(Model.)

J. SAVOIE.

DOOR LOCK.

No. 281,142. Patented July 10, 1883.

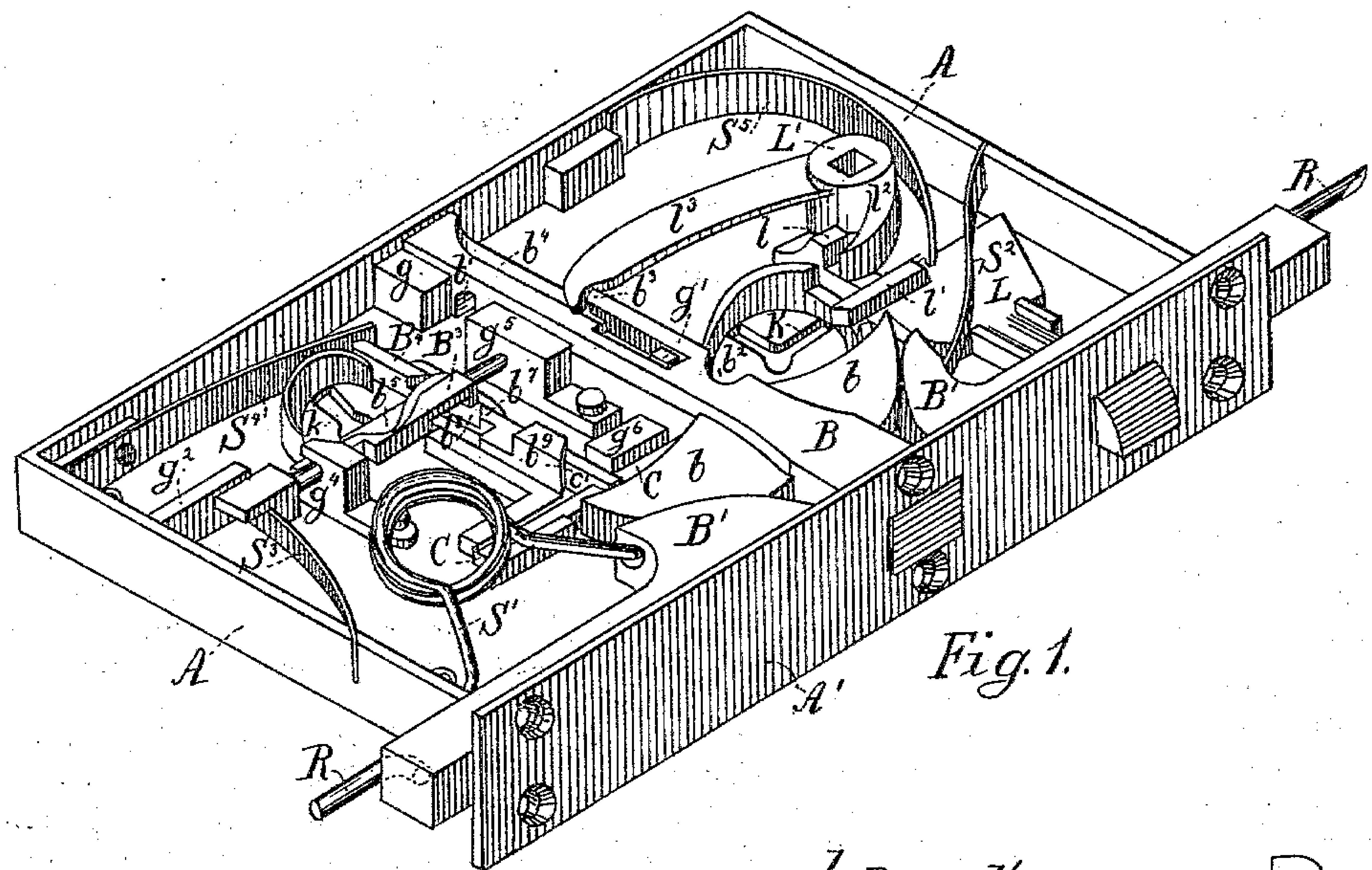

Fig. 1.

