Aug. 25, 1942. W. R. SCHLAGE 2,293,857

DOORKNOB FASTENER

Filed March 12, 1941

Fig. 1.

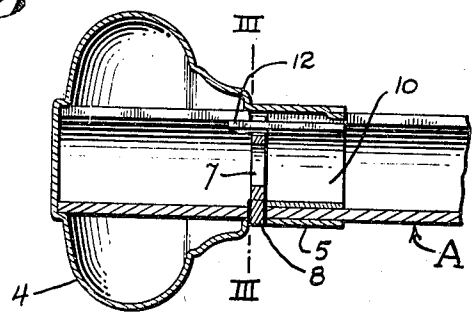


Fig. 3.

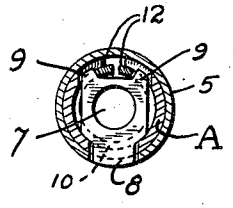


Fig. 4.

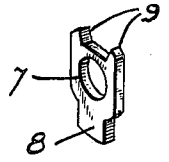


Fig. 2.

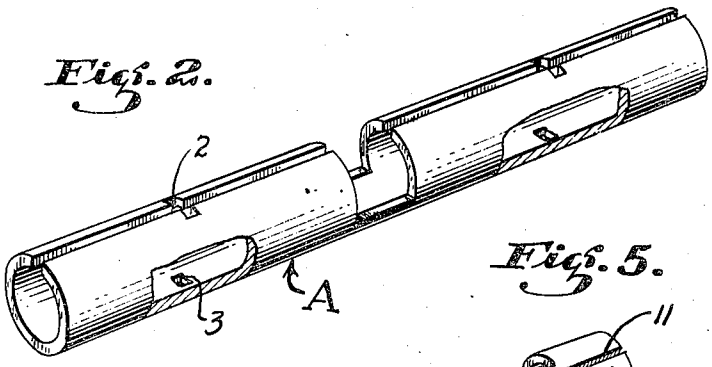


Fig. 5.

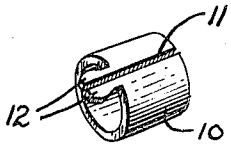


Fig. 7.

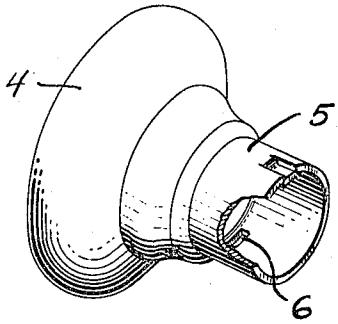
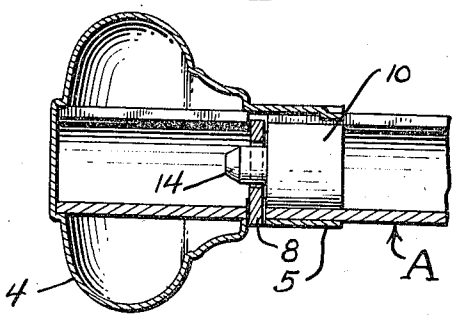


Fig. 6.



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DOORKNOB FASTENER

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Application March 12, 1941, Serial No. 382,877

3 Claims. (Cl. 292—352)

This invention relates to a doorknob fastener, and especially to a fastener which is intended for the exterior knob of a door.

There are a number of different types of fastening means whereby a doorknob may be secured to a spindle, but practically all of these, whether they be setscrews, yieldable detents, latches or the like, are accessible from the exterior of the lock, and if the fastener on the exterior or outer knob is removable, entrance might be gained.

The object of the present invention is to provide a fastener which is applicable particularly to the outer knob, to provide a fastener for the outer knob which is applied from the inner end of the spindle, to provide a fastener in the form of a latch which projects wholly through the spindle into a keeper in the knob, and further, to provide means insertable from the inner end of the spindle for dogging and retaining the radially movable latch from disengagement with the keeper.

The knob fastener is shown by way of illustration in the accompanying drawing, in which

Fig. 1 is a longitudinal vertical section of one end of a hollow spindle, showing a knob applied thereto and the insertable fastener unit whereby the knob is secured against removal;

Fig. 2 is a perspective view of a hollow spindle, said view being partially broken away;

Fig. 3 is a cross section taken on line III—III of Fig. 1;

Fig. 4 is a perspective view of the type of latch or fastener shown in Fig. 3;

Fig. 5 is a perspective view of the latch retainer;

Fig. 6 is a section similar to Fig. 1, showing a modified form of latch retainer; and

Fig. 7 is a perspective view of a doorknob.

