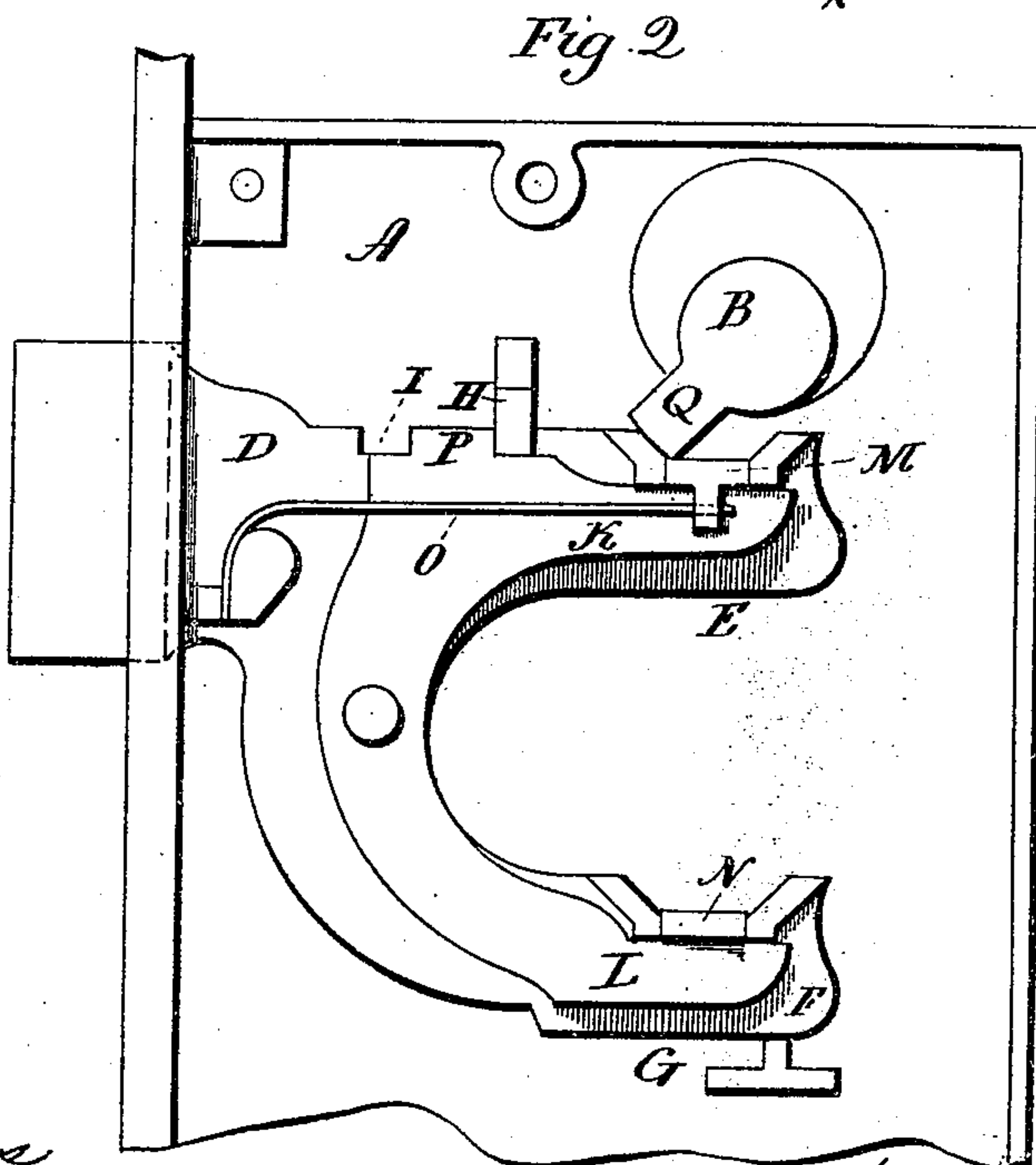
