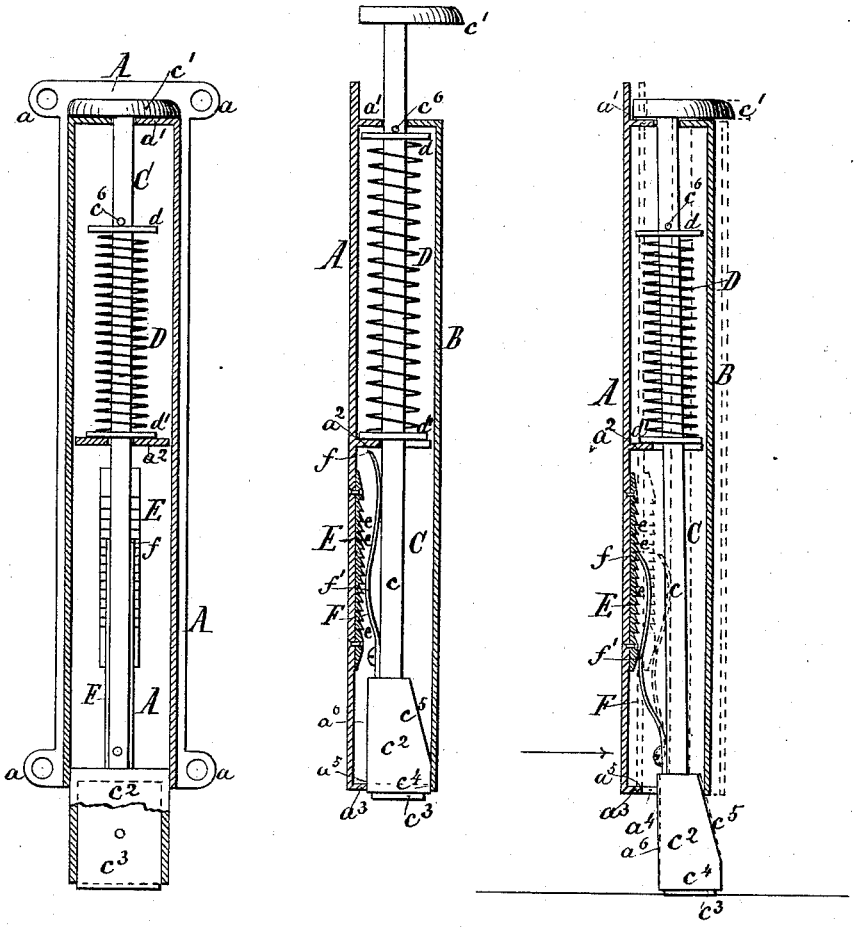
(No Model.)

W. D. DUNLAP.

DOOR CHECK.

No. 385,599. Patented July 3, 1888.

Fig 1. *Fig 2.* *Fig 3.*



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UNITED STATES PATENT OFFICE.

WILLIAM D. DUNLAP, OF SELMA, ALABAMA.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 385,599, dated July 3, 1888.

Application filed April 10, 1888. Serial No. 270,156. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. DUNLAP, a citizen of the United States, residing at Selma, in the county of Dallas and State of Alabama, have invented certain new and useful Improvements in Door-Stops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a door-stop for keeping doors open to any degree or angle desired; and it consists in a spring-bolt adapted to be pushed down by the foot of the operator, or otherwise, held down upon the carpet or floor by means of a rack and spring pawl or other equivalent bolt-fastener, and to be disengaged from said rack by a lateral force or swing of the door and moved up by a spring to its normal position out of action, as will be fully explained by the following specification, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical section of my improved door-stop, the casing being sectioned and the mechanism shown in front elevation, and a portion of the nose of the bolt broken away and sectioned. Fig. 2 is a vertical section, taken at right angles to Fig. 1, through the casing, exhibiting a side elevation of the mechanism and showing the spring-bolt drawn up and out of action. Fig. 3 is a similar section exhibiting the spring-bolt lowered and in action.

The letter A represents the back plate of the case of the door-stop; B, the front plate or cover; C, bolt, and D spring for holding the bolt up out of action; E, rack, and F spring-pawl.

The back plate, A, is provided with flanges a, by means of which the case is fastened to a door with common wood-screws. Said back plate is also provided with horizontal flanges a' a^2 a^3, of which a^2 and a^3 are slotted, so as to serve as guides for the shank c of the spring-acted bolt C. The rack E is attached to or formed on the back plate, A, below the flange a^2, and with the ratchet-teeth e of said rack the end f of the spring-pawl F engages when the spring-acted bolt C stands in its lowest position, as in Fig. 3.

