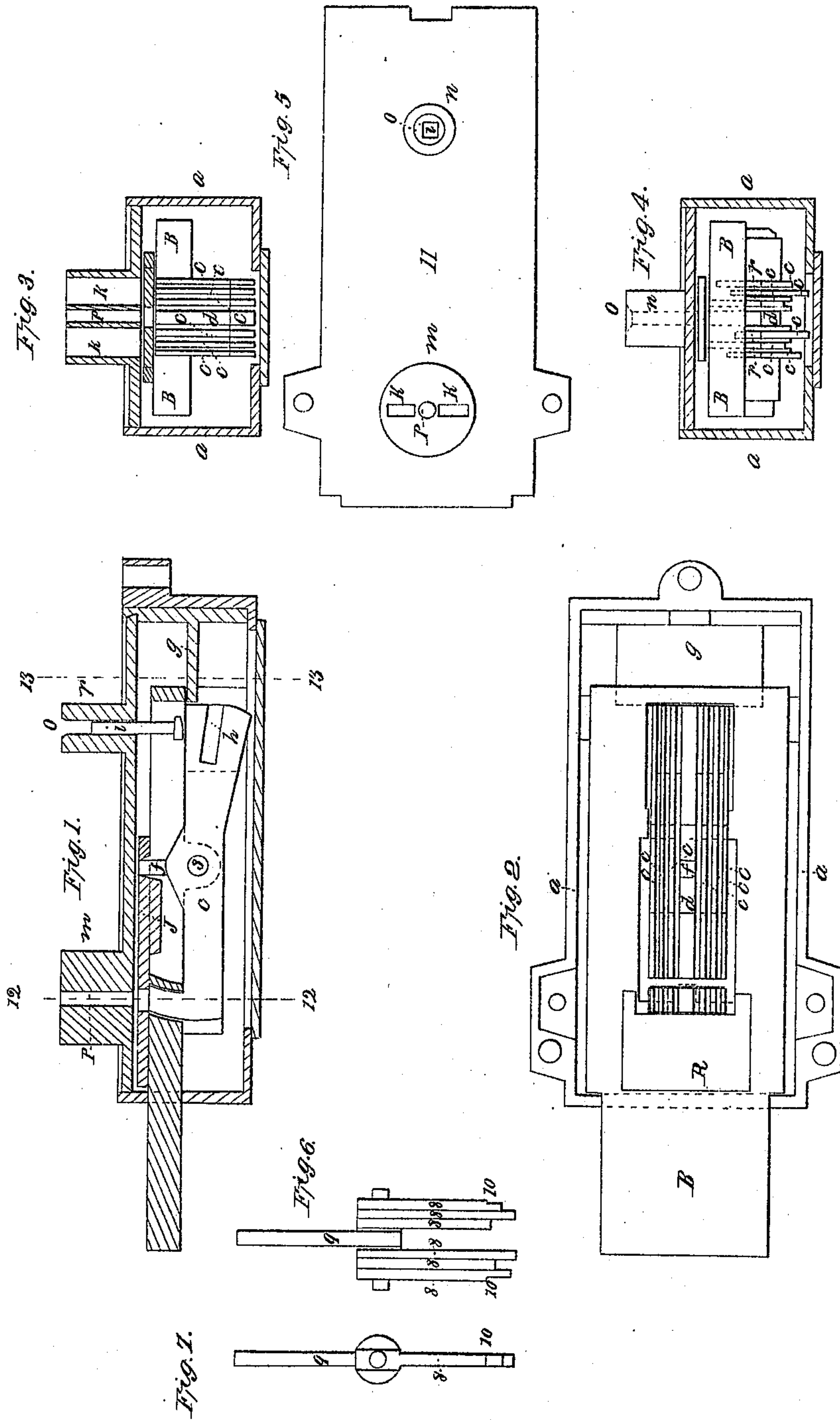


# L. Baier, Lock.

N<sup>o</sup> 20,027.

Patented Apr. 27, 1858.



# UNITED STATES PATENT OFFICE.

L. BAIER, OF CINCINNATI, OHIO.

## LOCK.

Specification of Letters Patent No. 20,027, dated April 27, 1858.

*To all whom it may concern:*

Be it known that I, LUDWIG BAIER, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Bank-Locks and to be Used for Similar Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon and made to form part of this specification.

Similar letters refer to like parts of the improvement.

The nature of my improvement consists in the combined arrangement of the bolt and tumblers of the lock, together with the means employed for operating the tumblers when attached to the bolt, which arrangement of parts dispenses with the use of springs, levers and gearing which are more or less used in all locks for bank vaults and similar purposes.

To enable others skilled in the art to make and use the improvement I will proceed to describe its construction and operation by referring direct to the accompanying drawings.

Figure 1 is a longitudinal section of the lock. Fig. 2 is a view of the lock with the plate removed. Fig. 3 is a transverse section through 12, 12. Fig. 4 is a transverse section through 13, 13. Fig. 5 is a top view of the lock plate, and Figs. 6 and 7 are different views of the key bits.

(a, a) is the lock frame.

B is the bolt.

(C, C, C, C, C, C,) are tumblers attached to the under part of the bolt on the pin (S) as represented, and (d) is a tumbler also placed between the tumblers (C) and made about three times as thick as one of them.

(h) are notches cut in the back end of the tumblers and (8, 8, 8, 8, 8, 8) and (9) are the key bits used for locking and unlocking and operated as hereinafter described.

The lock as represented is supposed to be locked, and we will now unlock it by taking the bits 8 8 8, 8 8 8, and force them in the openings (k k) in the socket (m), which will come against and depress the forward end of the tumblers until the notches h cut in their after end will come opposite the catch (g). The bits 8 are then withdrawn and the bit 9 is shoved in the center open-

ing P, in the socket (m) and depresses the tumbler (d) until the notch h cut in its after end comes opposite the catch (g). Then the bolt B, can be slipped back owing to the catch plate g slipping into the notches h. The bolt B will be furnished with a knob that will pass through a slot to the outside of the lock for moving the bolt B in and out (which is not represented). The next operation is to lock the bolt, which is effected by drawing it out as represented so the after end of the tumblers will be free from the end of the catch (g). Then take the bit (9) and force it into the opening (o) in the socket (n) and force the T piece (i) down against the top of the tumblers near their ends, and thus set the after end of the tumblers so they will butt against the catch piece (g) and lock the bolt out as represented.

The tumbler (d) is furnished with a projection (f) which serves as an arm to operate the guard plate (J), so if the tumbler (d) is acted on first in unlocking the bolt the guard plate (J) will be slid over the openings (k, k) so the bits 8, 8, can not be got to operate on the tumblers (C, C). Thus it will be perceived when the lock is constructed as represented there is a particular way only to use the bits for locking and unlocking.

(10, 10) are offsets on the sides of the bits 8, 8, to govern the depth to which the bits are shoved in the lock for bringing the tumblers to a right position.

The sockets (m) and (n) and guard plate (J) will be made of hardened steel to prevent cutting or drilling off to pick the lock, and the way the frame of the lock is constructed and furnished with the guard plate (J) there is no chance to get any explosive substance in the lock for blowing it to pieces not very handy.

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

The combined arrangement of the tumblers (C, C, C, C, C, C) and (d) guard plate J, and T piece (i) with the bolt (B) all for purposes mentioned and represented in the foregoing specification.

LUDWIG BAIER.

Witnesses:

W. BENSON,  
JOHN RENZ.