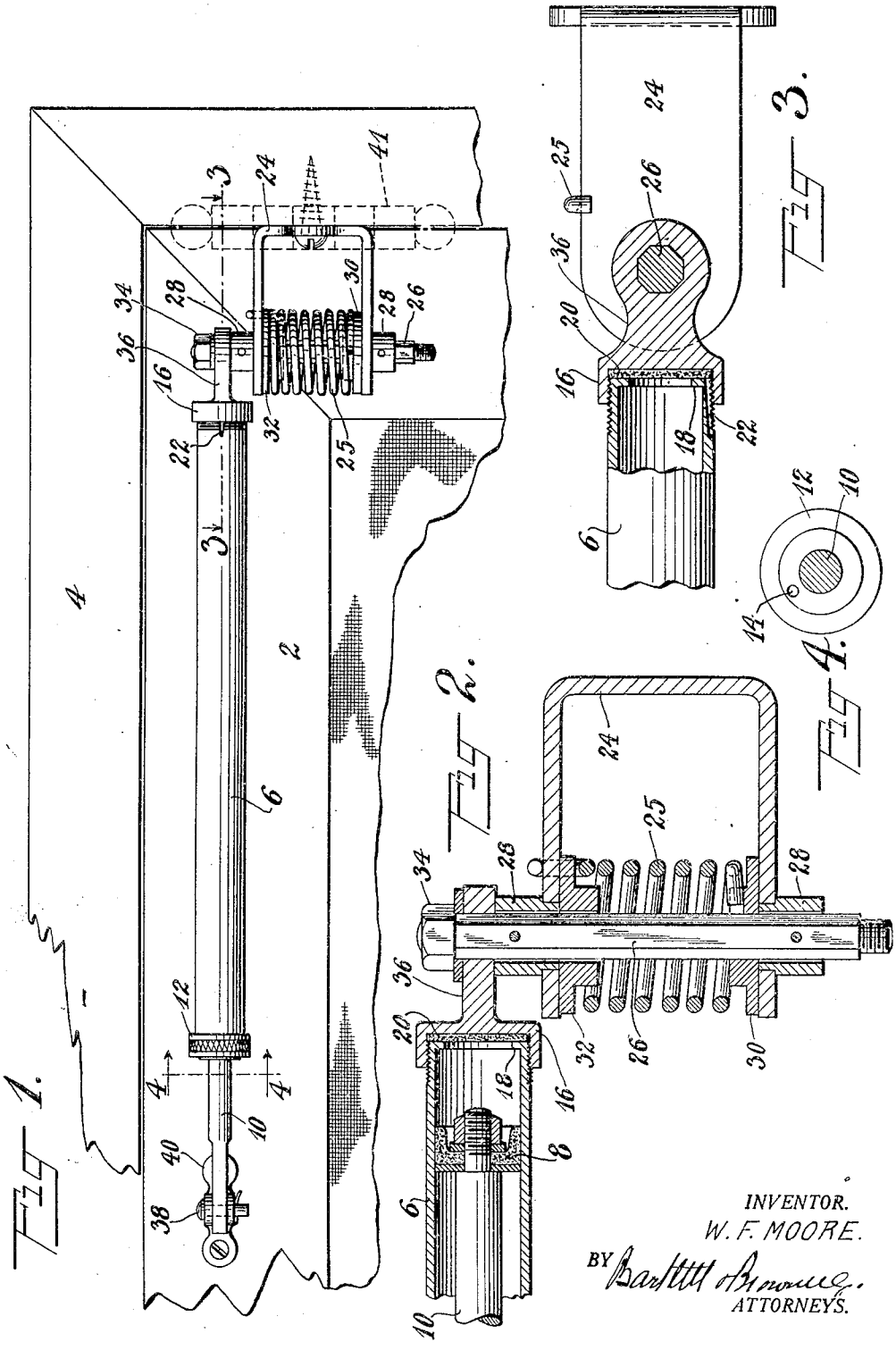
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DOORCHECK

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WALLACE F. MOORE, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE AMERICAN HARDWARE CORPORATION, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT

DOORCHECK

Application filed November 12, 1928. Serial No. 318,675.

My invention relates to door checks and closures, and has special reference to such devices for use on screen and other doors of light construction.

The principal objects of the invention are to provide a device of this character which is simple, strong and durable in construction and attractive in appearance; which may be easily and quickly installed in various positions to meet different requirements; and which may be easily adjusted to vary both the door closing and checking actions thereof.

These and other objects of my invention and features whereby they may be attained, will be clearly understood from the following description and accompanying drawings, in which:

Figure 1 is a side view of a portion of a door and its casing with my improved check and closer applied thereto;

Fig. 2 is a longitudinal sectional view, on an enlarged scale, of one end portion of the device;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1; and

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 1.

My improved check and closer is illustrated in the drawings as applied to a door 2 and a door casing 4. As shown, the device is provided with a cylinder 6 and a piston 8 having a rod 10 extending out through one end of the cylinder. This end of the cylinder has a cap 12 screw-threaded thereon and provided with a central aperture through which the piston rod slides during the operation of the device, the cap being provided with an air vent 14. The other or outer end of the cylinder is closed by a cap 16.

