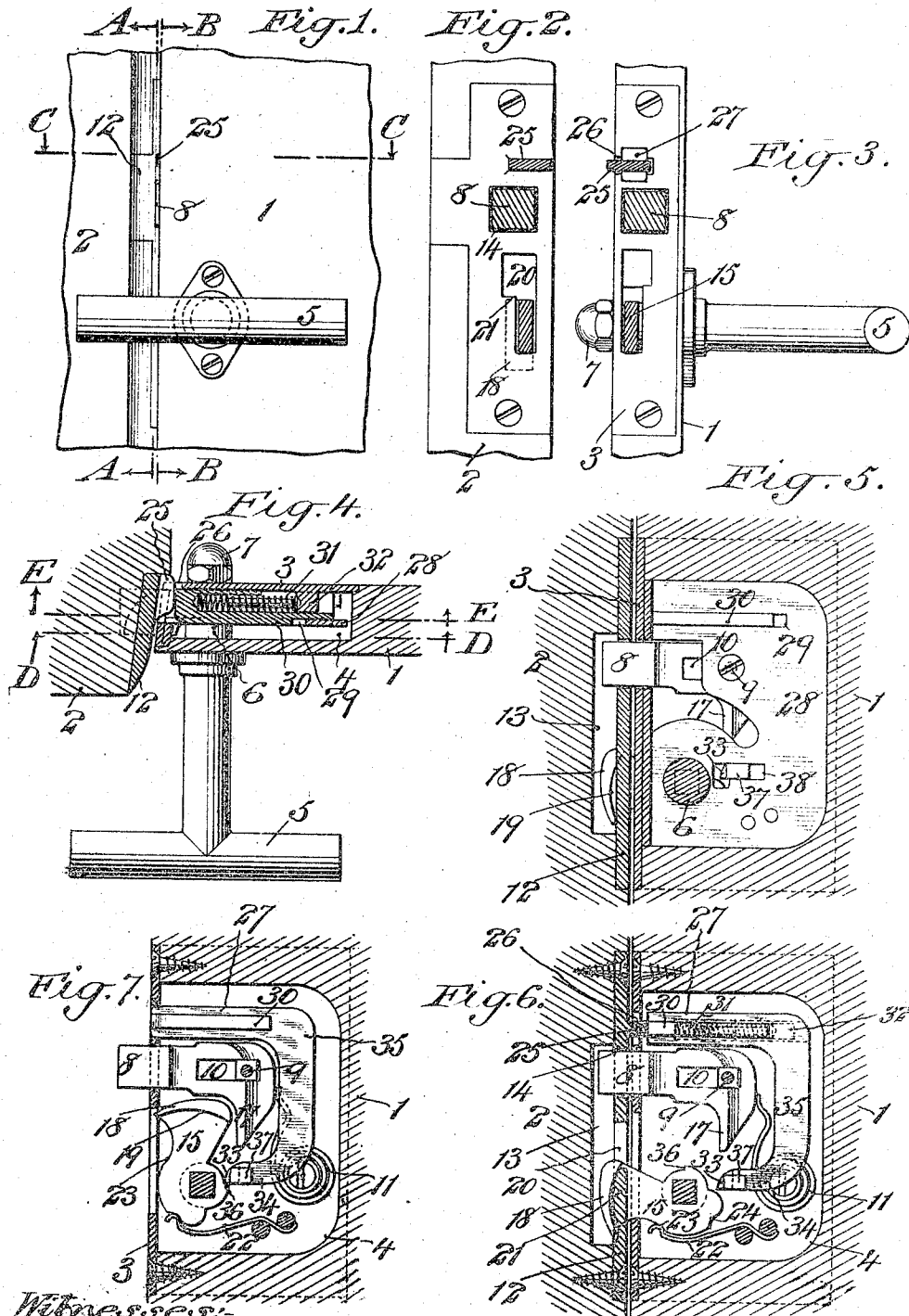


No. 881,487.

PATENTED MAR. 10, 1908.

F. P. PFLEGHAR, JR.  
DOOR LOCK.

APPLICATION FILED JUNE 1, 1906.



Witnesses:  
F. George Barry,  
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# UNITED STATES PATENT OFFICE.

FRANK P. PFLEGHAR, JR., OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO F. P. PFLEGHAR & SON, OF NEW HAVEN, CONNECTICUT, A FIRM.

