

(Model.)

W. H. TAYLOR,
LOCK.

No. 332,459.

Patented Dec. 15, 1885.

Fig. 1.

Fig. 2.

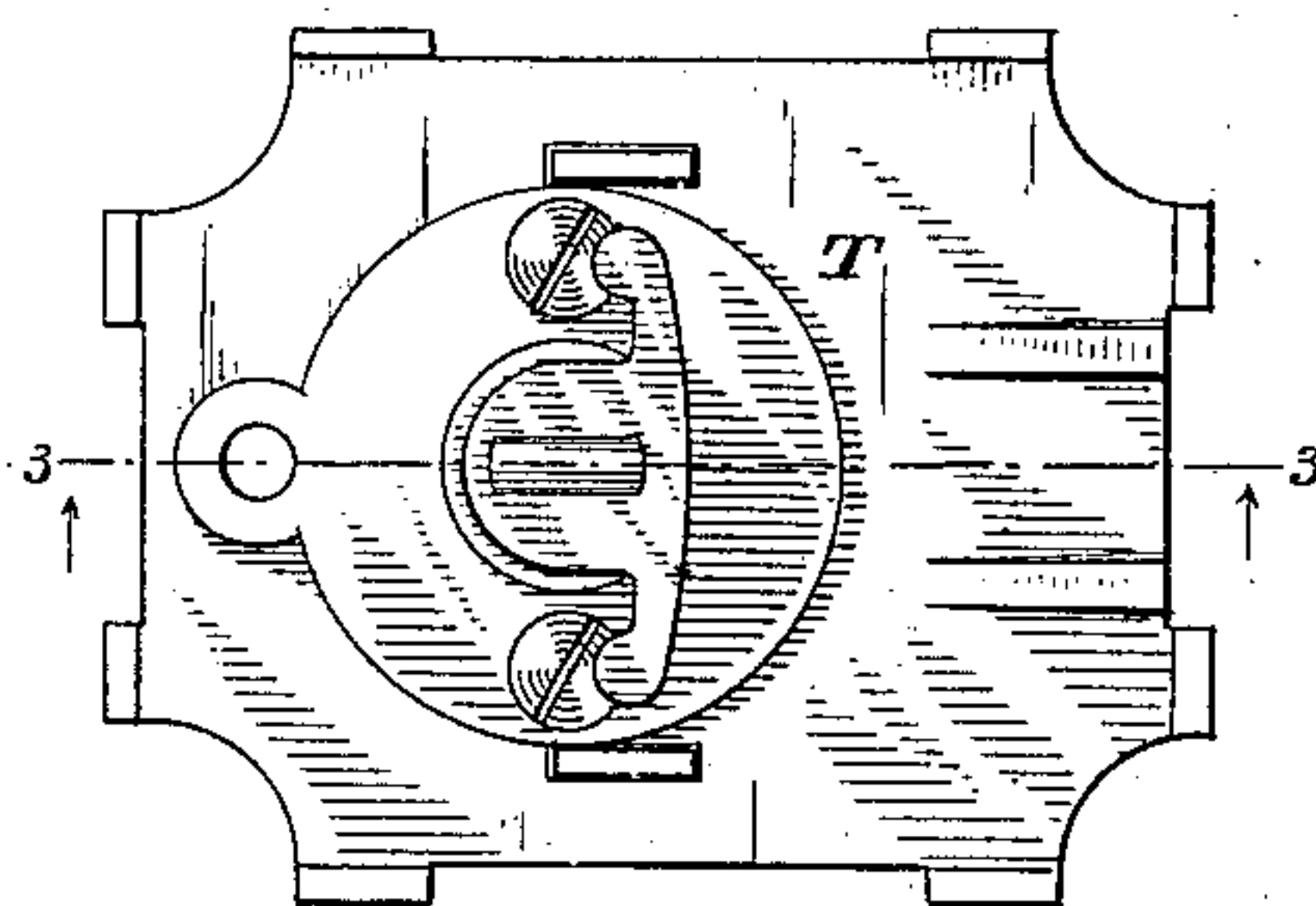
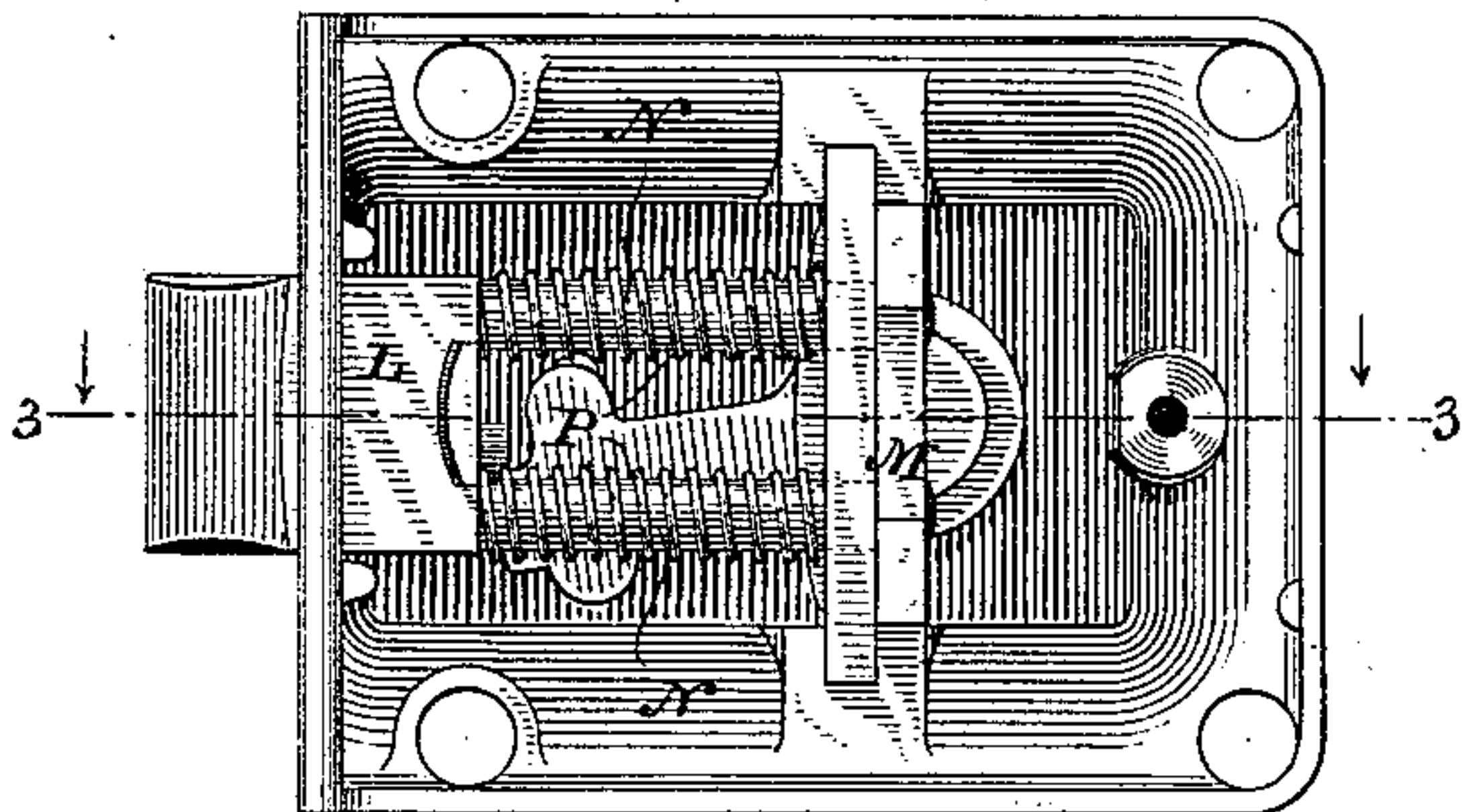


