(No Model.) 2 Sheets—Sheet 1.

# G. E. TYSON.

## LOCK.

No. 557,731. Patented Apr. 7, 1896.

Fig. 1.

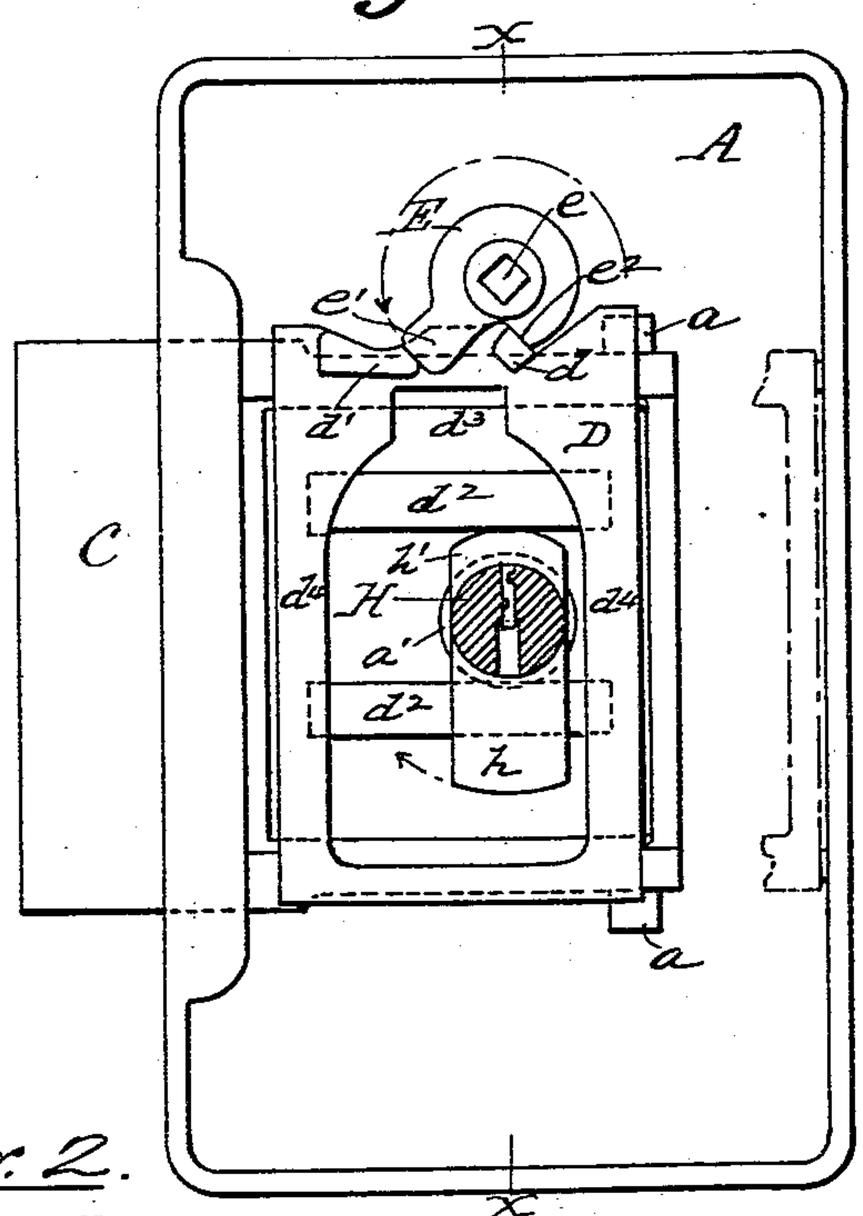



Fig. 2.

