

(No Model.)

J. J. RIDGWAY.
PIN LOCK.

No. 541,630.

Patented June 25, 1895.

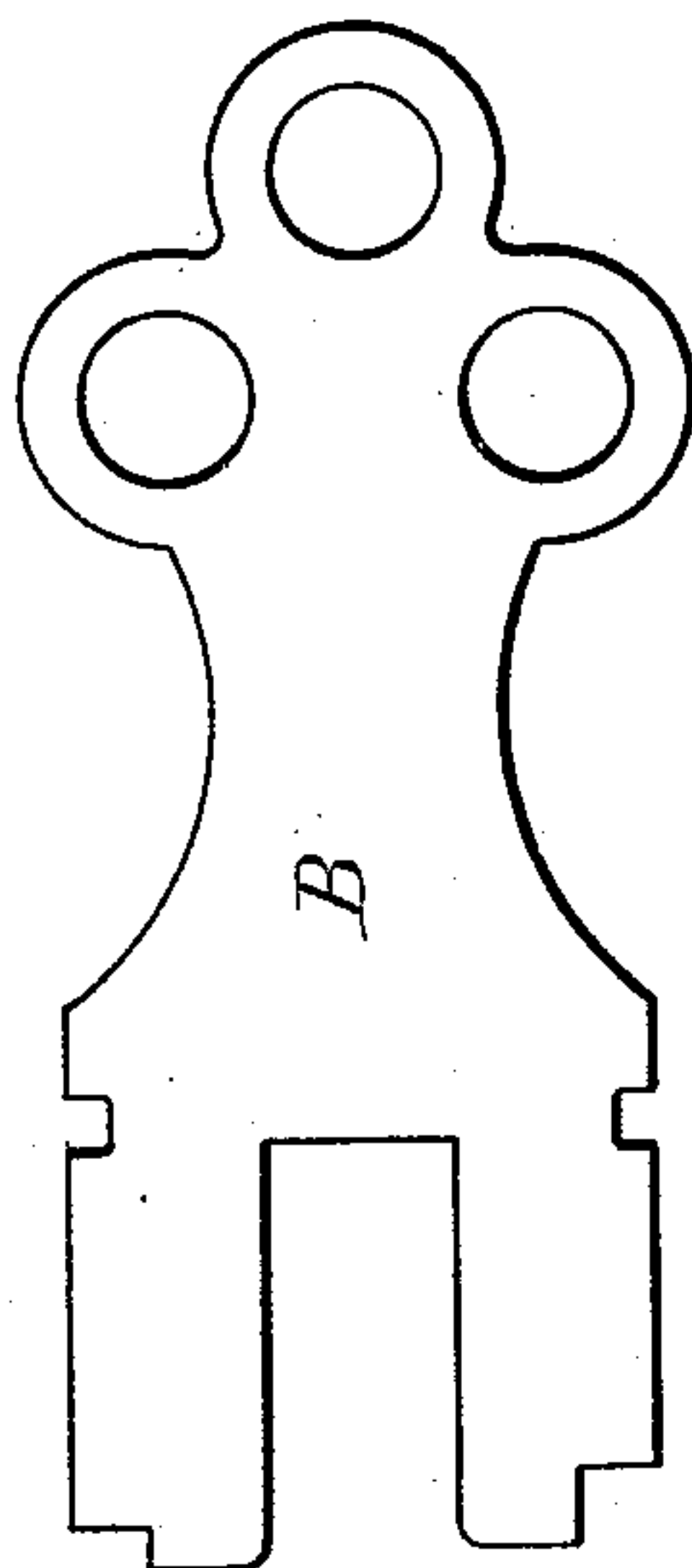
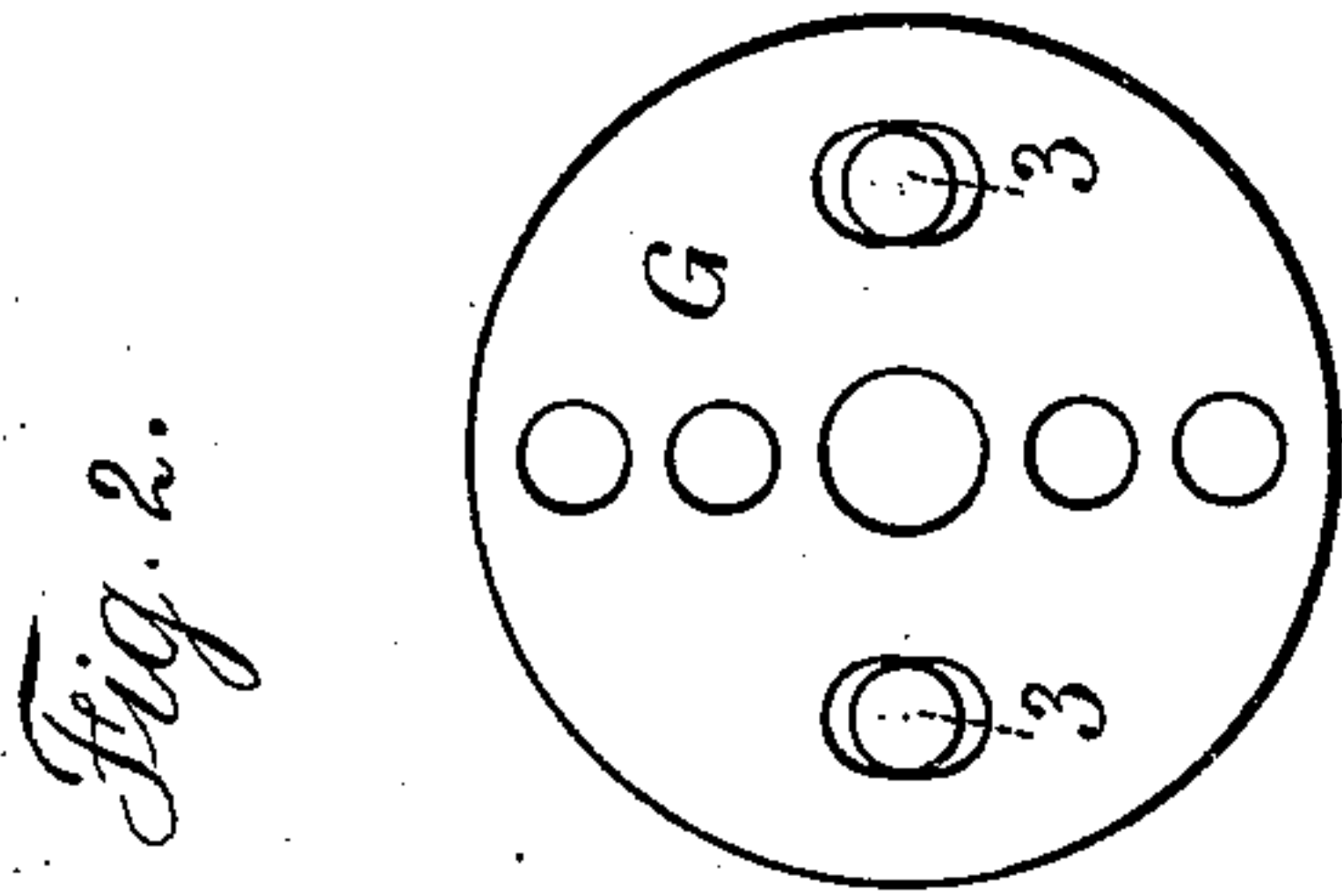
