

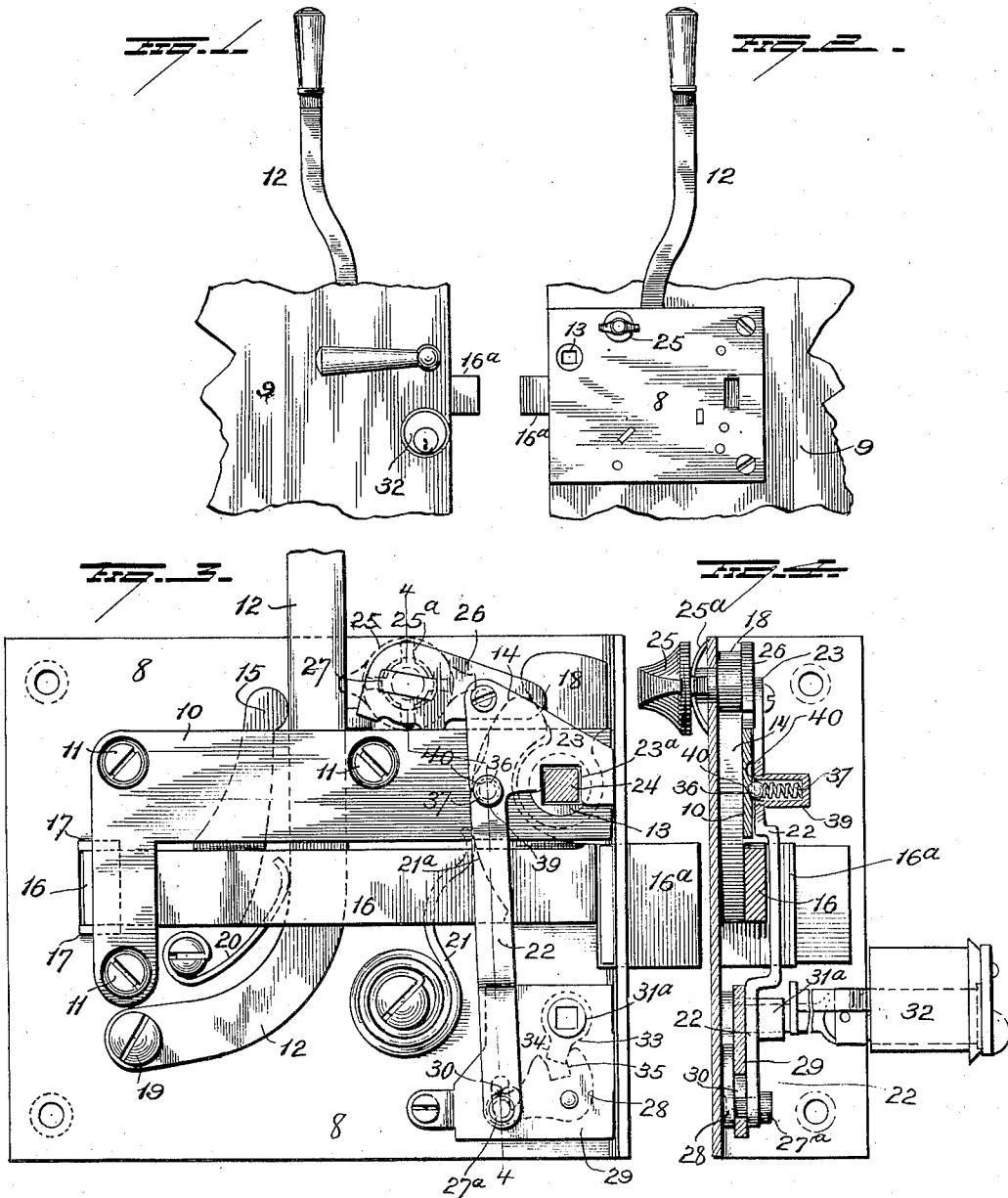
Aug. 18, 1925.

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P. F. AUGENBRAUN
LOCK FOR AUTOMOBILE DOORS

Filed Oct. 16, 1920

2 Sheets—Sheet 1



INVENTOR.

