Sept. 25, 1962 G. J. LUTTNER, JR 3,055,043

SAFETY DOOR STOP

Filed Sept. 23, 1960

Fig-1

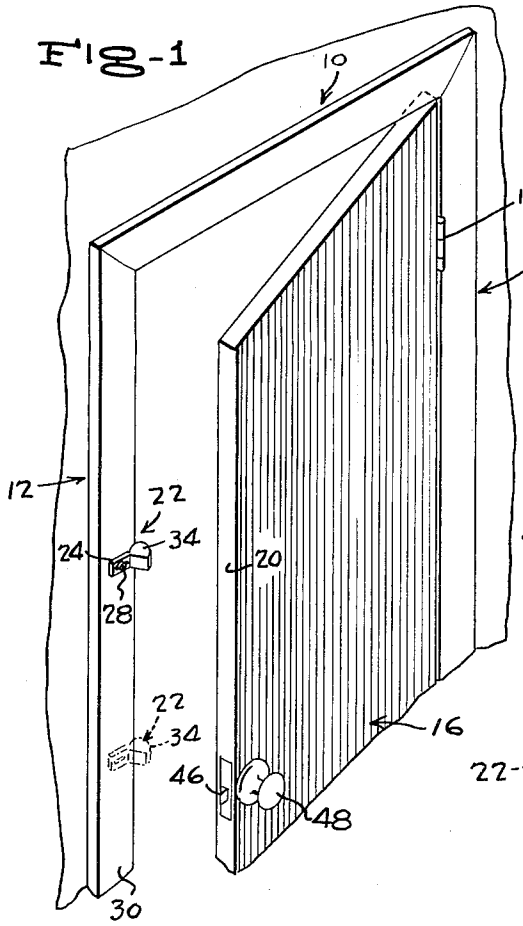
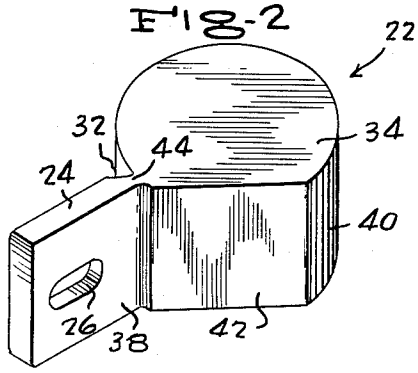