Fig. 3.

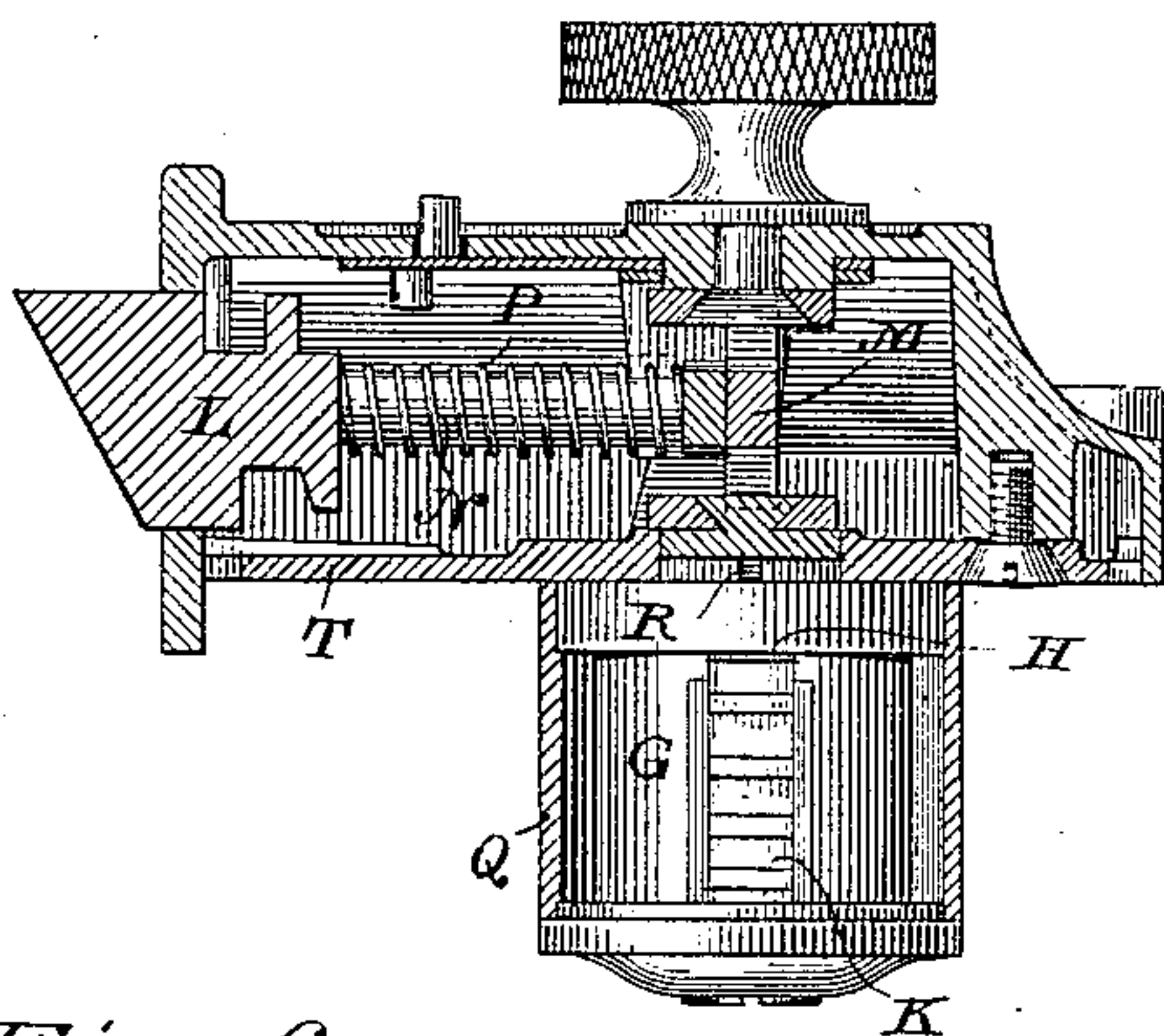


Fig. 4.

