

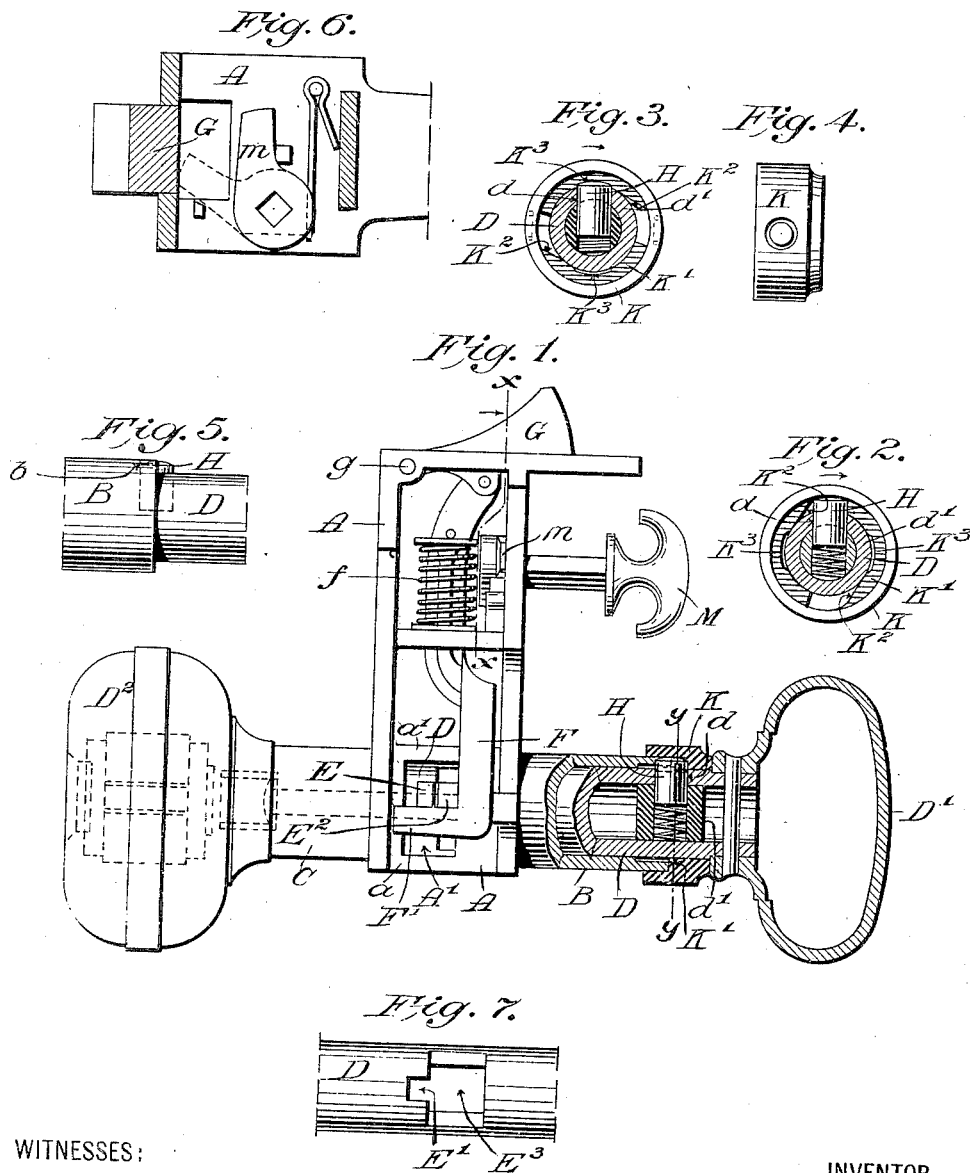
No. 649,706.

B. PHELPS.
LOCK.

Patented May 15, 1900.

(No Model.)

(Application filed Jan. 27, 1900.)



WITNESSES:

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BYRON PHELPS, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-HALF TO
THEODORE NELSON, OF CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 649,706, dated May 15, 1900.

Application filed January 27, 1900. Serial No. 2,960. (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 improvements in door-locks; and my object is to improve the construction of the same, particularly with reference to a means for locking one or both of the knob-spindles.

