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VEHICLE DOOR LATCH

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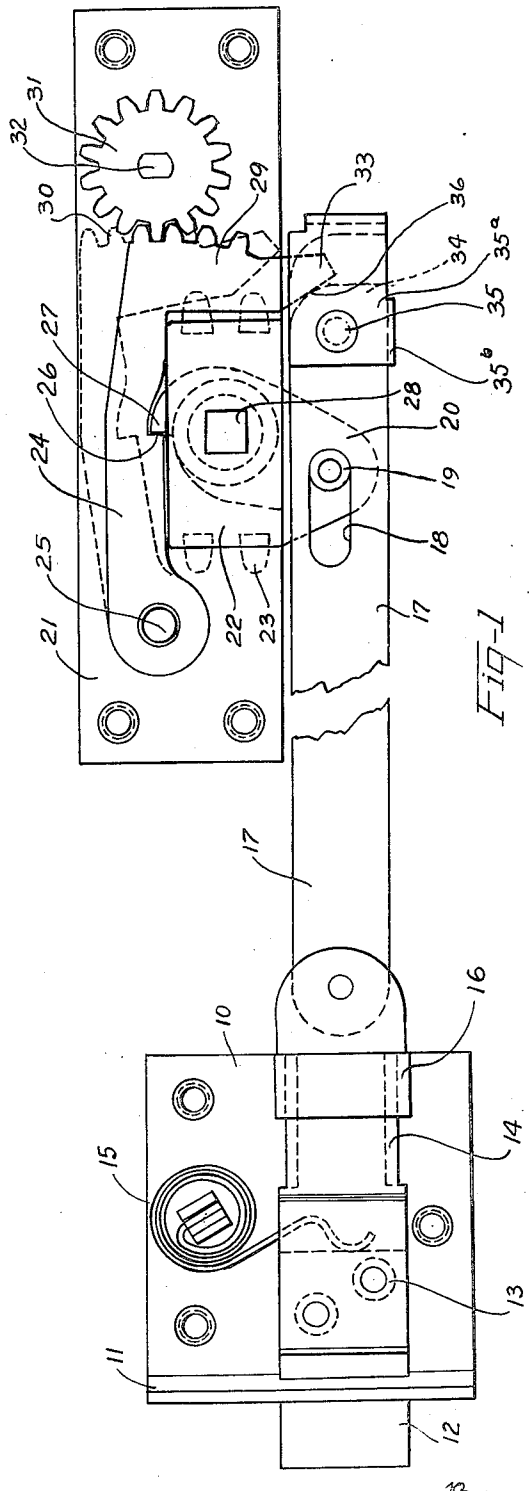

Fig-1

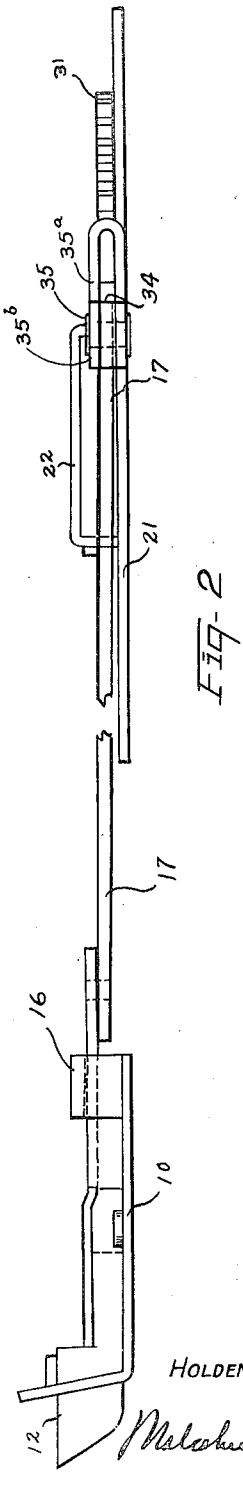

Fig-2

Inventor

HOLDEN W. RIGHTMYER

By Malcolm S. Rivers

Attorney

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VEHICLE DOOR LATCH

Holden W. Rightmyer, Toledo, Ohio, assignor to The American Swiss Company, Toledo, Ohio, a corporation of Ohio

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4 Claims. (Cl. 292—167)

This invention relates to vehicle door latches such as used on automobiles but more particularly to a remote control for door latches of this character and an object is to produce a simple and efficient remote control for vehicle door latches enabling retraction of the latch bolt from the inside or outside of the vehicle and for locking the latch bolt against retraction from the outside of the vehicle by locking means disposed on the inside, the remote control being so constructed and arranged that it may be disposed in any desired position relative to the width of the door.

Other objects and advantages will hereinafter appear and an embodiment of the invention is shown on the accompanying drawing in which

Figure 1 is an elevation of the remote control and door latch mechanism; and

Figure 2 is an edge view of the mechanism shown in Figure 1.

