

(No Model.)

G. L. BARNEY.  
DOOR KNOB LOCK.

No. 545,665.

Patented Sept. 3, 1895.

Fig. 1.

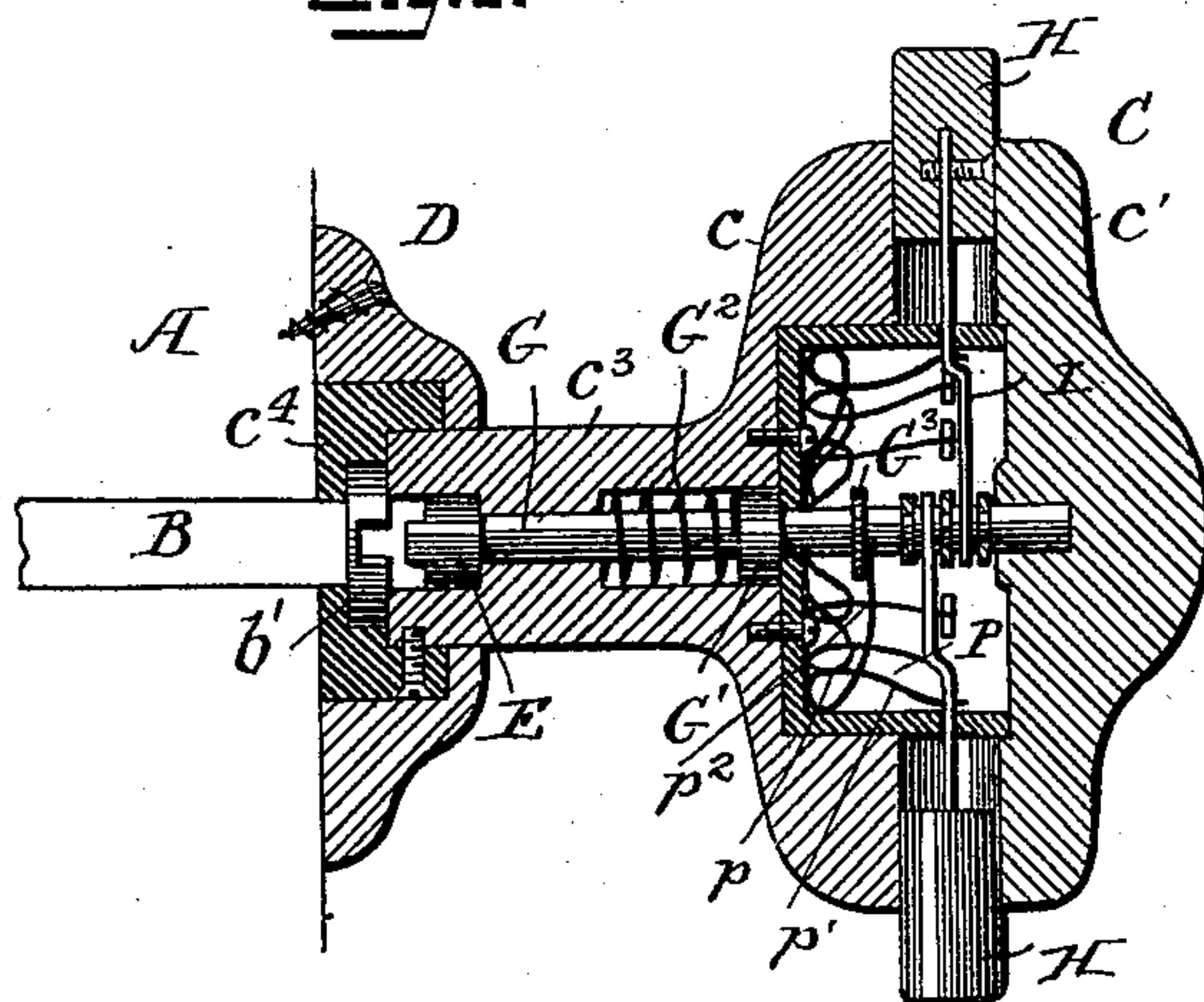


Fig. 2.

