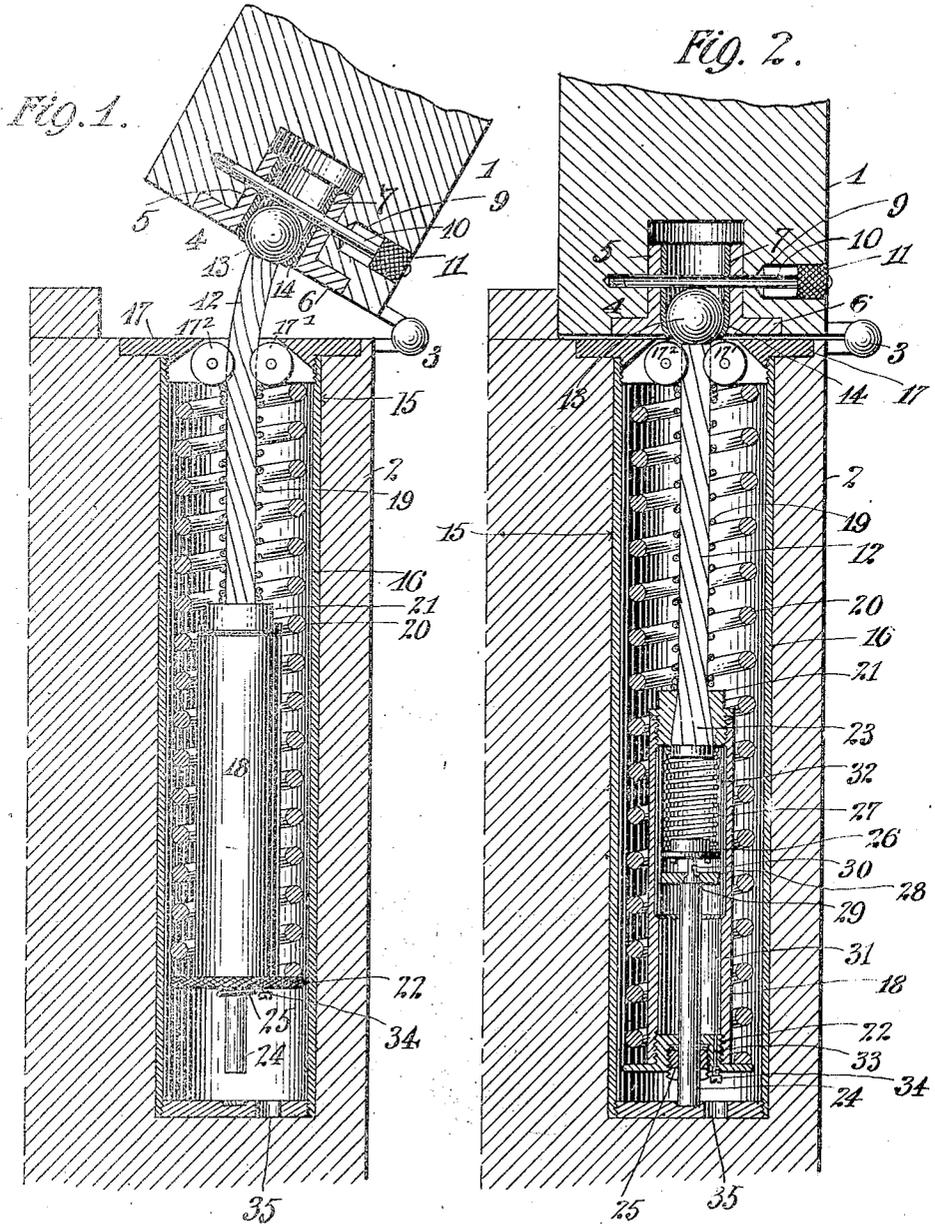


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M. J. FLYNN.
DOOR CHECK.

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Witnesses
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UNITED STATES PATENT OFFICE.

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DOOR-CHECK.

No. 897,825.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MICHAEL J. FLYNN, a citizen of the United States, residing at the city of New York, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Door-Checks, of which the following is a full, clear, and exact description.

My invention relates to door checks, and has particular reference to the provision of a check which is concealed within the door frame or jamb.

A further object of the invention is to provide a check which allows the door to swing freely during its inward movement, exerting a temporary check for a short distance only, as the door approaches its closed relation.

In the drawings, Figure 1 is a sectional view showing the door partly closed; Fig. 2 is a similar view showing the door in its fully closed relation.

In carrying out my invention I make use of a tubular casing inset into the door jamb, and having a flexible connection rod attached to the door, and spring pressed inwardly within said casing. I also attach a checking cylinder to the inner end of said connection rod which impedes its movement as the door approaches its closed relation. For this purpose the connection rod is resilient in the direction of its length, and capable of transmitting the compression stresses incident to said checking action.

