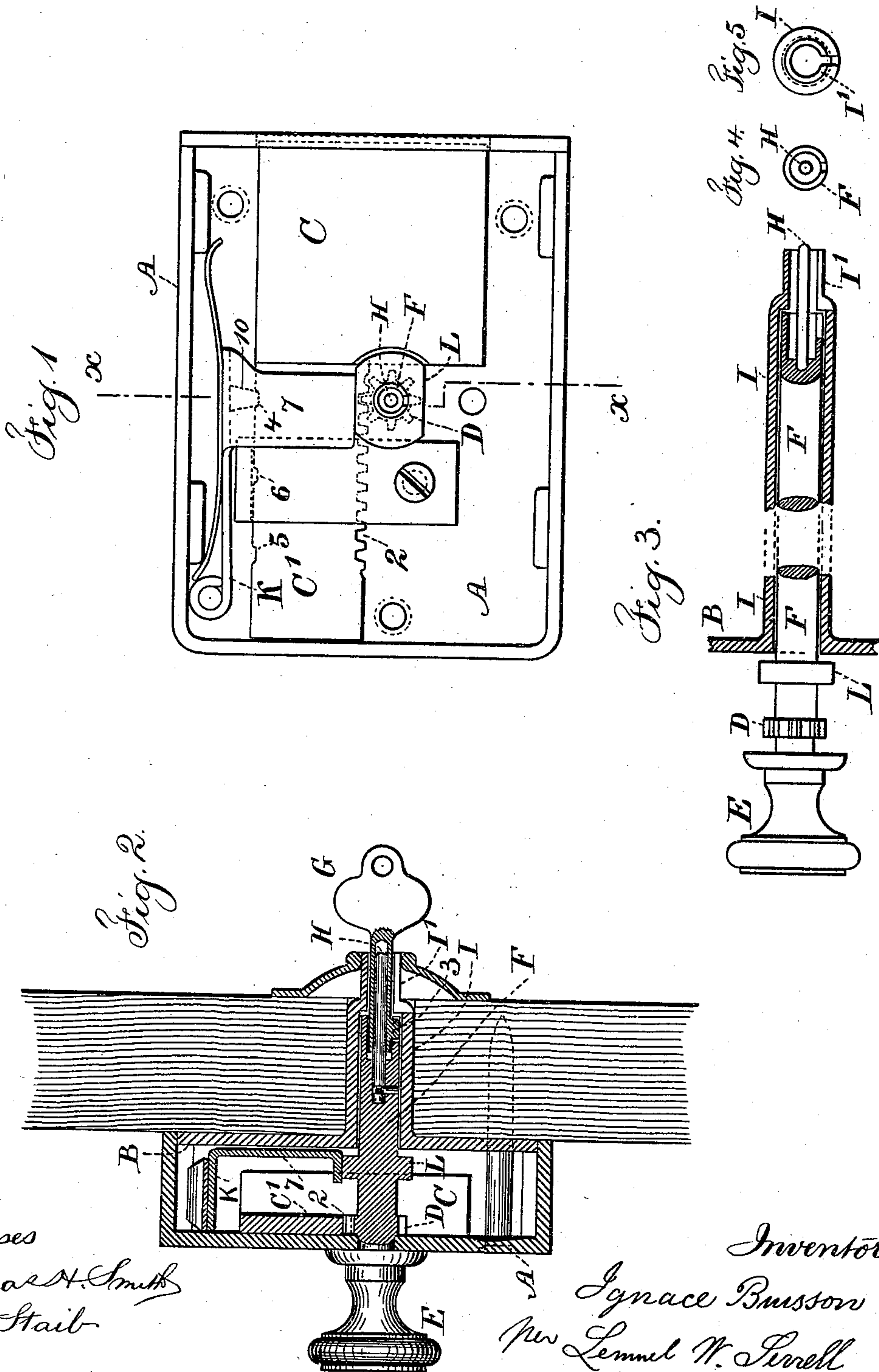


(No Model.)

I. BUISSON.  
LATCH AND LOCK COMBINED.

No. 488,750.

Patented Dec. 27, 1892.



Witnesses  
Chas. H. Smith  
J. Stail

Inventor  
Ignace Buisson  
per Lemuel W. Perrell  
Att.



# UNITED STATES PATENT OFFICE

IGNACE BUISSON, OF NEW YORK, N. Y.

## LATCH AND LOCK COMBINED.

SPECIFICATION forming part of Letters Patent No. 488,750, dated December 27, 1892.

Application filed June 15, 1892. Serial No. 436,802. (No model.)

*To all whom it may concern:*

Be it known that I, IGNACE BUISSON, a citizen of the United States, residing in the city and State of New York, have invented an Improvement in Locks, of which the following is a specification.

