

No. 747,627.

PATENTED DEC. 22, 1903.

C. B. S. MÖLLER.
LOCK.

APPLICATION FILED JUNE 18, 1903.

NO MODEL.

Fig. 1.

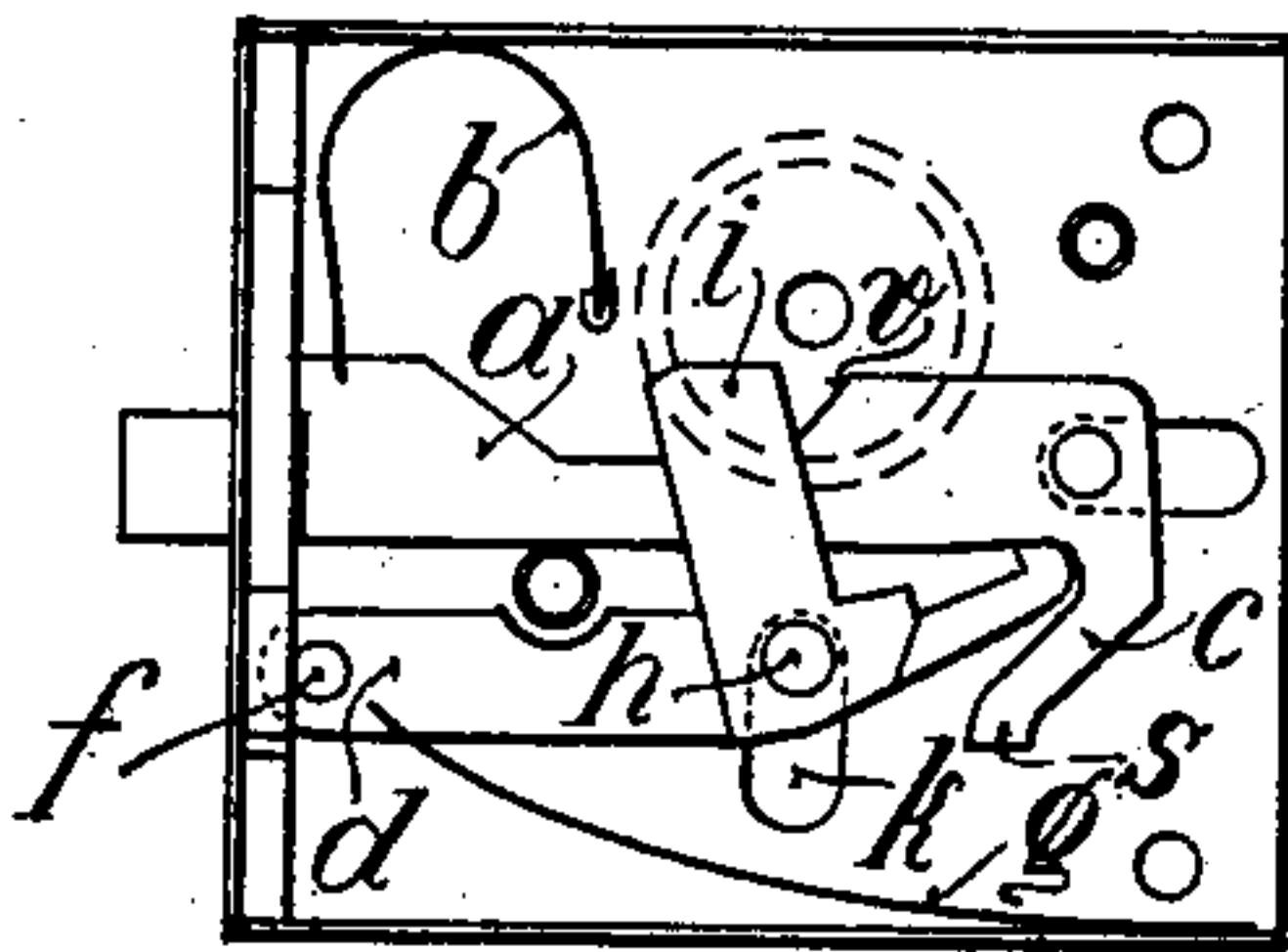


Fig. 2.