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BY

Seymour & Bright

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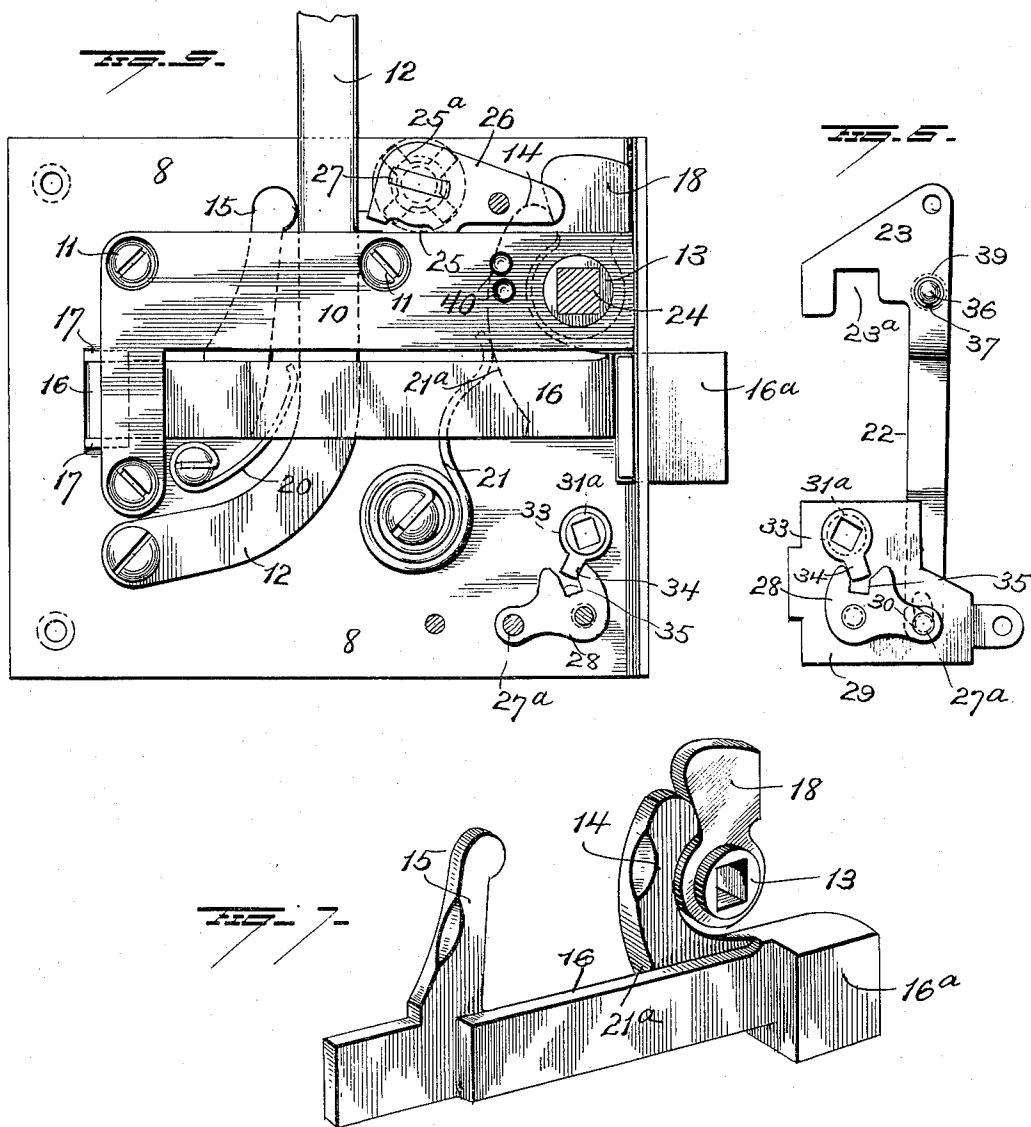
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UNITED STATES PATENT OFFICE.

PETER F. AUGENBRAUN, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

LOCK FOR AUTOMOBILE DOORS.

Application filed October 16, 1920. Serial No. 417,350.

To all whom it may concern:

Be it known that I, PETER F. AUGENBRAUN, a citizen of the United States, and a resident of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks for Automobile Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in locks for automobile doors, and is designed more particularly as an improvement on the construction disclosed in my application for patent Serial Number 393,044 filed June 30, 1920.

In the construction shown in the above application, if the dead locking slide be moved to its dead locking position while the door is open, the bolt will be deadlocked and thus prevent the door from closing.

The object of this invention is to provide means controlled by a key lock from the outer side of the door or by a thumb turn at the inner side for dead locking the outside lever handle or knob, thus leaving the bolt free to be forced inwardly by the closing action of the door, and leaving the bolt free to be actuated by the inside lever, and it consists in a lock having a latch bolt, a spindle actuated by an outside handle or lever for retracting the bolt and a clamping or deadlocking slide adapted to engage the said spindle for preventing the latter from being turned while so clamped. It further consists in the parts and combination of parts as will be more fully explained and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a section of a door from the outer side showing the handle and key lock; Figure 2 is a similar view from the inner side of the door; Figure 3 is a view in elevation of the lock mechanism removed from the door and showing the key mechanism in its proper relative position; Figure 4 is a view in section on the line 4-4 of Figure 3; Figure 5 is a view similar to Figure 3, with the plate carrying the mechanism actuated by the key lock removed; Figure 6 is a view of the spindle clamping or locking mechanism removed and Figure 7

is a view of the bolt and roll back operated by the outside handle.

