

Nov. 15, 1927.

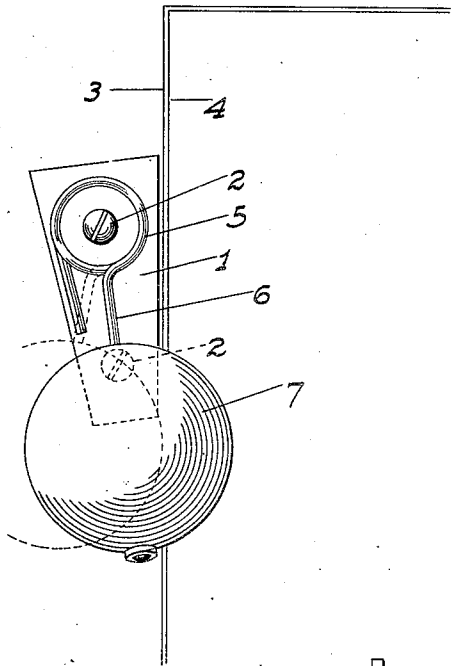
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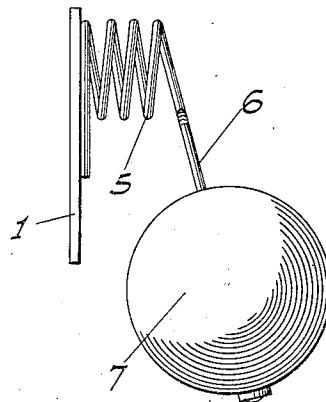
DOOR CHECK

Filed April 5, 1926

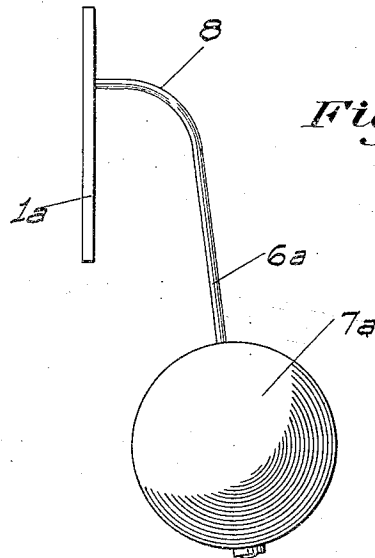
*Fig. 1*



*Fig. 2*



*Fig. 3*



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# UNITED STATES PATENT OFFICE.

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## DOORCHECK.

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This invention relates to improvements in door checks and particularly to a type adapted to be used in connection with spring hinge screen doors and the like.

5 The principal object of my invention is to provide a device for the purpose which will effectually check and cushion the closing movement of the door, so that the slamming of the door against its jamb with the  
10 accompanying noise and jarring is eliminated.

Another object of the invention is to construct the device in such a manner that it may be installed either on the door or on its  
15 frame, at any suitable point along the top or along the sides of the same opposite to the hinges, as may be desired.

A further object of the invention is to produce a simple and inexpensive device  
20 and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of  
25 parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

30 Fig. 1 is a front view of the preferred form of check device as installed.

Fig. 2 is a side elevation of the device as detached.

35 Fig. 3 is a side elevation of a modified form of the device.

Referring now more particularly to the characters of reference on the drawings, and particularly at present to Figs. 1 and 2, my improved door check comprises a flat plate  
40 1 adapted to be attached by screws 2 or the like, either to the door frame 3 adjacent the door 4 or to the door adjacent the frame. If the plate is placed on the frame it is on that side toward which the door opens. If  
45 placed on the door the plate is located on that side thereof opposite to the opening movement of the door. It is preferably mounted, however, on the frame, at such a height as to be out of the way.

50 Projecting outwardly from the plate and attached thereto at one end is a short helical coil 5 of spring wire. The outer end of the coil is bent to extend longitudinally of the plate and substantially parallel thereto to  
55 form a stem 6 on which is turnably mounted

a ball 7, the ball being preferably of soft solid rubber. The ball is of such a size as to project considerably beyond the plane of both side edges of the plate, and the stem 6  
60 is so disposed relative to the plate that the ball is normally spaced some distance from the plane of the back face of the plate, which is abutted against the frame or door. It will therefore be seen that the spring  
65 mounting of the ball permits the same to resiliently yield both transversely of the plate as well as toward the same.

When the device is installed one edge of the plate is located adjacent one edge of the  
70 frame 3 so that the ball overhangs the path of movement of the adjacent edge of the door. When the door is opened the ball is rotated by engagement with the door, and at the same time is moved laterally so that  
75 the edge of the door may pass thereby. The spring mounting of the ball then restores the latter to its normal overhanging position. When the door is released to cause  
80 its spring hinges to close the same, the door first contacts with the ball with a sudden shock. This sudden engagement of the door  
85 with the ball will positively cause the door to rebound somewhat due to the resilient cushion action of the ball itself, the latter being also deflected toward the door frame  
90 when thus engaged. With the subsequent closing movement of the door from its rebound position, the ball of course will be engaged with a lesser shock, and the result is that the ball rotates and at the same time  
95 moves to one side so that the door will move gently to its fully closed position.

In the type of device shown in Fig. 3 the stem 6<sup>a</sup> which supports the ball 7<sup>a</sup> is a plain  
100 length of spring wire, being merely bent at its upper end as at 8 to extend to the plate 1<sup>a</sup>. The operation of this form of device is the same as that described however, since the stem 6<sup>a</sup> can deflect both transversely of the plate and toward the same.

The only restricting condition necessary in both forms of the device is that the spring wire shall have a resistance to lateral movement less than that of the strength of the  
105 springs acting on the door to close the same. The ball projecting laterally beyond both side edges of the plate, the latter may be installed in connection with either right or left hand doors.

From the foregoing description it will be  
110

readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A door check comprising a resilient ball, a stem on which the ball is mounted, a plate for attachment to a door frame disposed in substantially parallel relation to the stem, and a helical spring between the upper end of the stem and the plate; the axis of said coil lying in a plane at right angles to the plane of the plate.

2. A door check comprising a member for attachment to a door frame, a spring element secured to and projecting outwardly from the member, a cushioning element, and connecting means between the outer end of the spring and cushioning element arranged to maintain the latter to one side of the plane of the spring.

3. A door check comprising a member for

attachment to a door frame, a spring element secured to and projecting outwardly from the member, a cushioning element, and connecting means between the outer end of the spring and cushioning element arranged to maintain the latter to one side of the plane of the spring, and away from the frame, and permitting the cushioning element to move both parallel to and toward the frame.

4. A door check comprising a member for attachment to a door frame, a spring element secured to and projecting outwardly from the member, a cushioning element, and connecting means between the outer end of the spring and cushioning element arranged to maintain the latter to one side of the plane of the spring, said spring element and connecting means being integrally formed.

5. A door check comprising a member for attachment to a door frame, a coil spring secured at one end to and projecting outwardly from the member, a stem projecting from the outer end of the spring substantially at right angles to the axis thereof, and a cushioning element mounted on the outer end.

In testimony whereof I affix my signature.

JOHN M. CONLEY.