

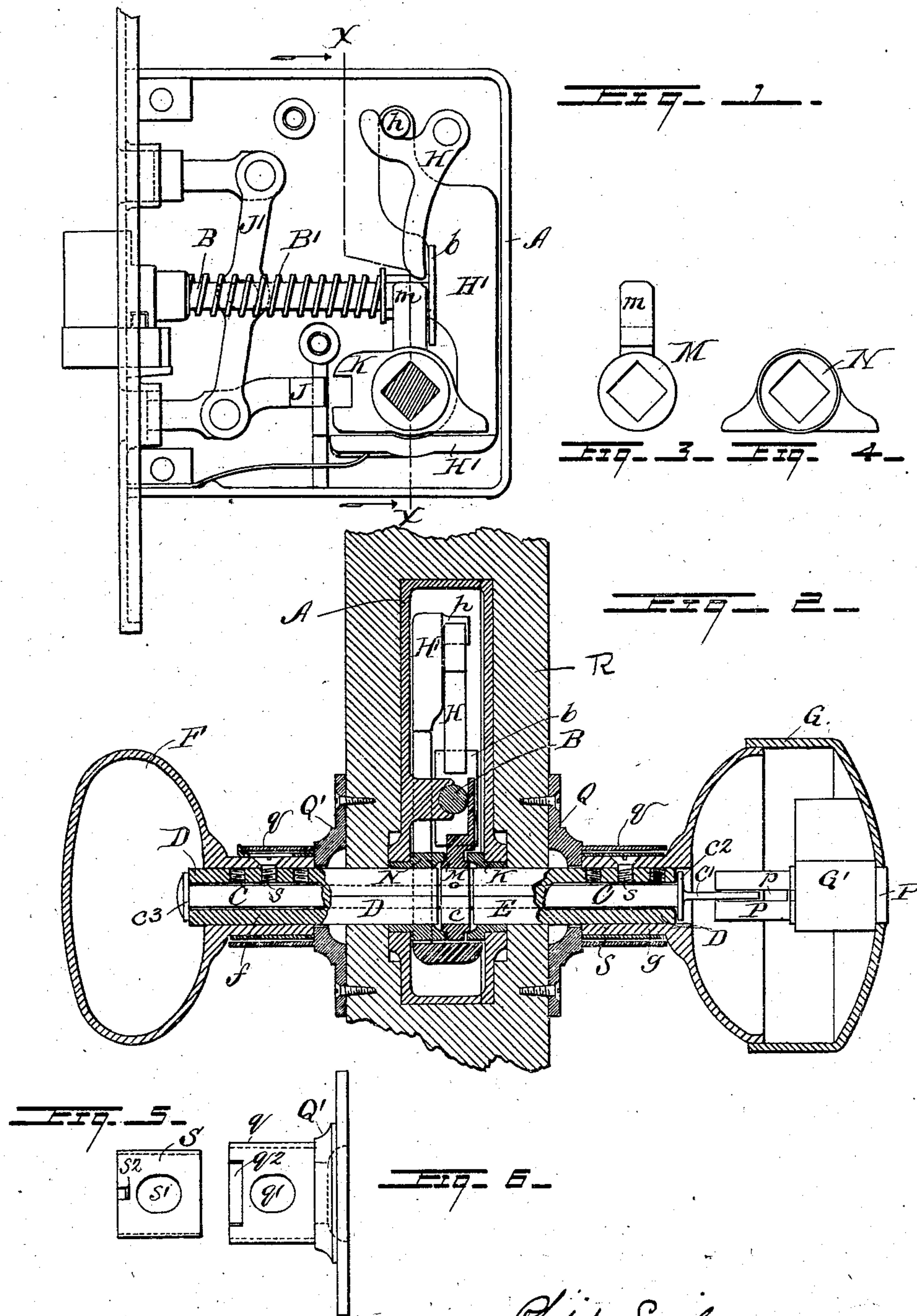
No. 724,746.

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P. SEISLER.  
LOCK.

APPLICATION FILED AUG. 5, 1901.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## LOCK.

SPECIFICATION forming part of Letters Patent No. 724,746, dated April 7, 1903.