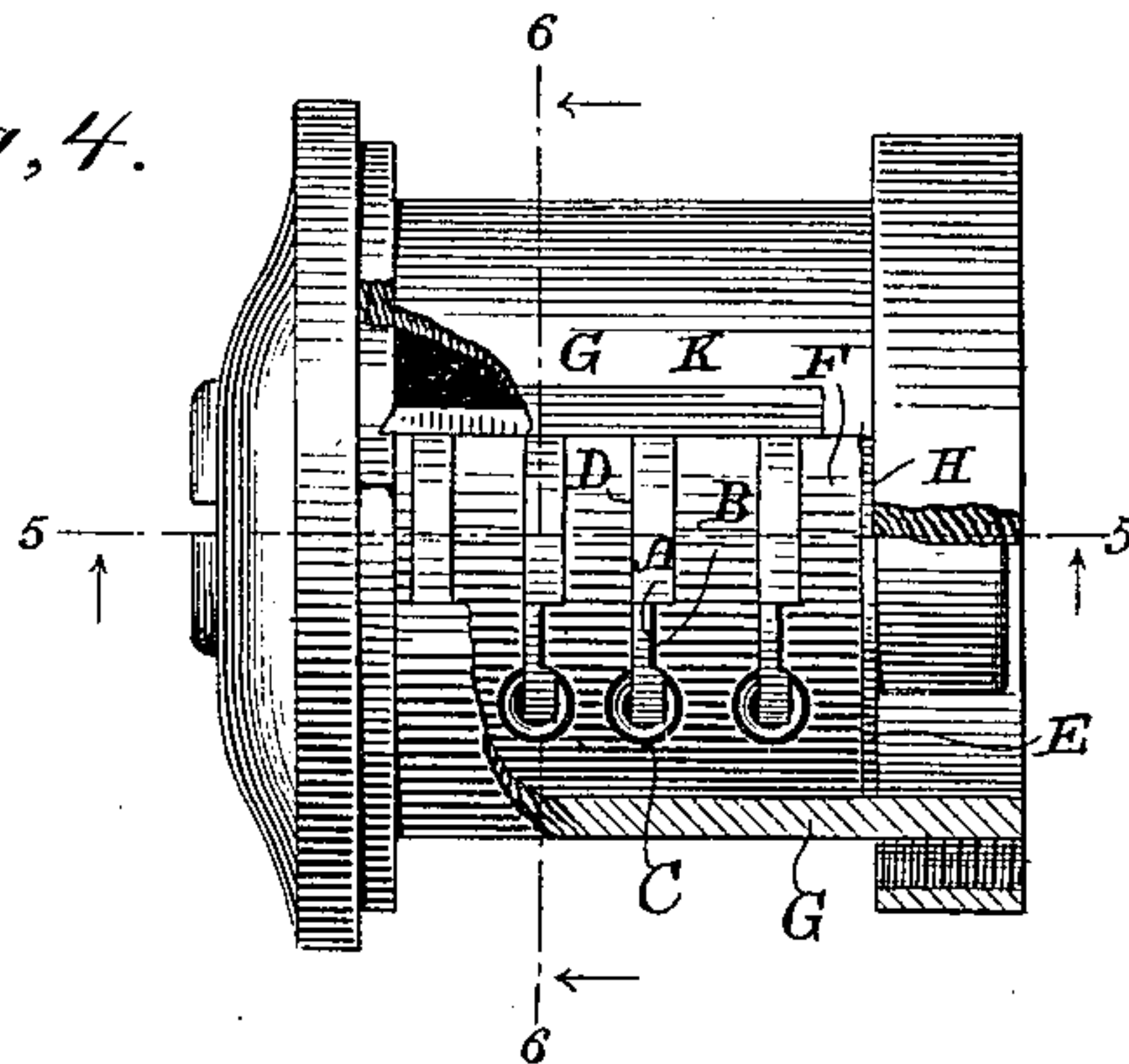


Fig. 6.