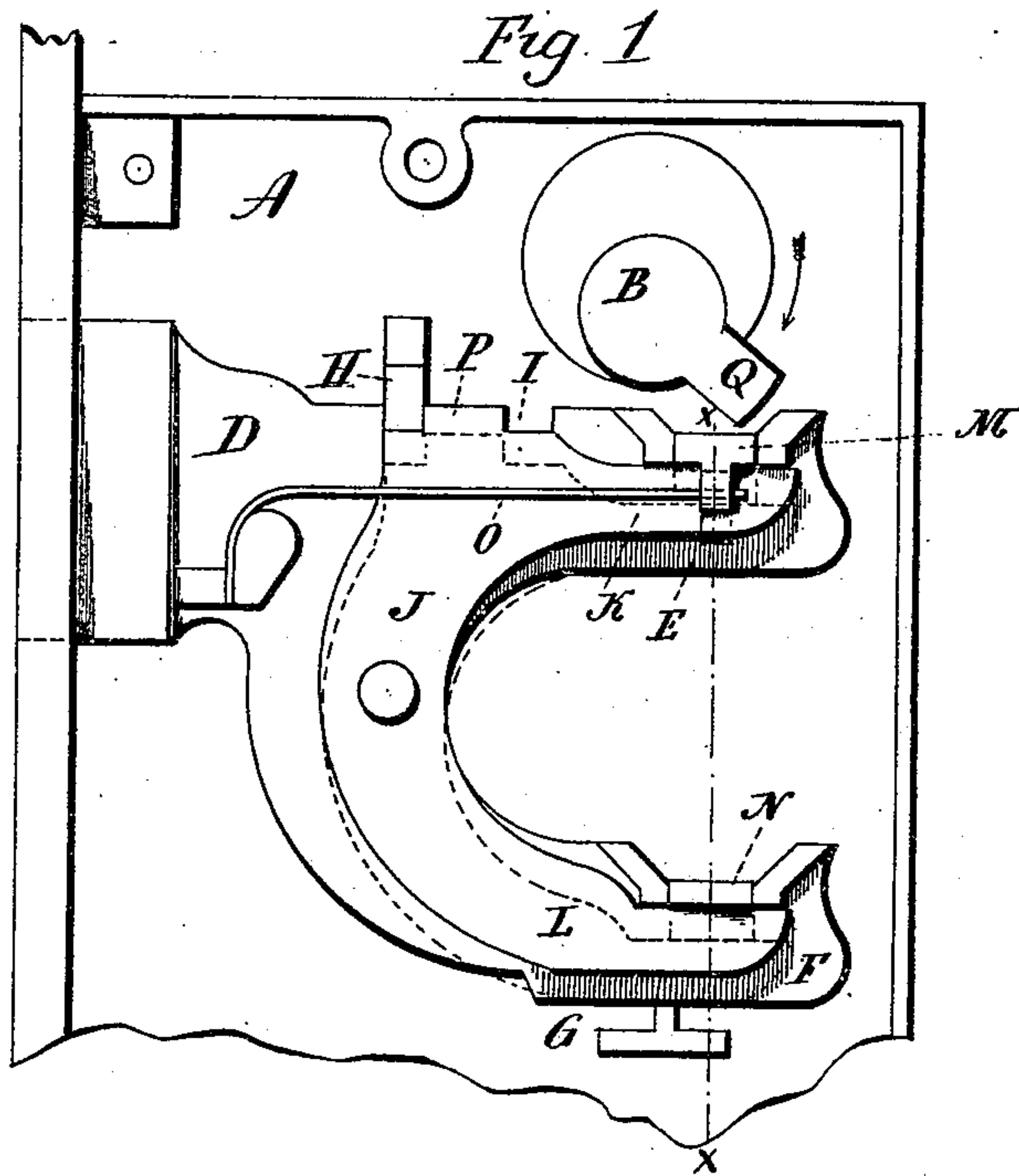


