June 19, 1934. B. O. BALL 1,963,483

DOORLOCK

Filed Sept. 2, 1933 2 Sheets-Sheet 1

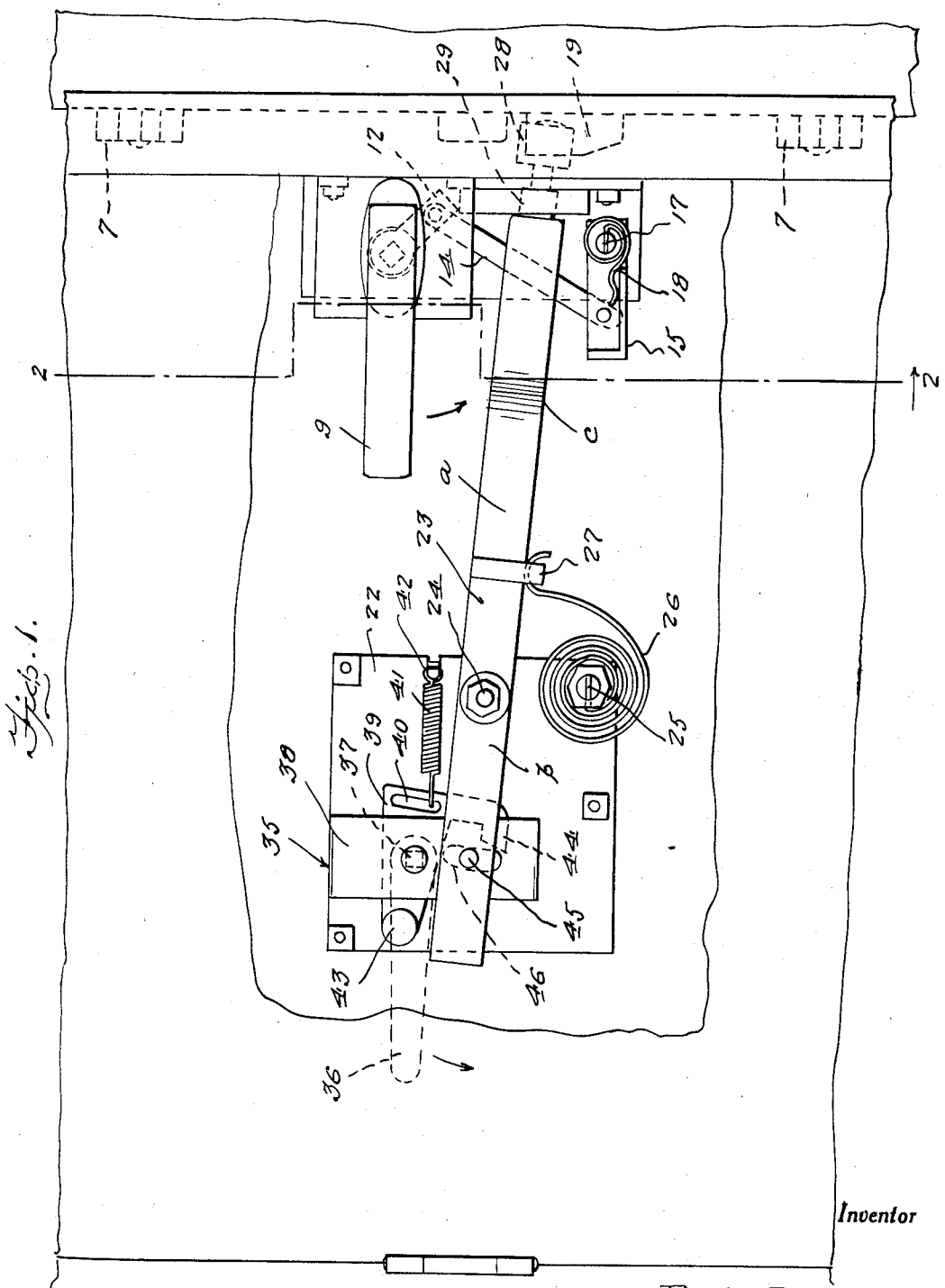


Fig. 1.

