

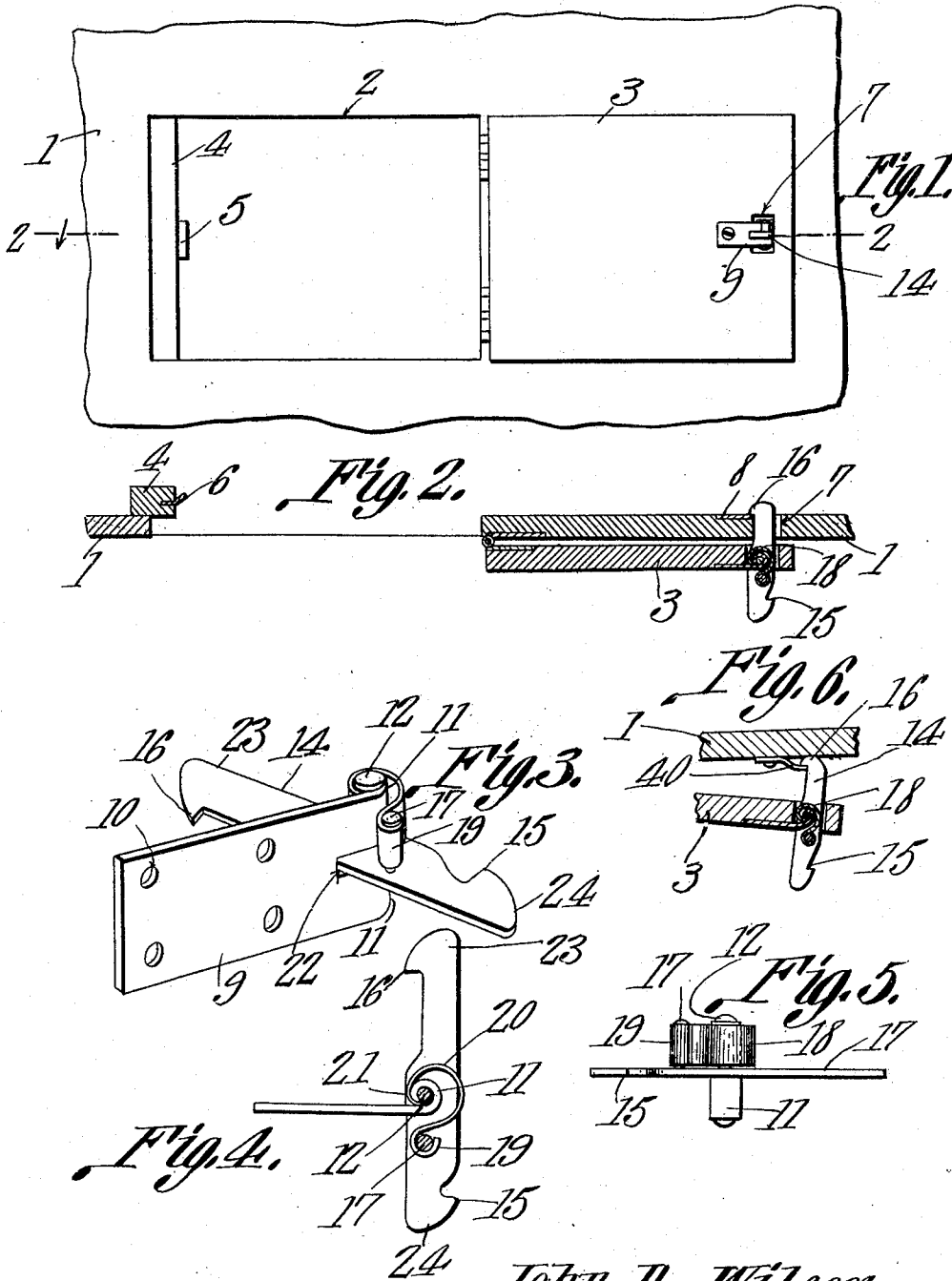
J. D. WILCOX.

DOOR LATCH.

APPLICATION FILED MAY 13, 1910.

980,379.

Patented Jan. 3, 1911.



Witnesses

John D. Wilcox
Mason B. Lawton

John D. Wilcox,
Inventor

by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN D. WILCOX, OF NEOSHO, MISSOURI.

DOOR-LATCH.

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Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed May 13, 1910. Serial No. 561,192.

To all whom it may concern:

Be it known that I, JOHN D. WILCOX, a citizen of the United States, residing at Neosho, in the county of Newton and State of Missouri, have invented a new and useful Door-Latch, of which the following is a specification.

It is the object of this invention to provide, in a simple, merchantable, and inexpensive form, a latch, adapted to be mounted upon a door, in such a way that the door may be held either in an open or a closed position by the latch.