## DOOR-LOCK.

No. 881,487.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed June 1, 1906. Serial No. 319,683.

*To all whom it may concern:*

Be it known that I, FRANK P. PFLEGHAR, Jr., a citizen of the United States, and resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Door-Locks, of which the following is a specification.

In door locks in which the locking bolt is thrown into and out of its locking position by the latch bolt, it frequently happens that the locking bolt is thrown out and left out when the door is open and when the door is swung to close it, the projecting end of the locking bolt will strike the door jamb and deface it.

The object of my present invention is to provide means for locking the locking bolt in its withdrawn position whenever the door is opened, the said means being so constructed and arranged that the locking bolt cannot be thrown outwardly while the door is open but will only be released when the door is in its closed position.

My improved door lock is especially well adapted for use in connection with automobile doors where there is a constant jarring strain on the doors, tending to cause them to shake loose and rattle.

A practical embodiment of my invention is represented in the accompanying drawings, in which

Figure 1 is a face view of a portion of a door and its jamb adjacent to the door lock, Fig. 2 is a section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, Fig. 3 is a section taken in the plane of the line B—B of Fig. 1, looking in the direction of the arrows, Fig. 4 is a section taken in the plane of the line C—C of Fig. 1, looking in the direction of the arrows, Fig. 5 is a vertical section taken in the plane of the line D—D of Fig. 4, looking in the direction of the arrows, Fig. 6 is a vertical section taken in the plane of the line E—E of Fig. 4, looking in the direction of the arrows, and Fig. 7 is a section through the door taken in the same plane as Fig. 6, with the locking bolt locked in its withdrawn position.

The door is denoted by 1 and its jamb by 2. The lock casing is denoted by 3 and it is arranged to form the inner and front walls of

the recess 4 in the free edge of the door for the reception of the operating parts of the lock.

The latch bolt handle is denoted by 5 and its shank which extends through the door by 6. This shank is provided with the usual fastening nut 7 on the inner side of the door. The latch bolt is denoted by 8 and it is guided in its inner and outer sliding movements through the front wall of the casing 3 by the usual pin and slot connection 9, 10. A spring 11 tends to throw the latch bolt to the limit of its outward movement.

The striker plate, which is secured to the door jamb, is denoted by 12 and the jamb is provided with the usual recess 13 immediately to the rear of the striker plate. This striker plate 12 is provided with a hole 14 for receiving the free end of the latch bolt 8 there-through when the door is closed.

The locking bolt is denoted by 15 and it is keyed to an angular portion of the shank 6 of the latch handle so as to rock therewith.

The latch bolt 8 is provided with a depending lug 17 which is engaged by the locking bolt 15 when the locking bolt is withdrawn from its extended position to a position within the plane of the door. The free end of the locking bolt 15 is provided with a laterally extended flange 18 which has an inner face cam 19.

The striker plate 12 is provided with a hole 20 for the insertion therethrough of the locking bolt when the door is closed. One of the vertical walls of the hole 20 is provided with a shoulder portion 21 which is engaged by the cam face 19 of the flange 18 of the locking bolt, the shape of the face 19 being such that as the bolt is rocked toward the limit of its extended movement the door will be drawn bodily toward the door jamb, the end thus holding the door against rattling when submitted to a jarring strain. The locking bolt 15 is provided with a spring 22 intended to yieldingly hold the locking bolt in its extended and withdrawn positions by providing the locking bolt with two shoulders 23, 24, in its periphery arranged in the proper places to receive the free end of the spring 22 when the bolt is in its said extended and withdrawn positions. The means for locking the bolt in its withdrawn position when

the door is opened is constructed and arranged as follows: The striker plate is provided with a transversely arranged lug 25 arranged in position to enter a transverse slot 26 in the casing above the latch bolt when the door is closed. A slide 27 is fitted to reciprocate horizontally in the casing and it is guided in its movement by the outer plate of the casing and the inner plate 28 of the casing, which plate is provided with an elongated slot 29 therein in which a horizontally arranged guide 30 is located.