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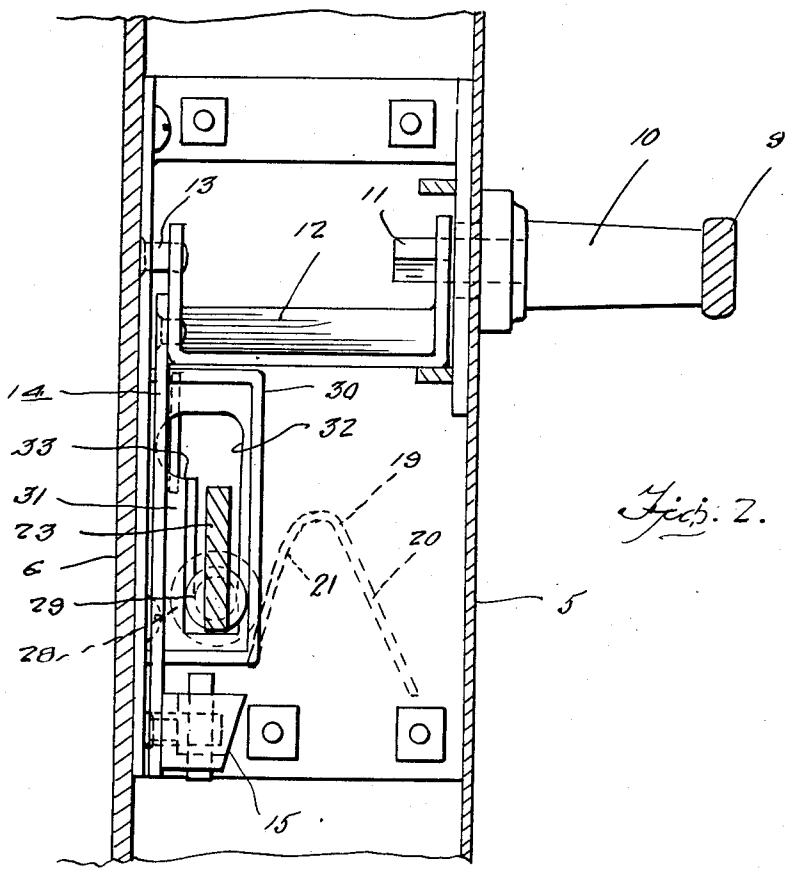


Fig. 2.

Fig. 3.

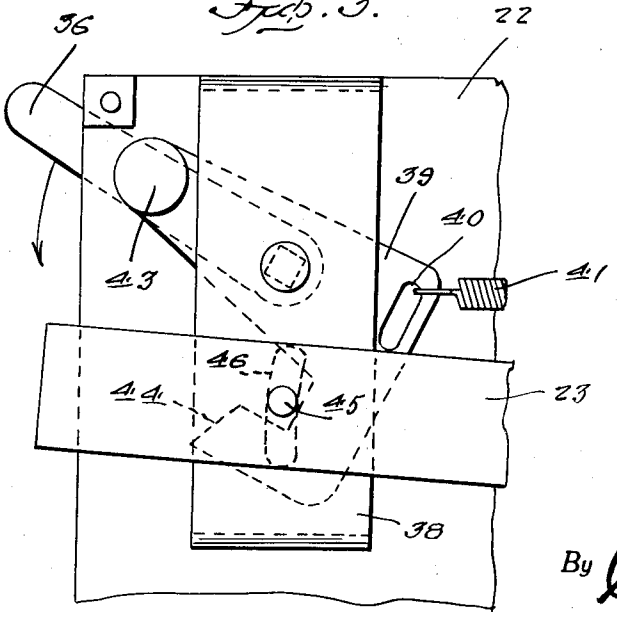
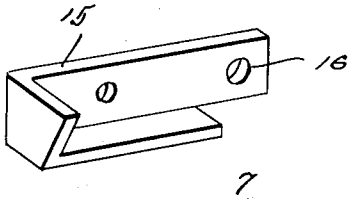


Fig. 4.



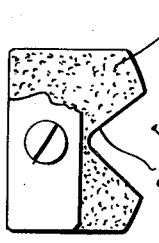


Fig. 5.

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DOORLOCK

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Application September 2, 1933, Serial No. 688,023

2 Claims. (Cl. 292—332)

This invention appertains to new and useful improvements in door locks, and more particularly to a lock for automobile doors.

The principal object of the present invention is to provide a door lock especially adapted for automobile doors so as to eliminate door slamming, by permitting a door to be gently pressed to effect a positive locking action.

During the course of the following specification and claims, other important objects and advantages of the invention will become apparent to the reader.

In the drawings:—

Figure 1 represents a fragmentary outside elevational view of an automobile door, with the outer wall broken away to disclose the mechanism of the lock.

Figure 2 represents a vertical sectional view taken substantially on line 2—2 of Figure 1.

Figure 3 represents an enlarged fragmentary elevational view showing the means whereby the door locking means can be made inoperative from the inside of the automobile.

Figure 4 represents a perspective view of the rocker engageable member.

Figure 5 represents a side elevational view of one of the resilient bumpers, with a portion thereof broken away.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 represents the outer wall of an automobile door, while numeral 6 represents the inner wall.

In carrying out the present invention, resilient bumpers 7 are secured to the jamb and each has a V-cut 8 therein to receive a correspondingly shaped element on the door. This obviously absorbs shocks and retains the door stably against vibration when the same has been locked.

In Figure 2, numeral 9 represents the door handle, the shank 10 of which operates a polygonal shaped shaft 11 which projects into the door and through a correspondingly shaped opening in one leg portion of the U-shaped frame 12. A short spindle 13 supports the other leg of the frame 12 and to the last mentioned leg of the frame 12, the upper end of an elongated link member 14 pivotally connects.

The lower end of this link member 14 connects to the intermediate portion of the rocker engaging member 15, this member 15 having an opening 16 therein for receiving a pin 17 projecting from the inner wall 6. Convoluted about this pin 17 is the spring 18 which has its inner end attached to the pin 17, while its outer end bears against the member 15 to normally urge the same downwardly and to maintain the frame 12 and handle 9 substantially in the position shown in Figure 1.

