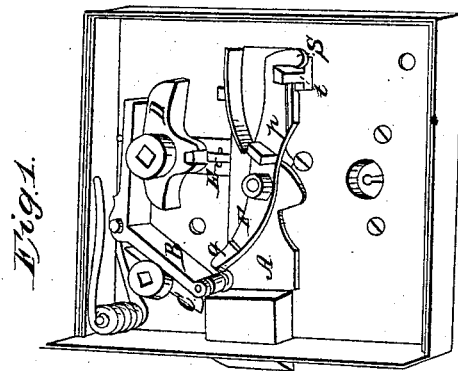
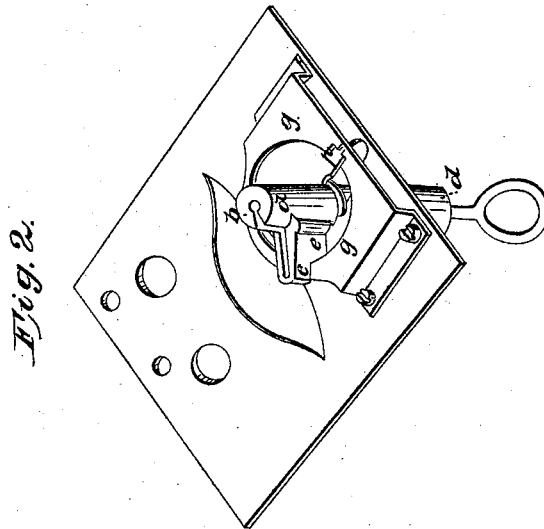
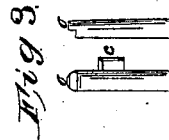
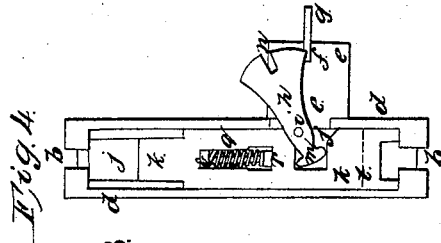


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*Latc'h.*

*N<sup>o</sup> 1,773.*

*Patented, Sep. 5, 1840.*



# UNITED STATES PATENT OFFICE.

AUGUST PRUTZMANN, OF PHILADELPHIA, PENNSYLVANIA.

## DOOR AND OTHER LOCK.

Specification of Letters Patent No. 1,773, dated September 5, 1840.

*To all whom it may concern:*

Be it known that I, AUGUST PRUTZMANN, of the city of Philadelphia and State of Pennsylvania, have invented certain improvements in locks, which I denominate the "improved spring and lock bolt security-lock," by means of which improvements said locks are rendered secure against attempts to open them with false keys; and I do hereby declare that the following is a full and exact description thereof.

I employ a single bolt, which is to operate both as a spring bolt, and also as a lock bolt. For moving the bolt as a spring bolt only, I use two separate knobs with their spindles and their cams, or fallers, within the box; one of which knobs is to act on the bolt from the inside, and the other from the outside of the door. The spring bolt when operating as such slides back and forth in the ordinary way; and when operated upon by the key, it is shot forward as a lock bolt. To shoot the bolt forward as a lock bolt, I employ a key and certain slides and levers within the lock, which are peculiar in their construction and mode of operation. The key that I use is of small size, as the bit, or part which shoots the bolt forward when operated upon as a lock bolt, remains within the lock, and is turned by means of the small key above named.

Figure 1, is a view of the interior of the lock, showing the lock and spring bolt, the two fallers, or cams, which act on it when used as a spring bolt, and also representing other parts of the interior of the lock. A, is the bolt; B, a lever which is acted upon by the cams, or fallers, D, and C, so as to cause the bolt to operate as a spring bolt by the action of either of the knobs. The cam C, receives the spindle of the knob which is on the inside of the door, and the cam D, that of the outside. E, is a sliding stop which may be passed into the notch on the cam D, and will prevent its being moved, and will, consequently, not allow the bolt to be moved back by a person on the outside. F, is a tumbler on the bolt which when it is to be shot forward as a lock bolt is raised by the bit of the key.

Fig. 2, is the interior of the lock plate, with the bit *e, e*, by which the bolt is to be moved, and the barrel *d, d*, to which it is attached, said barrel and bit containing the slides, and levers upon which the key is to operate; *g, g*, is a circular guide plate which

receives a notch on the bit, and corresponding notches on the safety levers; *d, d*, is the barrel into a recess, *b*, on each end of which, the end *o*, and bit *c*, on said key, Fig. 3, are to enter, and which operate so as to bring the safety levers into the proper place, and to turn the barrel. Fig. 4, is a sectional view of the barrel and bit, separate from the lock, showing one of the safety levers, and the slide by which it is moved. The bit, as well as the barrel, is hollow, and embraces the safety levers, between its two sides.