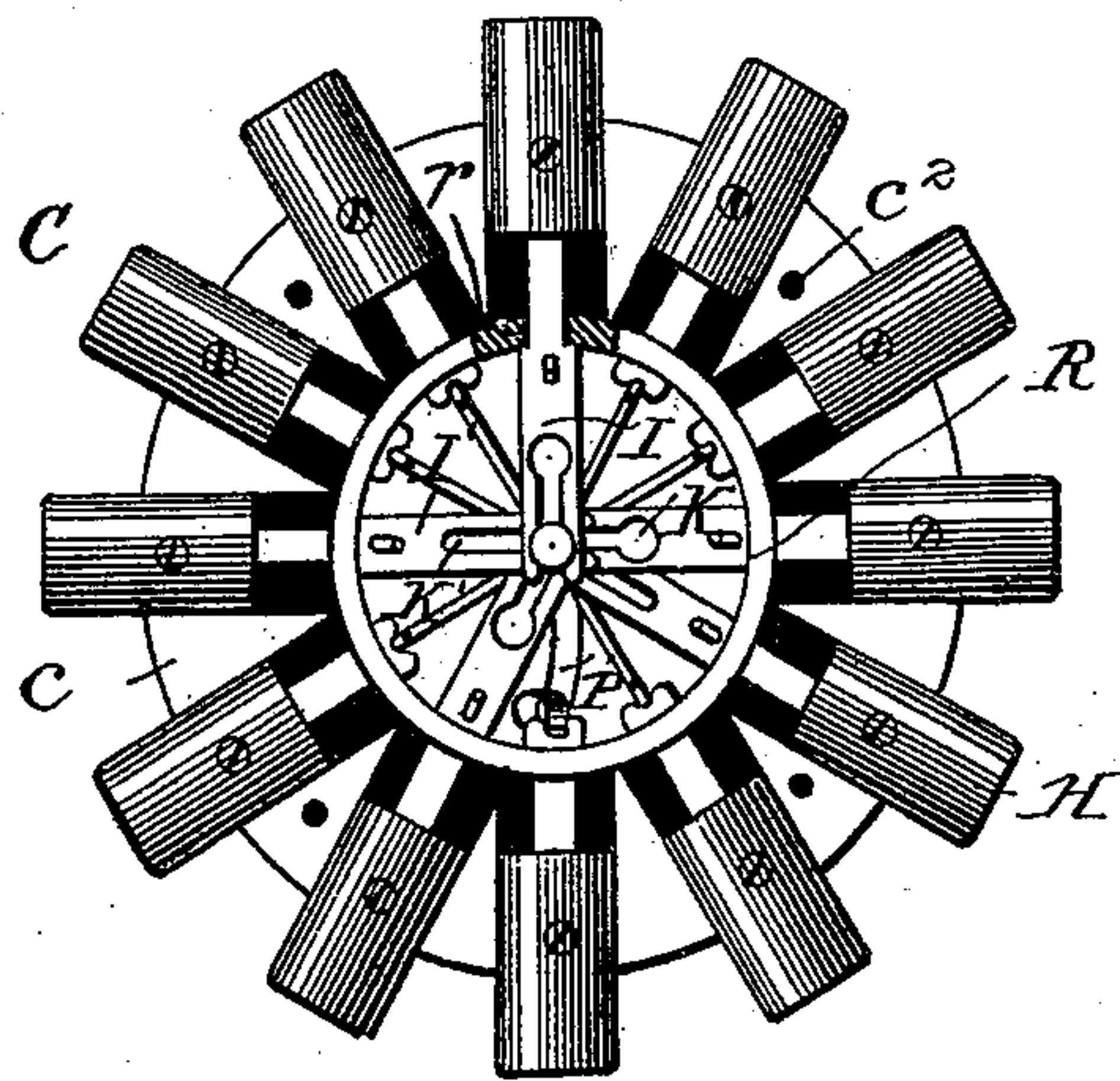


Fig. 3.

