March 11, 1930. C. COMSTOCK 1,749,905

DOOR HOLDER

Filed Nov. 10, 1927

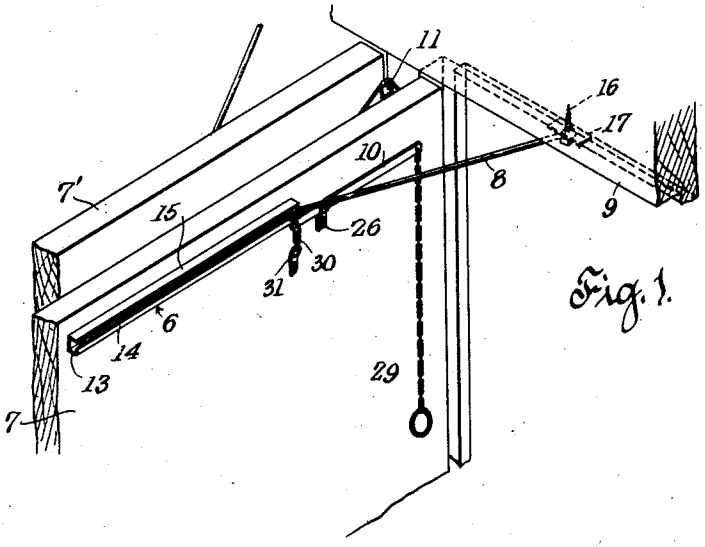


Fig. 1.

Fig. 2.

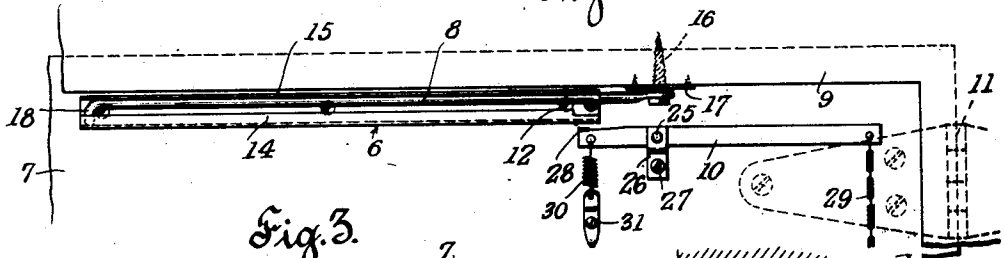


Fig. 3.

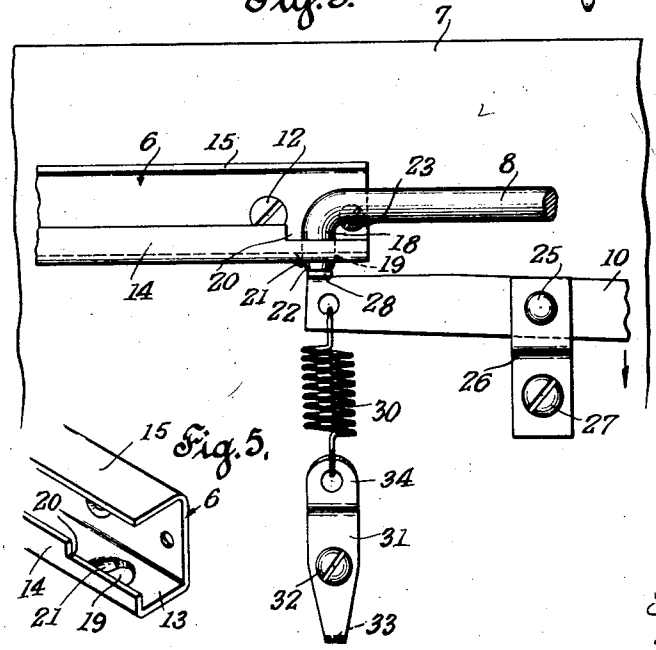


Fig. 5.

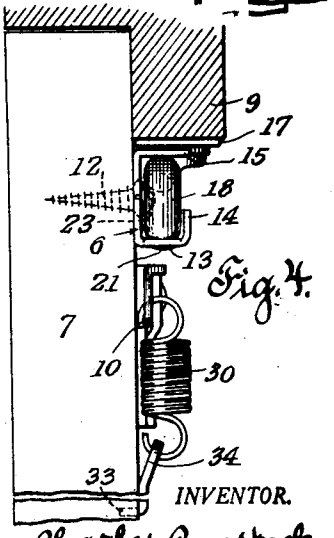


Fig. 4.

