June 19, 1934. J. M. YATES 1,963,819

THRESHOLD STOP

Filed Feb. 20, 1932

Fig. 1.

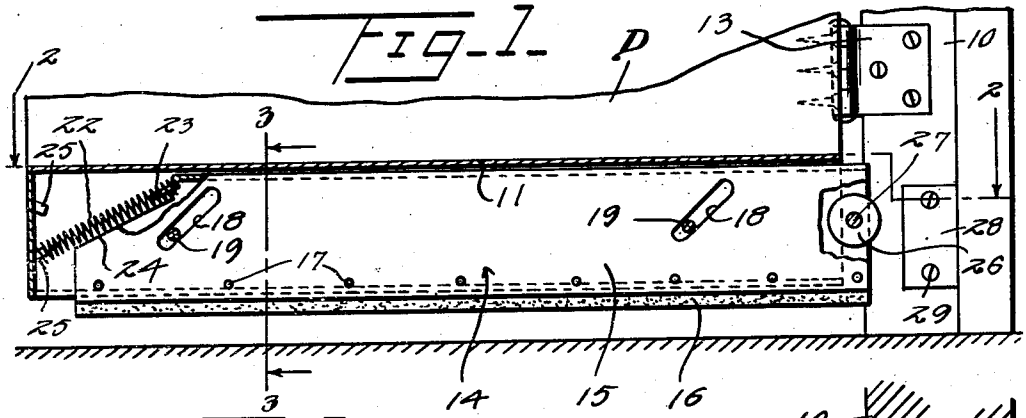


Fig. 2.

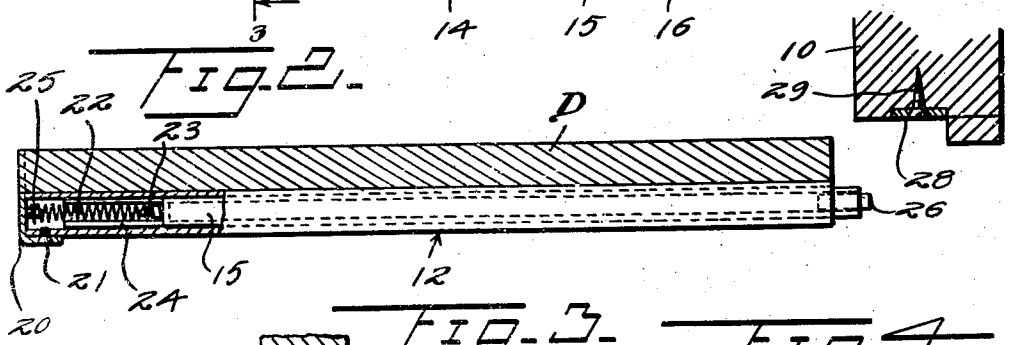


Fig. 3.

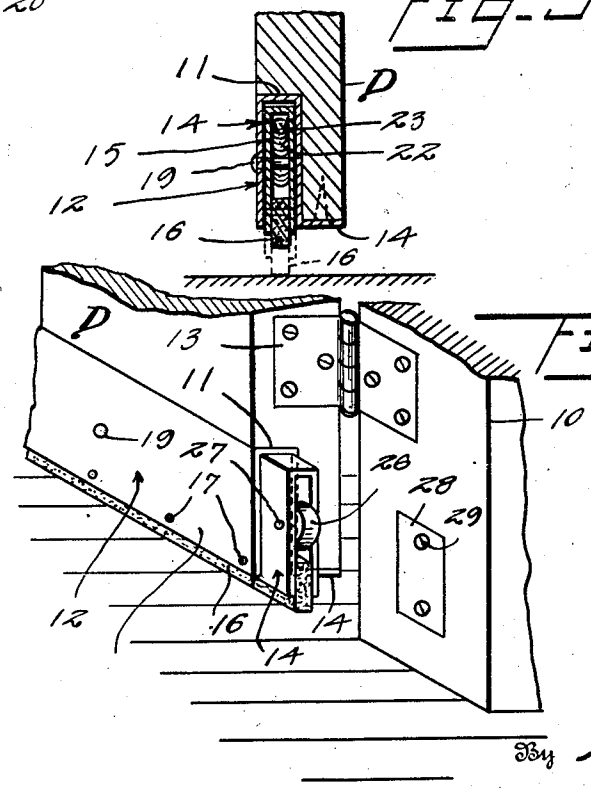


Fig. 4.

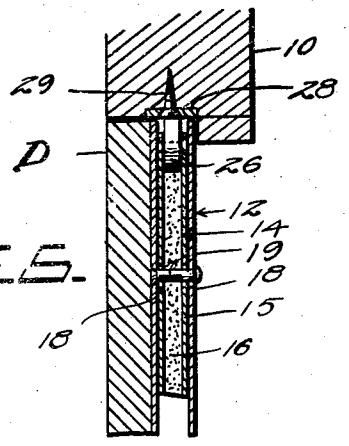


Fig. 5.

