(No Model.)

I. J. CILLEY.

COMBINED LATCH AND LOCK.

No. 366,646. Patented July 19, 1887.

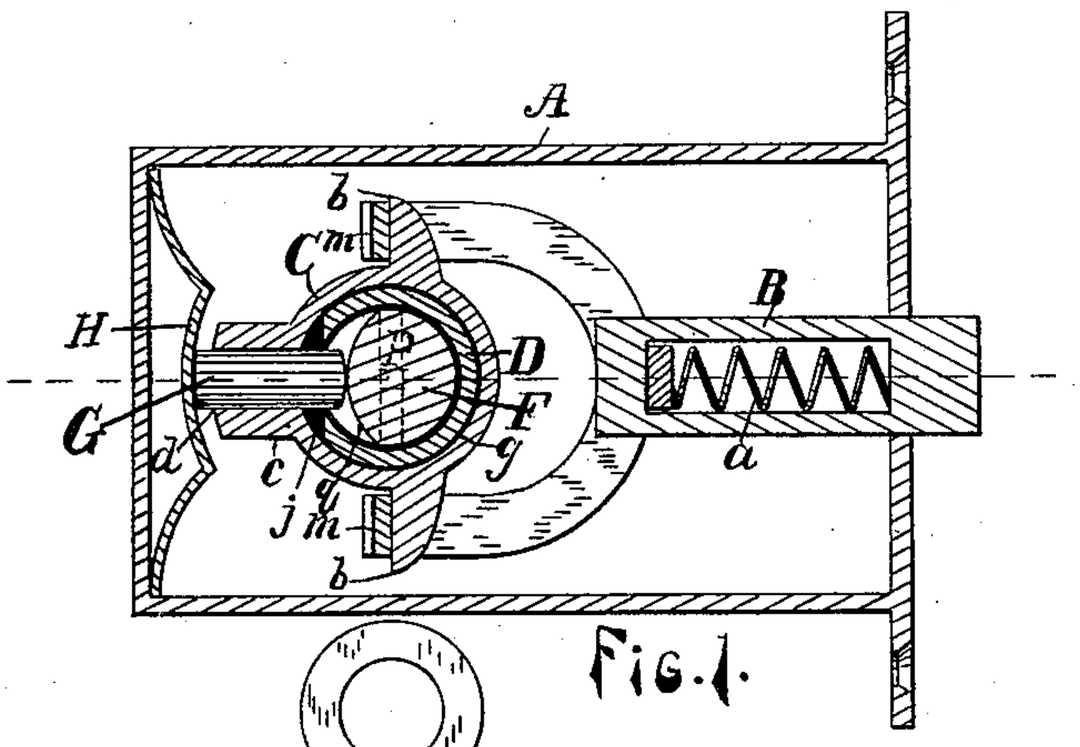

Fig. 1.

