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1,036,325.

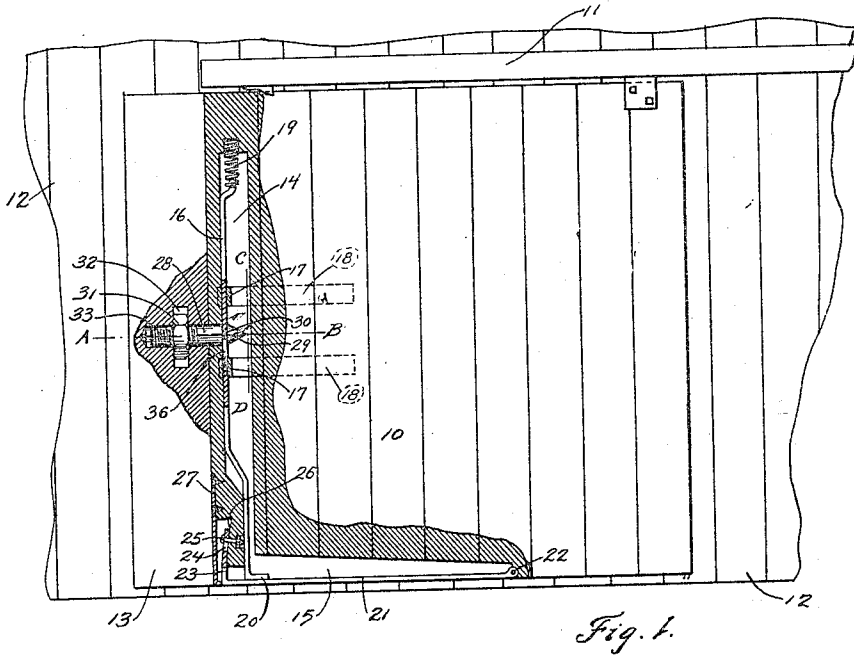


Fig. 1.

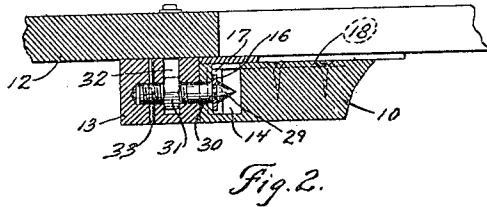


Fig. 2.

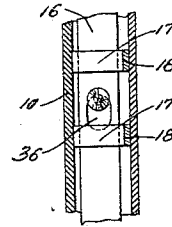


Fig. 3

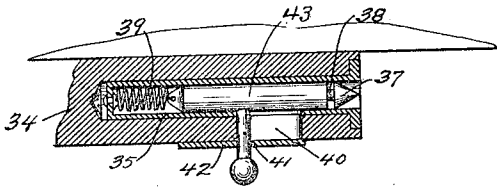


Fig. 4.

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CONCEALED CAR-DOOR LOCK.

1,036,325.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. PERRY, a citizen of the United States of America, residing at Ebenezer, county of Erie, and State of New York, have invented certain new and useful Improvements in Concealed Car-Door Locks, of which the following is a full, clear, and exact description.

The general object of my invention has been to provide a simple and effective means, whereby a car or other door will become automatically locked when closed. Moreover, when my door is closed, it cannot be opened except by secret and concealed means, thus preventing unauthorized persons from getting into a car provided with my lock.

Reference is to be had to the accompanying drawings, forming part of this specification, in which like characters of reference indicate like parts throughout the several views of which:

Figure 1 is a side elevation of a car door equipped with my invention and shows a portion thereof in section. Fig. 2 is a sectional view taken on line A—B of Fig. 1. Fig. 3 is a sectional view taken on line C—D of Fig. 1. Fig. 4 is a fragmental sectional view and shows a modified form of a portion of my invention as adapted for swinging doors.

In the drawings 10 represents a sliding car door and 11 the track from which it is slidably suspended.

12 is a fragmental portion of a box car or other inclosure and 13 is the door-jamb, which is suitably secured in place by any of the well known means.

From the rear side of the door and near the front edge thereof, is cut a recess 14. This recess extends from a point near the top edge of the door down to the lower edge of the same. Communicating with the recess 14 is a recess 15. The recess 15 is cut from the rear face of the door and is open at the lower edge of the door and at the lower portion of the front edge of the same.

Disposed within the recess 14 is a lock bar 16. This lock bar is arranged to be in sliding contact with the front side of the said recess and is provided preferably near its central portion with suitable guideways 17. These guideways are preferably made as shown, they being provided with long arms 18 which extend back toward the rear

edge of the door, thereby providing means for securely and strongly fastening the same to the door. Carried between the upper end of the said lock bar and the upper surface of the recess 14 is a spring 19 of any suitable style which keeps the said lock bar normally in its lower-most position. At the lower end of the lock bar 16 is provided a right-angled projection 20 by which the said lock bar is raised.

Arranged in the recess 15 is an operating lever 21. The lower edge of this lever is flush with the lower edge of the door and is pivoted at 22 to the said door. The front end of this lever is provided with an upwardly turned projection 23. This projection is preferably in sliding contact with the face 26 of the recess 15 and is held in proper place preferably by means of the bolt 25. This bolt is slidably disposed in a slot 24 formed in the said projection, thus permitting the said operating lever to be raised but preventing it from dropping down below the face of the lower edge of the door. A plate 27 is set in flush with the front edge of the door and is secured thereto, thus concealing the projection 23 of the said operating lever.