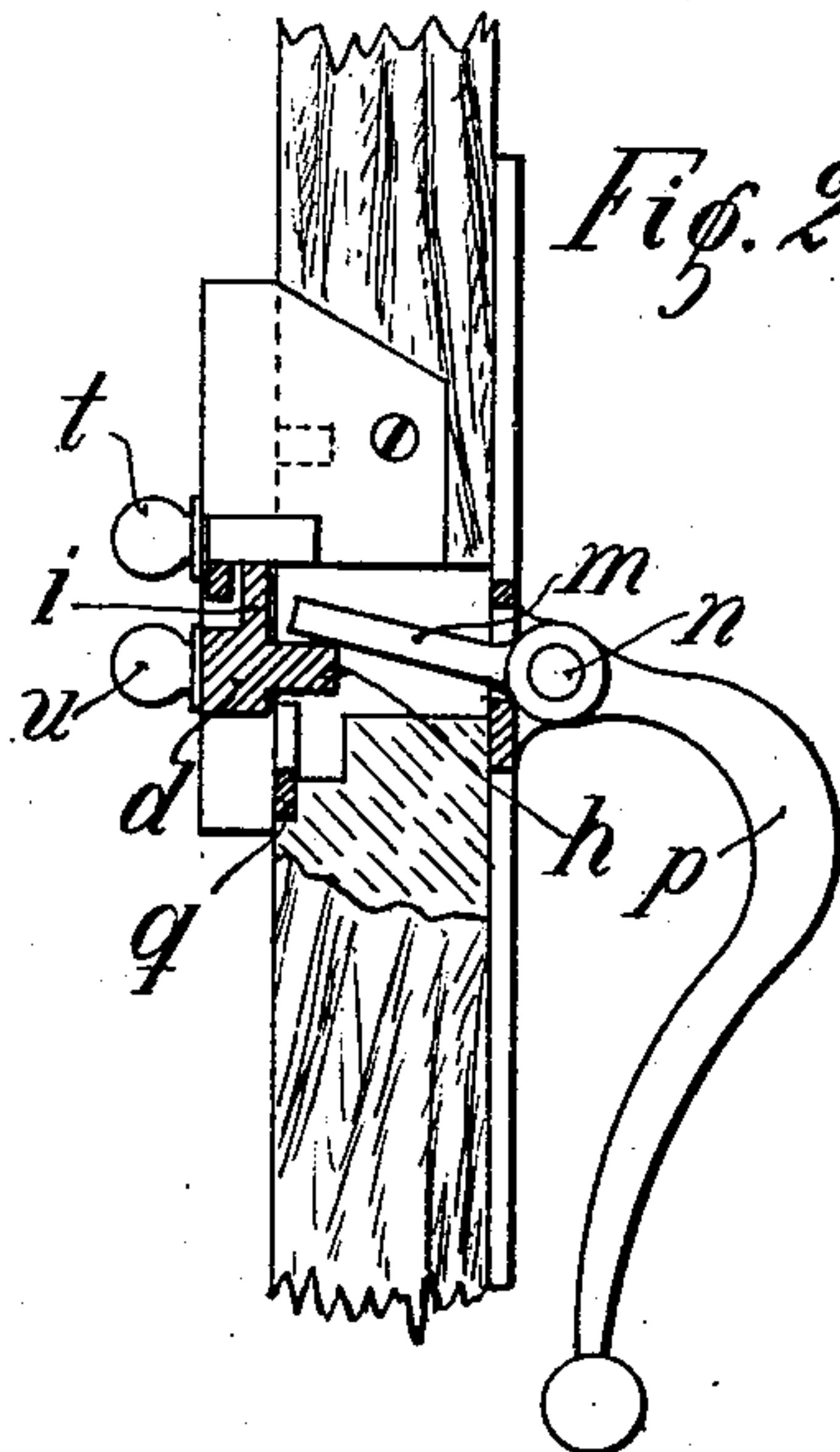


Fig. 3.

