

(No Model.)

G. L. BARNEY.
DOOR KNOB LOCK.

No. 545,667.

Patented Sept. 3, 1895.

Fig. 1.

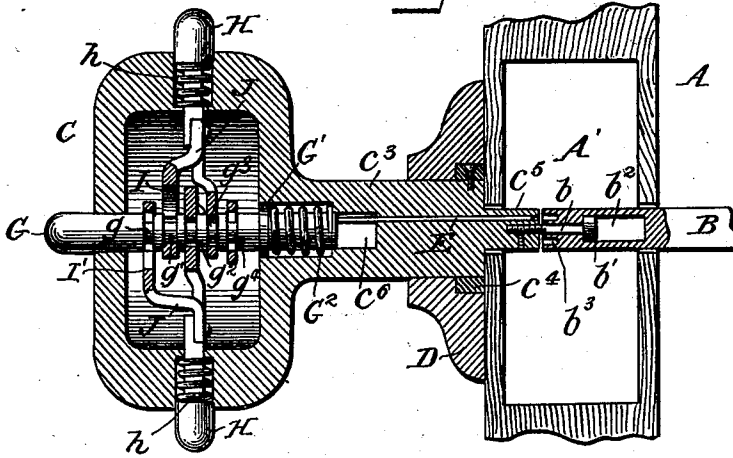


Fig. 2.

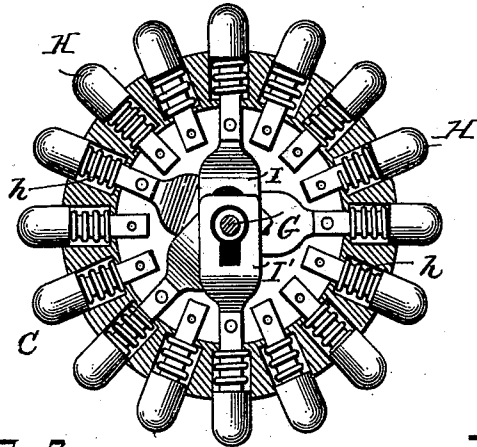


Fig. 3.

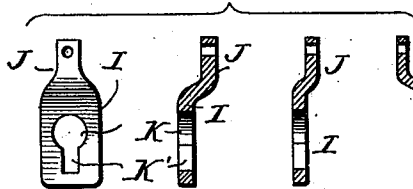


Fig. 4.

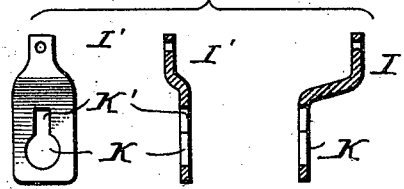
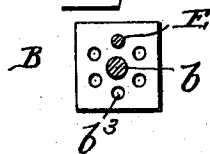


Fig. 5.



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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. 545,667, dated September 3, 1895.

Application filed February 26, 1894. Serial No. 501,573. (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 locking device embraced within the door-knob, so that the knob is adapted to be attached to the ordinary spindles in connection with ordinary door latches or locks, and may be used to operate such latches or locks to control the movements of the door or other device to which it may be applied; and to these ends my invention consists in the various features of construction and arrangement of parts substantially as herein-
after more fully pointed out.

Referring to the accompanying drawings, wherein I have illustrated several modifications of my invention sufficient to explain the principle thereof and enable those skilled in the art to make and use the same, Figure 1 is a vertical sectional view of a knob embodying my invention applied to a door having an ordinary latch. Fig. 2 is a transverse vertical section. Fig. 3 shows in plan and section various forms of locking devices. Fig. 4 shows in plan and section various forms of false locking devices, and Fig. 5 is an enlarged detail showing one convenient form of a clutch device.

My invention relates to door-knob locks of the general character shown, described, and claimed more broadly in my application, Serial No. 501,572, filed herewith, and my present invention has for its object to provide a knob with a keyless locking device, which knob can be arranged to control any ordinary latch or other locking device and can be readily connected to and adapted to be used with the spindles or other parts operating or controlling the locking or latching device, and the present invention consists in a door-knob provided with keyless locking devices in which, after the locking devices are properly set, a plunger or other device has to be operated to connect the knob to the latch or lock to be operated by the knob. In other words, the normal condition of the knob is unat-

tached or connected to the latch or lock, and when the proper devices are operated the knob will be automatically disengaged from the latch, and in order to engage it with the latch the plunger or other equivalent device has to be operated to cause the clutch or equivalent device to engage with the latch or lock.

Referring to the drawings, A represents a portion of a door or other body having a lock or latching device A', which is provided with some sort of an operating device, as a spindle B, which is adapted to be operated by the knob C when the parts of the knob are properly manipulated and the clutch or other equivalent device is engaged therewith. It is to be understood that the spindle B may be operated on one side of the door by an ordinary knob attached thereto in the usual way, so that the lock or latch can be turned at pleasure, but the knob C will not operate the lock or latch unless the keyless locking device is properly manipulated and the clutch operated to engage the spindle. The knob C may be of any shape or form or of any material, and is shown in the conventional manner, and is provided with a shank or extension c^3 , and this shank is shown as being provided with a ring or projection c^4 , fitting in a recess of the escutcheon D, which may be secured to the door in the usual way and which will hold the knob in place and permit its freely turning therein, and while this is a convenient way of securing the knob it is evident that any other equivalent ways may be adopted.

