

Jan. 21, 1941.

W. C. JULIAN

2,229,088

DOOR CHECK

Filed April 29, 1940

2 Sheets-Sheet 1

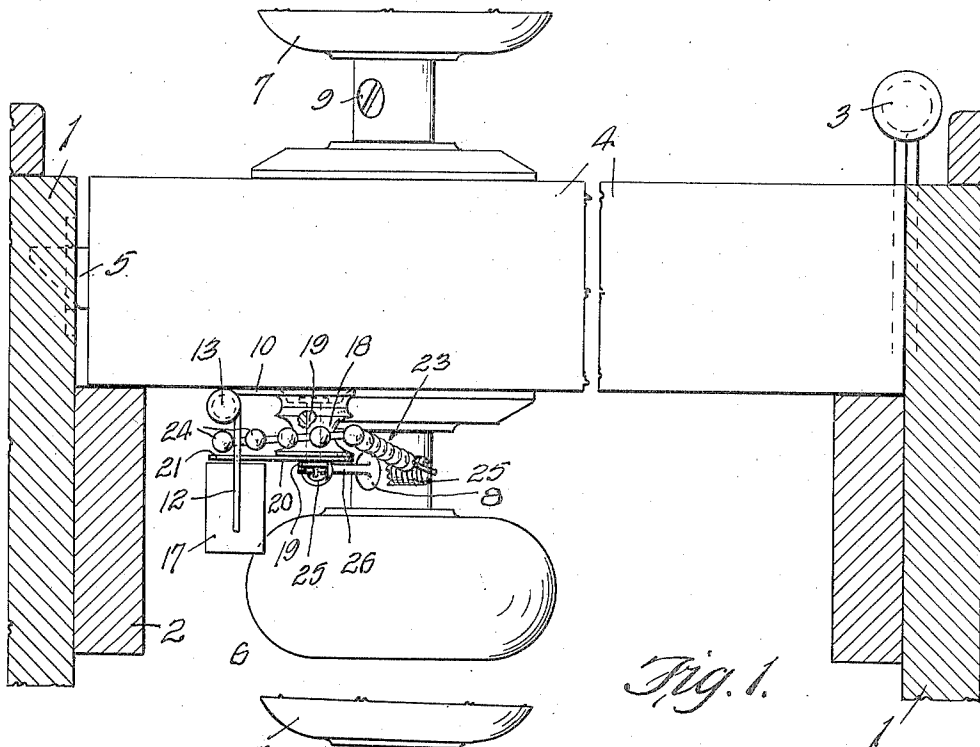


Fig. 1.

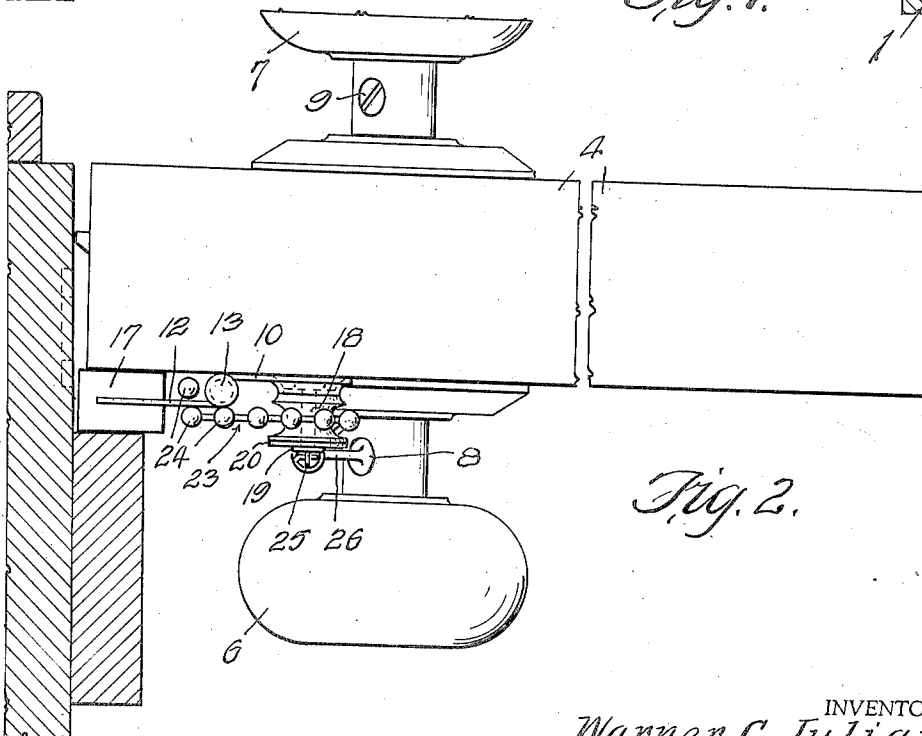


Fig. 2.

