

(Model.)

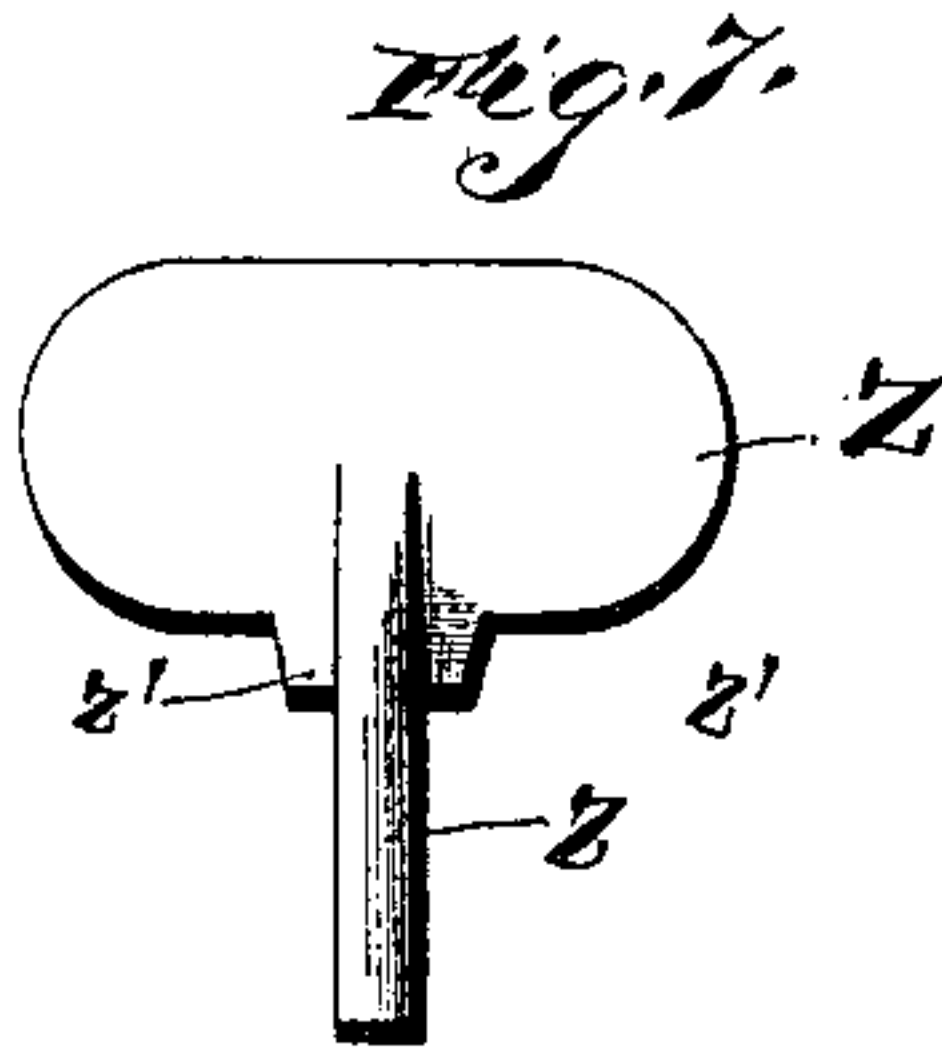
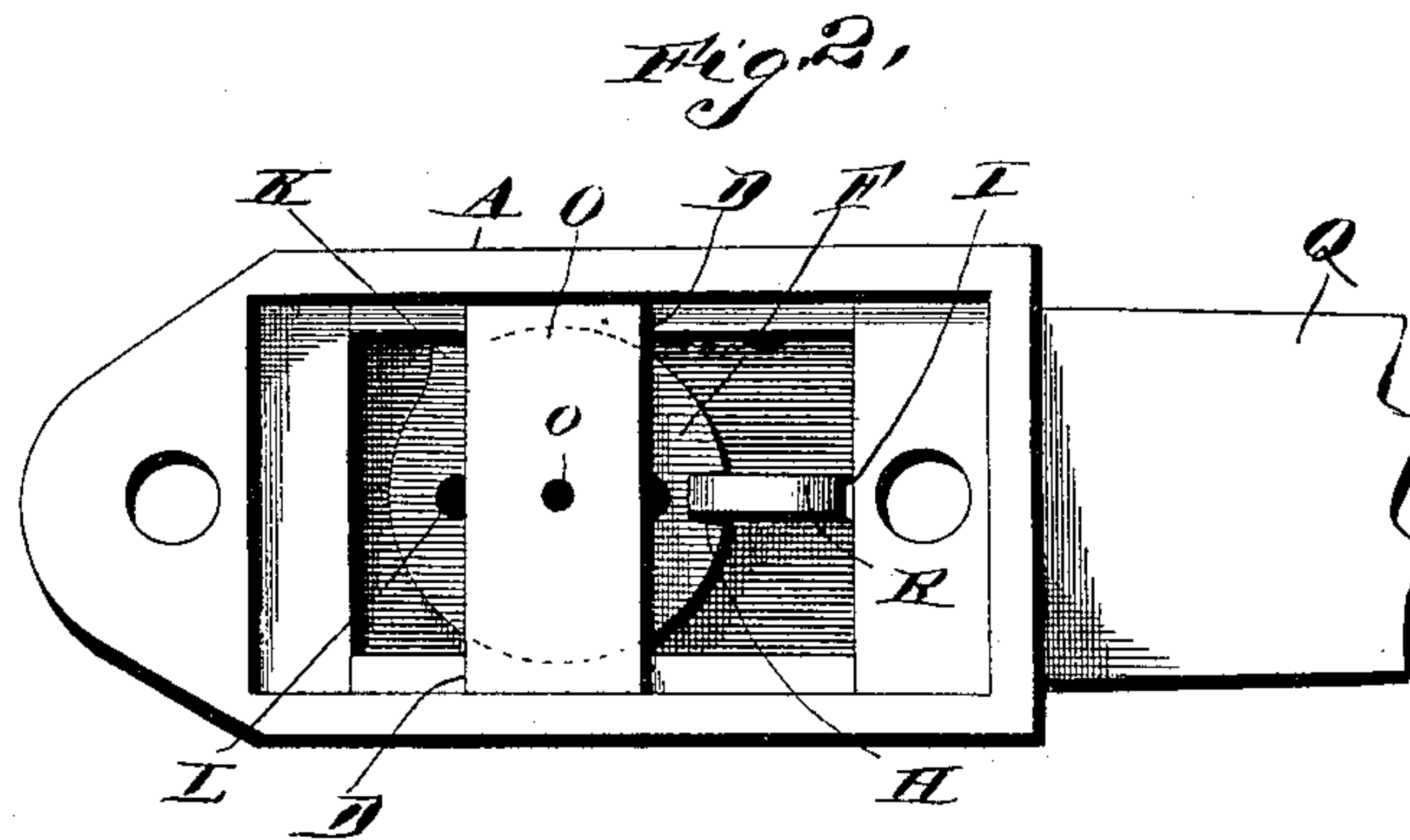
