No. 792,129. PATENTED JUNE 13, 1905.

G. M. D. HEARD.

DOOR STOP.

APPLICATION FILED OCT. 24, 1904.

Fig. 1.

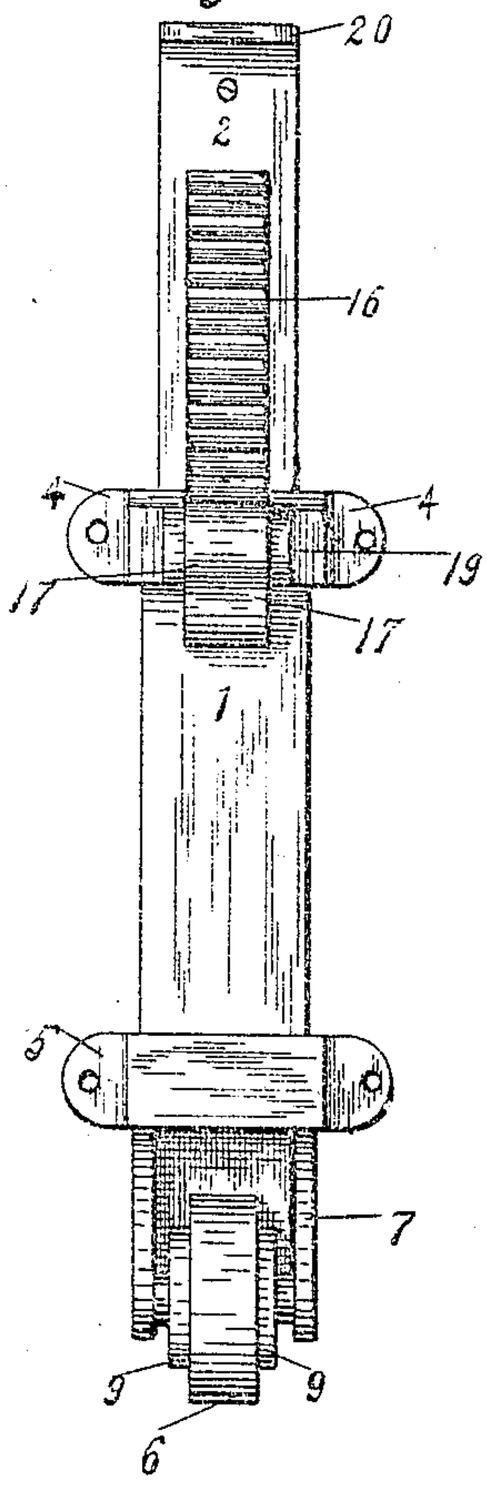


Fig. 2.

