Dec. 4, 1928. 1,693,860

C. P. OLSON

DOORCHECK

Filed March 3, 1928 2 Sheets-Sheet 1

Fig. 1.

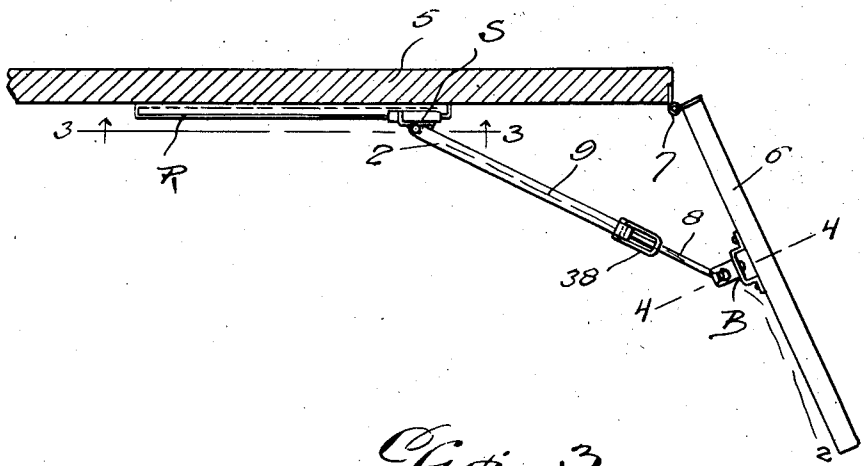
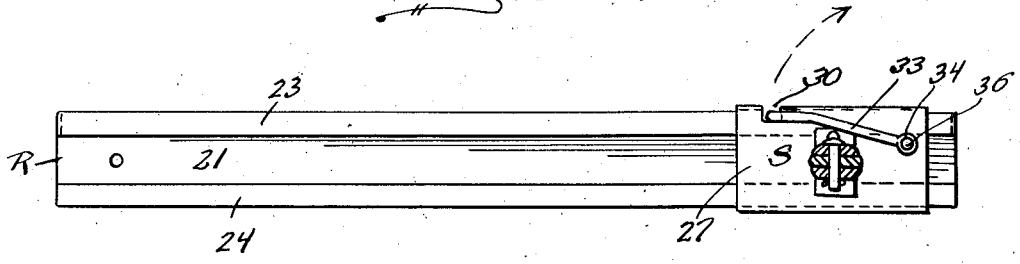


Fig. 3.



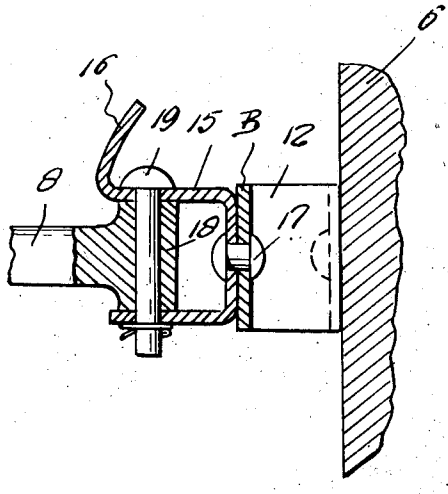


Fig. 4.

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Filed March 3, 1928 2 Sheets-Sheet 2

Fig. 2.

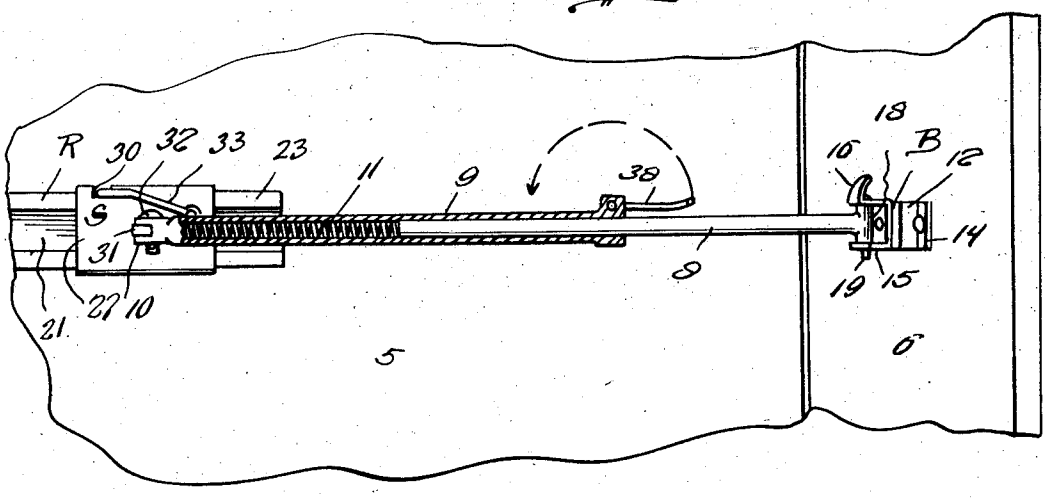


Fig. 5.

