June 2, 1953 C. BROWN 2,640,720

VEHICLE DOOR LATCH

Filed May 16, 1950 2 Sheets-Sheet 1

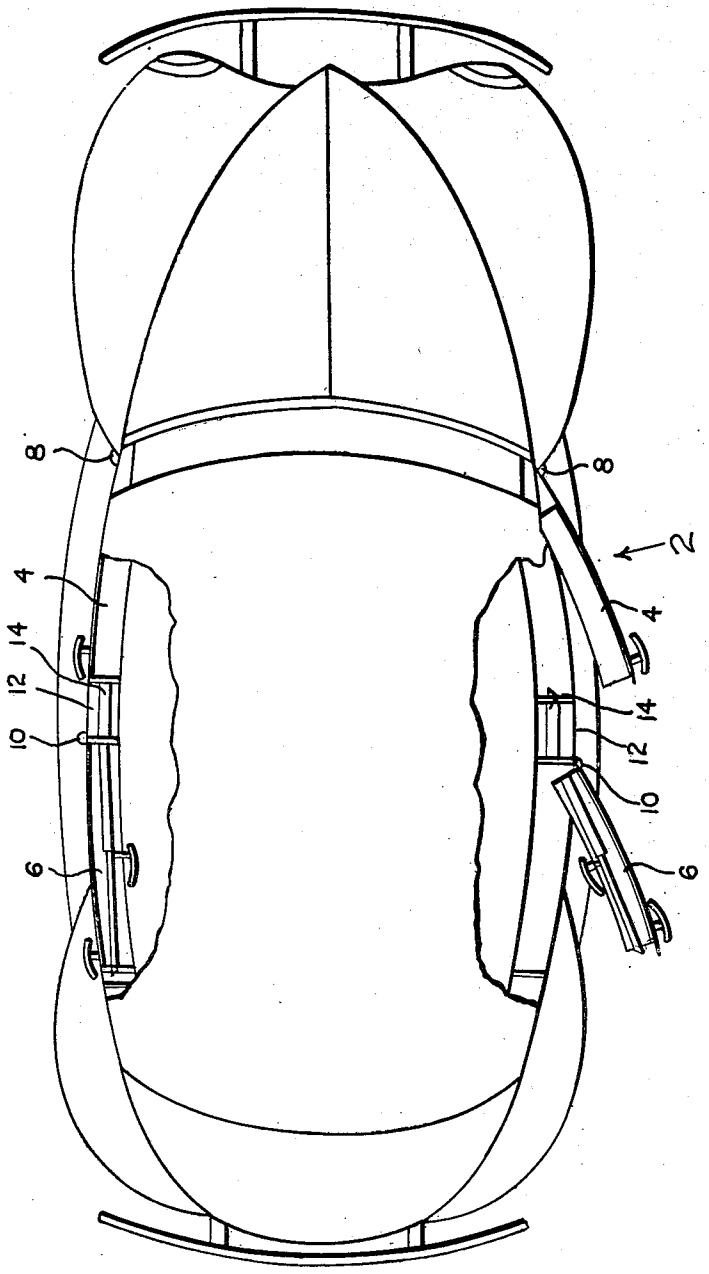


Fig. 1

INVENTOR.
CURTIS BROWN
BY
James H. Littlepage

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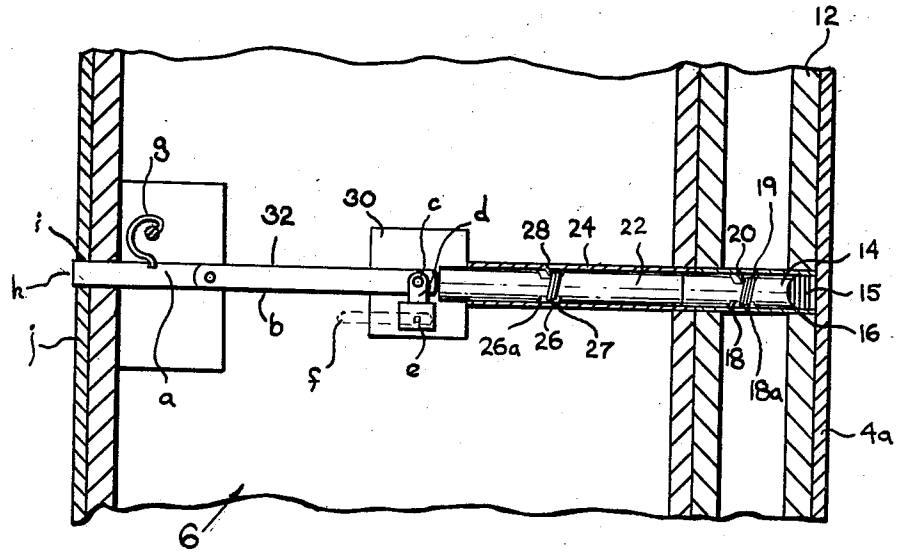