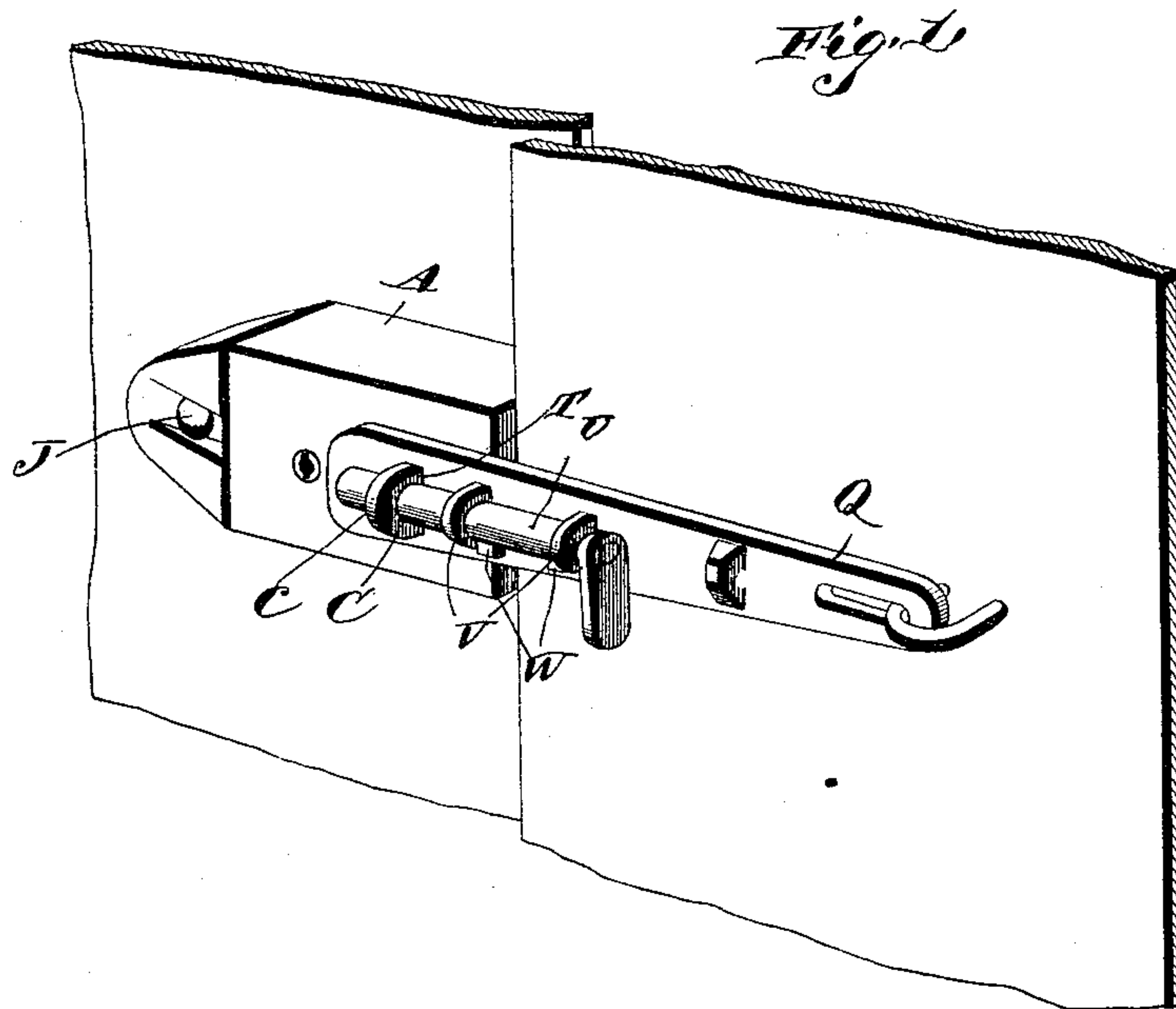
2 Sheets—Sheet 1.

