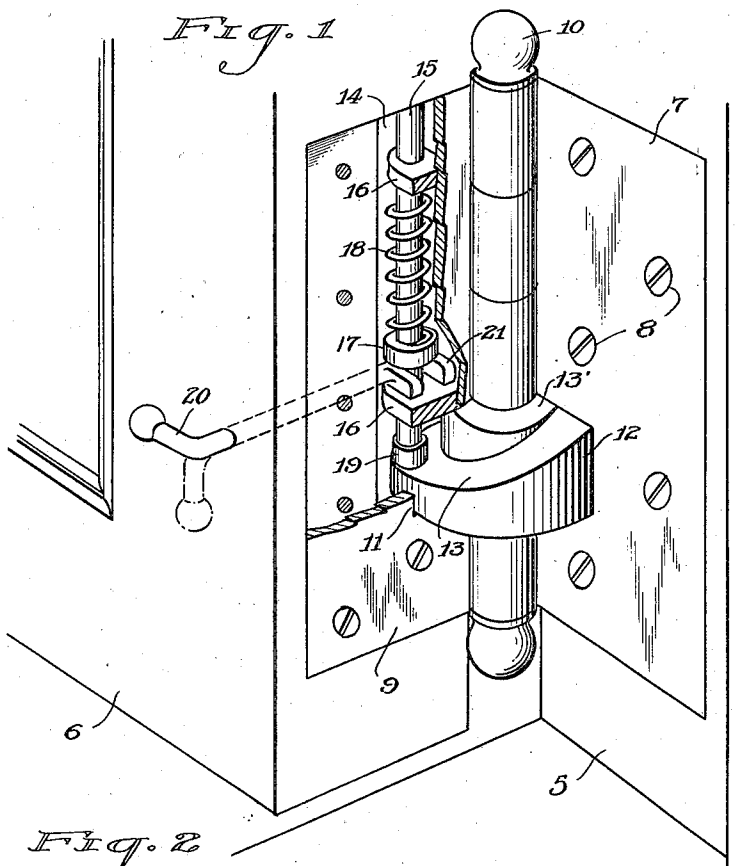


Fig. 2

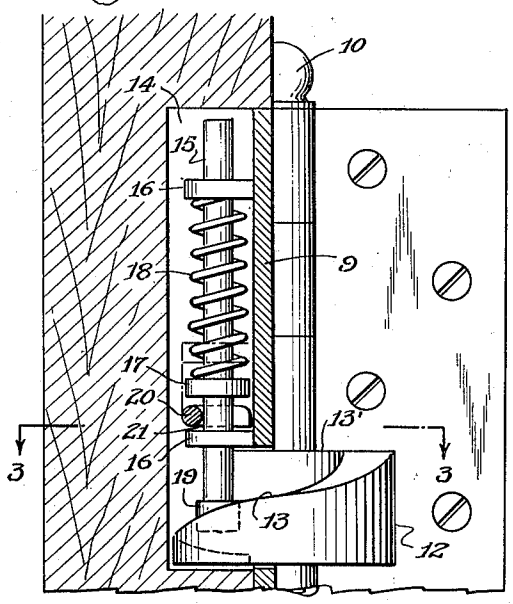
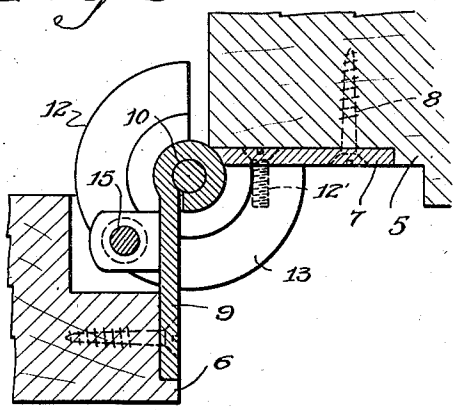


Fig. 3



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COMBINATION HINGE AND DOOR STOP

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3 Claims. (Cl. 16—141)

The present invention relates to hinges and more particularly to a combined hinge and door stop.

The primary object of the invention is the provision of a hinge that will permit the door to which it is attached to be held in any position and at the same time allow the door to be readily opened and closed for entrance and exit purposes.

A further object is to provide a hinge that can be used on doors equipped with any form of spring hinge or door check means, as the present device will operate independently of any other attachment.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawing which forms part of the application.

