

J. BUDAY.

LOCK.

APPLICATION FILED NOV. 3, 1910.

Patented Mar. 14, 1911.

2 SHEETS-SHEET 1.

987,043.

Fig. 1.

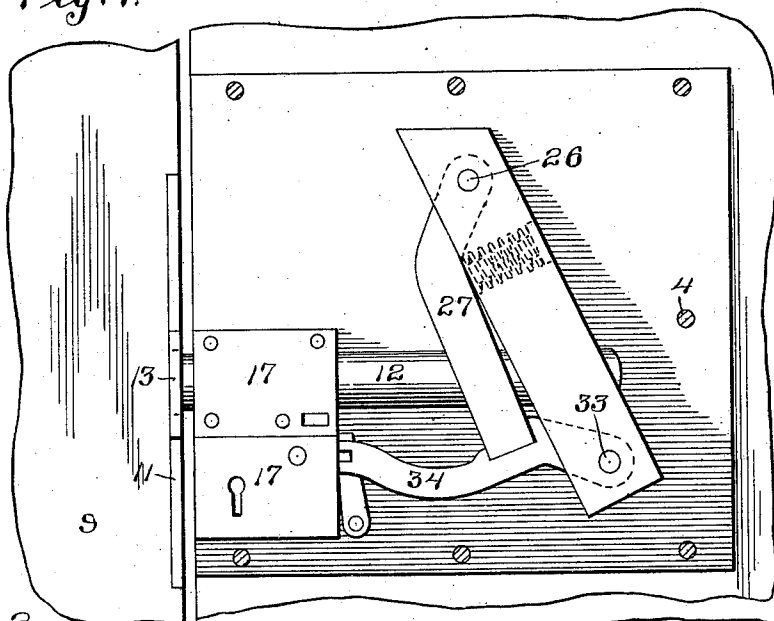


Fig. 2.

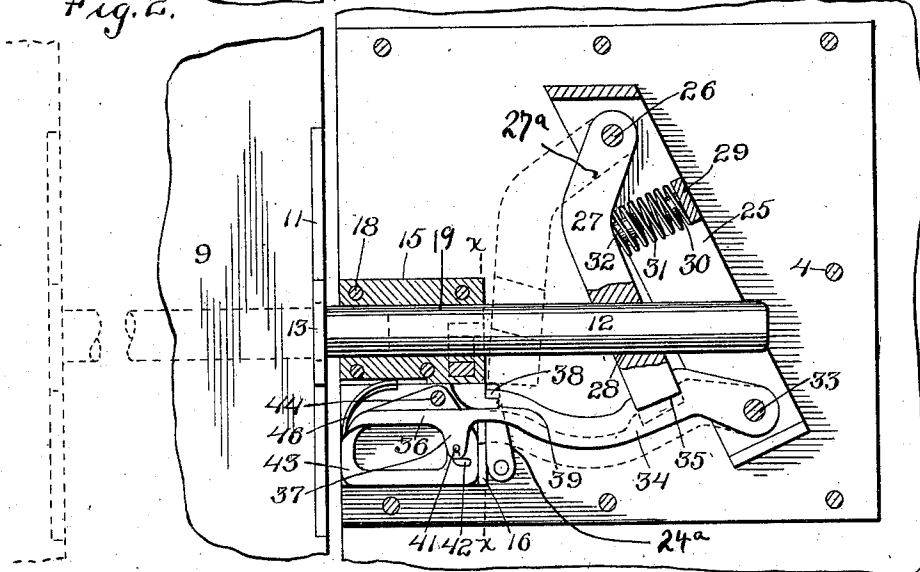
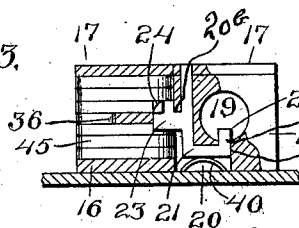