In the preferred embodiment of my invention shown in the drawings, Figure 1 represents a plan view of a lock embodying my invention, parts being shown in section. Fig. 2 is a section on the line Y Y, Fig. 1, looking from left to right. Fig. 3 is a similar view to Fig. 2, with the parts in slightly-different position. Fig. 4 is a side view of the thumb-piece detached. Fig. 5 is a detailed view of the end of the bearing and spindle with the locking-pin in its locking position. Fig. 6 is a section on the line X X, Fig. 1, looking in the direction of the arrow. Fig. 7 is a detailed view of the middle part of the spindle.

In the above preferred embodiment I have shown my invention as applied to a lock which is adapted to be inserted in the notch in the stile of a door and of the general construction claimed in my Patent No. 626,340, dated June 6, 1899.

In the embodiment shown in the drawings, A is the frame for the working parts of the lock, which, as above stated, is adapted for insertion in the notch in the stile of a door and of course is stationary relatively to the moving parts of the lock mechanism. B and C are spindle-bearings, in this embodiment preferably integral with the frame and extending transversely from each side thereof. As these spindle-bearings are in this embodiment integral with the frame, they also are stationary relative to the moving parts of the locking mechanism. Within these spindle-bearings is a rotatable spindle D, preferably extending through both spindle-bearings and carrying on each end thereof a handle, preferably knobs D' D². The inner ends of these spindle-bearings B and C are separated by

the opening A', but are preferably connected together by the bridges a a'. The middle part of the spindle D has an opening through it, preferably of the shape shown in Fig. 7, and within this opening are two roll-backs, one of which, E, is located in and fits the small slot E' in the spindle and the other one, E², is freely movable in the larger part E³ of the opening.

F is a yoke embracing the spindle with its two legs and having an intumed foot F' on each leg, which feet lie behind the roll-backs, as shown in Fig. 1.

G is a latch-bolt or head pivoted at g, to which the forward end of the yoke F is attached, and f is a spring to normally keep the yoke and latch-bolt in the position shown in Fig. 1. It is obvious that when the spindle is rotated the roll-back E will throw back the yoke and also the latch-bolt. The part shown in dotted lines at the left of Fig. 1 constitutes a part of the mechanism whereby the roll-back E² may be rotated and the latch thrown back by a key inserted in the knob D², even when the spindle is locked. This mechanism, which has been heretofore described, is claimed and more fully described in my former patent, No. 631,433, dated August 22, 1899.

To hold the spindle D immovable, I have provided a locking portion, in this embodiment a spring-pressed pin H, carried by the spindle, preferably in an opening in the same, which in this embodiment is formed by the hole d, extending into the interior of the hollow spindle and registering with a hole in a block d', inserted in said spindle. The relatively-stationary part, which in this embodiment is the right-hand spindle-bearing B, has an aperture b, preferably formed, as shown in Fig. 5, in the end of said bearing and partially registering with said hole d in the spindle, so that when the hole d in the spindle registers therewith the coiled spring will press the locking-pin outward radially—that is, away from the axis of the spindle, as shown in Fig. 1—into engagement with said stationary spindle-bearing, thus locking the spindle against rotation. As the end of the spindle-bearing in this embodiment does not cover the hole d entirely, the pin when projecting outward, as in Figs. 1 and 5, will be partly ex-

posed outside of the spindle. In order to move the pin inward, so as to unlock the spindle, I have provided a movable and preferably-rotatable finger-piece located outside of said spindle and between the handle, in this embodiment the knob and the latch mechanism. This finger-piece is preferably in the form of a cup-shaped ring K, provided with an internal shoulder K', as seen in Figs. 1, 2, and 3, which shoulder preferably rests against the end of the spindle-bearing, as shown in Fig. 1, and may be held in place by the handle or knob D'. The thickened portion of the finger-piece formed by the shoulder K' is cut away, as seen in Figs. 2 and 3, to form cam-faces K². When the finger-piece is in the position shown in Figs. 1 and 2, the spindle is locked; but when said finger-piece is rotated one-quarter of a revolution the cam-face K² rides upon the exposed portion of the pin and presses the same inward until it passes out of engagement with the stationary part or spindle-bearing. The spindle can then be turned. To prevent the displacement of the finger-piece with respect to the pin when the spindle is rotated, I have provided slight depressions K³ K³ in the finger-piece, into which the pin snaps to lock the finger-piece in position and yet keep the pin depressed far enough, as seen in Fig. 3, so that the spindle will remain unlocked. By the foregoing arrangement I have provided a device to lock the spindle, but which in this embodiment will allow the latch-bolt G to be pushed back.

