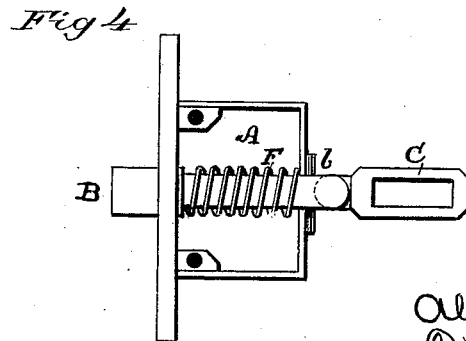
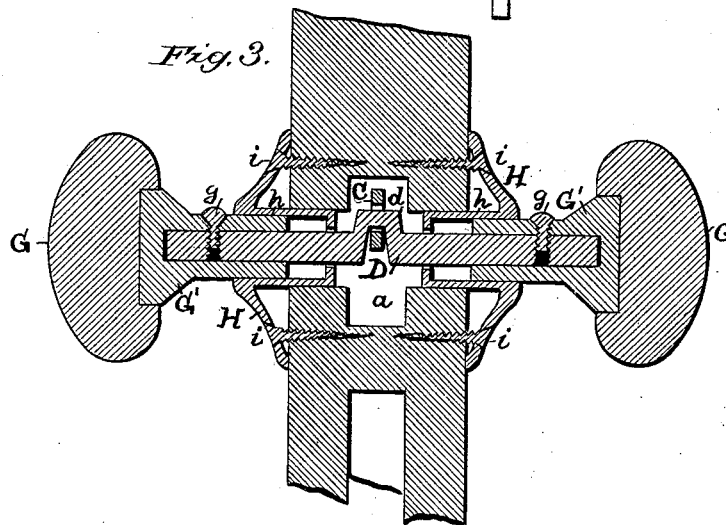
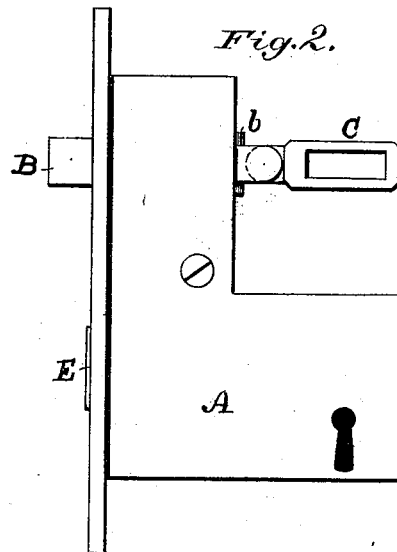
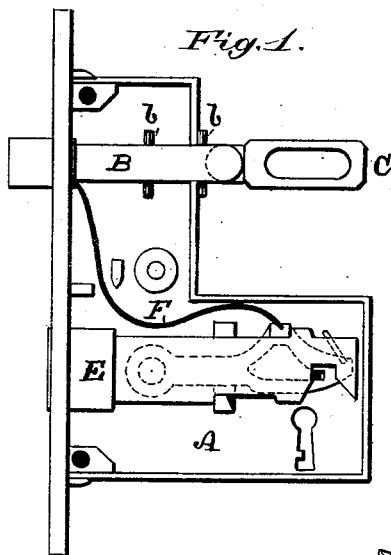


A. B. RICHMOND.  
Lock.

No. 217,958.

Patented July 29, 1879



*Attest*  
*P. Hamay*  
*D. G. Stuart*

*Inventor:*  
*Almon B. Richmond*  
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*Atty.*

# UNITED STATES PATENT OFFICE.

ALMON B. RICHMOND, OF MEADVILLE, PENNSYLVANIA.

## IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **217,958**, dated July 29, 1879; application filed January 30, 1878.

*To all whom it may concern:*

Be it known that I, ALMON B. RICHMOND, of the city of Meadville, in the county of Crawford and State of Pennsylvania, have invented certain Improvements in Door Locks and Handles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates more particularly to improvements in the construction and operation of what are known as "mortise-locks."