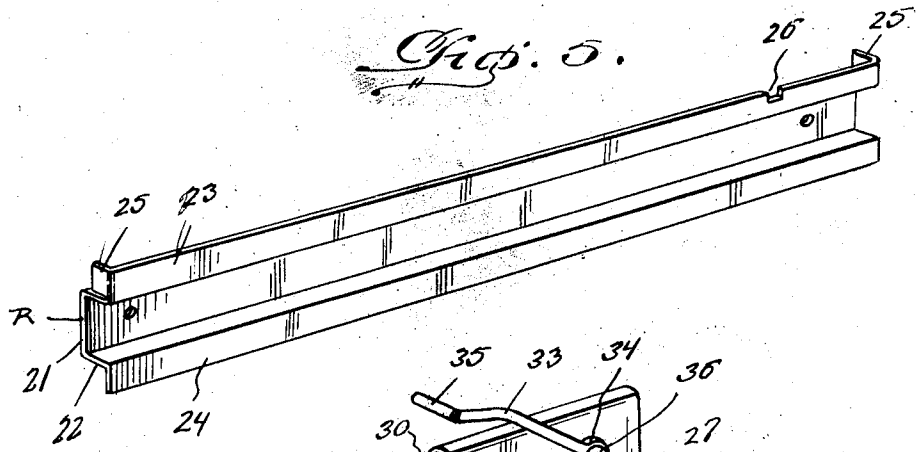
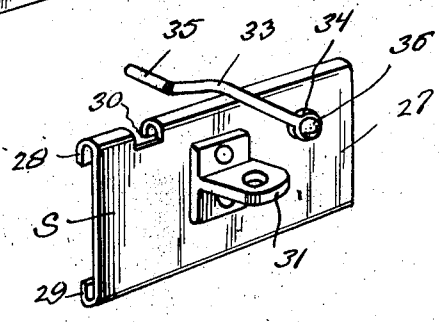


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DOORCHECK.

Application filed March 3, 1928. Serial No 253,791.

The present invention relates to a device for checking the movement of a hinged member in respect to its support and more particularly to a door check.

The prime object of the invention resides in the provision of a hinged structure check mechanism of this nature wherein the hinged member is urged to a normal position from which it may be moved to a limited predetermined extent.

Another very important object of the invention resides in the provision of a hinged structure check mechanism of this nature including means between the hinged structure and a support for urging the hinged structure to a predetermined position, the connection between said means and said supporting structure being of a slidable nature and capable of being held in a predetermined position for normal operation.

A further important object of the invention resides in the provision of a hinged structure check mechanism of this nature possessing means for holding the hinged structure in a predetermined position against the normal urge of the mechanism.

A still further very important object of the invention resides in the provision of a mechanism of this nature possessed of an exceedingly simple construction which is both strong and durable, inexpensive to manufacture, easy to apply, convenient to operate or adjust, and otherwise thoroughly efficient and reliable in its use and operation.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination, sub-combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is a top plan view of the mechanism embodying the features of this invention showing the same associated with a supporting structure with a hinged member mounted thereon,

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 1,

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 1,

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 1,

Figure 5 is a perspective view of a rail,

Figure 6 is a perspective view of a slide.

Referring to the drawing in detail it will be seen that the numeral 5 denotes a supporting structure and the numeral 6 a hinged member which will be referred to in the present exemplification of the invention as a wall and door respectively. The door 6 is hinged to the wall 7 for the purpose of closing a doorway. The parts thus far described, of course, are conventional and may be of any preferred structure and do not form a part of the present invention.

