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2,468,969

MAGNETIC DOORSTOP

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Fig. 5.

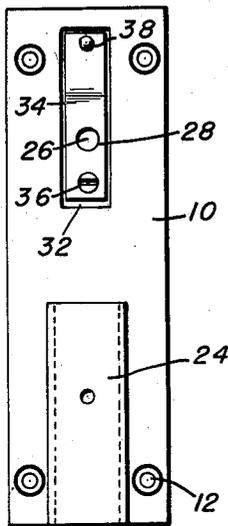


Fig. 3.

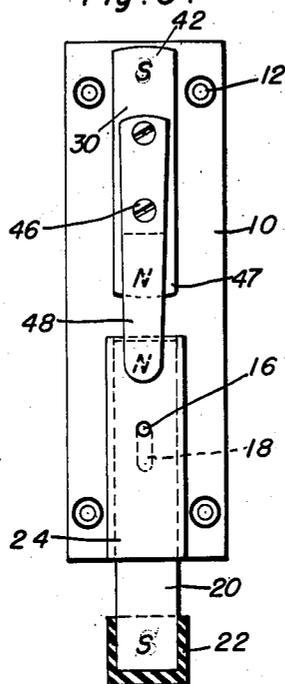


Fig. 4.

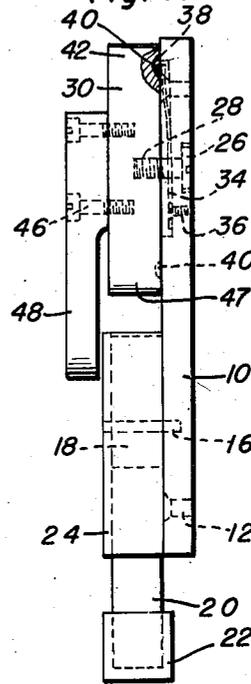


Fig. 2.

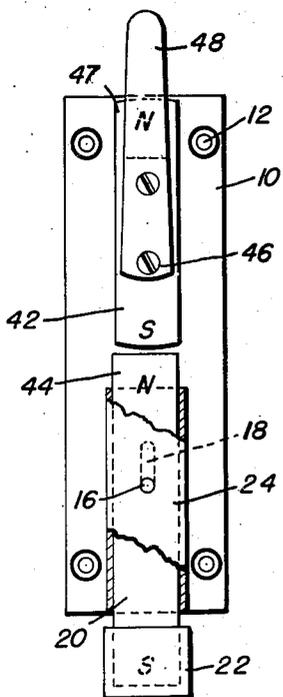
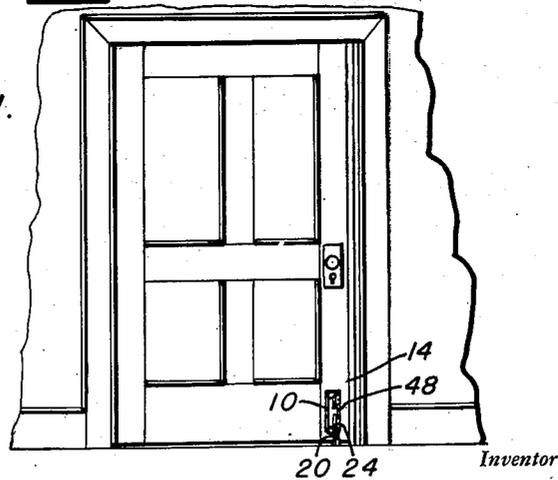


Fig. 1.



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UNITED STATES PATENT OFFICE

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MAGNETIC DOORSTOP

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4 Claims. (Cl. 292-1)

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This invention relates to new and useful improvements in door stops and more particularly to magnetic door stops.

The primary object of the present invention is to provide a door stop including novel and improved means for actuating the stop holding magnet to bear against a floor surface to retain the door to which the same is attached at a selected adjusted position.

Another important object of the present invention is to provide a door stop including means for guiding the longitudinal movement of the stop holding magnet.

A further object of the present invention is to provide a door stop including means for normally retaining said stop holding magnet in a raised position above a floor surface.

Still further aim of the present invention is to provide a magnetic door stop that is simple and practical in construction, strong and efficient in use, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary front elevational view of a door showing the present invention applied thereto;

Figure 2 is a front elevational view of the present invention showing the stop supporting magnet in a raised position and with parts broken away and shown on section;

Figure 3 is a front elevational view of the present invention showing the stop supporting magnet in a lowered position, and with parts of the stop element broken away and shown in section;

Figure 4 is a side elevational view of Figure 3 and with parts broken away and shown on section; and

Figure 5 is a front elevational view of the base member used in conjunction with the present invention.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a substantially rectangular base plate or member that is removably secured by fastening members 12 to the lower portion of a door or the like 14.

