

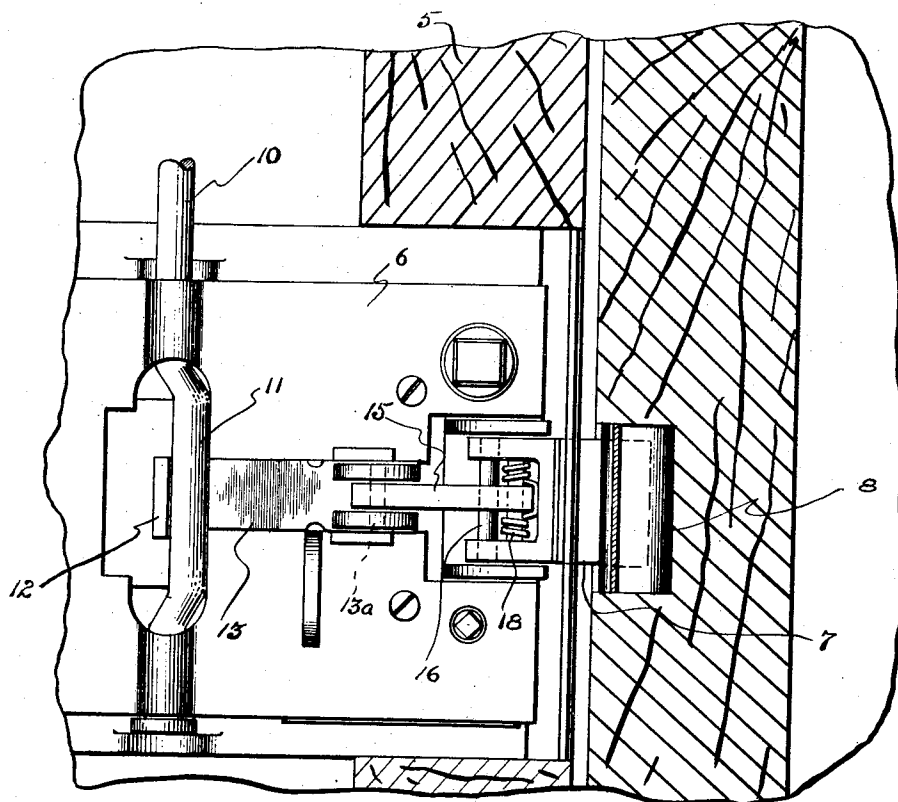
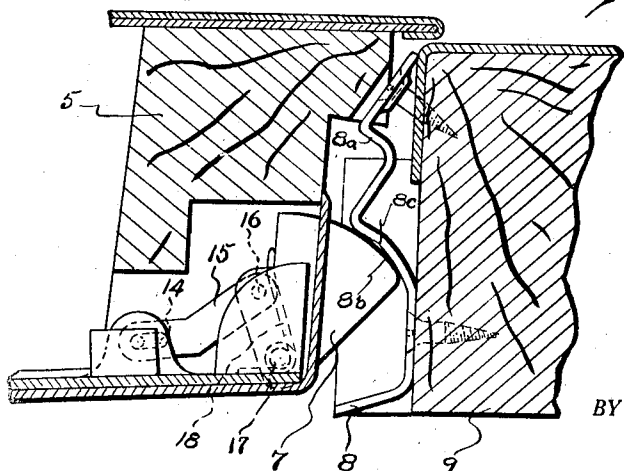
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ROTARY BOLT AND STRIKER PLATE FOR AUTOMOBILE DOOR LATCHES

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ROTARY BOLT AND STRIKER PLATE FOR AUTOMOBILE DOOR LATCHES.

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This invention relates to latches for automobile doors and the like, and has for its principal object the provision of simple and effective means for automatically compensating for the varying distances between door and jamb as the usual rubber jamb bumpers or stop members become worn or displaced.

Another object of the invention is the arrangement of a rotary swinging latch bolt always urged by spring pressure toward its outermost position and a striker plate on the door jamb and co-acting with the latch bolt having a curved lock engaging surface struck from a different center than that on which the latch bolt is pivoted, whereby, when the door is closed, the latch bolt will always engage the outer edge of the striker plate regardless of the degree of clearance allowed the door by the bumpers or stop members.

Other objects and advantages will be apparent from the following description wherein reference is made to the accompanying drawings illustrating a preferred embodiment of my invention, and wherein similar reference numerals designate similar parts throughout the several views.

In the drawings:—

Fig. 1 is a detail vertical section showing the latch and striker plate when the door is closed, parts being broken away to disclose the interior mechanism of the latch, and

Fig. 2 is a detail horizontal section taken substantially on the line 2—2 of Fig. 1.