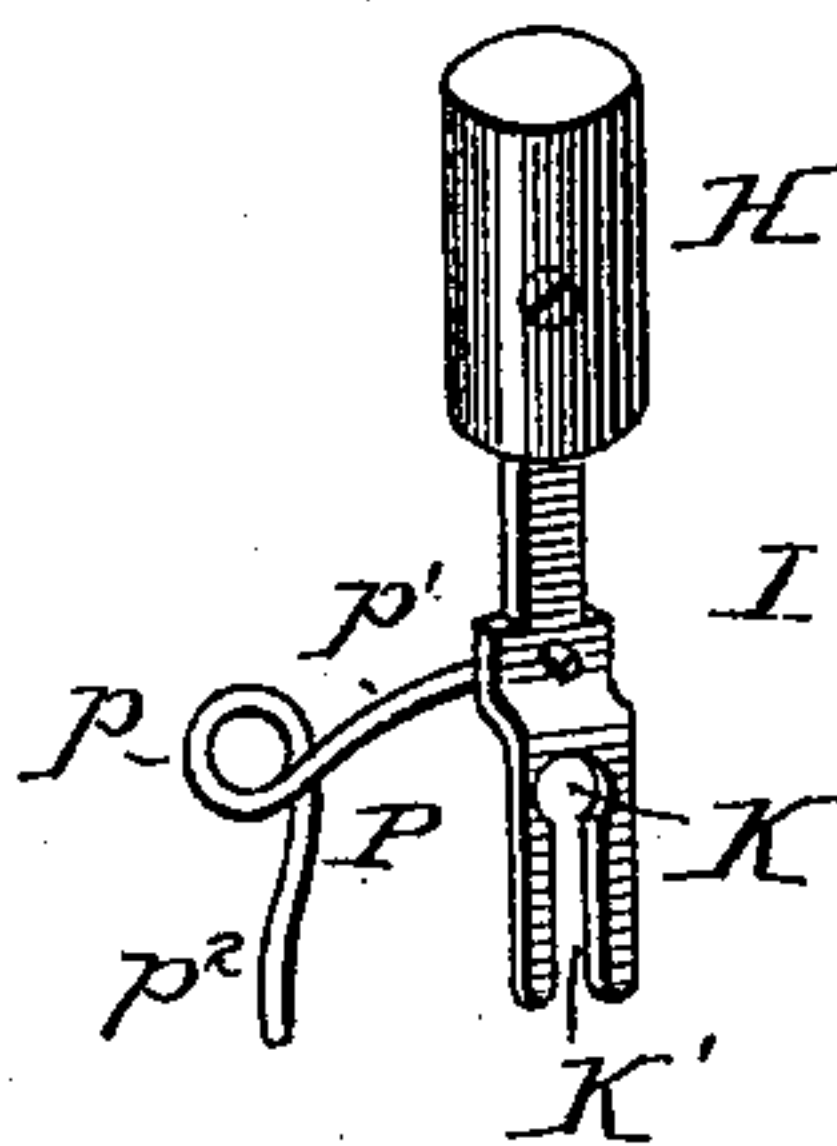
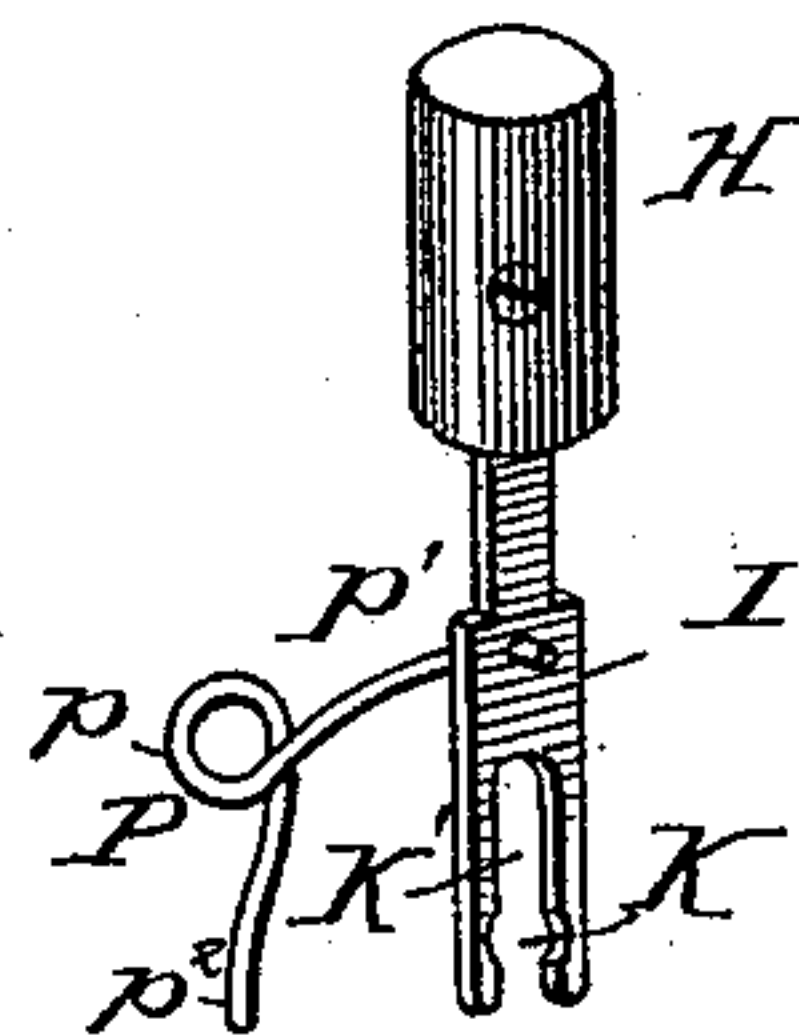


