Jan. 1, 1924

1,479,655

R. B. EVANS

DOOR LATCH

Filed Sept. 18, 1922

Fig. 4.

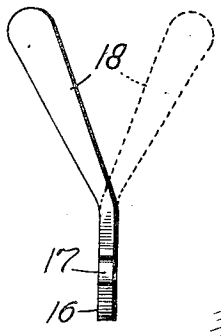


Fig. 1.

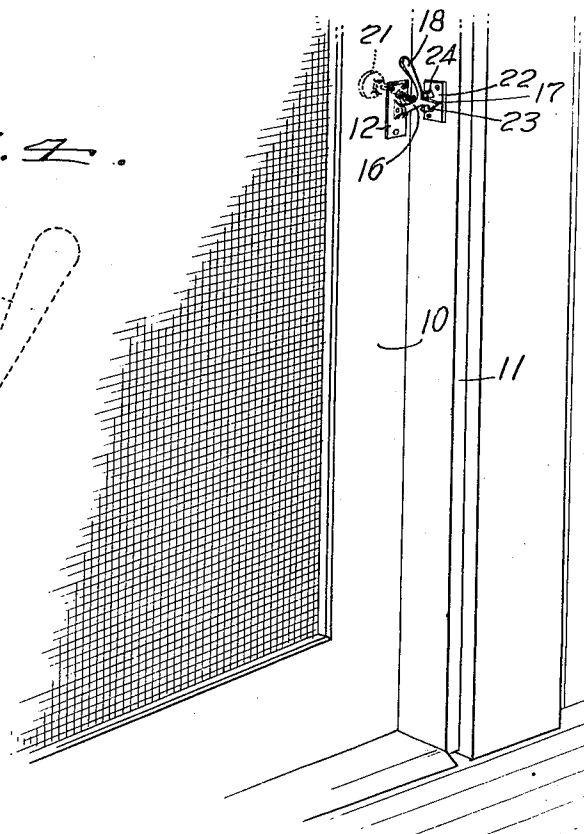


Fig. 3.

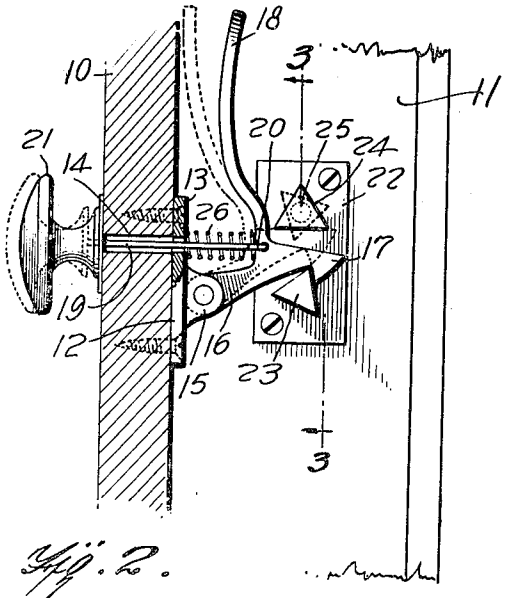
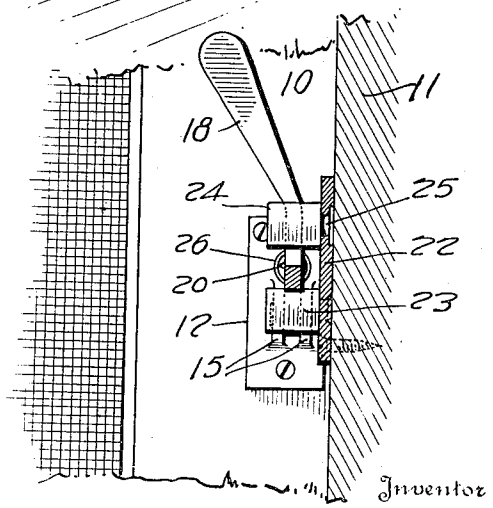


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROSCOE BERYL EVANS, OF DERMOTT, ARKANSAS.

DOOR LATCH.

Application filed September 18, 1922. Serial No. 588,865.

To all whom it may concern:

Be it known that I, ROSCOE B. EVANS, a citizen of the United States, residing at Dermott, in the county of Chicot and State of Arkansas, have invented certain new and useful Improvements in Door Latches; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to door latches and has for an object to provide a latch especially, though not exclusively, for light doors, such for instance as screen doors, and to provide improved means for latching, unlatching and locking.

A further object of the invention is to provide a latch which from either the inside or the outside presents means movable in the direction of the movement of the door, such movement being initially against the tension of the spring which is placed under compression and which imparts to the door the initial "kick" when the latch releases, making the opening of the door more instantaneous and certain.

A further object of the invention is to provide improved means for locking the latch from the inside of the door without the use of a key or other removable member.