This invention is for the two-fold purpose of increasing the distance that a bolt can be projected, so as to enter the nosing even though distant from the lock, and also for preventing the key being entered from the outside when the door has been locked from the inside. With this object in view I make use of a bolt having upon its edge teeth, forming a rack that is engaged by a pinion, and the arbor of this pinion projects through the lock case and is provided with a knob, and at the otherside a stud projects into the keyhole for the reception of the key, and the bolt is projected sufficiently for ordinary purposes by a half rotation of the pinion, and the key-hole is constructed so that the key can only be entered when the pinion has been completely revolved in one direction or the other, hence when the knob on the inside has received a half turn, the key cannot be entered from the outside.

In the drawings Figure 1 is an elevation of the lock with the cap plate removed and the bolt retracted. Fig. 2 is a cross section at the line  $x x$ . Fig. 3 is a sectional elevation of the pinion-arbor and its tubular bearing adapted to pass through a wall, and Figs. 4 and 5 are end views of the pinion-arbor and tubular bearing, respectively.

The lock case A is of ordinary size, and the cap plate B is removable and secured by one or more screws as usual. The bolt C and its shank C' are preferably of a length corresponding to the lock case, so that the bolt portion C may be longer than usual, and can be projected a greater distance, and on the lower edge of the shank C' are teeth forming a rack 2, and with this the teeth of the pinion D engage and the diameter of the pinion is sufficient for projecting the bolt its greatest distance by a complete rotation.

The arbor or axis of the pinion D passes through the lock case and terminates with the knob or handle E by which the pinion can be rotated, and on the other side of the pinion the arbor F projects for the reception of

the key, which may be of any desired character. I have represented the key G as having a tubular stem to pass over the pin H which pin passes into the pinion arbor F and it is held therein by a cross pin or similar device so that it cannot be withdrawn; but the pin H is free to rotate so that the pinion cannot be turned by seizing the pin H by a pair of nippers or other devices.

Upon the cap plate B is a tubular bearing I for the pinion arbor F and the outer end I' of the bearing forms a tubular key-hole, and this tube I' is slotted for the reception of the projection 3 upon the key, which projection, when the key has been inserted, passes into a notch at the end of the pinion arbor F, hence such pinion arbor and pinion can be rotated by the key, and the key can only be withdrawn after it has made a complete rotation, because the tube I' is slotted, preferably at the lower side, for the introduction or withdrawal of the stud on the key, so that by this construction a complete rotation of the pinion by the key is insured, and in case the knob E has only received a half rotation the notch in the pinion arbor F will not be in line with the slot in the tube I', and the key cannot be introduced or withdrawn.

The spring dog K has upon it a downwardly projecting plate 7 to the cam-shaped tumbler L, which tumbler is circular except at its two opposite edges that are flat, and the position of the parts is such that the flat portions on the tumbler L allow the dog K to descend and hold the tumbler when the tumbler has received a half rotation, and such dog also descends to hold the bolt at the extreme ends of its movement. If desired there may be a downward projection 10. Fig. 1. upon the spring dog to take either notch 4, 5 or 6, at the time the bolt is retracted or fully projected or half projected, and the parts are constructed so that the slight looseness or play between the teeth of the pinion and the rack allows the motion necessary to the pinion and tumbler for raising the dog before a movement is given to the bolt; or the pinion, cam-shaped tumbler and dog may alone be depended upon for holding the bolt.

This lock is cheap and easily constructed, and well adapted to use on the doors of tenements, and other houses in which a large



movement to the bolt is desirable, and where the door cannot be opened by a key from the outside when there is an occupant in the room, because the key cannot be entered when the bolt has been half projected. The arbor of the pinion and the tubular bearing can be of any desired length, as illustrated in Fig. 3 so as to pass through a wall or to an outside door, and the key and key-hole are small and the key can have any desired wards or projections with corresponding grooves in the tubular bearing so as to limit the keys to the designated key-holes.

I claim as my invention.

1. The combination with the lock case and bolt having rack teeth upon its shank, of a pinion engaging the rack teeth, a knob upon the pinion arbor at the inner side of the lock case, a tubular bearing for the outer end of the pinion arbor and projecting beyond the same to form a key tube, a spring dog and a circular tumbler flattened at its opposite

edges, there being three notches in the bolt shank for the dog, whereby the bolt can be held in its projected, retracted or intermediate positions, substantially as set forth.

2. The combination with the lock case and bolt having a shank with rack teeth upon it, of a pinion, a knob on the pinion arbor at the inner side of the lock case, a tubular bearing for the pinion arbor at the other side of the lock case, a loose key pin projecting from the pinion arbor, such tubular bearing being projected, and of smaller diameter, and slotted for the passage of the key stud, and the end of the pinion arbor being notched for the reception of such stud, substantially as set forth.

Signed by me this 13th day of June, 1892.

IGNACE BUISSON.

Witnesses:

Mrs. J. DRUCKER,  
GEO. T. PINCKNEY.