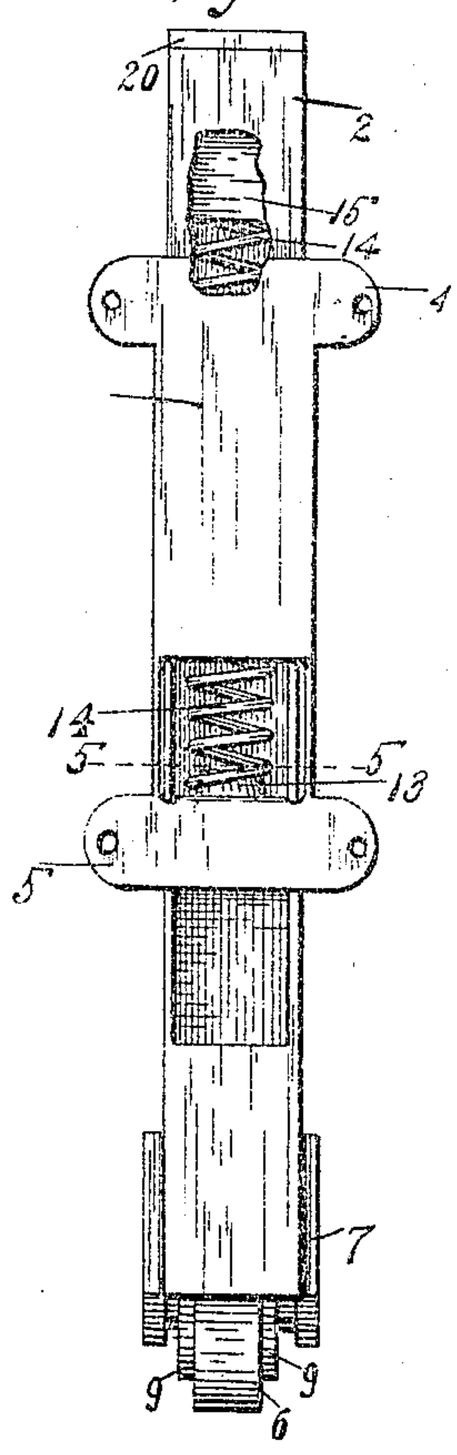


Fig. 3.

