No. 752,624. PATENTED FEB. 16, 1904.

P. LA BELLE.

LOCK.

APPLICATION FILED OCT. 16, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

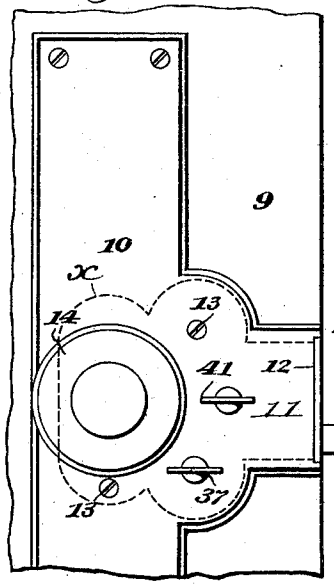


Fig. 2

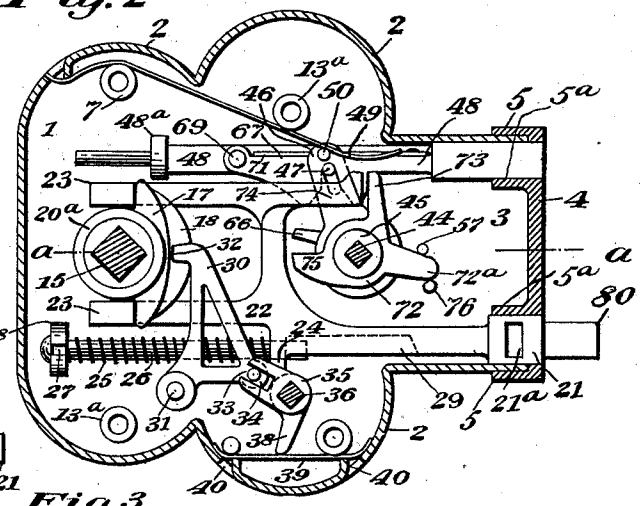


Fig. 3

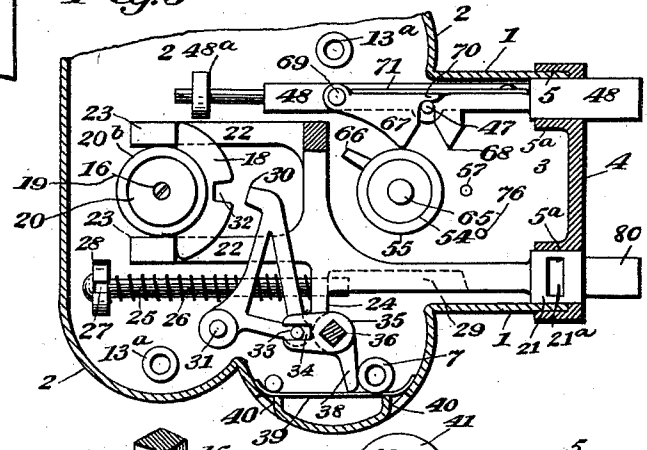


Fig. 5

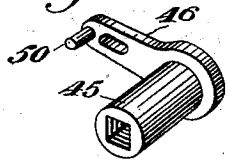


Fig. 6

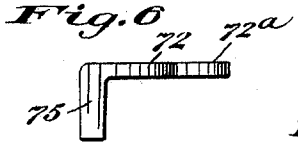


Fig. 4

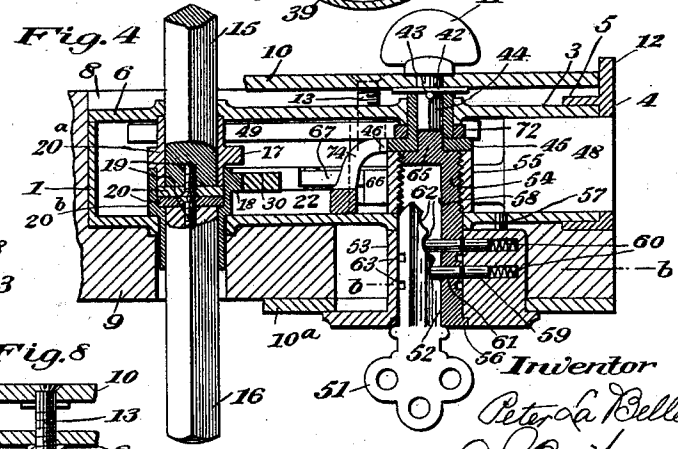


Fig. 7

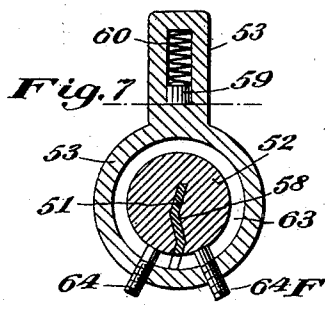
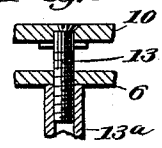


Fig. 8



Witnesses

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 9

