

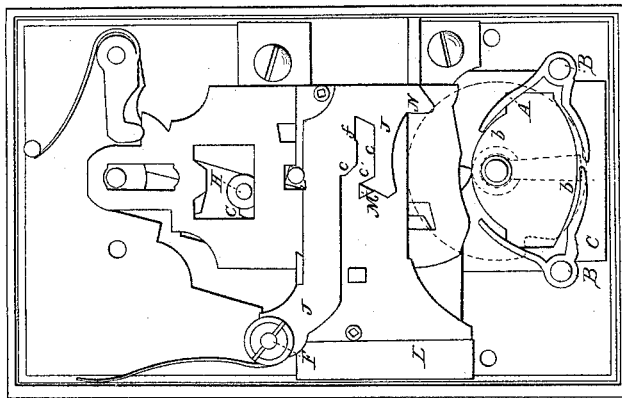
*H. Ritchie,*

*Lock.*

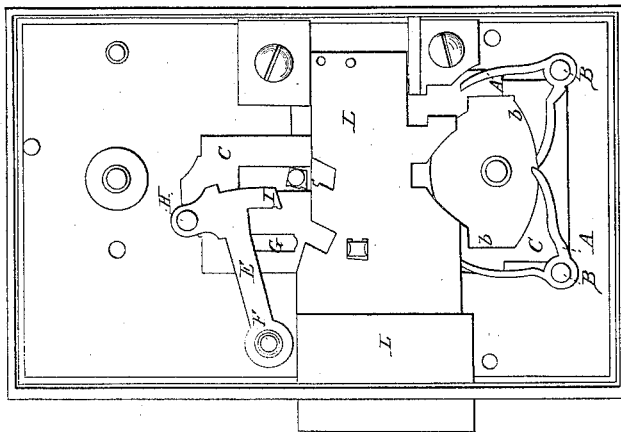
*N<sup>o</sup> 6,252.*

*Patented Apr. 3, 1849.*

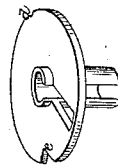
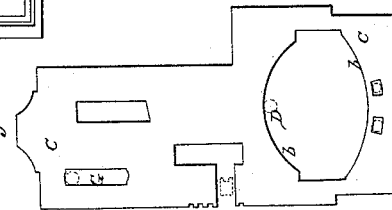
*Fig. 1.*



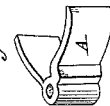
*Fig. 2.*



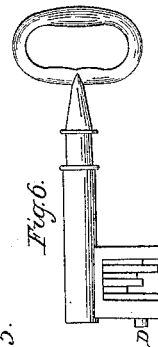
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



# UNITED STATES PATENT OFFICE.

HENRY RITCHIE, OF NEWARK, NEW JERSEY, ASSIGNOR TO HENRY C. JONES.

## BANK-LOCK.

Specification of Letters Patent No. 6,252, dated April 3, 1849.

*To all whom it may concern:*

Be it known that I, HENRY RITCHIE, of the city of Newark, in the county of Essex and State of New Jersey, have made certain new and useful improvements in the lock for safes, bank-vaults, etc., for which Letters Patent of the United States were granted to Henry C. Jones, under date of the 26th day of April, 1845, which Letters Patent were for improvements on a lock for a like purpose for which William Hall had previously obtained Letters Patent—to wit, on the 17th day of August, 1843; and I do hereby declare that the following is a full and exact description of my improvements as I combine them with the said lock or locks and with others of a like character.

In the accompanying drawings, which make a part of this specification, I have represented all the parts of the above named locks which are requisite to show the nature of my improvements, and the manner in which I have combined the same with the said locks, the essential features of which remain unchanged; the intention of the additions being to afford more perfect security.

Figure 1, is a representation of my improved lock, with the face or covering plate, and the revolving escutcheon, removed, and the bolt shot out. Fig. 2, shows the interior of the box of the lock the bolt being left in place, but the sliding plates, or tumblers, used in Hall's and in Jones' locks being removed for the purpose of showing an additional slide, or tumbler, which I place beneath them, upon the bottom of the box; which tumbler extends down to the bottom of the lock, and is capable of sliding up and down, but not of moving laterally; this tumbler, which I denominate a pressure tumbler, and its appendages constituting an important part of my improvement. Fig. 3, is the revolving escutcheon, removed from its place; this has a pipe, or tube that surrounds the pin that receives the key, the same as described in Jones' lock, and which revolves by the turning of the key. Under this escutcheon, there is what I denominate a double cam escapement, A, A, the two portions of which turn upon pins B, B, made fast to the box of the lock, and, said cams having pins in their lower edges that enter openings *a, a*, in the lower end of the sliding pressure plate, or tumbler C, C, shown separately in Fig. 4; one of the cams A, is shown in Fig. 5.