INVENTOR:
Warner C. Julian
BY *Frank J. Harrison*
ATTORNEY.

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2 Sheets-Sheet 2

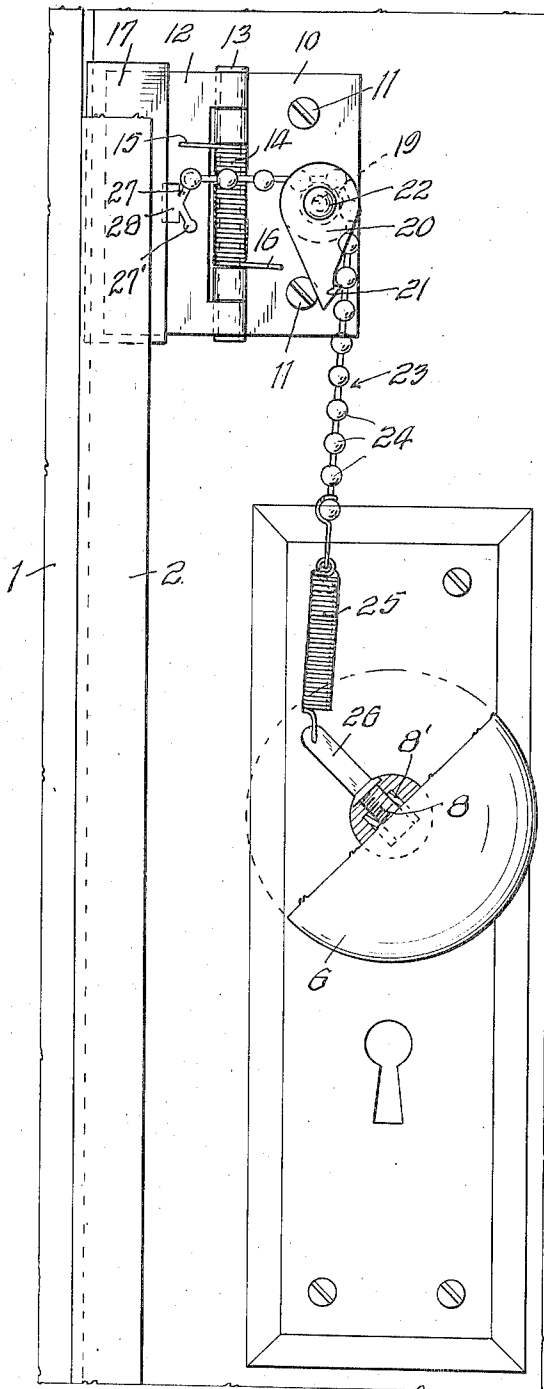


Fig. 3.

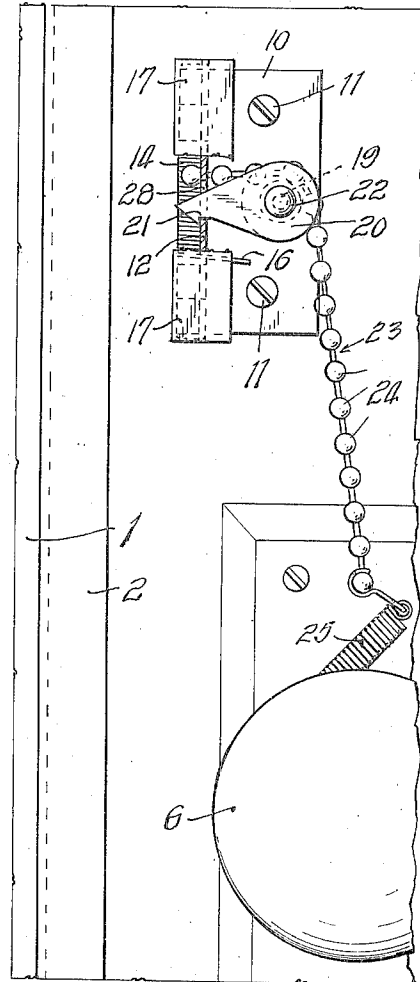


Fig. 4.

INVENTOR.
Warner C. Julian
BY *Frederick J. Harrison*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,229,088

DOOR CHECK

Warner C. Julian, St. Louis, Mo.

Application April 29, 1940, Serial No. 332,165

7 Claims. (Cl. 16-82)

This invention relates to swinging door checks, and, more particularly to a noise abating device for swinging doors permitted to slam to closed position.

5 The object of my invention is to provide means positioned on the outside face of a swinging door provided with a sliding latch and door knob to prevent the door from slamming completely shut or to a final closed position.

