

J. E. FISHER.
DOOR LOCK.
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1,330,693.

Patented Feb. 10, 1920.

Fig. 1.

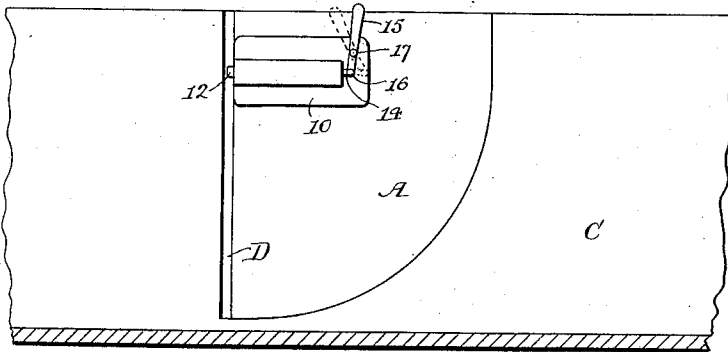


Fig. 2.

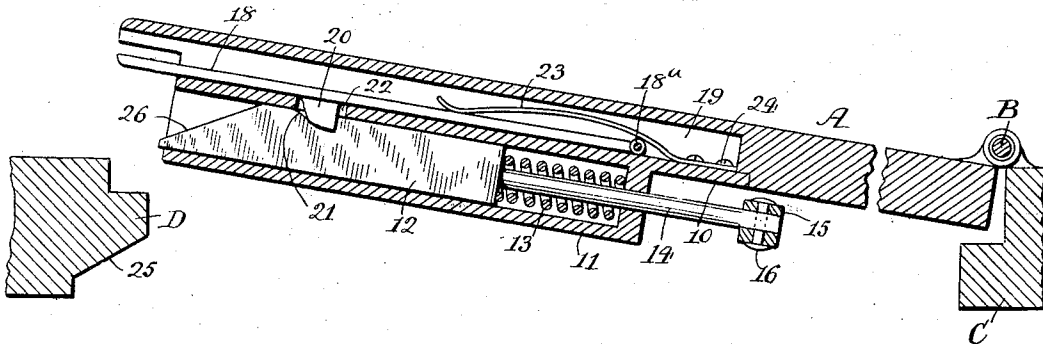
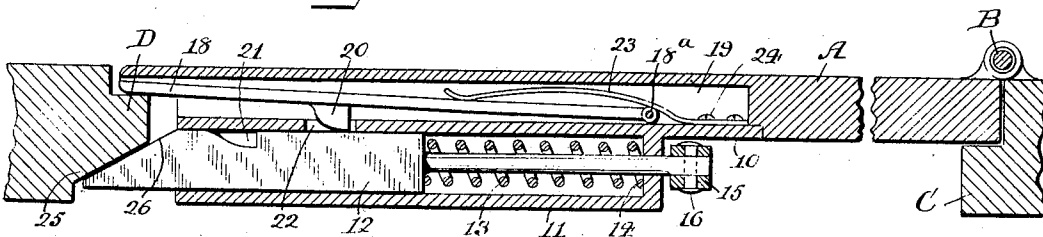


Fig. 3.



WITNESSES

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DOOR-LOCK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH E. FISHER, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, have invented a new and Improved Door-Lock, of which the following is a description.

My invention may be embodied in locks for different purposes but is more particularly intended for embodiment in locks for the doors of automobiles and other vehicles.

An object of the invention is to provide a lock in which the bolt is restrained in the retracted position when the door is open and automatically released and projected to the locking position by the closing of the door.

A further important object of the invention is to provide a lock in which the bolt when shot into engagement with the door jamb, will tend to exert a pull laterally inward on the door holding the same tightly and preventing rattling.

Additional objects are to cause the jamb member of the door to be resiliently engaged between the lock bolt and a spring pressed latch controlling said bolt; and to insure that the door will be securely locked whether it is slammed forcibly or closed more gently.