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UNITED STATES PATENT OFFICE

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THRESHOLD STOP

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Application February 20, 1932, Serial No. 594,323

1 Claim. (Cl. 20—68)

This invention relates to weather stripping and more particularly to a device to be mounted on a swinging closure such as a door or the like.

An object of this invention is to provide a weather stripping member which may be mounted on the bottom of a door or the like and which is moved into operative position upon closing of the door.

Another object of this invention is to provide a simple weather stripping or threshold stop which can be readily mounted on any type of swinging closure and which while preventing the passage of cold air or water between the bottom of the door and the sill, will not interfere with the swinging of the door.

A further object of this invention is to provide an automatically operated stop which is so constructed that it can be readily interchanged to operate with doors having the hinges mounted on either side of the door opening.

The above and various other objects and advantages of this invention will in part be described in and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing, wherein:—

Figure 1 is a longitudinal section partly broken away and partly in detail of a device constructed according to the preferred embodiment of this invention, mounted on a door which is shown in fragmentary form;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a fragmentary longitudinal sectional view showing the device in closed position;

Figure 5 is a fragmentary detail perspective view of the device mounted on the door which is shown in open position.

Referring to the drawing wherein like characters of reference designate corresponding parts throughout the several views, the letter D designates generally a door which is hingedly mounted on a door frame structure 10 by means of hinges 13 or the like. The lower portion of the door D is provided with a rabbetted or cut out portion 11 so as to receive a substantially U-shaped housing 12 which is open at each end, the free legs being directed downwardly and the inner leg being provided with a horizontal flange 14 engaging the bottom of the door and secured thereto by means of screws or the like.

A stop member generally designated as 14 is mounted within the housing 12 and comprises a substantially U-shaped member 15 having the free ends of the parallel legs thereof directed downwardly, and a cushioning element 16 in the form of felt, rubber or the like is secured between the parallel legs by means of rivets or securing members 17.

The cushioning member 16 projects downwardly below the lower edge of the stop member 14. The parallel legs of the stop member 14 are provided with elongated tapering slots 18 which are disposed on an angle to the vertical, and pins 19 extend through these slots 18, there being one pin for each slot and these pins 19 are secured to the fixed casing 12. In this manner, the movable member 14 will not only move longitudinally of the fixed member 12, but also in a downward and upward direction controlled by the slots 18, which are wider at the top to prevent binding.

An end plate 20 of substantially L-shaped construction is secured to the forward end of the fixed casing 12 by means of a securing member 21 in the form of a screw or bolt, and a spring 22 has one end portion thereof contacting with the inner surface of the plate 20 and the opposite end engaged with a forwardly extending lug 23 carried by the movable stop member 14. Preferably, the forward end of the stop member 14 is cut off on an angle, as at 24, this angle being substantially the same angle as the angle of the slots 18, and this spring 22 acts to constantly urge the movable stop member 14 into closed position.

The end plate 20 may be secured to either end of the casing 12, depending only on the position of the hinges 13 relative to the door. If desired, the inner surface of the plate or closure 20 may be provided with inwardly extending lugs 25 about which the forward end of the spring 22 is disposed so as to hold this forward end of the spring 22 against movement relative to the plate 20.

The opposite or rear end of the stop member 14 is provided with a roller 26 which is rotatably carried by a shaft 27, and this roller 26 is disposed between the rear end of the parallel legs of the U-shaped member 15. The roller 26 projects slightly beyond the rear end of the movable member 14 and is adapted to contact with a striking plate 28 secured by screws 29 or the like to the door frame 10.

In the use of this device, the lower edge of the door D may be cut off a slight amount and the door rabbeted, as at 11, so that the fixed member 12 will have the outer free leg thereof disposed substantially coplanar with the adjacent

face of the door D. When the door is in open position, the stop member 14 will be in uppermost position, as shown in Figure 1, being held in this position by means of the spring 22. As the door D is closed, the roller 26 will strike the plate 28 which will cause the stop member 14 to move relatively to the casing 12, the movement being a longitudinal and vertical movement controlled by the inclined slots 18. When the door has been moved into completely closed position, the stop member 14 will assume the position shown in dotted lines in Figure 3, wherein the cushioning member 16 will contact with the door sill and thereby prevent the passage of water or air between the bottom of the door and the sill. When the door D is opened, the spring 22 will automatically return the stop member 14 to its open or inoperative position, as shown in Figure 1, thereby permitting the free swinging of the door into open position.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claim.

What is claimed is:—

A weather stop comprising a housing U-shaped in transverse section, an L-shaped plate secured to one end of the housing with one leg thereof secured to a side of the housing and the other leg extending across the end of the housing and terminating beyond the other side of the housing, a movable member within the housing, said movable member comprising a U-shaped member loosely disposed between the parallel legs of the housing, said U-shaped member having a pair of tapering upwardly inclined slots in each leg thereof, a pair of pins fixed to the legs of said housing and extending therebetween through the opposed slots in the legs of the movable member, a spring engaging said plate and an end of said movable member to constantly urge said movable member inwardly and longitudinally of the housing, a cushioning means disposed between and extending below the movable member, and a roller carried by the opposite end of the movable member.

JAMES M. YATES.