(No Model.)

J. ALFORS.

LOCK.

No. 567,063. Patented Sept. 1, 1896.

Fig. 1.

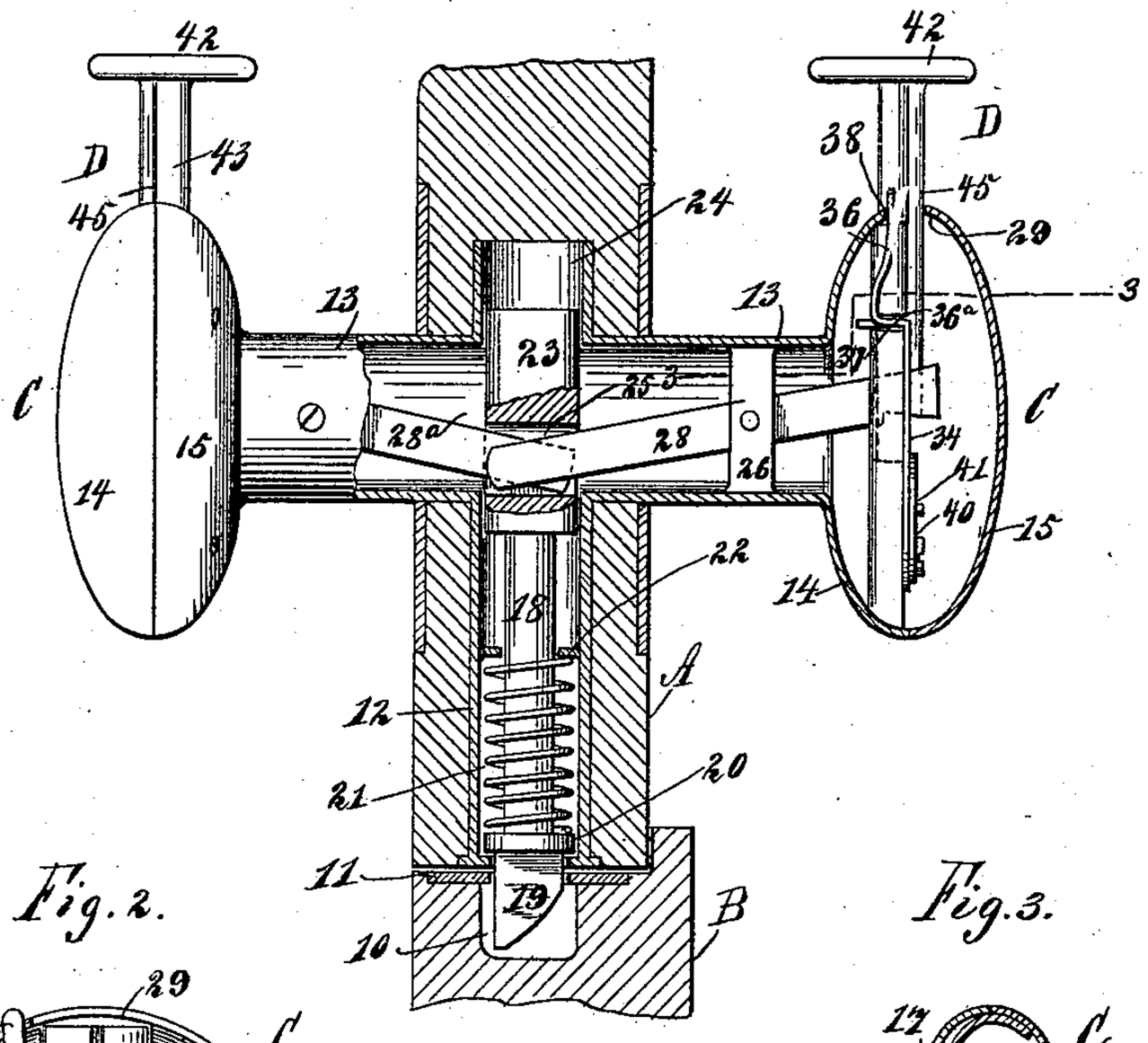


Fig. 2.