J. BERGMAN.

LOCK.

No. 389,355.

Patented Sept. 11, 1888.



Witnesses.

D. Taylor,
C. E. Doyle.

Inventor,

John Bergman.

By his Attorneys

C. Snow & Co.

(Model.)

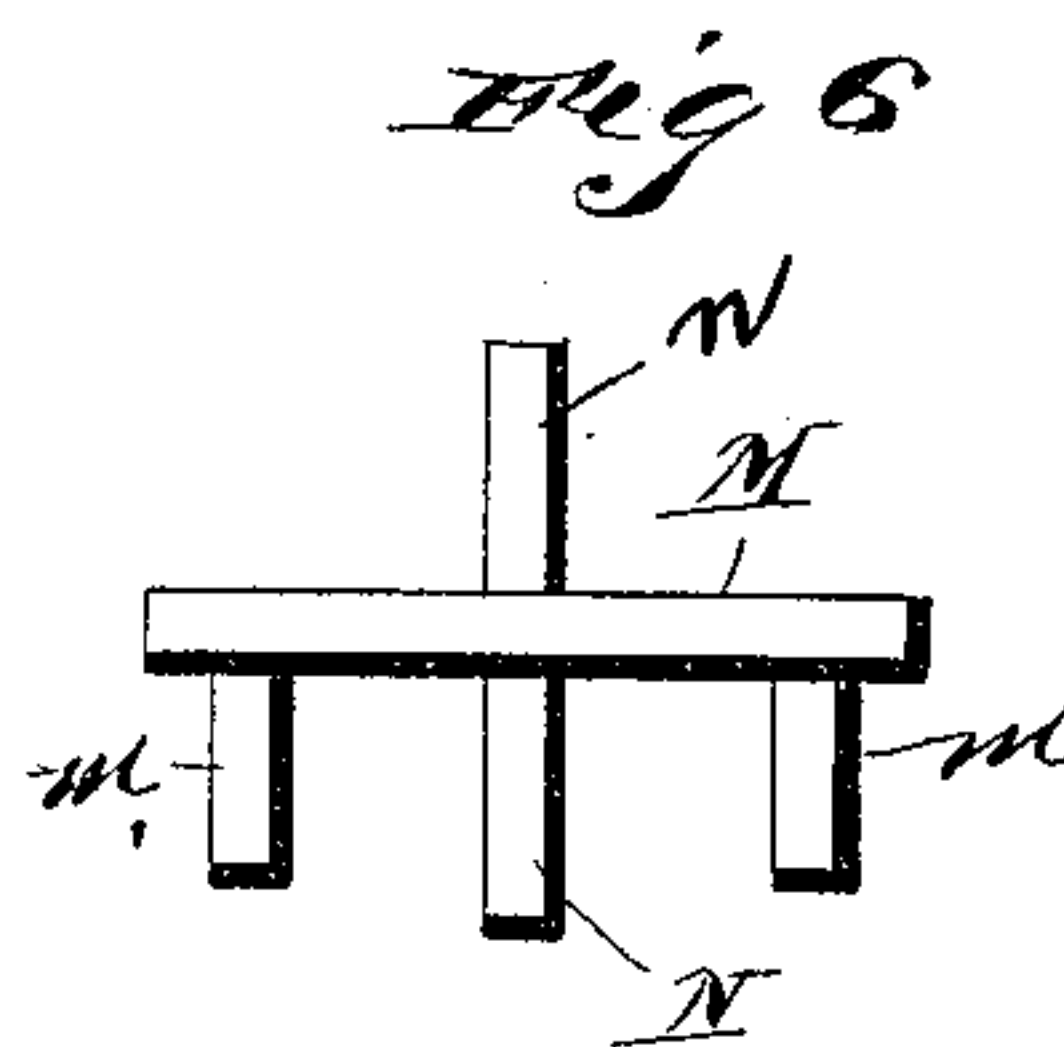