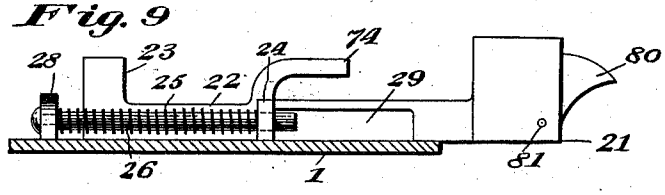


Fig. 10

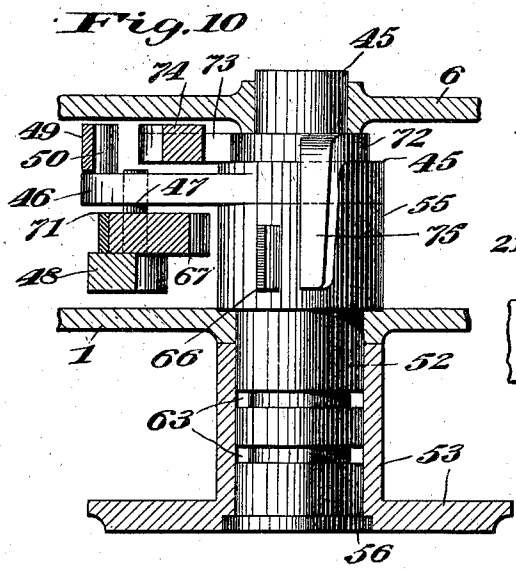


Fig. 11

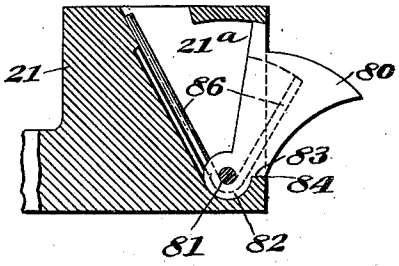


Fig. 12

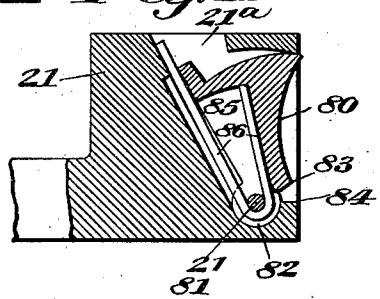


Fig. 13

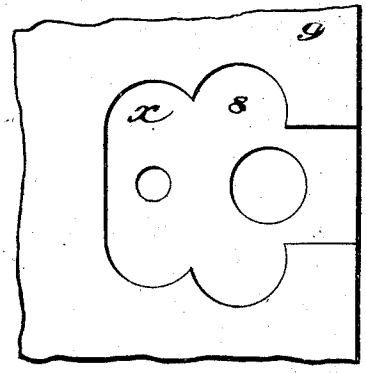
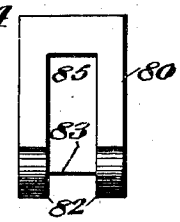


Fig. 14



Witnesses

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No. 752,624. Patented February 16, 1904.

UNITED STATES PATENT OFFICE.

PETER LA BELLE, OF ANDERSON, INDIANA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 752,624, dated February 16, 1904.

Application filed October 16, 1902. Serial No. 127,575. (No model.)