INVENTOR.

BY Charles Comstock

ATTORNEY.

Patented Mar. 11, 1930

1,749,905

UNITED STATES PATENT OFFICE

CHARLES COMSTOCK, OF NEW HYDE PARK, NEW YORK

DOOR HOLDER

Application filed November 10, 1927. Serial No. 232,292.

My invention relates to mechanism for holding a door open or partly open and is particularly adapted for constructions, such as garage doors. The main object is to provide a simple but reliable mechanism for this purpose which can be easily installed.

Another object is to provide a construction of this character which is inexpensive and readily operated.

In its preferred form the invention consists of three main parts, namely, a metal channel adapted to be secured to the door, a swinging arm carried by the door frame and co-acting with the channel and a releasing lever carried by the door. The details of the preferred form will be understood from inspection of the accompanying single sheet of drawings and the following specification:

Fig. 1 is a perspective view of apparatus embodying my invention showing the doors open.

Fig. 2 is a fragmentary face view showing the parts in their co-acting relation when the door is closed.

Fig. 3 is a fragmentary large view showing the parts in the interlock, that is the open door position.

Fig. 4 is a vertical transverse sectional view.

Fig. 5 is a detailed view of one end of the channel.

The channel 6 is preferably formed of sheet steel or iron and suitably secured to the door 7. The arm 8 is pivotally secured to the under side of the door frame 9. The release lever 10 is hinged to the door. The door is hinged to the frame at the point 11. I have also shown a door 7′ located adjacent the door 7 as is sometimes done in what is called a "double door construction".

The channel 6 is secured to the door by two or more screws 12 which pass through a vertical web of the channel 6. The channel also has a bottom wall 13 adapted to support the movable end of the arm 8 and it also has a vertical flange 14 and a horizontal top flange 15.

The arm 8 is hinged or pivoted on the screw or bolt 16 beneath the reinforcing and bearing plate 17. The outer end of the arm 8 is provided with a downwardly extending hook-like member 18 adapted to slide on the flange 13 and inside of the flange 14. The top flange 15 is spaced apart from the upper edge of the flange 14 a distance sufficient to allow for the travel of the arm 8. The bottom flange 13 is provided with an opening 19 into which the end 18 of the arm 8 drops when the door is opened to the required extent. The flange 14 is cut away at 20 to allow for the dropping of the arm 8 at the position shown in Figs. 1 and 3. One edge of the opening 19 is inclined at 21 and the lower end of the hook 18 is rounded off or bevelled at 22 so as to facilitate the disengagement of the hook 18 from the hole 19. A stop screw 23 is also preferably provided to prevent the hook 18 from accidentally sliding out of the end of the channel 6 when the door is being opened.

The release lever 10 is pivoted on the pivot 25 which is carried by an arm of the bracket 26 which is secured by the screw 27. The end of the lever 10 beneath the tip of the hook 18 is provided with an off set 28 adapted to engage the tip of the hook 18 so as to lift the hook out of the hole 19 when the chain 29 is pulled. The spring 30 is secured to the short arm of the lever 10 and is secured to the door by means of an anchor member 31 which in turn is secured to the door by screw 32 and a point or lug 33. The upper end of the anchor member is provided with an off set portion 34 so as to keep the spring away from the door.

When the door is closed as shown in Fig. 2, the holder has no effect upon it and the door can be latched, locked or hooked in any suitable manner When it is desired to open the door it is swung in the usual manner during which movement the tip 18 of the arm 8 slides along the channel 6 until, when the door is opened to the required extent, the hook 18 falls into the hole 19 and locks the door against further movement. When it is desired to close the door it is simply necessary to pull on the chain or cord 29 and lift the tip of the holder 8 out of the socket 19, whereupon the door can be closed without interference from the doorholder.

It should be understood, of course, that the bevelled tip 22 and the incline 21 facilitate the closing movement as soon as the incline 21 tends to lift the bevelled tip 22 as pressure is applied on the door to close it. Ordinarily, however, when the spring 30 is pulling the left hand end of the lever 10 downwardly the hook portion 18 of the arm 8 tends to prevent accidental movement of the door.