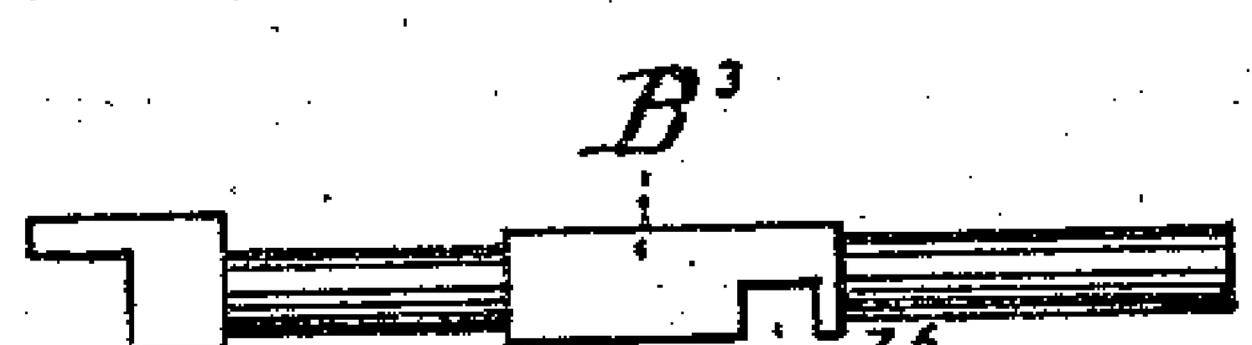

Fig. 3.

Fig. 4.

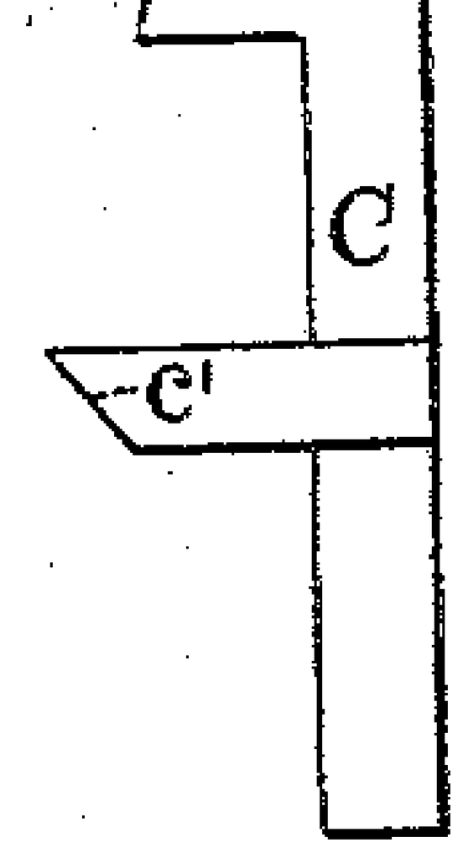

Fig. 5.

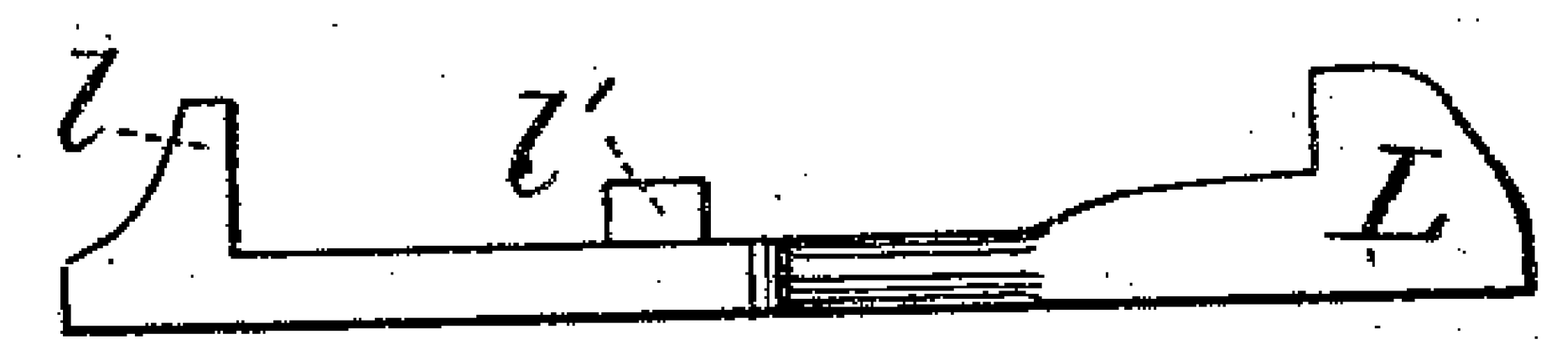

Fig. 6.