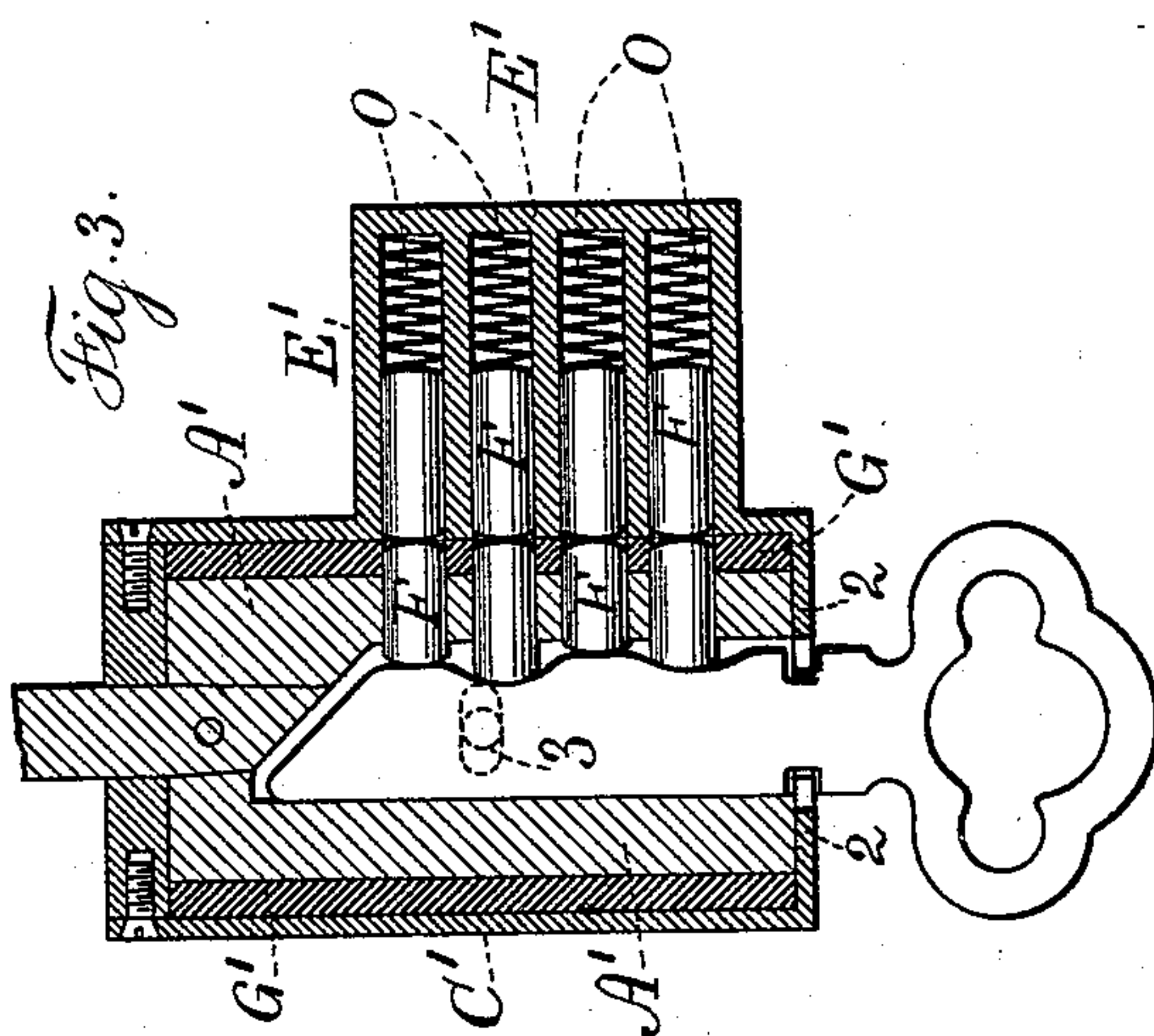
