

Dec. 7, 1926.

1,609,980

A. C. WIRTH

LOCK PROTECTOR

Filed Jan. 12, 1924

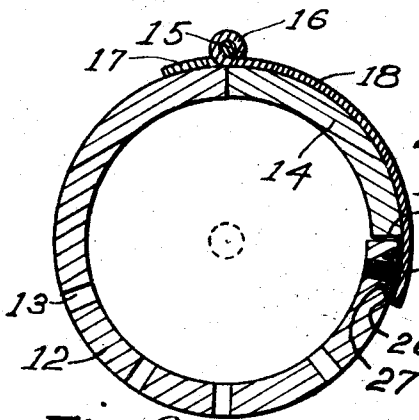


Fig. 2.

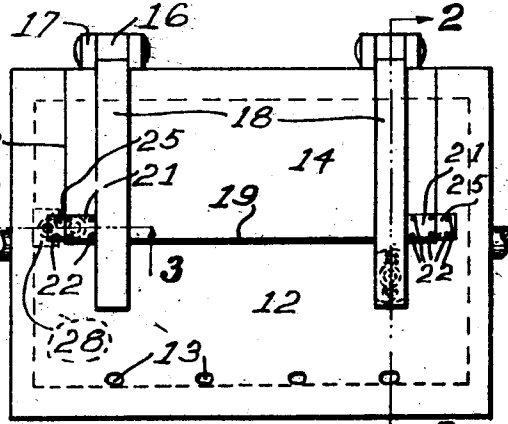


Fig. 1.

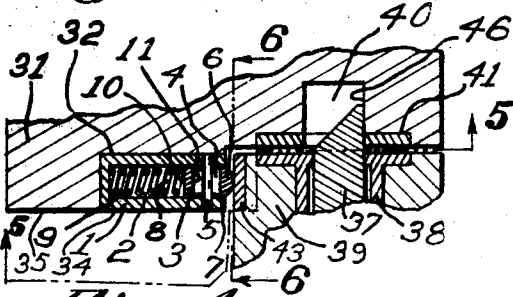


Fig. 4.

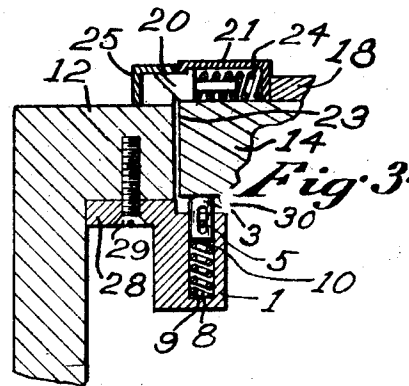


Fig. 3.

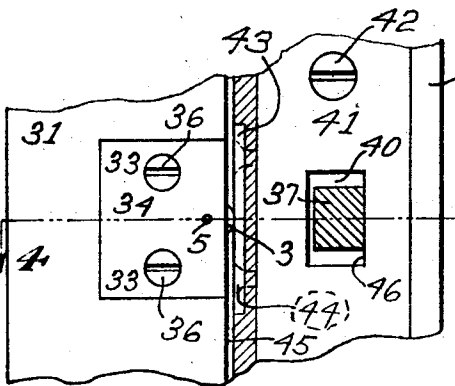


Fig. 5.

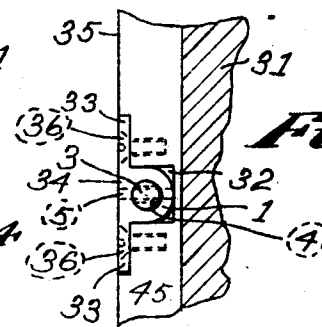


Fig. 6.

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UNITED STATES PATENT OFFICE.

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LOCK PROTECTOR.

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This invention relates to a device adapted to mitigate or prevent rattling of doors, windows, and the like; and, when applied to doors, it prolongs the life of the latches.

5 This is especially true in the case of doors which are subject to considerable vibration, such as the doors or covers used to close the oscillating cylinders of clothes-washing machines and similar apparatus. The latches
10 of such oscillating cylinders have to stand severe battering because of this vibration, and frequently break as a result of it. It has been proven that the use of this device will prolong the life of the latches many
15 times. It is manifest that this invention is capable of other uses than those enumerated herein, and various objects striven for will be apparent as the description proceeds.

In the accompanying drawings forming
20 part of this specification, in which like numbers of reference denote like parts wherever they occur,

Figure 1 is an elevation of a detached oscillating cylinder of a washing machine to
25 which two alternative forms of this invention have been applied;

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1, and showing the application of one modification of this de-
30 vice;

Figure 3 is a longitudinal sectional view on the line 3—3 of Figure 1, and showing another modification of this device;

Figure 4 is a horizontal sectional view through an ordinary door, showing the manner of applying another modification of this invention thereto, the section being taken on the line 4—4 of Figure 5;

Figure 5 is an end elevational view of the same, with parts in section on the line 5—5 of Figure 4; and

Figure 6 is an elevational view with parts in section on the line 6—6 of Figure 4.

