May 31, 1955 W. C. BARNES, JR., ET AL 2,709,615

DOOR STOP

Filed Nov. 17, 1952

Fig. 1

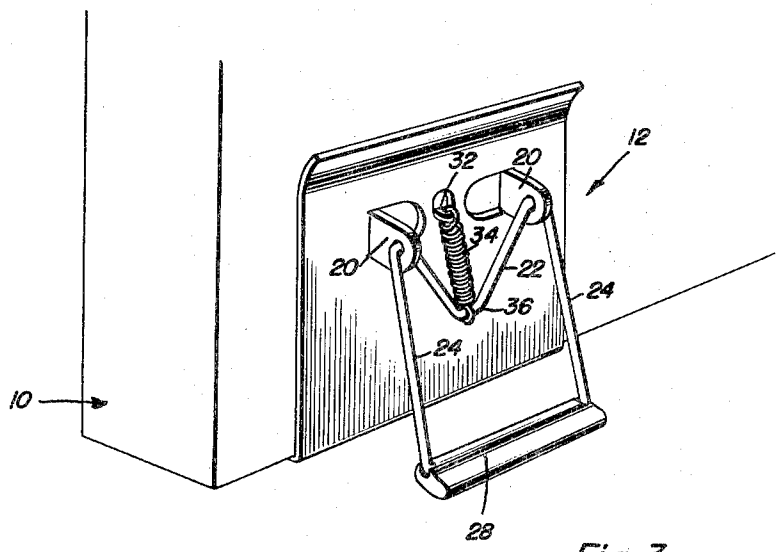


Fig. 2

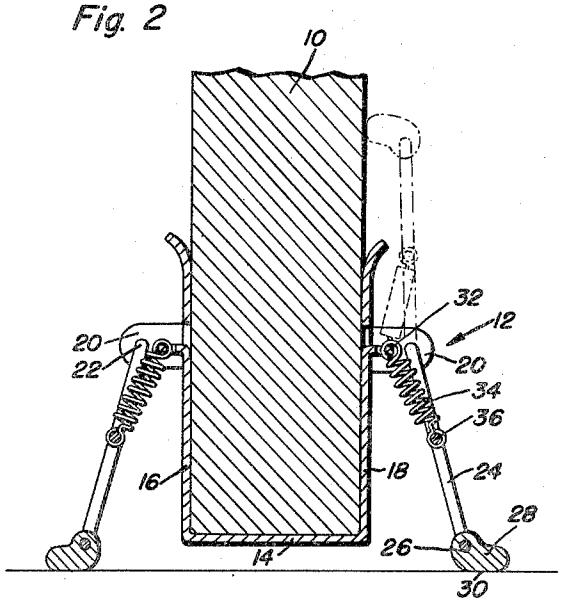


Fig. 3

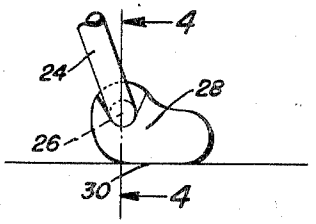
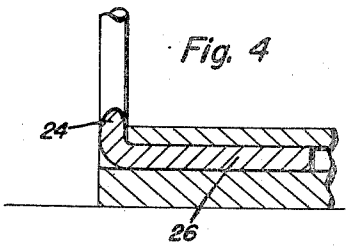


Fig. 4



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DOOR STOP

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2 Claims. (Cl. 292—339)

This invention relates to a door stop for maintaining a swinging door in a desired position.

The principal object of this invention is to provide a door stop which may be easily and detachably applied to the base of a door so as to hold such door against accident or movement in either direction.

One of the novel features of the device includes means of eccentrically mounting a crank to which arms are attached for holding an eccentric stop member, the means for supporting the crank being offset from spring means so as to cause the stop member to be directed into either a floor engaging position, or a retracted position.

Still further objects of the invention reside in the provision of a door stop member that is strong, durable, highly efficient in operation, simple in construction and manufacture, constructed from a minimum number of parts, and which will be relatively inexpensive to produce out of readily available materials.

