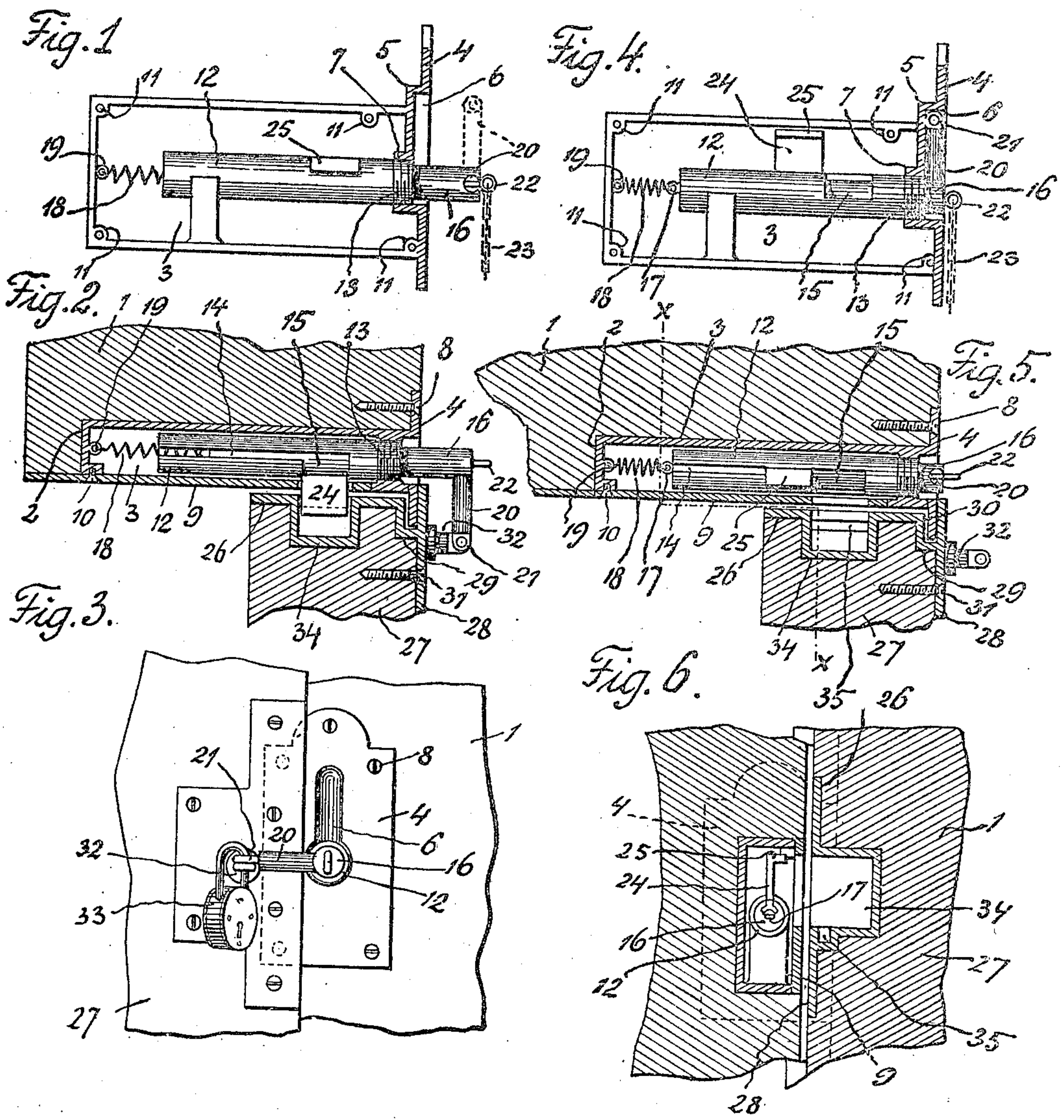


J. F. BILLY.  
 CAR DOOR LOCK.  
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952,411.

Patented Mar. 15, 1910.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH F. BILLY, OF MONESSEN, PENNSYLVANIA.

## CAR-DOOR LOCK.

952,411.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed October 19, 1909. Serial No. 523,549.

*To all whom it may concern:*

Be it known that I, JOSEPH F. BILLY, a subject of the King of Hungary, residing at Monessen, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Car-Door Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to locks, and more particularly to that type of lock designed for securing sliding doors in a closed position.

The primary object of my invention is to provide a novel locking mechanism that can be advantageously used in connection with car doors, the lock being simple in construction and positive as a fastening means for a door.

A further object of this invention is to provide a locking mechanism that can be easily manipulated, the mechanism carried by the body of the car or similar support being securely housed and presenting no obstruction upon the exterior of the car when the door thereof is open.

With the above and such other objects in view as may hereinafter appear, the invention consists in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the shape, proportion and manner of assemblage without departing from the spirit and scope of the invention.

In the drawings:—Figure 1 is a side elevation of that portion of a lock adapted to be carried by a car body, illustrating the lock in an extended position. Fig. 2 is a horizontal sectional view of the same in conjunction with a door, showing the lock in a locked position. Fig. 3 is a front elevation of the same. Fig. 4 is a side elevation of the lock in a retracted position. Fig. 5 is a similar view of the same in conjunction with a car. Fig. 6 is a vertical cross sectional view taken on the line  $x-x$  of Fig. 5. Fig. 7 is an end view of a detached bolt housing adapted to form part of the lock. Fig. 8 is an end view of a detached bolt. Fig. 9 is a perspective view of a filler block, and Fig.