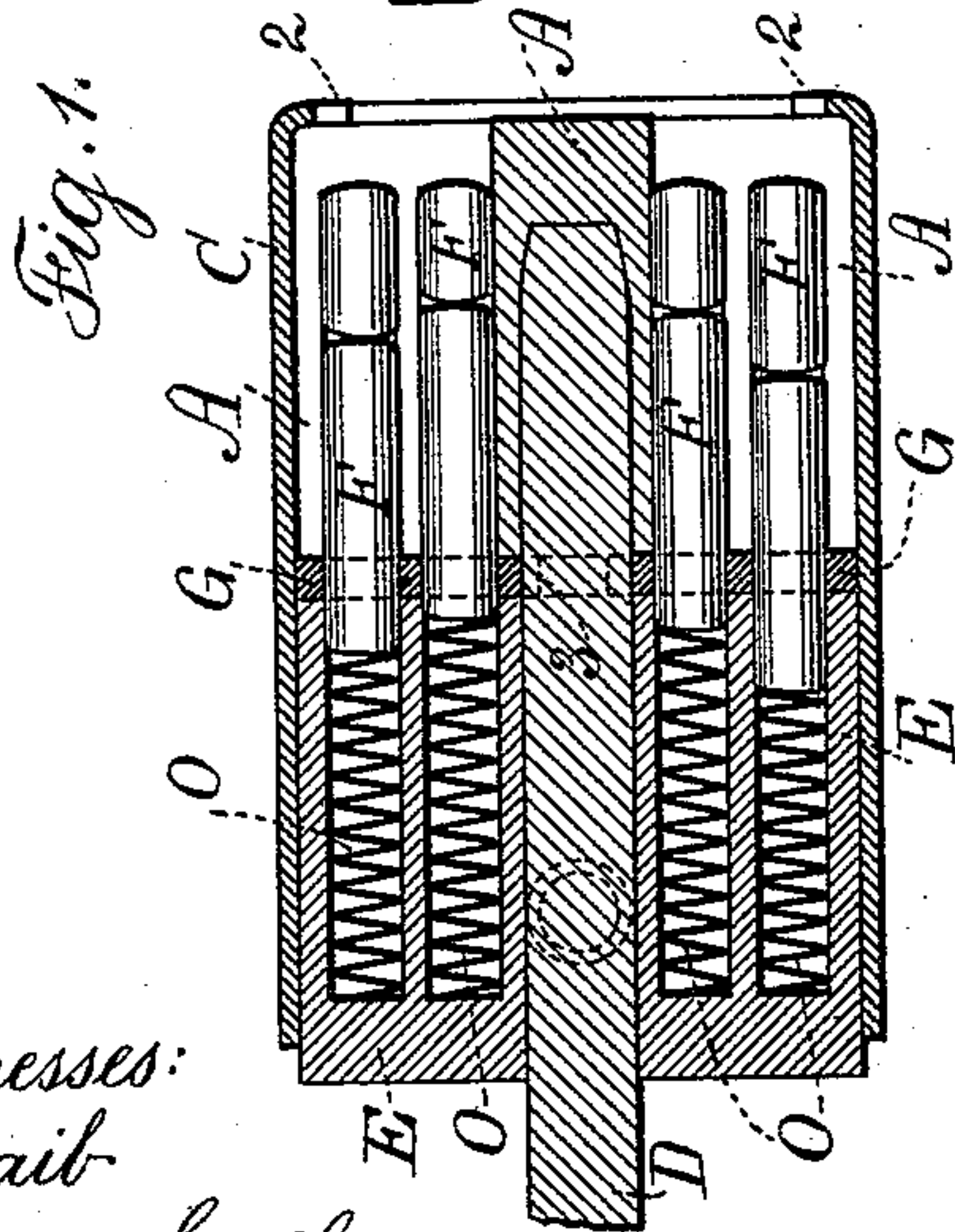
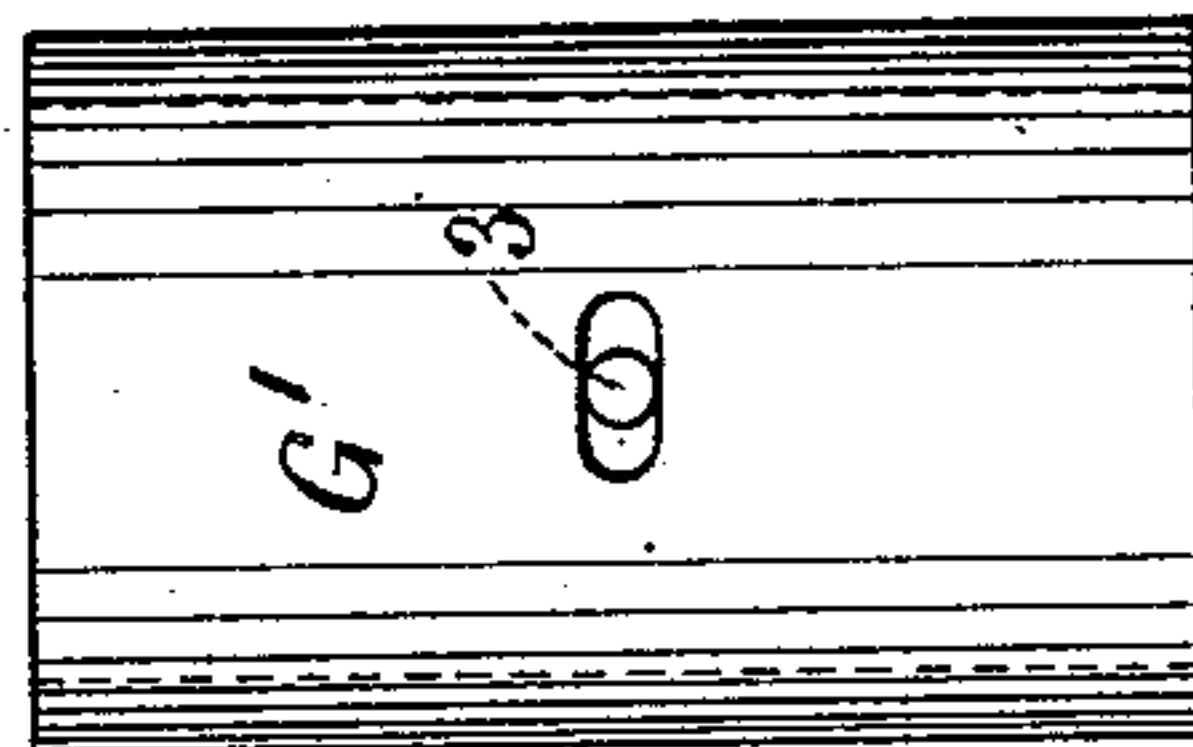