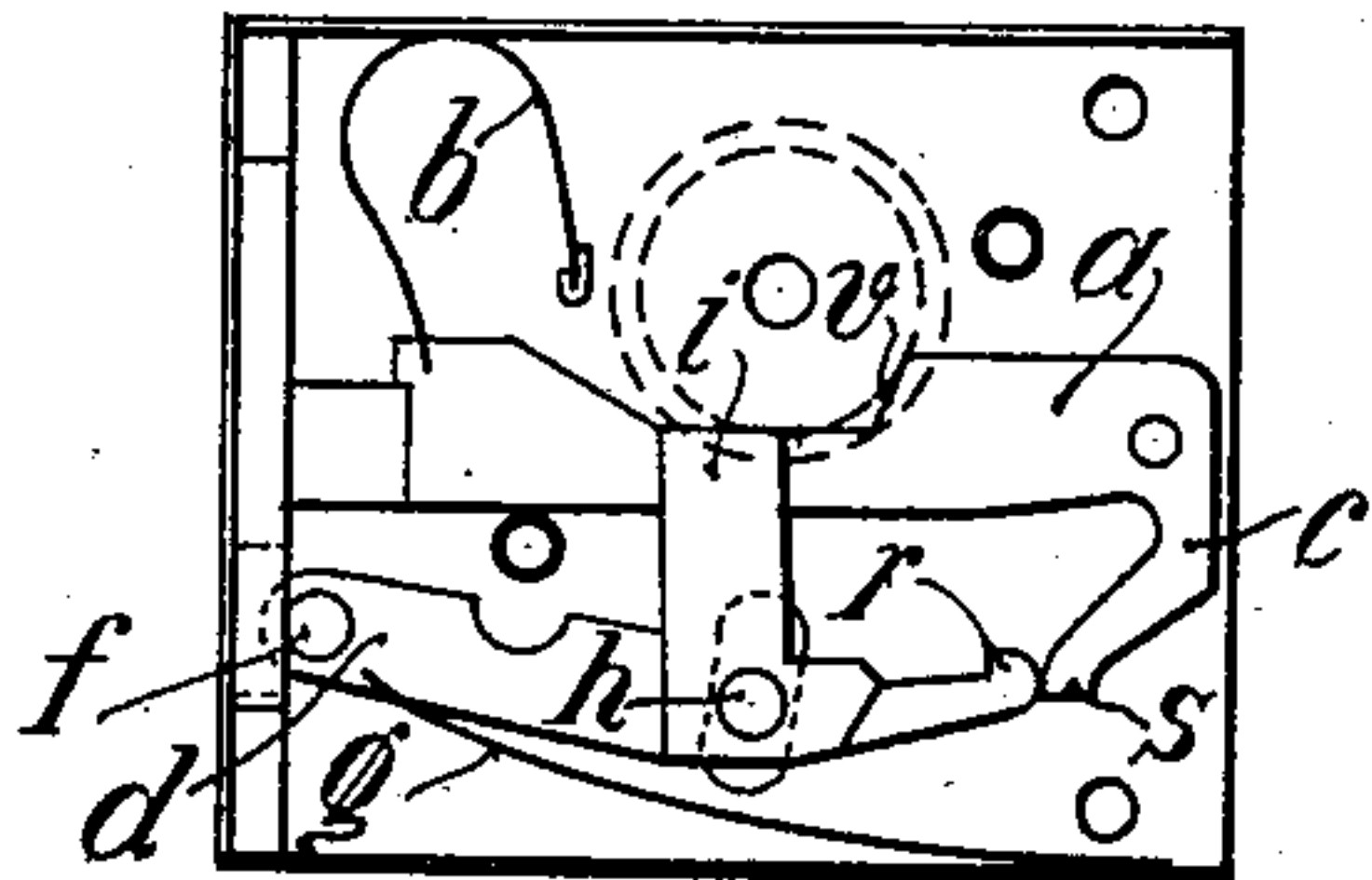


Fig. 4.