Application filed August 5, 1901. Serial No. 70,857. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP SEISLER, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates particularly to that class of locks in which the latch-bolt when locked against operation by the knob itself is adapted to be operated by means of a key inserted in the knob; and it consists in certain improvements in construction, which are fully described in connection with the accompanying drawings and specifically pointed out in the claims.

Figure 1 is a face view, with cover-plate removed, of an ordinary form of mortise-lock to which my improvements are applicable, as indicated. Fig. 2 is a sectional view on the line  $x x$  of Fig. 1. Figs. 3 and 4 are separate views of two of the hubs or roll-backs, and Figs. 5 and 6 are separate views of the guard-sleeve and rose which inclose the knob-shanks to protect the knob connection.

A represents the frame of a lock which is mortised into a door R and within which are provided, as shown, such ordinary lock mechanism as I have found it convenient to employ in connection with my improvements, comprising a latch-bolt B, with spring B' for normally projecting the same, means for operating said bolt from the knob-spindles, including, as shown, the usual latch-lever H and slide H', and a common stop mechanism, including the detent-arm J, adapted to engage the hub or roll-back K, the latter in my improved construction being one of three roll-backs arranged to operate directly or indirectly upon the bolt, as hereinafter described. These three hub-levers or roll-backs (marked, respectively, K, M, and N) are mounted on separate spindles, comprising an interior or key spindle C, having a central enlargement  $c$ , preferably of square section, upon which the roll-back M is mounted, and two knob-spindles or shank extensions D and E, of angular cross-section, rotatably mounted upon the key-spindle C, one on each side of the enlargement  $c$ , and carrying the independent hub-levers or roll-backs K and N. To these sleeve-spindles D and E the inner knob F and outer knob G, respectively, are

secured, thus permitting the roll-backs N and K, respectively, to be turned thereby except when the latter is locked by engagement therewith of the detent-arm J for the purpose of preventing such operation by means of the knob G. The roll-backs K and N, as shown, operate indirectly upon the bolt B through the slide H' and latch-lever H, as usual, the roll-backs moving the slide when turned in either direction by the respective knobs, and thus rocking the lever H, which bears against the head  $b$  of the bolt. When, however, the stop J is thrown into engagement with the roll-back K, the latter is locked, so that neither the spindle E nor knob G can be turned to withdraw the bolt. To operate the latter from the outside, the roll-back M, which has an arm  $m$  adapted to directly engage the head  $b$  of the bolt, is provided. This, as already described, is mounted upon the middle angular portion  $c$  of the central spindle C. The latter is arranged to be operated by means of a key inserted into the key-barrel P, which, as shown, extends through an ordinary pin-tumbler lock G' in the knob G, the outer end of said barrel projecting through a central opening in the latter, while the inner end, as shown, is provided with a slot  $p$ , into which the flattened end  $c'$  of the spindle C extends, so as to cause the latter to be rotated with the key-barrel when the latter is released and turned by the key. This slot connection of the spindle C to the key-barrel permits of adjusting the knob G upon the spindle E to suit varying thicknesses of the door R, the flattened end  $c'$  of the spindle projecting a greater or less distance into the slotted end of the key-barrel, as required. The hollow shank  $g$  of the knob is adjustably secured to the sleeve-spindle E, as usual, by means of a screw  $s$  engaging one or other of the screw-threaded openings in the latter. In order to prevent removal of this screw and detachment of the knob, the rose Q, which is secured to the outer face of the door, is provided with a cylindrical extension  $q$ , which entirely incloses the shank of the knob, so that access cannot be had to said screw except by first removing the inner knob F and withdrawing the spindles from the lock. While this cylindrical extension  $q$  of the rose effectually prevents the removal of the screw  $s$  and of the knob, except as



stated, I find it important that said screw should be positively prevented from working loose, as any outward movement will cause friction and jamming against the encircling rose extension  $q$ . To prevent this, I provide an intermediate guard-sleeve  $S$ , which snugly incloses the shank  $g$  of the knob after the screw  $s$  is in place and which is loose within the rose extension  $q$ , thus serving to insure free movement of the knob, as well as the retention of the screw  $s$ . This special guard-sleeve is also applied to the inside knob connection, with the difference that provision is made for conveniently inserting and removing the screw  $s$  when the rose  $Q'$  is loosened from the face of the door, both the sleeve and the cylindrical extension of the rose being provided with openings  $s'$  and  $q'$ , respectively, which can both be set to register with the screw-opening in the knob-shank  $f$ , so as to permit insertion or removal of the screw, and the sleeve being turned after such insertion so as to cover the screw. This is effected, as shown, by providing the sleeve with a slight projection  $s^2$ , which is engaged by a slot or recess  $q^2$  in the rose extension, so that said sleeve may be turned, as stated, by the loosened rose, and after the latter is fastened allow sufficient movement of the knob without disturbing the guard-sleeve. This feature of my invention, while particularly important in connection with this class of locks, is also applicable with advantage to similar knob connections on ordinary locks.

