Nov. 5, 1935. L. S. MARCHESAND 2,020,035

DOORLATCH

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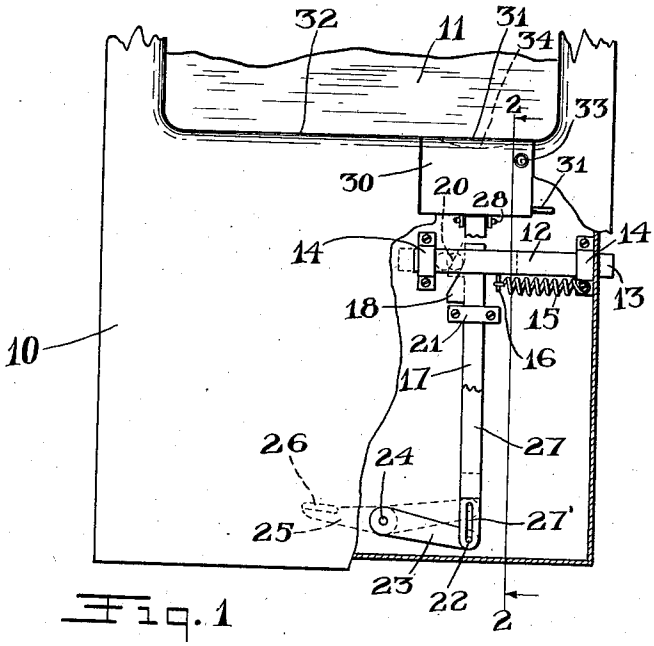


Fig. 1

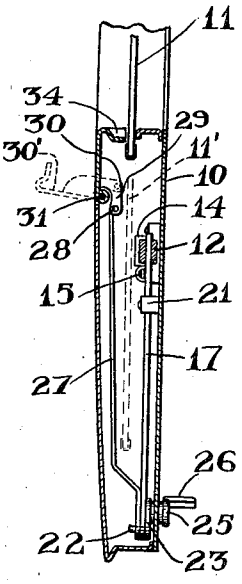


Fig. 2

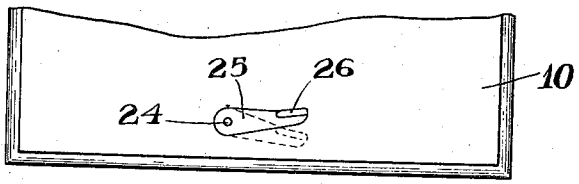


Fig. 3

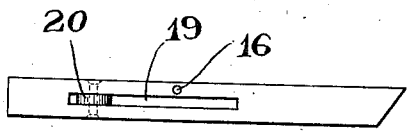


Fig. 4

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DOORLATCH

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2 Claims. (Cl. 292—166)

This invention relates to door latches, and has for an object to provide a door latch especially, though not exclusively, intended as a latch for doors of motor vehicles, and to present new and improved features of construction and appearance.

It is well-known that the present trend of body construction for automotive vehicles is "stream lining" and that it seems desirable to remove from the exterior of the body any and all obstructions.

The present invention is directed to a door latch which eliminates the usual knobs and handles, and provides a manual operating means which is flush with the exterior of the body, forming a part of such exterior surface.

A further object of the invention is to provide a section corresponding to the plane or contours of the body, which said section is hinged relative to the body and adapted to be manually swung upon its hinge temporarily for the purpose of actuating the latch, automatically returning to its normal flush position.

A further object of the invention is to provide in combination with such flush section, means for translating the movement of such flush section into latch-bolt retracting stress.

The invention, therefore, comprises in combination with a door having a horizontally slidable latch bolt, of a body section, with means for normally holding such body section yielding in flush relation with the body, and adapted to be manually swung upon a fulcrum to an angular position, with means within the structure of the door for translating such swinging action of the section into stress exerted upon the latch bolt to retract the latch bolt against a resilient resistance. The invention further includes the provision of means within the door structure, comprising a foot pedal which will likewise operate the latch bolt.

The drawing illustrates an embodiment of the invention and the views therein are as follows:

Figure 1 is a view partly in side elevation and partly broken away of a conventional automotive door, with the invention applied thereto, in itself partly broken away to show underlying parts,

Figure 2 is a sectional view taken on line 2—2 of Figure 1,

Figure 3 is a view of the interior of the door, showing the foot pedal, and

Figure 4 is a plan view of the latch bolt.

