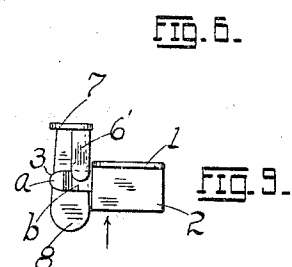
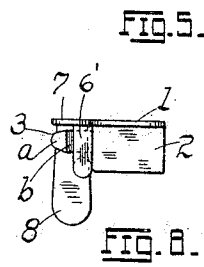
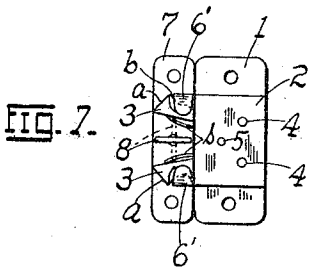
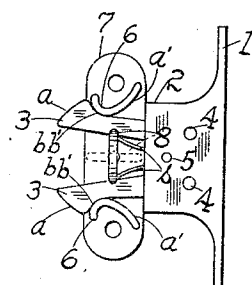
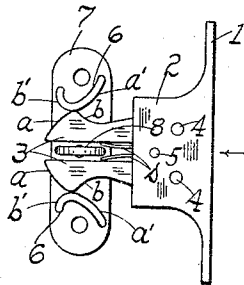
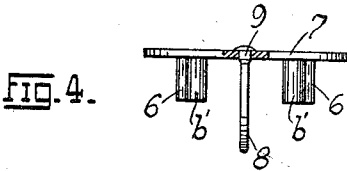
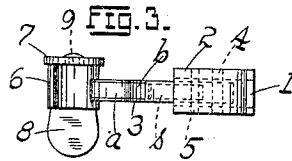
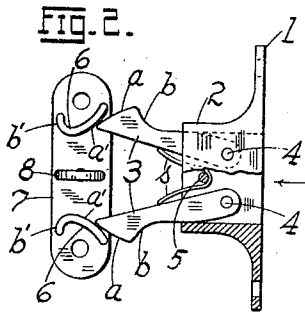
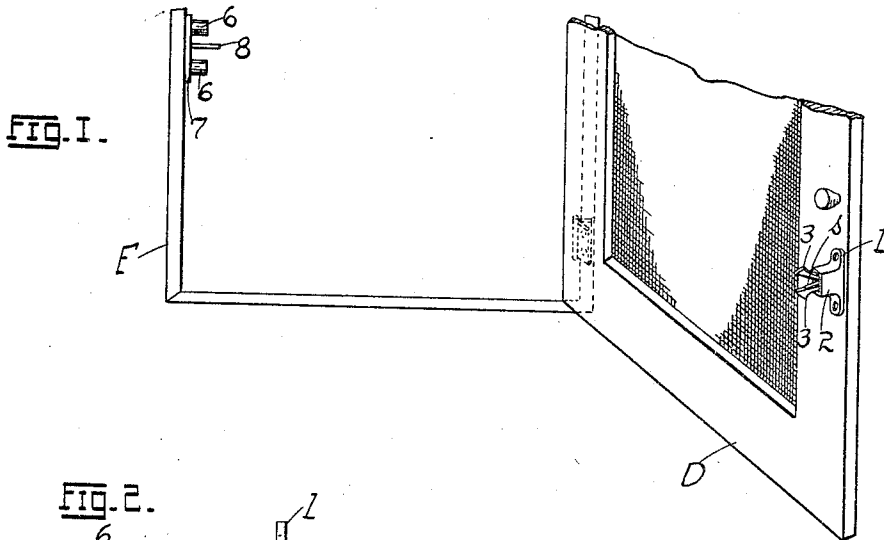


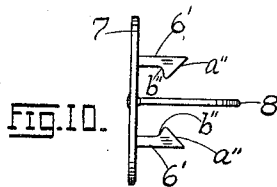
M. J. KEOUGH.  
 DOOR LATCH.  
 APPLICATION FILED NOV. 27, 1914.

1,137,863.

Patented May 4, 1915.



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# UNITED STATES PATENT OFFICE.

MICHAEL J. KEOUGH, OF ST. LOUIS, MISSOURI.

## DOOR-LATCH.

1,137,863.

Specification of Letters Patent.

Patented May 4, 1915.

Application filed November 27, 1914. Serial No. 874,268.

*To all whom it may concern:*

Be it known that I, MICHAEL J. KEOUGH, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Door-Latches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in door-latches; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a portion of a door showing my invention applied thereto; Fig. 2 is a front elevation of the latch and keeper members in initial engagement, parts being broken away; Fig. 3 is a top plan of Fig. 2; Fig. 4 is an edge view of the keeper member; Fig. 5 is a view similar to Fig. 2, with the latch member partially passed between the keepers of the keeper member; Fig. 6 is a view similar to Fig. 5 with the latch member in full engagement with the keeper member; Fig. 7 is a view similar to Fig. 6 showing a modified form of keeper member; Fig. 8 is a top plan of Fig. 7; Fig. 9 is a view similar to Fig. 8, with the keeper and latch members in initial engagement, said view corresponding to the position of the members shown in Fig. 2; and Fig. 10 is an edge view of the modified keeper shown in Fig. 7.