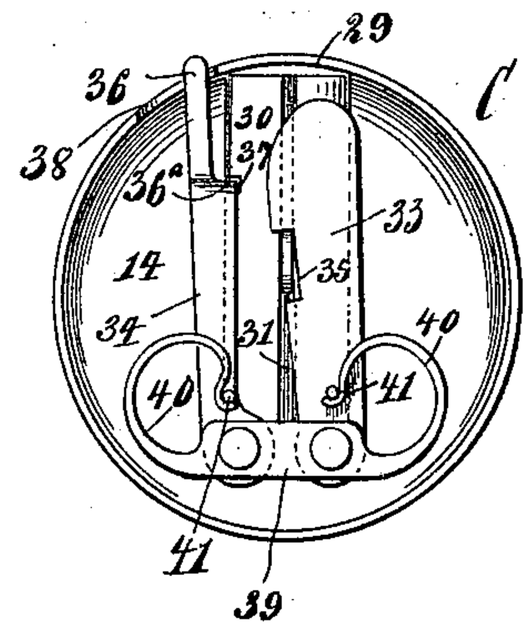


Fig. 3.

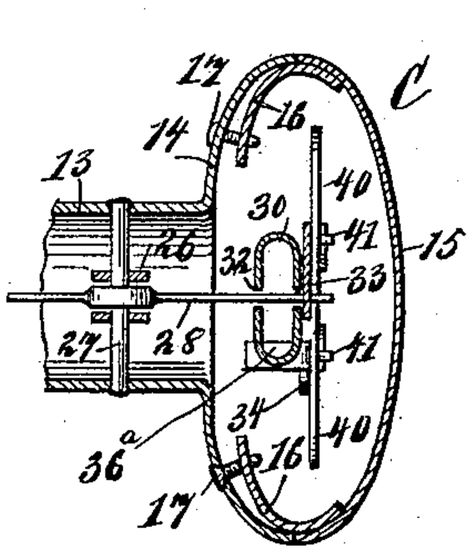


Fig. 4.

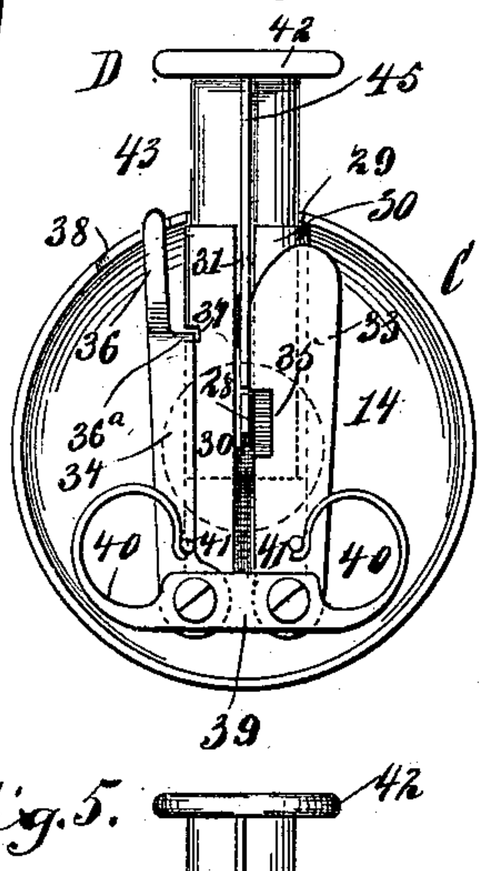
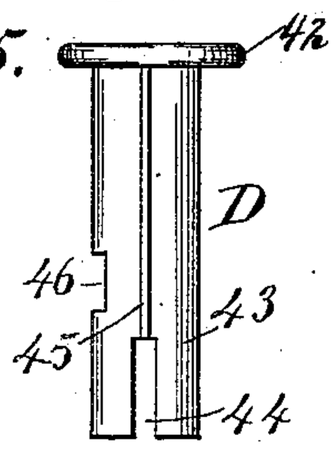


Fig. 5.



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JOHN ALFORS, OF HANNA, WYOMING.

LOCK.

SPECIFICATION forming part of Letters Patent No. 567,063, dated September 1, 1896.

Application filed May 6, 1896. Serial No. 590,430. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALFORS, of Hanna, in the county of Carbon and State of Wyoming, have invented a new and useful Improvement in Locks, of which the following is a full, clear, and exact description.