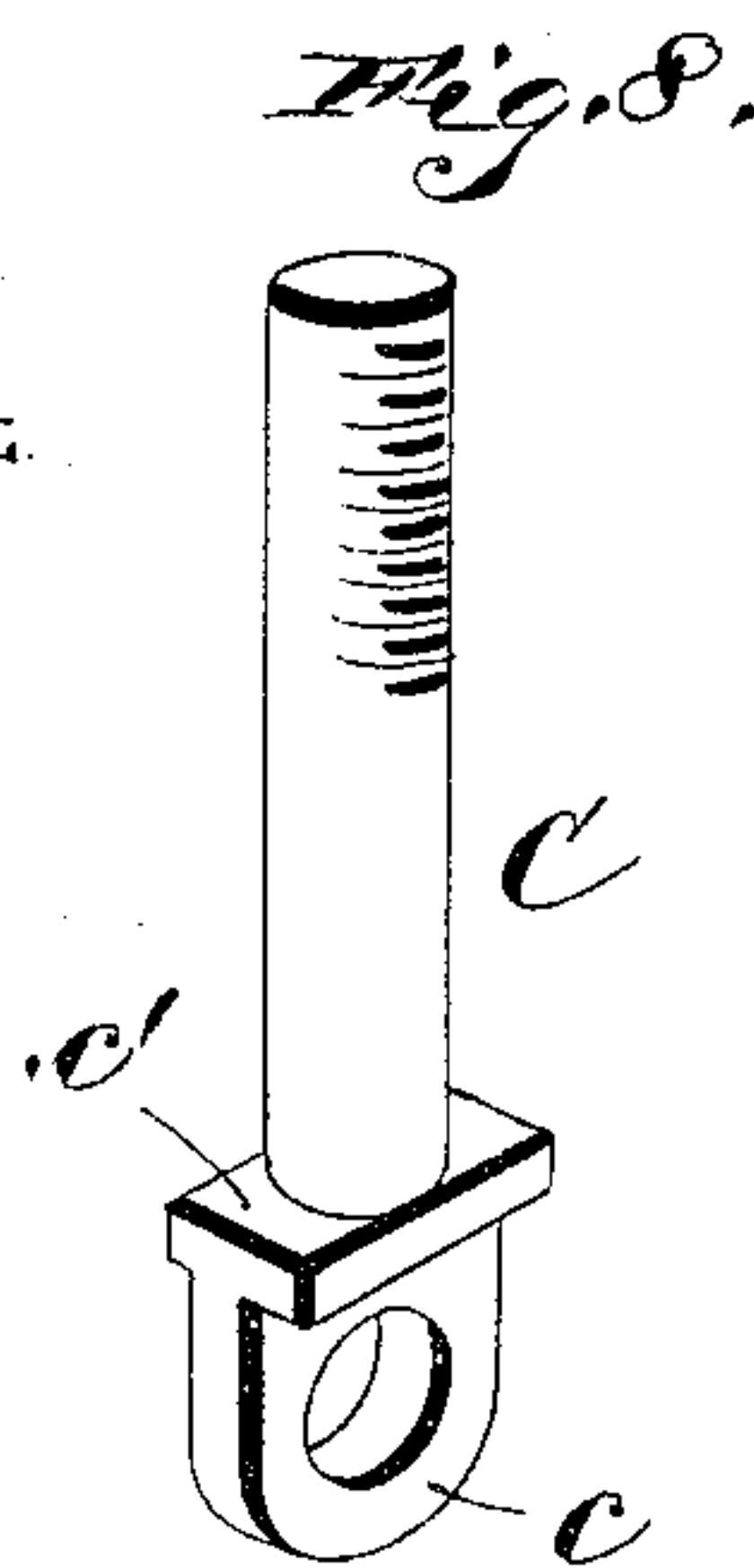
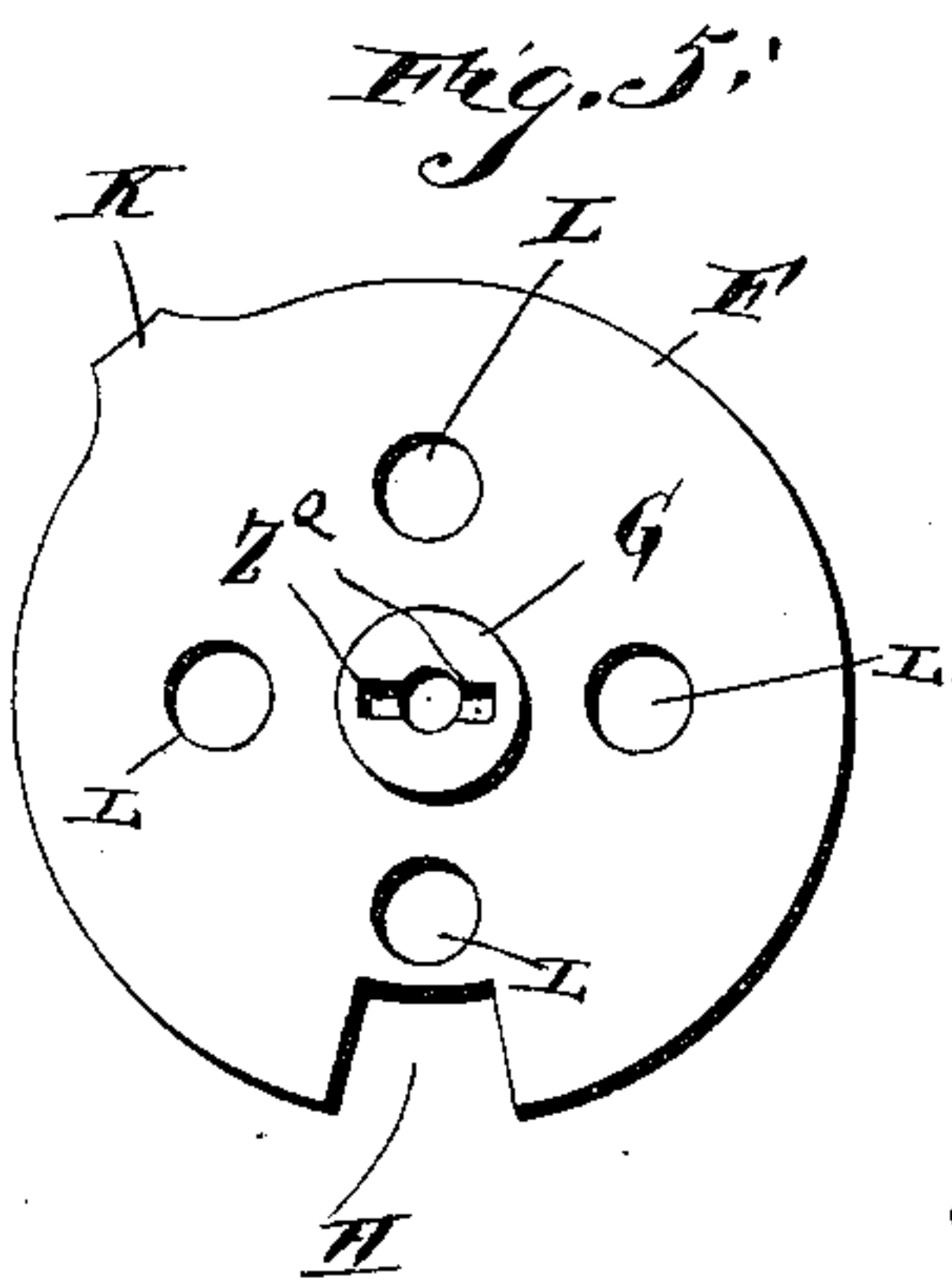
