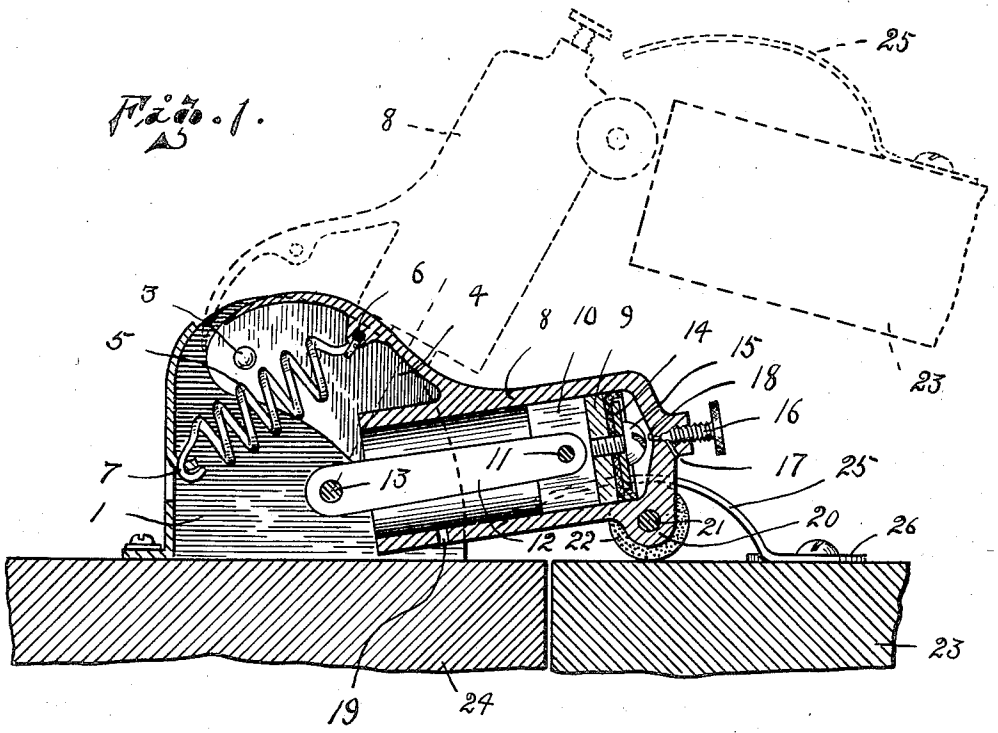
Dec. 10, 1935. F. P. RIDDELL 2,023,616

COMBINATION DOOR CHECK AND CATCH

Filed May 21, 1934

Fig. 1.



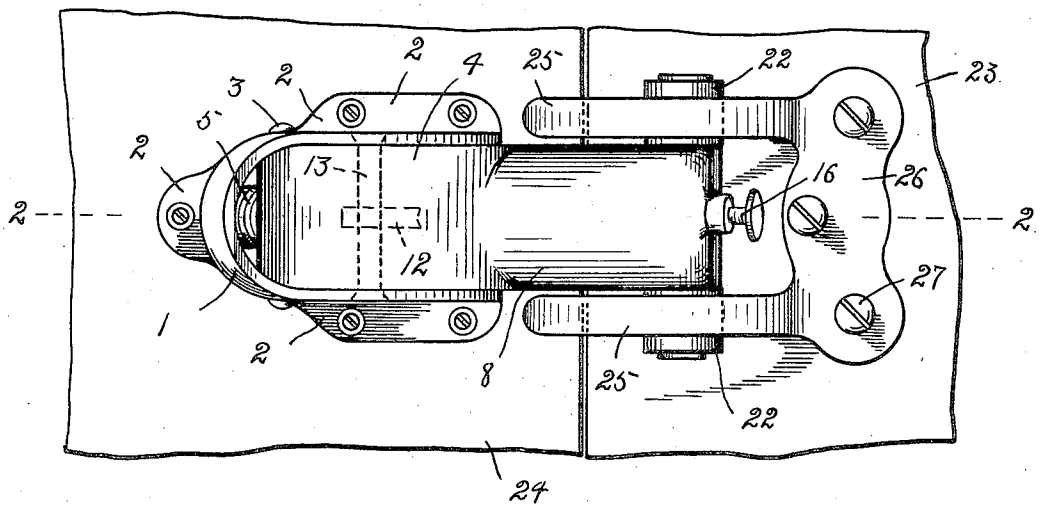


Fig. 2.

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COMBINATION DOOR CHECK AND CATCH

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8 Claims. (Cl. 16—49)

This invention relates to door checks and has special reference to a combination check and catch, the principal object being to provide a simple and efficient device of this character.

Another object is to provide such a device which will efficiently eliminate all objectionable noise resulting from the closing of a door, regardless of the speed with which it is closed or the weight or size of the door.

Other objects and advantages of the invention will appear in the following description thereof.

Referring now to the accompanying drawing, forming part of this application, and wherein like reference characters indicate like parts:

Figure 1 is a vertical sectional view of my improved combination door check and catch taken on the line 2—2 of Figure 2.

Figure 2 is a top plan view of the device.