The present invention is specially directed to improvements in latches for screen-doors, although not restricted in its application thereto, the object of the invention being to construct a latch which is positive in its action, simple in construction, durable, cheap, and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:

Referring to the drawings, and for the present to Figs. 1 to 6 inclusive, D represents a door hinged to a door frame F as usual, the door carrying the latch and the frame or jamb carrying the keeper as will more fully hereinafter appear. In the form illustrated in the above figures, 1 represents a plate adapted to be secured to the door D, said plate being formed with a housing or chambered formation 2 in which are mounted the latches 3, 3, the latter being pivoted at their inner adjacent ends within

the housing about suitable pins 4, 4, extending transversely across the housing and mounted in the side walls thereof. Likewise mounted across the housing between the latches and removed a suitable distance outwardly from a line connecting the pins 4, 4, is a pin 5, about which is passed the crown of a flexed spring *s*, the arms of the spring engaging the inner faces of the latches 3, 3, and tending to drive the same apart. As shown, the spring *s* is a single piece, but it is obvious that it may be made of two arms or sections with each arm secured to the pin 5. Under the resilient action of the spring arms the latches are normally forced outwardly against the end walls of the housing 2 as clearly obvious from the drawings. In the form referred to, the free ends of the latches terminate in wedge or cam formations *a, a*, whose faces are substantially transverse to the plane of oscillation of the latches, the inner edges of the faces *a, a*, meeting with the terminal edges of the concaved outer faces *b, b*, of the latches, the concaved formations *b* playing an important part in the operation of the latches. Coöperating with the latches are keepers 6, 6, formed on a plate 7 which is secured to the door jamb, the said keepers having suitably formed faces *a', a'*, coöperating with the faces *a, a*, of the latches, and with convex formations *b', b'*, coöperating with the formations *b, b*, of the latches. Carried by the plate 7 at a point midway between the keepers is a flat key or wing 8 provided with a stud 9 mounted rotatably in the plate, the outer end of the stud being expanded against the face of the plate to retain the key in place.

The operation is clear from the foregoing description, and is substantially as follows: When the door is open the latches diverge from one another as shown (Fig. 1). When the door is swung to a closed position, the surfaces *a, a'*, of the latches and keepers first come together (Fig. 2), the surfaces *a'* causing the latches to approach one another (Fig. 5), after which, as the meeting edges between the faces *a, b*, of the latches pass off the faces *a'* of the keepers, the concave faces *b* of the latches come opposite the faces *b'* of the keepers, the expansion of the spring *s* driving the faces *b* of the latches into engagement with the faces *b'* of the keepers, and thus fastening the door (Fig. 6). A pull or push on the door in proper direction

will overcome the tension of the spring, and the latches can be withdrawn from engagement with their keepers and the door may be opened. In this operation the wing or key 8 is rotated parallel to the plane of the swing of the door (Figs. 2, 5,); but should it be desired to lock the door against the opening thereof by unauthorized persons, the person in the room turns the key at right angles to its first position (Fig. 6), thus preventing the latches from yielding inwardly sufficiently to permit the same to pass off their keepers, thereby locking the door. The wing or key 8 thus turned engages the latches so that the latter can not yield, and the door remains locked.

In the form described, the latches enter between their keepers by a swinging movement substantially parallel to the plate 7; but in Figs. 7 to 10, I show a form which permits the latches to enter between their keepers by a swing which is substantially at right angles to the plate 7. In that case the keepers 6', 6', are formed with inclined surfaces a'', a'', which, instead of sloping in substantial parallelism with the outer face of the plate 7, (as is the case with the faces a', a',) slope transversely to the plate, the concave formations b'', b'', between the faces a'' and the plate 7, taking the place of the formations b' in the first form described. In other respects the form shown in the modification is the same as the first form described, and corresponding parts are identified by the same reference numerals.

It is obvious that the latches and keepers are susceptible of many changes in details, without a departure from either the nature or spirit of my invention.

Having described my invention, what I claim is:

In combination with a housing, a pair of latches pivoted at one end in the housing and projecting out of the housing, the free ends of the latches being provided with wedge or cam surfaces, and the outer faces of the latches being provided with concaved portions meeting the wedge surfaces aforesaid, a pair of keepers spaced apart and provided with inclined formations initially engaged by the cam faces of the latches, and with convex formations to subsequently engage the concaved portions of the latches, a pin in the housing between the latches, a flexed spring having a crown portion passed around the pin on the side facing the pivotal axes of the latches, the ends of the spring engaging the inner faces of the latches for causing the latter to maintain a permanent engagement with the keepers, and a rotatable wing between the keepers positioned to engage the latches at points adjacent the free ends of the spring and lock the latches to the keepers.

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

MICHAEL J. KEOUGH.

Witnesses:

EMIL STAREK,  
JOS. A. MICHEL.

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