Fig-2



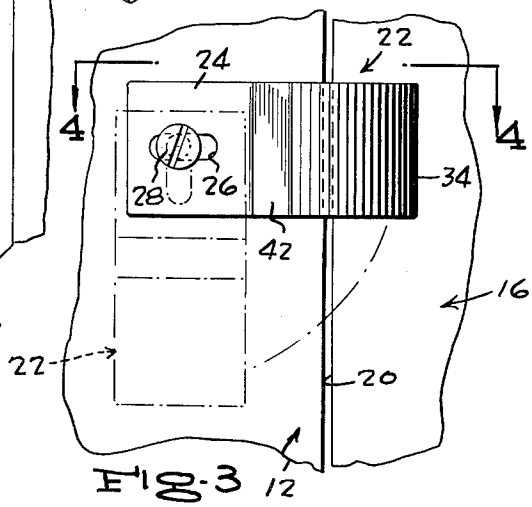


Fig-3

Fig-4

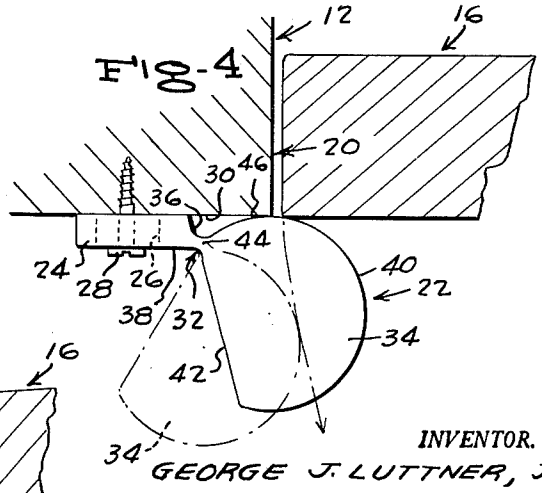
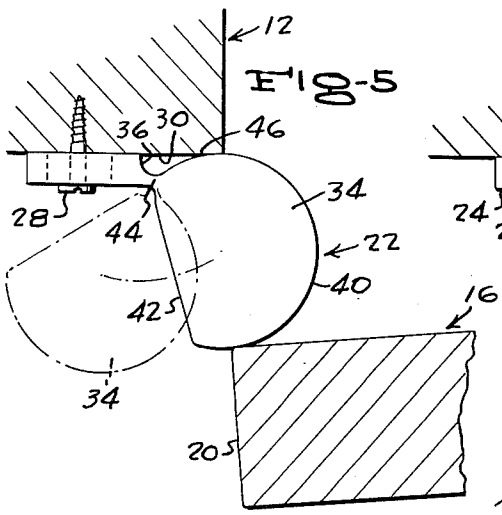


Fig-5



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United States Patent Office 3,055,043 Patented Sept. 25, 1962

3,055,043

SAFETY DOOR STOP

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Filed Sept. 23, 1960, Ser. No. 57,969
2 Claims. (Cl. 16—86)

This invention relates to a novel and improved safety stop for holding doors ajar.

The primary object of the invention is to provide a more efficient and effective device of the kind indicated which is especially designed for use on bath room doors, but can be used on any other doors, and which is automatically self-positioning upon opening of a door, between the door jamb and the door, so that the door cannot then be fully closed, unless and until the device is manually reset to its initial position, so that crushing of the fingers of children accidentally placed between the jamb and the door cannot take place, on closing of the door and with the device operatively positioned, as by other children, and the door cannot be closed so as to lock a child in a room, such as a bathroom.

Another object of the invention is the provision of a simple and uncomplex device of the character indicated above which can be made in one piece of resilient material, and which serves to absorb the noises and shocks which closing and slamming of doors otherwise produces.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a schematic and fragmentary perspective view, showing a device of the invention installed on a door jamb and in operative relation to a door;

FIGURE 2 is an enlarged perspective view of the device per se;

FIGURE 3 is a schematic view showing the device in operative position relative to a door and a door jamb, in full lines, and in an inoperative position in phantom lines;

FIGURE 4 is a fragmentary horizontal section taken on the line 4—4 of FIGURE 3, the device being shown in normal position in full lines, with the door closed, and moved toward operative position, in phantom lines, by opening of the door; and,

FIGURE 5 is a view like FIGURE 4, showing the device in operative position, in full lines, and holding the door ajar, and in manually retracted position in phantom lines.

Referring in detail to the drawings, wherein like numerals desginate like parts throughout the several views, there is shown a door frame **10** having vertical panels **12** and **14**, a door **16** hinged, at **18**, on the jamb **14**, the door having a free edge **20**; and a stop of the present invention, generally designated **22**, installed on the jamb **12**.

The stop **22** comprises an elongated flat mounting arm **24** having therein a longitudinal slot **26**, through which a single mounting screw **28** is extended and threaded into the confronting side **30** of the jamb **12**, at a sufficient height above the floor, to prevent children from reaching the device. The slot **26** provides for adjustable mounting of the stop, to accommodate jambs of different widths and contours.

Fixed on the inner end of the mounting arm **24** is a resilient and flexible hinge member **32** which serves to mount a bumper **34** on the arm **24**. In a preferred form of the invention, the device **22** is made as a single body of relatively dense and hard material of limited compressibility, such as molded rubber, wherein the arm **24**, the hinge member **32**, and the bumper **34** are integral.

The hinge member **32** is substantially thinner than the arm **24**, so as to have the required degree of flexibility without sacrifice of adequate support of the bumper **34**, and this thinness is preferably achieved by curvedly reducing the inner end portion of the arm **24**, at the inner side thereof, as indicated at **36**, the outer side **38** of the arm **24** being unreduced.