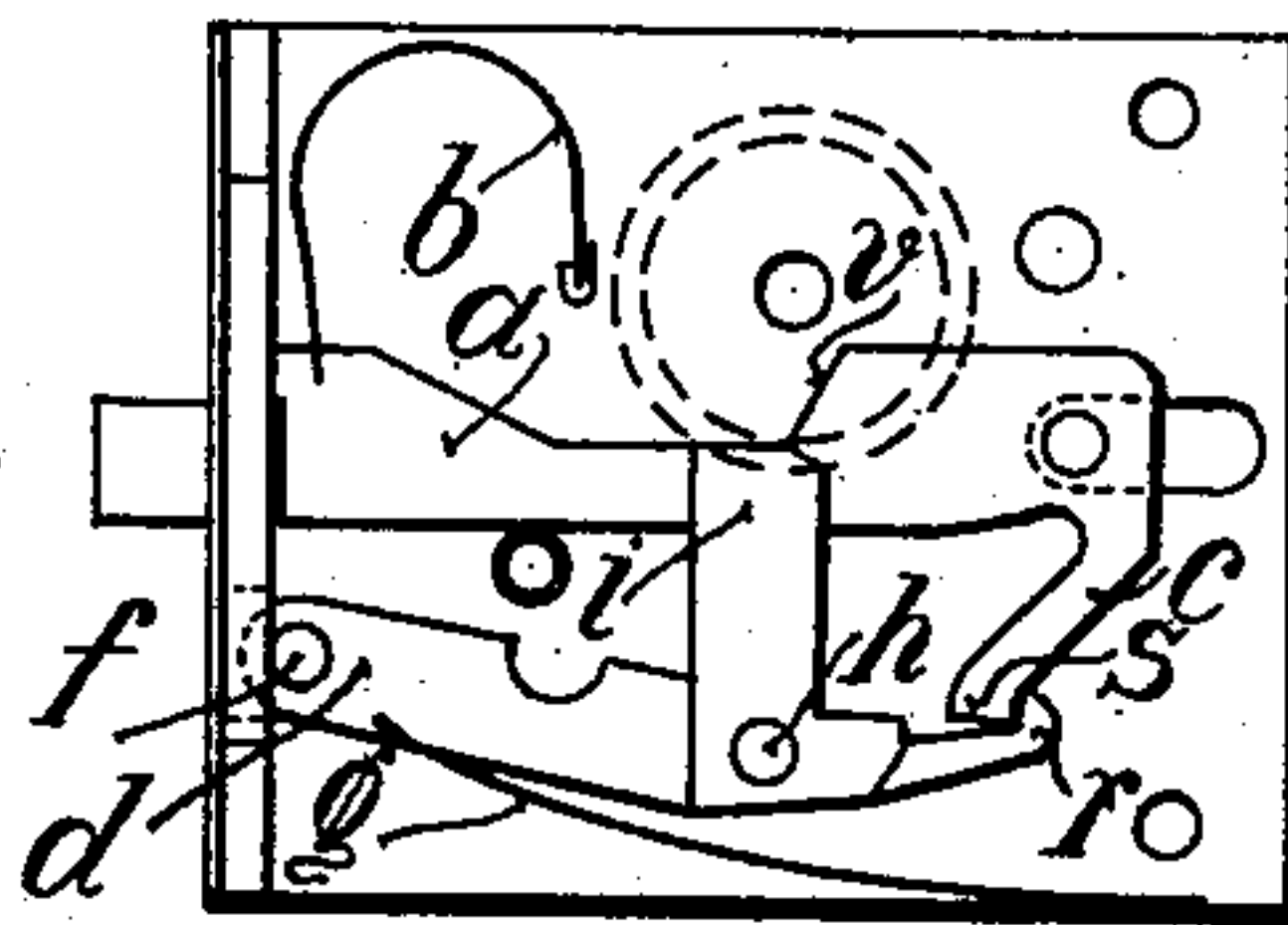
