

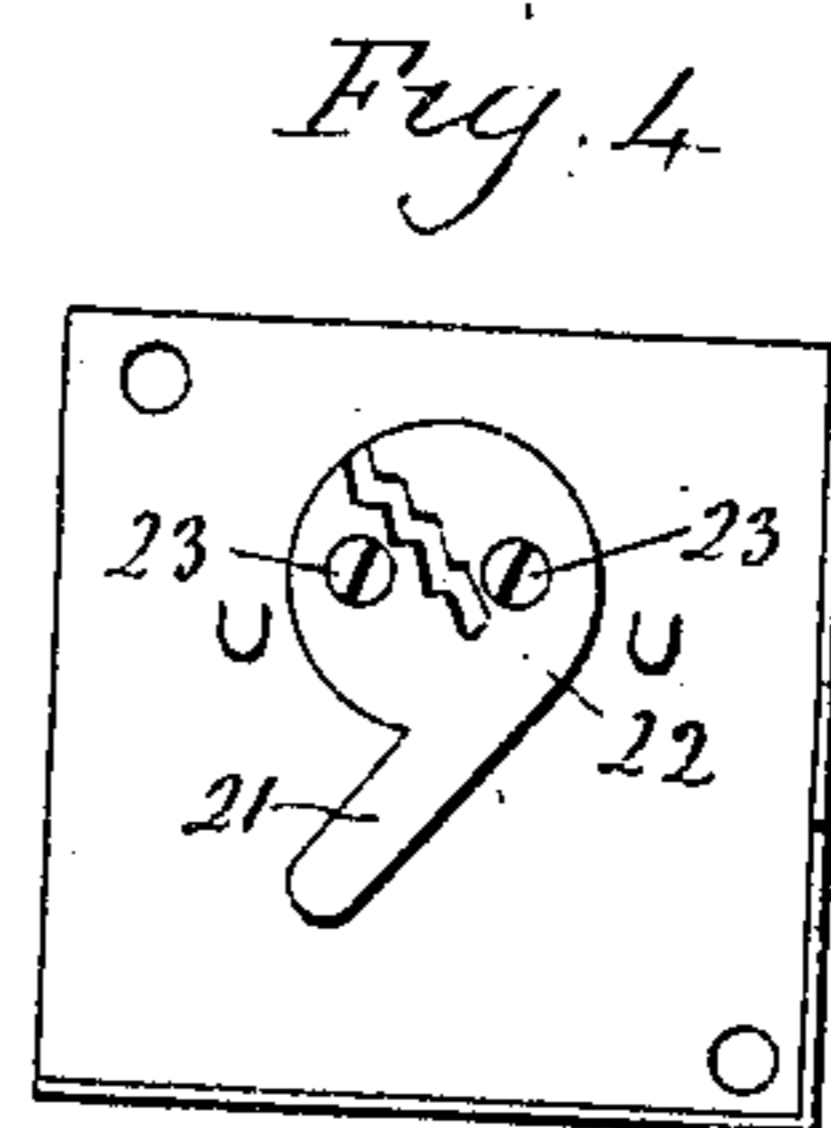
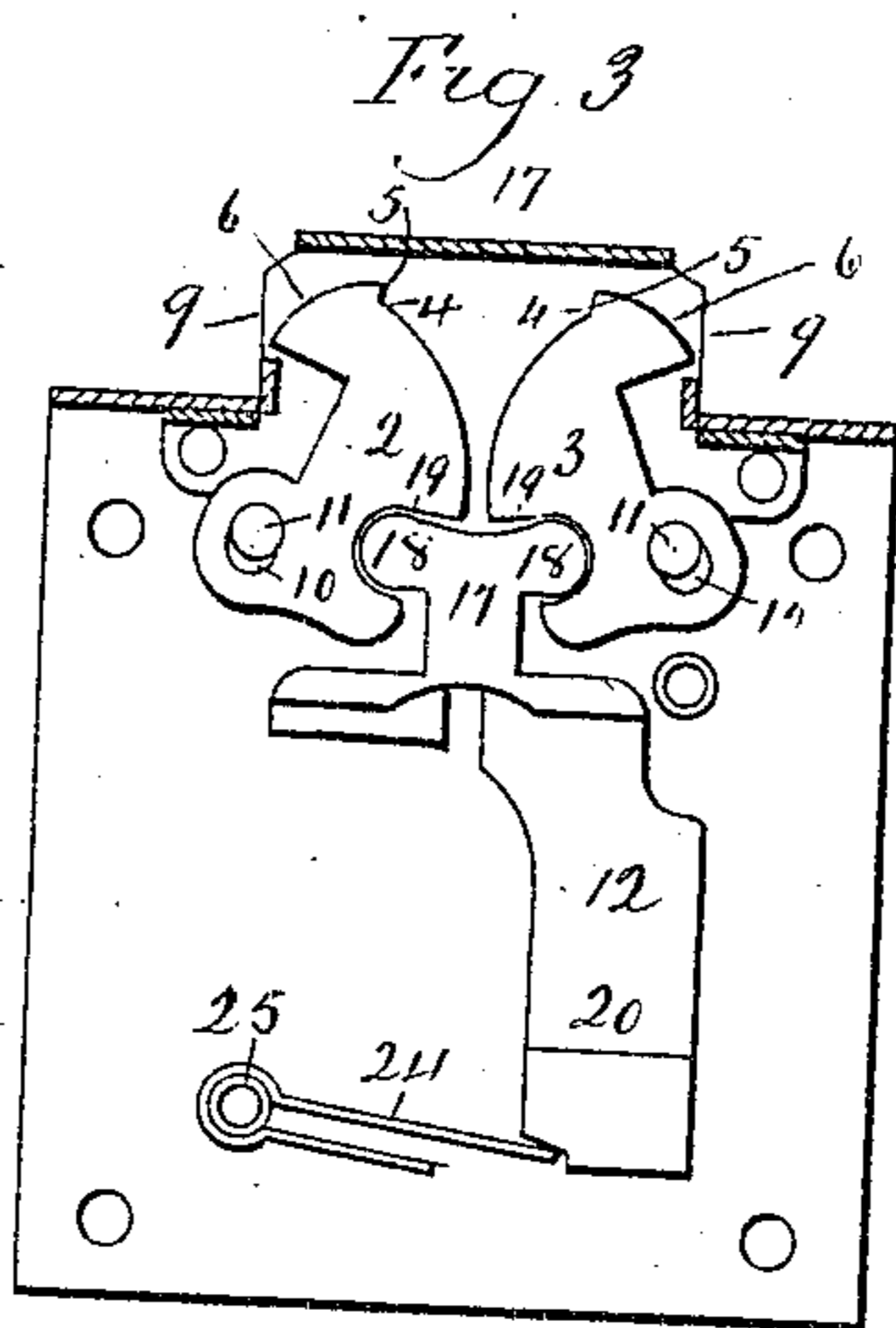
