Sept. 26, 1939. T. VANDEVELD 2,174,231

VEHICLE DOOR LOCK

Filed July 9, 1938

Fig.1.

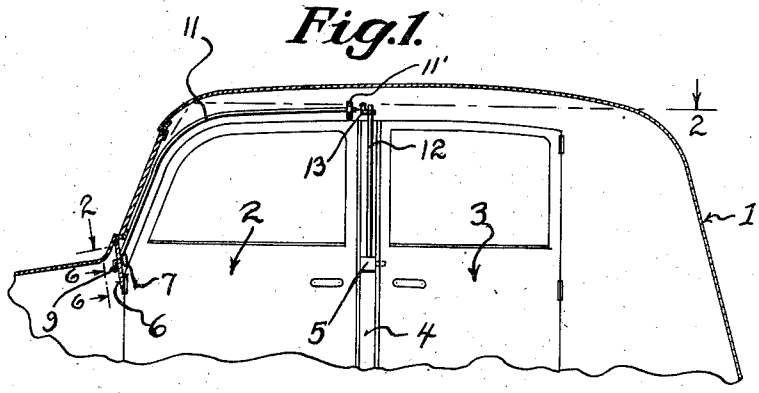


Fig.2.

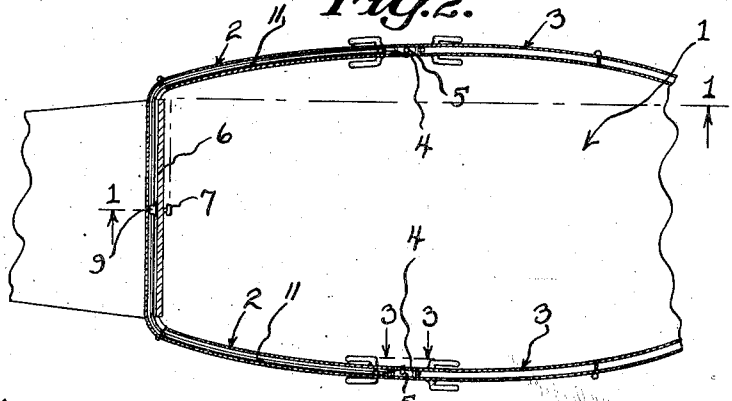


Fig.3.

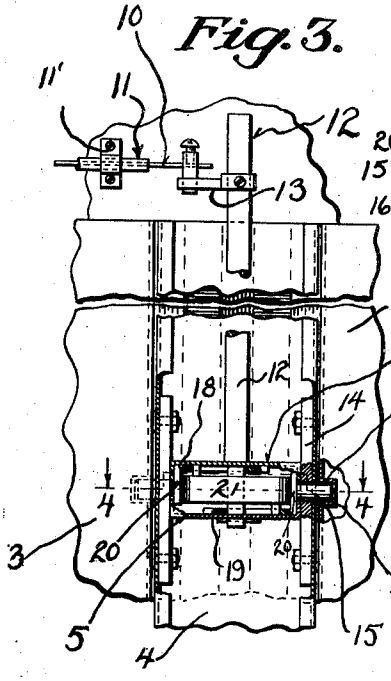


Fig.4.

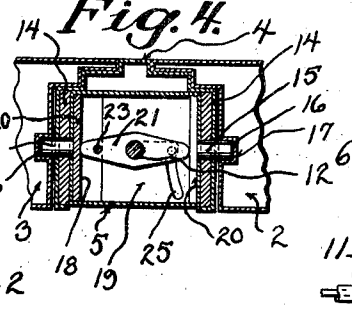


Fig.5.

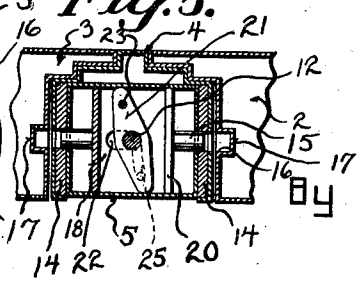
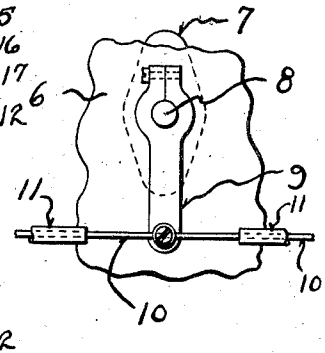


Fig.6.



Inventor
T. Vandeveld

By

Attorneys

Patented Sept. 26, 1939 2,174,231

UNITED STATES PATENT OFFICE

2,174,231

VEHICLE DOOR LOCK

Thomas Vandeveld, Kenosha, Wis.

Application July 9, 1938, Serial No. 218,394

3 Claims. (Cl. 292—33)

This invention pertains to door locks, and more particularly to a system of locks for a plurality of doors in pleasure vehicles.

At the present time, vehicle doors are controlled and latched independently, and have inner and outer latch operating handles. Consequently, there is continual danger of accidental opening by the doors by the passengers, particularly children, when the vehicle is in motion.

It is, therefore, the primary object of the present invention to provide a plurality of positive locks for the several doors of a motor vehicle, in combination with a remote actuating mechanism conveniently located within control of the operator only, whereby a plurality of doors can be simultaneously released or locked to prevent either accidental or unauthorized opening.

Incidental to the foregoing, a more specific object of the invention resides in the novel construction of the positive lock employed.