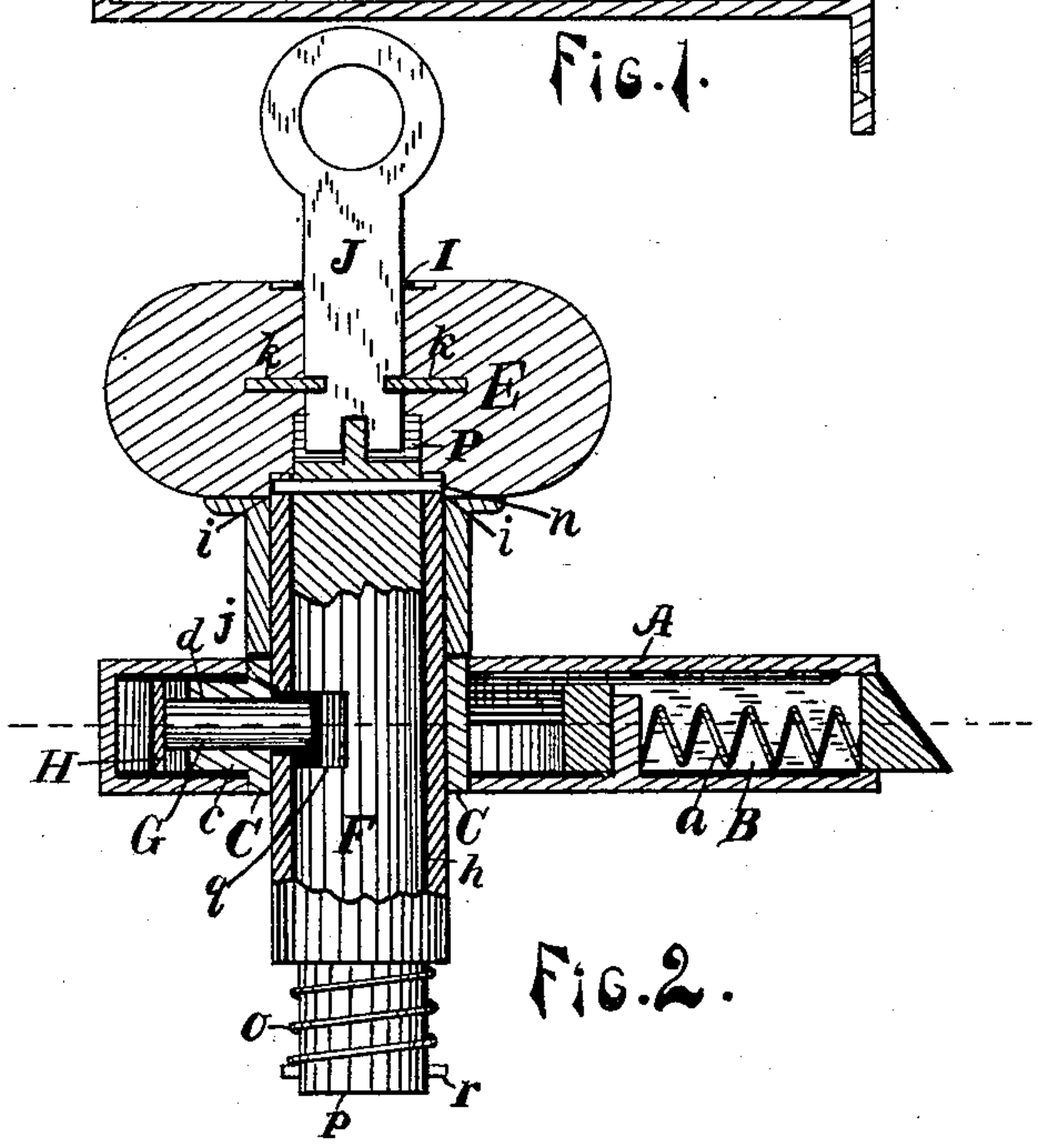

Fig. 2.

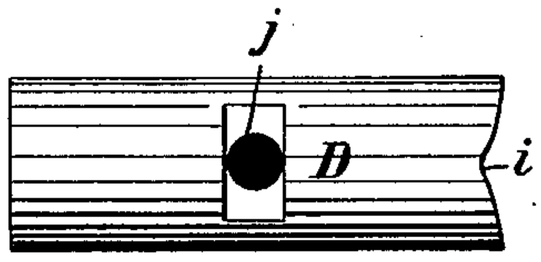

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ITHIEL J. CILLEY, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO GEORGE W. CARPENTER, OF SAME PLACE.

COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 366,646, dated July 19, 1887.

Application filed January 10, 1887. Serial No. 223,979. (No model.)

To all whom it may concern:

Be it known that I, ITHIEL J. CILLEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in a Combined Latch and Lock, of which the following is a specification.

My invention relates to improvements in ordinary "rim" and "mortise" locks; and the objects of my invention are, first, to dispense with the extra bolt in use in ordinary door-locks for the purpose of securing or locking the door; second, to obviate the necessity of making a key-hole through the door-stile; and, third, to provide a means of inserting the key through the knob, so that it will act directly upon the catch or spring-bolt of the lock. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of a lock showing the bolts B and G and the spring H, and an end view of the lever, shaft, eccentric, and key-hole in the eccentric. Fig. 2 is a sectional view of the lever, the bolt G, the spring-shaft, eccentric-rod with flattened space, hole in side thereof, knob, and key-hole in knob and eccentric-rod. Fig. 3 is a perspective view of the shaft, showing the position of the hole in the side for the reception of the bolt G, and the inclines or notches at one end.

Similar letters refer to similar parts throughout the several views.

The plate A, the bolt B, the lever C, the shaft D, and the knobs E constitute the framework of an ordinary door-lock, and the construction of the lever C, the shaft D, and the knobs E, and the eccentric-rod F, the bolt G, the spring H, and the key-hole through the knobs constitute the main features of my invention.

The bolt B is an ordinary catch or spring-bolt, with arms, &c., by which it is drawn back by the action of the lever C.