Referring now to the drawings, the numeral 5 designates an automobile door pivoted in the usual manner upon the vehicle body and carrying the latch casing 6 in position whereby the latch bolt 7 protrudes from the free edge of the door for cooperation with the striker plate 8 on the door jamb 9. The latch bolt 7 is adapted to be thrown by turning a suitable handle connected with the vertically-disposed spindle 10 having a crank portion 11 adapted to engage the flange 12 of a traveler link 13 mounted to slide in the casing 6 and carrying at its forward extremity a pin 13^a extending through an elongated slot 14 in the connecting link 15 (note Fig. 2). The opposite end of the connecting link 15 is pivotally connected to the pin 16 secured in the side flanges of the latch bolt 7 at a distance from the pivot pin 17 whereon the latch bolt swings. By virtue of this construction, the latch bolt 7 is swung

inwardly whenever the spindle 10 is rotated, the crank portion 11 serving to slide the traveler link 13, which in turn slides the connecting link 15 to swing the latch bolt on its pivot 17. When the latch bolt is swung inwardly sufficiently to disengage it from contact with the striker plate 8 the door may be opened. The inward swinging movement of the latch bolt increases the tension upon the spring 18 surrounding the pivot pin 17 and having a portion extending against the forward portion of the latch bolt (note Fig. 1).

The contacting portion of the latch bolt is formed with a curved surface struck from a center substantially coincident with the center of the pivot pin 17, and is adapted to engage with the main or auxiliary stepped engaging surfaces on the striker plate 8 whenever the door is swung to closed position. The auxiliary engaging surface 8^a is utilized only when the door is incompletely closed in the usual manner of automobile door latches. The main latch engaging surface 8^b of the striker plate is arcuate in form, but the center from which the arc is struck is different from the center on which the latch bolt swings. In the illustrated embodiment the arcuate surface 8^b is a part of a circle having a lesser radius than that on which the engaging surface of the latch bolt is struck. The edge of such main engaging surface adjacent the door is curved to facilitate the passage of the latch bolt whenever the door is closed, and adjacent this rounded surface an indentation 8^c is formed to separate the edge engaging surface from the rear portion of the surface 8^b.

This construction permits the latch bolt 7 to always swing outwardly, due to the spring tension on the door latch, and bring the edge of the latch bolt into engagement with the edge of the striker plate surface 8^b, regardless of the clearance allowed by the usual rubber bumpers and stop members on the door jamb.

Thus whenever the rubber bumpers are new and extend outwardly to their fullest extent the door will contact them shortly after the outer edge of the lock bolt engages the rounded edge portion of the striker plate. This limited engagement, however, will serve to hold the door tightly against the rubber bumpers, since the spring tension on the latch bolt tends to move the lock bolt outwardly to secure the greatest

possible grip permitted by the clearance. Then when the rubber bumpers or other stop members become worn or displaced the door may swing toward the jamb until the outer edge of the latch bolt passes some distance beyond the rounded edge portion of the surface 8^b of the striker plate. The latch bolt thereupon swings outwardly to a greater extent—until some intermediate portion of the engaging surface of the latch bolt contacts with the rounded edge of the striker plate. In this position the outer edge 8^b may or may not contact with the rear portion of the striker plate on the opposite side of the indentation 8^c. The pressure of the spring upon the latch bolt 7 tends to maintain the door in closing position without permitting rattling, as the door is always held snugly against the rubber bumpers or other stop members, even after they have become worn, by the spring-pressed latch bolt.

The latch bolt may be readily retracted by turning the spindle 10 from whatever position it assumes with the striker plate, inasmuch as the point of contact between the door and jamb is always against the rounded edge portion of the striker plate.

While it will be apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

Having described my invention, I claim:

1. In a vehicle door latch, the combination of a latch bolt pivotally mounted on the door, a striker plate mounted on the door jamb and having an inclined wall arranged to force the inward swinging of the latch bolt during the closing of the door and an arcuate latch bolt retaining wall arranged to be engaged by the latch bolt after

it has ridden over said inclined wall, and a spring arranged on the door to normally press the latch bolt outwardly from the door, the latch bolt being mounted to swing from a center other than that from which the retaining wall of the striker plate is struck.

2. In a vehicle door latch, the combination of a latch bolt pivotally mounted on the door, a striker plate mounted on the door jamb and having an inclined wall arranged to force the inward swinging of the latch bolt during the closing of the door and an arcuate latch bolt retaining wall arranged to be engaged by the latch bolt after it has ridden over said inclined wall, and a spring arranged on the door to normally press the latch bolt outwardly from the door, the latch bolt being mounted to swing on a radius greater than that from which the retaining wall of the striker plate is struck.

3. In a vehicle door latch, the combination of a latch bolt pivotally mounted on the door and having an arcuate peripheral wall for engagement with a striker plate, a striker plate mounted on the door jamb and having an inclined wall arranged to force the inward swinging of the latch bolt during the closing of the door and an arcuate latch bolt retaining wall arranged to be engaged by the latch bolt after it has ridden over said inclined wall, the striker plate also being formed with an indentation intermediate the extremities of the retaining wall whereby the retaining wall is divided into a front and rear curved portion, and a spring arranged to press the latch bolt outwardly until it engages one of said portions of the striker plate when the door is closed, the curved wall of the latch bolt being formed with a radius greater than that upon which the curved retaining wall of the striker plate is formed.

In witness whereof I hereunto set my hand.

WILLIAM C. DEVEREAUX.