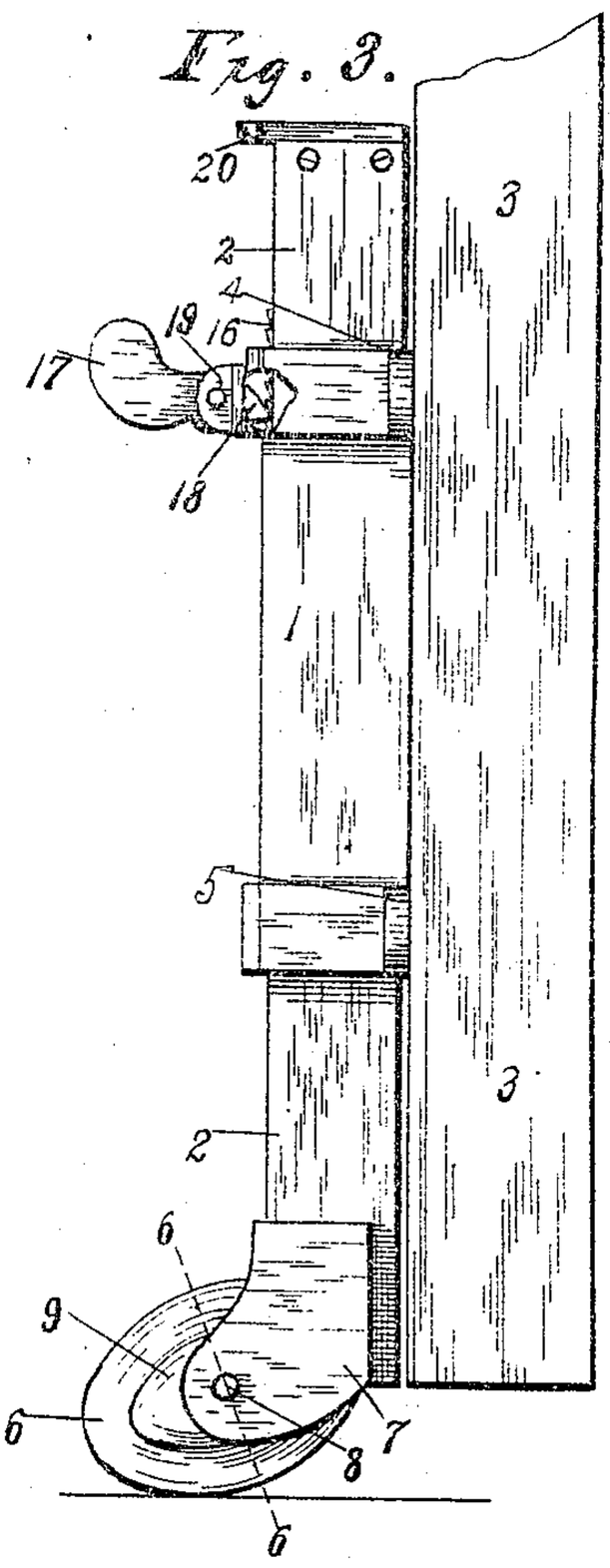


Fig. 4

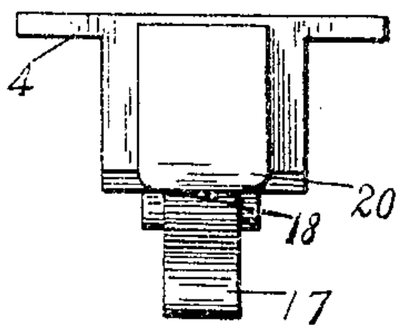


Fig. 5.

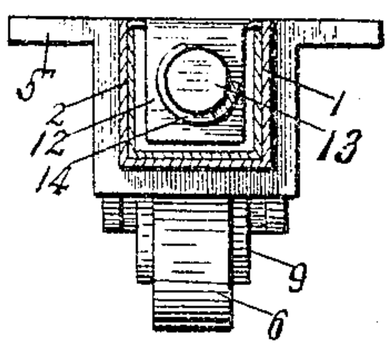
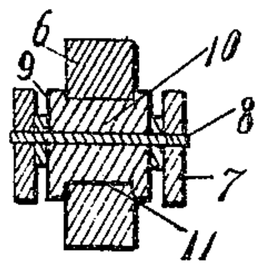


Fig. 6.



WITNESSES:

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BY

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No. 792,129. Patented June 13, 1905.

UNITED STATES PATENT OFFICE.

GEORGE M. D. HEARD, OF PAINESVILLE, OHIO.

DOOR-STOP.

SPECIFICATION forming part of Letters Patent No. 792,129, dated June 13, 1905.

Application filed October 24, 1904. Serial No. 229,714.

To all whom it may concern:

Be it known that I, GEORGE M. D. HEARD, a citizen of the United States, residing in the city of Painesville, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Door-Stops, of which the following is a specification.

This invention relates to door-stops, and has for its object to provide a certain but yielding pressure.

Other features of invention will be hereinafter pointed out, and designated in the claims.

In the accompanying drawings, forming part of this specification, in which like numbers of reference denote like parts wherever they occur, Figure 1 is a front elevation. Fig. 2 is a rear elevation with a part near its top broken away. Fig. 3 is a side elevation, partly broken away. Fig. 4 is a top plan view. Fig. 5 is a cross-sectional view on the line 5 5, Fig. 2; and Fig. 6 is a sectional view on the line 6 6, Fig. 3.

My device consists of an outer hollow member or casing 1 and an inner hollow member or casing 2, the former telescoping the latter. The outer casing is fixed to the door 3 by screws through the upper bracket 4 and lower bracket 5. Brackets 4 and 5 not only serve as a means of positively securing the outer hollow member or casing 1 to the door, but they serve in further capacities, bracket 4 carrying means to enable the inner casing to be locked in predetermined position, and bracket 5, by virtue of its construction set out in detail later, forming a support for the coil-spring of the inner casing. The lower portion of the inner casing 2 is preferably cut away for the reception between the sides thereof of an elliptical piece of rubber or other resilient material 6. In the drawings I have shown this elliptical piece as carried between a pair of brackets 7 and preferably pivoted to rotate between same.

Upon the pintle 8, upon which the elliptical stop 6 swings or rotates, are fixedly mounted a pair of plates 9, which engage the elliptical stop 6, so as to cause same to rotate therewith, or the stop may be formed by pivoting an elliptical spool 10 upon the pintle 8, said spool having a groove 11 down its center, the edges of said groove taking the place of the plates 9 and the elliptical rubber ring taking the place of the rubber piece 6, hereinbefore referred to.