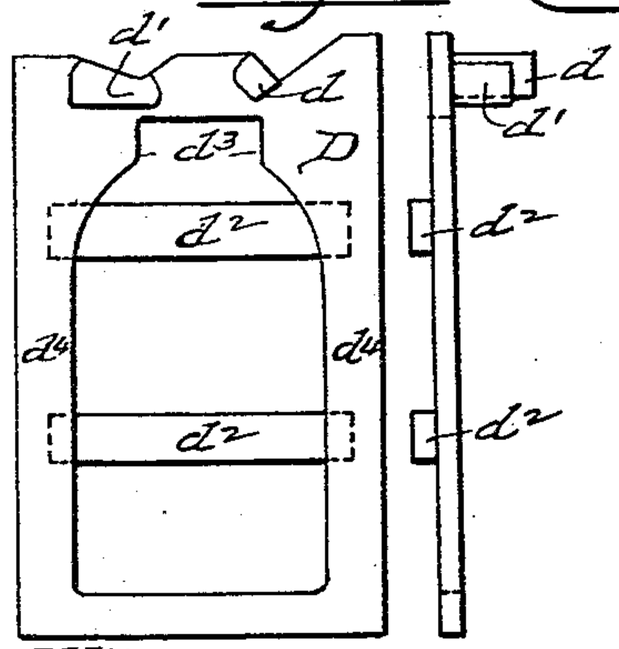
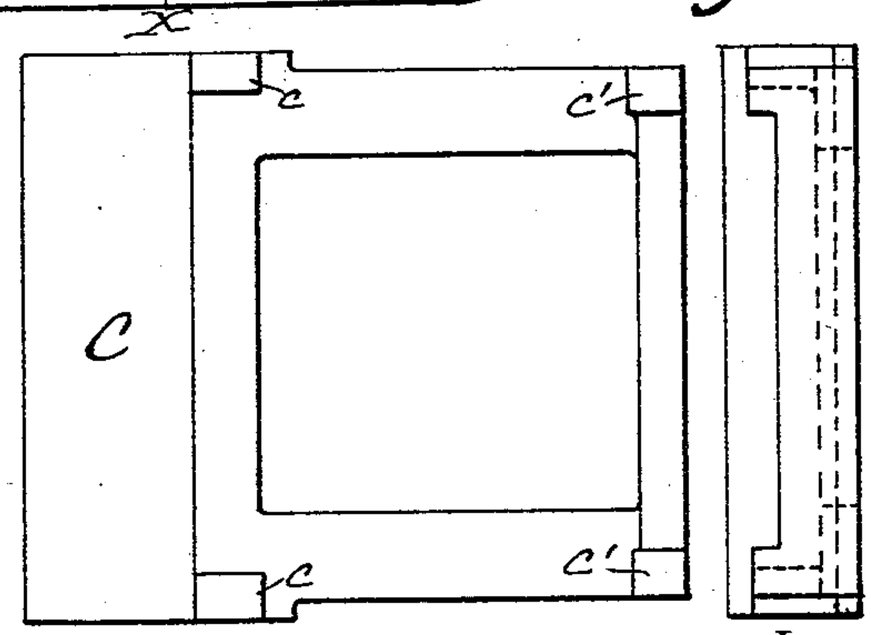



Fig. 3.




Witnesses:
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(No Model.) 2 Sheets—Sheet 2.

# G. E. TYSON.

## LOCK.

No. 557,731. Patented Apr. 7, 1896.

Fig. 4.