The angle at which the door will stand when opened to its limit with this apparatus depends upon the position at which the channel 6 is located on the door and also the distance of the screw 16 from the vertical axis of the hinge 11.

I claim:

1. A door holder comprising a channel iron having a rear web adapted to be secured to a door, a bottom flange adapted to support the tip of a holder arm, a front flange serving to guide the tip of the holder arm, and a top flange serving to keep the holder in the channel formed by the bottom flange and the top flange, a holder arm adapted to be pivoted to the underside of the top of a door frame and having a downwardly extending tip guided in the channel, said channel having a hole in its lower flange at one end to receive and interlock with said holder tip and a releasing lever adapted to be pivoted to the door and provided with an operating chain, said lever having one end located immediately below the hole in said channel and a spring secured to said lever for normally retracting it and an anchor for securing one end of said spring to the door.

2. A door holder comprising a channel iron having a rear web adapted to be secured to a door, a bottom flange adapted to support the tip of a holder arm, a front flange serving to guide the tip of the holder arm, and a top flange serving to keep the holder in the channel formed by the bottom flange and the top flange, a holder arm adapted to be pivoted to the underside of the top of a door frame and having a downwardly extending tip guided in the channel, said channel having a hole in its lower flange at one end to receive and interlock with said holder tip and a releasing lever adapted to be pivoted to the door intermediate its end and provided with an operating chain on one side of said pivot, said lever having a portion on the opposite side of said pivot located below the channel hole for engagement with the underside of said tip received in said hole, and a spring adapted to cooperate with said door and said lever for normally holding the lever away from said tip, said tip receiving channel hole being provided with an inclined wall at one edge of the hole and said tip being rounded to engage said inclined wall to facilitate engagement and disengagement of said tip within said hole.

3. A door holder comprising a holder arm having one end adapted to be secured to the under side of the top of a door frame and having a downwardly projecting tip at the other end, a channel iron having a rear web adapted to be secured to the door, a bottom flange adapted to support the tip of the holder arm, a front flange serving to guide the tip of the holder arm, and a top flange serving to keep the holder in the channel formed by the bottom flange and the top flange, said channel having a hole in its lower flange at one end to receive and interlock with said holder tip and a releasing lever adapted to be pivoted to the door and provided with an operating member, said lever having a portion located below the channel hole for engagement with the underside of said tip received in said hole, said lever being normally positioned away from said tip, and means to guide said tip into and out of said hole.

4. A door holder comprising a channel iron with a rear web adapted to be secured to the door, the bottom flange adapted to support the tip of a holder arm, the front flange serving to guide the tip of the holder arm, the top flange serving to keep the holder in the channel formed by the bottom flange and the top flange, a holder arm adapted to be pivoted to the under side of the top of the door frame and having a downwardly extending tip guided in the channel, said channel having a hole in its lower flange at one end to receive and interlock with said holder tip and common means carried by said channel iron for guiding said tip into said hole and for preventing said holder from riding out of said channel iron.

5. A door holder comprising a channel iron with a rear web adapted to be secured to the door, a bottom flange adapted to support the tip of a holder arm, a front flange serving to keep the holder in the channel formed by the bottom flange and the top flange, a holder arm adapted to be pivoted to the underside of the top of the door frame and having a downwardly extending tip guided in the channel, said channel having a hole in its bottom flange at one end to receive and interlock with said holder tip and a screw mounted in the rear web portion of the channel adjacent said opening with a portion extending forwardly into said channel whereby sliding movement of said holder arm is stopped when the tip thereof is adjacent said opening.

6. A door holder comprising a holder arm having one end adapted to be secured to the under side of the top of a door frame and having a downwardly projecting tip at the other end, a channel iron having a rear web adapted to be secured to a door, a bottom flange adapted to support the tip of the holder arm, and a top flange serving to keep the holder in the channel formed by the bottom

flange and the top flange, said channel having a hole in its bottom flange at one end to receive and interlock with said holder tip and a releasing lever adapted to be pivoted to the door and provided with an operating member, said lever having a portion located below the channel hole for engagement with the under side of said tip received in said hole, said lever being normally positioned away from said tip, and a stop for said holder arm located in the end of the channel adjacent said hole to prevent said tip from sliding out of said channel.

CHARLES COMSTOCK.