These, together with the various and ancillary objects of the invention which will become apparent as the following description proceeds, are attained by this door stop, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a perspective view showing the door stop comprising the present invention and operative installation on the bottom portion of a door;

Figure 2 is an enlarged vertical sectional view of the door stop showing it in its operative position, and showing the retracted position thereof;

Figure 3 is an enlarged side elevational view showing the construction of the door stop member comprising one important feature of the invention;

Figure 4 is an enlarged sectional detail as taken on the plane of line 4—4 of Figure 3.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates a door on which the invention indicated at **12** is adapted to be in place.

This device includes a substantially U-shaped clip having a bottom wall **14** to which side walls **16** and **18** are attached. The clip may be formed from a suitable spring steel, or any other convenient material having the desired characteristics, and is adapted to embrace the sides of the door **10**.

Integral with and pressed from the side walls **16** and **18** of the clip are ears **20** which are extended outwardly from the side walls **16** and **18**. Suitable apertures are formed in the ears **20** and they provide means for journaling a substantially V-shaped crank **22** between each pair of ears on either side of the clip. Arms **24** are integrally formed with the crank and extend downwardly therefrom. The arms **24** with legs **26** at their free ends which extend at right angles to the arms **24**. Pivotally mounted about the legs **26** are cam shaped stop

members **28** which have a floor engaging surfaces **30** eccentric from the axis of rotation of the stop members **28**. The stop members are preferably made from ribbed rubber, but may be formed from any other suitable material. These substantially L-shaped ribbed feet provide a secure engaging surface.

Lugs **32** are pressed from the end walls **16** and **18** and have apertures therethrough to which one end of springs **34** are secured. The other ends of the springs **34** are attached to the apices **36** of the V-shaped cranks **22**. The ends of the springs **34** are mounted for pivotal movement and in action will constantly urge the apices **36** toward the lugs **32**. As the ears **20** hold the crank arms **22** outwardly from the lugs **32**, the springs **34** will constantly urge the crank arms **22** and hence the arms **24** together with the stop members **28** enter into an engaged position or a retracted position as shown by dotted lines in Figure 2.

In operation, the door may be swung toward its desired open position and then the door stop members **28** may be grasped and pulled downwardly from its retracted position until the arms **24** are positioned downwardly to some extent. The door stop members **28** can then be released and the springs **34** will continue to pull the door stop members **28** downwardly until the floor engaging surfaces **30** contact the floor. With the door stop member **28** positioned on either side of the door, any movement of the door will be resisted.

Since from the foregoing the construction and advantages of this door stop are readily apparent, further description is believed to be unnecessary.

However, since numerous modifications may readily occur to those skilled in the art after consideration of the foregoing specification and accompanying drawings, it is not desired to limit the invention to the exact construction shown and described, accordingly all suitable modifications and equivalents amy be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A door stop comprising a U-shaped clip having side walls adapted to engage the sides of a door, pairs of ears including a pair of ears on each of said side walls, V-shaped cranks journalled in each of said pairs of ears, lugs on said side walls between said ears, springs terminally connected to said lugs and to said cranks at the apex thereof, arms attached to said cranks, and stop members each having an eccentric floor engaging portion, said stop members being pivotally attached to said arms and extending therebetween.

2. A door stop comprising a U-shaped clip having side walls adapted to engage the sides of a door, pairs of ears including a pair of ears on each of said side walls, V-shaped cranks journalled in each of said pairs of ears, lugs on said side walls between said ears, springs terminally connected to said lugs and to said cranks at the apex thereof, arms attached to said cranks, and stop members pivotally attached to said arms and extending therebetween, said springs being pivotally secured to said lugs inwardly toward the door from where said springs are attached to said cranks to provide means for urging said stop members toward said door, each of said members having an eccentric floor engaging portion.

References Cited in the file of this patent

UNITED STATES PATENTS

1,185,547	Rugar	May 30, 1916
1,858,711	Lane	May 17, 1932
2,277,283	Wallace	Mar. 24, 1942
2,568,477	Westlund	Sept. 18, 1951