Fig. 4.



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UNITED STATES PATENT OFFICE.

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PIN-LOCK.

SPECIFICATION forming part of Letters Patent No. 541,630, dated June 25, 1895.

Application filed February 21, 1895. Serial No. 539,218. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. RIDGWAY, a citizen of the United States, residing at New Brighton, in the county of Richmond and State of New York, have invented an Improvement in Locks, of which the following is a specification.

Locks have heretofore been constructed with divided pin tumblers within holes in a cylinder, the tumblers being thrown forward by springs and pressed back by the key until the lines of separation between the two part pins of the tumblers coincide with the division between the stationary and the moving portions of the lock, and in some instances the pin tumblers have been in line with the wards of the key so as to be pressed directly backward by the insertion of the key. In other instances the pin tumblers have been at right angles to the key and the wards or notches have been in the edge of the key. In all locks of this character an expert lock-picker will endeavor to open the lock by applying a strain upon the cylinder that can be turned, and the imperfections in the workmanship will cause more pressure to rest against one of the divided tumblers than another, and by the insertion of a delicate pick in the slot for the key, the person can press against the tumblers in succession and easily ascertain which one is exposed to the most friction and press upon that pin tumbler until the line of division coincides with the line of separation between the cylinder and the stationary portion of the lock, and then the pick is applied to another tumbler, and so on until the lock can be opened.

The object of the present invention is to interpose a guard between the stationary and movable surfaces in locks having divided pin tumblers so that said guard effectually deceives a person attempting to pick the lock in the manner before described, this guard having a slight movement so that it yields and can turn partially with the moving portion of the lock. Hence when the tumblers may have been set by a pick in the manner before described, the line of separation in the pin tumblers will correspond to the line of separation between the cylinder and the guard instead of between the guard and the stationary portion of the lock, and the movement of the

cylinder to open the lock is arrested by the pins in the stationary portion of the lock passing into the guard and arresting the further motion, thus obtaining by the simple interposition of a guard plate between the stationary and moving portions of the lock an effectual protection against the action of a pick.

