No. 631,433. Patented Aug. 22, 1899.

B. PHELPS.

LOCK.

(Application filed Feb. 4, 1899.)

(No Model.)

Fig. 1.

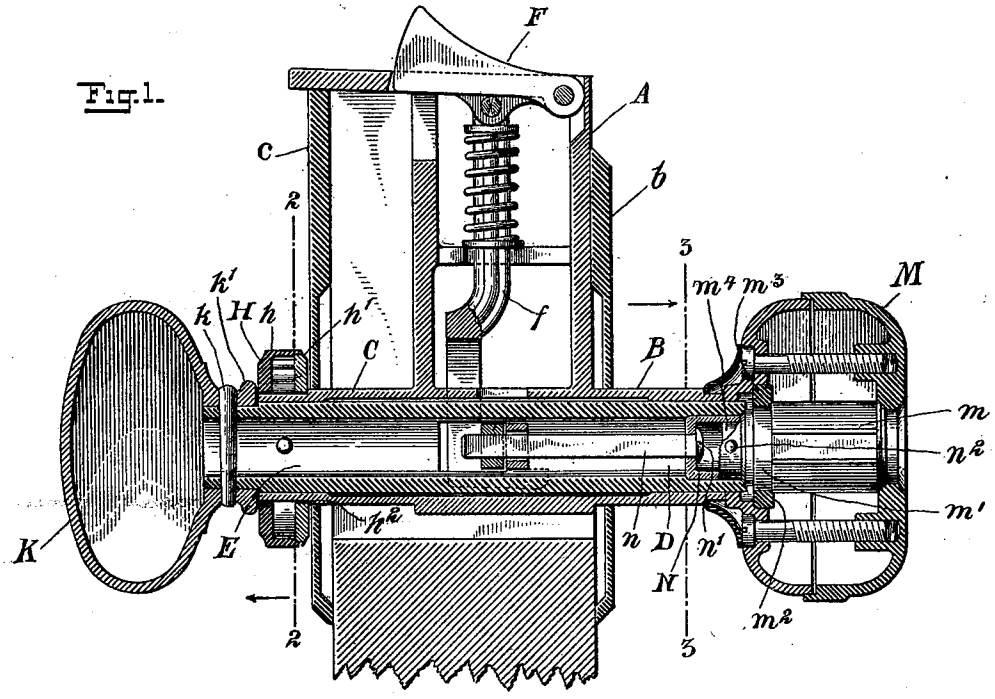
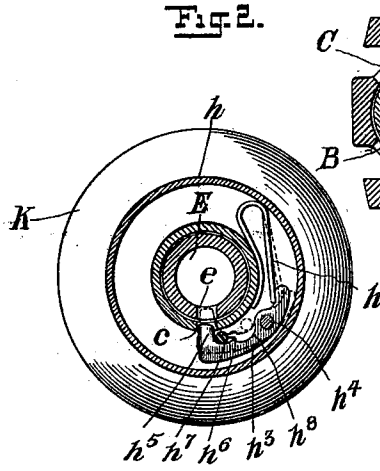


Fig. 5.

Fig. 2.



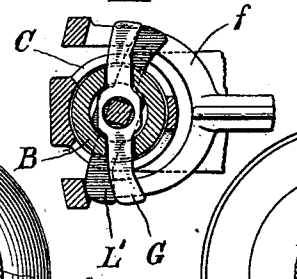


Fig. 3.

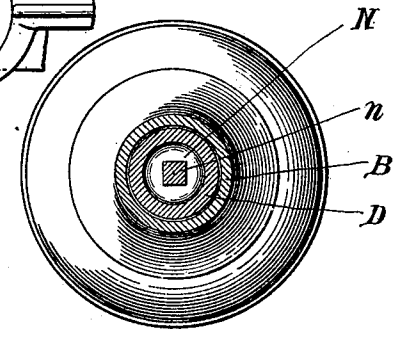
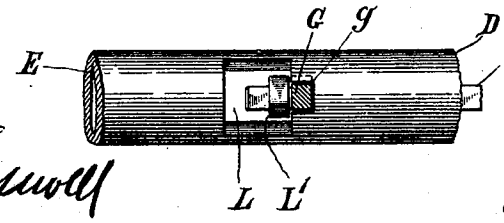


Fig. 4.



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LOCK.

SPECIFICATION forming part of Letters Patent No. 631,433, dated August 22, 1899.

Application filed February 4, 1899. Serial No. 704,510. (No model.)

To all whom it may concern:

Be it known that I, BYRON PHELPS, a citizen of the United States, residing at Seattle, county of King, State of Washington, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

My invention relates to locks; and my object is to improve the construction of the same.

In the preferred embodiment of my invention shown in the drawings, Figure 1 represents a horizontal section through my lock. Fig. 2 represents a section on the line 2 2 of Fig. 1 looking in the direction of the arrow. Fig. 3 represents a section on the line 3 3 of Fig. 1 looking in the direction of the arrow, and Figs. 4 and 5 represent details.