The object of my invention is to provide a lock adapted for use upon doors, drawers, or wherever an ordinary lock may be employed, in which lock the knobs will be stationarily attached to the casing, a key being employed for returning or unlocking the bolt, which key is introduced into either of the knobs instead of into the body of the lock, as is customary; and a further object of the invention is to so construct the lock that when the key is withdrawn therefrom the bolt of the lock will automatically assume and maintain a locked position, thereby insuring the locking of the door or other article to which the lock is applied before the key can be placed in the pocket or stored away.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a horizontal section through a portion of a door and door-jamb and through the major portion of the improved lock applied to the said door, the keys being shown in position in the knobs. Fig. 2 is an end view of one of the knobs with the outer or cap section removed. Fig. 3 is a section taken substantially on the line 3 3 of Fig. 1. Fig. 4 is an end view of the knob with the cap-section removed, illustrating the key in position in the knob; and Fig. 5 is a perspective view of a key used in connection with the lock.

In carrying out the invention the lock is shown as secured to a door A, the jamb B of which is provided with a recess 10, partially covered by an ordinary keeper-plate 11. The casing of the lock is practically T-shaped, embodying a tubular shank 12 and a tubular head or cross member 13, which is preferably of greater diameter than the shank member. The shank member of the lock-casing is placed horizontally in the door between the sides of the same, while the head member extends outward, preferably beyond both sides of the door, and the outer end of the tubular member of the casing is practically flush with the swing edge of the door.

At each end of the head portion of the casing a knob C is rigidly secured, and each knob is made preferably in two sections 14 and 15, the said sections being removably connected by straps 16, attached, for example, to the inner face of the outer section 15, being secured to the inner section 14 by means of screws 17 or their equivalents. A bolt 18 is held to slide in the shank portion of the casing, and the bolt is provided at its outer end with the usual latch-head 19, which, when the door is closed, extends through the keeper 11 into the recess 10 of the door-jamb. A collar 20, formed on the bolt adjacent to its latch-head, limits the outward movement of the bolt, and the latch-head is held normally in locking position through the medium of a spring 21, coiled around the bolt and having bearing against the collar 20 and a flange 22, formed within the shank portion of the casing. The inner end 23 of the bolt is enlarged in diameter, and the enlarged inner end or inner head 23 of the bolt extends across the head portion or member of the casing and into a central tubular extension 24, which is in alinement with the shank portion of the casing, as best shown in Fig. 1, and a slot 25 is diametrically made in the inner head 23 of the bolt, parallel with the head-section of the casing.

At each side of the center of the head-section of the lock-casing preferably two parallel cross-bars 26 are secured, and between each set of cross-bars a lever is fulcrumed, the right-hand lever being designated as 28 and the left-hand lever as 28^a. Both these levers extend into the recess or slot 25 of the bolt, one independent of the other, and the outer ends of the levers are carried within the knobs C. In one side of each knob an opening 29 is produced leading into the interior, and within each knob a tube 30 is secured, open at one or at both ends, and one open end of the casing is in register with the opening 29 in the knob. The shape of the opening 29 and the cross-sectional shape of the tube 30 are prac-

tically the same, being preferably somewhat oval, as illustrated in Fig. 3.

The tube 30 in the knob is provided upon its outer face, at the center, with a slot 31, which extends from its outer end practically to its inner end, and a registering slot 32 is made in the inner face of the tube 30, the back slot being made ordinarily at a central point, and the outer ends of the levers 28 and 28ª, when passed within the knobs, are carried through the front and the rear slots in the tubes 30 of the knobs and extend outwardly beyond the outer or front faces of the tubes.

At one side of the outer face of a knob-tube a locking-arm 33 is located, while a second locking-arm 34 is placed at the opposite side of the center of the tube, as shown in Figs. 2 and 4. Each one of these locking-arms is pivoted at its lower end to the front face of the knob-tube, and the locking-arm 33 is provided with a recess 35 in its inner edge adapted to receive and serve as a keeper for the bolt-lever, which is passed through the knob-tube, while the opposite locking-arm 34 is provided with a handle 36, so bent as to form a shoulder 36ª, which will enter a slot 37, made in the side of the knob-tubes, as shown in Figs. 2 and 4, and the handle end of the locking-arm 34 extends outward through a slot 38 made in the knob. The arm 33 is a locking-arm for the bolt-lever, while the arm 34 is adapted to lock the key D in the knob.

The body portion of a spring 39 is preferably made to cross the outer face of the lower portion of the knob-tube, and between the body portion of this spring and the tube the locking-arms 33 and 34 are pivoted. The ends 40 of the spring are bent upward and inward over the body and terminate in hooks or their equivalents, which engage with pins or projections 41, formed on or attached to the locking-arms 33 and 34, the curved portions of the spring serving to normally hold the locking-arms in their locked position.