The ordinary mortise-lock as heretofore made has its parts inclosed in a rectangular casing, which necessitates the cutting out of a correspondingly-shaped mortise in the door for its reception, leaving but a slight thickness of wood for the screws which attach and secure the roses in position. As a consequence small screws have to be used, which soon work loose, the roses become detached, the spindle displaced, and the working of the latch or catch becomes faulty, the defect proving a fruitful source of annoyance. Nor can the defect be remedied, because the wood-work of the door on each side of the lock is so thin that the roses cannot be secured in any more effective manner.

My invention obviates this difficulty; and it consists, principally, in so constructing and arranging the parts of the lock that the portion of the wood-work of the door to which the door knobs or handles are secured does not require to be cut out or mortised, but is left solid, so that the roses which form the sockets for the door-knobs can be firmly secured in place by means of long screws, or by bolts or rivets passed entirely through the wood-work of the door.

In the accompanying drawings, Figure 1 is a vertical sectional view, showing the interior of a mortise-lock of improved construction. Fig. 2 is an elevation of same. Fig. 3 is an enlarged sectional view, showing the improvements in the construction of the door-knobs, roses, and spindle, and manner of attaching same to a door. Fig. 4 is a sectional view, showing a door-latch of modified construction.

Referring to the parts by letters, A represents the casing of my improved mortise-lock, made L-shaped, as shown by Figs. 1 and 2 of the drawings, so as to leave that portion of

the door to which the handles or knobs are secured in a measure solid, or only cut with a mortise, *a*, of sufficient size for the passage of the latch or catch-bolt and the spindle, as shown by Fig. 3 of the drawings.

B is the latch or catch-bolt, which passes through the casing A. It is provided with stop-pins *b b*, which limit its motion in either direction, and to its inner end is pivoted or hinged a link, C. This link or slotted plate may be made of any suitable form, the slot being angular or elliptical, or of any other form best suited for the purpose of co-operating with the crank *d* of the spindle D, which passes through it, as hereinafter described, the slot being long enough to permit of the retraction of the bolt without moving the spindle of the handles.

E is a lock-bolt of ordinary construction, to be operated by a key in the usual manner.

F is a spring, arranged so that it operates both bolts, B and E, as clearly shown in Fig. 1 of the drawings.

G G represent the door-knobs, the shanks G' of which are secured to the spindle D by screws *g*, or in any other suitable manner. The central portion of the spindle D is formed into a crank, *d*, which crank portion passes through the slotted plate or link C, as clearly shown by Fig. 3 of the drawings, so that by turning the handles or door-knobs the crank of the spindle engages with the walls of the link and moves the latch or catch-bolt B back and forth.

H H represent the roses, which are formed with cylindrical sockets *h*, which constitute journals or bearings for the spindle D and shanks G' of the door-knobs, said cylindrical portion fitting tightly in holes formed in the wood-work for their reception, and the flanged portion, or rose proper, being secured to the door by long screws *i*, or by bolts or nuts passing entirely through the door, the wood-work at these points being solid, or not cut away to receive the lock, as in the ordinary mortise-lock heretofore in use.

From the foregoing description it will be seen that with a lock so constructed I am enabled to secure the handles and spindle so firmly to the door that no ordinary usage will displace the roses or spindle. The roses can

not only be better secured to the wood-work by screws or bolts, but being provided with the cylindrical sockets *h*, which fit the wood-work tightly and form journal-bearings for the shanks *G'* and the spindle *D*, it must be evident that this method of securing the door-knobs in position effectually prevents their working loose or becoming displaced. Sometimes a latch or catch-bolt is all that is required; or it may be convenient to have this bolt separate from the lock-bolt, particularly so when what is commonly known as a "dead-latch" is used, and the ordinary lock-bolt becomes unnecessary. In such cases the casing to be inserted in the mortise according to my improvement need only be of sufficient size to contain the reacting-spring, as shown by Fig. 4 of the drawings, in which *A* represents the

casing; *B*, the bolt; *C*, the link, and *F* the spring, which, in this instance, is coiled around the stem of the bolt, the attachment of the handles being the same as before described.

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

An L-shaped lock provided with an opening in its side for the passage of the link which connects the latch with a knob-spindle arranged in the angle of the lock, whereby the roses may be secured upon the solid wood, substantially as described.

ALMON B. RICHMOND.

Witnesses:

D. G. STUART,  
P. HANNAY.