To all whom it may concern:

Be it known that I, PETER LA BELLE, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in locks, and has for its object to provide a lock of a simple and inexpensive nature and of a strong, simple, and compact construction not liable to be readily deranged or broken and having an improved arrangement of its several parts whereby the lock is rendered more easy of application and adjustment in position for use and a greater degree of security is afforded.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved lock, whereby certain important advantages are attained and the device is made simpler, cheaper, and more secure and is otherwise better adapted and made more convenient for use than various other forms of lock heretofore devised, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In order that my improvements may be the better understood, I have shown in the accompanying drawings a construction wherein my invention is embodied in a door-lock.

In said drawings, Figure 1 is a view showing part of a door to which the improved lock is applied. Fig. 2 is a view of the lock, one wall of the casing being removed to show the operative parts; and Fig. 3 is a partial view similar to Fig. 2, but showing a different position of certain of the parts, other parts being omitted to avoid obscurity. Fig. 4 is a section taken through the improved lock in the plane indicated by the line *a a* in Fig. 2. Fig. 5 is a perspective view showing the arrangement of one of the cams for use in throwing the bolt of the lock. Fig. 6 is a view showing the form of another cam employed for communicating the movement of a key to the latch-bolt. Fig. 7 is an enlarged partial section taken in the plane indicated by line *b b* in Fig. 4 and showing the arrangement of pins and tumblers in the cylinder of the improved lock. Fig. 8 is a fragmentary sectional view showing an arrangement for adjusting the position of the lock-casing toward and from an escutcheon or face plate. Fig. 9 is a partial section taken through the lock and showing the latch-bolt in side elevation. Fig. 10 is an enlarged partial section taken through the lock in a plane at right angles to the plane of the section in Fig. 7. Fig. 11 is an enlarged section taken through the end of the latch-bolt and showing certain features to be hereinafter described. Fig. 12 is a view similar to Fig. 11 but showing the swinging end portion of the bolt in a retracted position. Fig. 13 is a view showing a fragment of a door in which an opening has been formed to receive a lock according to my invention. Fig. 14 is a view showing detached the swinging end portion of the latch-bolt.

While I have shown in the views my improvements embodied in a lock for doors, I do not wish to be understood as limiting myself to the use of the invention exclusively in such locks, since it will be seen that with some modifications the lock may be adapted for other uses.

As shown herein, the lock comprises a casing 1, which may be cast or pressed from sheet metal, and is of a flattened form to adapt it for application to a door-stile. The upper and lower walls of the casing are each formed of two rounded parts 2 2, each of which is curved to impart to its outer surface a parti-cylindrical shape. The radii of the curves of the parts 2 are, as shown, equal, and the arrangement is such as to permit the lock-casing to be inserted in an opening 8, formed by boring four auger-holes in one face of the door-stile, the portion of said stile between the auger-holes being chiseled out to a depth sufficient to receive the casing. The rear part of casing 1 is straight and is arranged tangential to the rear upper and lower parts 2, but may

be otherwise formed, and the front portion of the casing has a central extension 3, adapted to extend forward toward the face or edge of the stile, and has a face-plate 4, located at said edge of the stile and through which the bolts are adapted to extend into engagement with a striking-plate (not shown) on the door-frame. To receive the central forward extension of the casing, the opening formed in the door-stile will be extended at its central part through to the edge of the stile, so as to give said opening the form indicated in dotted lines at *x* in Fig. 1 and in full lines in Fig. 13. The extension of the casing is of less width measured vertically than the rear portion of the casing, at top and bottom of which the parts 2 are formed, and since the opening 8 in the stile is formed to snugly receive and fit the casing it will be evident that when the casing is in said opening it will be held without the use of any screws whatever against removal at the edge of the stile and can only be removed from the opening at the side of the stile. For facilitating the centering of the auger in boring the auger-holes for forming the opening 8 a templet of suitable form will be provided.

The face-plate 4 for the lock-casing is formed with a flanged wall 5, adapted to fit around outside the reduced edge portion 3 of the casing, and said wall may be held to the casing in any way. If the casing be made of cast metal, the face-plate may be cast integral therewith, if desired. The casing has a removable cap or cover 6, held on it by screws or the like and adapted when detached to afford access to the interior parts in a well-known way.

