E. F. STODDARD.

ANTIRATTLING DOOR LOCK.

APPLICATION FILED MAY 20, 1914.

1,147,459. Patented July 20, 1915.

Fig. 1.

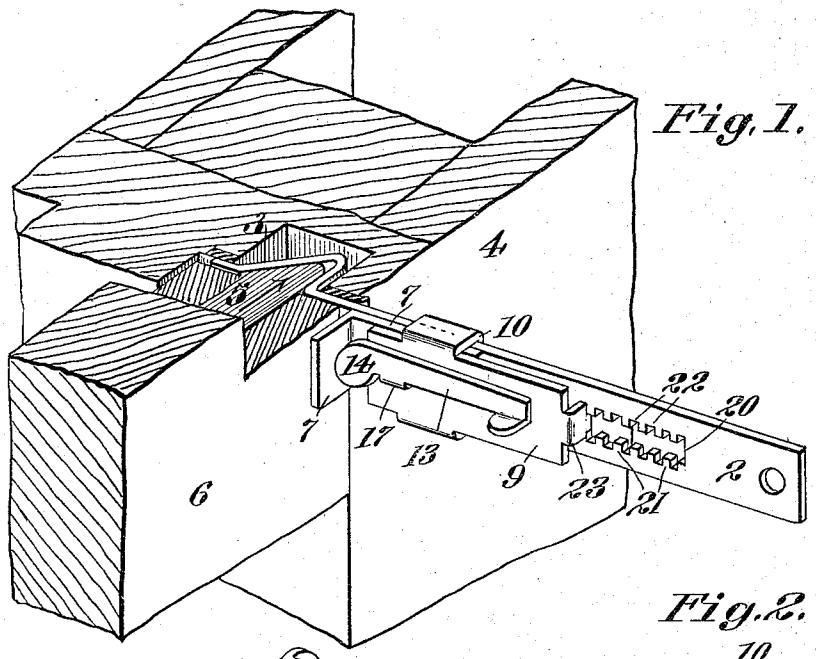


Fig. 2.

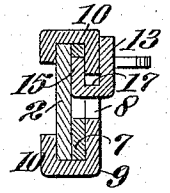


Fig. 3.

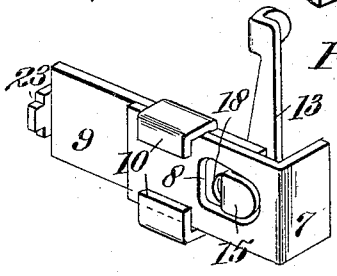


Fig. 4.

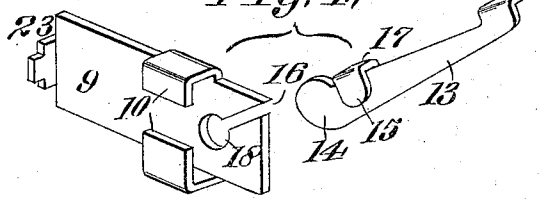
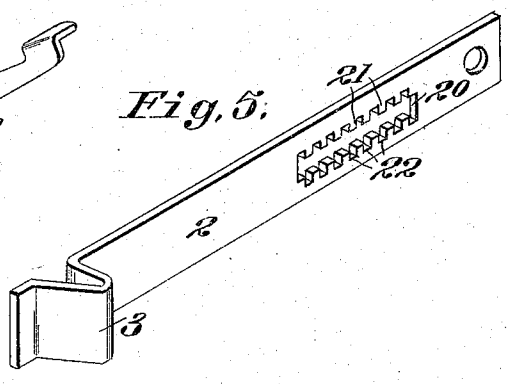


Fig. 5.



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ANTIRATTLING DOOR-LOCK.

1,147,459. Specification of Letters Patent. Patented July 20, 1915.

Application filed May 20, 1914. Serial No. 839,735.

To all whom it may concern:

Be it known that I, ELWIE F. STODDARD, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Antirattling Door-Locks, of which the following is a specification.

This invention relates to door fastening means and particularly to a door auxiliary fastener or retainer operating in combination with the striking plate in the jamb of a doorway and the bolt of a door lock in the door.

It is one of the objects of the present invention to provide an auxiliary, detachable, anti-rattling door securing device comprising means whereby a door may be securely locked and held against opening.

It is a further object of the invention to provide an auxiliary door fastening device adapted to be readily, easily and quickly arranged for coaction with the striking plate of a door lock and the bolt of the lock on the door, means being provided for relative adjustment so as to eliminate rattling of the door; and to provide a door-securing device which is designed of simple, inexpensively constructed and substantial parts which may be assembled for operative relation without the use of any extraneous fastening means, such as screws, and the like, and which avoids the use of rivets so that the parts may be readily removable for replacement, when necessary, without mutilation, destruction or the application of extraneous tools, as would be the case were the parts riveted or screwed together.