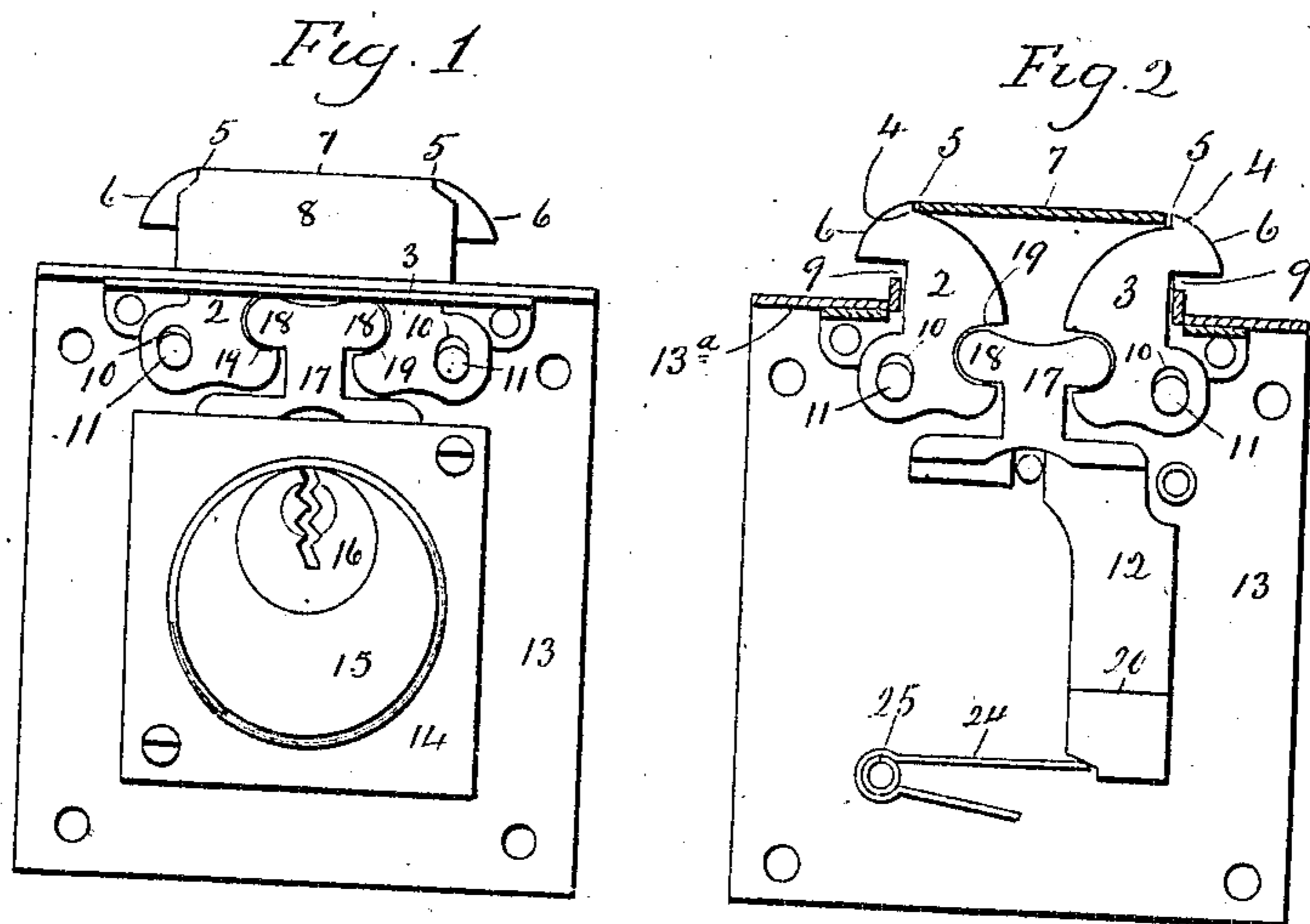
No. 837,100.

