

No. 767,001.

PATENTED AUG. 9, 1904.

C. A. MANN.
DOOR HOLDER.

APPLICATION FILED DEC. 21, 1903.

NO MODEL.

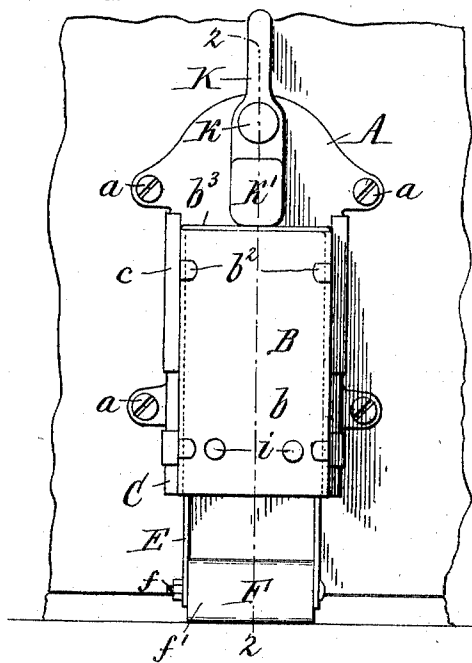


Fig. 1.

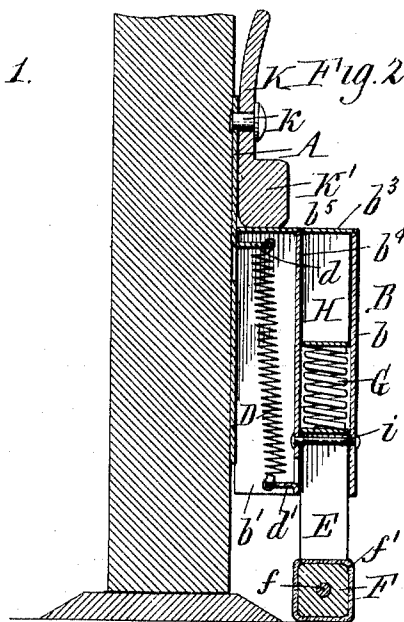


Fig. 2.

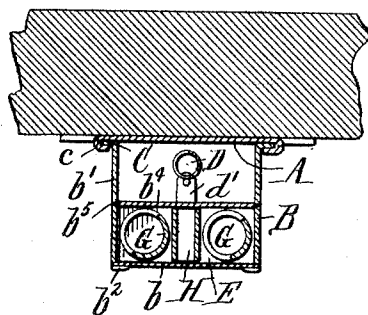


Fig. 3.

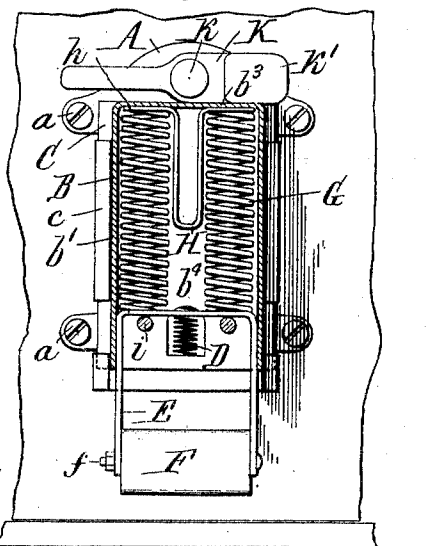


Fig. 4.

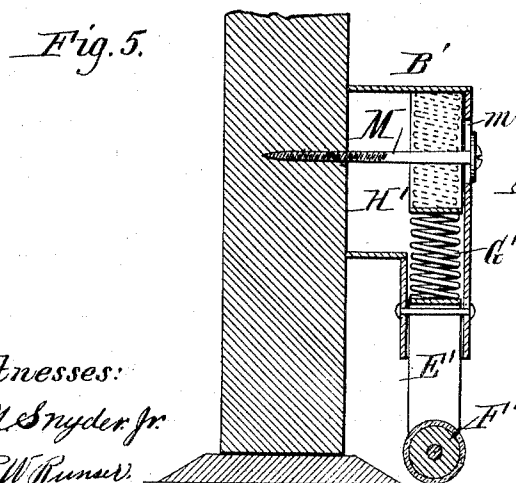


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES A. MANN, OF BUFFALO, NEW YORK.