9 represents an automobile door recessed on its inner face to receive the lock, the casing 8 of which is in the form of an angle plate, and is secured to the door by screws in the ordinary and well known manner.

Secured to the inner face of the casing 8 is the L-shaped plate 10 which is provided with screw holes for the passage of the screws 11 which secure it to the casing 8, spacing lugs being struck up from the plate around the screw holes therein for holding the plate away from the casing sufficiently to receive the handle lever 12, hub 13 of the outside handle and the projections 14 and 15 from the latch bolt 16.

This latch bolt is mounted to slide against the inner face of the casing 8, and is supported at its rear end between the guide lugs 17 and by its head 16^a resting in a slot in the end flange of the casing. The projection 14 on bolt is engaged by the roll back 18 on the outside handle hub 13 for retracting the bolt from the outer side of the door, and the projection 15 is engaged by the handle lever 12 for retracting the bolt from the inside of the car.

The bolt 16 is recessed on its front face to permit the handle 12 to pass up in front of same as shown in Figure 3, and this handle is pivoted at 19 to the casing 8 and is normally held in its forward position and in contact with the screw 11 by the spring 20, and the projection 14 on the bolt 16 is held against the opposite edge of the lever by the spring 21 bearing against the shoulder 22 on the bolt, the said spring operating to normally and yieldingly hold the latch bolt in its projected or locking position as shown in Figure 3.

With the construction thus far described it will be seen that the bolt is always free to be retracted by the inside lever 12 and by the contact of the head of the bolt with the lock strike on the door jamb.

22 is the dead locking slide 23 the upper end of which is in the form of a plate the latter being provided at its lower edge with an angular recess 23^a, which when said slide and plate are moved downwardly either by the key mechanism from the outer side of the door or by the inside thumb turn 25, engages or embraces the opposite sides of

the spindle 24 of the outside lever or handle, which spindle is angular in cross section and of a size to readily enter recess 23^a but too large to turn therein. The spindle 24 is
5 connected with the outside handle or knob, and passes through angular bore of the hub 13 and operates to turn the latter to retract the bolt.

The spindle locking slide 22 extends vertically over the L-shaped plate 10 and bolt 16, and is connected at its upper end to the lever 26 rigidly secured to the inner end of the spindle 27 of the thumb turn 25, and is connected at its lower end through pin 15 27^a with the slotted shifting lever 28 which latter is pivotally secured to the plate 29 which covers the said lever 28 and the cam actuated by the key lock. The pin 27^a connecting the slide 22 and lever 28, passes
20 through a vertical oblong slot in plate 29, and has pivotal connection at its other end with shifting lever 28.

Hub 31^a is mounted on the plate 29 and between it and plate 8 of the lock casing
25 and is provided with an angular bore at its outer end which is engaged by a connecting bar actuated by the key plug of the pin tumbler lock 32, which has been heretofore referred to as the key lock, and it carries the
30 cam 33 the finger 34 of which is adapted to enter the slot 35 in the upper end of shifting lever 28, so that when the cam 33 is turned by the key mechanism, the finger 34 thereof entering the slot 35 in the lever 28 will shift
35 or turn same, and raise or lower the dead locking slide 22, the direction of movement of the latter being of course dependent upon the direction in which the key is turned.

This slide is prevented from accidental
40 movement by the ball 36 held in place against the L-shaped plate 10 by a spring 37 carried in the cylindrical housing 39 on slide 23 and bearing at its end against the ball 36. The plate 10 is provided with two
45 concave seats 40, in one of which the ball 36 normally rests. When the dead locking slide 23 is moved upwardly, or in a position to disengage the spindle of the outside knob or handle, the ball 36 rests in the upper seat
50 40, and when the slide is in its lowermost position, the ball rests in the lower concave seat and when in either position operates to hold the slide against accidental movement.

While I have shown a ball for engaging
55 the concave seats in the plates it is clearly evident that a pin or plunger would perform precisely the same function, hence in my reference to the ball friction catch, I intend to include a plunger of any kind
60 whether it be in the shape of a ball or a plunger.

The thumb turn 25 which actuates the slide 23 from the inside of the car, is prevented from accidental turning movement
65 by the spring washer 25^a interposed between

the casing 8 and the thumb turn 25, but is free to be turned by the fingers and when turned shifts the slide to either its position embracing or engaging the handle spindle to dead lock the same and prevent the bolt
70 from being retracted by the outside handle, or to its uppermost position to release said spindle. When the slide is in lowered position it closely embraces the angular spindle of the outside handle or knob and absolutely
75 prevents the door from being opened from the outer side until the slide has been moved upwardly by the key lock.