PATENTED NOV. 27, 1906.

J. J. MURPHY.

LOCK.

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LOCK.

No. 837,100.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES J. MURPHY, a citizen of the United States, residing at Terryville, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in inside elevation of a lock constructed in accordance with my invention; Fig. 2, a view thereof, partly in vertical section, with the pin-tumbler mechanism removed, the bolts being projected and lifted to engage with the ends of the housing; Fig. 3, a corresponding view with the bolts shown as depressed and retracted; Fig. 4, a detached view, in inside elevation, of the lock-case cover, showing the operating-plate applied to the inner end of the plug of the pin-tumbler mechanism.

My invention relates to an improvement in locks of that class in which hook-like bolts are projected from and withdrawn into the open ends of a fixed housing adapted to enter a striker-plate, the object being to prevent the bolts from being surreptitiously worked back into the housing; and thus freed from the striker-plate.

With these ends in view my invention consists in a lock having certain details of construction and combinations of parts, as will be more fully hereinafter described, and pointed out in the claims.

For the purpose of illustrating my invention I have shown it as applied to a self-locking pin-tumbler desk-lock; but my improvement is not limited to use in conjunction with such locks, though particularly well adapted thereto.

The two complementary pivotal hook-like bolts 2 and 3 are each formed upon their upper edges with notches 4, forming locking-shoulders 5 at the inner ends of their convex cam-surfaces 6, which are provided for their automatic retirement in the usual manner under the action of the striker-plate, which, being of usual construction; is not shown. The shoulders 5 aforesaid engage with the ends of the top 7 of a housing 8, which is also of ordinary construction and formed at its

ends with openings 9, through which the beveled ends of the hooks 2 and 3 are projected and withdrawn. When the shoulders 5 are engaged with the ends of the top of the housing, it is obvious that it will be impossible to surreptitiously work the ends of the bolts back into the housing, so as to release the striker-plate. In order to permit the shoulders 5 to be cleared from engagement with the ends of the top of the housing, it is necessary to arrange for the bodily depression of the bolts before they can be swung inward into the housing. This is provided for by vertically elongating the pivot-holes 10, made in the bolts for the reception of the pivots 11, on which they turn, the elongation of these pivot-holes being equal to or a little more than the depth of the said shoulders 5. These elongated pivot-holes permit the bolts to be moved longitudinally with respect to the housing in addition to their lateral or swinging movement with respect thereto.

For the operation of the bolts the lock is provided with a vertically-movable slide 12, bearing directly upon the frame-plate 13 of the lock-case, which is completed by the struck-up cover 14, which carries the cylinder 15, containing the pin-tumbler lock mechanism, including the usual rotary plug 16. The upper edge of the plate 13 is bent at a right angle, as usual, to form the flange 13^a, above which the housing 8 rises. The said slide 12 is formed with a T-shaped head 17, the arms 18 of which enter deep notches 19, formed in the inner faces of the bolts, there being sufficient play between the said arms and notches to permit the arms to roll, as it were, upon the surfaces of the notches. Near its lower end the slide 12 is formed with a shoulder 20, which is engaged by an operating-finger 21 upon an operating-plate 22, attached by screws 23 to the rear end of the plug 16, as shown in Fig. 4. A spring 24, mounted upon a stud 25 in the frame-plate 13, engages with the extreme lower end of the slide and exerts a constant effort to lift the same and not only project the beveled ends of the bolts from the ends of the housing, but also to lift the bolts, so as to cause the engagement of their locking-shoulders 5 with the end walls of the housing, as shown in Fig. 2.