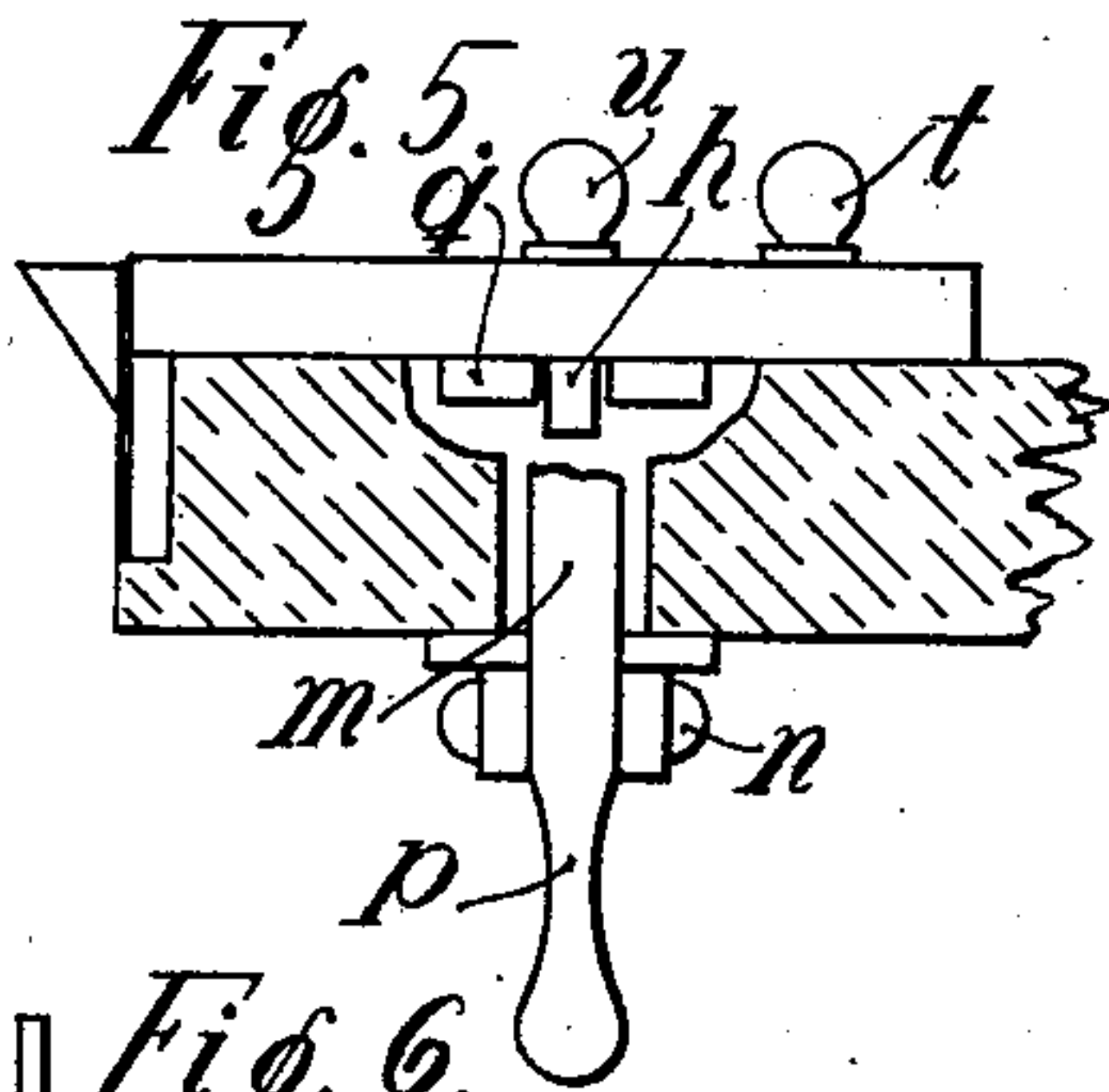


