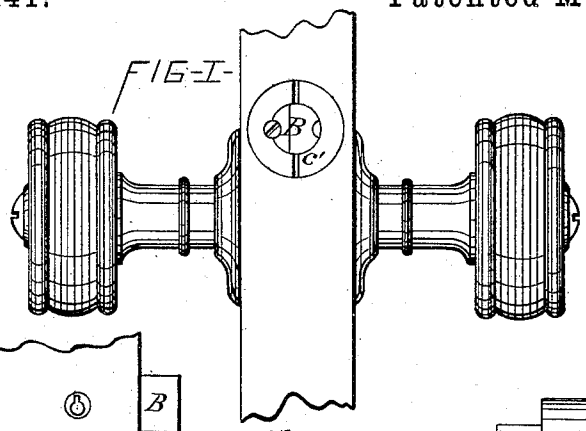
(Model.)

F. A. HOLLENBECK.

MORTISE LOCK.

No. 317,941. Patented May 12, 1885.

FIG-I-



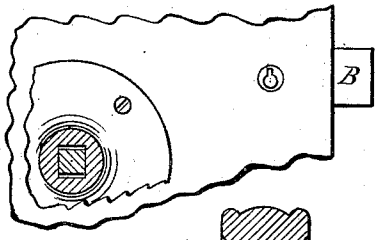


FIG-IV-

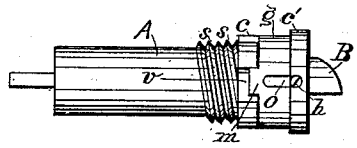


FIG-V-

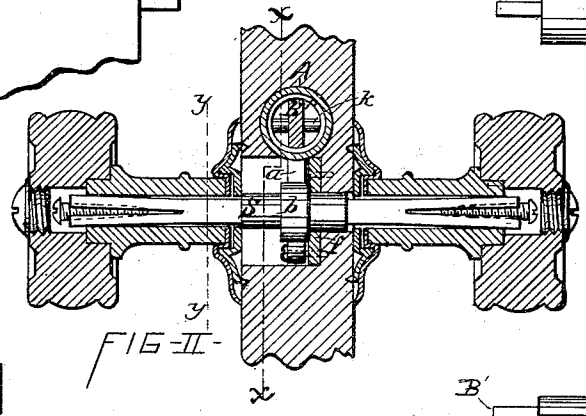


FIG-II-

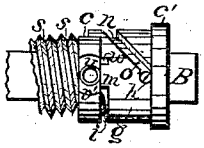


FIG-VIII-

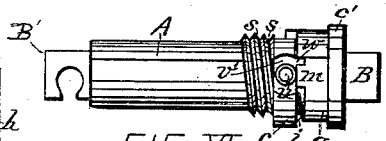


FIG-VI-

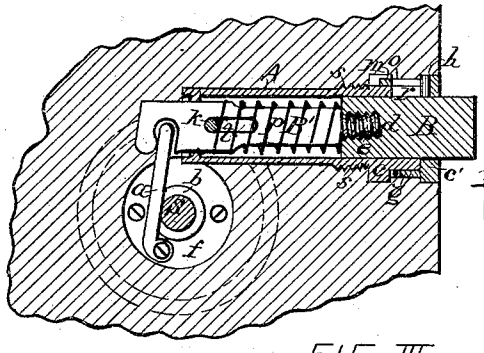


FIG-III-

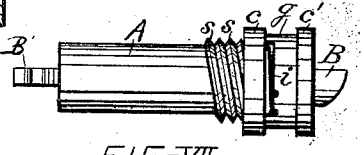


FIG-VII-

WITNESSES

C. Bendixon

Wm. C. Raymond

INVENTOR

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per Duell, Crass & Hoey

his attys

UNITED STATES PATENT OFFICE.

FRANK A. HOLLENBECK, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO THEODORE F. CLARK, OF SAME PLACE.

MORTISE-LOCK.

SPECIFICATION forming part of Letters Patent No. 317,941, dated May 12, 1885.

Application filed February 2, 1885. (Model.)

To all whom it may concern:

Be it known that I, FRANK A. HOLLENBECK, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Mortise-Locks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in a novel construction of a mortise-lock which can be cheaply manufactured and easily applied to a door, and is durable and efficient in its operation.

The invention is fully illustrated in the annexed drawings, wherein Figure I is an edge view of a section of the door, provided with my improved lock. Fig. II is a vertical transverse section of the same. Fig. III is a longitudinal section taken on line *x x*, Fig. II. Fig. IV is a section taken on line *y y*, Fig. II. Figs. V, VI, and VII are detached views of the lock, as seen from different sides, and Fig. VIII illustrates modifications of the device operating and locking the bolt.