35 In Fig. 6 I have shown a thumb-nut M engaging with a rotatable dog m, which can be thrown forward, as shown in dotted lines, into engagement with the latch-bolt G to positively lock the same from movement.

40 It will be obvious that very many changes may be made in the construction herein disclosed without departing from the spirit of my invention, and I therefore do not wish to limit myself to the particular embodiment herein shown and described.

What I claim is—

1. In a lock in combination, latching mechanism, a relatively-stationary part, a spindle rotatable in said stationary part and connected with said latching mechanism to operate the same, a handle on said spindle, a locking portion carried by said spindle and movable radially outward into engagement with said stationary part to lock said spindle from rotation, and a movable finger-piece located outside said spindle and between said handle and latch mechanism and connected with said locking portion to move the same.

2. In a lock in combination, latching mechanism, a relatively-stationary part, a spindle rotatable in said stationary part and connected with said latching mechanism to operate the same, a handle on said spindle, said spindle having an opening, a locking portion carried by said spindle and movable out of said opening into engagement with said stationary part to lock said spindle from rotation,

and a movable finger-piece located outside said spindle and between said handle and latch mechanism and connected with said locking portion to move the same.

3. In a lock in combination, latching mechanism, a relatively-stationary part, a spindle rotatable in said stationary part and connected with said latching mechanism to operate the same, a handle on said spindle, said spindle having an opening, a locking-pin carried by said spindle and movable out of said opening into engagement with said stationary part to lock said spindle from rotation, and a movable finger-piece located outside said spindle and between said handle and latch mechanism and connected with said locking-pin to move the same.

4. In a lock in combination, latching mechanism, a relatively-stationary part, a spindle rotatable in said stationary part, and connected with said latching mechanism to operate the same, a handle on said spindle, a locking portion carried by said spindle and movable radially outward into engagement with said stationary part to lock said spindle from rotation, and a movable finger-piece located outside of said spindle between said handle and latch mechanism, said finger-piece having a cam-face and connected with said locking portion to move the same.

5. In a lock in combination, latching mechanism, a relatively-stationary part, a spindle rotatable in said stationary part and connected with said latching mechanism to operate the same, a knob on said spindle, said spindle having an opening, a spring-pressed locking-pin carried by said spindle and movable out of said opening into engagement with said stationary part to lock said spindle from rotation, and a rotatable finger-piece located outside said spindle and between said handle and latch mechanism, said finger-piece having a cam-face connected with said locking-pin to move the same.

6. In a lock in combination, latching mechanism, a main frame having a laterally-extending spindle-bearing, a spindle rotatable in said bearing and connected with said latching mechanism to operate the same, a locking portion carried by said spindle and movable outwardly into engagement with an aperture in the end of said spindle-bearing, said aperture adapted to leave a part of said locking portion exposed, and a movable finger-piece carried outside of said spindle and adapted to contact with said exposed part and move said locking portion out of engagement with said aperture.

7. In a lock in combination, latching mechanism, a main frame having a laterally-extending spindle-bearing, a spindle rotatable in said bearing and connected with said latching mechanism to operate the same, a spring-pressed locking-pin carried in an opening in said spindle and movable outwardly into engagement with an aperture in the end of said spindle-bearing, said aperture adapted to

leave a part of said locking-pin exposed and
a rotatable cam finger-piece carried outside
of said spindle, and surrounding and cover-
ing said exposed portion of said pin, and
5 adapted to contact with said exposed part and
move said pin out of engagement with said
aperture.

8. In a lock in combination, latching mech-
anism, a main frame having a laterally-ex-
10 tending spindle-bearing, a spindle rotatable
in said bearing and connected with said latch-
ing mechanism to operate the same, a spring-
pressed locking-pin carried in an opening in
said spindle and movable outwardly into en-
15 gagement with a partially-registering aper-
ture in one end of said spindle-bearing, said
aperture adapted to leave a part of said lock-

ing-pin exposed outside of said spindle, and
a rotatable cam finger-piece carried outside
of said spindle and surrounding and cover- 20
ing said exposed portion of said pin and
adapted to contact with said exposed part and
move said pin out of engagement with said
aperture in said spindle-bearing, a knob on
said spindle beyond said finger-piece, said 25
finger-piece having a shoulder resting against
the end of said spindle-bearing and held in
place by said knob.

Signed at New Britain, Connecticut, this
25th day of January, 1900.

BYRON PHELPS.

Witnesses:

G. ERNEST ROOT,
LAUREN M. BANCROFT.