Fig. 6.

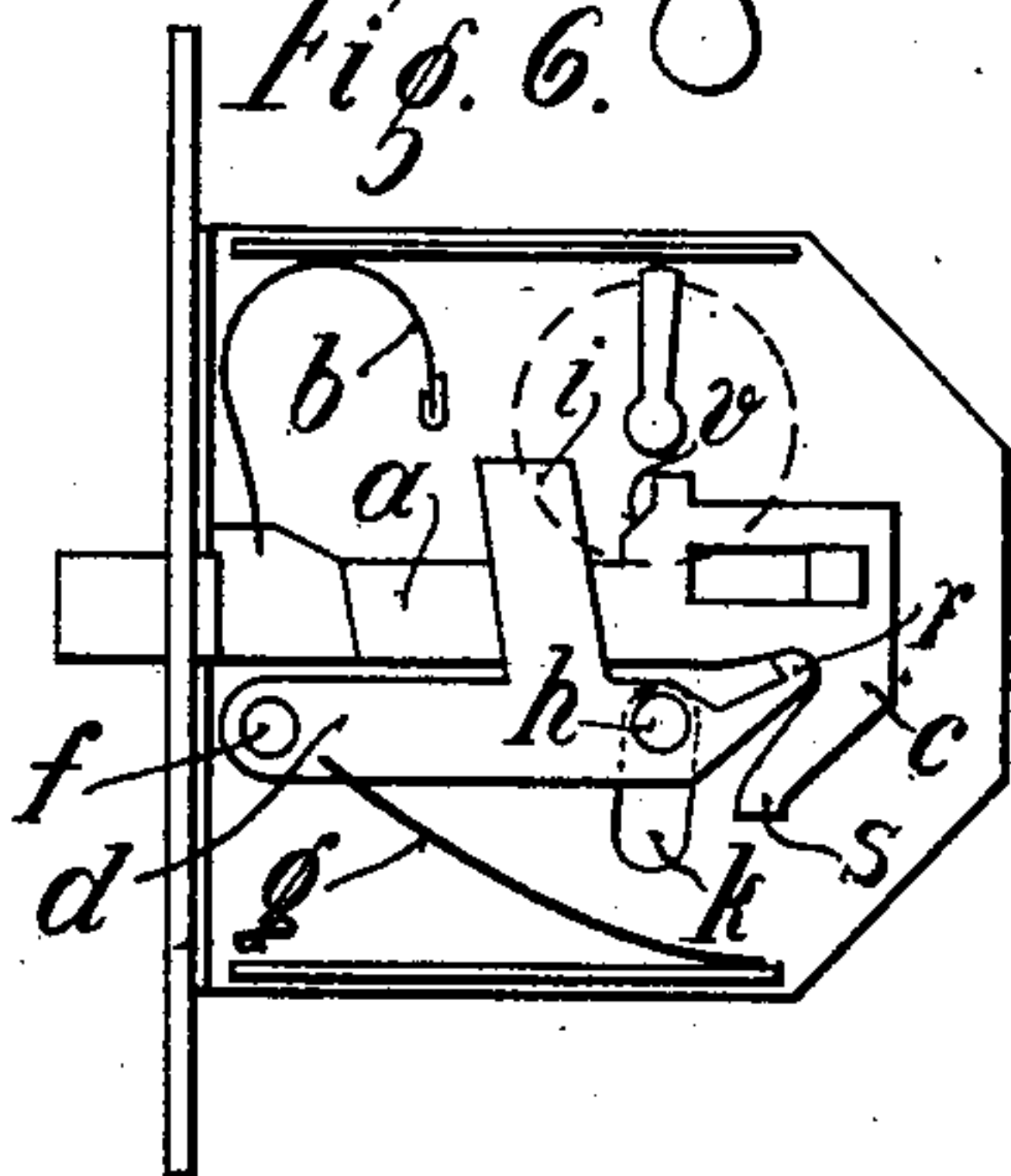
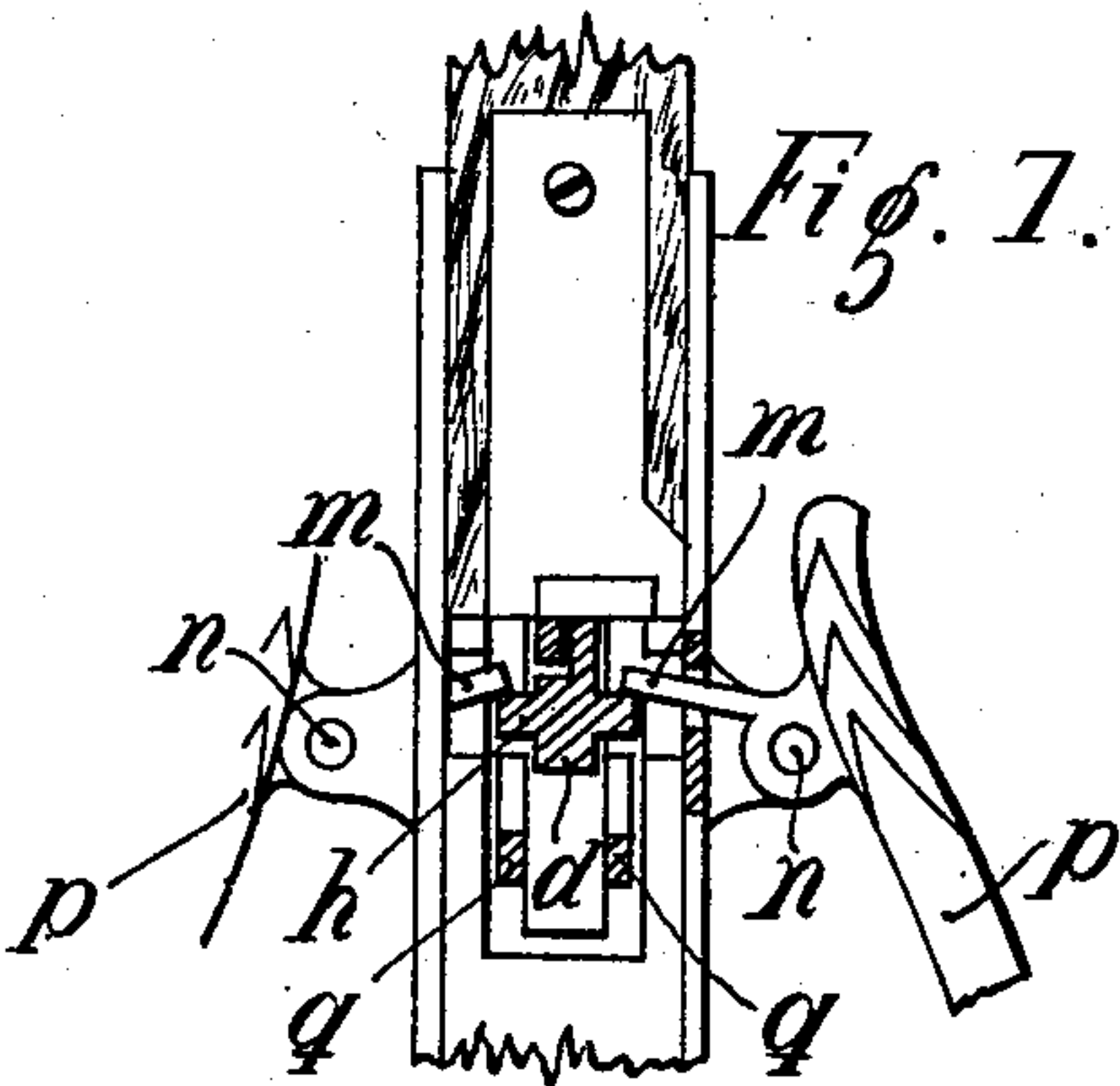