DOOR-HOLDER.

SPECIFICATION forming part of Letters Patent No. 767,001, dated August 9, 1904.

Application filed December 21, 1903. Serial No. 185,982. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. MANN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Door-Holders, of which the following is a specification.

This invention relates to a door holder or check of that kind which is secured to the door and is provided with a plunger which bears on the floor or pavement, against which it is held by spring-pressure with sufficient force to hold the door stationary.

The object of the invention is to produce a door-holder of simple, compact, and inexpensive construction and of neat attractive appearance, which will be strong and capable of holding a large heavy outside door of the kind operated by strong springs, and which will also be desirable for lighter inside doors.

In the accompanying drawings, Figure 1 is a front elevation of a portion of a door and a door-holder embodying the invention, showing the parts in operative position. Fig. 2 is a central vertical section thereof. Fig. 3 is a horizontal section thereof. Fig. 4 is a transverse vertical section thereof, partly in elevation, showing the parts in inoperative position. Fig. 5 is a vertical sectional elevation of a modified construction adapted for lighter or inside doors.

Like letters of reference refer to like parts in the several figures.

Referring particularly to Figs. 1 to 4, A represents an attaching and guide plate which is secured in a vertical position on one face of the door by suitable means, such as screws *a* passing through perforated ears on the guide-plate.

B represents a box or casing which is mounted to slide vertically on the guide-plate and is preferably constructed, as shown in the drawings, of a front plate *b*, side plates *b'*, provided at the front edges with lugs or ears *b''*, which are bent toward each other over the side edges of the front plate, a top plate *b'''*, which is formed integrally with the side plates, and a transverse partition or plate *b''''*, provided at its side and top edges with lugs *b'''''*, which are riveted in corresponding slots in the side and top plates. The attaching and guide plate

constitute the only back for the casing. The side plates of the casing are provided at their rear edges with outwardly-projecting vertical flanges C, which are confined and slide in guide-grooves formed by inturned side flanges or lips *c* on the attaching and guide plate. The casing is normally held in an elevated inoperative position by a spring D, attached at its opposite ends to ears *d* *d'*, projecting, respectively, forwardly and rearwardly from the attaching-plate and partition *b''*.

E represents a plunger in the form of an inverted-U-shaped frame arranged to slide vertically in the casing and guided and held from inclination between the front plate, partition, and sides of the casing. The plunger carries at its lower end a friction-shoe F, rotatably mounted on a horizontal axle or bolt *f*, connecting the lower ends of the legs of the plunger. In the construction shown the friction-shoe consists of a roller, of wood or the like, of polygonal cross-section covered with rubber or analogous yielding material *f'*, which exerts considerable frictional resistance to the sliding of the shoe on the floor or pavement. The plunger is pressed downwardly to hold the shoe firmly on the floor or pavement by springs G, arranged in the front compartment of the casing between the top of the latter and the upper end of the plunger. The springs are retained in an upright position at the sides of the casing by a substantially U-shaped frame H, placed in the front compartment of the casing between the springs. The upper ends *h* of the legs of the retaining-frame extend horizontally outward between the upper ends of the springs and the top of the casing, thus serving to hold the retaining-frame centrally in the upper end of the casing. The downward movement of the plunger is limited, and it is held from detachment from the casing by rivets *i*, connecting the front plate and partition of the casing beneath the cross-bar of the plunger.

K represents a latch or dog for holding the casing down in its operative position. The latch is pivoted between its ends on a pin or rivet *k*, connected to the upper portion of the attaching-plate, and is provided with a weighted end *k'*. When the holder is inoperative and elevated, the latch occupies a horizontal

position, as shown in Fig. 4, and when the casing is depressed to operative position with the friction-shoe against the floor or pavement the weighted end of the lever causes it to swing around to the vertical position, (shown in Figs. 1 and 2,) in which position it will hold the casing down. To release the casing, the latch is swung over in either direction and the casing is lifted by its spring D. The end face of the latch is flat, so that it will properly hold the casing, and the corners of the weighted end are rounded, so that it will operate easily and smoothly.