Other objects and advantages of the invention will appear as the description proceeds.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a view of the inner side of a door lock employing my invention, illustrating the same applied, with a door of an automobile shown in part;

Fig. 2 is an enlarged horizontal section thereof showing the positions of the bolt and latch therefor when the door is open;

Fig. 3 is a view similar to Fig. 2 with the door closed.

My invention is shown applied to a door A hinged at B as usual to the automobile, a portion of which is indicated at C; the letter D indicates the door jamb. My improved door lock includes a suitable casing 10 to be fastened in any approved manner to the door A, said casing including a housing 11 for a reciprocating latch bolt 12. Said bolt is subject to a spring 13 press-

ing against the inner end of the bolt and being coiled about the shank 14 extending, in the illustrated example, through the rear end of the housing 11 and adapted to receive connection with a suitable means for retracting the bolt. In the illustrated example the lever handle 15 is pivoted at one end as at 16 to the rear end of the shank 14, said lever being fulcrumed between its ends on the inner side of the casing 10, so that a rocking of the lever handle to the dotted position indicated in Fig. 1 will serve to retract the bolt.

In connection with the bolt 12, I provide latch means to hold the same in the retracted position for which purpose in the illustrated example a longitudinally disposed latch 18 is pivoted at its inner end as at 18^a to the outer face of the casing 10 and accommodated in a recess 19 in the door A in front of said lock casing. On the latch 18 at the inner face thereof is a rigid catch 20 which is adapted to extend through a lateral opening 22 in the lock casing and engage in a notch 21 in the bolt 12. A spring 23 tends to press the latch 18 into a position for the catch 20 to engage the bolt 12, a plate spring being employed in the illustrated form, said spring being secured at one end 24 to the front of the casing 10 within the recess 19, the free end of the spring bearing against the outer side of the latch.

The latch 18 projects beyond the front of the lock casing and therefore extends beyond the retracted position of the bolt 12 a sufficient distance for the projecting end to strike against the door jamb D.

With the described construction, the door being in the closed position shown in Fig. 3, the lever 15 is thrown to retract the bolt 12 and bring the notch 21 of the bolt opposite the catch 20 of latch 18. The door may now be swung open, thereby permitting the spring 23 to throw the latch 18 in position for the catch 20 to enter the notch 21 and thereby engage the bolt and hold the latter in the retracted position. If now the door be closed, the projecting end of the latch 18 will strike the jamb D after the bolt 12 has passed the said jamb, so that the nose of the bolt will lie at the inner side of the jamb. The engagement of the latch with the jamb will disengage the catch from the bolt permitting the spring 13 to shoot the bolt to the locking position. In the meantime the spring 23 is placed under tension, thereby

causing the latch 18 to exert resilient pressure against the jamb D at the front, while the bolt 12 engages the jamb at the inner side. The inner side of the jamb D is beveled as at 25 to correspond with the bevel 26 on the front end of the bolt 12. Thus, when the bolt is shot under the action of the spring 13, the mating beveled surfaces will exert a wedging action tending to draw the door laterally inward and causing the jamb D to be tightly gripped between the bolt and the spring pressed latch 18. Thus, the locking of the door is assured whether the door be slammed or closed gently and also, the resilient gripping of the door jamb prevents all rattling and positively holds the door locked against rattling since any vibration of the door can tend only to permit the spring 13 to exert its full action in projecting the bolt.

I would state in conclusion that while the illustrated example constitutes a prac-

tical embodiment of my invention, I do not limit myself strictly to the mechanical details herein illustrated since manifestly the same can be considerably varied without departure from the spirit of the invention as defined in the appended claim.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

The combination with a structure having a door opening and a door jamb presenting a jamb member beveled at its inner side, of a hinged door, and a lock thereon, said lock including a spring pressed bolt having its front end beveled to engage the beveled surface of said jamb member, and a laterally yieldable spring pressed latch projecting in position to engage said jamb member at the outer side, when the door is closed, said latch having means to engage said bolt when the latter is in the retracted position.

JOSEPH EARL FISHER.