W. E. SPARKS.  
LOCK.

No. 480,973.

Patented Aug. 16, 1892.



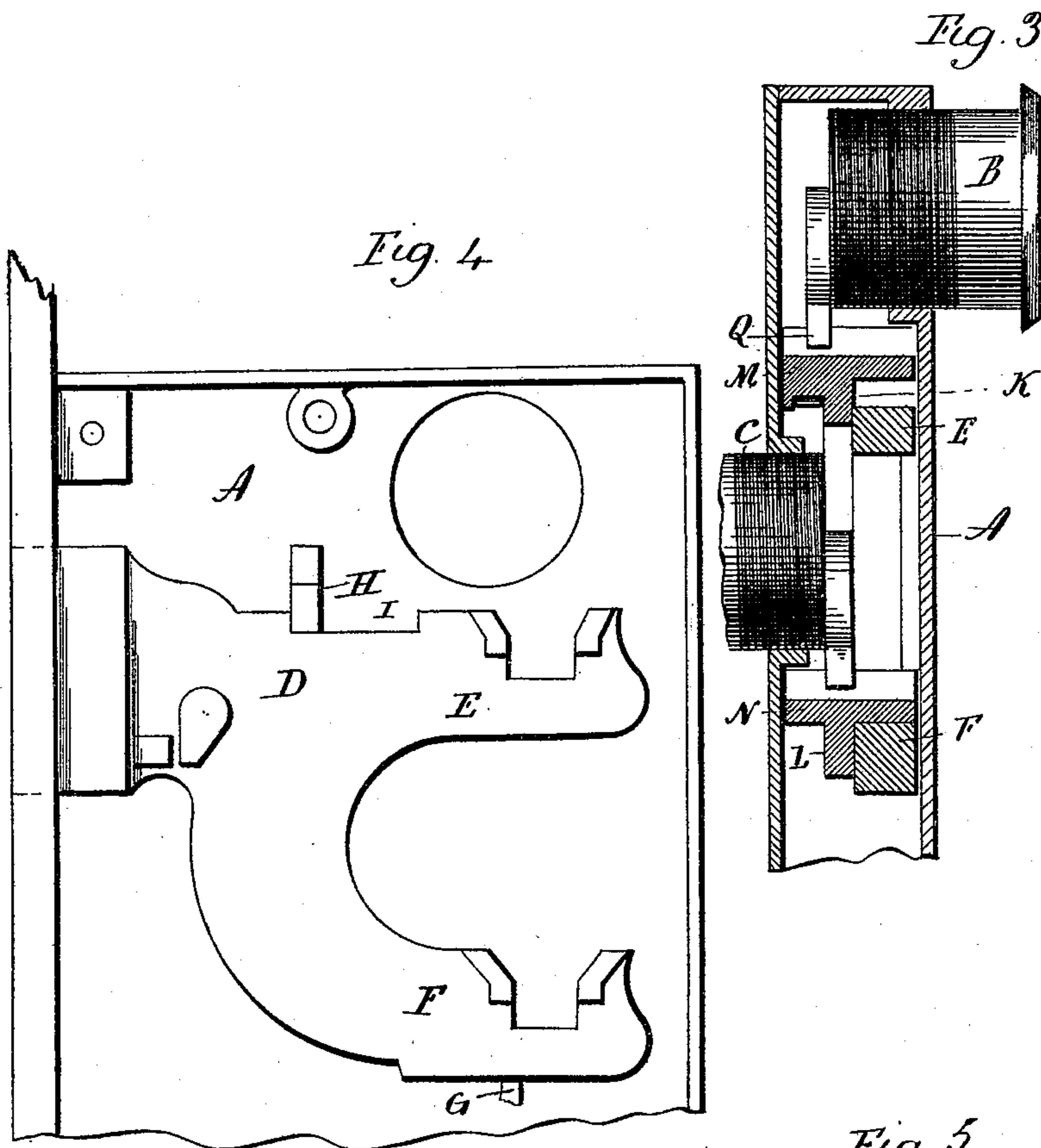
Witnesses  
*J. H. Shumway*  
*William D. Kellogg*

*William E. Sparks*  
Inventor  
*By atty*  
*Earle Seymour*

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J. N. Shumway.  
Lillian D. Kelsey

William E. Sparks,  
Inventor.  
By atty. Earle Seymour



# UNITED STATES PATENT OFFICE.

WILLIAM E. SPARKS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE  
SARGENT & COMPANY, OF SAME PLACE.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 480,973, dated August 16, 1892.

Application filed May 2, 1892. Serial No. 431,558. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. SPARKS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Door-Locks; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the lock, the covering-plate removed to show the mechanism, the bolt being in the drawn position; Fig. 2, the same as Fig. 1, with the bolt in the thrown position; Fig. 3, a vertical central section cutting on line *x x* of Fig. 1; Fig. 4, the same as Fig. 1 with the tumbler removed; Fig. 5, the tumbler detached.

This invention relates to an improvement in that class of door-locks which are adapted to be operated by means of what are commonly called "cylinder-locks"—that is to say, a cylinder containing a key mechanism adapted to be secured to the case, the cylinder having a talon arranged to operate to throw and draw the bolt as the cylinder is rotated. It frequently occurs that it is desirable in this class of locks to provide them with a cylinder upon both sides—that is to say, so that the bolt may be operated by a key from the outside and also be operated by a like key from the inside—and as the cylinder on the one side can operate only from that side it follows that in such case two cylinders are necessary—one upon one side and the other upon the opposite side. It is to the construction of a lock in which two such cylinders may, if desired, be employed that this invention particularly relates, the invention having for its object a simple but effective tumbler mechanism for the bolt, upon which the tang of the cylinder may operate, and whereby the tumbler may be firmly supported upon and so as to move with the bolt and afford two independent points of operation upon the tumbler, one for each side; and the invention consists in the construction, as hereinafter described, and particularly recited in the claim.

A represents the case, which is of usual construction.

B represents the cylinder as applied to one side, and C the cylinder as applied to the opposite side, they being relatively one above the other.

D represents the bolt, which is arranged in the case and is of a yoke form, as seen in Fig. 4. One arm E of the bolt passes below the cylinder B, and a like arm F extends from the bolt downward and passes below the other cylinder C, the bolt riding upon a stationary support G, formed in the case.

H represents the stump, which is also made stationary in the case, and the bolt is constructed with a recess I in its upper side, into which the stump extends and so that the said recess limits the outward and inward movement of the bolt, one end of the recess coming against the stump H when the bolt is in the drawn position, as seen in Fig. 1, and the other end of the recess strikes the opposite side of the stump when the bolt is thrown.

