

J. KLINZING.
Lock.

No. 204,055.

Patented May 21, 1878.

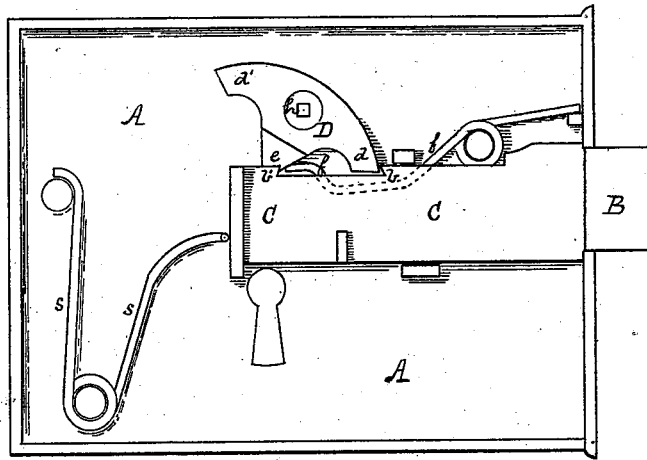


Fig. 1

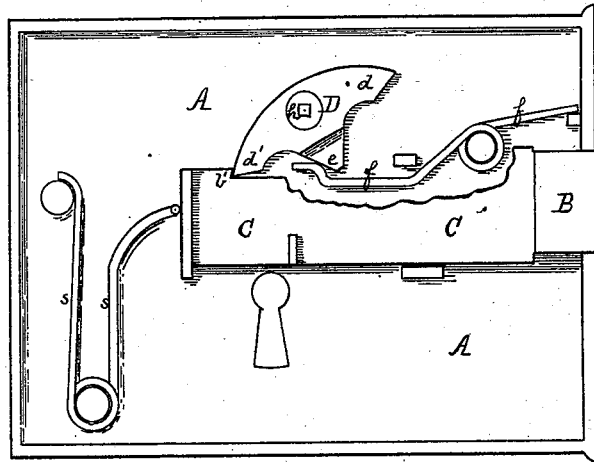


Fig. 2

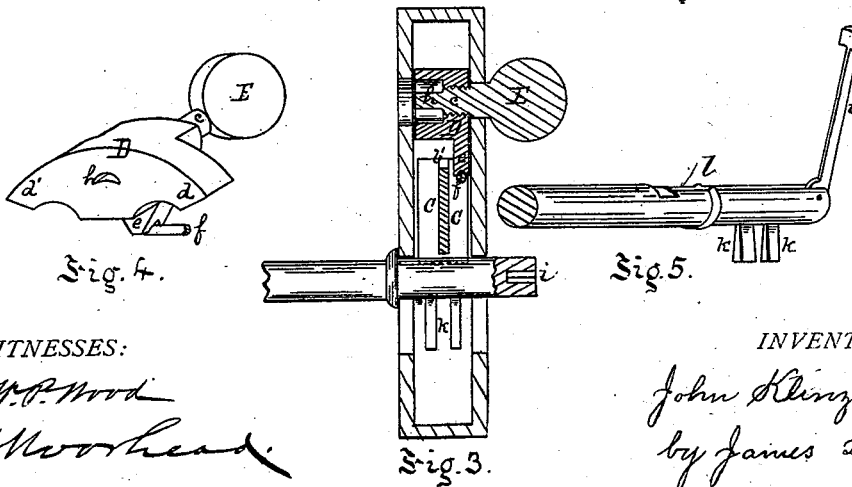


Fig. 4.

Fig. 3.

Fig. 5.

WITNESSES:

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JOHN KLINZING, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 204,055, dated May 21, 1878; application filed April 17, 1878.

To all whom it may concern:

Be it known that I, JOHN KLINZING, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Locks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a face view of my improved lock, the case removed, showing the bolt out or locked. Fig. 2 is a like view, partly broken away, showing the bolt in the case. Fig. 3 is a sectional view of the same. Fig. 4 is a detached view of the swinging pawl, and Fig. 5 is a view of the key.

Like letters of reference indicate like parts in each.

My invention relates to certain improvements in locks for doors and other purposes, by which greater security against the picking and opening of the lock is obtained.