Another object of the invention is to provide a door-fastening device, with the parts so adjustable as to provide for a large range of adaptation so as to be readily usable for securing doors of various thicknesses.

The invention consists of a member cooperable with the striking plate of a door lock and a slidable abutment member thereon, with means for mounting the abutment member in a predetermined position, and other means for acting upon the abutment member so as to hold the same firmly in position against the door and not only prevent the opening of the same, but also avoid rattling of the door.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the device as applied in retaining a door. Fig. 2 is a cross sectional view through the device approximately in the plane of the swivel connection. Fig. 3 is a perspective of the reverse side of the abutment member, the carrier and the locking lever turned to a position at right angles to the position in Fig. 1. Fig. 4 is a detail sectional view showing the manner of removing the locking lever from the carrier. Fig. 5 is a perspective view of the shank.

The present door retainer comprises a main or shank member 2, shown in the form of a piece of strip metal, which has a lateral projection or seat 3 adapted to be placed, as shown in Fig. 1, in the aperture of the striking plate 4 of a door lock. The hook or seat 3 may be of angular form so as to form a ready seat for the reception of the door bolt 5 of the door lock shown on the door 6. In application, the shank 2 is adjusted with the hook or seat 3 projecting into the striking plate 4. Slidable along the shank 2 is an angular abutment member 7, of suitable length, which may be of similar stock as the shank 2; the abutment member 7 being shown in the detail view in Fig. 3 as being provided with an aperture 8, adjacent to its forward end and behind its angularly bent abutment face.

Overlapping the body portion of the abutment member 7 is a carrier and stop member 9 which has lateral overhanging hooks 10 embracing the parallel edges of the shank 2. The body of the abutment member 7 is inclosed between the carrier 9 and the shank 2 of the door retainer. For interlocking the abutment member 7 with the carrier 9, there is provided a locking lever 13 which has a cam or eccentrically curved end 14 and a lateral offset hook member 15 which is parallel with the body of the lever 13 and spaced therefrom a sufficient distance to receive the body of the carrier 9.

By referring to Fig. 4, it will be seen that the carrier 9 is provided with a diagonal slot 16 of a width approximately a little greater than the thickness of the fold 17 of the hook 15 of the lever 13, and the latter is adjusted in the aperture 16 of the carrier 9 by passing the fold 17 of the lever down the slot 16 which terminates in a circular

aperture 18 of a diameter slightly greater than the width of the fold 17 of the lever 13. Thus, after the angular fold 17 of the lever 13 has been passed into the aperture 16, when the lever 13 is turned it is interlocked in the aperture 18 and cannot be removed from the carrier 9 until the fold 17 is again turned into the plane of the length of the slot 16. The purpose of the aperture 8 in the abutment member 7 is to permit the free turning of the hook 15 of the locking lever 13 during the manipulation of the lever; the hook 15 lying and playing in the aperture 8 of the abutment member 7. The assembled lever, abutment plate and carrier 9 are then slid upon the shank 2 of the device, the body of the shank passing between the overhanging hooks 10 and the adjacent surface of the abutment plate 7.

When the retainer is being applied to a door, the seat 3 of the shank 2 is first inserted in the aperture of the keeper 4 while the door 6 is open, and during which time the carrier 9, with the lever 13 and the striking plate 7, is in such a position, toward the outer end of the shank 2, as to allow the door 6 to be swung closed, after which the carrier 9 is slid along the shank 2 until the abutment member 7 engages with the adjacent surface of the door 6. Owing to the great diversity of thickness of doors, it is an important object of the present invention to provide a door retainer capable of being readily adjustable to any door, and to that end the shank 2 is shown as having a slot 20, upon the opposite walls of which are formed suitably spaced teeth 21; a tooth 21 on one edge of the slot 20 being opposite a notch 22 on the other edge. Upon the end of the carrier 9 is an angularly bent tongue or shoulder 23, the end of which is of a length approximately equal to the distance between the top of one tooth 21 and the bottom of opposite notch 22.

In adjusting the device to a door, the carrier 9 is shifted forwardly with the locking lever 13 at an angle above the horizontal until the face of the striking or abutment member 7 engages the door, whereupon the operator will then adjust the dog or shoulder 23 of the carrier 9 into the slot between that tooth 21 and its opposite notch 22, which will result in the closest adjustment of the abutment member 7 to the adjacent surface of the door. It is for the purpose of providing for a close approximate adjustment of the face of the abutment member 7 to the door that the teeth 21 in the aperture 20 are alternately staggered with the notches 22 on the opposite edge of the aperture. Having moved the abutment member 7 into contact with, or closely adjacent to, the door, and having adjusted the dogging shoulder 23 of the carrier 9 in the coinciding notch 22 of the shank 2, the operator then turns the locking lever 13 downwardly toward the horizontal so that its eccentric or curved end 14 will move into binding engagement with the angular end of the abutment member 7 and thus react on the latter with sufficient force not only to hold the door closed but also to avoid vibration or rattling movement of the latter and take up any loose play in the parts of the retainer; the lever 13 swiveling or having pivotal relation and support in the carrier 9 by the interlocking or engagement of the angular fold 17 of the lever 13 with the walls of the aperture 18. A further function of the design and arrangement of the lever 13 is to support the angular end of the abutment member 7 and thus increase its supporting strength and prevent its being bent at the intersection with the body portion thereof.