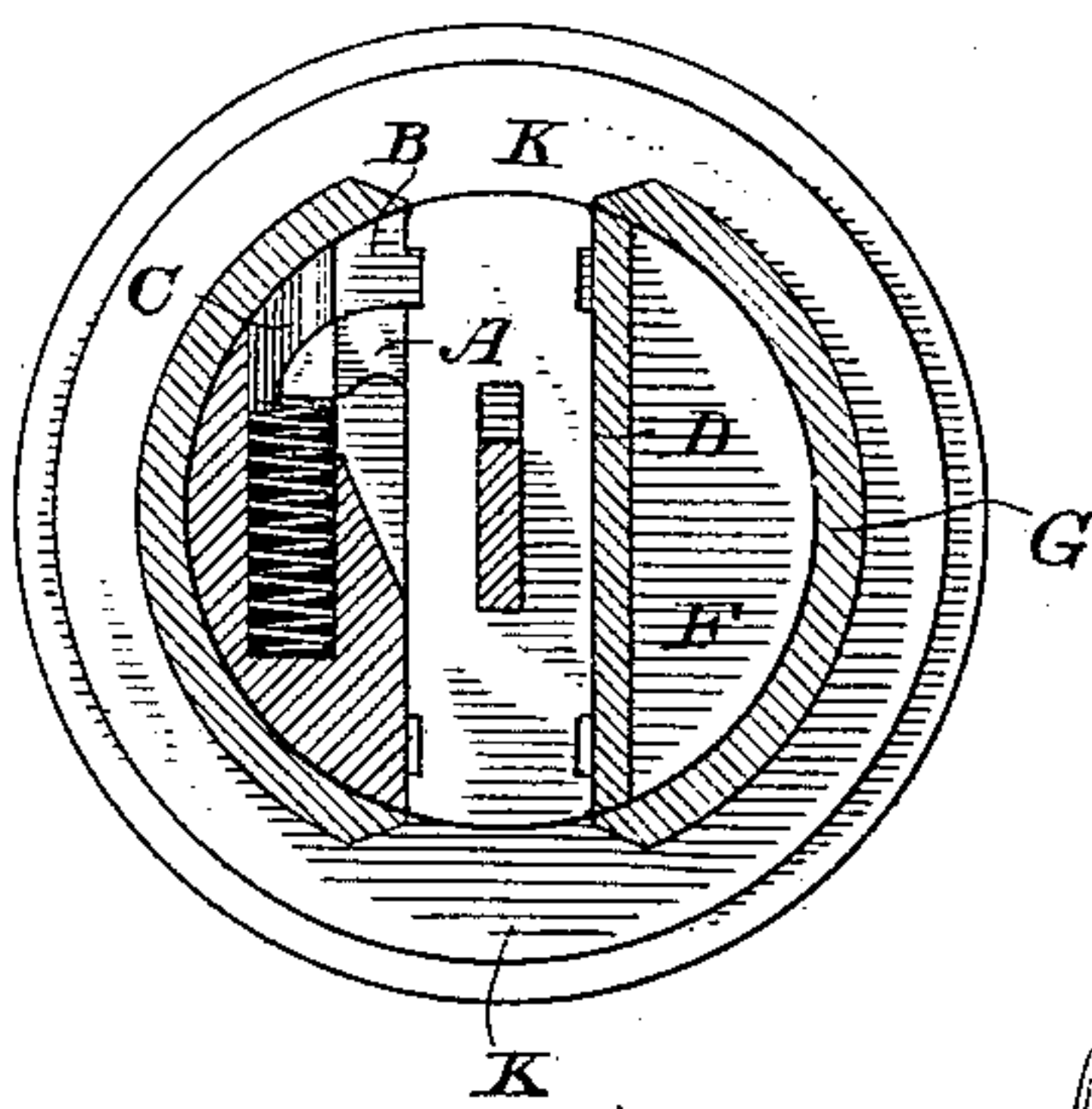


Fig. 5.