While I have referred to the inside thumb turn or knob 25 for actuating the slide from
80 the inner side of the door, it is not absolutely necessary as the outside knob spindle can be deadlocked by a key from outside.

The key mechanism above referred to
85 comprises a lock 32 of the cylinder or pin tumbler type, located within a recess in the outer surface of the door and secured thereto. The plug of the cylinder or pin tumbler lock carries at its rear or inner end a connecting bar which engages the hub 31^a which
90 as previously explained is provided with a finger 34 which actuates the parts for shifting the slide 28.

If therefore the outside knob handle be
95 deadlocked by the key from the outer side of the door, (or by the thumb turn 25 at the inner side of the door if one be used) access to the car through said door can only be had by first releasing the knob shank and then
100 turning the latter to retract the bolt. If the thumb turn be used, one door may be locked by the latter and the other (through which exit is made) by the key from the outer side, the construction being such that if the knob shank be deadlocked by the key, the
105 deadlocking slide may be moved to its other position by the thumb turn at the inner side of the door.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention hence I would have it understood
110 that I do not wish to confine myself to the exact construction shown and described but,

Having fully described my invention what I claim as new and desired to secure by Letters-Patent, is:—

1. In a lock for automobile doors, the combination of a latch bolt always free to be
120 forced inwardly by contact with the strike plate, a spring for projecting the same, an outside handle or knob, means connecting said handle or knob and the bolt for retracting the latter, means for deadlocking the
125 said handle, a key lock operable from the outer side of the door, means connecting said lock and the deadlocking means, and means operable from the inner side of the door for shifting said deadlocking means to deadlock
130

or release said handle and including a pin and slot connection, whereby the inside operating means may be operated to actuate the deadlocking means without actuating or moving any part of the key lock or parts directly connected thereto.

2. In a lock for automobile doors, the combination of a latch bolt having a projection, a spring for projecting the bolt, the said bolt being always free to be forced inwardly by its contact with the keeper during the closing movement of the door, an outside handle or knob, a hub for the same, a roll back on said hub adapted to engage the projection on the bolt for retracting the latter, a deadlocking slide adapted to engage the outside knob or handle spindle for deadlocking the latter, key mechanism for actuating the said slide and means operable from the inner side of the door for actuating the slide to release or deadlock the outside knob or handle spindle.

3. In a lock for automobile doors, the combination of a spring actuated latch bolt always free to be forced inwardly by its contact with its keeper or strike plate, an outside handle or knob for retracting the bolt, means directly engaging the spindle of said handle or knob for deadlocking the same, means within the car for retracting the bolt, means within the car for shifting the deadlocking means and a key actuated lock operable from the outside for shifting said deadlocking means to locking position and for releasing it after it has been shifted to deadlocking position by the means within the car.

4. In a lock for automobile doors, the combination of a latch bolt always free to be forced inwardly by its contact with its strike plate or keeper, a spring for projecting the same, an outside handle or knob for retracting the bolt, a deadlocking slide adapted when in one position to embrace and engage two sides of the outside handle or knob spindle for locking the same against move-

ment, key operated lock for shifting said locking slide and means within the car for retracting the bolt when the outside handle or knob is deadlocked.

5. In a lock for automobile doors, the combination of a latch bolt always free to be forced inwardly by contact with the lock strike, a spring for projecting the same, an outside handle or knob for retracting the bolt, a deadlocking slide adapted when in one position to embrace two sides of the spindle of the outside handle or knob for locking it against movement, a key lock operable from the outer side of the door for shifting said slide, and means operable from the inner side of the door for shifting the slide.

6. In a lock for automobile doors, the combination of a latch bolt always free to be forced inwardly by its contact with the lock strike, a spring for projecting the bolt, an outside handle or knob for retracting the bolt, the said handle or knob having an angular shank, a slide having a recess to receive said shank and prevent the same from turning means operable from the inner side of the door for shifting said slide to its two positions, means within the car for retracting the bolt when the outside handle or knob is deadlocked.

7. In a lock for automobile doors, the combination of a latch bolt always free to be forced inwardly by its contact with the lock strike, a spring for projecting the same, an outside handle or knob for retracting the bolt, the said handle or knob having an angular shank, a slide having a recess to receive said shank and prevent it from being turned, means for shifting said slide, friction means for holding it against accidental movement and means within the car for retracting the bolt when the outside handle or knob is deadlocked.

In testimony whereof, I have signed this specification.

PETER F. AUGENBRAUN.