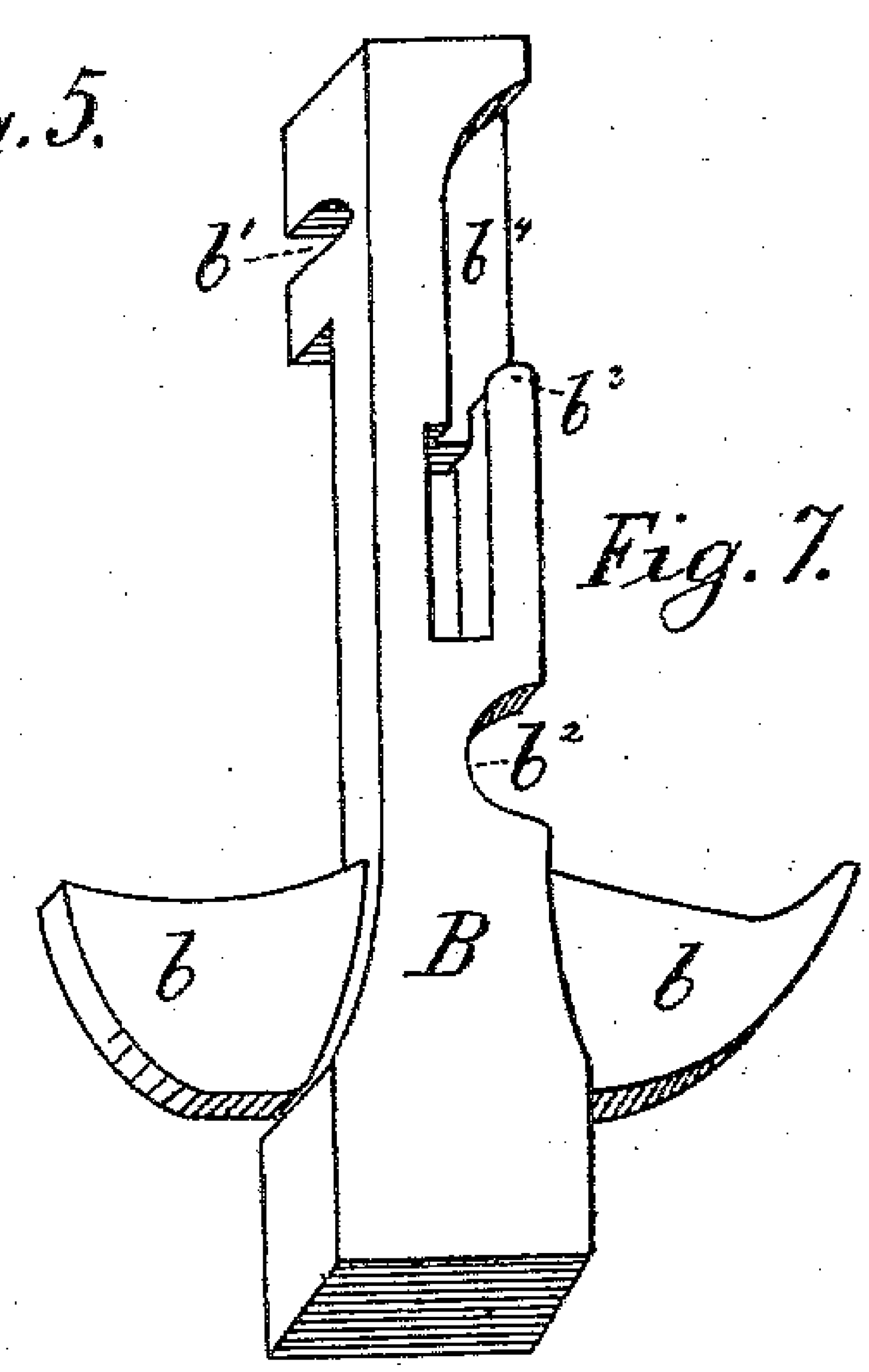

Fig. 7.