An abutment, generally referred to by numeral 19 is provided on the jamb and this includes the inclined front side 20 and the almost vertical, but slightly inclined, rear side 21.

Secured to the inner side of the inner wall 6 is the plate 22 and to this plate is rockably supported the elongated bar 23, as at 24. The portion *a* which projects toward the jamb is longer and heavier than the portion *b* projecting in the opposite direction. A pin or screw 25 is provided on the lower portion of this plate 22 and has a spring 26 thereon, with one end attached to the pin, while its other end engages the clip 27 on the bar 23 to normally serve to pull this end portion *a* downwardly, so that the rubber covered roller 28 at the jamb end of the bar 23 will be maintained urged downwardly and snugly against the inner side 21 of the abutment or keeper 19.

A second roller 29 is provided on the bar 23 slightly inwardly of the roller 28 and this roller 29 rides in the cage 30. This cage is filled in by a plate 31 which has a vertically extending slot 32 therein. The upper portion of this slot has an offset 33 therein into which the roller 29 will project when the jamb end of the bar 23 has been elevated to this height by actuating the handle 9 and this projection will be due to the offset *c* in the bar 23 which imparts spring tension of the bar 23 toward the inner wall 6 at its jamb end.

Thus it can be seen, that when the handle 9 is moved downwardly in the direction of the arrow, the frame 12 will be swung so as to pull on the link 14 and raise the member 15 against the bar 23. Continual movement of the handle will elevate the end portion *a* of the bar 23 and cause the roller 29 to ride in the slot 32. As the roller 29 reaches the offset 33, it springs into this offset and at this point, the roller 28 has reached sufficient height to avoid the top of the abutment 19. Obviously, as the roller 29 springs into the offset 33, the roller 28, which will be carried with the bar 23, will strike against the jamb flange and this will cause an outward push on the door so that the door automatically opens a slight distance when the handle 9 is actuated.

Obviously, with the door in open position, the bar 23 is set so that when the door is again closed and the roller 28, after avoiding the abutment 19, strikes the jamb flange, the roller 29 will be forced out of the offset 23 and due to the tension of the spring 26, the end portion *a* of the bar 23 will be swung downwardly so that while the roller

29 is riding downwardly in the slot 32, the roller 28 is moving downwardly and wedging itself against the back side of the abutment 19.

The mechanism generally referred to by numeral 35 in Figure 1, represents the means for retaining the lock against operation from the outside of the door, and also whereby the lock can be operated from the inside of the door.

Numeral 36 represents the inside door handle, the shaft 37 of which is journaled through the plates 22 and 38 and between these plates, the member 39 is carried by the said shaft 37.

This member 39 is of general V-shape, and one edge portion of which is provided with a slot 40 therein for receiving one end portion of the elongated extensible coiled spring 41 which is anchored at its opposite end to the plate 22, as at 42.

The end of one leg of this member 39 has a laterally disposed knob 43 thereon which is engageable with the upper edge of the bar 23, while the lower or remaining leg end of the member 39 is provided with a hook construction 44 engageable under the pin 45 which projects laterally from the bar 23 and rides in an arcuate slot 46 in the plate 38.

It can now be seen, that when the handle 36 is moved in the direction of the arrow in Figures 3 and 1, the knob 43 will engage the end portion *b* of the bar 23 and move this end portion downwardly, while the jamb end portion will be moved upwardly to disengage the roller 28 and cause the usual door opening operation which would occur when the handle 9 is actuated.

However, in the event it is desired that the handle 9, that is, the outside handle, be made inoperative, the handle 36 on the inside of the door is swung upwardly in the opposite direction from the arrows shown in the drawings and this will result in the hook formation 44 at the lower portion of the member 39 engaging under the pin 45 so that the end portion *b* of the bar 23 cannot move downwardly and hence the jamb end cannot move upwardly.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

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

1. A latch comprising a rockable member provided with a roller inwardly of one end, a frame having a vertical slot therein in which the said roller can ride, the said frame having a laterally disposed slot at the upper end of the first mentioned slot, the said rockable member being bent to tensionally urge the roller into the said offset slot when elevated, the end portion of the said rockable member adjacent the roller being engageable with a keeper and with a door jamb to dislodge the roller from the offset slot when said end portion strikes a door jamb in closing, so that said end portion of the rockable member will engage behind the keeper.

2. A latch comprising a rockable member provided with a roller inwardly of one end, a frame having a vertical slot therein in which the said roller can ride, the said frame having a laterally disposed slot at the upper end of the first mentioned slot, the said rockable member being bent to tensionally urge the roller into the said offset slot when elevated, the end portion of the said rockable member adjacent the roller being engageable with a keeper and with a door jamb to dislodge the roller from the offset slot when said end portion strikes a door jamb in closing, and means at the opposite end of the said rockable member for retaining the said rockable member against actuation.

BERNACE O. BALL.