10 A further object of the invention is to provide a connection between a swinging hinge member and a door knob so that the swinging member can be moved to an inoperative position to permit of final closing of the door after having slammed

15 to near final closed position.
A further object of the invention is to provide means for locking the swinging hinge member in an inoperative position, when so desired.

20 With the above and other objects in view, the invention consists in the novel features of construction, arrangement and combination of parts hereinafter more fully described and finally pointed out in the claims hereto appended.

25 Referring to the accompanying drawings forming a part of this specification, wherein like characters of reference denote similar parts throughout the several views:

Fig. 1 is a horizontal sectional view of a door equipped with a device embodying the features of 30 my invention, the door being shown as fully closed.

Fig. 2 is a view similar to Fig. 1, showing the door check disposed between the free edge of the door and the door stop.

35 Fig. 3 is an outside elevation of the door in the position shown in Fig. 2.

Fig. 4 is an outside elevation of the door in the position shown in Fig. 1.

Referring to the drawings, the reference character 1 designates a door frame having the usual 40 door stop 2. Hinged to one side of the door frame 1, as at 3, is the usual swinging door designated 4, which is provided with the usual door lock having a slidable latch member 5 and controlled in its opening or retracting movement by turning 45 movement of outer and inner door knobs 6 and 7, respectively, which are secured to a transverse lock shaft by means of the screws 8 and 9, respectively.

50 In carrying out my invention, I provided the outside face of the door with a check device, which will now be described.

The check device comprises a stationary hinge member 10, which is secured to the outer face of the door 4, adjacent the free edge thereof, by 55 means of suitable fastening devices, such, for in-

stance, as screws 11. A swingable hinge plate 12 is pivotally connected with the outer side edge of stationary hinge plate 10 by means of a suitable vertical pin connection 13, which pin connection is surrounded by means of a suitable coiled spring 14 having one end thereof projecting to engage the outer face of the swinging hinge plate, as at 15, and having its other end projecting to engage the outer face of the stationary hinge plate 10, as at 16, so as to normally hold the swinging 10 hinge plate 12 parallel with the outer face of the door 4.

A suitable bifurcated rubber check member 17 is carried by the swinging hinge member 12 with the free edge portion of the hinge member 12 15 suitably receivable in the bifurcation.

When the check member 17 has been applied to and suitably secured to the swinging hinge member 12, the outer side face of the check member 17 will lie in a plane with the free edge of the swinging door 4 and the inner face of the check member will lie in contact with the outer face of the door 4, thus the swinging hinge member 12 will be held in spaced parallel relation with the outer 25 face of the door 4, as clearly shown in Fig. 2.

A suitable peripherally grooved roller 18 is rotatably mounted on a pin support 19. The pin support 19 projects from the outer face of the stationary hinge plate 10 and is suitably secured at its inner end thereto so as to support the pin 19 30 in a horizontal position.

A suitable latch member 20 is rotatably mounted on the pin support 19 to the outside of the roller 18, and the outer end of the pin is provided with a suitable head 22 to prevent the latch member 35 and the roller from working off of the pin. The latch member 20 is provided at its free end with a hook member 21.

A suitable flexible chain like connection designated, generally, as 23, and including spaced 40 balls 24, is adapted to ride over the grooved roller 18. The upper free end of the chain 23 is suitably connected with the swingable hinge plate member 12 and the opposite end of the chain like connection is secured to one end of a suitable 45 coiled spring 25. The opposite end of the spring 25 is suitably secured to the extension 26 of the screw 8 which secures the outside door knob 6 in position.

The upper end of the chain connection 23 is 50 shown as connected with the swingable hinge plate member 12 by having one of the balls 24 lying behind a slot 27 in the swingable hinge plate member 12. The hinge plate member 12 is provided with a second slot designated 27' to ac- 55

commodate the chain connection should the hinge plates be reversed, up and down, to fit the opposite side of a door from that shown in the drawings.

The hinge plate 12 is further provided with a suitable opening 28 so that the free end of the rotatably mounted latch member 20 can pass therethrough and cause the hook 21 to engage one edge of the opening to hold the swingable hinge plate member 12 in its open position, which is at a right angle to the outer face of the door 4, as clearly shown in Fig. 1 and 4.

Operation

When the door is closed, as shown in Fig. 1, it will be observed that the swinging member 12 is in its inoperative position, that is not disposed between the door and the door stop. To open the door, a person turns either door knob, in the usual way, to retract the slidable door lock latch and then swings the door to open position. Upon releasing one's grip on the door knob, the swingable hinge member 12 will move from its inoperative position, as shown in Fig. 1, to its operative position, which is parallel with the outer face of the door. Now, should the door be allowed to slam shut, the rubber, or equivalent member carried by the swingable hinge member 12 will strike the door stop and being between the door and the door stop, as shown in Fig. 2, will prevent any noise being made by the door slamming shut. Thereafter, the door can be opened a little and at the same time the door knob can be turned to move the swingable hinge member 12 into inoperative position and then the door can be moved to closed position, as shown in Fig. 1.