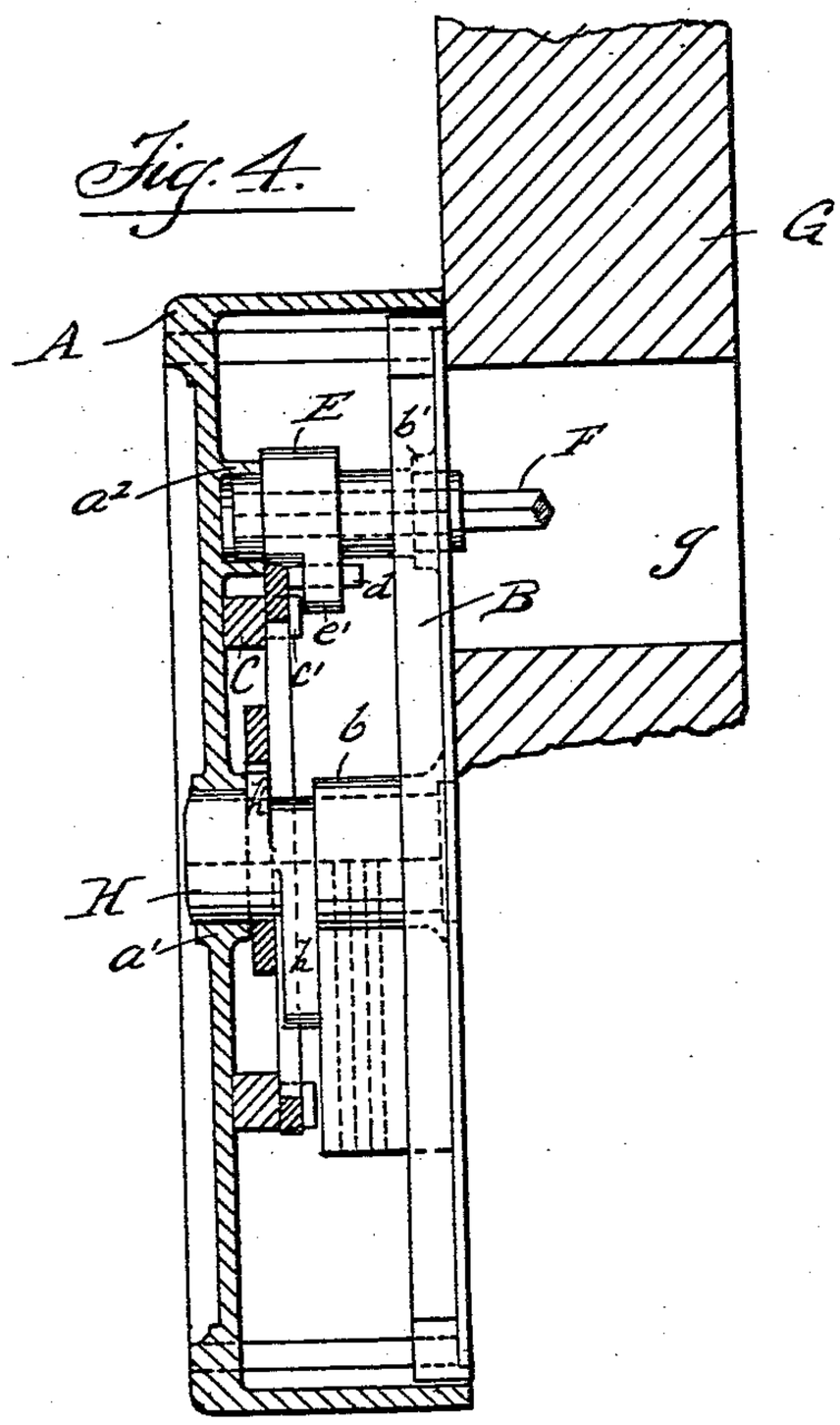
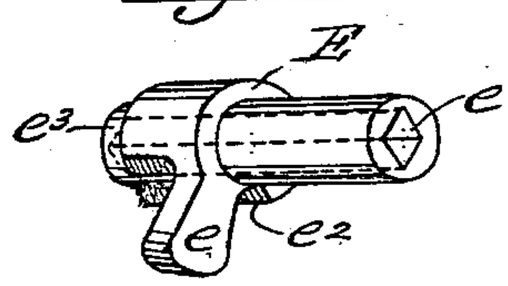



Fig. 5.

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# UNITED STATES PATENT OFFICE.

GEORGE E. TYSON, OF READING, PENNSYLVANIA.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 557,731, dated April 7, 1896.

Application filed October 11, 1895. Serial No. 565,330. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. TYSON, a citizen of the United States, residing at Reading, county of Berks, State of Pennsylvania, have invented certain Improvements in Locks, of which the following is a specification.

My invention relates particularly to that class of locks in which the bolt is arranged to be independently operated from inside or outside by separate mechanisms located out of line with each other.

The features of the invention are fully described in connection with the accompanying drawings, and are specifically pointed out in the claim.