Similar letters of reference indicate corresponding parts.

A represents a cylindrical metal case, in which slides the cylindrical bolt B. Said case is provided externally with screw-threads *s s*, and is secured in a cylindrical mortise bored in the edge of the door by inserting the case endwise into the said mortise, and turning the case so as to cause it to be drawn in by the engagement of its screw-threads with the interior of the mortise. The outer end portion of the case is formed with a cylindrical neck, *n*, and with a collar, *c*, back of said neck. Another collar, *c'*, secured to the extremity of the case, constitutes the scutcheon which is to be flush with the edge of the door. The neck *n* is provided with a longitudinal slot, *r*, and a locking-ring, *g*, fitted loosely on the neck *n*, is also provided with a slot, *o*, which latter may be either parallel with the case, as shown in Fig. V of the drawings, or run obliquely part way around the locking-ring, as shown in Fig. VIII of the drawings. From the bolt B projects a stud-pin, *h*, which protrudes through the slots *r* and *o*. By extending the said slots into the outer collar, *c'*, as shown in Fig. V of the drawings, the stud-pin *h* is held out of engagement with the slot *o* of the locking-ring *g*, when the bolt projects from the case and is in its locked position. By turning the locking-ring *g* to prevent the stud-pin from entering the slot *o* thereof, the bolt B is prevented from being retracted, thus obtaining a simple and effective locking device.

The rear end of the locking-ring is provided with an extension, *m*, which projects into a notch, *v*, in the collar *c*, which notch is of the proper length to limit the rotation of the locking-ring. In another notch, *v'*, in the collar *c* is a key-seat, *u*, and the adjacent edge of the locking-ring *g* is provided with a notch, *w*, for the engagement of the key by which to turn the ring *g*.

In order to compensate for wear of the ring *g* and maintain the same in proper bearings between the two collars *c* and *c'*, I interpose between the collars *c* and the adjacent end of the ring *g* a spring, *i*, as shown in Figs. VI, VII, and VIII of the drawings.

By making the slot *o* obliquely, as shown in Fig. VIII of the drawings, and with a short transverse portion at the outer end of the locking-ring, and arranging the stud-pin *h* on the bolt B so as to come into said transverse portion of the slot *o*, the described slot can be made to retract the bolt by turning the locking-ring *g*, the transverse end portion of the slot serving to lock the bolt. The inner end of the bolt B is provided with a screw-threaded socket, *d*, and to the said socket is secured a shank, B', which has a screw-threaded stud, *e*, entering the aforesaid socket.

The shank B', which is of rectangular form in cross-section, projects through a corresponding opening in the rear end of the case A.

A spiral spring, *p*, surrounding the shank B', and pressing against the rear end of the bolt B, forces said bolt outward into its locked position.

Under the rear end of the case A an annular mortise is formed in the side of the door, and in said mortise is firmly secured an annular plate, *f*. On this plate is pivoted a lever, *a*, the feed end of which interlocks with the protruding end of the bolt-shank B', as shown in Fig. III of the drawings.

Through the plate *f*, in front of the lever *a*, projects the spindle S, to which is secured a cam, *b*, which cam swings the lever *a* rear-

ward when turning the spindle S, and said action of the lever retracts the bolt B.

A stud-pin, *k*, secured to the interior of the case A, and projecting through the slot *t* in the bolt-shank B′, serves to limit the movement of the bolt.

Having described my invention, what I claim is—

1. The combination, with the case A, formed with the cylindrical neck *n*, slot *r*, and collars *c c′* at the ends thereof, of the locking-ring *g* on said neck, and provided with the slot *o*, the bolt having stud-pin *h* projecting therefrom and through the slots *r o*, and a key for turning the ring *g*, substantially as set forth.

2. The combination, with the case A, formed with the cylindrical neck *n*, slot *r*, and collar *c*, having notches *v v′*, and the key-seat *u* in one of said notches, and the collar *c′* on the outer end of said neck *n*, of the locking-ring provided with the extension *m*, notch *w*, and slot *o*, the spring *i*, interposed between the ring and collar *c*, the bolt having stud-pin *h* projecting therefrom and through the slots *r o*, and a key for turning the ring *g*, substantially as specified.

3. In combination with the case A, inserted in a mortise in the edge of the door, and the spring-bolt B B′ in said case, the annular plate *f*, secured in a mortise in the side of the door, the spindle S, extending through said plate, the lever *a*, pivoted on the plate *f* and interlocked with the bolt-shank B′, and the cam *b* on the spindle for operating the lever, all combined substantially in the manner specified and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 30th day of January, 1885.

FRANK A. HOLLENBECK. [L. S.]

Witnesses:
C. H. DUELL,
F. H. GIBBS.