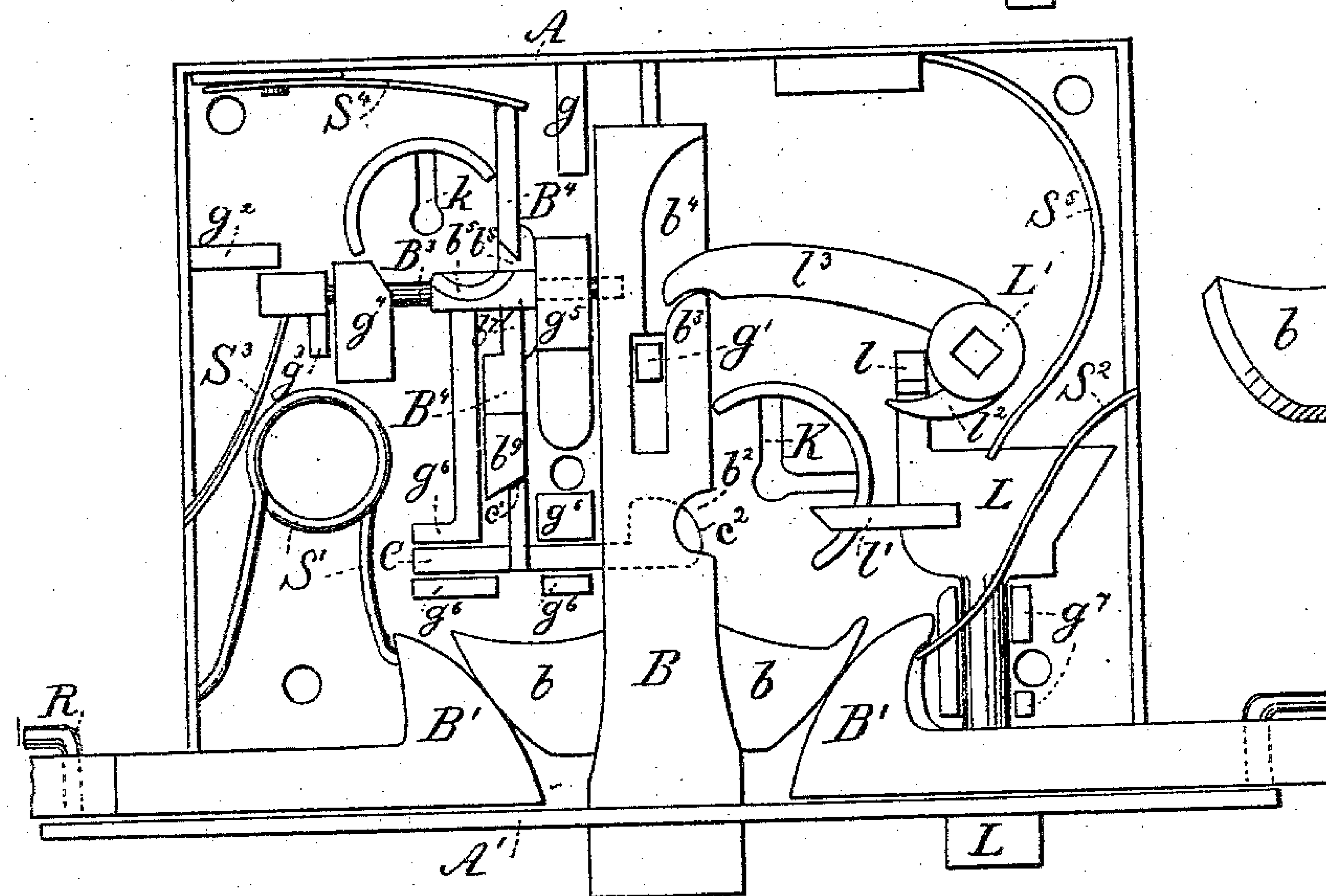

Fig. 2.

Witnesses:
A. Harvey
L. H. Harwood

J. Savoie
Inventor,
By J. Boursolle
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH SAVOIE, OF ST. MARCEL, QUEBEC, ASSIGNOR TO EXAVIER BRISSON AND LOUIS BRISSON, OF ST. GERMAIN DE GRANTHAM, CANADA.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 281,142, dated July 10, 1883.

Application filed December 2, 1882. (Model.) Patented in Canada September 30, 1881, No. 13,495.

To all whom it may concern:

Be it known that I, JOSEPH SAVOIE, of St. Marcel, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification.

In the accompanying drawings, Figure 1 is a perspective view of the lock having the cover-plate removed to show the working mechanism. Fig. 2 is a geometric view of the same. Figs. 3, 4, 5, 6, and 7 are details of various parts of the mechanism.

The object of my invention is to provide a lock that will afford greater security than has hitherto been obtainable, by constructing and arranging the working parts so that the lock will throw three bolts instead of one, usually provided on locks in common use, and also that it will necessitate the use of two separate keys to unlock the same.

