March 23, 1937. P. ZIOMEK ET AL 2,074,449

LOCKING MECHANISM

Filed Dec. 29, 1933

Fig. 1.

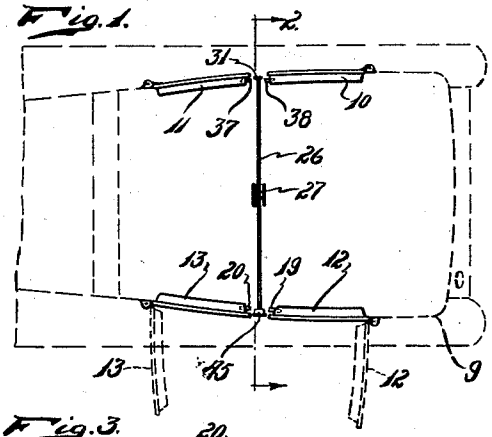


Fig. 5.

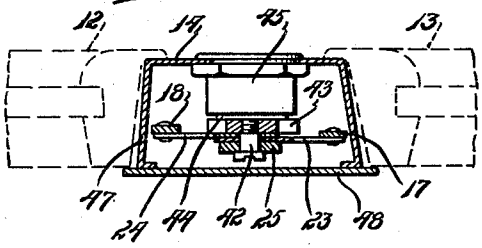


Fig. 3.

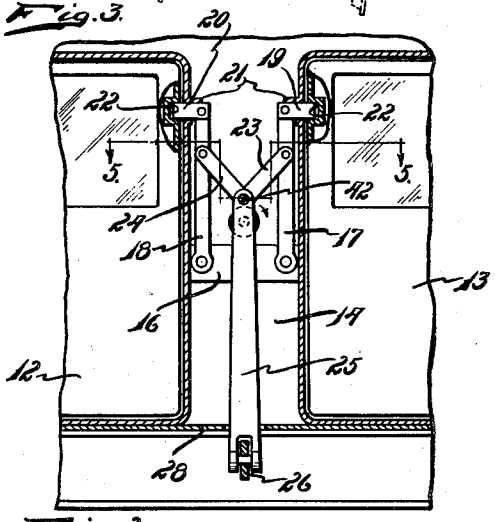


Fig. 4.

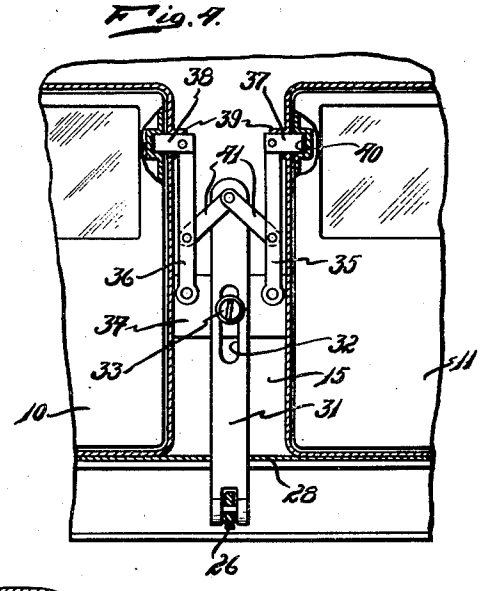


Fig. 2.

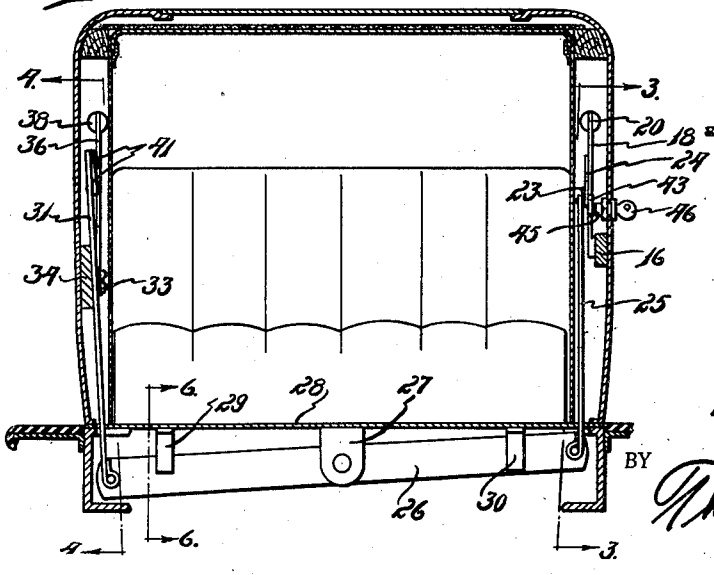
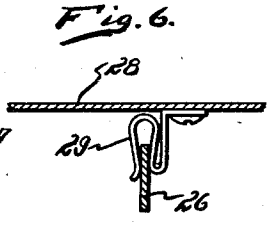


Fig. 6.



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LOCKING MECHANISM

Peter Ziomek and Thomas Kowalski, Detroit, Mich.

Application December 29, 1933, Serial No. 704,494

1 Claim. (Cl. 292—45)

Our invention relates to a new and useful improvement in a locking mechanism, adapted for use in locking and unlocking doors, which are swingably mounted in pairs and positioned opposite each other. The invention lends itself particularly for use in locking vehicle doors, which are swingably mounted in pairs at opposite sides of the vehicle body.

