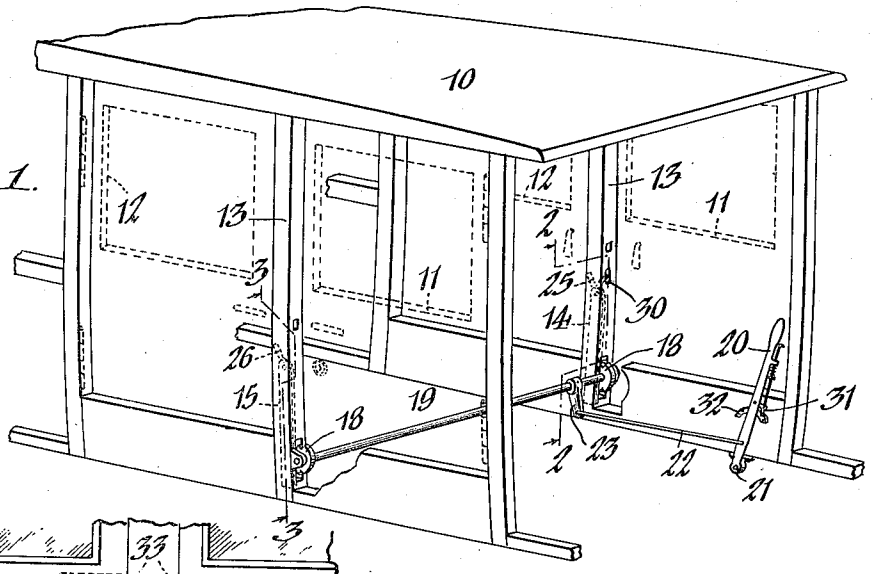
March 20, 1928. 1,662,985

J. W. SIGNORE

DOOR LATCHING MECHANISM FOR AUTOMOBILES

Filed June 11, 1926

Fig. 1.



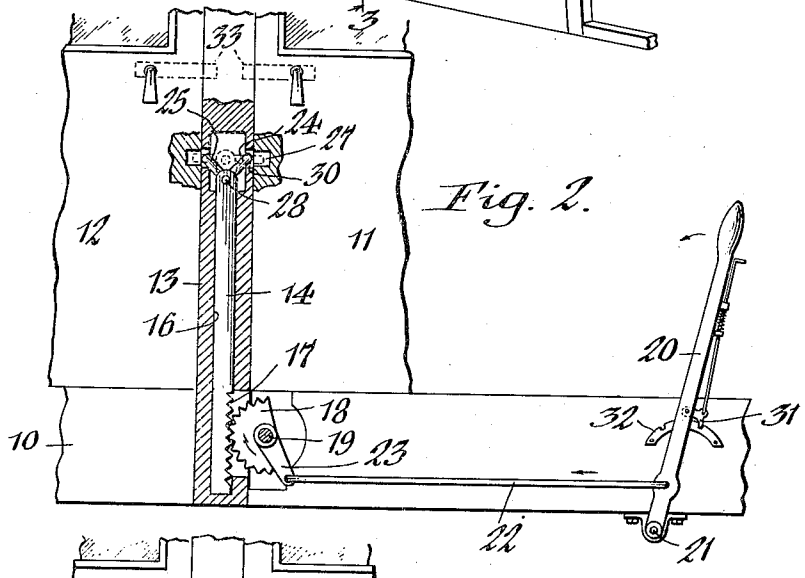


Fig. 2.

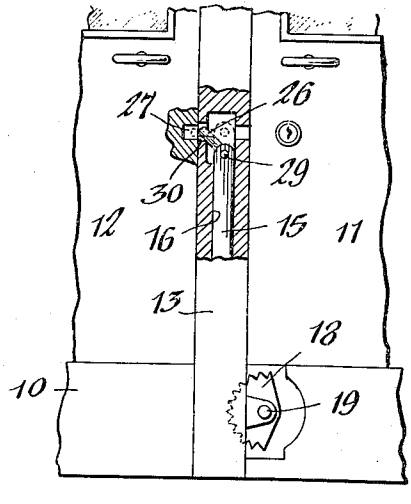


Fig. 3.

Inventor;
James W. Signore,
by Geyer & Geyer
Attorneys.

Patented Mar. 20, 1928. 1,662,985

UNITED STATES PATENT OFFICE.

JAMES W. SIGNORE, OF ELLICOTTVILLE, NEW YORK.

DOOR-LATCHING MECHANISM FOR AUTOMOBILES.

Application filed June 11, 1926. Serial No. 115,234.

This invention relates to a latching mechanism for the doors of sedan cars.

Its chief object is the provision of a latching mechanism of this character by which a plurality of the doors, say the two rear ones and one of the front ones, can be simultaneously locked and unlocked from the driver's seat.

Another object of the invention is to provide a multiple door latching device which is simple and compact in construction, which is reliable in operation, and which is not liable to get out of order.

In the accompanying drawings:

Figure 1 is a fragmentary perspective view of the frame-structure of a sedan car showing the invention embodied therein. Figures 2 and 3 are enlarged fragmentary sections on the correspondingly numbered lines in Fig. 1.

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

The invention is shown in connection with an automobile of the sedan type, 10 indicating the body, and 11 and 12 the front and rear set of doors, respectively. The improved latching mechanism is designed to simultaneously control the latching and unlatching of one of the front doors 11 and both rear doors 12 from a central point within the vehicle, say the driver's seat, the other front door having a separate key-operated lock of ordinary construction.