From the foregoing it will be seen that I have provided a door-fastening device or retainer which comprises four simple, inexpensive and substantial parts which are retained in assembled position by relative interlocking, and I have provided a device, the parts of which are held in assembled position without the use of rivets, screws, or other extraneous fastening means, which is readily adjustable to retain doors closed which may be of various thicknesses. The parts of this device are so organized and related that rattling of the door is avoided and play of the parts is eliminated when the binding lever 13 is once turned to reacting position upon the adjacent angular surface of the abutment member 7.

When the device is not in use, and for the purpose of conserving space so that it may be readily carried in the pocket or packed in a traveling bag of any size, the shank 2 may be withdrawn from the carrier 9 and reversed in position and then again inserted in the carrier so that the seat portion 3 will be on the same side of the carrier 9 as the angular face of the abutment member 7.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A door retainer comprising a part cooperable with the striking plate of a lock, an abutment member engageable with the adjacent surface of a door, and means for varying the position of the abutment member along said device and for locking the abutment member firmly against the door to eliminate play thereof and of the parts of the device comprising a carrier interlocking with said part and between which and the shank part the abutment member is retained, and a cam lever pivotally related to the carrier and operative upon the abutment member.

2. A door retainer comprising an angular member coöperable with the striking plate of a door lock and forming a seat for the bolt of the lock, a carrier slidable along said

member and having interlocking engagement therewith to maintain it in a predetermined position, an abutment member detachably connected to the carrier, and a cam lever pivoted on the carrier for moving the abutment member firmly against the door to be held closed and for moving the abutment member relative to the carrier when the latter is interlocked against movement with said member.

3. A door retainer comprising a device, the parts of which are held in assembled relation without extraneous fastening means, comprising a shank coöperable with the striking plate of a door lock, a carrier slidably mounted upon said shank and having an integral part engageable with coöperative parts of the shank to prevent relative movement from a predetermined position, an abutment member for engaging the door, the body of which is interposed between said carrier and the shank, said carrier having means engaging the shank to control lateral movement of the same, and a lever interlocking with said carrier and having pivotal relation thereto, said lever operating to advance the abutment member independently of movement of the carrier.

4. A door retainer comprising a device, the parts of which are held in assembled relation without extraneous fastening means, comprising a shank coöperable with the striking plate of a door lock, a carrier slidably mounted upon said shank and having an integral part engageable with coöperative parts of the shank to prevent relative movement from a predetermined position, an abutment member for engaging the door, the body of which is interposed between said carrier and the shank, said carrier having means engaging the shank to control lateral movement of the same, and a lever interlocking with said carrier and having pivotal relation thereto, said lever operating to advance the abutment member independently of movement of the carrier, said carrier having a diagonal slot terminating in an aperture of greater diameter than the width of the slot, and said lever having a hook, the width of which is greater than the width of said slot, and is turnable in said aperture so that the lever will remain assembled upon the carrier until a portion of the hook of less thickness than the width of the slot is turned into coincidence therewith, whereupon the lever may be withdrawn from the carrier.

5. A door retaining device, comprising a shank having a part coöperable with the striking plate of a door lock, said shank having a slot provided with opposite toothed walls, a carrier slidably mounted upon said shank and having an angularly bent shoulder or dog insertible into said slot to engage said teeth to prevent longitudinal movement of the carrier as to the shank, an abutment member, and a lever interlocking with said carrier for longitudinal movement therewith and operating, when turned, to shift the abutment member relative to the carrier.

6. A door fastening device comprising a shank member engageable with the bolt recess of a door jamb, a carrier shiftable along the shank and carrying a movable abutment piece adjustable toward the face of a door in the jamb by the carrier, and a lever pivoted on the carrier and engaging the abutment piece for forcing the latter up against the door after its initial positioning by the carrier, said carrier adjustably interlocking with the shank to accommodate the piece to doors of different thickness.

7. A door retaining device comprising a shank with a part coöperable with the striking plate of a door lock, said shank having toothed edges, a carrier slidably mounted on the shank and having means engageable with the teeth of the edges to prevent longitudinal movement of the carrier as to the shank, a cam lever pivotally connected to the carrier, and an abutment member slidably related to the carrier and operative by said cam to firmly engage the door surface.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ELWIE F. STODDARD.

Witnesses:
JOHN H. HERRING,
W. W. HEALEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."