Fig. 4.



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# UNITED STATES PATENT OFFICE.

GEORGE L. BARNEY, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF  
TO JOHN L. CLOUGH, OF SAME PLACE.

## DOOR-KNOB LOCK.

SPECIFICATION forming part of Letters Patent No. 545,665, dated September 3, 1895.

Application filed February 26, 1894. Serial No. 501,571. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE L. BARNEY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Door-Knob Locks, of which the following is a specification.

My invention relates to door-knob locks, and it has for its object to provide a door-knob with a keyless locking device embraced within the knob, so that the knob is adapted to be applied to any of the ordinary locks or latches; and to these ends my invention consists in the various features of construction and arrangement of parts, substantially as hereinafter more fully set forth.

In the accompanying drawings I have illustrated one preferred embodiment of my present invention, in which—

Figure 1 is a vertical sectional view of the knob. Fig. 2 is a side view with the cap removed and showing one part in section. Figs. 3 and 4 are perspective views of different forms of locking devices.

My invention relates more particularly to that class of door-knobs shown, described, and claimed in my application, Serial No. 501,572, filed herewith; and my present invention has for its object, among other things, to provide a knob with a keyless locking device, in which the clutch or portion connecting the knob with the latch or lock to be operated is automatically controlled—that is to say, that when the proper push-buttons are operated the clutch or similar device will engage with the latch or lock-operating device automatically, and wherein the push-buttons and clutch will disengage with the latch or lock-operating devices, and the knob can be turned freely without in any way affecting the latch or lock, and cannot again engage therewith until the proper push-buttons or similar controlling devices are properly manipulated.

In the accompanying drawings, A represents a door or other body having a lock or latching device, which is provided with some sort of an operating mechanism—such, for instance, as a spindle B, this being shown merely as a typical connection—and this spindle is arranged to be operated by some sort of a

clutch mechanism connecting with a knob C. The knob C may be of any shape or form or any material, but is shown as consisting of two parts  $c$   $c'$ , properly secured together, as by screws  $c^2$ , and having a shank or extension  $c^3$ , and this extension is provided with a ring or collar or similar device  $c^4$ , by means of which the knob may be secured to the door or other support by an escutcheon D and be held in position, so that it will rotate freely in the escutcheon adjacent to the spindle or other connecting portion of the latch to be operated. The clutching device shown in the present instance embraces an enlarged head  $b'$ , secured to the spindle B and turning in a recess in the enlargement  $c^4$ , and a clutch portion or block E, having projections engaging the slot in the enlargement  $b'$ , and this clutch-block slides in a recess in the shank  $c^3$  of the knob.

Connected to the clutch E is a plunger-rod G, having an enlargement or collar  $G'$  sliding in a recess in the shank of the knob and provided with a spring  $G^2$ , which normally tends to hold the clutch device in the position shown in Fig. 1, that is disengaged from the spindle of the lock or latch. The plunger-rod extends forward beyond the collar, and its end is preferably supported in the cap  $c'$ , and it is provided with some sort of means controlling the movement of the rod and controlled by the push-buttons or similar devices hereinafter described, the form shown in the present instance being typical only so far as the main purposes of my present invention are concerned.