In connection with the casing constructed as above described and arranged in opening 8 in the door I provide an escutcheon-plate 10, held on the side of the stile by screws and adapted to cover said opening to prevent the removal of the lock from the door except by removing the escutcheon-plate. The central part of plate 10 is extended forward, as shown at 11, to the edge of the stile in such a way as to cover the contracted front part of opening 8, in which is the extension 3 of the casing, and the front edge of the extension 11 of the escutcheon-plate is cut out to form a guideway in which is received a projecting portion 12 of the face-plate 4 of the casing. For holding the casing to plate 10 I provide screws 13, collared, as shown in Fig. 8, to plate 10 and adapted to engage threaded openings 13^a in the casing in such a way that the casing is capable of a certain degree of adjustment within opening 8 and toward and away from plate 10 to permit of adjusting the bolts for proper engagement with a striking-plate. By turning the screws 13 the casing may be moved toward and from plate 10 without removing said plate from the door.

10^a indicates an escutcheon-plate on the door-stile at the side opposite plate 10, and 14 indicates the knob, of which one will be arranged at each side of the door.

15 and 16 represent knob-spindles, one for each knob, said spindles being mounted in the casing for independent movement and being arranged to project in opposite directions from the casing and adapted for operation from the knobs.

The plate 10 will preferably be at the inner side in the case of a street-door, plate 10^a being at the outer side, and the knob-spindle 15 is adapted for connection with the knob inside the door, while spindle 16 is connected with the knob at the outside.

20^a indicates a cam on spindle 15 inside the casing and having a cam-face 17 for communicating the movements of the spindle to the latch-bolt 21 of the lock, and 20^b indicates a similar cam on spindle 16 and adapted to also throw latch-bolt 21 independent of cam 20^a on spindle 15. Cam 20^b has a cam-face 18 similar to cam-face 17 of cam 20^a, and in the normal position of the parts (seen in Figs. 2 and 3) the cam-faces 17 and 18 are side by side, each adapted for engagement on upturned parts 23 at the rear ends of the forks 22 of the latch-bolt, said forks being arranged at opposite sides of the spindles, so that the bolt will be moved if either spindle be turned in either direction.

The spindles 15 and 16 are axially alined, and the cams thereon have their outer ends engaged with bearings in the side walls of the casing, while their inner adjacent ends are adapted for reciprocal turning engagement, the inner end of cam 20^a having an annular projection extended from it and engaged for turning movement in a similarly-formed opening or chamber in the adjacent end of cam 20^b. To hold the spindles in place in the casing prior to the attachment of the lock to the door, I provide the adjacent ends of the spindles with heads 20, held by screws 19 to the spindles and adapted to abut one on the other, said heads being received and housed in the chambered end of cam 20^b. This construction is clearly shown in Fig. 4 and securely holds the spindles to the casing, while permitting free turning movement of either spindle.

The latch-bolt 21 of the lock is formed with a pivoted or swinging end portion 80, held upon a pivot-pin 81, extended across a recess or chamber 21^a in said end of the bolt, into which recess or chamber said pivoted or swinging portion 80 is adapted to be received and housed when swung upon its pivot-pin, as shown in Fig. 12, the said swinging end portion of the bolt being adapted on contact with a striking-plate (not shown) to be swung back into said recess, so that the door may be closed without sliding the body of the latch-bolt 21 longitudinally in the casing. The forward part of the swinging portion 80 of the bolt is formed with a shoulder 83 for contact with a

similar shoulder on the forward portion of the bolt 21, as seen at 84, to limit the forward swinging movement of said portion 80. The pivoted portion 80 is also provided with lugs 82, perforated for the passage of the pivot-pin 81, and has in its rear side a recess 85, in which is engaged one arm of a bent spring 86, the other arm of which has engagement with the wall of recess 21[a] and tends to protrude the swinging portion 80, so that it may normally be extended from said recess. By this construction it will be seen that the swinging portion 80 of the bolt may operate independently of the body portion in the closing of the door, but operates only with the sliding movement of the body portion in opening the door.

24 indicates an ear on bolt 21, through which passes a pin 26, having one end engaged in the ear and its other end made with a reduced part 27, held in a notched lug 28. A spring 25, coiled on the pin, holds the bolt normally pressed from the casing, as seen in Figs. 2, 3, and 9. When the bolt is retracted on turning either spindle, ear 24 plays on pin 26, compressing spring 25, and pin 26 beyond ear 24 is received in a recess 29 in the bolt, as seen in Fig. 9.

