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R. A. TOOL
MAGNETIC DOOR STOP
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2,761,718

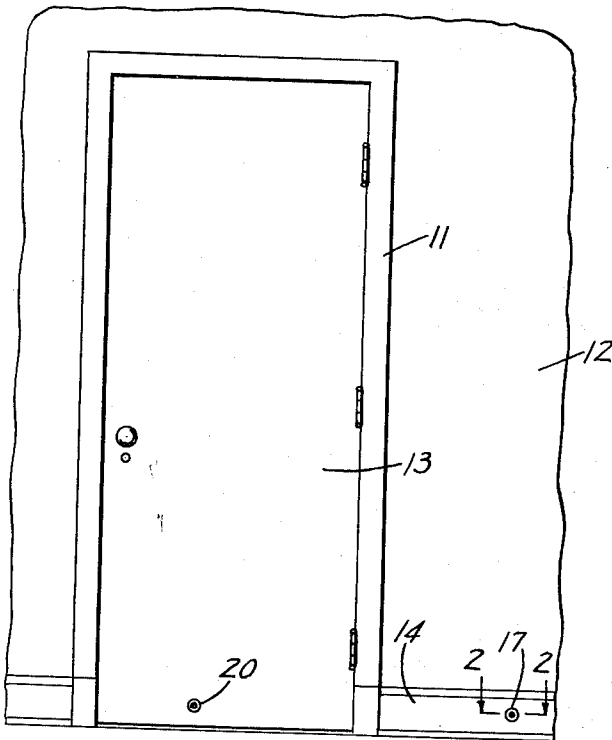


FIG. 1

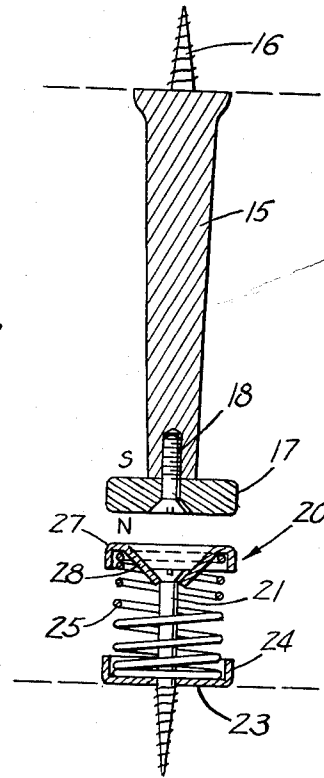


FIG. 3

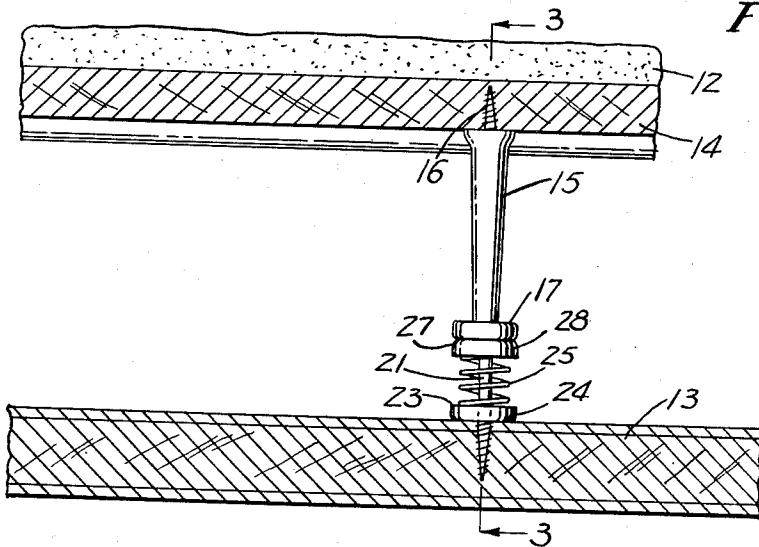


FIG. 2

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MAGNETIC DOOR STOP

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2 Claims. (Cl. 292—251.5)

This invention relates to door stops, and more particularly to an improved magnetic door stop of the spring-cushioned type.

A main object of the invention is to provide a novel and improved magnetic door stop which is simple in construction, which is easy to install, and which retains doors against undesired closure or slamming.

