April 4, 1939. L. C. SMITH 2,153,102

SAFETY LATCH

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Fig. 1.

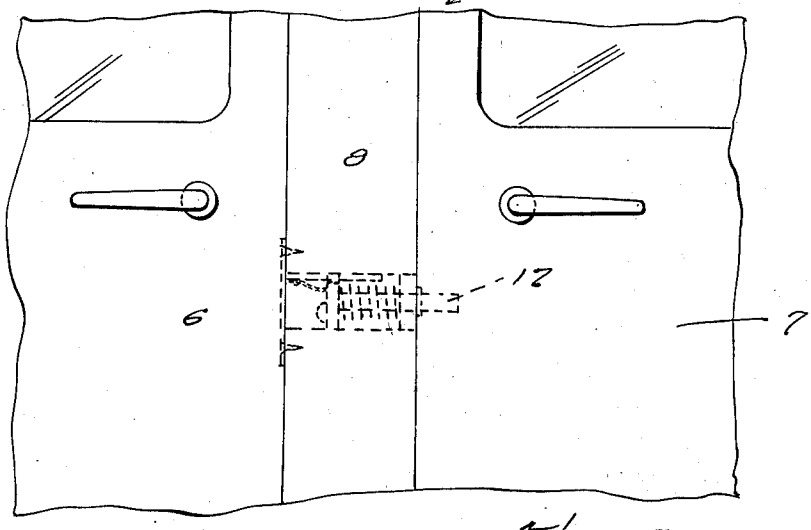


Fig. 3.

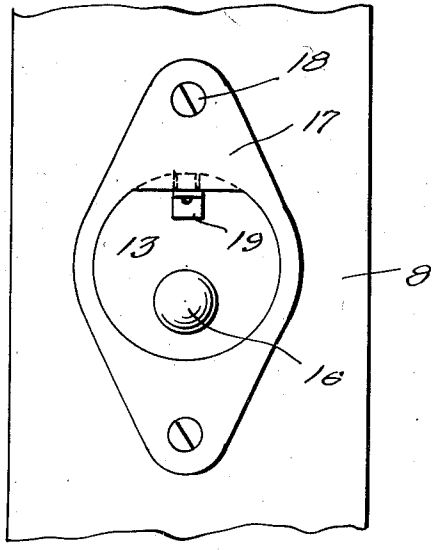


Fig. 4.

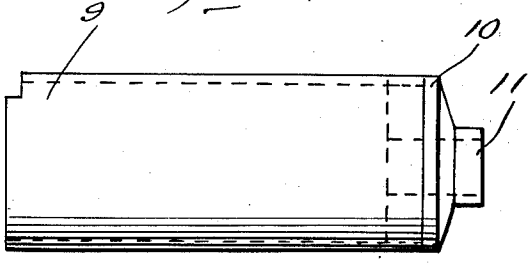
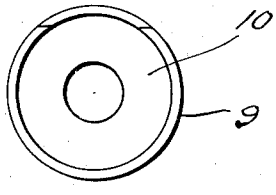


Fig. 5.



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SAFETY LATCH

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Fig. 2.

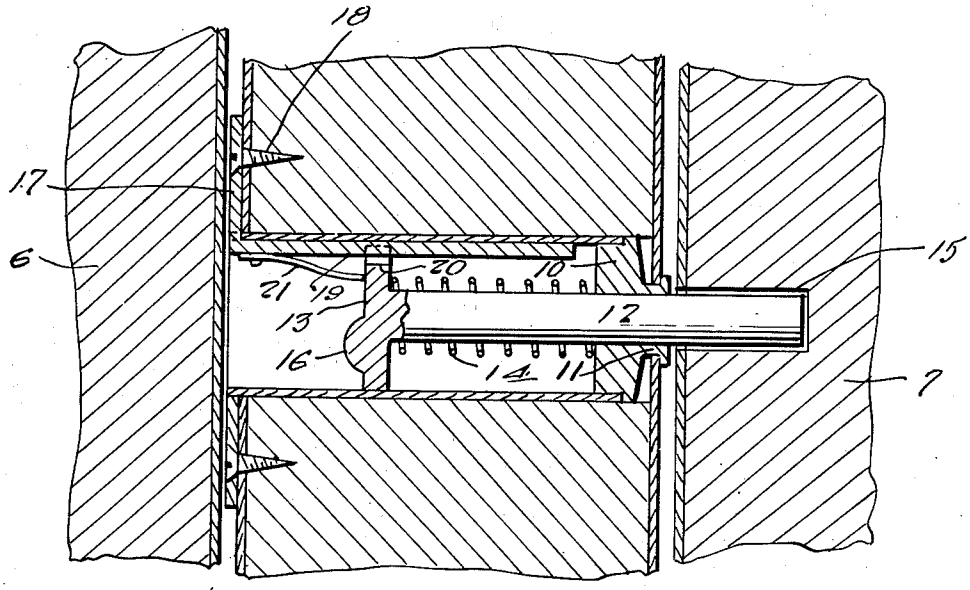


Fig. 7.

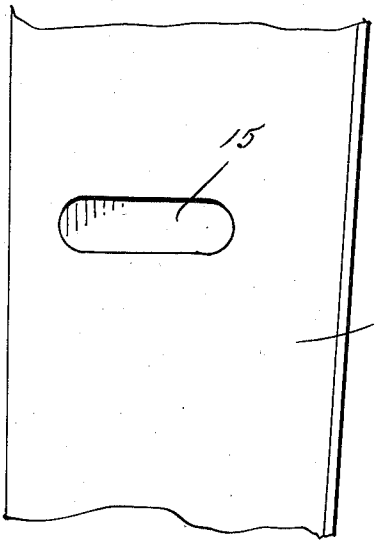
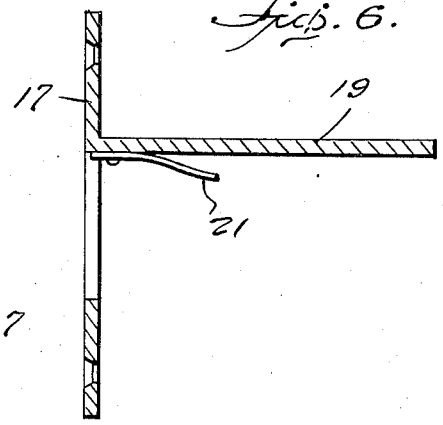


Fig. 6.



