

(Model.)

J. SIMON.
LOCKING LATCH.

No. 264,575.

Patented Sept. 19, 1882.

Fig. 1.

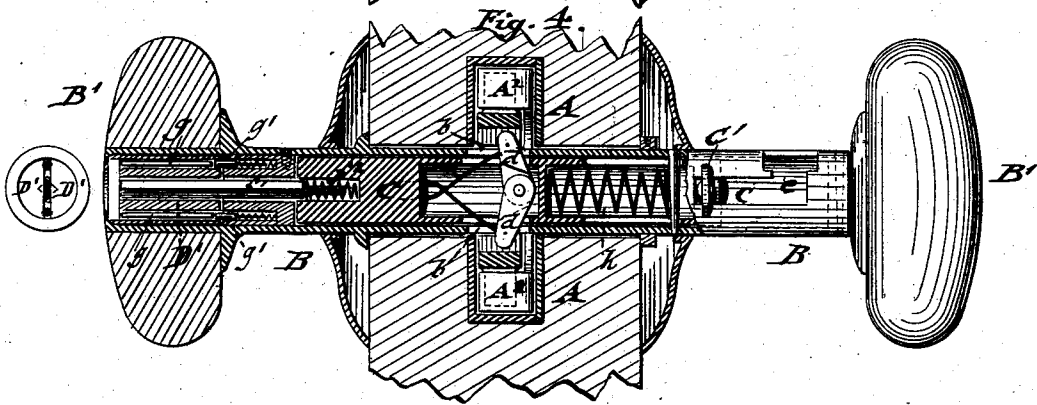
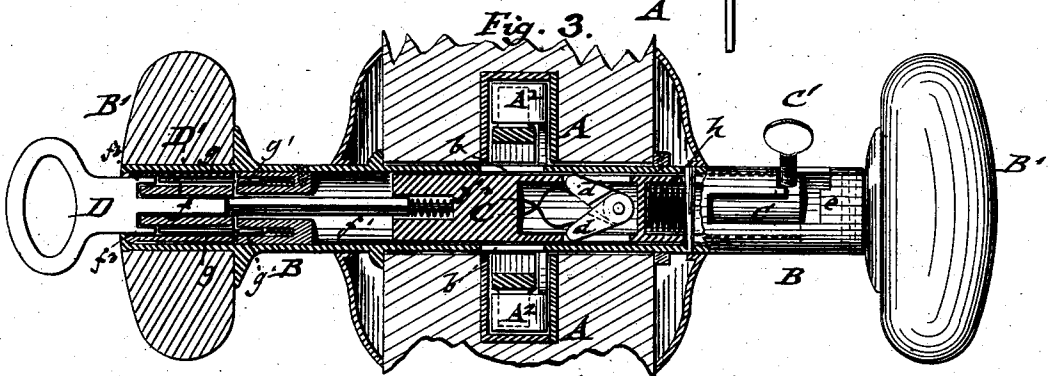
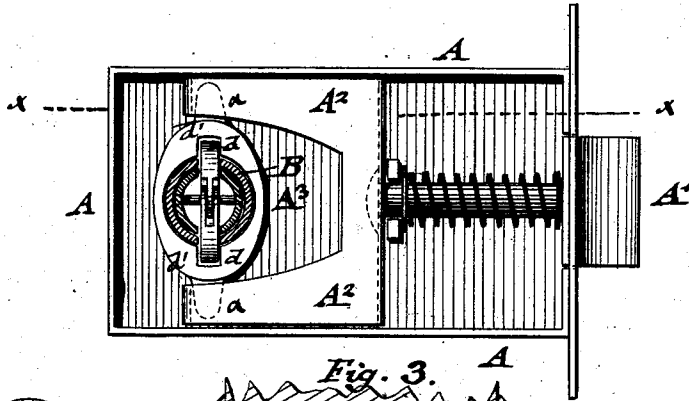
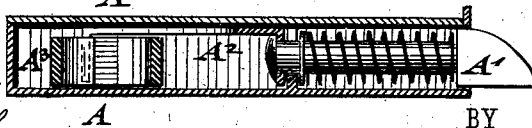


Fig. 2.

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LOCKING-LATCH.

SPECIFICATION forming part of Letters Patent No. 264,575, dated September 19, 1882.

Application filed June 26, 1882. (Model.)

To all whom it may concern:

Be it known that I, JOHN SIMON, of the city, county, and State of New York, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification.

This invention has reference to an improved door-lock of that class in which the locking mechanism is arranged in the hollow spindle and operated by a key inserted into a key-hole of the outer door-knob, whereby the lock may be locked from the outside or inside, so as to prevent meddling, it being on this account specially adapted for hotels and similar purposes.

The invention consists of a door-lock the tubular spindle of which is provided with an interior sliding and spring-pressed bolt that is actuated by a key inserted through a key-hole of the outer knob, or from the inside by a button, so as to withdraw two spring-acted jaws into the spindle or force them out through recesses of the same. The button at the inner end of the spindle-bolt is set either by the key into a recess at the inner end of the spindle or released therefrom, so as to throw the spring-acted jaws through slots of the spindle to the outside, so as to engage the oscillating piece and operate the main bolt in the usual manner by the turning of the spindle.

In the accompanying drawings, Figure 1 represents a side elevation of my improved door-lock, partly in section, through the spindle and locking mechanism. Fig. 2 is a horizontal section of the same on line *xx*, Fig. 1; and Figs. 3 and 4 are vertical longitudinal sections of the spindle, showing the door lock respectively in locked position and in position for being opened.

Similar letters denote corresponding parts.

Referring to the drawings, A represents the casing, and A', the spring-actuated bolt, of my improved door-lock, which bolt is guided in the casing by a recessed guide-piece, A².