When it is desired to go in and out of the door without causing the swingable member 12 to function, the pivotally supported latch member 40 is connected with the swingable hinge member 12 to hold it in its inoperative position. The latch member can be readily disconnected with the member 12, when so desired.

The many advantages of the herein described invention will readily suggest themselves to those skilled in the art to which the invention relates.

From the foregoing description, it is evident that a simple device for this purpose has been disclosed, but it is to be understood that I do not desire to restrict, or limit myself to the very details of the construction shown and described, which is merely illustrative, it being obvious that various changes, not involving the exercise of invention, may be made without conflicting or departing from the spirit of the invention within the scope of the appended claims.

What I claim is:

1. The combination with a swinging door and the door knob for a door lock, of a swinging member movable into parallel operative position with the outer face of the door adjacent the free edge thereof by means of a spring, and means for moving the swinging member into an inoperative position at substantially a right angle to the outer face of the door by turning movement of the door knob.

2. The combination with a swinging door and the door knob for a door lock, of a swinging member movable into parallel operative position with the outer face of the door adjacent the free edge thereof by means of a spring, means for moving the swinging member into an inoperative position at substantially a right angle to the outer face of the door by turning movement of the door knob, and a rotatable catch member for locking

the swinging member in its inoperative position.

3. A device of the class described comprising means capable of being applied to the outside face of a swinging door having a sliding latch lock and a door knob, associated with a door frame provided with a door stop for the free edge of the door to engage, said means including a stationary hinge member, a swinging hinge member, a spring controlling the movement of the swinging hinge member to operative position only, a noise deadening member positioned on the swinging hinge member, a roller pivoted adjacent the stationary member, and means riding over the roller and connecting the swinging hinge member with the outside door knob for moving the swinging member to an inoperative position so as to allow final closing of the door after the door has been allowed to swing to partially closed position with the noise deadening member between the free edge of the door and the door stop.

4. A device of the class described comprising means capable of being applied to the outside face of a swinging door having a sliding latch lock and a door knob, associated with a door frame provided with a door stop for the free edge of the door to engage, said means including a stationary hinge member, a swinging hinge member, a spring controlling the movement of the swinging hinge member to operative position only, a noise deadening member positioned on the swinging hinge member, a roller pivoted adjacent the stationary member, means riding over the roller and connecting the swinging hinge member with the outside door knob for moving the swinging member to an inoperative position so as to allow final closing of the door after the door has been allowed to swing to partially closed position with the noise deadening member between the free edge of the door and the door stop, and a pivotally supported catch member adapted for engagement with the swinging hinge member to hold the swinging hinge member in an inoperative position so as to be non-effected when the door knob is turned.

5. The combination with a swinging door having a door lock and door knobs and a door stop on a door frame, of means for checking the slamming of the door to abate noise by preventing the free edge of the door striking the door stop, said means including a stationary hinge member on the outer face of the door, a movable hinge member pivoted to the stationary member, a noise deadening member secured to the movable hinge member adapted to strike the door stop when the door is being closed, a spring for controlling movement in one direction of the movable hinge member, a roller pivotally supported adjacent the outer face of the stationary hinge member, a rotatable member controlling the door lock catch member, and a flexible connection including a coiled spring connecting the movable hinge member with the rotatable member.

6. The combination with a swinging door having a door lock and door knobs and a door stop on a door frame, of means for checking the slamming of the door to abate noise by preventing the free edge of the door striking the door stop, said means including a stationary hinge member on the outer face of the door, a movable hinge member pivoted to the stationary member, a noise deadening member secured to the movable hinge member adapted to strike the door stop when the door is being closed, a spring

for controlling movement in one direction of the movable hinge member, a roller pivotally supported adjacent the outer face of the stationary hinge member, a rotatable member controlling the door lock catch member, a flexible connection including a coiled spring connecting the movable hinge member with the rotatable member, and a lock catch pivoted adjacent the roller adapted to engage and hold the movable hinge member in an inoperative position.

7. The combination with a door and a door frame, the door being provided with a lock having a slidable latch member actuated by a door knob and the door frame having a door stop, of a hinge, one member of the hinge being secured to the outside face of the door, a resilient

rubber member secured to the other member of the hinge, a spring urging the rubber equipped hinge member into an operative position relative to the outer face of the door, a flexible and resilient connection between the rubber equipped hinge member and the door knob, a roller over which the flexible connection rides, said rubber member adapted to engage the door stop when closing the door and serve as a buffer between the door stop and the door and after which the door can be opened sufficiently to turn the door knob to swing the rubber equipped hinge member into inoperative position before finally and completely closing the door.

WARNER C. JULIAN.