March 19, 1963 E. H. WERLE 3,082,028

DOOR KNOB SAFETY DEVICE ATTACHMENT

Filed Jan. 9, 1962

Fig. 1.

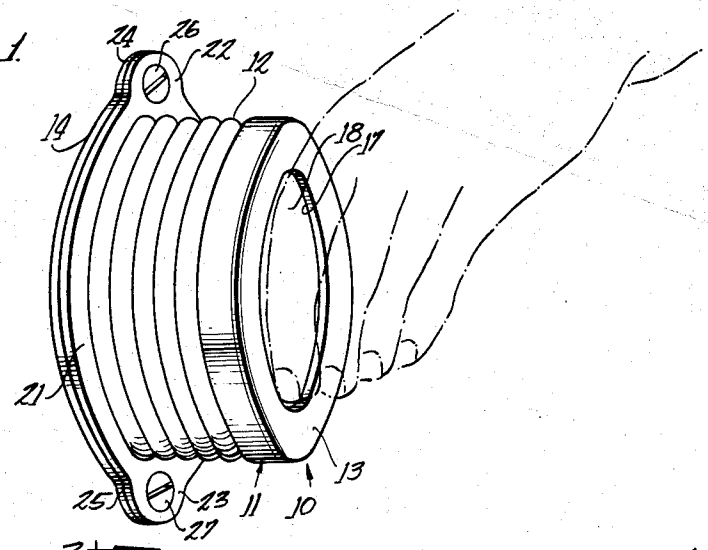


Fig. 2.

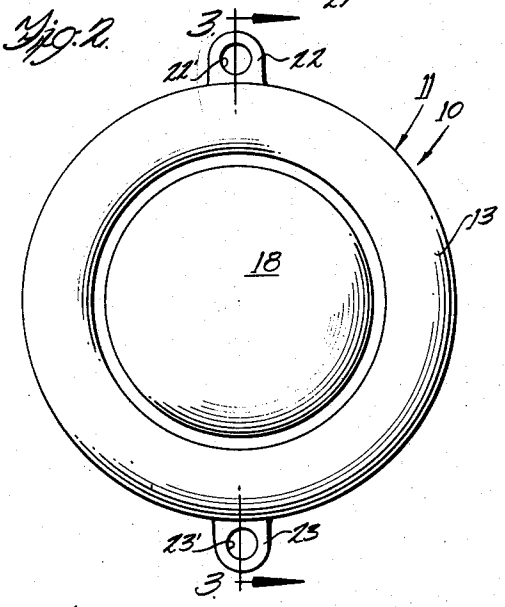


Fig. 3.

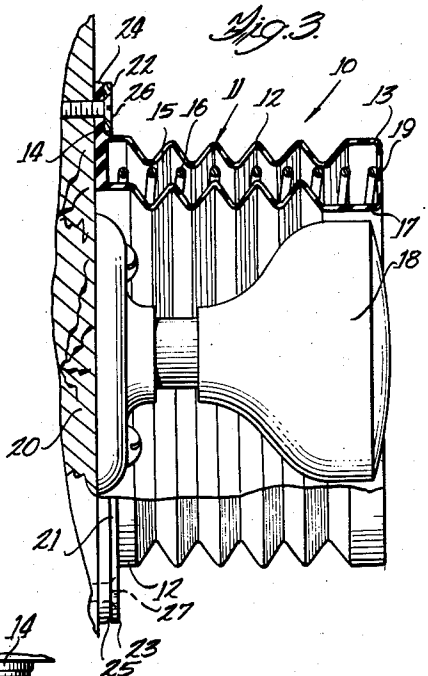
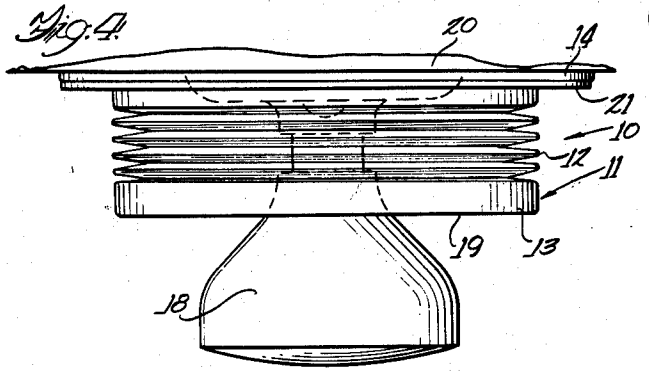


Fig. 4.



Inventor
Erwin H. Werle
Floyd B. Harman
Attorney

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DOOR KNOB SAFETY DEVICE ATTACHMENT

Erwin H. Werle, 9 Sunset Lane, Algonquin, Ill.

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This invention relates to a safety device attachment for preventing small children from actuating the mechanism of a door latch. More in particular this invention relates to a non-rotatable safety device attachment for preventing small children from opening latched doors.