J represents the tumbler, which is of yoke form. It lies upon the side of the bolt, and one arm K extends upon the arm D of the bolt below the cylinder B and the other arm L of the tumbler extends upon the other arm F of the bolt and below the cylinder C. The arm K of the tumblers is constructed with a projection M, which sets into a corresponding transverse recess in the arm E of the bolt, and the lower arm L is constructed with a like projection N, which sets into a transverse recess in the arm F, the recesses in the arms being deeper than the thickness of the projections, and the tumbler is provided with a spring O, the tendency of which is to force the tumbler upward. The tumbler is constructed with an upward projection P in front of the recess I of the bolt, and this projection is shorter than the recess I, so that in the normal or up position of the tumbler, when the bolt is in the drawn position, the projection P and the forward end of the recess I will form a notch corresponding to and within which the stump H will stand, as seen in Fig. 1, or when in the thrown position, as seen in Fig. 2, a like notch is formed at the rear of the projection P, into which the stump will



stand in that position, so as to secure the bolt in either position.

The projections M and N of the tumbler standing in the recesses provided for them in the bolt operate as guides for the vertical movement of the tumbler, so that both arms will move up and down alike. These projections also expose a surface of the tumbler above the respective arms of the bolt.

The upper projection M of the tumbler is in a position corresponding to the talon Q of the upper cylinder B, as seen in Fig. 1, so that as that cylinder is turned in the direction indicated by the arrow in Fig. 1 the talon will strike the projection M of the arm K of the tumbler and will depress the tumbler, as indicated in broken lines, Fig. 1, forcing the tumbler downward until the projection P stands in a line below the under side of the stump H. Then the talon will strike the forward side of the recess in which the projection M works and throw the bolt to the position indicated in Fig. 2, the projection P of the tubular escaping the stump; but so soon as the bolt has been thus thrown and the tumbler left free the spring of the tumbler forces it upward to take the projection P forward of the stump H, as seen in Fig. 2, so as thereby to lock the bolt in the thrown position. The movement of the tumbler thus guided by the projections of its two arms working in the recesses of the two arms of the bolt insures its vertical position and also retains the tumblers upon the bolt, so that the tumbler will move parallel with the bolt. In case the second cylinder C is employed its talon operates upon the projection N of the lower arm L of the tumbler in the same manner as described for the operation of the arm Q of the upper cylinder B. A reverse movement of the cylinder to that which has been described for throwing the bolt will operate in like manner upon the tumbler to throw it downward against the pressure of its spring and so as to permit the projection P of the tumbler to escape the stump. Then the bolt will be drawn and the talon of the cylinder escaping from the tumbler the tumbler will rise, as before described, and bring the projection P at the rear of the stump, as seen in Fig. 1, so as to lock the bolt in the drawn position. This construction of the tumbler and bolt is extremely simple, yet most effective, and while especially adapted for two cylinders, one upon one side and the other upon the opposite side, so as to operate upon

the respective arms of the tumblers, the yoke-shaped construction of the tumbler and bolt described combines the tumbler and bolt, so that the tumbler is firmly supported upon the bolt, yet so free that its up-and-down movement is easily produced, the yoke shape of the arms bringing the guides so far apart that there is no liability to cramp the tumbler in its operation, and this whether the lock be adapted for two cylinders or for a single cylinder.

No claim is made in this application, broadly considered, to a lock in which the bolt is constructed with two rearwardly-projecting arms, one above the other, each adapted for the operation of an independent lock mechanism and having combined therewith a tumbler arranged to be operated by either of the said lock mechanisms to release or engage the bolt in either its thrown or drawn position, as such is a well-known construction of lock.

I claim—

In a lock in which the bolt is adapted to be thrown by a cylinder having a talon upon its inner end to engage the bolt, the combination of the bolt constructed with two rearwardly-projecting arms E F, one above the other, and each arm constructed with a transverse recess, a stationary stump in the case, the bolt constructed with a recess I, the ends of which are adapted to engage the corresponding sides of said stump, with a tumbler J constructed with two arms K L, the said arms being an integral part of the tumbler and corresponding to the two arms E F of the bolt and arranged thereon, the two arms of the tumbler each constructed with a projection, respectively, M N, extending into the recesses in the arms of the bolt, one or both of said projections on the arms of the tumbler being adapted for the operation of the talon of the cylinder, while they serve as guides for the vertical movement of the tumbler, and the tumbler constructed with a projection P upon its upper side and in front of the recess I of the tumbler, but the said projection shorter than the said recess, so as to form notches in the bolt forward of and in rear of said projection, substantially as and for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM E. SPARKS.

Witnesses:

ELLIOTT LITTLEJOHN,  
WM. S. COOKE.