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UNITED STATES PATENT OFFICE

2,153,102

SAFETY LATCH

Leonard C. Smith, Bakersfield, Calif.

Application September 23, 1938, Serial No. 231,419

1 Claim. (Cl. 292—180)

This invention relates to a safety latch for rear doors of motor vehicles, the purpose of which is to prevent opening of the rear door when the vehicle is in motion and which provides a safety guard for children occupying the rear seat of the vehicle wherein the children will be prevented from opening the rear door and falling out.

The primary object of this invention is the provision of a latch which is easy to install on present day motor vehicles and which is convenient for operation only when the front door of the vehicle is open, thereby providing an additional safeguard against the accidental opening of the rear door.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a fragmentary side elevation illustrating portions of the front and rear doors and the door post between the doors of a motor vehicle body with the present invention applied thereto.

Figure 2 is a fragmentary vertical sectional view illustrating the rear door latched by the present invention, and the latch being prevented from being released by the front door being in a closed position.

Figure 3 is a front elevation illustrating the latch.

Figure 4 is a side elevation illustrating the latch barrel.

Figure 5 is an end view illustrating the latch barrel.

Figure 6 is a vertical sectional view illustrating the base plate.

Figure 7 is a fragmentary edge elevation illustrating the keeper slot in the rear door.

Referring in detail to the drawings, the numeral 5 indicates a fragmentary portion of a motor vehicle body wherein a portion of the front door is indicated by the character 6 and a portion of the rear door by the character 7. The usual door post between the front and rear doors is shown at 8.

To adapt the present invention to the construction described, the door post 8 is drilled to receive a latch barrel 9 of cylindrical shape having one end fully open and its opposite end closed by a head 10 including a neck portion 11 which may be upset or flanged to engage with a wall of the post for securing the cylinder and head 10 in the opening provided in the post. The head 10 has a bore which extends through the neck 11 to slidably support a latch bolt 12. A plate 13 is integral with one end of the bolt 12 and seated between the plate 13 and the head 10 on the bolt 12 is a coil spring 14 acting to urge the bolt 12 into a retracted position, that is, within the barrel and head 10.

The rear door 7 is provided with a keeper slot 15 in which the latch bolt 12 may move when pressure is applied to the plate 13, the latter is provided with a substantially spherical shaped offset portion or projection 16 which a person's finger may engage for exerting pressure on the latch bolt to move the latter into the keeper slot without the danger of injuring the fingernail.

The open end of the barrel is located opposite the front door post base and a person's finger can only be inserted in the barrel for operating the latch bolt into the keeper slot when the front door is in open position.

A face plate 17 is removably secured on the doorpost 8 next to the front door by screws or like fasteners 18 and is provided with an opening matching the open end of the barrel. Formed on the face plate and extending into the barrel is a rib 19 and the barrel may be slotted in the top wall thereof to receive the rib, also the plate 13 has a notch 20 to receive the rib which will prevent rotation of the plunger 12 but which will permit free sliding movement of the plunger either under manual pressure or under the influence of the spring 14.

A leaf spring 21 is secured on the rib 19 and when the bolt 12 is in fully retracted position lies in the notch 20 of the plate 13. However, when the bolt 12 is moved into the keeper slot 15 of the rear door, the leaf spring moves out of the notch 20 and engages with the face plate preventing retraction of the bolt 12 from the keeper slot 15 of the rear door consequently securing the rear door against being opened by any occupant occupying the rear seat of the vehicle. To release the rear door, the front door must be opened, then a person may insert a finger and place pressure on the plate 13 and also the spring 21 to force the latter upwardly towards the rib 19 so that on release of the plate 13 the spring 14 may act to retract the bolt 12 from the keeper slot 15 with the spring 21 entering the notch 20. Therefore, it will be seen that the operation of the latch bolt either into latching or retracted positions can be only accomplished by a person when the front door is opened.

It is preferable that the keeper for the latch bolt 12 be in the form of a slot as shown in Figure

7 so that when the latch bolt 12 is therein the rear door may have a limited movement for the purpose of assuring of latching the rear door in the usual way. However, should the rear door be unlatched, the latch bolt extending into the keeper slot will prevent the rear door from being opened.

It is believed that the foregoing description, when taken in connection with the drawings will fully set forth the construction and advantages of this invention to those skilled in the art to which such a device relates, so that further detailed description will not be required.

Having thus described my invention, what I claim is:

A latch comprising a latch barrel having one end fully open, a latch bolt slidable in said barrel and manually movable into a keeper from the fully open end of said barrel, a spring acting on the latch bolt to urge the latter out of the keeper, a plate secured on the latch bolt to be manually engaged for moving the latch bolt in the keeper and having a notch, a face plate at the open end of the barrel, a rib formed on the face plate and extending into the barrel and the notch of said first plate, and a leaf spring secured on said rib and adapted to be manually positioned from the open end of said barrel to enter the notch for freeing the latch bolt from the keeper and adapted to automatically engage with the first plate on the movement of the latch bolt into engagement with the keeper manually for retaining said latch bolt in the keeper.

LEONARD C. SMITH.