With these and other objects in view, the invention consists in the novel construction, arrangement, and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawing, in which drawing:

Figure 1 is a fragmentary longitudinal section through a motor vehicle equipped with the present invention, the same being taken on line 1—1 of Figure 2.

Figure 2 is a plan sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged, fragmentary detail view, with parts broken away and in section to more clearly illustrate structural features, the same being taken on the line 3—3 of Figure 2.

Figure 4 is a transverse sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a similar view showing the lock in its retracted position.

Figure 6 is a fragmentary detail view of the actuating mechanism taken on the line 6—6 of Figure 1.

Referring now more particularly to the accompanying drawing, the numeral 1 designates a conventional closed body of a motor vehicle provided with front and rear doors 2 and 3, respectively, which close and latch against intermediate posts 4 in the usual manner.

As best shown in Figures 3 to 5, inclusive, the posts 4, which are formed of metal, are hollow and have secured therein lock housings 5, which contain mechanism hereinafter described for positively locking the adjacent door or doors.

Mounted upon the dash 6 in front of the driver or at any other convenient point is a manipulating handle 7 secured upon a rock shaft 8 extending through the dash. A crank-arm 9 is rigidly secured to the inner end of the rock shaft, and has secured to the opposite sides of the lower end thereof flexible operating wires 10. These wires lead in opposite directions toward the side walls of the vehicle body. Guide tubing 11 slidably receives the wires, and the tubing 11 extends up through the roof of the body and terminates over the hollow door posts 4. The tubing is confined against movement by suitable clamps 11' attached at desired spaced points in the vehicle body.

As best shown in Figures 3 to 5, inclusive, a rock shaft 12 is journaled in each lock housing 5 and extends upwardly beyond the top of its post 4. A crank-arm 13 is secured to the upper end of each post 12, and the crank-arms are, in turn, connected to the flexible wires 10. As suggested in Figure 2, the crank-arms 13 extend toward one another. Thus, by operating the handle 7, the rock shafts 12 of the latches can be manipulated.

The housings 5 are rigidly secured in place within the hollow posts 4 in any preferred manner, and attaching plates 14 can be utilized for this purpose, as is clearly shown in Figure 3 of the drawing.

Within each lock housing is slidably mounted locking bolts 15. These bolts extend through the opposite end walls of the casings 5, and through openings 16 in the opposite sides of the center posts 4. The front and rear doors 2 and 3 of the vehicle body are provided with keeper sockets 17 for receiving the bolts when the bolts are in their projected position. The bolts 15 are formed on or secured to L-shaped slide plates 18 and 19 arranged within each lock housing 5. As shown in Figures 3 to 5, inclusive, the bolts 15 are carried by the vertical flanges 20 of the L-shaped slide plates, and the horizontal flanges of the slide plates lie on opposite sides of the operating cam 21. This cam 21 is rigidly secured to its rock shaft, and the ends thereof are adapted to bear against the vertical flanges 20 of the slide plates 18 and 19.

The slide plates are provided with centrally disposed, longitudinally extending slots 22 for the rock shaft, and the ends of the cam 21 carry oppositely directed pins 23 for engaging in slots 25 formed in the horizontal flanges of the slide plates. Thus, the slide plates are actuated back and forth by the cam, and, obviously, when the cam is in the position shown in Figure 4, the slide plates are in their extended position, and

inward pressure on the bolts 15 is resisted by the cam 21.

As previously set forth, the rock shafts 12 on opposite sides of the vehicle body can be rocked back and forth by the actuating handle 7 located in the driver's compartment, and, thus, by manipulating the handle 7 the lock bolts can be moved into and out of locking position with the doors 2 and 3. When the bolts 15 are in engagement with the walls of their keeper sockets, accidental opening movement of the doors will be prevented, as, obviously, manipulation of the ordinary door latches will not affect the bolts at all.

By my arrangement and construction, the driver of the vehicle has complete charge of the locking of the doors, and, thus, accidents caused by the opening of the doors through inadvertence or playing with the latch handles is eliminated.

Changes in details may be made without departing from the spirit or the scope of my invention, but what I claim as new is:

1. The combination with a vehicle body including a post and swinging doors movable to a closed position against said post, of a lock for said doors carried by said post, including sliding bolts movable into and out of locking engagement with the doors, means for operating said bolts, including a rock shaft extending through the post and terminating beyond one end thereof, an operating handle located adjacent the driver's seat, a crank actuated by said handle, a crank on the shaft, and a flexible cable connecting said cranks together.

2. A door latch comprising a housing, L-shaped slides movable in the housing having overlapping spaced body plates and rectangularly extending flanges, said flanges being arranged in spaced parallel relation and disposed at the outer ends of the body plates, outwardly extending bolts carried by the flanges, a rock shaft extending into the housing, a double-armed cam secured to the rock shaft and movable into and out of engagement with the inner faces of the flanges, said body plates also having connection with said cam including pins carried by the cam, and slots formed in the body plates receiving the pins, the cam extending in a straight line from one flange to the other when the bolts are projected.

3. A lock comprising a housing, a pair of L-shaped slides mounted in said housing, each of said slides including a short vertical flange and an elongated body plate, bolts secured to the flanges and projecting outwardly from the outer faces of said flanges, a rock shaft extending into the housing, a double-armed cam secured to the rock shaft and movable into engagement with the inner surfaces of the flanges, the body plates having arcuate slots therein, and pins carried by the outer ends of the arms of the cam received in said slots, the cam extending in a line from one flange to the other when the bolts are projected.

THOMAS VANDEVELD.