Fig. 3.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

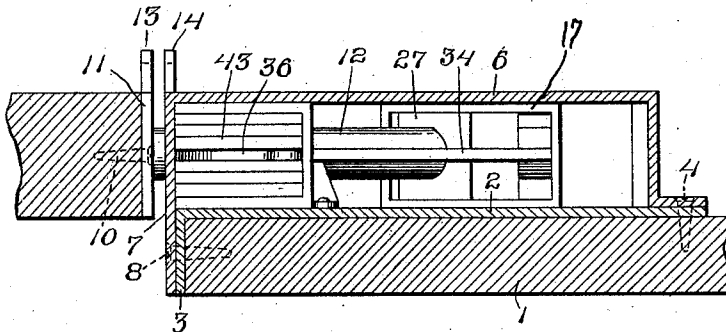
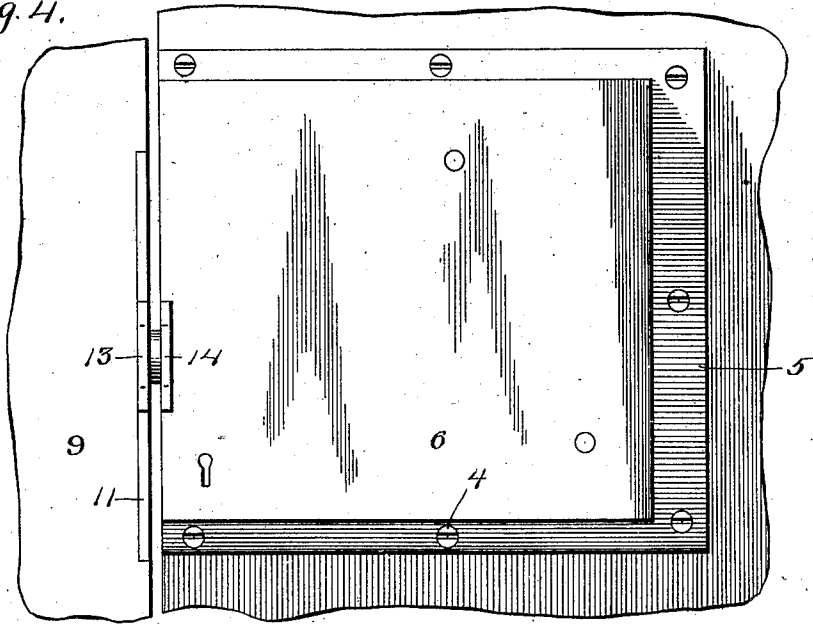


Fig. 5.

Fig. 6.

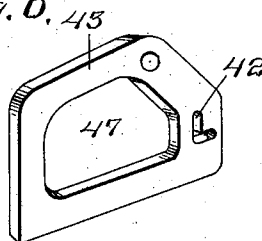
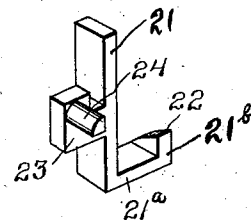


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE

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LOCK.

987,043.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JANOS BUDAY, a subject of the King of Hungary, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to locks particularly designed for car doors, and the object of the invention is to provide a lock that can be advantageously used in connection with sliding doors to positively lock the
15 same in a closed position.

Another object of the invention is to provide a lock with means as will be hereinafter set forth for frictionally gripping a locking bolt and positively holding the
20 same.

A further object of the invention is to provide a lock that will automatically grip the locking bolt and thereby hold the door in a closed position.

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

Reference will now be had to the drawings forming part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood
35 that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claims.

In the drawings:—Figure 1 is a front elevation of the lock with the parts in position to permit of the withdrawal of the bolt, with the casing thereof removed, Fig. 2 is a similar view of the lock partly broken away and partly in section, and further showing in full lines the position of the elements of the lock to permit of the withdrawal of the bolt and in dotted lines the holding lever for the bolt locking member to prevent the withdrawal of the bolt and further showing in dotted lines the position of the locking member when the bolt is withdrawn. Fig. 3 is a vertical sectional view of the lock taken on the line X—X of Fig. 2 looking toward the outer end of the lock, Fig. 4 is a front elevation of the entire lock, Fig. 5 is a horizontal sectional view of the same, Fig. 6 is a perspective
55 view of a detached tumbler, and Fig. 7 is a perspective view of the L-shaped latch for the holding lever.

Like numerals of reference designate corresponding parts throughout the several views.

1 denotes a portion of a car body and secured to this body is a metallic plate 2 having the edge thereof flanged, as at 3 to extend into the doorway of the car body. Secured to the plate 2 by screws 4 or other fastening means is the flanged edge 5 of a rectangular metallic casing 6 having a strike-plate 7 secured to the flange 3 by
65 screws 8 or other fastening means, said screws also securing the flange of the car body 1.

9 denotes a car door and secured to the edge of the door by screws 10 or other fastening means is a counter-sunk bolt plate 11 having a bolt 12 adapted to enter the casing 6. The bolt plate 11 has an apertured lug 13, the aperture of which is adapted to aline with the aperture of a similar lug 80 carried by the casing 6, these lugs permitting of an ordinary seal or padlock being employed for locking the sliding car door 9 and preventing the locking mechanism within the casing 6 being injured.