It will be obvious that what I have denominated the "inner hollow member or casing" 2 may be mostly solid, if desired; but to save expense in manufacture, as well as weight, I prefer to make it hollow, and when made hollow I arrange a projection 12 on the bracket 5, which is formed integral with the upper edge of the rear plate of said bracket 5, to protrude into said hollow portion, said projection 12 having a nipple 13 thereon which is encircled by the lowest winds of a helical spring 14, which at its upper end abuts against the plug or similar stop 15, as clearly shown in the broken-away portion of Fig. 2. A ratchet 16 is provided on the inner member 2, and a pawl 17, having a tooth 18, is pivoted, as at 19, to the outer member 1. The top of the inner member 2 has a cap 20, roughened, as shown, by serrations or in any other suitable manner in order that it may hold the toe of a shoe when the foot is pressed down thereon.

When it is desired to "stop" a door open with this device, pressure is applied at 20, which causes the inner member 2 to descend in the outer member 1 and against the pressure of the spring 14. The tooth 18 of the pawl 17 catches in the ratchet 16 to prevent the return of the inner member under the influence of the spring 14 till said pawl 17 has been pressed upwardly, thereby retracting the tooth 18 from engagement with the ratchet 16. When the inner member 2 has been pressed downwardly, the elliptical stop 6 engages the floor and by reason of the resilient material of which it is composed, as above described, takes firm hold thereof and holds the door securely. Moreover, the elliptical form of the stop 6 is an efficient means for holding the door in the desired position, because any pressure applied thereto causes the elliptical stop 6 to assume the slightly-inclined position illustrated in Fig. 3 and brings about firm resistance to further pressure. If the endeavor were made to move the door in the opposite direction, the stop 6 would rock from the position illustrated in Fig. 3 to an oppositely-

tilted position and would thereby hold the door firmly against pressure in that direction. On account of the elliptical form of the stop 6 it may be said that the stronger the pressure is that is applied the stronger is the grip that the elliptical member takes of the floor. When it is desired to release the stop 6 from its hold upon the floor, the pawl 17 is pressed upwardly, and this releases the ratchet 16 and also the inner member 2, which, by reason of the pressure of the spring 14, flies up into the position shown in Fig. 1.

It will be obvious that the inner and outer members may be made cylindrical, as well as rectangular, and that the inner member may be in part made solid, as well as hollow. Furthermore, it will be observed that a plate across the upper part of the member 2 and inside thereof may be substituted for the plug 15 and that the location of the pawl 17 may be changed and that many other minor changes in the form, arrangement, and relative location of the several parts may be made without departing from the nature and spirit of my invention. It will be obvious that my outer member, for instance, may be in a measure dispensed with and that merely the brackets 4 and 5 can be used; but I prefer to have the outer and stationary member as described and shown in order to form a better and more stable guide for the inner and movable member.

Having thus described my said invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the type set forth, a pair of hollow casings arranged one within the other, the inner casing projecting beyond the ends of the outer casing, and having a rack on its outer face adjacent the upper end thereof, and a stop carried by its lower end, a pair of spaced brackets carried by the outer casing for securing the same to the door, the lower of said brackets having a projection formed integral therewith, said projection being located on the upper edge of the rear plate of said lower bracket and extending into said inner casing, a plug in the inner casing adjacent the top thereof, a coil-spring seating on said projection and bearing against said plug, a foot-plate secured to the top edge of said inner casing and overlying said plug, the upper bracket carrying a pawl for engagement with said rack.

2. In a device of the type set forth, a hollow casing, a hollow member in said casing having a stop on its lower end, a pair of spaced brackets on said casing, for securing the same to the door, the lower of said brackets having a projection extending into said hollow member and carrying a nipple, a plug in the upper end of said hollow member, a coil-spring seating on said projection and bearing against said plug, the upper of said brackets being arranged adjacent the top of the casing, and carrying means for retaining said member in predetermined position.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 12th day of October, 1904.

GEORGE M. D. HEARD.

Witnesses:
LORETTA M. RYAN,
LEON M. ABBOTT.