Referring to the drawing in detail, and particularly to Figs. 1, 4 and 7, A indicates a tubular spindle in the outer end of which are formed two cross-slots 2 and 3. Adapted to be applied to the outer and of the spindle is a knob 4 having a shank 5, and formed in the shank is a keeper or cross slot 6 which is adapted to register with the spindle slot 2 when the knob is in place.

Mounted within the spindle is a fastener in the form of a plate which has a central opening 7 formed therein, and at one end a latch 8 and on the opposite end a pair of spaced lugs 9—9. These lugs are guided in the cross-slot 2 of the spindle, while the latch 8 is guided in the slot 3; further, it is of sufficient length to project through said slot and into the keeper or cross-slot 6 formed in the shank of the knob, as clearly shown in Figs. 1 and 2.

The outer end of the latch 8 is exposed, and unless means are provided for positively retaining the latch when projected into the keeper, it could be depressed and the outer knob removed, with the result that an implement could be inserted through the outer end of the hollow spindle to actuate the lock mechanism and open the door. Such manipulation, particularly by an unauthorized person, would be anything but desirable, and the main purpose of the invention is accordingly to provide a fastener for the outer knob of a door which cannot be depressed, released or otherwise tampered with.

The means employed in the present invention to render the latch non-depressible and otherwise tamper-proof is exceedingly simple. It consists of a sleeve 10 (see Fig. 5) which is slotted longitudinally as indicated at 11 to render it circumferentially contractable and expandable. By applying finger pressure to opposite sides of the sleeve it is contracted sufficiently to permit it to be readily inserted in the inner end of the spindle, and when it is inserted it re-expands and frictionally engages the inner surface of the spindle. It is then pushed by a suitable implement through the spindle towards the latching plate, and as it moves into engagement therewith a pair of dogs 12 formed on the forward end of the sleeve will enter between the lugs 9—9 of the latching plate, or in other words will become interposed between the inner wall of the spindle and the latching plate, and thereby dog or retain the latch in projected position and against depression from the exterior.

Another form of the dogging member is shown in Fig. 6. In this instance the sleeve carries a pin 14 which extends through the central opening in the latching plate, thereby retaining it in extended position and against depression.

The whole fastener or latching mechanism consists of only two parts, to-wit, the latching plate and the sleeve which carries the dog or dogs. These parts are made from sheet metal by punch and die forming operations, and thus are cheap to manufacture; and as they are also readily installed or placed in the spindle, labor cost is also low. Be that as it may, a fastener is provided which is particularly adaptable to the outer knobs of door locks, as the fastener cannot be removed from the exterior; it can only be released from the inner end of the spindle, and then only by pulling the sleeve and dog in-

wardly and away from engagement with the latch plate.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a structure of the character described, a tubular spindle having a slot formed therein, a knob having a keeper adapted to register with the slot when the knob is applied to the spindle, a radially movable latch mounted in the spindle, a dogging member insertible in the spindle and engageable with the latch to project it through the slot in the spindle and into the keeper in the knob, and friction held means for retaining the dogging member in engagement with the latch.

2. In a structure of the character described, a tubular spindle having a slot formed therein, a knob having a keeper adapted to register with the slot when the knob is applied to the spindle, a radially movable latch mounted in the spindle, an expandible sleeve insertible in the spindle and frictionally retained when inserted, and a dogging member on the sleeve engageable with the latch to project it through the slot in the spindle and into the keeper in the knob, and to retain the latch in projected position.

3. In a structure of the character described, a tubular spindle having a slot formed therein, a knob having a keeper adapted to register with the slot when the knob is applied to the spindle, a radially movable latch mounted in the spindle, said latch having one end adapted to project through the slot in the spindle and into the keeper in the knob, a sleeve insertable in the spindle, a dog on said sleeve adapted to be interposed between the inner surface of the spindle and the other end of the latch and thereby maintain the latch in projected position, and means for retaining the sleeve and the dog carried thereby against accidental release.

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