When the plug 16 is turned by the key, the finger 21 of the plate 22 engages with the

shoulder 20 of the slide 12 and draws the slide downward against the tension of the spring 24, whereby the bolt-like hooks are first drawn downward until the upper ends
 5 of their slots 10 engage with the upper faces of the pivots 11. The bolts are thus moved bodily downward until their shoulders 5 are wholly cleared from the ends of the top of the housing. The upper ends of the slots having
 10 been brought to bear upon the upper faces of the pivots, the continued downward movement of the slide causes the bolts to rock inward on the pivots, whereby their projecting beveled ends are entirely retracted within
 15 the housing, as shown in Fig. 3. As soon as the plug is turned, so as to remove the downward pressure of its finger 21 upon the shoulder 20, the spring 24 acts to lift the slide, whereby the bolts are first swung outwardly
 20 into their projected positions, being automatically lifted into their locked positions, as shown by Fig. 2, just as soon as their shoulders 5 clear the ends of the top wall of the housing. It will be seen from the forego-
 25 ing description that it will be impossible to surreptitiously work the bolts back into the housing by any lateral manipulation of the striker-plate, because the inward movement of the bolts is conditioned upon their prelimi-
 30 nary bodily downward movement, so as to disengage them from the ends of the housing.

As already suggested, my invention may be embodied in locks other than the lock herein shown and described. Thus my in-
 35 vention may be embodied in locks having but a single bolt-like hook, in locks other than pin-tumbler locks, and so on, my invention consisting, broadly, in adapting a hook-like bolt to be directly engaged when projected
 40 with one end of its housing, and thus prevented from being surreptitiously worked back thereinto, so as to release its hold upon the strike-plate of the lock.

I claim—

45 1. In a lock, the combination with the bolt-housing thereof, of a hook-like bolt projecting from one end of the said housing and adapted when so projected therefrom to be directly engaged with the said end which pre-
 50 vents the bolt from working back into the housing, and means for operating the bolt to disengage it from the housing and then retract it thereinto.

2. In a lock, the combination with the
 55 bolt-housing thereof, of a pair of hook-like bolts projecting from the ends of the housing and adapted when projected therefrom to be directly engaged with the said ends whereby the said bolts are prevented from being sur-
 60 reptitiously worked back into the housing, and means for operating the bolts whereby they are first disengaged from the housing and then retracted thereinto.

3. In a lock, the combination with the
 65 housing thereof, of a hook-like bolt formed

upon its upper edge with a shoulder for en-
 gagement with the end of the housing when the bolt is projected therefrom, whereby the bolt is prevented from being surreptitiously
 70 worked back thereinto.

4. In a lock, the combination with the housing thereof, of a pivotal hook-like bolt adapted when projected from the housing to be directly engaged therewith to prevent it
 75 from being worked back thereinto, the pivot-hole of the bolt being elongated to permit the bolt to be disengaged from the housing preparatory to retraction thereinto by the mechanism of the lock.

5. In a lock, the combination with the
 80 housing thereof, of a pair of bolts projecting from the ends of the housing and adapted to be engaged therewith, and means for moving the bolts to disengage them from the ends of the housing as well as to retract them within
 85 the same.

6. In a lock, the combination with the housing thereof, of a pair of bolts projecting from the ends of the housing and having upon
 90 their upper edges locking-shoulders for engagement with the ends of the top of the housing, and means for bodily moving the bolts to disengage their shoulders from the ends of the top of the housing and reengage
 95 them therewith as well as to project and retract the bolts from and into the ends of the housing.

7. In a lock, the combination with the lock-case, of a housing projecting therefrom, a pair of bolts projecting from the ends of the
 100 housing and adapted to have their upper edges engaged with the ends of the top thereof, the said bolts having elongated pivotal holes receiving pivots mounted in the lock-case, and means for operating the bolts,
 105 whereby they are projected out of and retracted into the housing and moved with respect thereto for the engagement of their locking-shoulders with, and the disengagement of their locking-shoulders from, the
 110 ends of the top of the housing.

8. In a lock, the combination with the case thereof, of a bolt-housing open at its ends, bolts pivoted within the case and projecting from the ends of the housing with
 115 which they are directly engaged when so projected to prevent them from being surreptitiously worked back thereinto, and a slide having a T-head the arms of which enter notches formed in the bolts which are disen-
 120 gaged from the ends of the housing by the inward movement of the slide which afterward retracts them into the housing.

In testimony whereof I have signed this specification in the presence of two subscrib-
 125 ing witnesses.

JAMES J. MURPHY.

Witnesses:

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