Fig. 2

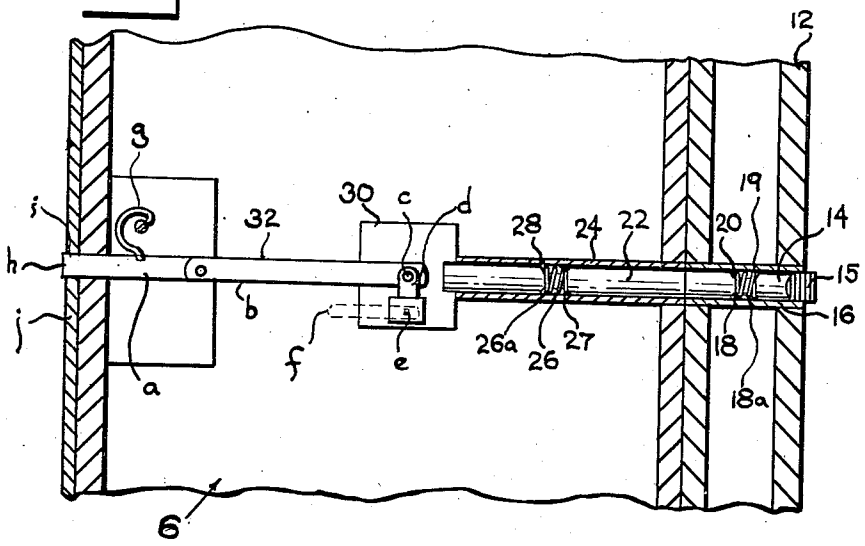


Fig. 3

INVENTOR.
CURTIS BROWN
BY
James H. Littlefield

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VEHICLE DOOR LATCH

Curtis Brown, Kentland, Ind.

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4 Claims. (Cl. 292—150)

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This invention relates to vehicle door latches and more particularly to a device for positively locking the rear door latch mechanism of an automobile when the front door is in its closed position.

The many advantages of a four door sedan type automobile are oftentimes overshadowed by the inconvenience in positively locking the rear doors, particularly when seated in the front. The problem presents itself, for example, in the case of small children. Many accidents resulting in great bodily injury have occurred where small children, in the back seat, play with the rear door latch operating handle and fall out while the vehicle is in motion.

Many of the previous attempts have involved a manual locking operation. If the operator of the automobile believes the door to be locked when it, in fact, is not, the danger is even greater because he assumes there is no possibility of an accident and is not as alert to avoid the accident, as he would otherwise be. It is therefore the primary object of this invention to provide a device for positively locking the rear door of a conventional four door sedan type vehicle by closure of the front doors.

In contrast with previous systems involving auxiliary or duplicate locks for rear doors operated by closure of the front doors, the present invention is intended to utilize rear door latches of the type now in use by blocking them against operation when the front doors are closed.

These and other objects will be apparent from the following specification and drawing, in which:

Fig. 1 is a plan view, partially broken away, illustrating a typical installation of the latch mechanism;

Fig. 2 is a diagrammatic fragmentary vertical section taken through the rear edge of a front door, the center post, rear door, and rear door post of a typical installation such as shown in Fig. 1, showing the latching mechanism in blocked condition; and,

Fig. 3 is a view similar to Fig. 2 but showing the latching mechanism in unblocked position.

Referring to the drawings in which like reference numerals denote similar elements, the vehicle generally indicated by numeral 2 is the conventional four door sedan automobile having front and rear doors 4 and 6 respectively. The front door 4 is hinged toward the front of the vehicle by suitable hinges 8, and the rear door is hinged to the center post 12 by suitable hinges 10.

While, for purposes of illustration, an elementary form of door latching mechanism has been shown, it will be understood that the invention is applicable to any one of a number of systems conventionally employing a latch mechanism 30 including a latch bolt *a*, an actuating rod or linkage *b* pivoted at *c* to the rocker arm *d* of a manual control mechanism *d* having a handle *f* rockably supported on a shaft *e*. It will be understood that when handle *f* is rocked about shaft *e* in a clockwise direction as seen in Figs. 2 and 3, rocker arm *c* pulls bolt *a* to the right against the bias of spring *g* so as to clear its latching end *h* from keeper hole *i* in rear door post *j*.