In the above-preferred embodiment, A represents the frame of the lock, having spindle-bearings B and C. The frame is obviously stationary relatively to the moving parts of the lock, and in the claims I have included the frame under the designation "a relatively stationary part," although I do not mean that the frame must necessarily be the stationary part. *b* and *c* are escutcheon-plates. This general style of lock construction, adapted to be inserted in a notch in the stile of a door, is described and claimed in my former application, Serial No. 698,371. Renewed application was filed December 5, 1898. Within the spindle-bearings is a rotatable spindle, the ends of which project from the bearings, and to these ends are attached knobs K M, as shown. I have designated these ends D and E.

F is a latch bolt or head pivoted to the frame, and *f* is a connecting means to this bolt, preferably in the form of a yoke, as shown in Fig. 5, having two arms to be engaged by the roll-backs, so that the bolt will be retracted by the rotation of a spindle in either direction.

G is a roll-back connected with the spindle to contact with the yoke and actuate the bolt. This roll-back is preferably located in and held in place by a slot *g* in the spindle D, as shown in Fig. 4.

H is a finger-piece formed in this embodiment of a rotatable cup-shaped portion *h*, and a cap therefor *h'*, closing the same and preferably fixed with relation to said cup. This finger-piece is preferably located upon a reduced portion of the spindle-bearing.

K is a knob carried on one end of the spindle and attached thereto in any suitable way, such as by a pin *k*. Extending laterally of the spindle is a projection *k'*, in this embodiment formed by a projection from knob K. The cap *h'* is in this embodiment fixed to the spindle-bearing; but the cup-shaped portion *h* is rotatable relatively to said bearing. The cup portion and cap are held in place between projection *k'* and an abutment formed in this embodiment by shoulder h^2. I have provided a means to lock the spindle from rotation and adapted to be operated by the finger-piece, which is located on the side of said lock opposite said end D.

e is a slot in and in this embodiment a hole through end E of the spindle, and *c* is a hole registering therewith in bearing C.

h^3 is a dog pivoted to cap *h'* by the pin h^4, and h^9 is a spring acting on a projection from said dog, as shown in Fig. 2, to turn the same on its pivot. This dog has a lug h^5, adapted to pass from the hole *c* in the spindle-bearing into the hole *e* in the spindle to lock the spindle from rotation. h^6 is a pin carried by the rotatable part of the finger-piece. h^7 and h^8 are depressions in the face of said dog, forming cam-faces, the bottoms of which depressions are at different radial distances from the center of the finger-piece, so that when said pin h^6 is moved from the one to the other the dog will be turned, and consequently the lug h^5 will be moved laterally of said spindle and into or out of engagement therewith. Said depressions also form a locking means for said finger-piece, as the pin will not ride out of one into the other without slight pressure.

L is a slot preferably in the spindle and preferably wider than slot *g*, and in this slot L is located a second roll-back L', which also engages the yoke *f*. This slot L is preferably wide enough so that roll-back L' may be moved to draw back the bolt independently of the spindle, so that when said spindle is locked from rotation the roll-back L' might still be rotated and draw back the bolt. M is a knob carried on the other end of spindle and preferably formed in two parts held to-

gether by screws, as shown. Contained within this knob and fixed relatively thereto, so as to be movable therewith, is a preferably pin tumbler-lock m, having an inner part rotatable relative to the lock-casing, such as a key-barrel, as is common to this class of locks. This construction is broadly claimed in my application, Serial No. 699,891, filed December 21, 1898, and I do not therefore consider it necessary to more particularly describe or illustrate the same herein. m' is a reduced portion of this pin tumbler-lock casing, and m^2 is a ring into which said reduced portion fits, and m^3 is a depression in the knob in which said ring may be located. m^4 is a projection on the end of the rotatable key-barrel, over which fits a hollowed cap N. The projection and cap construction is broadly claimed in my said application Serial No. 699,891. This cap has a hole therein preferably angular, and passed through and fitting this hole is a preferably angular rod n, having a head n' thereon contained within said hollowed cap. The cap is fixed to the projection m^4 by a pin n^2, as shown. This rod, which I designate a "key-rod," passes inward from the cap N loosely through a round hole in roll-back G, as shown in Fig. 5, so that said roll-back will not be actuated thereby when said rod is rotated. This rod then connects directly with roll-back L', passing into a hole in said roll-back, which fits said rod, so that when said rod is rotated said roll-back L' will be moved to draw back the bolt.

When in this embodiment either knob K or knob M is rotated, the roll-back G will be moved and will contact with yoke f and draw back the bolt. When the finger-piece is rotated from the position shown in Fig. 2 in full lines to that shown in dotted lines, the pin h^6 will drop into the depression h^8, and the lug h^5 will enter the hole e in the shaft E and lock the spindle from rotation. The knob M is thus locked from rotation, and as said knob is intended to be upon the outer side of the door the door is thus securely locked from entrance from this side. A key, however, may be inserted in the key-barrel of the pin tumbler-lock, as is usual in such locks, and the key-barrel rotated, while the knob M and spindle still remain fixed. This rotation of the key-barrel will also rotate key-rod n, and consequently roll-back L', throwing back the bolt, and yet the spindle remains locked.