Fig. 7.



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LOCK.

SPECIFICATION forming part of Letters Patent No. 747,627, dated December 22, 1903.

Application filed June 18, 1903. Serial No. 162,107. (No model.)

To all whom it may concern:

Be it known that I, CAI BRAHM SOPHUS MÖLLER, locksmith, of No. 17 Niels Ebbesensgade, Aalborg, in the Kingdom of Denmark, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The present invention relates to a lock comprising only two movable parts—a bolt and a tumbler. The tumbler is so constructed that when operated by means of a handle or key it pushes back the bolt; but it can also be moved into a position in which it is not operated by the door-handle and locks the bolt in the advanced position. The tumbler can also be moved into a position in which it does not hinder the motion of the bolt. In the latter case the lock can consequently be used as a safety-lock. The tumbler is preferably operated by means of a handle or door-knocker movable about a horizontal axle. When the said handle or knocker has been lifted, it moves back into the position of rest under the action of gravity, so that a much weaker spring is required operating the bolt than in locks in which the spring must also move a comparatively heavy handle. The improved lock can therefore be made more compact and with a narrower lock-case than ordinary locks. This is of great importance when the lock is to be used as a mortise-lock, since the recess in the wood of the door or the like can be made smaller.

The annexed drawings represent two forms of the lock.

Figures 1, 3, and 4 are front views of one lock in three different working positions; Fig. 2, a vertical cross-section of the same lock, and Fig. 5 a plan view thereof. Figs. 6 and 7 are a front view and vertical cross-section, respectively, of another form of the lock.

The lock-bolt *a*, which is reciprocable in the lock-case, is continuously pressed forward by a spring *b*. At its rear end the said bolt is provided with a downwardly-extending arm *c*, the front surface of which forms, with

the bolt, an acute angle. The tumbler *d* is pivoted at *f*, and its free end is adapted to slide on the inclined surface of the arm *c*, so that when the said end of the tumbler is moved downward the bolt is pushed to the rear. On the tumbler being lifted again the bolt is pushed forward by the spring *b*. The tumbler is supported by a spring *g* and is provided with a projection *h* and an arm *i*. The said projection *h* extends through a slot *k* in the wall of the lock-case and is adapted to be operated by an arm *m*, fixed to the handle *p*. The latter is pivoted at *n*.

In the form of construction shown in Figs. 1 to 5 the lock is arranged inside the door as a safety-lock, and therefore only one handle *p* is provided. When the said handle *p* is lifted, its arm *m* bears on the projection *h* of the tumbler *d* and moves the latter downward, so that the tumbler is moved out of the position shown in Fig. 1 into the position shown in Fig. 3. By this movement the bolt *a* is pushed back. The arm *m* thereupon abuts against the stop *q*, fixed to the lock-casing, and the handle *p* can then be used for opening the door. When the said handle is thereupon released, it returns by gravity to its original position, so that the tumbler is also released and is lifted by the spring *g*. The bolt *a* will thereupon move forward again under the action of the spring *b*. The lock thus automatically returns to the position shown in Figs. 1 and 2.