Another object of the invention is to provide a latch for a door, the latch being so constructed and assembled upon its supporting structure, that, when the door is open, and so held by the latch, the latch may be manipulable either from the inside or the outside of the building upon which the door is mounted to swing.

Another object of the invention is to provide a carrying plate of novel and improved form; to provide a latch adapted to be assembled with the carrying plate; to provide a novel form of spring for actuating the latch; and to devise novel means for connecting the spring both with the latch and with the carrying plate.

The drawings show preferred embodiments merely, and it is to be understood that changes, properly falling within the scope of what is claimed, may be made without departing from the spirit of the invention.

In the drawings,—Figure 1 is a front elevation of a structure having a door upon which is mounted the latch of my invention, the door being swung into an open position; Fig. 2 is a horizontal section of Fig. 1 on the line 2—2 of Fig. 1; Fig. 3 is a perspective of the carrying plate and the latch; Fig. 4 is a side elevation of the latch and the carrying plate; Fig. 5 is an edge elevation of the latch and the carrying plate, and Fig. 6 is a fragmental section of a modification.

In the drawings, a supporting structure 1 is shown, the same being, for instance, the wall of a building, in which there is a doorway 2, adapted to be closed by a hinged door 3, a stop 4 being provided, against which the door 3 is adapted to abut when in closed position. In this stop 4 there is a striking plate 5. As seen most clearly in Fig. 2, this striking plate is a piece of metal driven endwise into the stop, and inclined slightly, in

its protruding portion, as denoted by the numeral 6, to receive the latch.

At a point remote from the doorway 2, there is an opening 7 through the supporting structure 1, the striking plate 8 being mounted upon the inner face of the supporting structure, at the edge of the opening 7.

A carrying plate 9, having holes 10 for the reception of screws or the like, is mounted upon the door 3. This carrying plate 9 is notched at one end as denoted by the numeral 22, to form arms, the extremities of which are rolled to form knuckles 11. In these knuckles is mounted a pin 12 upon which is pivoted, intermediate its ends a latch 14. One segment 23 of the latch 14 is somewhat longer than the other segment 24 thereof. In the segment 23, in one edge of the latch, there is a notch, defining a projection 16; and in the segment 24, in the opposite edge of the latch, there is a notch defining a projection 15. A stud 17 outstands from one of the side faces of the latch 14.

The invention further includes a sigmoidal spring plate 18, one end of which is sharply bent as at 19 to inclose the stop 17, the other end of the spring plate being bent upon a gradual curvature, as at 20, to inclose one of the knuckles 11. As seen most clearly in Fig. 4 of the drawings, the extremity of the portion 20 is, as shown at 21, securely clamped between one of the knuckles 11 and the body of the carrying plate 9.

In practical operation, the longer segment 23 of the latch will extend through the opening 7 in the supporting structure 1 when, as shown in Fig. 2, the door is swung into an open position. Under such circumstances, the projection 16 will engage the striking plate 8, the latch, under the actuation of the spring plate 18, holding the door in an open position. At this point it should be noted that when it is desired to unlock the door from the open position shown in Fig. 1, it is not necessary for the operator to step outside of the structure, since the latch extends entirely through the side wall of the structure. When the door 3 is swung into a closed position, the door will abut against the stop 4, and the projection 15 in the segment 24 will lock behind the striking plate 6, thus holding the door shut. When the door is closed, a person standing within

the building, may disengage the latch from the striking plate 6 and swing the door open, whereupon the portion 23 of the latch will enter the opening 7 in the structure 1 and engage with the striking plate 8. When it is desired to close the door, the operator, without stepping outside of the building, may simply disengage the longer arm of the latch from the striking plate 8, and by giving a thrust against the end of the latch, swing the door quite shut, and lock the same; all without passing outside of the building.

The particular form given to the spring 18 results in a simple and effective resilient means for actuating the latch; and by securing the end of the spring in one of the knuckles 11 as shown at 21, the spring will be securely attached to the carrying plate 9, and form an effective operative element for actuating the latch.

As shown in Fig. 6, a simple catch 40 may be mounted upon the outside of the supporting member, for engagement with the latch 14, the construction being such that the door may be latched in open position with-

out extending the latch through the supporting structure, as shown in Fig. 2.

Having thus described the invention, what is claimed is:—

A device of the class described comprising a carrying plate having a notch extended through one end wall to define arms, the extremities of the arms being curved upon themselves to form knuckles; a latch disposed in the notch; a pivot element mounted in the knuckles and forming a support for the latch; a pin outstanding from one side of the latch; and a sigmoidal spring secured at one end about the pin, the spring being carried about one knuckle in spaced relation thereto, the other end of the spring being bound between said knuckle and the spring plate proper.

In testimony that I claim the foregoing as my own, I have hereunto affixed my signature in the presence of two witnesses.

JOHN D. WILCOX.

Witnesses:

D. W. TUDER,

O. W. EPPERSON.