The illustrated embodiment of the invention comprises a vehicle door latch having a case plate 10 provided with a flange 11 at one end which is apertured to receive a bolt nose 12, the inner end of which is secured by rivets 13 to a bolt plate 14. A spiral spring 15 is mounted on the case plate 15 and has its free end bearing against the rear face of the bolt nose 12 for urging the latter to latching position. The rear end portion of the bolt plate 14 is reduced and extends through a guide 16 for guiding the movement thereof to and from latching position. The rear end of the bolt plate extends beyond the case plate 10 and is pivotally connected to a strap link 17. Formed in the rear end portion of the link 17 is a longitudinally elongate slot 18 into which extends a rivet 19 secured to the lower end portion of a swinging arm 20 of a remote control. The arm 20 is suitably pivoted at its opposite end portion to a mounting plate 21, and is held in place by a cover plate 22 having tabs 23 extending through apertures in the mounting plate 21 and bent over in the usual manner. As shown, a forward extension is formed on the lower portion of the arm 20, the upper edge thereof being shown coinciding with the lower edge of the cover plate 22.

Mounted on the plate 21 is an arm 24 which is pivoted at 25 and is formed with a shoulder 26 which when swung downwardly toward the arm 20 is adapted to be disposed in advance of a shoulder 27 formed on the arm 20. The arm 20 is formed with a rectangular opening 28 to receive a suitable handle shaft (not shown) on opposite ends of which are mounted the usual handles for actuating the arm 20 to retract the latch bolt against the force of the spring 15. Thus, the latch bolt may be retracted from either the inside or outside of the door through the medium of a single handle shaft.

Formed on the opposite end of the pivoted arm 24 is a lateral extension 29 having gear teeth 30 with which a gear 31 meshes. The gear 31 is suitably secured to a shaft 32 having a suitable control handle or knob (not shown) for manually turning the gear in one direction or the other. It is apparent that by turning the gear in one direction, the arm 24 may be swung downwardly to position the shoulder 26 adjacent the shoulder 27 whereupon counterclockwise or retracting movement of the swinging arm 20 is prevented. In this manner the door can be locked from the inside of the vehicle so that the handle on the outside can not be turned to retract the latch bolt.

Formed on the lower end of the arm extension 29 is a cam element 33, the forward face of which is downwardly and rearwardly inclined. Engageable with the cam element 33 is a cam member 34 which is secured by a rivet 35 to the rear end of the link 17. It should be noted that the rear end of the link 17 is bent upon itself to provide an overlapping portion 35*a*, the cam member 34 being held by the rivet 35 between the link 17 and the overlapping portion 35*a*. To hold the member 34 from turning, a flange 35*b* extends downwardly from the extension 35*a* adjacent the member 34.

The member 34 is provided with a rounded surface 36 which is engageable with the inclined surface of the element 33 so that when the latch bolt 12 is retracted as by slamming of the door, the rounded surface 36 is moved rearwardly or to the right of Figure 1 and bears against the inclined surface of the cam element 33 camming the latter upwardly to move the shoulder 26 away from the shoulder 27 thereby to enable the arm 20 to be swung for retracting the bolt.

The above described remote control can be arranged at any convenient position in the door of the vehicle and is particularly useful when it is desired to locate the handle in an intermediate position on the door. It will further be apparent that the pivoted dogging arm 24 may be manually moved to and from dogging or blocking position by the gear 31 and to insure that the occupant of the vehicle is not locked out, the arm 24 is automatically moved away from dogging position upon slamming of the door.

It is to be understood that numerous changes in details of construction, arrangement and op-

eration may be effected without departing from the spirit of the invention especially as defined in the appended claims.

What I claim is:

1. Remote control for a vehicle door latch comprising a manually operated swinging arm, a link having a lost motion connection at one end with said arm enabling lost motion in a bolt retracting direction and operatively connected at the opposite end to the latch bolt, a dogging arm movable into engagement with said swinging arm for preventing movement thereof, and a surface on said dogging arm engageable by said link upon said lost motion for moving same away from said swinging arm.

2. Remote control for a vehicle door latch comprising a manually operated swinging arm, a link having a lost motion connection at one end with said arm enabling lost motion in a bolt retracting direction and operatively connected at the opposite end to the latch bolt, an arm pivoted at one end and having an intermediate portion engageable with said swinging arm for blocking movement thereof, manual means for moving said pivoted arm to operative position, and a cam element cooperable with said link for actuating said pivoted arm to inoperative position upon said lost motion.

3. Remote control for a vehicle door latch comprising a manually operated swinging arm, a link having a lost motion connection at one end with said arm enabling lost motion in a bolt retracting direction and operatively connected at the opposite end to the latch bolt, an arm pivoted at one end and having an intermediate portion engageable with said swinging arm for blocking movement thereof, manual means for moving said pivoted arm to operative position, and an integral cam extension on said arm engageable by said link for actuating said pivoted arm to inoperative position upon said lost motion.

4. Remote control for a vehicle door latch comprising a manually operated swinging arm, a link having a lost motion connection at one end with said arm enabling lost motion in a bolt retracting direction and adapted to be connected at its opposite end to the latch bolt, a mounting plate for said swinging arm, a plate movable over said mounting plate and engageable with said swinging arm for blocking operative movement thereof, an integral cam extension on said last plate, manually operated means engaging said extension for moving same to and from operative position, and a cam surface on said extension engageable by a portion of said link, said last parts being constructed and arranged for actuating said last plate to inoperative position upon said lost motion.

HOLDEN W. RIGHTMYER.