15 and 16 denote two housings located in the casing 6, each housing having a face plate 17, said face plates and housings being secured within the casing 6 by rivets 18. The housing 15 is provided with a centrally-disposed longitudinally-extending bore 19 through which is adapted to pass the bolt 12 when the latter is shifted to and from locking position. The housing 15 has its inner portion provided with a substantially L-shaped recess 20, the short arm of said recess 20 communicating with the bore 19 through the medium of an opening 20^a. The long arm of said recess 20 opens through the front of the housing 15. The L-shaped recess 20 is formed in the lower part of the housing 15 and its elongated arm opens into the top of the housing 16 through the medium of an opening 20^b. Arranged within the short arm of the recess 20 is a spring 40, the function of which will be presently referred to.

Mounted in the L-shaped recess and projecting through the openings 20^a and 20^b, is a latch element conforming in contour to the shape of the L-shaped recess 20 in connection with the openings 20^a and 20^b and said

element comprises an elongated body-portion 21 which is arranged in the long arm of the recess 20 and further includes a right-angularly disposed end 21^a which is mounted in the short arm of the recess 20 but is of less thickness than the width of said short arm of said recess 20, and the said end 21^a engages the spring 40, the latter maintaining the end 21^a against one wall of the short arm of the recess 20. The end 21^a has its free terminus provided with a lug 21^b having a beveled edge as at 22 and said lug 21^b extends through the opening 20^a and into the bore 19. Projecting from the body-portion 21 of said locking element and through the opening 20^b is a right-angular extension 23 formed with a rearwardly-extending beveled lug 24. The lug 24 is positioned rearwardly of the inner end of the housing 16. Secured to the rear wall of the casing 6 in proximity to the inner end of the housing 16 is a vertically-disposed spring 24^a which has its upper end bearing against the lug 24 and associates with the action of the spring 40 whereby when the bolt 12 is removed from the bore 19 the beveled end 22 of the lug 20^a will extend in the bore. The springs 24^a and 40 further constitute means for shifting the latch element clear of the holding lever to be presently referred to and for the purpose of allowing the bolt locking arm to be presently referred to to assume operative position for locking the bolt. Secured to the rear wall of the casing 6 is an angularly-disposed yoke-shaped frame provided near its upper end with a pivot pin 26 and near its lower end with a pivot pin 33. The frame 25 includes a transverse support 29 formed with a forwardly-extending stud bolt 30 which is surrounded by a spiral at the rear end of a coil compression spring 31. The forward end of said spring surrounds a rearwardly-extending pin 32 carried by a locking member 27 which is pivotally mounted at its upper end upon the pin 26. The upper portion of the bolt locking member 27 is disposed rearwardly at an angle as at 27^a and the lower portion of said member provided with an angularly-disposed opening 28 adapted to aline with the bore 19 when the lock is opened to permit of the withdrawal of the bolt 12. When the bolt 12 is withdrawn, the spring 30 forces the locking member to the position shown in dotted lines in Fig. 2.

Arranged within the housing 16 is a series of tumblers 43, 45, each of which is pivotally-mounted upon a pin 44 which is secured in the housing 16 near the top thereof. The tumblers are normally held in a lowered position through the medium of the springs 46 which are fixed at one end to the tumblers and at their other ends engaging the bottom of the housing 15. Each of the tumblers have openings 47 for the passage of a key

and is also adapted to enter a ward in the key so that when the key is shifted in one direction, the tumblers will be elevated. Each of the tumblers 43, 45 is furthermore provided in the lower portion at the rear thereof with an L-shaped slot 42.

Pivotally mounted at its rear end upon the pin 33 is a curved holding lever 34 having the upper edge thereof in proximity to the frame 25 cut-away to provide a seat for the reception of the lower end of the locking member 27 whereby the latter will be held so that its opening will aline with the bore 19 of the housing 15 and permit of the withdrawal of the bolt 12. The forward end of the lever 34 is reduced as at 36 and is positioned between the tumblers of the central pair of tumblers in the housing 16 and the said reduced end 36 carries a spring 46, the function of the latter being to assist in lowering the reduced end 36 of the lever 34. The reduced end 36 of the lever 34 is formed with a depending arm 37 which carries near its lower end a pin 41, the latter extending in the slots 42 of the tumblers. The lever 34 in proximity to the rear end of the housing 16 is cut-away to provide an overhanging beveled lug 38 and a slot 39 for the reception of the lug 24 of the latch element whereby the lever 34 is maintained in the position shown in dotted lines in Fig. 2 until the bolt 12 is withdrawn through the housing 15 when the springs 24^a and 40 will shift the latch element, whereby the lug 24 will pass clear of the slot 39 and the lever 34 will be shifted to the position shown in dotted lines in Fig. 2, the shifting of the lever 34 to such position is due to the action of the springs 46 and downward movement of the tumblers 43, 45. The shifting of the lever 34 to the position shown in full lines in Figs. 1 and 2 is had through the medium of the key when it is operated to release the lock.