Mounted for vertical reciprocating movement in the body frame-members 13 disposed between the front and rear doors are latch-controlling bars 14, 15, the bar 14 controlling the front and rear doors on one side of the vehicle and the bar 15 controlling the rear door on the other side thereof. Each controlling bar is preferably guided in an upright opening or channel 16 formed in its corresponding frame member. These bars are adapted to be actuated simultaneously to govern the latching and unlatching of the respective doors and for this purpose each is provided along one of its longitudinal edges, preferably the front one, with a rack or series of teeth 17 with which a gear segment 18 is adapted to engage. One of these segments is pinned or otherwise fixed on either end of an oscillatory transverse shaft 19 journaled at its ends in the frame members 13 or other adjacent part of the vehicle body, so that when the shaft is turned in one direction or the other, the latch-controlling bars 14, 15 are correspondingly raised or lowered in unison. The means for actuating this shaft consists of a lever 20 pivoted at 21 to the vehicle-body adjacent the driver's seat where it is convenient for operation, when desired, a horizontal link 22 connected at its front end to the lever above its fulcrum, and a crank arm 23 depending from said shaft and joined to the rear end of the link.

The movement of the controlling bars serve to actuate latching devices which are arranged for movement into and out of engagement with the doors. The preferred latching devices, shown in the drawings, consist of bolts 24, 25 and 26 attached to the upper ends of the bars 14, 15 and adapted to engage corresponding sockets 27 in the doors when the bars are elevated, and be disengaged therefrom when the bars are lowered. The oppositely-facing bolts 24 and 25 are applied to the bar 14, while the bolt 26 is applied to the bar 15, the first-named bolts being pivoted at their inner ends to a common horizontal pivot pin 28 secured in the upper end of said bar 14 and the bolt 26 being pivoted to a pin 29 secured in the upper end of its bar 15. The free or outer end of each bolt is supported and guided in a corresponding lateral opening 30 formed in the respective frame-members 13 and intersecting the upper end of the controlling bar guide opening 16 in the companion frame-member. The bolt-openings 30 are in line with the door-sockets 27 and are elongated in a vertical direction sufficiently to permit the bolts to freely pass therethrough during their latching and unlatching movements. In the unlatched position of the parts, the bolts extend upwardly and outwardly at an angle to their controlling bars with their outer portions contained within the elongated openings 30 so as not to interfere with the opening and closing movements of the doors. When the controlling bars 14, 15 are elevated to simultaneously latch the doors, the bolts are gradually swung to their projected, substantially horizontal position. The lower side of the bolts are constantly maintained in contact with the lower ends or corners of the companion guide openings 30 by their own weight, thereby positively insuring the relative projected and retracted movements of such bolts as their controlling bars are raised and lowered.

The operating lever 20 for controlling the door-latching mechanism may be held in a set position by a pawl 31 carried thereby and arranged to interlock with a quadrant 32 of any suitable construction.

When the driver parks his car and wishes to latch the doors, he simply pulls the operating lever 20 rearwardly, thereby elevating the controlling bars 14, 15 and simultaneously projecting the several locking bolts to latch both rear doors 12 and one of the front doors 11. Upon getting out of the car, he locks the other front door from the outside in the usual way. The opening of the doors is effected by shifting the operating lever to its forward position.

The several doors of the vehicle are also provided with the customary spring-pressed latches 33 and are not affected in any way by my improved multiple door latching mechanism.

I claim as my invention:

1. In a locking mechanism of the character described, the combination with a vehicle-body having a plurality of doors and a frame-member disposed between adjoining doors on one side of the body, of independent locking devices for adjoining doors, a lock-controlling bar guided for movement on said frame-member for simultaneously moving said locking devices to their locked and unlocked positions, and means for actuating said lock-controlling bar.

2. In a locking mechanism of the character described, the combination with a vehicle body having a plurality of doors and a frame-member disposed between adjoining doors on one side of the body, of a lock-controlling bar guided for vertical movement on said frame-member, locking bolts applied to said controlling bar and movable relatively thereto into and out of their locked positions in response to the raising and lowering movements of said bar, and means for actuating the lock-controlling-bar.

3. In a locking mechanism of the character described, the combination with a vehicle-body having a plurality of doors and a frame-member disposed between adjoining doors on one side of the body, said frame-member having a longitudinal guide channel and lateral openings communicating with the latter, of a lock-controlling bar guided for vertical movement in the longitudinal channel of the frame-member, oppositely-facing locking bolts pivoted to said controlling bar and engaging the lateral openings of said frame-member, said bolts being simultaneously movable into their locked position when the lock-controlling bar is moved in one direction and into their unlocked position when the bar is moved in the other direction, and means for actuating said lock-controlling-bar.

4. In a locking mechanism of the character described, the combination with a vehicle-body having a plurality of doors, of locking devices for each of the doors, vertically-movable controlling bars located between adjoining doors for operating their corresponding locking devices, each of said bars having a series of teeth along one of the edges thereof, a transverse shaft, gear segments mounted on said shaft and meshing with the teeth of said controlling bar, and an operating lever for oscillating said shaft to simultaneously shift said controlling bars in one direction or the other.

JAMES W. SIGNORE.