When the key is entered in the key hole, the cams A, A, are in the position shown in Fig. 1, the tumbler C, being then in its lowest position, and in contact with the bottom of the box; but when the bit of the key is carried half way around, the cams will be in the position shown in Fig. 2, they being made to revolve upon the pins B, B, by the lifting of the plate C, C. This lifting is effected by the aid of a pin D, that projects from the bottom of the bit of the key Fig. 6; there is a similar pin projecting from the bit of the key in Jones' improved lock, but performing an office entirely different from that which it performs in my lock. This pin enters the racking, or perforation *b, b*, through the tumbler C, C, which raises as it is turned around, and in raising alters the position of the cams A, A, and brings them into the position represented in Fig. 2.

When the key is taken out the cams A, A, approach too nearly to each other at their upper ends to allow of the insertion of any instruments adapted to operate on the lower ends of the tumblers, or slides; in every other position of the key excepting that at which it enters and is removed, the key hole is closed by means of the revolving escutcheon.

Upon the tumbler C, C, Fig. 1, the dog E, rests, which dog turns upon a pin F, (Fig. 2); on the underside of this dog there is a short pin that enters the slot, or racking G, in the tumbler C. The pin H, which rises from this dog serves to draw down the other tumblers, or slides, irrespective of the springs by which they are forced down. The end I, of this dog falls into the notches on the bolt, and holds it, in the usual manner.

As the lock is sometimes put on as a check lock behind another lock, if such other lock was picked, pressure might be made upon the bolt of this lock for the purpose of ascertaining its action on the tumblers. To prevent this pressure from affecting the ordinary tumblers, or slides, I place an additional tumbler J, J, Fig. 1, over the bolt of the lock, which tumbler is so constructed as to hold on to said bolt in such manner as to prevent the pressure made on it from affecting the other tumblers, or sliding plate. The tumbler J, turns on the joint pin F. On the lock bolt L, L, there is a triangular pin M, affixed, which is received within the racking or opening *c, c*, in the

tumbler J. This tumbler has a tailpiece at N, that is acted on by the periphery of the revolving escutcheon Fig. 3, which periphery is represented by red lines in Fig. 1, 5 it has on it a small notch *d*, and a larger notch *e*. When the bolt is shot out, as represented in the figure, the triangular pin bears against the tumbler J, as shown in the drawing, and any pressure on the 10 bolt will be sustained exclusively by said tumbler; the tailpiece N, is at this time in the small notch *d*, on the periphery of the escutcheon. Just as the key is about to turn the bolt back, the tail N, falls into the large 15 notch *e*, and the triangular pin M is by the descent of the tumbler J, brought opposite to the opening *e'*, of the racking *e*, which it can then enter, and the bolt be retracted by the key; when this key is in the position 20 to be removed from the lock the point of the tail N, falls into the small notch *d*. There is a shallow notch, or recess, in the racking of the tumbler J, at *f*, which receives the upper edge of the triangular pin M, when 25 the tail N, falls, as above stated, into the

small notch *d*, and this holds the bolt so that it cannot be shot forward, or locked, excepting the escutcheon be turned to bring the tail N, on to its periphery, when the pin will be freed from the notch *f*, but if this be 30 done the keyhole will be thereby closed, and all access to the interior rendered impossible.

Having thus fully described the nature of my improvements in the locks herein re- 35 ferred to what I claim therein as new, and desire to secure by Letters Patent, is—

The manner herein set forth of combining the slide C, C, with the combined cams, or escapement A, A, and with the dog E, and 40 the pin F, for the purposes set forth. I also claim the manner of combining the additional tumblers J, J, with the revolving escutcheon under an arrangement, and for the purpose, herein fully made known.

HENRY RITCHIE.

Witnesses:

SAMUEL C. THOMSON,  
CHAS. F. VAN BOEKEL.