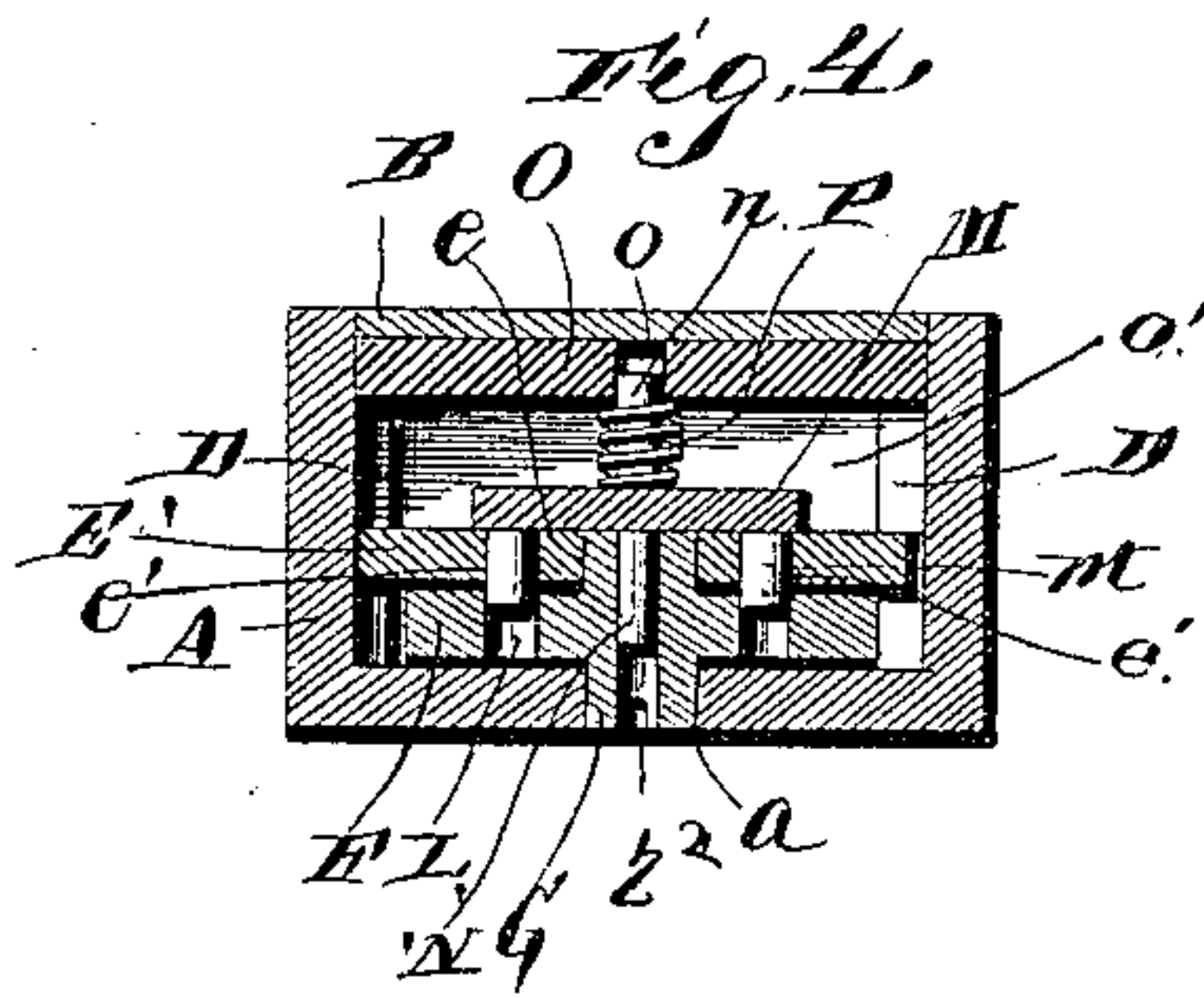
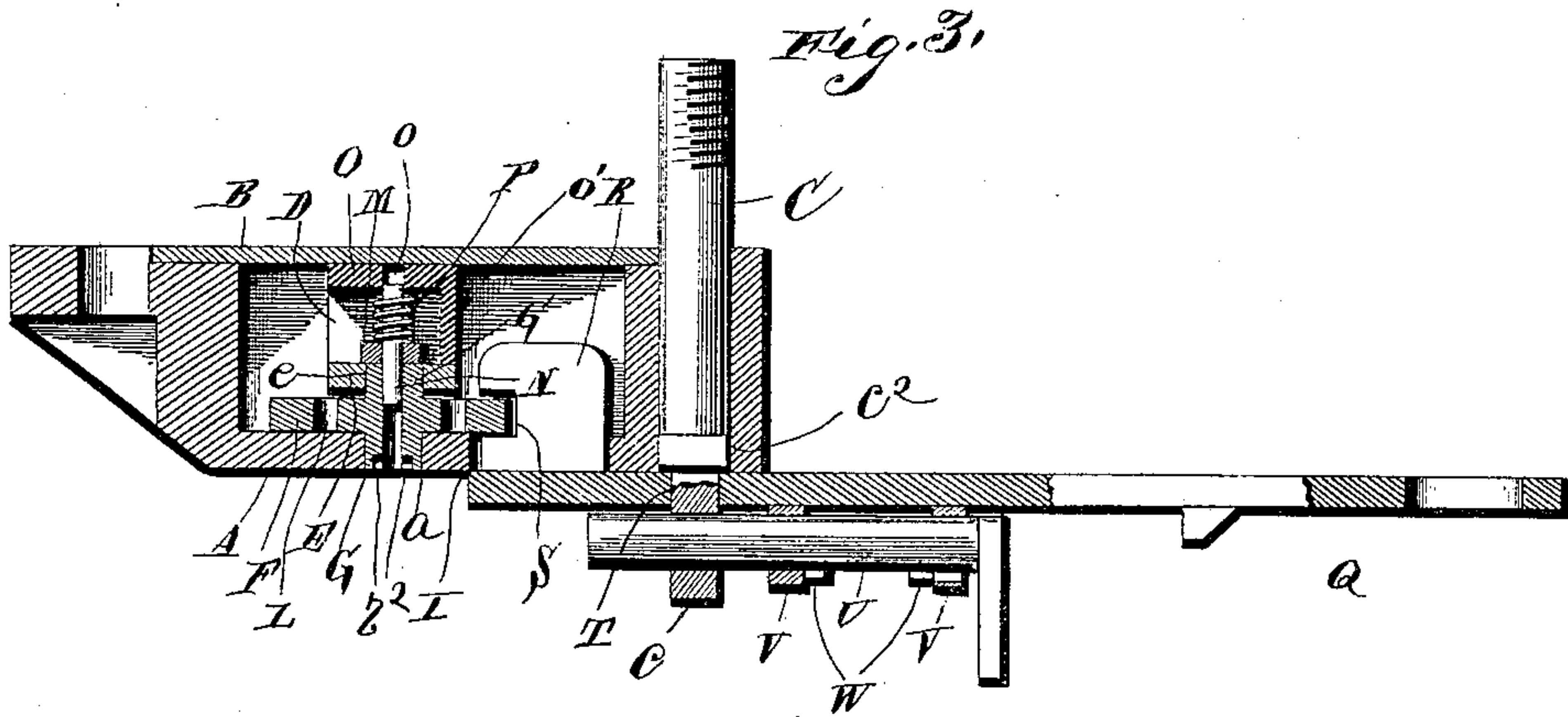
2 Sheets—Sheet 2.