The lever C is constructed with two arms, *b b*, which hook upon lugs on the arms *m m* of the bolt B, for the purpose of drawing said bolt, as in an ordinary door-lock. On one side of this lever, and standing at right angles with the arms, is a projection, *c*, which is provided with a hole, *d*, for the reception of a pin or bolt, G, which hole stands directly over the portion of the shaft D having a corresponding hole, *j*. The center hole, *g*, of the lever C, instead of being square, as in an ordinary door-lock, is made round, so that the shaft D can turn freely in it.

The pin or bolt G is fitted to work freely in the hole *d* in the lever C and the hole *j* in the shaft D, and is thrown forward toward the shaft by means of a spring, H. This pin or bolt is rounded on the end next to the shaft, so as to allow it to pass over the hole *j* in the shaft, when forced back by the eccentric-rod, freely and without catching on the sides of the hole when the shaft is turned in drawing the bolt B.

The spring H is supported by the walls of the lock-plate, and is made concave on one side to correspond with the motion of the lever, as shown in Fig. 1, and is used for the purpose of throwing the pin or bolt G forward toward the shaft into the hole *j* and against the eccentric-rod.

The shaft D, instead of being made square, like an ordinary lock-shaft, is round, and is fitted to work freely in the hole *g* in the center of the lever C, and is provided with a hole, *h*, extending entirely through it lengthwise, for the reception of the eccentric-rod F, and is made square across one end, while the other end is provided with two notches or inclines, *i*, over which the pin in one end of the eccentric-rod travels, for the purpose, first, of holding the eccentric-rod from turning independent of the shaft when the door is locked, and, second, to indicate by the motion of the eccentric-rod when the same is thrown round to a proper position to lock or unlock the door. The opposite end of the shaft being cut off square, is made smooth for the support of a spring, *o*, on the eccentric-rod, and through one side of the shaft is a hole *j*, which is directly in line with the hole *d* in the lever, and arranged to receive the pin or bolt G. The walls of the shaft contiguous to this hole are flattened to form a gradual incline, to facilitate the turning of the shaft past the pin of bolt G when this bolt is thrown back out of the hole *j*, by means of the eccentric-rod, thus allowing the shaft to turn freely in the lever C without drawing the bolt B. The eccentric-rod F is made somewhat longer than the shaft, and is fitted to work freely in the hole *h* in the shaft. One end of

this rod is provided with a pin, *n*, fitted to work in the notches or inclines *i* on the end of the shaft, and the other end of the rod is provided with a pin or shoulder, *r*, between which and the end of the shaft is a spiral spring, *o*, arranged to allow a slight endwise motion to the eccentric and to hold the pin *n* in the opposite end of the rod against the end of the shaft. Each end of the rod is provided with a slot or key-hole at *p*, for the reception of the key, and the center of the rod at *q* is flattened to form an eccentric for the purpose of allowing the bolt G to enter the hole *j* in the shaft and of throwing it back, for the purpose of locking and unlocking the door. The knobs E may be made of any appropriate material, and are attached to the shaft D, by means of screws or other device, in the ordinary manner.

The key-hole I is made in the center of the knobs, and may be provided inside of the knob with such guards, *k*, as the manufacturer may deem necessary or advisable, to avoid duplication, and are so arranged that the key may be inserted in the knob and communicate directly with the slot or key-hole *p* in the eccentric-rod.

The key J should be made thin and flat and arranged to correspond with the internal construction of the key-hole.

The pin *n* in the eccentric-rod should be so situated that when it stands in the notches or at the base of the inclines *i* on the end of the shaft the flattened space *q* on the eccentric-rod will stand directly toward or directly opposite from the hole *j* in the side of the shaft.

To unlock the door, insert the key through the knob, turn the eccentric-rod until the flattened space *q* stands toward the hole *j* in the shaft, and then turn the shaft until the bolt G enters the hole *j*, which attaches the lever C to the shaft, so that when the knobs are turned the motion will be communicated, through the shaft D and lever C, to the bolt B in the ordinary manner.

To lock the door, turn the eccentric-rod one-half way round, or until the round surface at *q* stands toward the hole *j* in the shaft, which forces the bolt G back out of the hole *j* in the shaft and allows the shaft to turn freely in the lever C without drawing the bolt B.

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

The combination, in a mortise or rim lock, of the plate A, the bolt B, and the knobs E, with the key-hole I in the knob, the eccentric-rod F, having flattened surface *q*, slots or key-holes *p*, pins or shoulders *n r*, and spring *o*, the hollow shaft D, having inclines *i* and hole *j*, the lever C, having a round center hole, *g*, projection *c*, with hole *d* therein, and arms *b*, the pin or bolt G, and the spring H, substantially as and for the purpose set forth.

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Witnesses:
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G. W. TUBBS.