The device comprises a housing 1, having
45 a socket 2, in which a plunger 3 is adapted to reciprocate. The plunger 3 contains a transverse slot 4, through which passes a pin 5, secured transversely in the socket 4 near its mouth by a tight fit or other suitable means in the housing 1. The end 6 of the
50 plunger 3 projects from the mouth 7 of the socket 4, and is preferably rounded. A compression spring 8, interposed between the bottom 9 of the socket 1 and the inner end 10 of the plunger 3, resiliently impels
55 the plunger 3 towards the mouth 7, the ex-

treme outward movement of the plunger 3 being limited by the pin 5 when contacted by the inner terminus 11 of the slot 4.

The casing, housing, or holder 1 may be 60 secured in any suitable manner to a suitable support, but, preferably, flanges or ears having screw openings are provided on the casing 1 for that purpose. The flanges may be of any suitable number, and they may
65 project from the holder 1 in various directions and from various points, as determined by the configuration of the support to which they are to be secured.

Figure 1 depicts a washing-machine cylinder 12 having the usual perforations 13, and door or cover 14, pivoted at 15, by hinges 16, having their straps 17 and 18 secured to the cylinder 12 and cover 14, respectively, by bolts or other suitable means. The straps
75 18 conventionally project beyond the free end 19 of the cover 14. The cover 14 is secured in place by the usual latches 20, adapted to reciprocate in latch casing 21, secured by screws 22 to the sides 23 of door 14 near the end 19. Latches 20 are impelled by
80 springs 24 to project into socket casing 25, also, secured by similar screws 22 to cylinder 12.

Two alternative forms of latch protector 85 are applied to the cylinder 12, one at each end of the cylinder. Either form, however, may be equally well applied to both ends, the form shown at the right end of the cylinder being preferably employed on wooden cylinders, while the form depicted at the left
90 end of the cylinder is better adapted for use on metal cylinders.

Figure 2 shows a section through the form at the right end of the cylinder, the housing 1 being embedded in the wall of the cylinder 12, and secured thereto by a flange 26 projecting from the housing at its mouth, the said flange being fastened by screws 27. In this form the plunger 3 impinges against the strap 18, forcing the cover 14 outwardly into the extreme position permitted by the latch 20. Any rattling permitted because of the loose fit of the latch 20 in the socket 25 is thereby mitigated or ordinarily entirely prevented.

In the form shown at the left end of the cylinder, and depicted in section in Figure 3, a flange 28 projects from the side of the casing 1, and is secured by screw 29 to the cylinder 12, the plunger 3 impinging against the inside 30 of the cover 14.

The form shown in Figures 4, 5, and 6 is adapted for use with the ordinary doors of buildings. The jamb 31 of the door-frame is recessed at 32 for the reception of the casing 1 and its flanges 33, which project from either side thereof, the outside 34 of flanges 33 and casing 1 preferably forming one continuous plane surface, adapted to lie in the plane of the surface 35 of the jamb 31. Screws 36 pass through the flanges 33 and secure them to the jamb 31. The usual door latch or latch bolt or catch 37 in the lock casing 38 of the door 39 projects normally into the socket 40 in the jamb 31, the socket 40 being reinforced by the usual plate 41, secured to the jamb 31 by screws 42. A metal plate 43 is preferably secured to the door 39, if the door be of wood, by screws 44, in order to present a surface to the plunger 3 which is sufficiently hard to resist its being indented by the pressure of the plunger 3. A similar plate may be attached to the underside 30 of the cover 14 of the washing cylinder 12, should the cover 14 be of wood. The shoulder 45 of the jamb 31 and the shoulder 46 of the pocket 40 constitute stops for limit-

ing the movement of the door when closed, and the plunger 3 constitutes a resiliently impelled means to maintain the door or element 39 with its latch 37 against the stop 46. 30

Having thus described this invention, I hereby reserve the benefit of all changes in form, arrangement, order, or use of parts, as it is evident that many minor changes may be made therein without departing from the spirit of this invention or the scope of the following claim. 35

I claim:

In a device of the character described, in combination, a cylinder, a cover therefor, 40 hinges connecting the said cover to the said cylinder and having strap portions extended to project beyond the free end of the cover, latch means for securing the cover to the cylinder, and resiliently-impelled means positioned on the cylinder to impinge against the projecting strap portions of the hinges for forcing the cover outwardly into the extreme position permitted by the latch means. 45

In testimony whereof I hereunto affix my signature. 50

ALBERT C. WIRTH.