A further object of the invention is to provide an improved magnetic door stop of the spring-cushioned type, said door stop being inexpensive to manufacture, being rugged in construction, and serving to cushion the impact of a door therewith when the door is opened and to hold the door against undesired closing from drafts, or other causes, while at the same time, being readily yieldable

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is an elevational view of a doorway and a portion of the wall adjacent thereto, the wall and the door associated with the doorway being provided with an improved door stop assembly constructed in accordance with the present invention.

Figure 2 is an enlarged horizontal cross sectional view taken on the line 2—2 of Figure 1, shown with the elements of the door stop assembly in engaging positions.

Figure 3 is an enlarged cross sectional detail view taken on the line 3—3 of Figure 2, showing the cushion element slightly separated from the permanent magnet element of the door stop assembly of Figures 1 and 2.

Referring to the drawings, 11 designates a doorway provided in a wall 12, the doorway having the swingable door 13 mounted therein. Adjacent the doorway 11 on the wall 12 is the usual baseboard 14.

Secured to the baseboard 14 is a pedestal member 15, said pedestal member being provided with the screw element 16 at its end portion which is engageable in the baseboard 14. The outer end portion of the pedestal 15 has secured thereto a circular permanent magnet 17, said magnet being arranged perpendicular to the axis of the pedestal 15, as shown in Figure 3, and being fastened axially to the pedestal 15 by a flat-headed machine screw 18 engaged centrally through the permanent magnet 17 and threadedly engaged in the end of the pedestal 15, as is clearly illustrated in Figure 3.

Designated generally at 20 is a cushioning member which is secured to the door 13 at a location corresponding to the distance of the pedestal 15 from the hinge axis of the door 13 and at the same height as said pedestal, whereby the cushion assembly 20 is engageable with the permanent magnet 17 when the door is swung to its fully open position. The cushion assembly 20 comprises a flat-headed fastening screw 21 engaged in the door, said fastening screw 21 passing centrally through a collar ele-

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ment 23 having the outwardly projecting annular marginal flange 24, and thus defining a retaining cup. Designated at 25 is a coiled spring having one end thereof engaged in the aforesaid retaining cup defined by the collar 23. The other end of the coiled spring engages an annular collar 27 provided with an inwardly projecting conical central portion 28 which is engaged with the head of the fastening screw 21, as is clearly shown in Figure 3, thus being restrained from separation from the fastening screw 21. The collar element 27 is formed with the annular marginal flange 28 substantially equal in diameter to and opposing the flange 24, thus defining an annular seat for the outer end of the coiled spring 25. Said coiled spring biases the collar element 27 outwardly and provides a cushion effect, cushioning the impact of the door with the permanent magnet 17 when the door is swung to its fully open position.

The collar element 27 is formed of suitable magnetic material, whereby said collar element will be attracted and held by the permanent magnet 17 when the door is swung to its fully open position.

As will be readily understood, the permanent magnet 17 cooperates with the magnetic collar 27 to hold the door open to prevent the door from being slammed or swung closed by drafts, or other air movements. However, the door may be readily closed by exerting a manual force thereon to disengage the collar 27 from the permanent magnet 17.

While a specific embodiment of an improved door stop assembly has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A door stop assembly comprising a pedestal member adapted to be secured to a wall adjacent a door, a permanent magnet mounted on the end of said pedestal member, and a resilient cushion member of magnetic material adapted to be mounted on the door at a location to engage said permanent magnet when the door is swung open, said cushion member comprising a headed fastener engageable with the door, a collar element of magnetic material slidably engaged on said fastener and held against removal by the head of said fastener, and spring means on the fastener urging said collar element outwardly.

2. A door stop assembly comprising a pedestal member adapted to be secured to a wall adjacent a door, a permanent magnet mounted on the end of said pedestal member, and a resilient cushion member of magnetic material adapted to be mounted on the door at a location to engage said permanent magnet when the door is swung open, said cushion member comprising a fastener engageable with the door, a conical head on the end of said fastener, an annular collar of magnetic material slidably engaged on said fastener and having a generally conical inner portion engageable with said head to prevent removal of said collar from said fastener, an annular bearing collar on said fastener, and a coiled spring surrounding said fastener and acting between said collars to bias the first-named collar outwardly.

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