As shown in the drawings, the outer end of the piston rod may be pivotally connected with the door, and the outer end of the cylinder may be pivotally connected with the door casing, or such pivotal connections may be reversed. In either case, however, the piston and cylinder serve to retard or check the closing of the door, and in such devices it is desirable to provide means for varying this checking action. In accordance with my invention, the means provided for varying said checking action is of simple construction and easily adjustable. As shown, the outer end of the cylinder is provided with an inturned flange 18 forming a restricted opening. This flange is in adjustable contact with a washer 20 of leather or similar material at the bottom of the cap. The outer surface of this end of the cylinder is provided with a longitudinally extending groove 22 forming a vent leading from the inner end of the cylinder to a point beyond the inner edge of the cap. With this construction, by turning the cylinder with relation to the cap 16, the escape of air through the vent formed by the groove 22 may be varied, and thus the door checking action of the piston and cylinder may be varied as desired.

In the illustrated construction the outer end of the cylinder is pivotally mounted on a bracket 24, and a door closing spring 25 is associated with this end of the cylinder and the bracket. The bracket is U-shaped, having two horizontally projecting arms and a vertical connecting portion. The pivotal mounting of the outer end of the cylinder on the bracket comprises a shaft 26 of octagonal form which has its ends extended through and secured by pins 27 to sleeves or bushings 28, said bushings having reduced inner ends mounted to turn in apertures in the ends of the bracket arms. The spring 25 is coiled about the shaft 26 between annular dogs 30 and 32 surrounding the shaft and arranged adjacent the inner sides of the bracket arms, the aperture in the dog 30 through which the shaft extends being of a shape to fit the shaft so as to prevent relative rotation of the shaft and dog, and the aperture in the dog 32 being cylindrical so as to permit relative rotation of the shaft and dog. One end of the coil spring 25 is secured to the fixed dog 30, and the other end of the spring is hooked over the upper arm of the bracket. Each end of the shaft 26 is reduced in diameter and screw-threaded so that a nut 34 may be screwed on either end. The outer end of the cylinder may be secured on either end of the shaft 26 as desired, by means of an outwardly projecting lug 36 on the outer cap 16 which is provided with an octagonal

aperture for receiving the desired end of the shaft, the lug 36 being held against the outer end of the adjacent sleeve or bushing 28 by means of a washer and the nut 34.

The outer end of the piston rod 10 is pivotally connected by means of a pin 38 with a bracket 40. In the drawings, the bracket 24 for the outer end of the cylinder is shown secured by screws to the inner side of the door casing, and the bracket 40 for the outer end of the piston rod to the upper portion of the door, the device being mounted on the opposite side of the door from the hinges, one of the door hinges being indicated at 41. In case it is desired to install the device on a door that opens in the opposite direction from that shown in the drawings, the bracket 24 may be reversed in position and the outer end cap 16 of the cylinder attached to the other end of the shaft 26. Also, such reversal may be accomplished by turning the whole check over so that the cylinder is below the bracket. Furthermore, if desired, the bracket for the outer end of the cylinder may be attached to the door, while the bracket for the end of the piston rod may be attached to the door casing above the door.

The tension of the spring 25 in my improved device, may be varied to vary the door closing action thereof by merely detaching the lug 36 from the end of the shaft 26, and turning the shaft to a different angular position and then re-attaching the lug to the shaft, the polygonal form of the shaft permitting this to be accomplished.

As will be evident to those skilled in the art, my invention permits various modifications without departing from the spirit thereof of the scope of the appended claims.

What I claim is:

1. A pneumatic check comprising a cylinder having an inwardly turned flange at its outer end to provide a restricted opening, a piston having a rod projecting out through one end of the cylinder, a cap screw-threaded on the other or outer end of the cylinder, and a washer of yieldable material in the cap for adjustable engagement by said flange of the cylinder, said cylinder having a groove in its outer surface extending from the outer end thereof to a point outside of said cap to provide an air vent adjustable by relatively turning said cap and cylinder.

2. A door check having, in combination, a structure comprising a cylinder and a piston within the cylinder having a rod projecting out through one end of the cylinder, a bracket, pivotal connections between one end of said structure and bracket comprising a shaft, bushings secured to the shaft mounted to turn in the bracket, and a spring tending when under tension to turn the shaft and bushings in one direction.

3. A door check having, in combination, a structure comprising a cylinder and a piston within the cylinder having a rod projecting out through one end of the cylinder, a U-shaped bracket, pivotal connections between one end of said structure and the bracket comprising a shaft of polygonal form in cross section, bushings secured to the shaft and mounted to turn in apertures in the arms of the bracket, the center of the structure having an aperture for receiving either end of said shaft so as to secure said end to the shaft at any one of a plurality of different positions with relation to the shaft, and a spring tending when under tension to turn the shaft in one direction.

In testimony whereof, I have signed my name to this specification this eighth day of November, 1928.

WALLACE F. MOORE.