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C. FERNANDEZ

1,979,826

DOORCHECK

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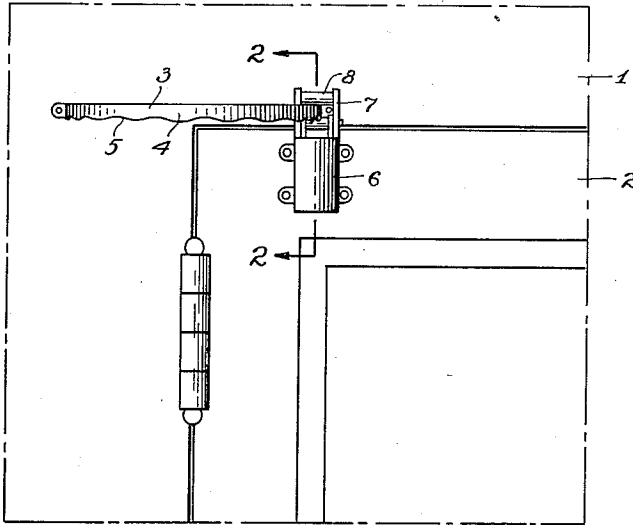


Fig. 1.

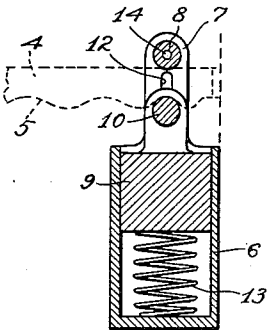


Fig. 2.

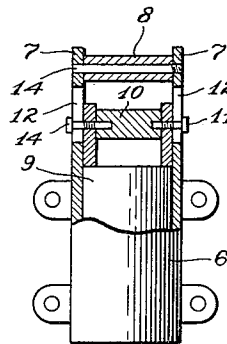


Fig. 3.

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1,979,826

DOORCHECK

Charles Fernandez, San Francisco, Calif.

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1 Claim. (Cl. 292—75)

This invention relates particularly to improvements in door checks, and has for its principal object to provide an improved and novel form of door check whereby a door may be automatically checked and retained in a number of different positions.

A further object of the invention is to provide cooperating means on a door frame and door, whereby when the door is moved from a closed position into any selected open position, or from an open position to a point approximating a closed position, it may be automatically held at any selected point. My device is intended particularly for use on stateroom doors on vessels, inasmuch as it provide a semi-positive means for preventing the door from swinging to either side of a predetermined point of said setting, it being well known that stateroom doors on vessels are difficult to maintain in an open or partly open position, without some positive means of fastening, chiefly because of the pitch and roll of the vessel.

Other objects and advantages are to provide a door check that will be superior in point of simplicity, inexpensiveness of construction, positiveness of operation, and facility and convenience in use and general efficiency.

In this specification and the annexed drawing, the invention is illustrated in the form considered to be the best, but it is to be understood that the invention is not limited to such form, because it may be embodied in other forms; and it is also to be understood that in and by the claim following the description, it is desired to cover the invention in whatsoever form it may be embodied.

In the accompanying one sheet of drawing:

Fig. 1 represents a front elevation of a door check constructed in accordance with my invention, applied in operative relation to a door and door frame.

Fig. 2 is an enlarged cross section taken through the door check on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged view of the door check taken at right angles to the view shown in Fig. 2.

In detail the construction illustrated in the drawing comprises a frame 1, defining an opening within which a door, or window, or other analogous enclosure, is mounted. A door 2 is hinged to the frame 1 in a conventional manner.

A guide element or rack 3 is attached to the frame 1 on the side thereof relative to which the door swings on its hinge pivots. The guide element is provided with an arcuate portion 4 thereon, said arcuate portion being formed on an arc of a circle, which is concentric to the pivotal axis of the door on the frame. The arcuate portion 4

of the guide member may have a length equal only to one quarter of a circle, or it may have a length equivalent to a half circle. The arcuate guide member 3 is adapted to lie in a substantially horizontal plane. The upper face of the guide 3 is flat and smooth, while the under face 5 of the said arcuate guide is provided with a series of serrations or undulations. The undulations are curved in the form of a series of crests and troughs.

A support member 6 in the form of a cylinder, is bolted, or otherwise securely attached to the outside of the door 2 near the hinged corner thereof. The cylinder 6 is provided with a pair of arms 7 at diametrically opposite sides on the upper end thereof, and a roller 8 is journaled on a shaft 14 which has its opposite ends fixed in the upper ends of the arms 7. The shaft 14 has one end thereof threaded into engagement with one of the arms 7, while the other end of said shaft is journaled in the other arm 7. By removing the shaft 14 from between the arms 7, it thus becomes possible to remove the circular roller 8 and to install the door check on the guide so that the respective rollers 8 and 10 engage the upper and lower faces of the arcuate guide.

The arms 7 on the cylinder are adapted to extend upwardly on both sides of the arcuate guide 3 and the under surface of the roller 8 is adapted to contact with the top flat face of the arcuate guide 3.

A plunger or piston 9 is slidably confined within the cylinder 6, the upper end of said plunger 9 having a roller 10 journaled transversely thereacross. A pair of pins 11 are provided on diametrically opposite sides of the plunger 9 in alignment with the axis of the roller 10, said pins 11 being confined in vertically disposed slots 12 formed in the respective arms 7, whereby the respective rollers 8 and 10 are kept in vertical alignment. The plunger 9 is free to reciprocate within the cylinder 6 against the tension of an expansion spring 13, which is confined within the cylinder 6 between the bottom thereof and the under side of the plunger 9.

The roller 10 on the plunger 9 is adapted to bear against the wavy and undulating face of the arcuate guide 3, the spring 13 causing the said plunger 9 to exert an upward force on the arcuate guide, which force is reduced to a friction by the undulating face of the guide, and thus serves to hold the door 2 in any selected open position.

When the door is swung from the closed to an open position, or moved from any open position toward the closed position, the spring acting on

the plunger 9 allows the plunger to follow the wavy contour of the guide member and at such times as the roller on the plunger rests in any trough on the guide member, sufficient frictional force is created on the guide member to hold the door in the open position. The tension of the spring 13 is sufficient to resist the ordinary tendency of the door to swing, and additional effort is required to move the door from any selected open position in which it might be placed.

Having thus described this invention, what I claim and desire to secure by Letters Patent is:

In a door check, the combination, with a curved guide having a wavy under edge arranged to be fixedly mounted on the casing of a door concentrically with the hinge line of the door; of a cylinder arranged to be connected to the door, said cylinder having arms extended upwardly from an end thereof on opposite sides of the curved track, each of said arms having a vertically disposed guide slot therein adjacent the wavy under edge of the track; a roller journaled between the upper ends of said arms and engaging the upper edge of said guide; a plunger slidably confined in said cylinder; a roller journaled on the upper end of said plunger and engaging the wavy under edge of the guide; pins on opposite sides of the plunger in alignment with the axis of the roller engaging the opposite guide slots on the cylinder arms to prevent turning movement of the piston relative to the cylinder; and an expansion spring in the cylinder to urge the plunger with the roller thereon into engagement with the guide.

CHARLES FERNANDEZ.

20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150