Particularly in single-family dwellings often one or more doors therein lead to stairways or perhaps to rooms containing articles or materials potentially dangerous to small children. Such doors are usually kept locked to prevent access to young children. However, the locking of such doors is frequently overlooked or forgotten as it requires a separate operation for either unlocking or locking thereof. As an example an adult may wish to carry a large object such as a basketful of soiled clothes to the basement. The adult under ordinary circumstances must first unlock the door and open it. Thereafter he proceeds down into the basement to deposit the basket of soiled clothes and thereafter return to lock the door. This is obviously awkward and cumbersome but the adult must under such circumstances perform accordingly for the safety of small children.

Several attempts for solving the above described problem are shown in the prior art. However the prior art shows slidable members rotatable relative to the door knob latch actuator. Operation of the latch actuator by an adult, in one form, relies upon exposed portions of the latch actuator accessible for frictional engageability by the adult's hand. In another form the rotatable safety member is frictionally engageable with the actuator knob by application of sufficient manual pressure by an adult.

From the above it can be readily appreciated that the prior art safety devices are not suitable for such use unless the door latch actuator knob is smooth and circular.

The present invention overcomes the aforementioned disadvantages by providing a resilient non-rotatable axially compressible safety device which can be removably secured to a door and is not dependent upon the shape or surface characteristics of the door latch actuator. It is therefore a prime object of the present invention to provide an effective resilient door latch actuator safety device construction of compressible and of non-rotatable character.

It is a further object of the present invention to provide a safety device according to the preceding object which is mounted detachably on a door.

Another important object of the present invention is to provide a safety device according to the preceding objects which is augmented by a helical spring mounted therein.

A still further object of the invention is to provide a safety device wherein a resilient member thereof may be molded with or without inserts.

A yet further object of the present invention is to provide a safety device according to the preceding objects which is of low cost construction.

These and other important objects of the invention will become more apparent from the ensuing description of a preferred embodiment thereof, the appended claims and the attached drawings wherein:

FIGURE 1 is a perspective view of the safety device of this invention showing its relation to a door latch actuator and further illustrating the hand in phantom lines of an adult about to compress the device for actuating the door latch actuator;

FIGURE 2 is an end view of the device shown in FIGURE 1 also showing its relation to the door latch actuator;

FIGURE 3 is a sectional view, partly broken away, taken on line 3—3 of FIGURE 2 showing the details of construction of the safety device of this invention and its mounted relation to the door and its latch actuator; and

FIGURE 4 is a side view, partly broken away, illustrating the safety device of this invention in its compressed form for operation of the door latch actuator by an adult.

With continued reference to the drawing it will be seen that the safety device of this invention, generally indicated at **10**, comprises a generally cylindrical shaped tubular member **11**. The member **11** comprises a resilient plastic element, such as rubber, preferably of bellow type construction **12** with an annular portion or ring **13** disposed on the outer portion thereof and an annular flange **14** disposed on the inner portion as shown. The member **11** may be provided with a hollow interior **15** as shown in FIGURE 3 or such hollow interior may be omitted by a solid construction. The purpose of the hollow interior **15** is to enable the attainment of resiliency, according to the properties of the plastic selected, so that the force required to move the ring **13** axially inward is greater than that which a child can apply but yet is less than an adult can conveniently apply.

As a further means for controlling the force required to move the ring **13** axially inwardly a helical spring **16** may optionally be employed in the manner illustrated in FIGURE 3. Thus several methods are shown for controlling the force required to depress the ring **13** axially from the position shown in FIGURE 3 to that of FIGURE 4.

It will be observed that the inner diameter **17** of the ring **13** as well as the inner diameter of the remaining portion of the tubular member **11** is greater than the maximum diametrical dimension of the door latch actuator **18** thus allowing an annular clearance therebetween. Thus the device **10** may be attached to doors having latch actuators other than of circular shape and further not necessarily smooth. At this point it should be mentioned that it is preferable to make the annular surface **19** of the ring **13** smooth to reduce friction between it and the hand skin of an adult manipulating the device **10** for unlatching the door **20** through actuation of the door latch actuator **18**.

The device **10** includes an annular bracket **21** having at least two lobes **22** and **23** having holes **22'** and **23'** respectively therethrough corresponding to two lobes **24** and **25** on the annular flange **14**. The lobe **24** is provided with a bore alined with hole **22'** for accommodating a screw **26** for securing the device **10** to the door **20** as shown. Likewise the lobe **25** is provided with a bore alined with hole **23'** for accommodating a screw **27** for further securing the device **10** rigidly to the door **20** as illustrated. Obviously additional lobes and screws may be provided for further securing the device **10** to the door **20** as may be desired.

The bracket **21** is flat and its construction should be essentially of a non-resilient material such as brass or steel. The purpose of the bracket **21** and its associated lobes **22** and **23** is to provide a clamping effect with the lobes **24** and **25** and flange **14** with the door **20** by the screws **26** and **27**. Alternately the bracket **21** may be replaced by metal washers disposed to function in the same manner as that of the lobes **22** and **23**.