In some respects the invention is similar to the common door catch well known in the art and comprises a stationary bracket or housing member 1, having laterally extending flanges 2 thereupon for fixed attachment to the casing adjacent one edge of the door opening and which bracket member pivotally supports, as at 3, the door engaging or movable member 4. A contractile helical spring 5 is attached at one end as at 6 to the movable member 4, and at its opposite ends is similarly connected as at 7 with the back portion of the housing 1. It will be noted by this connection of the spring that the same normally tends to bias the member 4 in either of its extreme positions. That is to say, when the member 4 is in open position the spring tends to hold it in such position, and, when closed, similarly acts thereupon, the axial line of the spring being either above or below the pivotal point 3 of said members.

The movable member 4 comprises the outwardly projecting integral cylinder 8 carrying therewithin the piston 9 having a split skirt 10 within which is pivotally mounted as at 11 the arm like piston rod 12 which is pivotally attached upon the transverse shaft 13, fixed within the opposite walls of the housing 1, so that any pivotal movement of the cylinder will cause reciprocation of the piston therein. This piston is further provided with suitable leather packing illustrated at 14 and held in position within the piston by the screw 15. The innermost end of the cylinder 8 is open, while the outermost end is closed except that there is provided the manually adjustable needle valve 16 for control of the ports 17 and 18 and by which the speed of the action of the cylinder 8 may be controlled, it being activated by the spring 5 as is obvious.

A bleeder port 19 is also provided in one wall of the cylinder 8, adjacent the innermost open end, and so positioned that just before the cylinder meets its uppermost or open position air is admitted through this port in advance of the piston to insure against objectionable suction preventing the cylinder maintaining its proper position.

A transverse lug-like projection 20 is formed upon the free end of the cylinder 8 in which is fixed the pin or shaft 21 and upon either end of which is freely carried the rubber rollers 22 for engagement with the door, which is illustrated at 23 and the door casing at 24.

At 25 is illustrated a pair of arcuately shaped catching fingers formed integral with the door engaging base 26 which is attached to the door as by means of suitable screws 27 and in such a position that the fingers slightly extend beyond the forward edge of the door so that when the latter is being closed they will catch the rollers 22 on the cylinder 8 when it is in its uppermost extended position where left when the door was opened.

The provision of double fingers and rollers will be appreciated when it is considered that by such construction the catch may be installed upon either right or left hand door.

The operation of the device is as follows:

Assuming that the catch is installed adjacent the edge of a door and on the trim or casing of the frame thereof, and the catching fingers adjacent the edge of the door as shown, the door being in closed position, it will be seen that when the door is opened it will swing the cylinder pivotally to the position shown in dotted lines, Figure 1, where it will be held by the biasing action of the spring 5 until the door is again moved toward closed position. When this latter occurs the fingers 25 will first engage the rollers 22 and overcome the bias of the spring by pulling the free end of the cylinder forwardly and downwardly, when the compressing of air within the cylinder will check or retard the motion of the door until the air is forced gradually from the cylinder by the biasing action of the spring 5, which bias will continue until the door is finally and silently closed. When the door is again opened, the action is, of course, repeated.

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

1. A combined door catch and check comprising a bracket adapted for attachment to a door

jamb, a cylinder pivotally connected to said bracket at one end, door engaging means at the outer end of the cylinder and movable into and out of the path of a door, resilient means for biasing the cylinder toward the limit of its movement in either direction, and a piston within the cylinder for checking the action of the resilient means in one direction of movement of the cylinder.

2. A combined door catch and check comprising a stationary member, a movable cylinder pivotally connected to the stationary member and movable into and out of the path of a door, spring means attached at one end to the stationary member and at the other end to the movable cylinder and adapted to urge said cylinder toward the limit of its movement in either direction, and means cooperative with said cylinder for checking its action in one direction.

3. A combined door catch and check comprising a stationary member, a movable cylinder pivotally connected to the stationary member and swingable into and out of the path of a door, means biasing the cylinder toward the limit of its movement in either direction, and means for checking the action of said means in one direction.

4. A combined door check and catch comprising a housing including stationary and movable members pivotally connected to each other, means within the housing for biasing said movable member to the limit of its movement in either direction, a cylinder carried by said movable member and swingable into and out of the path of a door, a piston within the cylinder, and a connecting arm one end of which is pivoted to the piston and the other to the stationary member.

5. A combination door check and catch comprising a stationary member and a movable member, said members being pivotally connected to each other, spring means within said members for biasing the movable member toward the limit of its movement in either direction, means cooperative with the hereinafter mentioned cylinder and pivoted to the stationary member for checking in one direction the action of the movable member, and a cylinder carried by the movable member and swingable into and out of engagement with a door.

6. A combination door check and catch, comprising a stationary housing, a movable cylinder pivotally attached within the housing and swingable within the path of a door, means within the housing for biasing the cylinder towards the limit of its movement in either direction, means upon the free end of the cylinder for engagement with a door, and means upon the door for engagement with said last mentioned means, and means within the cylinder for checking the closing action of the door.

7. A combination door check and catch comprising a stationary housing, a movable member comprising a cylinder having a flange extending therefrom, said movable member being pivotally attached to the stationary member by means of said flange, a piston within the cylinder, a connecting arm pivoted at one end to the piston and at the other end to the stationary member, and a spring adapted to bias the movable member to the limit of its movement in either direction.

8. A combination door catch and check comprising a stationary housing and a movable cylinder pivotally supported within the housing, characterized by the free end of the cylinder being operable into and out of the path of a door and by the latter, a spring connected at one end to the cylinder and at the other end to the housing for biasing the cylinder toward the limit of its movement in either direction, and a piston within the cylinder and connected to the stationary member for checking the action of the movable cylinder in one direction.

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