The key D comprises a head 42 and a tubular body 43, which is of corresponding cross-sectional shape to that of the knob-tube the key is adapted to enter, and the key is further provided with a slot 44 in its bottom and a longitudinal rib 45 upon the central portion of its front face extending from the head to the bottom slot, while in one side of the body of the key an opening or slot 46 is made.

In operation, when a key is introduced into the tube of a knob and pressed inward, the rib 45 of the key will enter the long slot 31 in the front of the tube, and the bottom slot 44 in the key will receive the outer or projecting end of the bolt-lever contained in the knob. Therefore, when the key is pressed inward, the bolt-lever will be forced in direction of the inner end of the knob-tube, and the inner end of the bolt-lever will be forced in an inwardly direction in the slot 25 of the bolt, carrying the said bolt inward and withdrawing the latch-head from its keeper, permitting the door to be opened, and when the key is fully pressed downward in the knob the shoulder 36ª of the locking-bolt 34 will enter the slot or opening 46 of the key and prevent the withdrawal of the key, and will likewise prevent the spring of the bolt acting, so that the door may be closed at any time without locking, it being understood that when the key is forced in the knob the locking-arms 33 and 34 are forced outward, so as to relieve the said arms from engagement with the bolt-lever and permit of the passage of the key. When the key is withdrawn, the spring returns the locking-arms to their normal position, and the spring of the bolt will then act to force the bolt outward, and the door will be locked when it is closed. It will be understood that the lock may have one knob only, if so desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a lock, the combination, with a casing, a spring-controlled bolt held to slide in the casing, a fixed hollow knob, a tube located in the said knob and communicating with its exterior, the said tube being provided with an opening in the front and in the back, a lever fulcrumed in the casing, one end of which lever enters the bolt the other end being passed through the slots in the knob-tube, and spring-controlled locking-arms located at opposite sides of the knob-tube, one arm entering the tube and the other being adapted for locking engagement with the bolt-lever, of a key shaped to slide in the said tube, having a recess in its lower end to receive the said bolt-lever, and being also provided with a rib which extends through the slot in one face of the knob-tube, and a side opening adapted to receive the locking-arm which extends within the said tube, the said locking-arm being operative from the exterior of the knob in which the lock is located, as and for the purpose specified.

2. The combination with a casing, of a bolt, a lever having connection with the bolt, a tube across which the lever passes, a locking-arm normally holding the lever, a second locking-arm adjacent to the first, and a key capable of moving in the tube to rock the lever, the key being also capable of disengaging the first locking-arm from the lever, and the second locking-arm being capable of holding the key, substantially as described.

3. The combination with a casing, of a bolt, a lever in connection with the bolt, a tube across which the lever passes, a key capable of movement within the tube, a locking-arm pivotally carried by the tube and capable of holding the lever and of being released by the key, a second locking-arm also pivoted to the tube and capable of holding the key, and springs carried by the casing and pressing the locking-arms, substantially as described.

4. A lock having a casing, a bolt within the casing, a lever fulcrumed in the casing and having connection with the bolt, a tube

across which the lever passes, a locking-arm capable of removably engaging the lever, and a second locking-arm carried by the tube and capable of holding a key, substantially as described.

5. A lock having a casing, a bolt movable in the casing, a lever fulcrumed in the casing and in connection with the bolt, means for guiding the key, the lever passing adjacent to said means, a locking-arm capable of removably holding the lever, and a second locking-arm capable of holding a key, substantially as described.

6. The combination with a casing, a spring-pressed bolt therein, a lever within the casing and in connection with the bolt, a tube across which the lever passes, a locking-arm pivoted adjacent to the tube and capable of holding the lever, a key capable of disengaging said locking-arm and of moving the lever, and a second locking-arm capable of holding the key, substantially as described.

7. The combination with a casing, of a spring-pressed bolt, a lever having connection with the bolt, a tube longitudinally slotted and through which slots the lever extends, a spring-pressed arm pivotally mounted on the tube and capable of removably holding the lever, a second spring-pressed arm also mounted on the tube, and a key having a longitudinal rib alined with a slot and having a notch in one side, the rib being capable of disengaging the first locking-arm with the lever and the slot of receiving the lever to move the same and the notch being capable of receiving a portion of the second locking-arm whereby to hold the key, substantially as described.

8. A key having a longitudinal rib alined with a slot in one end of the key, and a notch in one side of the key, substantially as described.

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Witnesses:
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