The guide-piece A² is provided at its inner end with sockets or recesses for the diametrically opposite ears or lugs *a* of an oscillating piece, A³, that is moved to one side or the other by the spindle B, which passes centrally

through the oscillating piece A³, as shown clearly in Fig. 1.

The spindle B of the door-lock is made tubular throughout its entire length, and provided with door-knobs B' at both ends, by which it is capable of being turned around its axis, so as to withdraw the main bolt A' by the intermediate parts, A³ and A². The bolt, however, is thrown out again by its spring in the usual manner. The spindle B is firmly secured to the door-casing, so as to prevent longitudinal motion, by an annular shoulder at one side and a collar at the other side of the door, said shoulder and collar being covered by suitable roses that are screwed to the door. The spindle B is provided at the part which passes through the casing of the door-lock, at diametrically opposite points, and in line with the lugs *a* of piece A³, with slots *b*, through which pass two spring-pressed jaws, *d d*, which are pivoted at their inner ends to the tubular middle portion of a longitudinally-sliding and axially-turning bolt, C, and are thrown to the outside of the spindle B, so as to engage corresponding recesses *d'* of the intermediate oscillating piece, A³, as shown clearly in Figs. 1 and 4.

The interior bolt, C, of the spindle B can be operated from the outside or inside of the door—from the outside by means of a key, D, that is inserted through a corresponding key-hole in the outer door-knob, B', from the inside by a button or knob, C', which moves in an L-shaped recess, *e*, at the inner end of the spindle B. The lock may consequently be opened or closed from the outside by means of the key and suitable mechanism and from the inside, without the key, by the button C'.

For the purpose of operating the bolt B, the key D is inserted into a key-socket, D', of the outer knob, B', so that its longer middle tongue, *f*, pushes first a square and spring-pressed rod, *f'*, into a square socket, *f*², at the end of the bolt B, as shown in Fig. 3.

Two shorter side tongues, *f*³, of the key D press back simultaneously short slide-bolts *g*, which force back small spring-acted bolts *g'* of equal or different length, the side tongues of the key being of a length corresponding there-

to, so as to admit, when the small bolts are thrown in, the unobstructed turning of the key-socket D' in the knob by the key D.

The square connecting-rod f' is guided in a square center recess of the key-socket D', and is acted upon by a spiral spring placed round the extension of the square rod f' in the socket of the slide-bolt C, so that the rod is returned to its normal position in the key-socket D', as shown in Fig. 4, when the key is withdrawn from the outer knob.

When the key is inserted in the door-knob and pushed in sufficiently far, so that the small spring-bolts g' clear the key-socket D', the square connecting-rod f' is in such a position that the axial turning of the key-socket D' produces also the axial turning of the interior slide-bolt, C, as by the insertion of the longer tongue of the key D the square rod has been pushed back, and simultaneously therewith the bolt C moved back in the spindle B.

The backward motion of the slide-bolt C causes first the drawing in of the spring-actuated jaws $d d$ into the spindle, they turning the inside of the same with the bolt C. The button at the rear end of the bolt C is also pushed back with the bolt and set by the axial motion of the same into the lateral portion of the L-shaped recess e at the inner end of the spindle, in which position it is retained by the action of a spiral spring, h , interposed between a transverse key, h' , connecting-spindle B, and bolt C, and an interior shoulder of the slide-bolt C, the slide-bolt being provided at that point with longitudinal slots for moving along the key without being obstructed by the same. As soon, therefore, as the cutter C' is placed into the recess of the spindle, as shown in Fig. 3, the spindle is detached from the oscillating piece A^3 and turns loosely in the lock without operating the bolt A', so that the lock can consequently not be opened from the outside, as the spindle follows the turning motion of the knob, without, however, exerting any influence on the bolt. If the locking-bolt has been set from the inside by the button, the same result is obtained, and consequently the opening of the lock from the outside prevented. When the bolt C is turned in the opposite direction from the outside by the key, so that the button clears the recess at the inner end of the spindle, the spiral spring of the locking-bolt throws the bolt forward and allows the jaws $d d$ to pass through the recesses of

the bolt and of the spindle to the outside, so as to re-engage the oscillating piece A^3 and admit the withdrawing of the main bolt A' by the axial motion of the knob and spindle, in the usual manner. The same result may also be obtained from the inside of the door by releasing the interior button, C', of the slide-bolt C from the lateral extension of the recess e at the inner end of the spindle, after which the bolt is moved forward by the spring and set into the position shown in Fig. 4.

In this manner a comparatively simple locking device for door-locks, which can be thrown into operation from the outside or from the inside, is obtained, which serves both as a safety device and as a latch device without requiring a separate locking bolt and latch.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, in a door-lock with a spring-actuated main bolt and an axially-turning spindle, of an interior longitudinally-sliding and axially-turning locking-bolt having laterally-extending spring-jaws and means for operating the bolt from the outside by a key inserted through the outer door-knob, or from the inside by a button or other device at the inner end of said bolt, substantially as set forth.

2. The combination of a tubular spindle, B, an interior longitudinally-sliding and axially-turning bolt, C, having laterally-movable spring-jaws $d d$, an outer door-knob, B', having key-socket D' and slide-bolts $g g$, a square spring-actuated center bolt, f' , of the bolt C, and side spring-bolts, $g g'$, of the spindle B, which bolts are operated by the key, substantially as specified.

3. The combination of the tubular spindle B, having a guide-recess, e , at the inner end, an interior spring-actuated bolt, C, having pivoted spring-jaws $d d$, and a button, C', at the inner end, and means for moving and turning the bolt by a key inserted into a socket of the outer door-knob, whereby the jaws are drawn back into or thrown out of the spindle from either side of the door, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

JOHN SIMON.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.