The knob is provided with a series of push-buttons H, shown as arranged in sockets in the periphery of the knob, and while I have shown twelve push-buttons in the present instance it is to be understood that the number and arrangement of these buttons is immaterial and may be varied without departing from my invention. These push-buttons control the locking devices for the clutch, and in the present instance I have shown the plates I I', adapted to be connected to the push-buttons and provided with slots at their ends embracing cut-away portions of the plunger-rod G, the slots having enlarged por-



tions K, permitting the plunger-rods to slide freely therethrough in reduced portions K', which, surrounding the reduced portions of the plunger-rod, prevent its movement. It will be noted that the relative positions of the enlarged portion of the slots vary in the plates I and I', the former being what I term the "locking devices," and the latter the "false locking devices." The plates are bent or curved so as to embrace the plunger-rod at different portions and at different cut-away portions, and there may be as many of these plates as desired—five being shown in Fig. 2, for instance, for the sake of clearness. It will be understood that when the locking devices are properly manipulated the plunger-rod may be operated to move the clutch to engage with the lock to be operated, but if one of the false locking devices are operated this movement of the clutch is prevented, and it will be observed that there may be any relative number of true and false locking devices arranged in any desired relation to each other.

Some means must be provided for holding the push-button in their normal positions and for operating the plunger-rod automatically to engage the spindle of the lock or latch to be operated, and while these may differ I have shown a preferred construction embodying the springs P. These springs may be of various form; but that in the drawings is found to be desirable, being composed of a coil  $p$ , having extensions  $p'$   $p^2$ , the former of which engages the plate or push-button and controls its normal position, while the latter engages a collar  $G^3$  or similar device on the plunger-rod. I also provide the false locking device with similar springs P, so that it will require the same amount of pressure to move them as it does the true locking devices and their connected push-buttons, the only difference being that the end  $p^2$  of the spring bears against the wall of the knob instead of against the flange or collar  $G^3$ . It will be observed that the springs P act in opposition to the spring  $G^2$ , and I preferably arrange their tension so that when all the true locking devices have been simultaneously depressed and the plunger-rod is free to move through the openings the combined force of the springs connected to the said push-buttons or locking devices will overcome the pressure of the spring  $G^2$  and automatically engage the clutch device, so that the latch can be turned, and when the pressure on the push-buttons is relieved the spring  $G^2$  will automatically disengage the clutch. It will thus be seen that the movements of the clutch are automatic, in the respect that it is normally held out of engagement with the spindle or operating device of the latch, and when the proper push-buttons are operated it is automatically engaged with the clutch, so that the lock can be operated. It need not be observed that when a false push-button is depressed,

notwithstanding all the true push-buttons are depressed, the clutch will not be operated, and it is necessary, therefore, in order to operate the knob that the true combination of push-buttons be manipulated simultaneously and none other.

In the present instance I have shown the knob as having a central recess, in which is fitted a box-like case R, having guide-holes  $r$ , through which the locking devices pass, and on removing the cap of the knob this case can be removed and the parts conveniently adjusted therein; but this is a detail which may be varied, as may be the other details of construction of the knob, without departing from the essential features of my invention.

What I claim is—

1. A knob, provided with keyless locking devices, a clutch member carried by the knob, means for automatically disengaging the said clutch member from its corresponding member, and springs acting in opposition to said disengaging means for engaging the clutch member when the proper keyless locking devices are operated, substantially as described.
2. A knob provided with keyless locking devices, a clutch member mounted on the knob, a spring for automatically disengaging the clutch member from its corresponding member and a spring or springs controlled by the keyless locking devices, for engaging the clutch members, substantially as described.
3. A knob provided with keyless locking devices a clutch, a plunger rod connected to the clutch, a spring for holding the plunger rod in normal position, a series of springs acting in opposition to the first and bearing on the plunger rod, and controlled by the keyless locking devices, substantially as described.
4. A knob provided with keyless locking devices embracing a series of push buttons, a clutch and rod for operating the same, and a series of springs, one end of each of which is connected to the rod, and the other end of each of which is connected to one of the push buttons, substantially as described.
5. A knob provided with a clutch and rod, a spring for holding the same in normal position, a series of push buttons, plates connected to the push buttons and engaging the rod and provided with openings, and a series of springs connected to the push buttons, a portion of which are also connected to the rod, substantially as described.
6. A knob, provided with a clutch device, a rod connected thereto, a spring for holding the clutch in normal position, a series of push buttons, a series of plates connected to the push-buttons and having openings and controlling the movements of the rod, and springs connected to said plates, a portion of which springs are arranged to operate the clutch, substantially as described.
7. A knob, having a recess in its outer por-



tion, provided with a removable box-like casing, a series of push-buttons, plates connected to the push-buttons and extending into the casing, and springs mounted in the  
5 casing and connected to the plates, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

GEORGE L. BARNEY.

Witnesses:

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