Some sort of a clutching device is connected to the knob C and adapted to engage the spindle B, and while various means may be used for this purpose I have shown in the present instance the spindle B as being provided with a screw b , having an enlarged head b' , turning in a recess b^2 , the end of the screw engaging an extension c^5 of the knob and permitting the free turning of the knob. The end of the spindle B is provided with a series of openings or recesses b^3 , (see Fig. 5,) into which a rod E, sliding in the shank of the knob, may be projected in order to clutch or connect the knob with the spindle. This sliding rod or clutch E may be variously formed and operated, but I have shown it connected to what I term a "plunger-rod" G, which is mounted in the knob, having one end

projecting beyond the face of the knob and the other sliding in a recess c^b , and is provided with a collar G' , against which abuts a spring G^2 , which normally operates to project the plunger-rod outwardly and to retain the extension or clutch out of engagement with the spindle B, and it will thus be seen that normally the knob C can be rotated in either direction without operating the lock or affecting its operation in any way. When, however, the plunger-rod is pressed inward and the sliding rod or clutch E is made to engage the spindle, the lock or latch, of course, can be operated in the usual manner.

In order to control the operation of the plunger-rod G, I provide a series of keyless locking devices, and in the present instance I have shown a series of push-buttons H, seated in the body of the knob and projecting radially therefrom, although it is evident that they may be differently arranged and constructed to accomplish the same results. These push-buttons are provided, or part of them, at least, with what may be termed "locking" devices, which are arranged to control the movement of the plunger-rod. In the present instance I have shown the rod as cylindrical and having reduced portions g g' g^2 g^3 g^4 , &c., thereon, and it is evident that there may be any desirable number of these reduced portions.

The locking devices or plates in the present instance consist of a flat body portion I, having a shank J, which is bent or straight, as the case may be, according to the position the plates occupy, and by means of which the locking-plates are secured to the push-buttons in any desired and usual way. These plates each have an opening in them, the larger part K being of a form to embrace the plunger-rod and to permit its sliding therethrough, while the smaller portion K' is of a size to embrace the reduced portion of the rod only. I also provide one or more false locking devices or plates I' , which are formed substantially like the locking-plates, except in the location of the openings, they being arranged so that normally the enlarged opening K will embrace the plunger-rod; but when they are depressed the smaller opening K' will engage with the reduced portion of the rod and prevent its operation.

In the drawings I have shown a large number of push-buttons H; but of course it will be understood that the number is immaterial, and I have also shown a portion only of these push-buttons as being provided with locking-plates, and it is evident that there may be any desired number of locking-plates and any desired number of false locking-plates, and they may be arranged in any desired relation to each other, but for the purposes of clearness, and as showing one embodiment of my invention, I have illustrated only three locking-plates and two false locking-plates. The push-buttons are subject to spring-pressure, so that it will require practically the same

amount of force to operate them whether they are provided with locking-plates or not, and I have shown a spiral spring h as one convenient means of accomplishing this result.

As a further refinement of my invention, I not only provide the locking devices or plates with the openings before described and the false locking-plates with similar openings, differently arranged, however, but I preferably make the plates of different thicknesses and arrange the cut away portions of the plunger-rod in a similar manner. Thus it will be seen that the plunger-rod must be in its proper position in order that the locking devices may register with the proper cut-away portions thereof. It is not necessary that all the locking devices should vary in thickness—as, for instance, all the false locking devices may be of the same width and their slots of a corresponding width—but I prefer that all the true locking devices should vary in width, so that they will accurately fit the corresponding width of the cut-away portions on the plunger-rod. It will thus be seen that with this construction the knob will be automatically disengaged from the latch or lock to be operated, and in order to engage it with said latch not only must the proper push-buttons be operated simultaneously, and none but the proper ones, but the plunger-rod or other device connected with the clutch must be independently operated.

It is evident that the details of construction and arrangement of parts may be varied, and that the parts may be used in combination with each other, or in combination with other equivalent devices, to accomplish substantially the results set forth, without departing from the spirit of my invention.

What I claim is—

1. A knob, provided with keyless locking devices, a plunger rod controlled by the locking devices, and a spring within the knob for normally holding the plunger rod in its extended position, the plunger rod being adapted to be moved manually when the proper keyless locking devices are operated, substantially as described.

2. A knob, provided with keyless locking devices, a plunger rod controlled by the locking devices, a spring within the knob for holding the plunger rod in its extended position, and keyless locking devices embracing the rod and controlling its movements, substantially as described.

3. The combination with a lock or latch having a spindle for operating it, of a knob provided with keyless locking devices, a plunger rod operating as a clutch to engage the spindle of the lock, substantially as described.

4. A knob provided with keyless locking devices, a rod having cut-away portions, and plates embracing said rod, the said plates having openings therein through which the rod moves, substantially as described.

5. A knob, provided with a rod having cut-

away portions, a series of plates each having a larger and a smaller opening embracing the rod, and a portion of which are arranged reversely to the others, and push-buttons controlling the plates, substantially as described.

5 6. A knob, provided with a rod having cut-away portions, a series of perforated plates embracing the rod, the plates being of various thicknesses, and means for operating the
10 plates, substantially as described.

7. The combination with the spindle of an ordinary lock having perforations in its end, of a knob loosely connected thereto, the knob being provided with a rod to engage the spindle, and keyless locking devices controlling
15 the rod, substantially as described.

8. The combination with the spindle of an

ordinary lock or latch having openings in its end, of a knob loosely connected to said spindle, a plunger provided with an extension
20 adapted to engage the openings in the spindle, plates embracing the rod, push-buttons controlling the plates, and a spring for holding the rod in its normal position out of engagement with the spindle, substantially as
25 described.

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

GEORGE L. BARNEY.

Witnesses:

E. L. TIMBLIN,

J. EDW. MORRIS.