Feb. 2, 1932. R. G. MOORE 1,843,368

AUTOMOBILE DOOR LATCH

Filed May 9, 1928

Fig. 1.

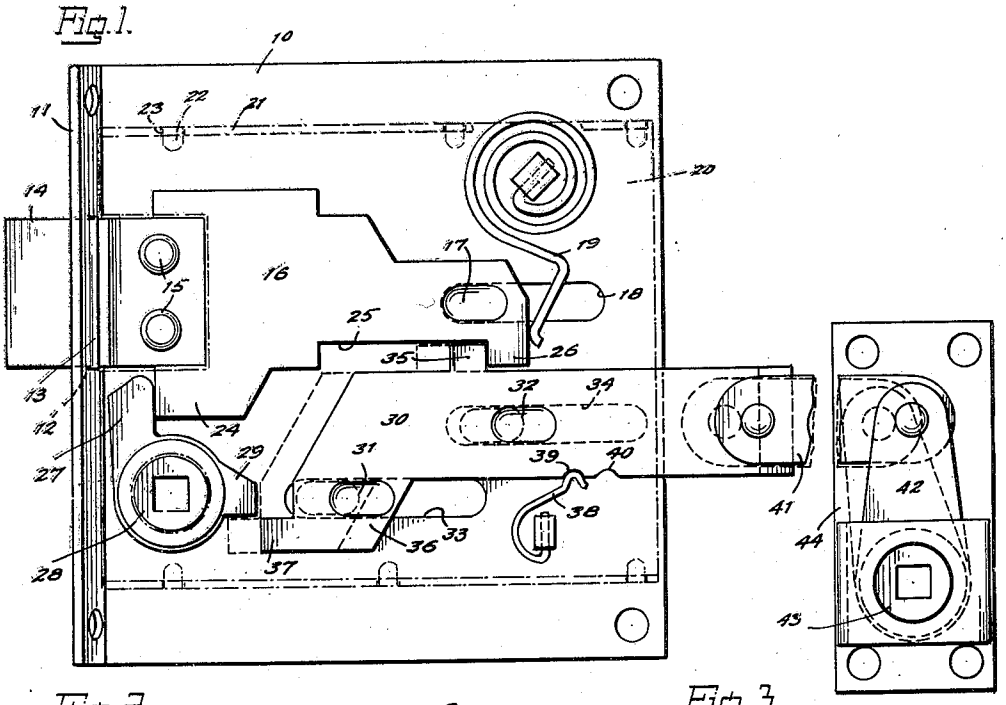


Fig. 2.

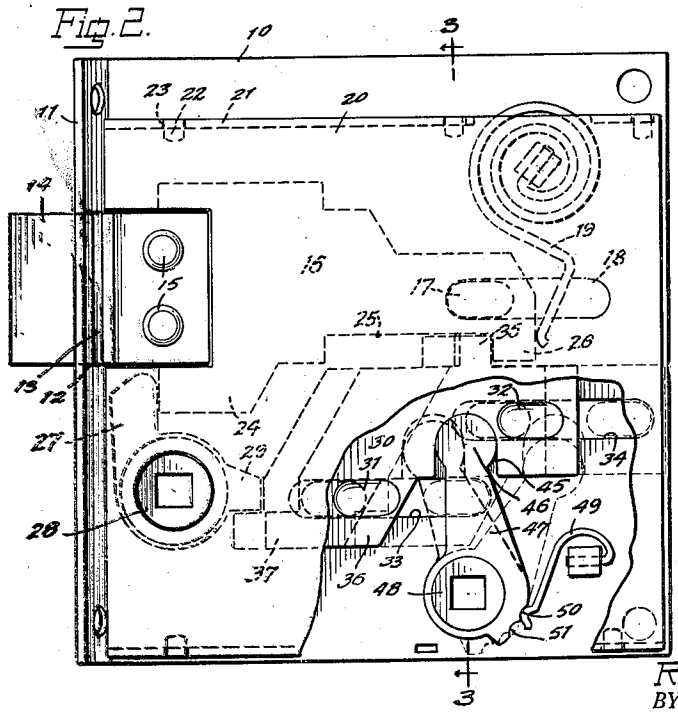
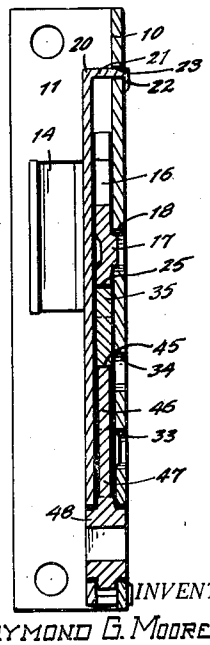


Fig. 3.