The spring-pawl F is fastened to the lower portion of the shank c of the spring-acted bolt C, and is formed with a bow, f', compressed or flattened between the rack and shank c of the bolt which stands opposite the toothed portion of the ratchet-rack E, as is the case when the parts are in the position shown in Fig. 2, in which position the pawl end f of the spring is above and out of engagement with the teeth of the rack E.

The spring-acted bolt C may consist of a foot-operated plate, c', shank c, and a stop end or nose, c^2, the latter being either solid or hollow, preferably hollow, as shown, and provided with an india-rubber plug or other elastic pad, as c^3. The lower portion of the nose c^2, between the points c^4 c^4, is of such size as to about fill the opening between the shoulder c^5 of the bottom flange, a^3, of the back plate, A, and the front plate or cover, B, when the parts are in the position shown in Fig. 2. The upper portion of the nose c^2 above the points c^4 c^4 is tapered, as at c^5, and thus reduced in size a space, a^4, exists between its rear surface, a^6, and the bottom flange, a^3, when the nose c^2 is in the position shown in Fig. 3. The change of the position of the nose c^2 and the shank c of the bolt C from their normal position shown in Fig. 2 to that shown in Fig. 3 is effected by the spring-pawl F pressing against the rack and forcing the bolt laterally into an inclined position while it is being caused to descend by pressure on the foot-plate c', the spring-pawl E in moving with the bolt slipping over the ratchet-teeth and seeking all the while to assume its natural shape, and, finally, when the bolt is fully down its pawl end f will be resting in one of the notches formed by the ratchet-teeth of the rack, thereby fastening the bolt in its lowered position.

It will be understood that the bolt C is arranged in the flange a' of the plate A, so as to have sufficient play in its bearing to permit its shank and nose below said flange to vibrate in the slotted flanges a^2 a^3. By moving the door and the stop-case thereto attached in the direction indicated in the arrow in Fig. 3, while the spring-acted bolt is down and holding upon the carpet or floor, the bow f' of the spring-pawl will be flattened by being caused to bear forcibly against the plain portion of the rack, and its pawl end will consequently

be lifted out of the ratchet-teeth of the rack, and the spring-acted bolt released and raised suddenly to its normal position by the spring D around said bolt becoming expanded between the washers *d d'*, as shown in Fig. 2. When a door has been provided on its inside with the within-described door-stop, and it is desired to "set" the door open more or less, the door is swung to the desired position by hand, and then the operator places his foot on the plate *c'* and presses down the spring-acted bolt C until its elastic plug bears sufficiently hard upon the floor or carpet to hold, with the aid of the spring-pawl engaged with the rack, the door open against the force of currents of wind or other incidental forces acting either upon the inside or outside thereof; and this done the foot can be withdrawn, as the spring-pawl F, with its end *f* pressing up against a ratchet-tooth of the rack, will keep the door from being moved by such causes as above stated. When it is desired to close the door or change its angle of set, it can be accomplished by applying considerable force and moving it independently of the lower holding end of the bolt or the frictionally-holding nose thereof in the direction indicated by the arrow, this action bringing the point a^5 of the flange a^3 of the back plate, A, in contact with the straight side a^6 of the nose c^2, and forcing the end *f* of the spring-pawl out of the rack E and restoring the bolt to its normal upright position, as illustrated by dotted lines in Fig. 3, and thus allowing the spring D to expand, as illustrated in Fig. 2, and instantly and automatically raise the bolt and its nose to the position shown in Fig. 2, in which position the nose will be in relief from the carpet or floor. It is preferable to use an india-rubber or other compressible or flexible pad—as felt and the like—in the nose c^2 when the door-stop is used on doors of rooms which are carpeted; but I contemplate using in some instances a roughened metallic or wooden plug, the serrations being deep enough to take hold in the floor without seriously marring it. If desirable, the bolt can be hung at its upper end, so as to have a greater chance to move laterally at said point, while it is free to move up and down.

What I claim is—

The spring-actuated bolt having a stop end or nose applied or formed rigidly upon it, and also having a bowed spring-pawl attached to its shank, in combination with the case in which the bolt moves, and with the rack attached to one of the inner surfaces of the case for the spring-pawl to bear against and engage with, whereby by a force sufficient to bring the bolt to a vertical position the said bolt is automatically released and caused to rise out of engagement with the floor, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM D. DUNLAP.

Witnesses:

E. B. STOCKTON,

V. M. HOYNES.