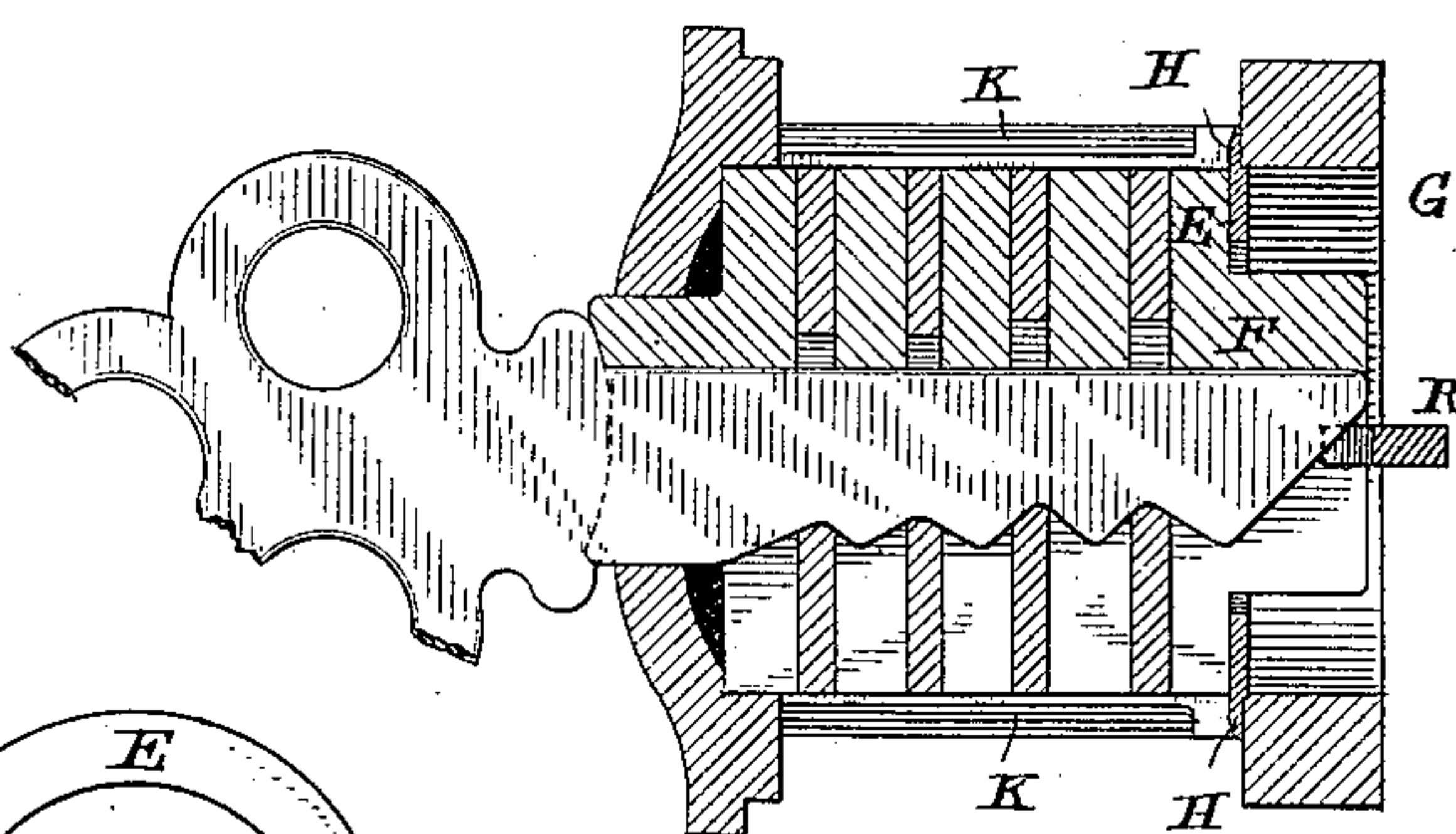