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C. E. Taylor
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John Bergman

By *his* Attorneys
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UNITED STATES PATENT OFFICE.

JOHN BERGMAN, OF GALVESTON, TEXAS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 389,355, dated September 11, 1888.

Application filed April 25, 1888. Serial No. 271,771. (Model.)

To all whom it may concern:

Be it known that I, JOHN BERGMAN, a citizen of the United States, residing at Galveston, in the county of Galveston and State of Texas, have invented new and useful Improvements in Locks, of which the following is a specification.

My invention relates to improvements in locks, having special reference to locks for the doors of freight-cars; and it has for its object to provide a strong lock so constructed as to be comparatively safe from the attacks of lock-pickers.

The invention consists in a certain novel construction and combination of devices, fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a perspective view of the lock applied in the operative position to a door. Fig. 2 is a rear view of the lock with the rear plate removed. Fig. 3 is a longitudinal horizontal central sectional view. Fig. 4 is a transverse section taken through the center of the tumbler. Fig. 5 is a detail view of the notched disk. Fig. 6 is a detail view of the tumbler. Fig. 7 is a similar view of the key. Fig. 8 is a detail view of the eyebolt.

Referring to the drawings by letter, A represents the body or case of the lock, the rear side of which is closed by the removable plate B, and C represents an eyebolt, which passes through one end of the lock and is provided on its outer end with the eye *c*. This bolt is also provided with the rectangular shoulder *c'*, which engages a socket, *c''*, in the face or outer side of the lock-case, thereby preventing the bolt from turning.

D D represent guide-grooves, which are formed in the upper and lower sides of the case, and E represents a plate which is mounted at its ends in the said grooves. The plate is provided with a central bearing, *e*, which aligns with a similar bearing, *a*, in the face of the lock-case; and F represents a disk which is arranged between the plate E and the front side of the case and is provided with the rigid barrel G, the ends of which project beyond the sides of the disk and are mounted in the bearings *e a*. This disk is provided in one side with the notch H, which is adapted to be aligned with a longitudinal slot, I, in the face

of the case, and a projection or offset, K, is also formed on the disk to strike against the sides of the case, (or other suitable stops,) and thus limit the rotation of the disk to a quarter-turn. The disk is further provided with the apertures L, four in number, which are arranged in pairs on lines passing through the center of the disk at right angles to each other. Therefore two of the apertures L may be aligned with the apertures *e' e'* at the same time, and when one pair of apertures are aligned with the apertures *e'* it is necessary to make a quarter-turn of the disk to align the other pair of apertures therewith.

The tumbler M is provided on its under side with the depending studs *m m*, which are mounted in the apertures *e' e'* and are adapted to engage the apertures in the disk; and the tumbler is further provided with the depending central pin, N, which is mounted in the barrel G of the disk, and the vertical guide-pin *n*, which operates in a guide-opening, *o*, in the rigid plate O.

It will be seen that the plates E and O are parallel and similar and are not designed to have any motion; but their ends are mounted in the grooves in the upper and lower sides of the lock-case to enable them to be readily removed to take out the tumbler, disk, and other parts of the lock to repair or clean the same. A spring, P, is coiled on the pin *n* between the upper side of the tumbler and the underside of the plate O, to press the said tumbler down and cause it to automatically engage the apertures in the disk, and therefore, when it is desired to rotate the disk, it is necessary to first raise the tumbler, as hereinafter fully described.

Q represents a hasp which is adapted to be mounted on a staple on the door, and it is provided with a tongue, R, on its inner side, which enters the slot I. The edge of the tongue is provided with the notch S, which is adapted, when the tongue is in the lock, to align with the edge of the disk, so that when the disk is turned to throw the notch H out of alignment with the slot I the edge of the disk engages the notch S. To disengage the tongue from the lock, it is necessary to align the notch H with the slot I, as will be readily seen. The hasp is further provided with the transverse

slot T, and a sliding bolt, U, is mounted in loops V V on the outer side of the hasp to engage the eye of the bolt C after the slot has been passed thereover. One of the loops V is provided with a notch, w, and the bolt is provided with the studs W W, which are adapted to pass through the said notch, whereby, when the said studs are out of alignment with the notch in either position of the bolt, the latter is locked.