Figure 1 is an inside view of the lock-case, showing the bolt shot and the central operating-hub in cross-section. Figs. 2 and 3 show the tumbler-plate and bolt, respectively, each in two views. Fig. 4 is a cross-sectional view of the lock-case, bolt, and tumbler-plate, taken on the line $x\,x$ of Fig. 1. Fig. 5 is a perspective view of the operating-hub, which is located outside of the path of the bolt.

The general form and arrangement of the lock as shown is well known.

A represents the lock-case; B, the cap-plate; C, the bolt, and D the tumbler-plate, through the medium of which the bolt is operated either by the central key-hub H or by a hub located outside the path of the bolt and connected by a suitable connection to an ordinary cylinder-lock fastened in a recess $g$ of the door G. (Indicated in Fig. 4.) The tumbler-plate D engages the shank of the bolt between the guides $c\ c$ and $c'\ c'$, which permit it to be moved transversely to the path of the bolt by the cam $h'$ on the central key-hub H, so as to throw it into or out of engagement with the second operating-hub. This movement is effected by means of cross-bars $d^2\ d^2$ on the tumbler-plate, against which the cam $h'$ bears. The movement of the bolt by the hub D is effected by the second cam $h$ thereon, which swings between the side bars $d^4\ d^4$ of the tumbler-plate and engages the upper end $d^3$ thereof, the hub, as shown, being rotated in its bearing $b$ in the cap-plate by means of a key which displaces the locking or tumbler pins, as usual, thus permitting it to be turned, as indicated by the arrow, but compelling it to be returned to its normal position before the key can be withdrawn.

In order to operate the bolt from the opposite side of the door, I provide an improved form and arrangement of operating-hub, which enables the cylinder-lock to be easily and quickly connected therewith regardless of the thickness of the door to which the lock is attached. The hub E is provided with an angular or prismatic opening $e$, extending lengthwise thereof, and has a radial tooth or projection $e'$, which is arranged to engage lugs $d$ or $d'$ on the face of the tumbler-plate at one end thereof, so as to throw the bolt out or in, as the case may be. It also has a shoulder or stop $e^2$, which bears against the lug $d$ when the hub is in its normal position, as shown. This hub is operatively connected to the cylinder-lock referred to by means of a spindle F, Fig. 4, which may extend a greater or less distance into the socket or opening $e$, depending upon the thickness of the door, in a manner similar to that shown in connection with a different form of lock in Patent No. 500,696, issued to me July 4, 1893, the arrangement being such that the hub is locked in the normal position shown by the tumbler-pins in the cylinder-lock, except when the latter are set by the insertion of the key. The hub is preferably loosely mounted at one end $e^3$ in a bearing $a^2$ formed on the inner face of the case, and at the other end in a bearing $b'$ in the cap-plate, without being attached to either, as shown.

The projected bolt C may be withdrawn by rotating the hub E in the direction of the arrow, thus causing the tooth $e'$ to engage the lug $d$, or, if it is to be effected from the opposite side of the door, by rotating the hub H in the direction of the arrow, the first effect of which is to lower the tumbler-plate D out of engagement with the hub E by means of the cam $h'$, after which the cam $h$ engages the tumbler-plate and moves the bolt inward to the position indicated by dotted lines.

The hub E is very conveniently formed and mounted in proper position in the case. It permits the connecting spindle to extend entirely through it past the plane of the tumbler-plate D, the extreme movement of which does not cause any interference with the ex-

tended hub, the projecting tooth $e'$ and stop $e^2$ of which are the only parts that overlap and engage the plate.

What I claim is—

In a lock the combination with the bolt of two independently-operative mechanisms therefor, comprising a transversely-slidable tumbler-plate engaging the bolt and moving therewith, a central hub operating upon said tumbler-plate to shoot the bolt, and an independent operating-hub E located outside the path of the bolt, said hub E having an angular spindle-opening extending lengthwise thereof, and being provided with a tooth for operating the tumbler-plate and bolt, and a stop to lock the same, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. TYSON.

Witnesses:
W. G. STEWART,
CAMERON E. STRAUSS.