

Jan. 31, 1933.

R. G. MOORE

1,895,894

LATCH

Filed Sept. 27, 1930

Fig. 1.

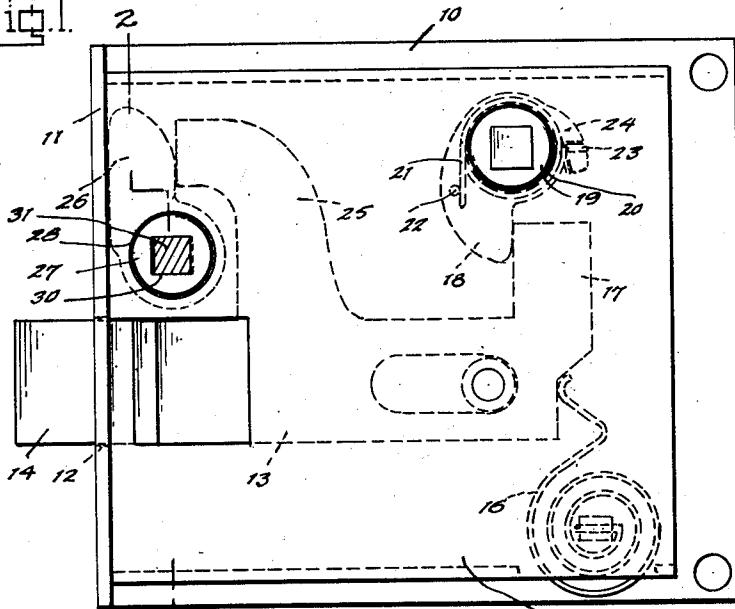


Fig. 2.

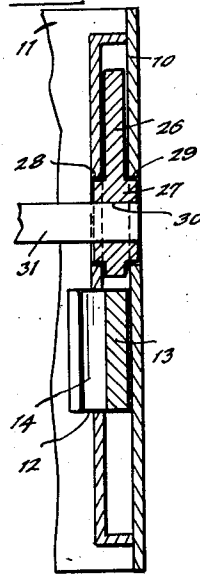


Fig. 3.

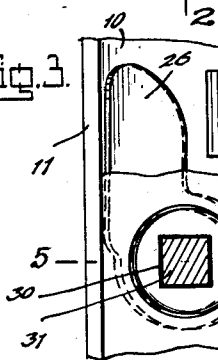


Fig. 4.

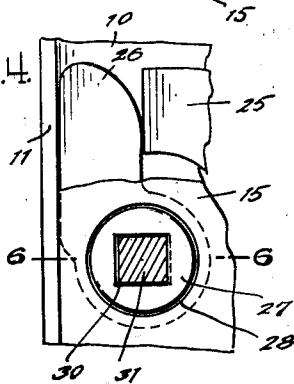


Fig. 5.

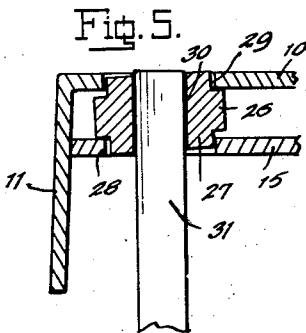
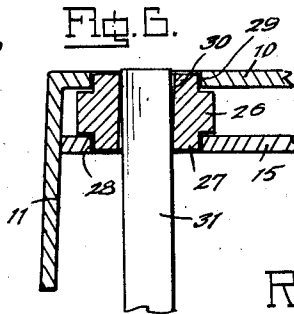


Fig. 6.



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UNITED STATES PATENT OFFICE

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LATCH

Application filed September 27, 1930. Serial No. 484,838.

The present invention relates to latches, particularly for automobile doors, and has for an object to provide a latch in which the handle shaft is adapted to be automatically secured against looseness or rattling irrespective of variations in size between the shaft and the shaft receiving aperture of the roll-back.

A further object is to provide a construction in which the handle shaft may be readily inserted into relation with the latch with facility and without the necessity of employing special tools, keys, and the like. It is particularly proposed to provide a latch in which the roll-back is adapted to permit free insertion of the shaft by relieving the pressure of the bolt thereon, and thereupon is adapted to grip the shaft at opposed sides through the application of such pressure. To this end it is proposed, in the illustrated embodiment of the invention to provide a roll-back adapted to have a slight tilting action and provided with a handle shaft receiving opening disposed at a slight angle, so that when pressure is taken off the roll back the opening may be aligned with the shaft to permit its free insertion, but will find on the shaft, when pressure is applied to prevent looseness and rattling.

With the above and other objects in view, embodiments of the invention are shown in the accompanying drawing, and these embodiments will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

In the drawing:

Fig. 1 is a plan elevation of an automobile door latch, according to one embodiment of the invention, the handle shaft being shown in section.