Obviously the resilient element **12** need not be necessarily in the form of compressible bellows as shown in the drawing. The element **12** may optionally be in the form of a hollow cylinder which can be deformed by axial pressure on the ring **13** applied manually. Further it is obvious that the tubular member **11** can be molded by

conventional means including the insertion of the helical spring **16**.

The device **10** is mounted over the door knob or latch actuator **18** of a conventional latch mechanism (not shown) as shown in the drawing and described above. In operation an adult merely applies an axial pressure or force against the ring **13** compressing it to the position shown in FIGURE 4. This operation exposes the latch actuator **18** for gripping thereof by the adult's hand whereby the actuator may be rotated normally for actuating the latch and thus open the door **20**. However, a child cannot rotate the element **12** nor compress it due to insufficient force. Further, no portion of the device **10** is in engagement with the actuator **18**. Thus a child may not actuate the latching mechanism of the door **20** and hence unable to open it. Further it will be noted that when an adult withdraws his hand from the actuator **18**, the device **10**, due to the resiliency of the element **12**, automatically returns from the position shown in FIGURE 4 to the position illustrated in FIGURE 1.

Having thus described preferred embodiments of the invention it can now be seen that the objects of the invention have been fully achieved and it should be understood that modifications may be made therefrom which do not depart the spirit of the invention nor from the scope thereof as defined in the appended claims.

What is claimed is:

1. A safety device for preventing small children from actuating the latch mechanism actuator on a door comprising a resiliently deformable tubular member positioned coaxially with respect to said actuator, said member having a flange disposed on one end thereof in abutting relation to said door, a rigid bracket secured to said door in clamping relation with said flange, said member extending outwardly in spaced concentric relation to said actuator, said member having an annular ring portion disposed on the other end thereof, and a compressible bellows portion of said member disposed between said ring portion and said flange having a helical spring therein positioned for yieldably urging said ring portion outwardly whereby axial inward thrust force of predetermined magnitude manually applied to said ring portion compresses said bellows portion to expose said actuator sufficiently for manual frictional engagement thereof to actuate said latch mechanism for opening said door.

2. A safety device for preventing small children from actuating the latch mechanism actuator on a door comprising a resiliently deformable tubular member positioned coaxially with respect to said actuator, said member having a flange disposed on one end thereof in abutting relation to said door, means for securing said flange rigidly to said door, said member extending outwardly in spaced concentric relation to said actuator, said member having an annular ring portion disposed on the other end thereof, and a compressible bellows portion of said member disposed between said ring portion and said flange having a helical spring therein positioned for yieldably urging said ring portion outwardly whereby axial inward thrust force of predetermined magnitude manually applied to said ring portion compresses said bellows portion to expose said actuator sufficiently for manual frictional engagement thereof to actuate said latch mechanism for opening said door.

3. A safety device for preventing small children from actuating the latch mechanism actuator on a door comprising a resiliently deformable tubular member positioned coaxially with respect to said actuator, said member having a flange disposed on one end thereof in abutting relation to said door, means for securing said flange rigidly to said door, said member having an annular ring portion disposed on the other end thereof, and a compressible bellows portion of said member disposed between said ring portion and said flange yieldably urging said ring portion outwardly whereby axial inward thrust force of predetermined magnitude manually applied to said ring portion compresses said bellows portion to expose said actuator sufficiently for manual frictional engagement thereof to actuate said latch mechanism for opening said door.

4. A safety device for preventing small children from actuating the latch mechanism actuator on a door comprising a resiliently deformable tubular member positioned coaxially in concentric spaced relation with respect to said actuator, said member having a flange disposed on one end thereof in abutting relation to said door, means for securing said flange rigidly to said door, said member having an annular ring portion disposed on the other end thereof, said member having a resilient portion disposed between said ring portion and said flange for yieldably urging said ring portion outwardly whereby axial inward thrust force of predetermined magnitude manually applied to said ring portion deforms said resilient portion to expose said actuator sufficiently for manual frictional engagement thereof to actuate said latch mechanism for opening said door.

5. A safety device for preventing small children from actuating the latch mechanism actuator on a door comprising a resiliently deformable tubular member positioned coaxially with respect to said actuator, means for securing one end of said member rigidly to said door, said member having an annular ring portion disposed on the other end thereof, said member having a resilient portion disposed between said ring portion and said securing means for yieldably urging said ring portion outwardly whereby axial inward thrust force of predetermined magnitude manually applied to said ring portion deforms said resilient portion to expose said actuator sufficiently for manual frictional engagement thereof to actuate said latch mechanism for opening said door.

References Cited in the file of this patent

UNITED STATES PATENTS

2,587,285	Broscoe	Feb. 26, 1952
2,781,220	Zietlow	Feb. 12, 1957

FOREIGN PATENTS

124,588	Sweden	Apr. 5, 1949