The holder operates as follows: The door to which it is applied having been opened to the desired position, the casing is depressed with the foot or hand until the friction-shoe bears on the floor or pavement and the latch swings around to the vertical holding position. The device is so adjusted on the door that the plunger-springs are strained more or less when the casing is depressed, according to the pressure which the holder must resist to hold the door; but the springs are not fully compressed, so that the plunger can yield somewhat to prevent injury to the device in case a sudden and violent pressure is brought to bear on the door. If the door is moved, for instance, by the wind or its closing-springs, the friction-shoe will tend to roll on the floor or pavement, and as the radial distance from its axis to its corners is greater than that to the sides of the shoe the rolling of the shoe will further compress the plunger-springs, thus increasing the pressure of the shoe on the floor or pavement and increasing its holding action. A friction-shoe of any polygonal cross-section or a round roller eccentrically mounted will act in a similar manner.

The device described is highly efficient and of simple inexpensive construction and neat attractive appearance. The duplication of the plunger-springs is desirable, for springs of comparatively light wire and small diameter can be employed instead of a single large heavy spring, which would require a much deeper casing. The only part of the device which undergoes any considerable wear is the friction-shoe, and as this is removably secured on its axle and is made of wood and rubber it can be replaced with little labor and at small cost.

Fig. 5 illustrates a construction designed more particularly for inside and small doors. In this form of the device the construction and arrangement of the plunger E', its projecting springs G', and the spring-retaining frame H' are the same as above described, except that a cylindrical roller F' is employed instead of the polygonal friction-shoe. The polygonal or eccentric shoe could, however, also be used in this construction. The casing B' instead of being slidably mounted on an attaching-plate is secured directly to the door by a screw M passing through a vertically

elongated slot *m* in the front of the casing and between the legs of the U-shaped spring-retaining frame. The casing can thus be properly adjusted on the door to secure the necessary holding pressure. This form of holder will hold the door stationary, but permits it to be moved when a cylindrical roller is employed, the roller rolling on the floor in the movement of the door.

I claim as my invention—

1. The combination of a casing supported on the door, a plunger movably mounted in said casing, a polygonal friction-shoe rotatably mounted on said plunger, and springs for pressing said shoe against the floor or pavement, substantially as set forth.

2. The combination of a casing supported on the door, a plunger mounted to slide in said casing, a friction-shoe carried by said plunger, springs arranged between said plunger and the top of said casing, and a detached spring-retaining frame in said casing and having a part extending between said springs to support them, and having parts held between the upper ends of said springs and the top of said casing to hold said spring-retaining frame in place, substantially as set forth.

3. The combination of a casing supported on the door, an inverted-U-shaped plunger movably mounted in said casing, a friction-shoe mounted between the legs of said plunger, springs arranged in said casing between the top of the same and the top of said plunger, and a U-shaped spring-retaining frame arranged in the casing between said springs and having laterally-projecting portions extending between the upper ends of said springs and the top of the casing, substantially as set forth.

4. The combination of an attaching-plate secured to the door, a casing mounted to slide vertically on said attaching-plate, a spring-pressed plunger carried by said casing, a lifting-spring for said casing, and a latch pivoted on said attaching-plate above said casing and having a weighted end which engages the casing to hold the latter depressed, substantially as set forth.

5. The combination of an attaching-plate secured to the door and having inturned guide-flanges at its sides, a casing provided with flanges which slidably engage with the guide-flanges of said attaching-plate, a spring-pressed plunger in said casing, a lifting-spring connecting said casing and attaching-plate, and a latch pivoted on said attaching-plate above said casing and having a weighted end which engages the casing to hold the latter depressed, substantially as set forth.

Witness my hand this 15th day of December, 1903.

CHARLES A. MANN.

Witnesses:

JNO. J. BONNER,
C. M. BENTLEY.