Like characters of reference indicate corresponding parts throughout the several views.

There is shown in the drawing at 10 a conventional automotive vehicle door. The present invention is designed to be attached to doors of various types and shapes and the showing of the door 10 is not to be considered as any limitation upon the invention. This door 10 includes inner and outer side parts and a sliding glass panel 11 is also shown as slidably mounted between these side parts.

Slidable horizontal within the interior of the door structure on the inner side part is a latch bolt 12 which is preferably integral with or rigidly connected to the latch 13. This is mounted to slide in any approved mechanical manner, as by the use of guides 14. A spring 15 is connected with one of the guides 14 and to a pin 16 rigidly associated with the bolt 12. While this type of resilient structure is found to be appropriate to the present invention, the invention includes any resilient means which may tend to hold the latch bolt 12 in latching position.

For the purpose of retracting the latch bolt 12 against the tension of the spring 15, a bar 17 is provided having a wedge member 18 passing through a slot 19 in the bolt. Preferably, though not necessarily, a roller 20 is provided in this slot against which the wedge member 18 engages. The bar 17 is mounted to slide vertically, by any approved mechanical means, as the guide 21. At its lower end the bar 17 is fulcrumed upon a pin 22, which is carried by an arm 23 rigidly connected with the fulcrum shaft 24.

The arm 23 is within the door structure, and the shaft 24 extends through the inner wall of the door and is provided upon the side forming the interior of the body with a lever 25 and foot pedal part 26. When the foot pedal is depressed, the arm 23 raises the bar 17 to move the wedge member 18 against the roller 20 and to move the latch bolt 12 to dotted line position, as shown at Figure 1, whereby the latch 13 is retracted from latching position.

Also, to actuate the bar 17 and, consequently, the latch, another bar 27 is mounted upon the pin 22 by means of a slot 27'. This bar 27 is spaced away from the bar 17 to permit the glass 11 to assume the position 11', as shown at Figure 2. The bar 27 at its upper end is pivoted, as at 28 to an arm 29 carried by a plate 30. This plate 30 is fulcrumed at 31 on the outer side part and is adapted to be swung manually from the full line position shown at Figures 1 and 2 to the dotted line position shown in Figure 2, whereby the bar 27 is raised to raise the bar 17 as above disclosed.

The top edge of this plate 30, as shown at 31, is in alignment with the sill 32 of the window and the plate itself is flush with the exterior of the door 10. A lock 33 may, if desired, be applied but is only indicated conventionally.

As shown at Figure 1, the latch 13 is in latching position and the same is true in full lines at Figure 2. When the door is to be opened, the fingers of the user are placed in the depression 34 and the plate 30 drawn outwardly to the position 30', as shown in dotted lines. This, as disclosed, will raise the bar 27 and the bar 17 to actuate the latch 13.

It will thus be seen that every part of this device, which is visible from the exterior of the body, will be flush and in alignment with other parts of the body, and will offer no obstruction to the "stream lining" effect and will also present no handles, knobs or other devices upon the exterior of the body to catch clothing or other objects.

Of course, the door latch herein described may be modified and changed in various ways without departing from the invention herein set forth and hereinafter claimed.

I claim:—

1. In an automotive vehicle door including inner and outer side parts and a glass panel slidably mounted therebetween, a latch bar operatively mounted on the inner side part, means on the inner side part for causing movement of the latch, means accessible from the outside for causing operative movement of the latch, said last mentioned means comprising a plate pivotally mounted at its lower edge and substantially flush with the outer surface of the outer side part and having the top edge in substantial alignment with the top edge of the outer side part, and operating connections from said plate to the latch on the inner side part, said connections extending downwardly to the lowermost limits of the door and upwardly to the latch bar, whereby sliding movement of the glass panel between the inner and outer side parts is accommodated.

2. In an automotive vehicle door including inner and outer side parts which are spaced apart and a sliding panel movable therebetween, a latch bar slidably mounted on the inner side part in a horizontal position, an operating bar for the latch bar, being slidably mounted on the inner side part in a vertical position, cam means for causing movement of the horizontal bar incident to movement of the vertical bar, an arm pivotally mounted on the inner side part and connected to the lower end of the vertical bar, connecting bar adjacent to the outer side part and connected to the said arm by an offset operation, and a plate pivotally mounted at its lower edge on the outer side part and operatively connected to the bar adjacent to the outer side part, said plate being substantially flush with the outer surface of the outer side part.

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