My improved lock may be applied in the form shown as readily as an ordinary mortise-lock and without mutilation of the face of the door, also without requiring the use of any escutcheon-plates whatever. The key-spindle  $C$ , with the knob-spindles or shank extensions  $D$  and  $E$  strung upon it between the intermediate enlargement  $c$  and the end heads or collars  $c^3$   $c^2$ , may be inserted after the lock is in place, with the knob  $G$ , formed of united parts, as indicated, fastened to knob-spindle  $E$  and the slotted key-barrel  $P$  engaging the flattened end  $c'$  of the spindle  $C$  as required to suit the thickness of the door, and with the guard-sleeve  $S$  and rose  $Q$  strung upon it. The inner rose  $Q'$  and inner knob, with its guard-sleeve upon it, are then strung upon the projecting end of the knob-spindle  $D$ . The screw  $s$  is passed through the registering holes in the guard-sleeve and rose to fasten the knob, the rose is then turned to move the guard-sleeve until it covers the screw-head  $s$  and permits the required movement of the knob without disturbing said sleeve, and the rose is then fastened to the door. The latch-bolt may now be operated, as usual, by either the outside or inside knob, except when the stop  $J$  is thrown into engagement with the hub or roll-back  $K$ , thereby locking the outside knob  $G$ . When thus locked, the bolt is operated through the central roll-back  $M$  by means of a key inserted through the open face of the knob into the

key-barrel  $P$ , thus releasing the latter and permitting the turning of the spindle  $C$ . Any pull upon either knob is carried through the spindle  $C$  to the opposite face of the door, and all objectionable strains and wear are avoided.

While I have shown and described my invention as preferably applied to a lock of ordinary construction, I do not desire to limit myself to this specific application, as it may be readily adapted to other constructions.

What I claim is—

1. In a lock the combination with the bolt, of actuating mechanism therefor comprising a knob-spindle carrying a roll-back in operative engagement with said bolt, an independently-rotatable but longitudinally-immovable key-spindle within said knob-spindle carrying a separate roll-back in operative engagement with said bolt, a key-operated mechanism to lock said key-spindle to the knob-spindle, a separate stop mechanism for said knob-spindle and an inner knob or handle upon the opposite end of said key-spindle and connected by the latter with said knob-spindle substantially as described whereby a pulling strain upon either knob is conveyed through said key-spindle to the opposite side of the door.

2. In a lock the combination with the bolt, of actuating mechanism therefor comprising two independently-operated knob-spindles each carrying a roll-back arranged in operative engagement with said bolt, an independently-rotatable key-spindle within said knob-spindles carrying a separate roll-back also arranged in operative engagement with said bolt, a key-operated mechanism to lock said key-spindle to one of said knob-spindles, and a stop mechanism for said last-mentioned knob-spindle.

3. In a lock the combination with the bolt, of actuating mechanism therefor comprising a key-spindle carrying a roll-back arranged to operate said bolt, a knob having a hollow spindle extension longitudinally adjustable therein and rotatable on said key-spindle, and a tumbler-lock carried by said knob and comprising a key-barrel having a longitudinally-adjustable connection with said key-spindle substantially as set forth.

4. In a lock the combination with the bolt, of actuating mechanism therefor comprising a longitudinally-immovable key-spindle, and knobs having fixed spindles rotatably mounted on the opposite ends of said key-spindle and connected longitudinally by the latter, one of said knob-spindles having a key-lock engagement with said key-spindle and each of said knob-spindles being arranged in independent operative engagement with the bolt, substantially as set forth.

Signed at Reading, Pennsylvania, this 30th day of July, 1901.

PHILIP SEISLER.

Witnesses:

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