The numeral 8 denotes a rod slidable in a tube 9 one end of which is open to receive the rod 8 while the other end is closed and has formed thereon a pair of spaced parallel ears 10. A spring 11 is disposed in the tube 9 and impinges against the inner end of the rod 8 and the closed end of the tube 9. A bracket denoted generally by the letter B connects the outer end of the rod 8 with the door 6 preferably adjacent the top thereof and the intermediate portion thereof considered horizontally. This bracket B comprises a U-shaped section 12 which terminates in outwardly directed ears 14 secured to the door by suitable fastening elements. The bracket further comprises a second U-shaped section 15 one end of which terminates in a laterally extending curved extension 16. The bights of the sections 12 and 15 are connected by a rivet 17 or other suitable means. The outer end of the rod 8 terminates in a lateral bearing 18 for receiving a pivot pin 19 which extends through openings in the ends of the sides of the section 15 thereby hingedly connecting the rod 8 with the section 15. I have therefore provided a connection between the door and the rod 8.

An elongated rail bar is secured to the wall 5 to extend horizontally thereof or at right angles to the axes of the hinges 7. This rail is preferably formed of a single sheet of metal bent to provide a U-shaped cross sectional formation so as to include a bight plate 21 having side plates 22 projecting outwardly and preferably perpendicularly to the plate 21 at the upper and lower edges thereof. The side plates 22 merge into flanges 23 and 24, the former extending upwardly and the latter extending downwardly. The flange 23 at its ends is provided with a pair of inwardly extending stop lips 25 and on its edge adjacent one end with a notch 26. A slide S preferably comprises a sheet 27 bent over upon itself at its longitudinal edges to provide flanges 28

and 29 for receiving the flanges 23 and 24 respectively.

The slide S is formed with a notch 30 which should be registered with the notch 26. A lug 31 projects from the sheet 27 of the slide S between the ears 10 and a pivot pin 32 extends between openings in said ears and said lugs to hingedly connect the slide with the tube 11. A latch 33 is in the form of a rod having an eye 34 at one end and a lateral extension 35 at the other end. A pivot 36 on the slide S receives the eye 34 and the extension 35 is adapted to be received in notches 30 and 26. At the open end of the tube 9 there is hingedly mounted a bail 38 for engaging the curved extension 16. In the present exemplification of the invention it will be seen that to open the door 6 the spring 11 must be compressed in the tube 9 because of the sliding of the rod 8 into said tube and therefore as soon as the door is released it will return to a closed position by the expanding of the spring forcing the rod outwardly of the tube and thus the door will be normally maintained in a closed position.

It will further be seen that by opening the door a predetermined distance the curved extension 16 may be brought into contact with the bail 38 so as to swing the bail 38 upwardly until it slips over the upper end of the extension 16 and then the door will be held in an open position. In this open position with the parts disposed as indicated in the drawing the door would extend at approximately right angles to the doorway. If it is desired to open the door still farther the latch 33 may be lifted out of the notches 30 and 26 and the slide S slid along the rail R. It will be seen that the stops 25 prevent the slide from coming off the rail R.

When the door is wide open and against the wall it will be held fast to the wall by a latch or hook which is fastened to the wall and which engages the door so that it will remain stationary and not be affected by winds or storms.

A consideration of the cooperants in their essential functional corelationship in the present exemplification of the invention will make it quite apparent that the mechanism is not limited to the use with a door but is adaptable to any hinged structure for maintaining the same in a predetermined position. I, therefore, do not wish to be limited in any way to the particular utility brought out in the present exemplification. It is further to be understood that the present example of the invention exclusive of the wall and door has been disclosed by way of preference only since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description. It is quite apparent, however, that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. A hinged structure check mechanism of the class described comprising a pair of slidably connected members, means urging the members in extended relation to each other, means for connecting one of said members to a hinged structure, and slidable means for connecting the other member to a fixed structure, said slidable means comprising a releasable mechanism for preventing movement thereof.

2. A mechanism of the class described comprising a pair of slidably connected members, a slide hingedly connected with one of the members and formed from a plate having overhanging flanges, a rail of elongated construction, flanges to be received in the first mentioned flanges, a hinged bracket on the other member, and means of a releasable nature for holding the slide against movement on the rail.

3. A mechanism of the class described comprising a pair of slidably connected members, a slide hingedly connected with one of the members and formed from a plate having overhanging flanges, a rail of elongated construction, flanges to be received in the first mentioned flanges, a hinged bracket on the other member, and means of a releasable nature for holding the slide against movement on the rail, said means comprising a hinged latch, said slide and said rail having registrable notches in which the latch may engage to prevent movement of the slide on the rail.

4. A mechanism of the class described comprising a pair of slidably connected members, means urging the members to a predetermined position in relation to each other, a bracket hingedly mounted on one of the members and having a curved extension, a bail hingedly mounted on the other member for engaging with the extension and means for mounting said other member.

In testimony whereof I affix my signature.

CARL P. OLSON.