30 indicates a dog pivoted at 31, with its nose adapted to engage a notch 32 in cam 20[b] on the outer spindle 16. For operating the dog 30 I provide a button 37, collared on the plate 10 and having a stem 36, extended into the casing 1, and made of rectangular cross-sectional form for engagement in a similarly-formed opening or bore in a tumbler 35, held to turn in the casing, as shown in Figs. 2 and 3, and formed with a slotted arm 34, with which is engaged a pin 33, engaged in the dog 30. The tumbler 35 has a projecting part or finger 38, adapted for engagement with the central part of a leaf-spring 39, extended across the interior of one of the parti-cylindrical portions 2 of the casing, the ends of said spring being arranged beneath suitable projections in the casing and being clamped in place by means of tongues 40, formed by slitting and bending inward the walls of the casing. By the described structure when the button 37 is turned its movement is transmitted through the tumbler 35 to the dog 30, causing said dog to swing pivotally to engage its nose with or disengage it from the notch 32 in the cam 20[b], and since the finger 38 of the tumbler 35 has engagement with the central part of spring 39 it will be evident that when said finger is moved in either direction from a position perpendicular with relation to said spring the elasticity of the latter will serve to impart movement to the tumbler, so that the dog will be thrown to the full extent of its movement and will be held in place until the button 37 is again turned. The button 37 turns on the plate 10 on the inside of the door, and the dog 30 has engagement with the notch 32 in the cam of the spindle for the outer knob, so that when the dog has engagement with said notch 32 the outer knob-spindle will be locked against turning, so that the latch-bolt cannot be actuated by means of the knob at such time from the outer side of the door.

41 indicates a second button also collared on the plate 10 at the inside of the door. The construction of the buttons 37 and 41 is similar and will be understood by reference to Fig. 4, wherein the arrangement of button 41 is shown in detail. The stem of the button has a rounded part, which turns in an opening in the plate 10, and inside the plate 10 a washer 42 is held on the stem by means of a pin 43. Inside the washer 42 of the button 41 is the squared portion of the stem, and such squared portion has engagement in a squared socket formed in a sleeve 45, held to turn in the casing, as will be hereinafter explained, and provided with an arm 46, slotted to receive a pin 47 on the locking-bolt 48, which latter is mounted for endwise movement in the casing and has its rear end reduced and rounded and guided in a lug 48[a], while its forward end is adapted when the bolt is moved to be protruded from the face-plate 4 of the casing in position to engage a striking-plate in the ordinary way. The bolts 21 and 48 have guides 5[a] in the face-plate 4 of the casing for affording a proper bearing-surface to them.

49 indicates a spring, one end of which is clamped by a slitted and bent portion of the casing-wall, while the opposite free end thereof is curved and arranged to bear on a pin 50 on the arm 46 of sleeve 45 in such a way that whenever said arm is moved in either direction from a central position the tension of said spring will be exerted to throw the arm to the full extent of its movement in that direction, whereby the locking-bolt 48 will be moved to a fully-thrown or fully-retracted position. By this construction it will be seen that since the button 41 is on the inside of the door no key is required to be inserted in that side for locking or unlocking the door, and thereby much inconvenience and annoyance is avoided, since all that is required for throwing or retracting the bolt to lock or unlock the door is to turn the button 41 in the required direction.

51 indicates a key adapted for use on the outside of the door and which is herein shown as made of thin corrugated metal, although it may be otherwise formed, if desired. This key 51 is adapted to be inserted in a slot 58 in a cylinder or barrel 52, held for turning movement in a casing 53, which is passed from the side of the door through an opening in the outer plate 10[a] and abuts at its inner end on the outer wall of the casing 1 of the lock in such a way that the axis of rotation of the cylinder 52 is alined with that of the sleeve 45 within the casing. The cylinder 52

is of a length such that its inner end 54 extends through an opening in the lock-casing 1, as shown in Fig. 4, and said inner end has a reduced portion 65, which fits in the bore at the adjacent end of the sleeve 45 and forms a bearing in which said sleeve turns. The cylinder 52 also has a collar 55, held on its inner end, and said collar has a finger or bit 66, adapted for engagement with lugs or projections 67 and 68 on the locking-bolt 48, one of said lugs, as 67, being pivoted at 69 on the bolt and being adapted to be engaged and raised by the bit to permit the entry thereof between the lugs when the cylinder 52 is turned in one direction.

