F. J. LEE.

DOOR LATCH.

APPLICATION FILED JUNE 1, 1911.

1,018,716.

Patented Feb. 27, 1912.

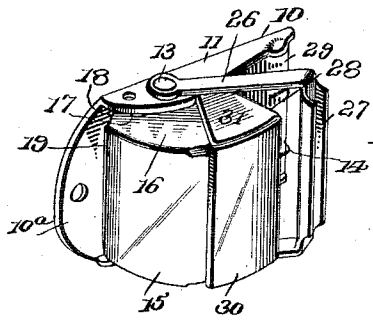

Fig. 1.

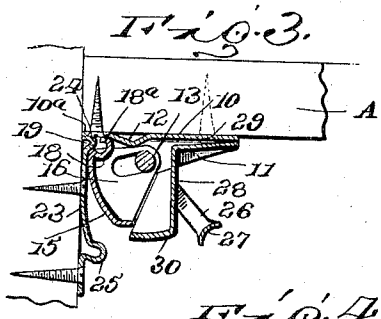

Fig. 3.

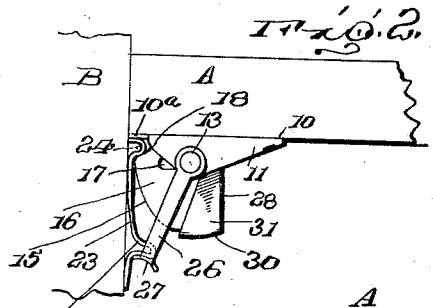

Fig. 2.

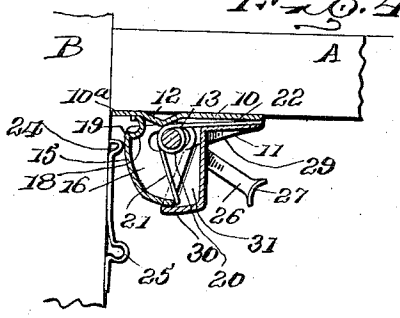

Fig. 4.

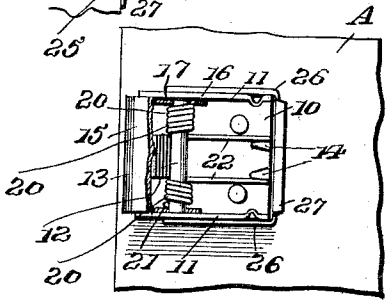

Fig. 5.

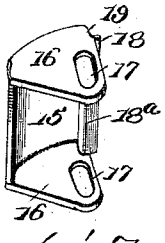

Fig. 7.

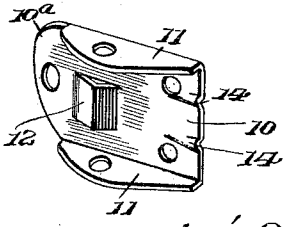

Fig. 6.

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UNITED STATES PATENT OFFICE.

FREDERICK J. LEE, OF WICHITA, KANSAS.

DOOR-LATCH.

1,018,716. Specification of Letters Patent. Patented Feb. 27, 1912.

Application filed June 1, 1911. Serial No. 630,729.

To all whom it may concern:

Be it known that I, FREDERICK J. LEE, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

This invention comprehends certain new and useful improvements in door latches and relates particularly to certain improvements in the door latch for which Letters Patent of the United States were issued to me June 27, 1911, No. 996,098.

An object of the present invention is to provide a holder of this nature with springs and stop shoulders or studs engaging with the springs to hold the same in their respective positions from sliding or twisting as they are alternately compressed and released during the movement of the latch member.

Another object of this invention is to provide a door holder adaptable to the inside or to the outside of doors and their casings, and which may be operated with the keeper in the plane of the latch member or at right angles thereto.

A further object of this invention is to provide the improved door holder with a positive locking means which engages the keeper and locks the door closed, this locking means being of such peculiar form and being so arranged that it may be quickly and easily operated, and which is yieldingly held in either an open or closed position.