Referring to the drawings, 1 denotes the door hinged to the jamb 2, at the point 3, and having an anchorage 4 therein, with a tubular extension 5. The anchorage has a flange 6 by which it is secured in place.

7 denotes a socket contained within the anchorage and secured in place by a pin 10 having a milled head 11, and passed through an opening 9, and the walls of said tube 5.

12 denotes the connection rod conventionally formed of resilient steel wire cable, having a ball 13 contained within a rounded part 14 of the socket 7. The connection rod extends into the tubular casing 16 within a recess 15 in the door jamb, and is guided to move centrally thereof by antifriction rollers 17¹ and 17². The head 21 of the checking cylinder is soldered to the connection rod in the manner indicated in Fig. 2.

19 designates a fine spiral spring upon the connection rod 12, which prevents the strands

from spreading in use. At the inner end of the cylinder is arranged a head 22 against which a powerful returning spring 20 bears, so as to impel the cylinder and the connection rod 12 in a direction to close the door.

24 designates a piston rod passed through the head 22, which has a gland or stuffing box 25 in order to make a water tight joint.

26 indicates an enlargement on the piston rod against which presses the spring 27 tending to press the piston rod outward.

28 designates the piston which is not tight upon the piston rod, but loosely surrounds a reduced portion 30 thereof, and is capable of longitudinal movement until it abuts against the shoulder 29. The relation is such that when the motion of the piston rod impels the piston against the shoulder 29, a water tight joint is formed, but under other conditions the fluid is able to pass freely through the loose connection between the piston and piston rod.

An additional feature of the invention relates to the bore of the checking cylinder, which is of a diameter to closely fit the piston at one end, as shown at 31, but is considerably enlarged at its other end, as indicated at 32. The piston is filled with glycerin or other viscous fluid through a duct 33, having a screw 34, by which it is closed.

35 indicates a hole through the outer casing, by which the screw is removed.

The operation is as follows: The door being open in the relation shown in Fig. 1, the connection rod 12 is withdrawn outward so that the checking cylinder occupies a position near the open end of the tube or casing 16. In this relation the piston rod 24 is fully projected from the checking cylinder, but it is not long enough to reach the inner wall of the tubular casing under these circumstances. As the door closes under the influence of the connection rod impelled by the spring 20, the piston rod eventually abuts against the inner wall of the tubular casing so that the momentum of the door is checked. This occurs when the door is a few inches from latching position. Under these circumstances, the door slowly approaches its latching position, and when the piston passes beyond the closely fitting bore 31, the free movement is resumed so that the door latches freely. When the door is opened, the piston no longer fits closely against the

shoulder 29, so that the fluid passes freely through the loose connection and does not impede the return movement of the piston and piston rod.

5 What I claim, is:—

1. In a door check, a tubular casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a resilient connection rod secured to the checking cylinder and having a ball at its free end, and an anchorage adapted to be secured to the door and having a socket to loosely receive said ball.
- 15 2. In a door check, a casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a resilient rod secured to the cylinder and having a ball thereon, an anchorage adapted to be secured to the door and adapted to loosely receive said ball, a piston rod projecting from said checking cylinder and arranged to impinge against the inner wall of said casing as the checking cylinder moves inward, and means whereby said piston rod accelerates the checking action for only a portion of its movement into the checking cylinder.
- 20 3. In a door check, a casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a piston rod projecting from the inner end of said checking cylinder, and having a reduced portion within the cylinder, a piston surrounding said reduced portion, and adapted to have a limited longitudinal movement upon said piston rod, said checking cylinder having a bore closely fitting said piston at one end and an enlarged bore at the other, a spring for impelling said piston rod outward

from the checking cylinder, a connection rod secured to said cylinder, and an anchorage adapted to receive said connection rod.

4. In a door check, a casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a piston rod projecting from said cylinder and arranged to exert a resistance for a portion of its inward movement therein, a steel wire connection rod secured to said cylinder, and means upon the door for removably receiving said connection rod.

5. In a door check, a casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a piston rod projecting from said cylinder and arranged to exert a resistance for a portion of its movement into the cylinder, a steel wire connection rod secured to said cylinder, a ball on said connection rod, and an anchorage upon the door arranged to removably receive said ball.

6. In a door check, a casing adapted to be inset into the door jamb, a checking cylinder contained therein, a closing spring for impelling said checking cylinder inward, a piston rod projecting from said cylinder, a resilient steel wire cable connection rod secured to said cylinder and projecting outwardly through the open end of said casing, anti-friction rollers engaging said connection rod, and an anchorage upon the door arranged to removably receive said connection rod.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

MICHAEL J. FLYNN.

Witnesses:

WM. M. STOCKBRIDGE,
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