10 is a perspective view of a latch adapted to form part of the bolt.

In the accompanying drawings the reference numeral 1 denotes the body of a car or similar support having the side thereof recessed, as at 2, to accommodate an oblong metallic casing 3. The forward end of the casing is closed by an escutcheon plate 4 having an offset portion 5 providing a vertical recess 6 and an interiorly threaded socket 7. The plate 4 is countersunk in the front side of the car body 1 and is secured to said car body by screws 8 or similar fastening means, while the casing 3 is closed by a strike-plate 9 which is secured to the casing 3 by screws 10 or similar fastening means adapted to enter seats 11 provided therefor in the casing 3.

The reference numeral 12 denotes a cylindrical bolt housing having a threaded end 13 adapted to screw into the socket 7, said housing being of a less length than the casing. The housing is provided with bayonet-shaped slot, the longitudinal portion 14 of said slot extending from the inner end thereof in proximity to the outer end, where it communicates with a circumferentially disposed portion 15 occupying approximately one-quarter the circumference of the housing.

The reference numeral 16 denotes a cylindrical bolt slidably mounted in the housing 12, said bolt having the rear end thereof provided with an eyelet 17 which is attached by a coiled spring 18 to an eyelet 19, carried by the rear end of the casing 3. The function of this spring is to normally retain the bolt 16 in a retracted position within the housing 12. The outer end of the bolt is provided with an arm 20 extending at right angles to said bolt, the end of said arm terminating in an apertured lug 21, for a purpose that will hereinafter appear. The end of the bolt 16 is provided with an eyelet 22 to which a chain or cable 23 is attached to permit of the bolt being pulled outwardly to the extended position shown in Figs. 1 to 3 inclusive. The bolt 16 intermediate the ends thereof is provided with a lug 24 which rides in the bayonet-shaped slot, said lug having the end thereof provided with a transverse tooth 25.

The reference numeral 26 denotes a keeper-plate carried by the edge of the door 27 adapted to slide into engagement or in proximity to the strike-plate 9. The keeper-



plate 26 is formed integral with an escutcheon plate 28, which is offset, as at 29, to provide a socket 30 for the edge of the escutcheon plate 4. The plate 28 is secured to the door 27 by screws 31 and is provided with an integral staple or keeper 32 to which the apertured lug 21 of the arm 20 is connected by a pad-lock 33 or a seal. The plate 26 is provided with a socket 34 adapted to receive the toothed lug 24, said socket having the bottom thereof provided with a groove 35 to receive the tooth 25 of the lug 24.

In order that the bolt 16 can be assembled within the cylindrical housing 12 and said housing mounted in the casing 3, it is necessary to mount the lug 24 in the bolt 16 after the bolt and the housing thereof have been arranged in the casing 3. The manner of doing this is as follows:—The bolt 16 is provided with a longitudinal groove 36, substantially inverted T-shaped cross section, and the lug 24 is provided with a longitudinal T-shaped head 37 adapted to slide in the groove 36. The groove 36 is not the entire length of the bolt 16, but of sufficient length whereby the inner end thereof will register with the circumferentially arranged portion 15 of the bayonet-shaped slot when the bolt is extended. After the lug is mounted in the bolt, the rear end of the groove 36 is closed by a filler-block 38.

It will be observed that after the arm 20 is connected to the staple or keeper 32 that the door 27 cannot be moved, or cannot accidentally open, even though the arm 20 is unlocked, until the bolt 16 is rotated one-quarter of a revolution to move the latch out of the keeper-shell or socket 34.

Having now described my invention, what I claim as new is:—

1. In a lock, the combination with a keeper-plate adapted to be carried by a door, and a casing adapted to be held by a door frame, of a bolt housing detachably mounted in said

casing and provided with a bayonet-shaped slot, a bolt slidably and revolubly mounted in said housing, a lug carried by said bolt and adapted to extend through said bayonet-shaped slot and be projected into said keeper-plate, and a right angular arm carried by the outer end of said bolt and adapted to be locked in engagement with said door.

2. In a lock, the combination with a keeper-plate adapted to be carried by a door, and a casing adapted to be carried by a door frame, of a housing mounted in said casing, a bolt slidably mounted in said housing, a lug carried by said bolt and adapted to be swung into said keeper-plate, means within said casing adapted to retain said bolt in a retracted position, and means carried by said bolt and adapted to hold said bolt in an extended position, said means being housed in said casing when the bolt is in a retracted position.

3. In a lock, the combination with a keeper-plate of a door, and a casing adapted to be carried by door frame, of a housing detachably mounted in said casing, said housing having a bayonet-shaped slot formed therein, a spring-held bolt slidably mounted in said housing, a toothed lug carried by said bolt and adapted to protrude from said bayonet-shaped slot into said keeper-plate, an arm carried by said bolt and adapted to facilitate a movement of said bolt, means carried by said casing and adapted to house said arm with the bolt in a retracted position, and means carried by said door and adapted to engage said arm and retain said bolt in extended position with the lug thereof in engagement with said door.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH F. BILLY.

Witnesses:

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