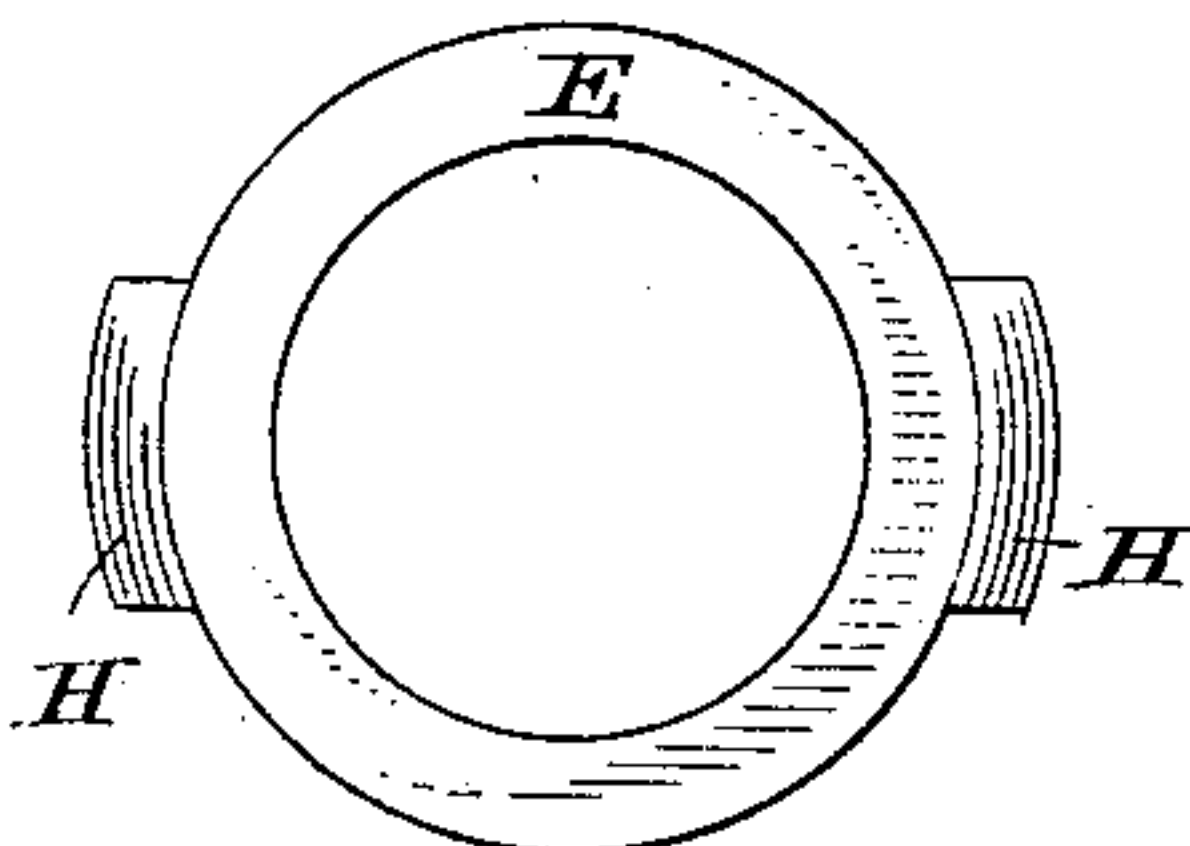


