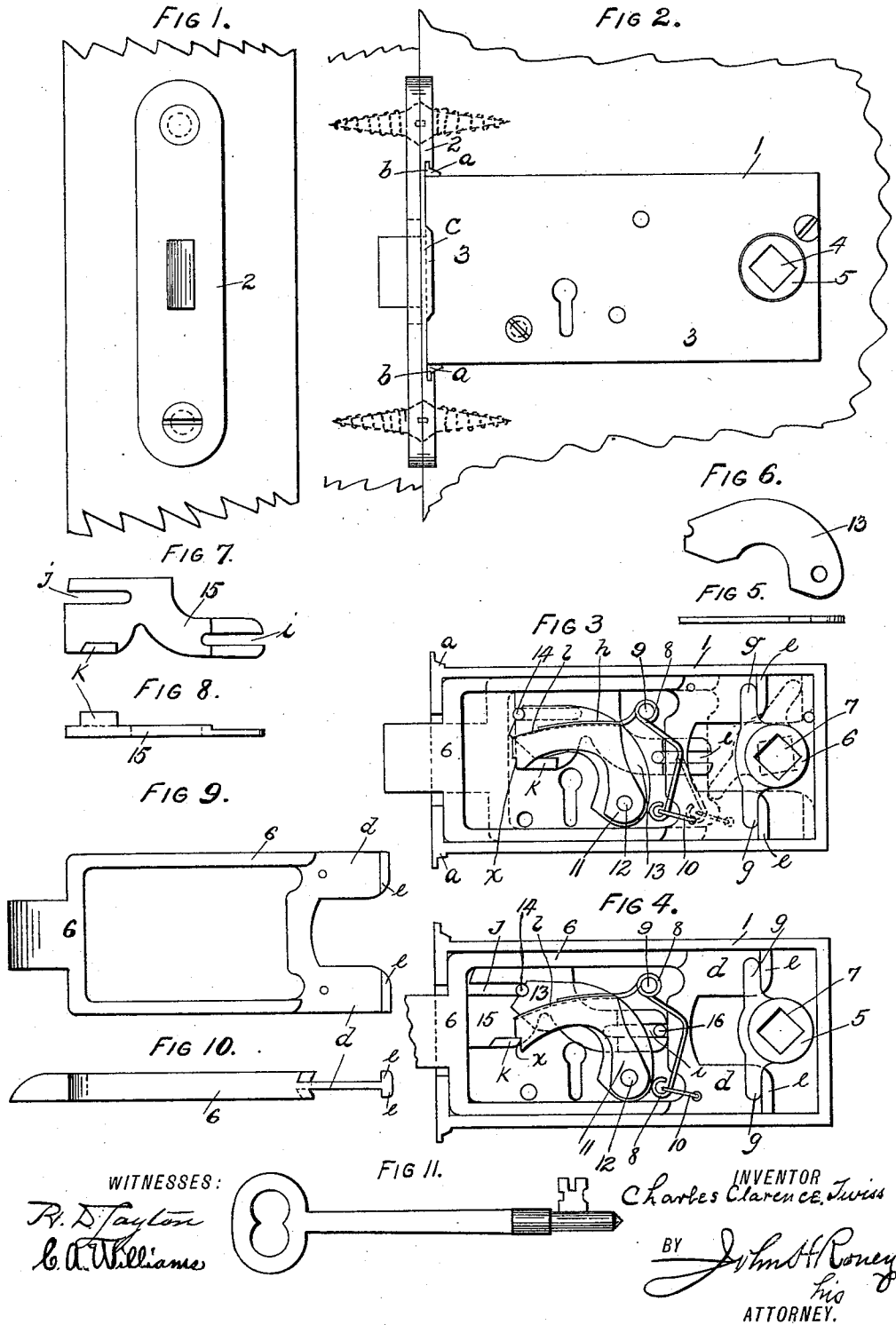


(No Model.)

C. C. TWISS.
LOCK.

No. 579,781.

Patented Mar. 30, 1897.



UNITED STATES PATENT OFFICE.

CHARLES CLARENCE TWISS, OF CHARLEROI, PENNSYLVANIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 579,781, dated March 30, 1897.