In the drawings, Figure 1 is a longitudinal section representing the improved lock and the guard, with the guard as a flat disk between the end of the pin-cylinder and the stationary portion of the lock. Fig. 2 is a detached view of the guard and its connecting-pin. Fig. 3 is a longitudinal section illustrating the present improvement as applied around the pin-cylinder and with the two-part pin-tumblers at right angles to the key, and Fig. 4 is an external elevation of the guard-cylinder and the pin upon the pin-cylinder.

It is to be understood that the present improvement may be applied to any character of lock having divided pin tumblers, and that the drawings illustrate the manner in which the present improvement may be applied to two well known forms of pin locks.

A represents the cylinder that is slotted for the reception of the key B, and this cylinder A is held in any suitable stock or cylinder, as shown by the cylinder C, which has an internal flange 2 for holding such cylinder A in position, and in that class of locks in which the cylinder A is provided with a stem D firmly connected therewith and passing through the stationary portion E, such stem D is made use of for actuating the lock or latch by the rotation of such stem D and the cylinder C.

In other style of locks, such as illustrated in Fig. 3, the pin cylinder A' within the cylinder C' is provided with a cam or projection adapted to act directly or indirectly upon the bolt to withdraw the same, and the portion E' is stationary and forms a part of the lock case or socket within which the pin cylinder A' can be turned.

In either class of locks the divided pin tumblers F are in holes that are in line with each other in the parts A and E or A' and E', and there are springs O to project the divided pin tumblers, and the construction and mode of operation of the parts thus far described

are well known and do not require elaboration.

My present improvement relates to the guard interposed between the stationary and movable portions containing the pin tumblers. In Fig. 1 this guard G is in the form of a disk at the back end of the pin cylinder A. In Fig. 3 the guard G' is in the form of a cylinder surrounding the pin cylinder A'. In both instances the holes through the guard correspond to the holes in the pin cylinder and stationary portion of the lock, so that the divided pin tumblers slide through the guard the same as though such guard formed an integral part of the pin cylinder, but instead of being integral and moving therewith, there is a loose connection between the guard and the pin cylinder, such loose connection being advantageously formed by a pin 3 in the pin cylinder A or A' passing into a hole in the guard G or G', and this hole is elongated so that the pin may have a slight movement in the hole in the guard. When the key is inserted the lines of separation in the divided pin tumblers are brought to coincide with the surface of the stationary portion E or E' of the lock, and hence the pin cylinder A or A' and the guard G or G' turn together the same as though they were integral and the lock can be opened as usual; but if an attempt is made to pick the lock by applying a rotative force to the cylinder A or A' and the pick is applied to one after another of the pin tumblers to press them in, the friction against the pin tumblers results from the pressure on the opposite sides of such pin tumblers, and when the end motion brings the line of separation between the two parts of the pin tumblers to the surface between the guard and the cylinder A or A', a slight rotary movement is allowed to the cyl-

inder A' and the party endeavoring to pick the lock finds the pressure on that tumbler relieved, and the pick is applied to another tumbler, and when the effort is made to open the lock the pin cylinder can only turn the extent of motion that may be allowed by the elongation of the slot containing the pin 3 and the further movement of the parts is effectually prevented. Thus the party endeavoring to pick the lock fails because the guard intervening between the stationary and moving portions of the lock effectually prevents a knowledge being obtained of the location of the line of separation between the back or outer surface of the guard and the stationary portion of the lock. Thus by the simple intervention of the guard the picking of the lock is effectually prevented.

I claim as my invention—

1. The combination in a lock having divided pin tumblers and a movable portion acted upon by the key, of a guard intervening between the movable portion and the stationary portion and perforated for the passage of the divided pin tumblers, and a loose connection between the same and the moving portion of the lock, substantially as set forth.

2. The combination with the pin cylinder, divided pin tumblers and stationary portion in a lock, of a guard intervening between the pin cylinder and the stationary portion of the lock, such guard having holes for the pin tumblers, and a pin upon the pin cylinder entering an elongated hole in the guard, substantially as set forth.

Signed by me this 14th day of February, 1895.

JNO. J. RIDGWAY.

Witnesses:

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