The bumper **34** is substantially larger in cross-section than and preferably of substantially the same height as the arm **24**, and of flat two-third cylindrical form. The bumper **34** has an arcuate peripheral edge **40** which is flat and is uniformly curved, and a flat edge portion **42** which extends to and between the ends of the peripheral edge **40**, the diameter of the bumper being such that, when engaged between the door jamb **12** and the door **16**, the door will be held practically open or ajar to the desired degree.

The arcuate edge **40** and the inner end of the flat edge portion **42** meet to define a web **44** of the same cross-section and dimensions as, and integral with and forms a part of the hinge member **32**. The composite of the hinge member **22** and the web **44** are angled outwardly out of the plane of the arm **24**, so as to dispose the bumper **34** and its flat edge portion **42** at an outward angle of approximately 45 degrees relative to the mounting arm **24**, as shown in FIGURE 2.

The stop **22** is installed on the door jamb **12**, as shown in FIGURES 3 and 5, so that an inner end portion **46** of the arcuate peripheral edge **40** of the bumper bears against the surface **30** of the jamb **12** and the bumper **34** extends inwardly beyond the jamb **12** into the opening of the door frame **10**, so that the door **16** cannot be opened or closed without contacting the bumper **34**. The bumper is tensioned against the door jamb by virtue of the fact that the bumper **34**, in bearing against the door jamb **12**, is deflected relative to the mounting arm **24**, which, as shown in FIGURE 2, is initially at a substantially diametrical angle to the bumper.

With the door **16** closed, as shown in FIGURE 4, the peripheral edge portion **46** bears against the outer side of the door **16** and its free edge **20**. When the door **16** is opened, from closed position, the door edge **20** cams the bumper **34** outwardly away from the jamb **12**, until the door passes the bumper, whereat the bumper springs back against the jamb **12**, so that, unless the bumper **34** be manually moved out of the way of the door, as shown in phantom lines in FIGURE 5, from either side of the door, the door cannot be closed beyond an ajar position, as shown in FIGURE 5, so that fingers carelessly engaged around the free edge **20** of the door cannot be caught and injured, between the door and the jamb **12**, as would otherwise result from a careless full closing of the door.

As shown in FIGURE 3, the stop **22** can be pivoted on the mounting screw **28**, from a horizontal operative positon, to a vertical retracted inoperative position, as shown in phantom lines, when its use is not desired.

As shown in phantom lines in FIGURE 1, the stop **22** can also be mounted on the door frame in line with the latch bolt **46** on the free edge of the door **16**, so as to make contact with the latch bolt when the door is opened or closed, so that the stop **22** acts as a positive stop on the bolt **46**, so that the door knob **48**, connected to the bolt **46**, must be turned to close the door. This arrangement can be used on all public and private doors.

Further, because of the limited resilience and compressibility of the bumper **34**, careless or forcible closing of the door **16**, while the stop is in operative position, cannot produce the noises and shock which would occur in the absence of the stop.

While there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A door stop comprising a mounting arm having an inner end, a bumper, and a resilient hinge member connecting said bumper to the inner end of said mounting arm, said mounting arm being flat and said bumper being of substantially larger cross-section than the mounting arm, said bumper being substantially two-thirds cylindrical, said bumper having an arcuate peripheral edge and a flat peripheral edge portion extending between the ends of the peripheral edge, said flat edge portion facing said mounting arm, the meeting of adjacent ends of the flat edge portion and the arcuate edge defining a corner to which said hinge member is connected.

2. A door stop comprising a one-piece body of limited resilience and compressibility, said body comprising a bumper having an arcuate peripheral surface portion, an arm extending outwardly from the bumper at one end of said arcuate surface portion, and a resilient hinge portion connecting said arm to the bumper, said bumper being of substantial thickness and having a flat chordal peripheral surface portion extending between the ends of said arcuate peripheral surface portion.

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