Application filed January 20, 1896. Serial No. 576,242. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CLARENCE TWISS, a citizen of the United States, residing at Charleroi, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Mortise-Locks; 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 indicates a front elevation of my improved lock. Fig. 2 is a side elevation of the same. Fig. 3 is the same, the side being removed. Fig. 4 is the same, showing the internal mechanism locked. Figs. 5, 6, 7, 8, 9, and 10 are details. Fig. 11 is a plan of the key.

My invention relates to locks, and especially to that class called "mortise-locks," the object being to simplify the construction, minimize the number of parts, and lessen the cost of construction of locks of this general kind; and to this purpose it consists of the novel construction and arrangement of parts herein-after set forth, reference being had to the accompanying drawings, which form part hereof.

Referring to said drawings, 1 is a shallow casting or box, the front of which is provided with flanges *a a*, which are adapted to enter correspondingly-shaped recesses *b b*, formed in the inner face of the plate 2. Said plate is also provided with an inwardly-projecting shoulder or flange *c*, beneath which the forward end of the removable side 3 of said lock is adapted to be inserted, whereby when the knob-shaft 4 projects through the orifice 5 in the inner end of said lock and said lock is inserted in the mortise formed in the door the removable plate 3, the box, and plate 2 are secured together, the latter being screwed upon the face of the door, as shown in Fig. 2.

6 is a bolt, the portion within the case being substantially oblong and extending substantially the length of the same, the center of said portion of which is removed and within which the tumbler and lock-plate are recessed. The rear end of said bolt terminates in a yoke-shaped plate *d*, which terminates in upwardly and downwardly projecting ribs or flanges *e e*. Upon the inner edges of the up-

per of said flanges the upwardly and downwardly projecting flanges *g g*, integral with or secured to the thimble 7, in which the knob-spindle 4 projects, engage, whereby when said spindle is turned in either direction the bolt is retracted. A coil-spring 8, mounted upon the pin 9 and connected to said bolt by a link 10, serves to throw said bolt forward. One of the members *h* of said spring impinges upon the upper edge of the L-shaped tumbler 11, in the outer end of which is formed a notch *x*. Said tumbler is pivotally secured on the pin 12. A guide-plate 13, the lower end of which is secured upon said pin 12 and the upper end by the pin 14, is interposed between said tumbler 11 and the lock-bar 15, the rearwardly-projecting member of which is provided with a guide-slot *i*, in which the pin 16 projects. The front member at the upper end thereof is provided with a corresponding slot *j*, in which the pin 14 projects. The lower side of said front member is also provided with an upwardly-projecting lug *k*.

The operation of my device is as follows, viz: It is obvious that the lock-bolt may be reciprocated by the knob and spring without in any wise interfering with the lock mechanism. The key being inserted and turned in a direction from the knob, the bit of the key straddles the guide-plate, and when substantially half of the circle is completed by the rotation of said key the web thereof strikes the lock-plate and moves the same forward until the outer edge of the same engages against the inner edge of the front of the bolt, as shown in Fig. 4. The downward pressure of the spring causes the notched end of the tumbler to be thrown into engagement with lug *k* on the lock-bar, thereby locking the same and preventing the possible movement of the bolt by the knob.

It is obvious that the lock may be used either on right or left handed doors.

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

1. In combination with a sliding bolt and a lock-bar adapted to engage the same, a tumbler adapted to engage and lock the said lock-bar and a spring arranged to act by one end or limb on the said bolt and by the other end or limb the said tumbler, the tumbler and

lock-bar being also arranged to be actuated by the key substantially as set forth.

2. A fixed guide-plate arranged to be straddled by the key as the latter turns, in combination with a sliding bolt having a large central opening, a lock-bar arranged in said opening, and movable longitudinally of the said bolt to lock the latter, a tumbler arranged to engage a shoulder of said bolt, both
10 the bolt and tumbler being held normally in their forward position by spring-pressure and

the tumbler lock bar and bolt being arranged to withdraw from their locking positions by the backward turning of the key substantially as set forth.

In testimony that I claim the foregoing I
hereunto affix my signature this 28th day of
December, A. D. 1895.

CHARLES CLARENCE TWISS. [L. S.]

In presence of—

M. E. RIGGS,
HENRY SHEETS.