If the bolt *a* is to be locked in its forward position, so that it cannot be operated by means of the door-handle or the arm projecting out of the lock-case, the tumbler *d* is moved by means of a key beyond the position shown in Fig. 3. The key can be introduced through a keyhole in that side of the door at which the door-handle *p* is arranged. The said keyhole is not shown in the drawings. The key-bit is rotated through the circle shown in Figs. 1, 3, and 4, and the tumbler is depressed by said key-bit through the arm *i* in such a manner that it clears the arm *c* of the bolt *a* and allows the latter to move forward under the action of the spring *b*. When the key is turned in the opposite direction, the tumbler *d* will be lifted by the spring *g* and the catch *r* at its end engages behind the tooth *s* of the arm *c*, Fig. 4, so that the push-

ing back of the bolt *a* is prevented. When the tumbler is in this position, the projection *h* is below the upper surface of the stop *q*, so that the arm *m* of the handle *p* cannot reach the said projection *h*, and the position of the tumbler cannot be changed by means of the handle. The bolt is therefore locked by inserting the key, turning the same in one direction, and then turning it back again through the same path. For unlocking the bolt the key is again used. The key-bit first abuts against the arm *i* of the tumbler *d* and depresses the latter, so that the tooth *r* is disengaged from the arm *c*. On the key being further rotated it abuts against a projection *v* on the bolt *a* and moves the latter back, while the key-bit keeps the tumbler depressed until the tooth *r* bears against the under side of the tooth or catch *s* and is then pushed upward in front of the said tooth by the spring *g* in order to assume the position shown in Fig. 1. The lock then acts as an ordinary safety-lock and can be opened as before by means of the door-handle *p*. The bolt *a* and tumbler *d* can also be provided with studs *t* and *u*, extending through the lock-plate.

By means of the studs the lock parts can be operated in the same way as by means of the key or door-handle.

Figs. 6 and 7 represent a mortise-lock of the improved construction. This lock can be operated from both sides of the door, for which purpose two door-handles *p* and two keyholes are provided. In this case of course the tumbler *d* is provided with a projection *h* on each side, on which the arms *m* of the handles *p* can act.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a lock, a sliding locking-bolt and a pivoted tumbler with means for operating the same, said tumbler engaging the sliding locking-bolt to slide the same, and having means to lock the sliding bolt when the said tumbler is adjusted to an abnormal position, the said locking-bolt having a projection to permit the bolt to be operated by the key independently of the tumbler, substantially as described.

2. In combination in a lock, a sliding lock-

ing-bolt, a tumbler, a key, a handle for operating the said tumbler, the said key being adapted to throw the tumbler to an abnormal position and a spring for operating the bolt into locking position when the tumbler is in abnormal position, the said tumbler having means to lock the bolt when in said abnormal position, the said locking-bolt having a projection to permit the bolt to be operated by the key independently of the tumbler, substantially as described.

3. In a lock, a sliding locking-bolt having an inclined part provided with a tooth or projection, a pivoted tumbler having its free end adapted to bear against said incline, a handle with means whereby the operation of the handle causes said free end to operate upon the incline to retract the bolt, and a key-operated part carried by the tumbler designed to permit said tumbler to be moved into an abnormal position and a catch on said tumbler adapted to engage the projection on the locking-bolt when the tumbler is in said abnormal position, substantially as described.

4. In a lock, a sliding bolt having an inclined portion, a pivoted tumbler having its free end bearing against said inclined portion, a projection on said tumbler extending laterally in respect to the lock, and a pivoted operating-handle having a part bearing against said projection, substantially as described.

5. In a lock, a sliding locking-bolt, having an inclined arm thereon, a pivoted tumbler having its free end bearing normally against the face of said arm and having a catch adapted to engage the end of said arm when the tumbler is abnormally moved, key-operated means for moving the tumbler abnormally, a handle for causing normal movement of said tumbler, and a stop for limiting the movement of the handle, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CAI BRAHM SOPHUS MÖLLER.

Witnesses:

ERNEST BOUTARD,
J. O. JACOBSEN.