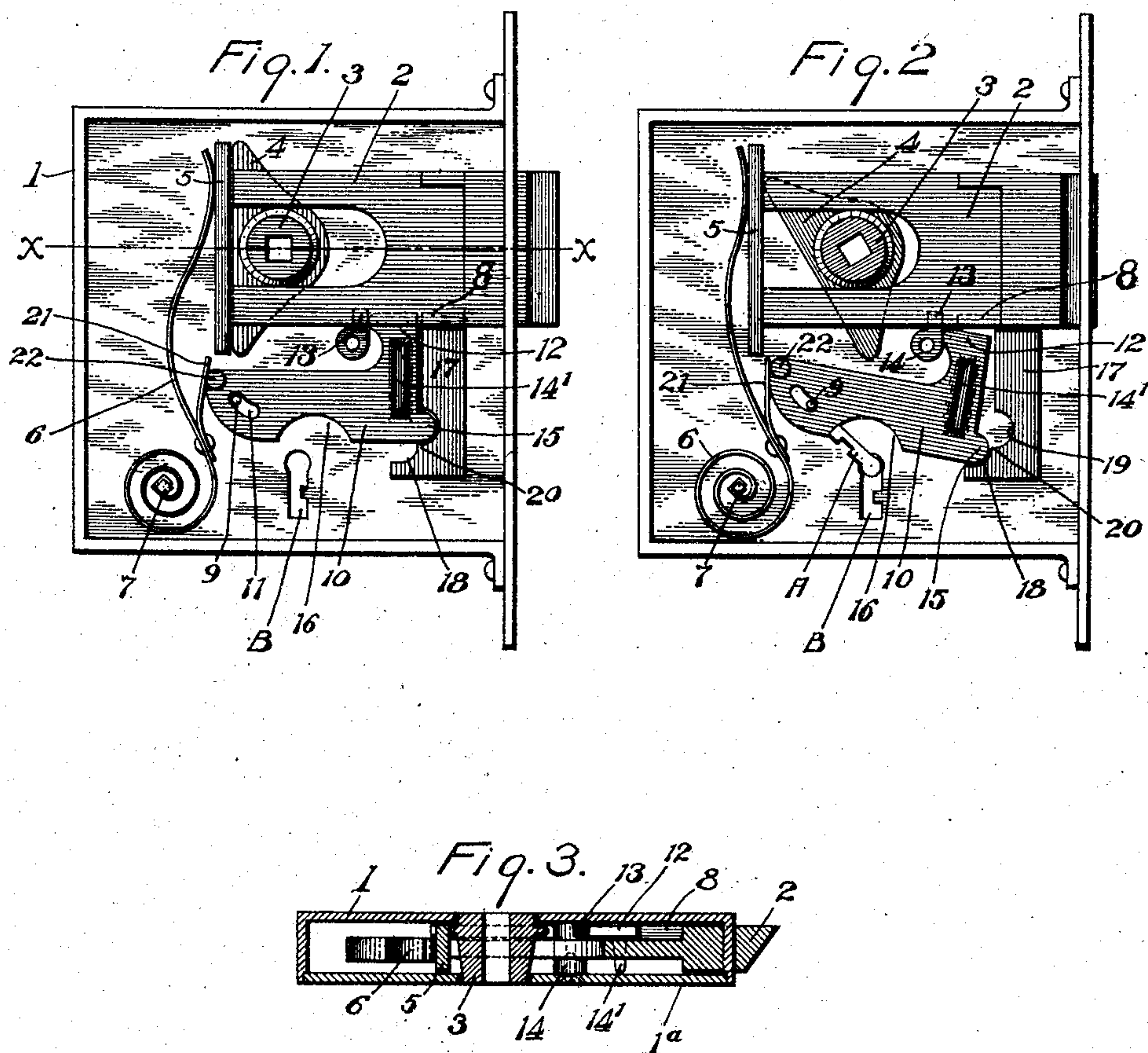


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G. W. HINTZ.
COMBINED LOCK AND LATCH.
APPLICATION FILED MAR. 23, 1904.



Witnesses:

George Oltsch
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UNITED STATES PATENT OFFICE.

GUSTAV W. HINTZ, OF SOUTH BEND, INDIANA.

COMBINED LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 790,206, dated May 16, 1905.

Application filed March 23, 1904. Serial No. 199,566.

To all whom it may concern:

Be it known that I, GUSTAV W. HINTZ, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in a Combined Lock and Latch; 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.

This invention relates to a combined lock and latch, and has for its object to provide one embodying few parts, and consequently an inexpensive structure, which dispenses with the usual key-operated plate and ordinarily operates as a latch, but which may be converted into a lock.

The invention consists in the construction, combination, and aggroupment of parts, all as will be more fully described hereinafter, illustrated in the accompanying drawings, and finally pointed out in the appended claims.

In the drawings, in which like characters of notation indicate corresponding parts throughout the several views, Figure 1 is an elevation with the cover of the lock-case removed and the latch-bolt locked against movement. Fig. 2 is a similar view with the latch-bolt freed and retracted in the case, and Fig. 3 is a transverse section on the line xx of Fig. 1.