Fixedly secured to the lower portion of the

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base plate 10 is a pin 16 having one terminal portion projecting outwardly from the plate to engage a longitudinal vertically disposed slot 18 provided in a lower bar magnet 20. A substantially rectangular preferably rubberized stop member 22 is frictionally carried by the lower end of the bar magnet 20.

To guide the longitudinal movement of the bar magnet 20 relative to the base plate 10 there is provided a substantially channel-shaped bracket 24 fixedly secured to the base plate 10 and loosely surrounding said bar magnet.

Removably mounted at the upper portion of the base plate 10 is a swivel member comprising a bolt 26 of the like 26 having its head recessed in the rear face of the plate and the externally threaded portion of the bolt projects outwardly from the forward face of the base plate to engageably receive an internally threaded aperture 28 provided in an upper bar magnet 30.

Recessed in a slot 32 provided in the base plate 10 is a flat spring 34 having its lower terminal portion removably secured by a fastener 36 to the base plate. At the opposite, free terminal portion of the spring is suitably secured a detent or the like 38 that engages a recess 40 provided in the upper end of the upper magnet for normally holding the south pole 42 of the upper magnet above the north pole 44 of the lower magnet, as shown in Figure 2 of the drawings, and thereby maintaining the lower magnet in a raised position. Another recess or detent 40 is also provided in the opposite end of the upper magnet to engage detent 38 for holding the north pole 47 of the upper magnet adjacent the north pole of the lower magnet and thereby repel the lower magnet to a lowered position as shown in Figures 3 and 4.

Removably secured by fasteners or the like 46 to the upper magnet 30 is a lever 48 for rotating the upper magnet with the bolt 26 as a pivot.

In practical use of the device, when the upper magnet is in a normal position, the south pole 42 of the upper magnet is positioned above the north pole 44 of the lower magnet and the lower magnet is in a raised position.

When the upper magnet is inverted, by use of the lever 30, so that the north pole 47 of the upper magnet opposes the north pole of the lower magnet, the lower magnet is no longer attracted to the upper magnet and slides downwardly so that the stop member will bear on the floor surface beneath the door.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the de-

vice will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A magnetic door stop comprising a base member removably secured to a door, a lower gravity actuated magnet slidably mounted on said base member, a resilient member engaging the lower end of said lower magnet, an upper magnet pivotally mounted on said base member, said upper magnet having first and second poles, said first pole being attracted to the upper end of said lower magnet to retain the latter in a raised position, means for rotating said upper magnet, said upper magnet having a pair of recesses in its inner face, a spring arm secured to the plate for holding the upper magnet in a selected rotated position with one pole thereof disposed adjacent the upper end of said lower magnet, and a detent carried by said spring arm received in a selected one of said recesses.

2. A magnetic door stop comprising an anchor plate removably secured to a door, a guide carried by said anchor plate, a lower magnet slidably carried by said guide and having upper and lower poles, means carried by said plate for limiting the sliding movement of said lower magnet, a floor engaging member carried by said lower magnet, an upper magnet rotatably mounted on said anchor plate and having first and second poles, said first pole being unlike the upper pole of said lower magnet and said second pole being like the upper pole of said lower magnet, means for rotating said upper magnet to place a selected pole thereof adjacent the upper pole of said lower magnet, said upper magnet having a pair of recesses in its inner face, a spring arm fixed to said plate for holding said upper magnet in a selected rotated position with a selected pole thereof dis-

posed adjacent the upper pole of said lower magnet, and a detent carried by said arm for reception in a selected one of said recesses.

3. The combination of claim 2 wherein said means carried by said plate for limiting sliding movement of said lower magnet includes a stop pin fixed to said plate, said lower magnet having a longitudinal slot slidably receiving said pin.

4. A magnetic door stop comprising an anchor plate removably secured to a door, a guide carried by said anchor plate, a lower magnet slidably carried by said guide and having upper and lower poles, means carried by said plate for limiting the sliding movement of said lower magnet, a floor engaging member carried by said lower magnet, an upper magnet rotatably mounted on said anchor plate and having first and second poles, said first pole being unlike the upper pole of said lower magnet and said second pole being like the upper pole of said lower magnet, means for rotating said upper magnet to place a selected pole thereof adjacent the upper pole of said lower magnet, a spring arm recessed in said anchor plate and having one end fixed to said anchor plate, a detent fixed to the free end of said spring arm, said upper magnet having a pair of recesses in its inner face adjacent the ends thereof for selectively receiving the detent to retain a selected pole of said upper magnet disposed adjacent the upper pole of said lower magnet.

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