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In accordance with my invention, each center post 12 is provided with a horizontally disposed aperture into which is inserted a tubular bolt housing 16. The ends of the bolt housing 16 are flush with the forward and rearward panels of the center post 12. A rod-like bolt 14 slidably fits the housing 16. The bolt 14 has a beveled nose 15 at the right hand extremity and has a central reduced neck 18 to receive a coil spring 18*a*. The left hand end of the spring 18 abuts against a tongue 20 struck inwardly from the walls of the bolt housing 16 and the opposite end of the spring 18*a* engages a shoulder 19 of the bolt 14, the arrangement being such that the bolt 14 is urged to the right of Fig. 2 or toward its forward, unblocking position.

The rear door 6 is provided with a tubular plunger housing 24 disposed so that when the front door is in a closed position, the plunger housing 24 is in direct alignment with the bolt housing 16. A rod-like plunger 22 slidably fits the housing 24 and is also provided with a reduced neck 26*a* intermediate its ends to receive a spring 26. The left hand end of the spring 26 abuts against a tongue 28 struck inwardly from the walls of the plunger housing 24 while the opposite end of the spring 26 engages the shoulder 27 of the plunger 22, so that the plunger is urged toward the right of Fig. 2 to an inoperative or non-blocking position. The rear end of plunger 22, when the latter is forced to the left, engages against rocker arm *c* so as to block it against counter-clockwise, or latch-opening movement.

In operation, when the rear door 6 is closed and the front door 4 is swung to its closed position striker plate 4*a* of the front door engages the beveled nose 15 of the rod-like bolt 14 and thus cams bolt 14 rearwardly against the bias of spring 19. As the bolt is driven rearwardly through the center post 12, it engages and drives

the plunger **22** a corresponding distance to the rear. Plunger **22** engages the rocker arm *c* of the latch operating mechanism **30** and positively blocks retracting movement of the latch bolt **32** as shown. Manifestly, by blocking the action of the latch mechanism **30** the rear door is positively locked and will remain in such condition until the front door **4** is opened, thus permitting the plunger and bolt to move away from and free the latch operating mechanism.

It will be apparent that the latch-blocking mechanism may be adapted for blocking various latch bolts, their operating mechanisms or linkages without departure from the invention and the following claims.

I claim:

1. A latching device adapted for use in an automobile body having front and rear pivotally mounted doors, said latching device comprising a retractible latch mechanism in said rear door, means for blocking the rear door latch mechanism when the front door is closed comprising a blocking element movably mounted in said rear door respectively movable between blocking and unblocking positions with respect to said rear door latch mechanism, biasing means normally biasing said blocking element to unblocking position and means engageable by the front door when the latter is closed for moving said element to said blocking position.

2. A latching device adapted for use in a vehicle body having a front door, a center post, and a rear door pivoted along its forward edge to said center post, said latching device comprising a latch mechanism in said rear door including operating linkage movable forwardly and rearwardly for respectively latching and unlatching said rear door, a push-rod slidably mounted in said rear door for movement between a rearward position in which a rear portion thereof blocks said linkage against forward movement and a forward position in which said rear portion of said push-rod is spaced from said linkage thereby unblocking the same, and means operated by closure of said front door for moving said push rod to its rear position upon closure of said front door.

3. The combination claimed in claim 2, and a spring engaged between said rear door and said push-rod normally biasing the latter to its forward position.

4. A latching device adapted for use in a vehicle body having a front door, a center post, and a rear door pivoted along its forward edge to said center post, said latching device comprising a latch mechanism in said rear door including operating linkage movable between two positions for respectively latching and unlatching said rear door, a first push-rod longer than the fore-and-aft dimension of said center post and movably mounted in said center post for movement between a forward position in which a forward portion of said first push-rod projects forwardly of said center post and in which forward position the rear portion of said first push-rod lies flush with the rear edge of said center post, and a rearward position in which the forward portion of said first push-rod lies flush with the front edge of said center post and the rear portion of said first push-rod projects rearwardly from the rear edge of said center post, a cam nose on the forward portion of said push-rod whereby the latter is cammed rearwardly upon closing of said front door, and a second push-rod movably mounted in said rear door for movement by said first push-rod between a forward position in which a forward portion thereof lies flush with the forward edge of said rear door and in alignment with the rear end of said first push-rod with the rear portion of said second push-rod spaced forwardly from said door operating linkage, and a rear position in which the forward end of said second push-rod lies rearwardly of the front edge of said rear door and in which a rear portion thereof engages said latch operating linkage for blocking the latter against movement to its unlatching position.

CURTIS BROWN.

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