The invention comprehends various other important features and improvements in these devices, and particularly upon the door catch application above referred to, which shall hereinafter more specifically be pointed out in the specification and claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of the improved holder; Fig. 2 is a top plan view of the holder, showing the bail locked upon the keeper; Fig. 3 is a horizontal section through the holder latched against the keeper and showing the bail released; Fig. 4 is a similar view showing the holder in engagement with the keeper prior to latching. Fig. 5 is a front elevation of the device, partly in section; Fig. 6 is a detail perspective view of the base plate; and, Fig. 7 is a detail perspective view of the latch member.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, the improved door holder comprises: first, a base plate 10 having outstanding flanges 11 and an outwardly projecting lug 12 adjacent to its inner end. The plate 10 is suitably apertured for the reception of attaching screws, and the lateral flanges 11 are apertured at their inner ends to receive a pin 13. The plate 10 has its outer edge crimped at two points to provide a pair of spaced raised stops 14. The inner edge of the plate 10 is extended, as at 10^a, and apertured to receive an attaching screw to hold the inner end of the plate rigid. Second, a latch comprising a plate 15 being curved transversely to present a rounded outer face and having segmental inturned ears 16 bearing against the inner sides of the flanges 11 and being provided with registering longitudinal slots 17 at their reduced ends receiving the pin 13. The slots 17 admit not only the swinging movement of the latch upon the pin 13 but also admit of its longitudinal sliding movement. The inner edge of the plate 15 is provided with an inwardly offset lip 18 forming an inwardly directed shoulder 19 across the latch. The lip 18 is curved outwardly at its edge, as at 18^a, in registration with the lug 12 so as to provide a smooth rounded surface for sliding engagement over the lug. A pair of helical springs 20 are disposed about the pin 13 terminating in outer arms 21 engaging against the inner sides of the ears 16 and against the outer edge of the plate 15 to yieldingly hold the lip 18 against the lug 12. The inner ends of the springs 20 merge into spaced arms 22 resting flat against the base plate 10 and having their free end bearing against the stops 14 to hold the arms 22 apart. Third, a keeper comprising a flat metallic strip 23 being transversely crimped at its inner end to provide a locking bead 24, and being looped outwardly at a point adjacent to its opposite end to provide a locking shoulder 25 which is inclined outwardly as shown. The keeper strip 23 is provided with suitable openings for the reception of attaching screws. And fourth, a locking

bail 26 enlarged and apertured at its free ends for engagement over the extremities of the pin 13 and against the outer faces of the flanges 11. The bail 26 is rigidly secured to the pin 13 to turn the pin therewith, the binding action of the springs 20 upon the pin 13 yieldingly holding the bail 26 in adjusted position. The outer end or cross bar 27 of the bail is of greater width, having its edges turned out to reinforce the bail and to provide finger catches when swinging the bail from one position to another.

A hood is provided for the holder which comprises an outstanding plate 28 having a base flange 29 resting upon the base plate 10 and having openings therethrough registering with the openings in the base plate to receive the attaching screws. The outer ends of the flanges 11 are preferably turned down against the base flange 29 to hold the same in position. The outer end of the plate 28 has an outwardly extending and inwardly curved flange 30 for the reception of the latch plate 15 when compressed. Side flanges 31 extend in from the plate 28 and overlap the ears 16 to inclose the latch when compressed.

Practically, the drawings disclose a door A having a frame B, the former having the base plate 10 secured against its inner face and at its outer edge presenting the rounded face of the latch 15 toward the frame B. The keeper 23 is attached to the frame B in registration with the latch 15, the locking bead 24 seating against the shoulder 19 when the door A is closed.

The operation is apparent for when the door is shut the rounded outer face of the latch 15 strikes against the bead 24 and the latch is retracted along the base 10 and over the lug 12 against the tension of the springs 20. When the door is completely shut the shoulder 19 passes the bead 24 and the springs 20 snap the latch 15 out against the keeper 23 and the bead 24. An outward pressure against the door A causes the shoulder 19 to bind against the locking bead 24 and the consequent turning of the latch 15 upon the pin 13 until the shoulder 19 passes the bead 24 and the latch is wholly released from the keeper. When the door is closed, and it is desired to lock the same in such position the bail 26 is swung out against the keeper 23 to engage its outer bar 27 over the locking shoulder 25 of the keeper. The tension of the springs 20 upon the pin 13 holds the bail 26 in the path of the shoulder 25 so that when an outward pressure is exerted upon the door A the bail binds upon the shoulder and prevents further opening of the door. As the shoulder 25 is inclined outwardly from the door A the bar 27 is forced in against the keeper 23 and the base of the shoulder 25 to tighten the bail upon the keeper as the pressure is increased. The bail 26 can be readily swung in against the door A when not in use, and will be held in such position by the tension of the springs 20 upon the pin 13.

It is of course understood that any other practical arrangement may be had with respect to the latch and the keeper upon either side of the door, and the keeper may be disposed at various angles with respect to the base plate, providing that the locking bead 24 registers with the shoulder 19.

Having thus described the invention, what is claimed is:

1. A door holder comprising a base plate having outstanding lateral flanges and spaced outwardly crimped stops at its outer edge, a pin carried through the flanges, a latch loosely hinged upon the pin, springs carried about the pin and having their outer arms resting against the latch to yieldingly hold the same against the base plate and having their inner arms resting on the base plate and engaging against the stops to hold the arms apart, a keeper registering with the latch and having an outstanding shoulder, and a bail fixed upon the ends of the pin for engagement over the outstanding shoulder.

2. A door holder including a base plate, a latch hinged upon the base plate, a keeper registering with the latch and having an outstanding locking shoulder inclined outwardly, and a locking bail arranged for engagement over the locking shoulder to bind thereagainst under pressure.

3. A door holder comprising a base plate, a pin upon the base plate, a latch hinged upon the pin, springs carried about the pin and having their opposite arms engaging against the latch and the base plate, a locking bail fixed upon the ends of the pin to turn therewith, and a keeper registering with the latch and having a locking shoulder for the reception of the bail, the tension of the springs upon the pin being adapted to yieldingly hold the bail in adjusted position.

In testimony whereof, I affix my signature in presence of two witnesses.

FREDERICK J. LEE. [L. S.]

Witnesses:
R. E. LEE,
D. R. LAUCK.