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UNITED STATES PATENT OFFICE

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AUTOMOBILE DOOR LATCH

Application filed May 9, 1928. Serial No. 276,400.

The present invention relates to an improved automobile door latch, particularly of the type having an inside and an outside operating handle, and in which the outside handle is adapted to be locked against operation by manipulation of the inside handle. The latch is especially adapted for use upon doors of closed cars, being applied to all but one of the doors, and which latter is adapted to be locked from the outside. I particularly propose to provide an outside handle roll-back adapted to operate directly upon the latch bolt, and an inside handle roll-back adapted to operate upon the latch bolt through an intermediate member directly engaging the roll-back, and further to provide said intermediate member in such relation to the outside handle roll-back that by manipulating the inside handle in non-bolt-retracting direction said intermediate member prevents actuation of the outside handle roll-back.

Another object is to provide a latch bolt adapted to have free retracting movement in the locked relation of the outside handle, either by manipulation of the inside handle in bolt retracting direction or by pressure applied against the nose end of the bolt, and further to provide a latch construction in which the handle roll-backs may be placed at any desired points without changing their main combinative relation, or materially altering the design of the parts, thereby adapting the main parts of the latch to use upon various car doors, in which the positions of the handles are differently arranged; and as one embodiment, I propose to provide a remote control inside handle roll-back adapted to be placed at any desired point on the door frame.

With the above and other objects in view, embodiments of the invention are shown in the accompanying drawings, 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 drawings:

Fig. 1 is a plan view of an automobile door latch, according to one embodiment of the invention, the dotted lines showing the parts in the relation in which operation of the outside handle is prevented, the cover plate being shown in dot-and-dash lines;

Fig. 2 is a plan view of a modified form of the invention, showing in dotted lines both the relation of the parts for preventing operation of the outside handle, and the retracted relation of the latch bolt through manipulation of the inside handle roll-back;

Fig. 3 is a sectional view, taken along the line 3—3 of Fig. 2.

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

Referring to the drawings, and more particularly to Fig. 1 thereof, the embodiment of the invention shown therein comprises a sheet metal frame or base plate 10 having a face flange 11 bent therefrom at one end, within which a rectangular opening 12 is provided, a flange lip portion 13 of the metal cut from said opening being bent inwardly in parallel spaced relation to the plate 10 to form a bearing for the latch bolt.

The latch bolt comprises a nose portion 14, riveted at 15 to a sheet metal bolt plate 16, provided near its inner end with a pressed out boss 17 engaged in a guide slot 18 provided in the plate 10, a coil spring 19 engaged with the inner end of said bolt normally pressing it to its projected position. The bolt is retained against displacement by means of a flat cover plate 20, (shown in dot-and-dash lines) flanged at its upper and lower edges, as at 21, and secured to the plate 10 by lugs 22 inserted through slots 23 in said plate, and bent over upon the surface thereof.

The lower edge of the bolt is provided near its forward end and in spaced relation to the face flange 11 with an outer handle roll-back engaging lug or projection 24, and rearwardly thereof with an elongated recess 25 having a lug portion 26 at the inner end of the bolt adapted for engagement by the intermediate member, presently to be more fully referred to.

The outside handle roll-back 27 has its hub 28 rotatably engaged in apertures formed in the plates 10 and 20 adjacent the flange 11, and is adapted to actuate the bolt through

engagement with the lug extension 24. A lug projection 29 on the hub of the roll-back, having a horizontally disposed lower face, is adapted, as will hereinafter more fully appear, to be engaged by the intermediate member to prevent operation of the outside handle roll-back.

The intermediate member consists of a flat sheet metal bar 30, disposed upon the plate 10 below the bolt for longitudinal movement, being provided with pressed out bosses 31 and 32 engaged in longitudinal guide slots 33 and 34, respectively, and retained against displacement by the cover plate. At its upper edge the bar 30 is provided with a lug projection 35 engaged in the recess 25 of the bolt and normally bearing against the lug 26. At its lower edge and at its forward end the bar is downwardly offset, as at 36, and is provided with a forwardly projecting lug 37, normally free of the lug 29 of the outside handle roll-back, but adapted, upon forward sliding movement of the bar 30, to engage beneath said lug 29 to thereby prevent operation of the outside handle roll-back. A spring 38 secured to the plate 10 yieldably engages the lower edge of the member 30 and is adapted through engagement in notches 39 and 40 formed therein to yieldably retain said member in its normal position, and in its forwardly moved outside handle roll-back locking position.

The inner end of the member 30 projects rearwardly from the casing, and is pivotally connected to one end of an elongated link 41, the other end of which is pivotally connected to the remote control inside handle roll-back lever 42, the hub 43 of which is rotatably mounted in a frame 44, adapted to be secured upon the door frame at any desired point.