Making renewed reference to the drawings, 1 designates the lock-case, in which is mounted the usual latch-bolt 2, the rear end of which is bifurcated and straddles the usual collar 3, through which the knob-spindle passes. This collar is provided with arms 4, which engage with the cross-bar 5 of the latch-bolt to retract it into the case in the usual manner, and the latch-bolt is normally held projected from the case by means of a flat spring 6, mounted at one end upon a boss or stud 7. The latch-bolt is further provided at its lower edge portion with a laterally-extending lug 8, as more clearly shown in Fig. 3 and as indicated at 8 in dotted lines in Figs. 1 and 2.

Mounted on a pivot-pin 9 beneath the latch is a tumbler 10, which has a curved slot 11 to

permit it to slide on its pivot. Thus the tumbler is movable bodily on its pivot and in addition has a swinging or tilting movement thereon. The free end of this tumbler is provided with an upward extension 12, which is adapted to project up into the path of the laterally-extending lug 8 on the latch-bolt and which extension is confined in such position and guided thereto by a guide-lug 13, rigidly mounted on a stud 14 and projecting vertically, so as to lie against one side of the latch-bolt. The rear face of the tumbler is perfectly flat and lies against the rear face of the lock-case, while the front face is provided with a lateral projection 14', which bears against the cover of the case, and thereby holds the tumbler against lateral movement. At its lower free end this tumbler is formed with a projection 15, which is preferably semicircular, and in the lower edge of the tumbler is formed a circular recess 16, in which a key A engages to operate the tumbler, the keyhole B of the casing being arranged directly beneath this recess, as shown.

From the description thus far given it will be seen that I provide a pivoted bodily-movable tumbler which has a limited longitudinal sliding movement because of the slot 11, which is disposed diagonally or at an angle with respect to the longitudinal direction of the tumbler, so that the end of the tumbler formed with the vertical extension 12 may be swung upward from its lower position until the extension 12 stands between the guide-lug 13 and the lateral lug 8 on the bolt, as indicated in Fig. 1 of the drawings, in which position the bolt is held locked against retraction, and the tumbler is held in the upper and horizontal position by engagement of the end lug 15 with the upper recess 19 in the lock-plate 17. In Fig. 2 the key has been applied, with the result that the forward end of the tumbler has been swung down and the extension withdrawn from locking position and the end lug 15 has been withdrawn from the recess 19 and lodged in the recess 18, in which position the bolt is free and may be actuated by the knob-spindle, as indicated in Fig. 2 of the drawings. This lock-plate 17 is secured to the lock-case beneath the latch-bolt, its upper end serving

as a guide for the same, and near its lower end in the edge contiguous to the tumbler are formed recesses 18 and 19, into which the projection 15 becomes seated when the tumbler is either in its raised or lowered position. These recesses or seats are perfectly curved to conform to the shape of the projection 15 and are separated from each other by a shoulder 20, so that when the projection 15 is seated in the recess 19, as shown in Fig. 1, it is secured against up-and-down movement, and when seated in the recess 18, as shown in Fig. 2, it is prevented from dropping down out of operative position or accidentally thrown upward by jar.

The seating action of the projection 15 in the recess 18 and 19 is insured by a spring-arm 21, which extends from the spring 6 and bears against a lug 22 at the rear of the tumbler. The tendency of this spring 21 is to normally force the tumbler forwardly toward the stationary lock-plate, and thus when the tumbler is to be raised to lock the latch-bolt against movement the unseating of the projection 15 from the recess 18 is accomplished by means of a key, which raises the tumbler, so as to clear the shoulder 20 between the recesses 18 and 19, and the spring-arm 21 will then force the tumbler forwardly with the projection 15 into the recess 19.

When the latch-bolt has been locked against movement, the parts are in the position shown in Fig. 1, with the upper projection 12 of the tumbler projected up beneath the lug 8 of the latch-bolt, and by inserting a key in the key-hole and turning it toward the left it will engage the recess 16 in the lower edge of the tumbler and force that element rearwardly against the action of the spring-arm 21, bringing the lower end of the slot 11 into engagement with the pivot-pin 9, as shown in Fig. 2; and the projection 15 has been drawn out of the recess 19; but the spring-arm 21 exerting a pressure upwardly on the tumbler in the rear of its pivot forces the lower free end downwardly into engagement with the

recess 18, where it is sustained until operated upon by the key. With the parts in the position shown in Fig. 2 the latch-bolt is free to be operated by the knob-spindle in the usual manner.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a combined lock and latch, the combination with a casing, of a slidable bolt formed with a laterally-extending lug, a guide-lug mounted in the casing in alinement with the lateral lug, a vertical stationary lock-plate formed with upper and lower recesses in its inner edge, and a pivotally-mounted tumbler having a horizontal and an oscillating movement on its pivot, and formed with a vertical extension at its forward end to engage between the said guide-lug and the inner end of the lateral lug on the bolt, and a lug on its forward end to detachably engage either of the recesses in the lock-plate.

2. In a combined lock and latch, the combination with a casing, of a slidable bolt formed with a laterally-extending lug, a guide-lug mounted in the casing in alinement with the lateral lug, a vertical stationary lock-plate formed with upper and lower recesses in its inner edge, a pivotally-mounted tumbler having a horizontal and an oscillating movement on its pivot and formed with a vertical extension at its forward end to engage between the said guide-lug and the inner end of the lateral lug on the bolt, and a lug on its forward end to detachably engage either of the recesses in the lock-plate, a spring to shoot the bolt, and a spring to engage against the tumbler and push forward and hold it in locked or unlocked engagement.

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

GUSTAV W. HINTZ.

Witnesses:

GEORGE OLTSCH,
ORALE HESS.