With these and other objects in view the invention comprises certain novel parts, elements, units, combinations, constructions and arrangements as disclosed in the drawings, together with mechanical equivalents thereof, as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is a view in perspective of the improved latch seen from the inside mounted upon a screen door of conventional type;

Figure 2 is a view of the latch principally in side elevation, a part being broken away and showing the door frame in vertical section;

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 2;

Figure 4 is a view in front elevation of the arm showing its position both as a right and left-hand latch.

Like characters of reference indicate corresponding parts throughout the several views.

The improved latch which forms the subject matter of this application is adapted to be associated with doors and door casings of various types and the showing of a door at 10 associated with the door casing at 11 is intended only as illustrative and in no way limiting upon the utility of the device. The latch comprises a plate 12 secured to the door 10 with a perforation 13 registering with an opening 14 formed in the door. The plate is provided with upstanding ears 15 between which is fulcrumed the latch member 16 having a hook 17 and an arm 18.

Extending through the registering perforations 13 and 14 is a wire rod or cable 19 pivoted to the latch 16 in any approved manner, as by the eye 20 and having upon the exterior of the door a knob 21. It will be noted, especially from Figure 2, that the wire 19 connects with the latch 16 above its pivot, so that a pull upon the knob 21 to the position shown in dotted lines serves to raise the latch also to its dotted lines, as shown in that figure, swinging the arm 18 back adjacent to the door frame.

To co-operate with the latch a strike plate 22 is employed having an abutment 23 rigidly secured thereto and positioned to inter-engage with the hook 17, such abutment being preferably triangular in transverse section, as shown at Figure 2, although it is obvious that the triangular shape is not essential to its operation and the structure is not necessarily limited to that formation.

Spaced away from the rigid abutment 23 is a movable abutment 24 mounted to rotate upon an axis substantially parallel with the abutment 23. Such rotation may be provided in any usual or well known mechanical manner, here shown as by means of a rivet 25 (see Fig. 3), which permits the rotation of this abutment 24 manually.

Preferably this abutment 24 will be triangular in cross section and when in the position shown in full lines at Figure 2 will permit the raising of the latch 16 but when rotated to the position shown in dotted lines will prevent the raising of the latch 16 sufficiently to release the hook 17 from engagement with the abutment 24.

In operation the device will be mounted upon the door and door casing, as indicated

at Figure 1, and while there shown as a right-hand latch, it is obvious that, as indicated at Figure 4, it may be employed also as a left-hand latch. With the device so mounted, a person wishing to open the door from the outside will, of course, grasp the knob in the usual manner and pull it outwardly in the direction in which the door is to move. This exerts tension upon the wire 19, pulling upon the latch 16 and compressing the spring 26. As soon as the hook 17 dis-engages from the abutment 23, the tendency of the spring is to expand and, therefore, give to the door the desired initial "kick", initiating the opening of the door promptly. When it is desired to open the door from the inside, push will be exerted upon the arm 18 also in the direction which it is desired to move the door, the result being exactly the same, placing the spring 26 under compression resulting in the initial "kick", as above described. When it is desired to lock the door, the abutment 24 is merely turned upon its axis, represented by the rivet 25, until the point is in engagement with or adjacent to the latch 16 which prevents the latch being lifted a sufficient distance to release it from the abutment 23. The door is, therefore, securely locked until the abutment 24 is again turned.

What I claim is:

1. A door latch comprising a fulcrumed latch member having a hook and an upstanding arm, a strike plate, a spring adapted to force the latch to latching position, a knob upon the side of the door opposite the hook and connected therewith, adapted when pulled to raise the latch, an abutment carried by the strike plate positioned to be engaged by the hook and a second abutment spaced from the first abutment and positioned to limit the opening movement of the latch and to be turned to lock the latch.

2. A door latch comprising a fulcrumed hooked member upon the inner side of the door, a strike plate having a rigid abutment positioned for inter-engagement with the hook of the latch, a spring positioned to yieldingly force the latch into engagement with the abutment, an arm carried by the latch adapted when compressed to raise the latch against the tension of the spring, a knob upon the exterior of the door, means connecting the knob with the latch adapted when drawn to raise the latch against the tension of the spring, and an abutment spaced from the first abutment a sufficient distance to permit the raising of the hooked latch member a limited distance and adapted to be turned to reduce the interval for locking the latch.

3. A door latch comprising a fulcrumed latch bar, a strike plate provided with spaced triangular abutments, one of said abutments being rigid and positioned to inter-engage with the latch bar, and the other adapted to be manually rotated to vary the interval between the proximate portions of the abutments, the greater interval permitting the unlatching of the latch but limiting its movement, the lesser interval preventing such unlatching, and manual means for applying unlatching stress to the latching member.

In testimony whereof I hereunto affix my signature.

ROSCOE BERYL EVANS.