It will be assumed that the lock is released and that the door 9 is slid to closed position. The bolt 12 will then pass through the bore 19 of the housing 15, and shift the latch element transversely owing to the engagement of the bolt 12 with the lug 21^b. As the bolt 12 passes in the lock casing, it will engage the locking member 27 and push the same rearwardly, compressing the spring 31, the bolt eventually entering the opening 28 of the member 27, passing through said opening and reaching the position shown in Fig. 2 of the drawing. When the lock is released and the bolt 12 withdrawn, the locking member 27 assumes the position shown in dotted lines in Fig. 2 due to the action of spring 31 and the holding lever 34 assumes the position shown by dotted lines in Fig. 2. When the bolt 12 and locking member 27 are in the position as shown in full lines in Fig. 2, and the lever 34 in the

position shown in dotted lines in Fig. 2, the bolt is locked due to the action of the spring 31 upon the member 27 which will cause the wall of the opening 28 to frictionally engage the bolt 12 whereby the latter can not be withdrawn from the opening 28 and if an attempt is made to pull the bolt 12 out, the wall of the opening 28 will more securely hold the bolt. To release the bolt, it is necessary that a key be inserted in the lock, and the holding lever 34 be elevated to the position shown in full lines in Figs. 1 and 2. When the bolt 12 is shifted to the full line position shown in Fig. 2, the latch element is held in such position that when the lever 34 is elevated, the lug 24 will engage in the slot 39 and the lug 38 extend over the lug 24 whereby the lever 34 will be held in an elevated position, and the lower end of the member 27 will engage in the seat 35 and when said member 27 is in engagement with the seat 35, the opening 28 will align with the bore 19 of the housing 15 and allow of the withdrawal of the bolt 12. After the bolt 12 passes clear of the lug 21^b of the latch element, the springs 24^a and 40 will shift the latch element transversely so that the lug 24 will clear the slot 39 and lug 38 and the springs 46 in connection with the tumblers 43, 45 will then act to move the lever 34 to the position shown in dotted lines in Fig. 2.

What I claim is:—

1. A car door lock comprising a casing, a bolt adapted to enter said casing, a housing within said casing and through which said bolt is adapted to extend, an angularly disposed locking member having an opening adapted to align with the opening of said housing, and means arranged within said casing and adapted to retain said locking member in engagement with said housing and the opening thereof out of alignment with the opening of said housing when said bolt is withdrawn from said casing.

2. In a car door lock, a casing, a bolt adapted to enter said casing, a spring pressed locking member pivotally mounted in said casing and adapted to frictionally engage said bolt, a lever pivotally mounted in said casing and adapted to hold said locking member out of frictional engagement with said bolt, and means for shifting said holding lever to engage said locking member.

3. In a lock, a casing, housings arranged

in said casing, a bolt adapted to extend through one of said housings, a spring pressed angularly disposed locking member adapted to frictionally engage said bolt, a holding lever arranged within said casing and extending into the other of said housings and adapted when shifted in one direction to hold said locking member out of frictional engagement with said bolt, and means for maintaining the holding lever in engagement with said member until the bolt has been withdrawn.

4. In a lock, a casing, a bolt adapted to extend into said casing, a frame arranged within said casing, a spring pressed angularly disposed locking member having an opening to receive said bolt and adapted to frictionally engage said bolt, a lever pivotally mounted in said frame and adapted when shifted in one direction to hold said locking member out of frictional engagement with said bolt whereby said bolt can be withdrawn from said casing, and a spring-controlled latch element for maintaining said lever in engagement with said member until the bolt is withdrawn, said latch element having its movement controlled by the insertion and withdrawal of the bolt.

5. A lock comprising a casing, a bolt adapted to extend into said casing, a spring-controlled angularly-disposed locking member having an opening for the passage of said bolt, the wall of said opening adapted to frictionally engage said bolt to prevent the withdrawal of the latter, a holding lever adapted when shifted in one direction by a key to hold the wall of said opening of said locking member out of frictional engagement with said bolt whereby the latter can be withdrawn from the casing, a latch element engaging with said holding lever when the latter is shifted by the key for maintaining the holding lever in engagement with said member until the bolt is withdrawn, and spring-controlled means for shifting the holding lever in the opposite direction and clear of said locking member.

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

JANOS BUDAY.

Witnesses:

MARIE KRIZSAN,
MORRIS DOS PASSOS.