In the drawing:

Fig. 1 is a perspective view showing the device attached to a door, said door being partially open.

Fig. 2 is a vertical sectional view thru the hinge with parts in elevation; and

Fig. 3 is a view taken on line 3—3 of Fig. 2.

Referring to the drawing for a more detailed description thereof, the numeral 5 indicates a door frame to which a door 6 is swingably mounted by means of the new and improved hinge. The hinge plate 7 is attached to the door frame 5 by means of screws or other fastening means 8 and a second hinge plate 9 is attached to the door 6 and pivotally connected to the plate 7 by means of the usual pintle 10. The plates 7 and 9 are of the usual type having interlocking portions thru which the pintle 10 is adapted to engage.

The plates 7 and 9 have associated therewith the cam member 12, which member has an inclined surface 13 extending from the plate 7 downwardly toward the plate 9. Said cam member is attached to the plate 7 by means of screws or other attaching means 12' and extends thru an opening 11 provided in the plate 9, as shown in Fig. 3 of the drawing. The upper end of the cam member 12 has a reduced portion 13' with an opening therein thru which the pintle 10 is threaded, whereby said member 12 forms substantially an integral part of the hinge. It is to be understood that the opening 11 is of a sufficient size to permit the free movement of the plate 9 during the opening and closing of the door.

When attaching the plate 9 to the door 6, a recess 14 is to be provided in the door to receive the friction plunger 15 which engages the surface 13 of the cam member 12 during the opening and closing of the door. The plunger 15 is slidably supported in brackets 16 that are fixedly secured to the plate 9 in spaced relation, as illustrated in Fig. 2 of the drawing. Supported between the brackets 16 and a frictionally supported collar 17 is a coiled spring 18, against the compression of which the plunger 15 operates during its travel over the surface 13. The end of the plunger 15 has attached thereto a removable cap 19, preferably of a friction material, which cap may be readily replaced when worn.

It will be apparent that during the closing of the door 6 the end 19 of the plunger 15 travels upwardly on the surface 13 of the cam member 12 and due to the frictional engagement thereof tends to retard the closing of the door. The coiled spring 18 carries sufficient compression to cause frictional engagement of the plunger with the cam surface at all times. The door 6 will be held at any position since the plunger 15 serves as a braking means thereby preventing closing of the door without the use of extraneous means. A normal push and pull of the door will, however, open and close the same for entrance and exit purposes.

If occasion should demand that the plunger 15 be held in inoperative position, there is provided a key 20 having a U-shaped end 21 which encircles the plunger 15 and is normally supported below the collar 17. The key 20 is threaded thru an opening thru the door and into the slot 14 and rotation thereof moves the curved end of the key to the position illustrated in dot and dash lines in Fig. 1 of the drawing, and an engagement of the U-shaped end 12 with the collar 17 raises the plunger out of contact with the surface of the cam 12, at which time the door will operate independently of the plunger and cam.

It is to be understood that this improvement is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claims.

What is claimed as new is:

1. For use in a door having one edge thereof recessed; a hinge mechanism including a pair of plates, one of said plates attached to the recessed door and the other plate to the door frame, a pintle for pivotally connecting said plates, a cam mounted on said pintle and received in a

socket in the door engaging plate, a plunger having one end thereof frictionally engaging said cam more tightly as the door closes more nearly, said plunger carried by said door engaging plate and movable in the recessed door and means including an elongated member having a handle at one end and a bifurcated lifter at the other end for maintaining said plunger in inoperative position.

2. A hinge of the character described comprising a pair of plates, means for pivotally connecting said plates, a cam supported on said pivotal means and received in a socket in one of said plates, a plunger carried by one of said plates for frictional engagement with said cam and having a detent thereon, and means for retaining said plunger in inoperative position, said means comprising a rotatable lever having one end thereof engaging the detent on said plunger and rotatable by the other end into a position to retain the plunger lifted, and the other end extending at right angles thereto.

3. A hinge of the character described comprising a pair of plates, means for pivotally connecting said plates, a cam supported on said pivotal means and received in a socket in one of said plates, a pair of spaced brackets integral with one of said plates, a plunger slidably disposed between said brackets, spring means encircling said plunger, a collar carried by said plunger, and a rotatable lever extending at right angles to said plunger and engaging said collar when rotated to raise said plunger by engagement of said collar with the inner end of said lever for thereby retaining said plunger in inoperative position.

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