A is the lock-casing and A′ the face-plate.

B is the principal bolt held in suitable guides $g\ g'$. It is provided on each side with a cam, b, against which bear the cam-headed auxiliary bolts B′ B′, by means of suitable springs, S′ S². These bolts are at a right angle to the bolt B, and are extended upward and downward by means of the rods R R, hooked into the bolt ends and sunk into suitable covered grooves in the door, their ends being provided with squares B², acting as bolts.

B³ is a secondary bolt in the rear of the lock, working in suitable guides, $g^2\ g^3\ g^4\ g^5$, and is pushed by a spring, S³, against the bolt B, which is provided with a hole, b', engaging the bolt B³ when in position to lock, and thereby preventing any further movement of the bolt B. It is desirable that the guide g^5, through which the locking end of the bolt B³ works, should be set close to the bolt B. The peculiar construction of the bolt B³ is apparent from the drawings. It is acted upon directly by an auxiliary key inserted through the hole K, and the cam-notch b^5 may be made of any desired section to suit a particular key. Another secondary bolt, B⁴, engages the bolt B³ in such a manner that the latter cannot be moved by the key unless the former has been previously withdrawn and the square b^7 disengaged, the notch b^6 enabling thereby the bolt B³ to slide on or over the flat shank formed by the notch b^8.

C is a cam-bar, held in suitable guides, g^6, against the cam c' of which the beveled end b^9 of the bolt B⁴ is pressed by the spring S⁴, the cams c' and b^9 forming corresponding inclined planes working on each other in such a manner that a longitudinal pressure on the bar C will push the bolt B⁴ against the pressure of the spring S⁴ out of engagement with the bolt B³, and allow the latter to be disengaged from the bolt B, which is then free to be drawn back by the principal key worked from the double key-hole K, and engaging the bolt by the cam-notch b^2, having, previously to acting on the bolt, come in contact with the cam end c^2 of the bar C and pushed the same back, causing the bolt B⁴ to disengage the bolt B³ to allow the auxiliary key to act.

L is the door-latch. It is guided in suitable guides, g^7, pushed outward by the spring S⁵, and withdrawn by the lever l^2 on the spindle-hub L′, which is actuated in the usual manner by a square spindle, to which the knobs or handles are secured. The lever-arm l^2 engages the lug l on the latch-bar. Another arm, l^3, engages the shoulder b^3 in the recess b^4 on the bolt B to push the same out when locking without affecting the bolt when the hub L′ is turned in the opposite direction. The latch-bar L also carries a bar, l', barring the way of the principal key until the latch is drawn back. The end of this bar may be shaped to admit only a particularly-shaped key to enter and pass; and it will be observed that the latch must be drawn back before the key can be inserted on the proper side of the bar l' to allow it to have access to the cams. To open the lock, the latch L must be drawn back to move the bar l' on the other side of the key-hole. The principal key is then inserted, and when turned will push back the bar C; then insert the auxiliary key and disengage the secondary bolt B³, when renewed pressure on the principal key will withdraw the bolt and open the lock. To lock, turn the latch in the opposite direction, when the lever-arm l^3 will push out the bolt B.

I claim as my invention—

1. The combination of the casing A, bolt B.

auxiliary bolts B′, at a right angle with B, and worked by the cams *b* and the springs S′ S², the secondary bolt B³, actuated by spring S³ and auxiliary key, and engaging and securing the bolt B, the secondary bolt B⁴, engaging the bolt B³, the spring S⁴ and the cam *c′*, cam-bar C, with cams *c′ c²*, said bar C acted upon by the principal key, latch L, having lug *l*, actuated by the spring S⁵, and spindle-hub L′, having lever *l²* to engage lug *l* and lever *l³* to engage the bolt B.

2. The combination of the bolt B and auxiliary bolts B′, actuated by cams on the bolt B and by springs, the extensions R and bolt ends B², the bolt B being actuated in any suitable manner and contained in a suitable casing.

3. The combination of the secondary bolt B³, actuated by a spring and by an auxiliary key and engaging the principal bolt, and secondary bolt B⁴, actuated by a spring and by a cam, *c′*, on a bar, C, actuated by the principal key.

Signed at St. Marcel this 28th day of October, 1882.

his
JOSEPH × SAVOIE.
mark

Witnesses:
J. H. BOURBONNIÈRE,
L. BRISSON.