The operation of this lock will now be clearly seen. When the door is closed temporarily, the hasp may be engaged with the eyebolt and the bolt shot to engage the eye without operating the disk F. When it is desired to lock the door permanently, insert the tongue in the lock (having previously arranged the disk so that the notch H is aligned with the slot) until the notch S is aligned with the disk, insert the post z of the key Z in the outer end of the barrel G, thereby depressing the tumbler, engage the lateral wings z' z' of the key (which are arranged on opposite sides of the post) in the notches z² z², which are formed in the outer end of the barrel G, on opposite sides of the opening in the barrel, and then rotate the disk until the apertures therein are aligned with the apertures in the plate E and the studs on the tumbler automatically engage the apertures of the disk. The key is shown clearly in Fig. 7 of the drawings, and with it the lock is very easily manipulated. The case of the lock is solid or formed in a single piece with the exception of the rear plate, and as the latter is held against the jamb of the door, it cannot be removed without first removing the lock. In addition to the eyebolt which passes through the inner end of the lock, a headed bolt, J, is passed through an apertured ear on the outer end of the lock and is engaged at its inner end by a nut.

It will be observed that the lock is so constructed as to defy the efforts of a lock-picker to open it without the use of a key of the same construction as that shown in the drawings, when for the reason that the only other opening in the lock-case (namely, the slot I) is covered by the hasp; but in order to prevent the disarrangement of the parts of the lock in its unlocked position by the insertion of a tool through the slot I a concealing-flange, O', depends from the edge of the plate O and extends to the plate E, thereby completely covering the tumbler.

Having thus described my invention, I claim—

1. In a lock, the combination of the case having the slot I in its face, the notched disk mounted in the case and having apertures L therein, the tumbler having the studs to engage the said apertures, and the hasp provided with a tongue to pass through the slot I and engage the disk, substantially as specified.

2. In a lock, the combination, with the case having a slot, I, in its face, of the notched

disk mounted in the case and having apertures L therein, the plate E, having apertures e' e' therein, the tumbler having the studs operating in the apertures e' and engaging the apertures L, and the hasp having a notched tongue adapted to engage the said disk, substantially as and for the purpose specified.

3. In a lock, the combination, with the case having the slot I and the bearing a in its face, of the plate E, having the bearing e aligned with the bearing a, the disk having a barrel, G, mounted in the bearings, the tumbler having the pin N fitting in the barrel and studs adapted to engage apertures in the disk, and the hasp having the tongue to engage the disk, substantially as and for the purpose specified.

4. In a lock, the combination, with the case having the apertured plate E therein, of the disk mounted in bearings in the case and plate, the tumbler having studs to engage apertures in the disk, the spring bearing on the tumbler to press it toward the disk, and the key having a post to pass through a central aperture in the disk to repress the tumbler, substantially as specified.

5. In a lock, the combination, with the case A, having the slot I and the bearing a, of the plate E, arranged in guide-grooves in the case and having a bearing, e, and the apertures e' e', the disk having the notch H in its edge, the projection or offset to limit the rotation of the disk, and the apertures L, the rigid barrel G, mounted at its ends in the bearings a and e, the tumbler having the pin N to operate in the barrel and studs to engage the apertures e' and L, the plate O, having the flange O', the spring mounted between the tumbler and the plate O, and the hasp having a notched tongue to pass through the slot I and engage the disk, substantially as and for the purpose specified.

6. The combination, with the eyebolt, of the hasp having the slot T to embrace said eyebolt, the loops arranged on the hasp, the sliding bolt mounted in the loops and adapted to engage the eye of the said eyebolt, and the studs on the bolt adapted to pass through a notch in one of the loops, all constructed, arranged, and operated substantially as and for the purpose specified.

7. In a lock, the combination, with the case having the slot I in its face, of the disk mounted in the case and having the notch H and the apertures L, the barrel at the center of the disk, the plate O, having a guide-opening therein, the tumbler having the studs to engage the apertures L, the guide-pin and the pin N, mounted, respectively, in the opening in the plate O and in the barrel, and the spring coiled on the guide-pin between the tumbler and the plate O, substantially as specified.

8. In a lock, the combination, with the case having the bearing a, the disk having the barrel G, mounted in the bearing a, and having

the notches z^2 in its outer end, and the spring-actuated tumbler having studs to engage apertures in the disk, and the pin N, arranged in the barrel G, of the key having the post to
5 engage the barrel G and repress the pin N and the lateral wings to engage the notches z^2 , all substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN BERGMAN.

Witnesses:

THOS. L. CROSS,

GEO. F. SCHNEIDER, Jr.