Fig. 2 is a vertical sectional view, taken along the line 2—2 of Fig. 1.

Fig. 3 is an enlarged view, with parts broken away, of the roll-back portion of the latch, and showing the same in the position in which the handle shaft is inserted.

Fig. 4 shows the same in the normal secured relation with the pressure of the bolt applied to the roll-back.

Fig. 5 is a horizontal sectional view taken along the line 5—5 of Fig. 3.

Fig. 6 is a horizontal sectional view taken along the line 6—6 of Fig. 4.

Similar reference characters indicate corresponding parts throughout the several figures of the drawing.

Referring to the drawing, the exemplary latch embodying the present improvements comprises a base plate 10, provided with a flange 11 at its forward end having a latch bolt opening 12 therein. The latch bolt 13 is slidably engaged at its nose end 14 in the opening 12, and is retained against displacement by means of a cover plate 15 secured to the base plate. A coil spring 16 engaged with the inner end of the bolt normally presses it to its projected position.

At the rearward end of the bolt there is provided an upwardly projecting vertical extension 17 engaged by the inner handle roll-back 18, the hub 19 of which has bearing in apertures 20 formed in the base and cover plates. A coil spring 21 having one end engaged with a lug 22 on the roll-back and its other end engaged with a lug 23 struck from the base plate yieldably retains the roll-back in its normal position by engaging a projection 24 thereon with the lug 23.

The bolt is adapted to be actuated by the outside handle roll-back, presently to be more fully described, through engagement with an upwardly and forwardly projecting arm 25 formed on the bolt.

According to the illustrated embodiment of the invention, the outside handle roll-back 26 is provided with a hub 27 which rotatably engages openings 28 and 29 provided in the cover and base plates of the casing, these openings being of such size, however, as to permit a slight tilting action of the roll-back.

A square opening 30 is provided in the hub and extends therethrough at a slight angle so that its side walls are angularly disposed to the normal axis of the roll-back while the upper and lower walls are preferably in aligned relation with the axis. The looseness of the hub in the openings 28 and 29 permits the roll-back to be tilted up relieving pressure of the bolt, so as to align

the opening 30 with the handle shaft 31, and in this relation the shaft may be fully inserted, as shown in Figs. 3 and 5. In the normal projected position of the bolt, as shown in Figs. 4 and 6, the end of the arm 25 presses the roll-back into its normal position against the flange 11, and in this relation the opening 30 is turned into tight binding relation with the handle shaft, one side of the opening pressing at one side of the shaft and the opposed side pressing at the other side.

Thus irrespective of the degree of looseness of the roll-back in the openings when they are aligned for insertion of the shaft, this looseness is taken up and there is provided a tight gripping relation between roll-back and the shaft preventing any looseness or rattling.

I have illustrated and described preferred and satisfactory embodiments of the invention, but it will be obvious that changes may be made therein within the spirit and scope thereof as defined in the appended claims.

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

1. In a latch, a latch casing, a latch bolt, roll-back means having a non-circular opening extending therethrough at an angle to the normal axis of said roll-back, bearing means for said roll-back permitting tilting movement thereof, means for applying pressure to said roll-back, a handle shaft of non-circular cross-section adapted to be longitudinally inserted into said opening through tilting of said roll-back to align said opening with said shaft, the said means for applying pressure adapted to exert pressure on said roll-back to tilt it to its normal position whereby the wall of said opening binds on said shaft at opposed sides.

2. In a latch, a latch casing, a latch bolt, a one piece roll-back means mounted in said casing and having a non-circular opening therethrough, means for applying pressure to said roll-back, a handle shaft of non-circular cross-section adapted to be longitudinally inserted into said opening and engaged with the sides of said opening, said opening being so arranged that pressure of said means for applying pressure on said roll-back means causes the sides of said opening to bind on said shaft.

3. In a latch, a latch casing, a latch bolt, a one piece roll-back means mounted in said casing and having a non-circular opening therethrough, means for applying pressure to said roll-back, a handle shaft of non-circular cross-section adapted to be longitudinally inserted into said opening and engaged with the sides of said opening, said opening being so arranged that pressure of said means for applying pressure on said roll-back means causes the opposed sides of said opening to bind on said shaft.

4. In a latch, a latch casing, a latch bolt, roll-back means having an opening extending therethrough at an angle to the normal axis or rotation of said roll-back, bearing means for said roll-back permitting tilting movement thereof, means for applying pressure to said roll-back, a handle shaft adapted to be longitudinally inserted into said opening and engaged with the sides of said opening, the said means for applying pressure adapted to exert pressure on said roll-back to tilt it whereby the wall of said opening binds on said shaft.

Signed at Bridgeport, county of Fairfield, and State of Connecticut, this 18 day of September, 1930.

RAYMOND G. MOORE.

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