It will be obvious that very many changes may be made in the construction herein disclosed without departing from the spirit of my invention.

What I claim is—

1. In a lock in combination, latch mechanism embracing a latch bolt or head, a rotatable spindle, bolt-actuating means connecting with said spindle and adapted to be operated to retract said bolt by the rotation of said spindle, a knob on said spindle, mechanism embracing a detent outside said spindle adapted to move laterally of said spindle to lock said spindle from rotation and operative from the side of said lock opposite said knob, and key-operated means to move said bolt independently of said locked spindle operative from the same side of said lock as said knob.

2. In a lock in combination, latch mechanism embracing a latch bolt or head, a rotatable spindle extending from each side of said lock and carrying a roll-back to operate said latch mechanism to retract said bolt by the rotation of said spindle, a detent outside of said spindle and movable laterally into engagement therewith to lock the same from rotation, a rotatable finger-piece carried outside said spindle to control the movement of said detent, and key-operated means contained within said spindle on the other side of said lock and connected with said latch mechanism to operate the same and throw back said bolt independently of said locked spindle.

3. In a lock in combination a relatively stationary part, latch mechanism embracing a latch bolt or head, a rotatable spindle having an aperture therein, bolt-actuating means adapted to be moved thereby to actuate said bolt, mechanism embracing a movable lug carried outside said spindle and adapted to enter said aperture and lock said spindle to said stationary part, and a finger-piece to move said lug.

4. In a lock in combination a relatively stationary part, latch mechanism embracing a latch bolt or head, a rotatable spindle having an aperture therein, bolt-actuating means adapted to be moved thereby to actuate said bolt, mechanism embracing a movable lug carried by said stationary part outside said spindle and adapted to enter said aperture to lock said spindle to said stationary part, and a finger-piece to move said lug.

5. In a lock a frame having a spindle-bearing projecting laterally outside of the same, a rotatable spindle therein, an aperture in said spindle, a registering aperture in said bearing, a movable lug carried by said bearing, and a finger-piece adapted to move said lug from the aperture in said bearing into that in said spindle to lock the same from rotation.

6. In a lock a frame having an aperture, a rotatable spindle held therein having a registering aperture, a hollowed finger-piece said finger-piece having a rotatable part, a dog inclosed by said finger-piece carrying a lug registering with the said apertures, and means to move said dog on the rotation of said finger-piece so that said lug will move from one of said apertures and enter the other to lock said spindle from rotation.

7. In a lock a spindle-bearing, a spindle therein, an abutment on said bearing, a hollow finger-piece on said spindle-bearing having a cup-shaped portion, a cap to close the same fixed relatively to said bearing said finger-piece being held in place on said bearing by said abutment and a part projecting later-

ally of said bearing and located on the other side of said finger-piece opposite said abutment.

8. In a lock in combination a latch-bolt, a rotatable spindle extending through and projecting from each side of said lock, a roll-back to actuate said bolt connected with said spindle, said spindle being hollowed, means to lock said spindle, a second roll-back movable independently of said locked spindle to actuate said bolt, a key-rod within, and movable independently of, said locked spindle and directly connected with said second roll-back to move the same.

9. In a lock in combination a latch-bolt, a rotatable spindle having a slot through one side thereof, a roll-back located in part therein and movable in said spindle independently thereof to operate said bolt, and means to move said roll-back to actuate said bolt without moving said spindle.

10. In a lock in combination a latch-bolt, a rotatable hollowed spindle having a slot through one side thereof, a roll-back connected with said spindle, a second roll-back located in part in said slot and movable independently of said spindle, and means to move said second roll-back to actuate said bolt without moving said spindle.

11. In a lock in combination a latch-bolt, a rotatable hollowed spindle having a slot through one side thereof, a roll-back located in said slot and connected with said spindle to move said bolt, a second roll-back also located therein and movable independently of said spindle to actuate said bolt, key-operated means contained in part within said spindle and connected with said second roll-back to move the same.

12. In a lock in combination a latch-bolt, a rotatable hollowed spindle having a slot through one side thereof, a roll-back located in said slot and connected with said spindle to move said bolt, a second roll-back also located therein and movable independently of said spindle to actuate said bolt, key-operated means, contained in part within said spindle, passing inward loosely through said first roll-back and then through said second roll-back and connected with said second roll-back to move the same.

13. In a lock in combination a key-barrel having a projection, a cap carried by said key-barrel and fitting over said projection said cap having a hole therein, a rod passing through said hole and held closely therein and having a head within said cap and a roll-back connected with said rod to be actuated thereby.

Signed at New Britain, Connecticut, this 2d day of February, 1899.

BYRON PHELPS.

Witnesses:
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C. A. BLAIR.