It is an object of the present invention to provide a locking mechanism of this class, whereby the oppositely disposed pairs of swingable doors may be simultaneously locked and unlocked through the medium of a single actuating mechanism.

Another object of the invention is the provision of a locking mechanism of this class, embodying two pairs of swingable lock members, and provided with an actuating mechanism, whereby the lock members in each set may be simultaneously moved to locking and unlocking position.

Another object of the invention is the provision in a locking mechanism of this class, of a pair of longitudinally movable bars connected by a rockable member, so that longitudinal movement of one of the bars will effect longitudinal movement of the other.

Another object of the invention is a provision of a device of this class which will be simple in structure, economical in manufacture, durable, light, and easily and quickly operated, and easily and quickly installed.

The invention consists in the combination and arrangements of parts hereinafter described and claimed.

The invention will be best understood by a reference to the accompanying drawing, which forms a part of this specification, and in which,

Fig. 1 is a top plan view of the invention, showing it applied.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 3.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 2.

In the drawing we have illustrated the invention used with a vehicle body 9, having a pair of swingable doors 10 and 11, positioned at one side of the body, and a pair of swingable doors 12 and 13 at the other side. When the doors 12 and 13 are swung to closed position, the adjacent edges will engage a pillar post 14, and a similar pillar post 15 projects upwardly, so as to lie between the adjacent edges of the doors 10 and 11. Swingably mounted at their lower ends on a cross bar 16, supported on the pillar post 14, are arms 17 and 18, each of which carries at its upper end, a lock bolt 19 and 20 respectively, sliding in the sleeve 21, and adapted to project into the bolt receiving socket 22, carried by the door. When the lock bolts 19 and 20 are engaging in the socket 22, the doors will be locked in closed position. Pivotally connected at one of their ends to the members 17 and 18, are the arms 23 and 24, the other ends of which are pivotally connected to the other end of the longitudinally movable bar 25. The lower end of the bar 25 is pivotally connected at one end to the rocking beam 26, which is pivoted on the lugs 27, depending from the floor 28 of the vehicle body. Spring clips 29 and 30 are adapted to engage the beam 26, so as to prevent undue swinging of this beam, while at the same time, permitting free swinging of the same when actuating the locking mechanism. The opposite end of the beam 26 is pivotally connected to the lower end of the longitudinally movable bar 31. This bar 31 is provided with the elongated slot 32, in which engages the screw 33, threaded into the cross bar 34, which is supported by the pillar post 15. Pivotally mounted at their lower ends on the cross bar 34, are the arms 35 and 36, each of which carries at its upper end the lock bolts 37 and 38 respectively. These bolts slide in the guide sleeves 39 and are adapted for projecting into a lock bolt receiving pocket 40, carried by the doors 10 and 11. A mechanism, embodying the links 41, serves to effect a swinging of the arms 35 and 36 from locking to unlocking position, and vice versa, upon longitudinal movement of the bar 31. Each of the links 41 are pivotally connected at one end to the upper end of the bar 31, and at their opposite ends to one of the arms 35 and 36, intermediate their ends. It will be noted that the arms 23 and 24 project upwardly from the end of the bar 25, and that the arms 41 project downwardly from the point of connection with the bar 31. The lower ends of the members 23 and 24 are connected to the bar 25 by the screw 42, and this screw also connects eccentrically to the disc 43, which is carried on the inner end of the rotatable locking barrel 44, which is rotatably mounted in the casing 45. This lock barrel 44 is key operated, and may be rotated only by the use of the proper key 46.

As shown in Fig. 5, the entire mechanism is en-

closed in a box like housing 47, having the removable inner panel 48.

In operation, when the proper key 46 is used, the lock barrel 44 may be rotated, so as to rotate the disc 43, to which the screw 42 eccentrically connects the arms 23 and 24 and the bar 25. This eccentric movement will force the bar 25 downwardly, which through the medium of the arms 23 and 24, will swing the arms 17 and 18 inwardly toward each other, into unlocking position. The reverse rotation of the disc 43 would effect an upward movement of the bar 25, with a reverse movement of the arms 17 and 18. Thus the lock bolts 19 and 20 may be simultaneously moved to locking and unlocking position. The bar 25 will transmit its longitudinal movement through the rocking beam 26, to the bar 31. The bar 31 will move in a direction opposite to the bar 25, but due to the different location of the connections between the bar 31 and the lock arms 35 and 36, it is obvious that the lock bolts 37 and 38 will be swung to locking and unlocking position simultaneously with the same movement of the lock bolts 19 and 20. Thus, we have provided a locking mechanism which renders it possible to lock and unlock the four doors of a vehicle body simultaneously.

It is believed obvious that the device may be economically manufactured, that it is light, durable, easily operated and quickly installed.

While we have illustrated and described the perferred form of construction, we do not wish to limit ourselves to the precise details of structure shown, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claim.

Having thus described our invention of what we claim is new and desire to secure by Letters Patent is:

In a vehicle having a plurality of swingable, oppositely disposed doors, a pair of spaced arms, each swingably mounted at one of its ends between a pair of doors; a lock bolt portion projecting outwardly from the free end of each of said arms and swingable into position for locking one of said doors; a longitudinally movable arm; a pair of toggle links connecting said longitudinally movable arm to each of said swingable arms, intermediate the ends of said swingable arms, and adapted upon longitudinal movement of said longitudinally movable arm for swinging said swingable arms into position for effecting movement of the lock bolt portions into operative and inoperative positions.

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