A spring 31 is arranged to yieldingly hold the slide at the limit of its outward movement, which spring is interposed between the slide and a lug 32 on the outer plate of the casing. A slide 27 is provided with a lug 33 which, in the present instance, is at the end of a forwardly extended portion 34 of a downwardly extended arm 35 of the slide. This lug 33 is arranged to be brought into the plane of the locking bolt 15 and is fitted to engage a shoulder 36 on the periphery of the locking bolt when the bolt is in its withdrawn position and the slide is at the limit of its outward position. The forwardly extended portion 34 of the slide 27 is also guided in its inner and outer sliding movements by providing the said portion with a guide 37 which is fitted to slide in a slot 38 in the intermediate plate 28 of the casing.

In operation, supposing the parts to be in the position which they assume when the door is open as shown in Fig. 7, it will be seen that the locking bolt is absolutely held against being thrown into an extended position by the engagement of the lug 33 of the slide 27 with the shoulder 36 on the locking bolt. As the door is closed, it will be seen that the lug 25 on the striker plate will enter the slot 26 and move the slide 27 rearwardly. This rearward movement of the slide 27 will disengage the lug 33 from the shoulder 36 on the locking bolt. A turn of the latch bolt handle will then throw the bolt into its extended position causing its flange 18 to be brought into snug engagement with the shouldered portion 21 of the striker plate adjacent to the hole 20. When it is desired to open the door, the locking bolt will first be withdrawn by turning the latch bolt handle. After the locking bolt has been withdrawn, a further turning movement of the handle in the same direction will withdraw the latch bolt from its hole 14 in the striker plate by the engagement of the locking bolt with the downwardly extended lug 17 on the latch bolt. The moment the door is opened, the slide 27 will be permitted to move to the limit of its outward movement by reason of its disengagement with the lug 25 on the striker plate thus permitting the lug 33 on the slide to be moved into position to engage the shoulder 36 on the locking bolt. This

will, as hereinabove described, absolutely prevent the throwing of the bolt into its extended position until the door is again closed. This arrangement prevents the closing of the door with the lock in its extended position.

What I claim is:—

1. In a door lock, a swinging locking bolt, means for extending and withdrawing it and a slide arranged to be brought into and out of direct engagement with the bolt for locking it in its withdrawn position when the door is opened and releasing it when the door is closed.

2. In a door lock, a rotary swinging locking bolt having a shoulder thereon, means for extending and withdrawing the bolt and a slide having a lug arranged to be automatically brought into and out of engagement with the said shoulder for locking the bolt in its withdrawn position when the door is opened and releasing it when the door is closed.

3. In a door lock, a latch bolt, a latch bolt handle, its shank, a locking bolt fixed thereto and arranged to engage the latch bolt and a slide arranged to be brought into and out of engagement with the bolt, said slide serving to automatically lock said bolt in its withdrawn position when the door is opened and release it when the door is closed, and the said slide being operated by the outward and inward swinging movement of the door.

4. In a door lock, a latch bolt, a latch bolt handle, its shank, a rotary swinging locking bolt fixed thereto and arranged to engage the latch bolt and a slide arranged to be brought into and out of engagement with the bolt, said slide serving to automatically lock said bolt in its withdrawn position when the door is opened and release it when the door is closed, and the said slide being operated by the outward and inward swinging movement of the door.

5. In a door lock, a latch bolt, a latch bolt handle, its shank, a locking bolt fixed thereto and arranged to engage the latch bolt, said locking bolt having a shoulder thereon and a slide having a lug arranged to be brought into and out of engagement with the said shoulder, said lug serving to automatically lock the locking bolt in its withdrawn position when the door is opened and releasing it when the door is closed, and said lug being operated by the outward and inward swinging movement of the door.

6. In a door lock, a latch bolt, a latch bolt handle, its shank, a rotary swinging locking bolt fixed thereto and arranged to engage the latch bolt, said locking bolt having a shoulder thereon and a slide having a lug arranged to be brought into and out of engagement with the said shoulder, said lug serving to automatically lock the locking

bolt in its withdrawn position when the door  
is opened and releasing it when the door is  
closed, and said lug being operated by the  
outward and inward swinging movement of  
5 the door.

In testimony, that I claim the foregoing  
as my invention, I have signed my name in

presence of two witnesses, this 29th day of  
May, 1906.

FRANK P. PFLEGHAR, JR.

Witnesses:

MAE D. CONATY,  
FRANCES I. MARTIN.