The barrel is shown at *d, d*, Fig. 4; and *e, e*, is what I have called the bit, which is attached to the barrel, as the bit of an ordinary key is attached to its barrel, or shank. In the end of the bit there is a notch as shown at *f*, which when the barrel is in place in the lock, embraces, and turns around upon, the circular guide plates *g, g*, as shown in Fig. 2; *h*, Fig. 4, is one of the safety levers, a part of which is within the barrel *d, d*, and a part within the hollow bit *e, e*; it consists of a piece of thin sheet iron, or steel, attached by a joint pin *i*, to a thin piece of metal *j, j*, which is covered by a similar piece of sheet metal *k, k*, which two pieces are so arranged as to be capable of sliding upon each other.

The dotted line *l*, may represent the place of the lower end of the piece *j, j*, which is within the end of *k*, but at its upper end projects above it. The plate *k, k*, is notched to admit the safety lever *h*, which is embraced at its inner end. This lever also has a notch *n*, at its outer end which may be made to coincide with the notch *f*, on the bit, by causing the lever to descend. This it is made to do by the action of the key, giving motion to the plates *j*, and *k*, upon each other. If the plate *k*, be pushed upward while the plate *j*, remains stationary, the notch *n*, may be made to coincide with the notch *f*, on the bit; and a like effect will be produced by pushing the plate *j*, down while the plate *k*, remains stationary, and this is effected by means of the key, Fig. 3. The end *o*, of this key has two, or more, notches, or offsets, formed on it, which when inserted in either end of the barrel, with the bit *c*, occupying the notch prepared for it, will, when pressed inward, produce the necessary sliding motion of the plates *j*, and *k*, so that when the notches on the lever and bit coincide, the barrel and bit may be turned around by means of the key, and the bolt of

the lock shot back and forth. When these notches do not coincide, the lever *h*, bears against the circular guide plate *g* in which there is a notch, as shown at *p*, which allows  
 5 these levers to play up and down when the notch in the guide-plate is embraced by said bit. The plates *j*, and *k*, are held in their proper relative situations by means of a spiral spring *q*, which will yield to the pressure of the key. This spring bears against  
 10 two small standards, or studs, *r*, and *s*; the standard *r*, being made fast to the plate *j*, and passing through a slot, or mortise, in the plate *k*; and the standard, or stud, *s*, being  
 15 made fast to the plate *k*. The spiral *q*, is kept in place by a wire passing through it, and through the studs.

I usually employ two or three safety levers, with their corresponding slides, inserted in the barrel and bit, but the principal of action is the same in each, and the slides and offsets in the end of the key must, of course, be accurately adapted to each, so as to bring the notches of each of the safety  
 20 levers to coincide with the notch on the bit, which cannot be effected by means of a false key.

When the bolt A, Fig. 1, acts as a spring bolt, it is forced back by the action of the lower end of the lever B, against the end *q*, of the tumbler F, on the bolt, but when the bit is brought into contact with the lower side of the tumbler, as at *p'*, the end *q*, of the tumbler is depressed, and the bolt may  
 35 be shot forward. The tumbler F is attached

to the bolt by means of the joint pin *r*, and the end *s*, of the tumbler is stopped against the inside of the stud *t*, when the bolt is shot forward as a lock bolt.

Having thus, fully described the manner in which I construct my improved spring and lock bolt security lock, what I claim therein as constituting my invention, and desire to secure by Letters Patent, is—

1. The manner in which I have constructed, arranged and combined the slides and safety levers contained within the parts which I have denominated the barrel and bit, so as to be operated upon respectively by the offsets on the end of the key, by which the notch in said levers are made to coincide with the notch in the bit, thus allowing the bit and barrel to be carried around by means of the key, and the spring bolt to be carried forward, or moved back, as a lock bolt.

2. I also claim the particular arrangement of the parts which operate upon the bolt as a spring bolt, in combination with each other; said combination consisting of the double lever B, acted on by both of the cams, or fallers, of the respective knobs, said lever acting upon the bolt through the intermediate of the tumbler F; the whole combined and operating substantially in the manner herein set forth.

AUGUST PRUTZMANN.

Witnesses:

THOS. P. JONES,  
 GEORGE WEST.