Carried by the door-jamb 13 is a lock bolt 28 which is provided at its outer end with a conical point 29 immediately behind which is provided an annular recess 30. This bolt projects beyond the face of the said door-jamb so that when the door is pushed shut, the said recess 30 will be in register with the lock bar 16. The front edge of the door is provided with a suitable aperture for the entrance of said lock bolt. The lock bar 16 is also provided with an oblong aperture 36 which will register with the largest diameter of the conical point 29 of the lock bolt 28 when the said lock bar is in its uppermost position. The width of the recess 30 in the lock bolt is such as to permit the lock bar to be engaged therewith when it is in register with the same. The rear end of the lock bolt 28 is screw-threaded and is held in place preferably by means of a suitable nut 31 which is disposed within a recess 32 let in from the rear of the door-jamb 13, thus concealing it from view. A pin 33 is passed through the said lock bolt and the door-jamb when the lock bolt is properly adjusted.

When my lock is to be attached to swinging or hinged doors, such as provided on

refrigerator cars and the like, some means must be provided for withdrawing the lock bolt when opening or closing the door. I have preferably carried out this part of my invention by the means shown in Fig. 4, where 34 represents one of the swinging doors, which carries a concealed casing 35. In this casing is slidably disposed a lock bolt 43, which is provided with a conical point 37 and an annular recess 38. To the rear end of this lock bolt is secured one end of a spring 39, the other end of said spring being suitably secured to the rear end of the said casing. This keeps the said lock bolt back within the casing 35 and flush with the face of the door 34, when the door is not locked. In the casing 35 and the front face of the door is provided a slot 40. A pin 41 is carried by the lock bolt 36 and is slidably disposed within said slot, by means of which the said lock bolt may be pushed out and made to engage with the lock bar of the lock. A plate 42 is secured to the pin 41 and is in sliding contact with the face of the door. This plate is wide enough to cover the slot 40 at all times, no matter what position the lock bolt may occupy, thus effectively concealing the said slot from view. It is of course understood that the other door (not shown) is provided with the lock bar, operating lever, etc., as is shown in Fig. 1. For convenience in the drawing, I have omitted to show this part of the device in Fig. 4.

When my device is to be fitted to a single hinged door then the part of the device shown in Fig. 4 is placed in the door casing.

When it is desired to open the sliding door shown in Figs. 1 and 3, the fingers of the operator are placed beneath the lower edge of the door and against the operating lever 21, which is pushed upwardly. The right-angled projection 20 of the lock bar 16 is in contact with and rests on the operating lever 21. When the said operating lever is raised the lock bar 16 is also raised, which raises the aperture 36 in the said lock bar and disengages the same from the recess 30, in the lock bolt, thus permitting the door to be opened. When the door is pushed shut the conical end of the lock bolt enters the aperture in the front edge of the door and strikes the lock bar 16. The point of said lock bolt being conical it engages the upper side of the aperture 36 in the lock bar and raises the same until the entire point 29 has passed therethrough, whereupon the said bar, being under spring tension, will engage with the recess 30 in said bolt, thus securely locking the door.

When operating my invention on a hinged door, the operation is just the same as above described, only instead of moving the door away from the lock bolt, this part of the device (Fig. 4) is drawn back into the cas-

ing 35. When locking the door, it is first closed and then the lock bolt 36 by means of the pin 41, is moved out and into engagement with the co-acting parts of the lock.

Obviously some detailed modifications may be made from the device herein shown and described without departing from the spirit of my invention and I do not wish to be limited to the exact construction herein shown and described.

Having thus described my invention, what I claim is:

1. The combination with a door provided with a recess near its front edge and a door-jamb; of a concealed locking device comprising a lock bar slidably disposed in said recess and provided with an aperture, a lock bolt carried by said door-jamb and provided with a conical point and an annular recess behind said point, said recess being engageable with said lock bar and concealed means for operating said lock bar.
2. The combination with a door provided with a recess near its front edge and a door-jamb; of a concealed locking device comprising a lock bar slidably carried in said recess and provided with an aperture, guide-ways for said bar, each provided with a backwardly extending arm secured to said door, a lock bolt carried by said door-jamb and provided with a conical point and an annular recess behind said point, said recess being engageable with said lock bar when said point on said bolt has passed through said aperture in said bar and concealed means for operating said lock bar, whereby said bar may be raised and said bolt released from engagement therewith.
3. The combination with a door provided with a recess near its front edge and a door-jamb; of a concealed locking device comprising a lock bar slidably carried in said recess and provided with an aperture, guide-ways for said bar, each provided with a backwardly extending arm secured to said door, a lock bolt carried by said door-jamb and provided with a conical point and an annular recess behind said point, said recess being engageable with said lock bar when said point on said bolt has passed through said aperture in said bar and an operating lever pivotally mounted in a recess in said door and flush with the lower edge thereof, whereby said lock bar may be raised and said lock bolt released from engagement therewith.
4. The combination with a door provided with a recess near its front edge and a door-jamb; of a concealed locking device comprising a lock bar slidably carried in said recess and provided with an aperture, guide-ways for said bar, each provided with a backwardly extending arm secured to said door, a lock bolt carried by said door-jamb

and provided with a conical point and an annular recess behind said point, said recess being engageable with said lock bar when said point on said bolt has passed
5 through said aperture in said bar, an operating lever pivotally mounted in a recess in said door and flush with the lower edge thereof, said operating lever being provided with an upwardly turned end and means
10 connected with said end for limiting the downward movement of said operating le-

ver, whereby said lock bar may be raised and said lock bolt released from engagement therewith.

In testimony whereof I have hereto signed 15 my name in the presence of two subscribing witnesses.

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Witnesses:

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