The operation is as follows:

As shown in full lines the parts are in their normal relation, retraction of the latch bolt being effected independently by either the outside handle roll-back, or the inside remote control roll-back lever, the latter operating through the intermediate member 30. In order to prevent actuation of the outside handle roll-back, the inside handle roll-back lever 42 is moved in the opposite direction from its bolt retracting direction, sliding the member 30 forwardly, as indicated in dotted lines, and engaging the lug projection 37 beneath the roll-back lug 29, the spring 39 yieldably retaining the parts in this relation. The outside handle is thus blocked against operation.

The normal operative relation is restored upon moving the inside handle in retracting direction, the initial movement bringing the lug projection 37 out of the path of the lug 29, and the continued movement causing retraction of the bolt.

Under all conditions the latch bolt is free to be retracted independently of the handles, that is, by pressure directly applied to the nose end, as in slamming the door closed.

In Figs. 2 and 3 I have illustrated a modified form of the invention in which the inside handle roll-back is mounted directly on the latch case. The member 30 is shorter than in the first embodiment, terminating within the case, and is provided in its lower edge with a recess 45 engaged by the rounded upper end 46 of the inside roll-back lever 47, the hub 48 of which is rotatably mounted in apertures provided in the base and cover plates 10 and 20. A spring 49 mounted on the base 10 engages notches 50 and 51 in the edge of the roll-back, to yieldably retain the parts in their normal position and in the outside handle roll-back locking position, this latter position being shown by the heavy dotted lines. The light dotted lines indicate the retracting position by manipulation of the inside handle.

The operation is the same as in the first embodiment.

I have illustrated and described preferred and satisfactory embodiment 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 casing comprising a back plate, a spring pressed longitudinally slidable bolt mounted on said plate, an outside operable roll-back mounted on said plate directly engaging said bolt at one side, a longitudinally slidable retracting member mounted on said plate in offset relation at the same side of said bolt as said outside roll-back, engaging said bolt at its side adjacent said bolt to impart retracting movement thereto upon movement in one direction, means adapted upon movement of said retracting member in the other direction to dog said outside roll-back, said bolt adapted to have retracting movement independently of said retracting member and said retracting member adapted to move in said direction to dog said outside operable roll-back independently of said bolt, an inside operable roll-back mounted on said plate at the opposite side of said retracting member from said bolt and engaging it at the opposite side from the side adjacent said bolt and adapted to impart sliding movement to said retracting member in bolt retracting and outside roll-back dogging directions.

2. In a latch, a casing comprising a back plate, and a cover plate, a spring pressed longitudinally slidably bolt mounted on said plate, an outside operable roll-back mounted on said plate directly engaging said bolt at one side, a longitudinally slidable retracting member mounted on said plate in offset rela-

tion at the same side of said bolt as said outside roll-back, engaging said bolt at its side adjacent said bolt to impart retracting movement thereto upon movement in one direction, means adapted upon movement of said retracting member in the other direction to dog said outside roll-back, said bolt adapted to have retracting movement independently of said retracting member and said retracting member adapted to move in said direction to dog said outside operable roll-back independently of said bolt, an inside operable roll-back mounted on said plate at the opposite side of said retracting member from said bolt and engaging it at the opposite side from the side adjacent said bolt and adapted to impart sliding movement to said retracting member in bolt retracting and outside roll-back dogging directions, said bolt, said retracting member and said inside roll-back being entirely offset with respect to each other and disposed in the same plane between said back and cover plates.

3. In a latch, a casing comprising a back plate, a spring pressed longitudinally slidable bolt mounted on said plate, an outside operable roll-back mounted on said plate directly engaging said bolt at one side, a longitudinally slidable retracting member mounted on said plate in offset relation at the same side of said bolt as said outside roll-back, engaging said bolt at its side adjacent said bolt to impart retracting movement thereto upon movement in one direction, means adapted upon movement of said retracting member in the other direction to dog said outside roll-back, said bolt adapted to have retracting movement independent of said retracting member and said retracting member adapted to move in said direction to dog said outside operable roll-back independently of said bolt, an inside operable roll-back mounted on said plate at the opposite side of said retracting member from said bolt, said retracting member having a cut-out provided with spaced side walls transverse to its line of movement, said inside roll-back having sliding and rotatable engagement with said cut-out to impart sliding movement to said retracting member in bolt retracting and outside roll-back dogging directions.

Signed at Bridgeport, in the county of Fairfield, and State of Connecticut, this 13th day of April, 1928.

RAYMOND G. MOORE.