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 332,459, dated December 15, 1885.

Application filed June 10, 1884. Serial No. 134,458. (Model.)

To all whom it may concern:

Be it known that I, WARREN H. TAYLOR, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had to the accompanying drawings, which illustrate my improvements as applied to a lock, and in which—

Figure 1 is a view of the interior of a lock-case from which the cap-plate is removed, showing the bolt and its springs. Fig. 2 is a view of the inner side of the removable plate. Fig. 3 is a longitudinal section taken on the line 3 3 of Fig. 1. Fig. 4 is a side elevation, partly in section, drawn on an enlarged scale, of a rotary tumbler cylinder and plug detached. Fig. 5 is a longitudinal section of the hub, taken on the line 5 5 of Fig. 4. Fig. 6 is a cross-section of the same, taken on the line 6 6 of Fig. 4; and Fig. 7 is an enlarged view of an annular holding-plate detached from the hub.

My invention has reference to that class of locks, usually applied to doors, in which a rotary plug and spring-actuated or sliding tumblers are used, and which are operated by plate-keys—such, for example, as shown in United States Patent No. 99,013—and as the class is well known I will describe in detail only such parts as constitute my improvements. In locks of this class, as heretofore made, the tumblers are plates having horns or projections, and are of equal thickness throughout, and the slots in the rotary plug of the lock in which the tumblers slide are made of corresponding regular form and dimensions. When the tumbler-slots and tumblers thus all have plain sides, and are of equal thickness at all points, the tumbler-springs bearing upon the horns or projections from them cause the tumblers to tilt slightly to one side. This facilitates picking, because if a blank key is pushed into the lock so as to press the tumblers against their springs, the tendency of the tumblers to tilt to one side will cause them, if the plug is pressed in the proper direction, to project below the edge of the surrounding case. To obviate this diffi-

culty, I mill out a groove, A, in the horn of each tumbler and make the cut B in the plug F, which connects the spring-hole C with the hole D for the main part of the tumbler, of less thickness than the thickness of the main part of the tumbler, as illustrated in the drawings. By this construction an inward projection on the wall of the tumbler-slot is formed, and the tumbler is supported by shoulders or guide-ways against any tendency to tilt, and can only move straight up and down in its bearings or slots.

Another improvement I have made is in the means of holding the plug in place in its barrel. This I do by means of an annular plate, E, made of sheet metal, which I place over the end of the plug F and press into position in the barrel G, the ears H of the plate projecting through into the long slots K in the barrel, where the ends of the tumblers project.

Another improvement I have made is in the bolt or latch mechanism. This consists in connecting the latch-bolt L and the cross-head M by two latch-rods, N, (each provided with a spring, P,) instead of one, as has heretofore been done. This is a material improvement, because, according to the old method of manufacturing, the connecting-rod being single and so long, it was necessary to have a guideway between the latch and the cross-head. As the spring of the latch could not extend past this guideway, its length was shortened and its efficiency diminished. By making this improvement upon the latch mechanism I am enabled to shorten the case of the lock considerably, so that it will go on narrower stiles, while at the same time I have two latch-springs, each one of which is as long as the spring of an ordinary lock with a longer case.

I am aware that it is not broadly new to use two springs instead of one for forcing the latch-bolt outward; but the improvements I have made are for the purpose of getting a very compact lock, and I therefore place the two latch-rods and their springs directly between the cross-head M and the latch-bolt L and run the latch-rods N directly into the latch-bolt. I then place the knob between the head of the bolt and the cross-head, and

do not place the springs and latch-rods behind the cross-head, as has been done heretofore. The result is a more compact lock, with at the same time a better spring action, than has heretofore been made.

Another improvement I have made is for the purpose of conveniently adapting my lock to doors of different thicknesses. I accomplish this by employing a cylindrical tube or case, Q, and a removable bar, R, between the escutcheon and the plate or case T of the lock. This tube and bar are detachable and exchangeable, so that longer or shorter ones may be selected from an assortment of them, and applied to any given lock to adapt it to any particular thickness of door.

The bar R, as shown in the drawings, connects the plug F with the immediate bolt-operating mechanism, being inserted in slots made to receive it and connect the parts operatively in the ordinary well-known way.

Having thus described my improvements, I claim as new—

1. In a lock, an improved sliding tumbler having a horn and a groove, A, provided therein, substantially as and for the purpose set forth.

2. In a lock, the combination of a spring-tumbler having a horn and a groove, A, therein, and a plug having a narrow cut, B, between

the spring-hole and the hole for the main part of the tumbler, substantially as set forth.

3. In a lock, the combination of a sliding tumbler having a spring-horn and a plug having a tumbler-slot with a projection extending into a cut in the tumbler and forming guide-ways to prevent the tilting of the tumbler, substantially as set forth.

4. In a lock, the combination of the plug, the barrel having slots K, and a holding-plate with ears projecting into said slots, substantially as set forth.

5. In a lock, the combination of a latch-bolt, L, a cross-head, M, two latch-rods, N, located between the latch-bolt and the cross-head and directly connected to the latch-bolt, and the springs P, carried by the rods N, substantially as set forth.

6. In a lock, the combination of the escutcheon and lock-case, the detachable tube Q, loosely carried thereby, and the removable bar R, located between the escutcheon and case, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

WARREN H. TAYLOR.

Witnesses:

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