It consists in providing the lock with a swinging pawl, having two arms extending therefrom adapted to catch in notches on the bolt, and either lock it when extended from the case or hold it within the case, which pawl can only be operated from the outside of the door by means of a supplementary key.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the drawing referred to, A represents the lock-case, which may be provided with the usual latch-bolt. B is the locking-bolt, which may be operated by a key in any desired way, and have any number of tumblers required. Upon the top of the shank C of the bolt, where they will not interfere with the locking mechanism, are the notches *b b'*, in which the swinging pawl D catches, the notches being in such position on the shank C that the arms of the pawl will catch on the bolt and hold it either out of the case or drawn within the same. The bolt B is thrown from the case by the spring *s*, which presses against the shank. The pawl D is pivoted in the case on the pinion *e*, which passes through the case, and is provided with a thumb-piece, E, by means of which it may be operated from one side of the door. It is provided with two

arms, *d d'*, extending one from each side thereof, so arranged as to catch in the notches on the bolt-shank. Extending from the base of the pawl is the lug *e*, which is grooved so as to retain the spring *f*, which presses against it and gives it the desired throw, either to the right hand or to the left. In the face of the pawl D is the key-hole *h*, by means of which the pawl is turned from the outside of the door. If it has a central tumbler, I prefer to form it by extending the pinion *e*, upon which the pawl is pivoted, through the pawl and forming the tumbler of the key thereon, as shown in Fig. 3. The spring *f* is fixed in the case by suitable lugs in such position that the end thereof, working in the groove in the lug *e*, will throw the pawl either to one side or the other, so as to catch in the notches on the bolt. The outer case of the lock is provided with two key-holes, one for the ordinary locking-key and one for the pawl-key. The locks may either be provided with two separate and independent keys, or with one adapted for use with both the pawl and lock.

In Fig. 5 is shown one form of key adapted for use with the lock, the pawl turned by the pawl-key *i* at the end and the lock operated by the ordinary locking-bit *k*. The pawl-key is hinged at the end of the ordinary key, so that it may fold over and fit into a recess, *l*, therein. By thus arranging it the size and weight are greatly reduced.

The operation of my improved lock is as follows: When the bolt is extended from the case, as shown in Fig. 1, the arm *d* of the pawl catches in the notch *b* on the bolt-shank, and secures it in that position. In order to withdraw the bolt, it is necessary first to turn the swinging pawl D by the pawl-key or by the thumb-piece E, and turn the arm *d* out of connection with the notch *b* to the position shown in Fig. 2. The bolt can then be thrown back by the bolt-key, or in any other suitable manner, and as soon as the notch *b'* passes the pawl-arm *d'* the spring *f* throws the arm into the notch, and thus the bolt is held within the case. In order to throw the bolt from the case and lock the door, or other place with which it is used, it is only necessary to throw the pawl-arm *d'* out of connection with the notch *b'* on the bolt-shank, when the spring *s* will

throw the bolt, and the pawl-arm *d* will catch in the notch and lock it in position. If it is not desired to use the pawl D, it may be turned by means of the thumb-piece or key in such position that it will not catch on the bolt-shank, and the lock can be used without it.

It is thus evident that by means of the swinging pawl I add greatly to the security of the lock and prevent its being picked so easily, rendering it necessary to use two keys on the outside of the door, and thus practically combining by this addition two locks in one case. The key-hole for the pawl may be made very small, so that no instrument can be inserted to turn it except the regular key. It may also be made of different shapes, as shown in Fig. 4, as is usual in connection with locks. If desired, connection may be made with the bolt B from the inside, so that it may be used as a latch, thus combining a latch, dead-latch, and double lock in one case upon one bolt.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the bolt B, having the notches *b b'*, and the swinging pawl D, pivoted in the case, and adapted to lock the bolt

either within or out of the lock-case, substantially as and for the purposes set forth.

2. The pawl D, pivoted in the lock-case, and provided with the arms *d d'* and key-hole *h*, substantially as and for the purposes set forth.

3. The combination of the bolt B, having the notches *b b'*, the spring *f*, and the pawl provided with the arms *d d'*, and having the key-hole *h* formed therein, substantially as and for the purposes set forth.

4. The bolt-key herein described, provided with a pawl-key at the end thereof, each key being adapted to operate a separate and distinct lock, substantially as and for the purposes set forth.

5. The combination of the bolt-locking key hereinbefore described with the pawl-key *i*, pivoted thereto, and adapted to fold into the bolt-key, substantially as and for the purposes set forth.

In testimony whereof I, the said JOHN KLINZING, have hereunto set my hand.

JOHN KLINZING.

Witnesses:

R. J. McCLURE,
JAMES I. KAY.