70 indicates a finger on the pivoted lug 67, and said finger is adapted to engage on the pin 47 to limit downward movement of said lug, a leaf-spring 71 being employed to hold the said lug normally pressed downward except when engaged and lifted by the bit 66. When the bit 66 is engaged between the lugs 67 and 68, turning movement of the cylinder in either direction will move the locking-bolt 48, so that said bolt may be thrown or retracted by the insertion and turning of the key 51 at the outer side of the door.

72 indicates a cam or collar held to turn on the sleeve 45 and provided with an arm 72^a, adapted for engagement with a stop-pin 76 in the casing to limit the rotative movement of said cam or collar. The cam or collar 72 is also provided with an arm 73, arranged for engagement, when the collar is turned, with an arm 74 on the latch-bolt, which arm is extended upward, being bent out of the path of the bit 66, and has its extremity adapted to be engaged by the arm 73. The collar 72 is also provided with an arm 75, which is bent over, as shown in Fig. 6, so as to adapt it to extend when the parts are assembled past the arm 46 of sleeve 45 and into position for engagement by the bit 66 when the cylinder is turned by means of the key 51. By this construction it will be seen that when the key is inserted at the outside of the door and the cylinder 52 is turned the bit 66 will be moved into engagement with the bent arm 75 on cam or collar 72, so that the latter is caused to turn in unison with the cylinder. As the cam or collar turns the arm 73 thereon will engage on the bent arm 74 on the latch-bolt in such a way as to retract said bolt into the casing. When the key is removed, the tension of the spring 25 will serve to return not only the latch-bolt, but also the cam 72, to its normal position, the stop 76 preventing excessive movement by engagement with the lug 72^a.

The preferred construction of the cylinder 52 is shown in Figs. 4 and 7, the key being shown in Fig. 4 as provided along one face with a series of graduated recesses 62, adapted to be engaged by pins or tumblers 61, held for endwise movement in directions transverse to the cylinder, with inner ends adapted to engage in the recesses 62 and their outer ends adapted when the tumblers are properly seated in the recesses 62 of the key to be flush with the peripheral surface of the barrel. 59 indicates other tumber-pins held in openings in the casing 53 in alinement with the tumblers 61 in the initial position of the parts, said tumblers 59 being pressed by springs 60 in a direction toward the tumblers 61. By this construction before the key is inserted in the key-slot 58 of the cylinder the ends of the tumblers 61 will be depressed below the peripheral surface of the cylinder by engagement with the ends of the tumblers 59, and said ends of tumblers 59 will by the pressure of springs 60 be pressed into the chambers of the cylinder, wherein tumblers 61 play in such a way as to hold the cylinder against turning movement. When the key is inserted, each of its recesses 62 must be of just the depth to move the corresponding tumbler 61 out so that its extremity shall be flush at the periphery of the cylinder, for if either of the recesses be too shallow the corresponding tumbler 59 will be forced outward so that its outer end will be extended from the peripheral surface of the cylinder and into the chamber of the casing wherein the corresponding tumbler 59 plays, so that in such case the cylinder is also locked against turning movement.

In addition to the tumblers above described I provide the cylinder with peripheral annular grooves or channels 63, in which are engaged the tips of screws or pins 64, removably held in the cylinder-casing 53, there being two such pins or screws for each groove 63, one pin or screw at each side of the key-slot when the cylinder is in its initial position. The projecting ends of the pins or screws 64 are caused in this way to act as wards, and the key 51 is provided in its edge with notches to correspond with the channels or grooves 63 in order to permit the key to be turned. If the notches in the key be not properly arranged to coincide with the wards produced by the ends of the screws 64, it is evident that turning of the key, even if the tumblers 59 be properly moved, will be rendered impossible. The screws 64 are capable of being removed, adjusted, and interchanged to adapt the cylinder for different forms of key.

The outer end of the key barrel or cylinder has an enlargement countersunk in the face of the casing 53, and since the inner end 54 of the cylinder in the casing 1 carries the enlarged collar 55 it is evident that the casing 53 is securely held in place in proper relation to the other parts. To prevent turning of the casing, I provide the inner end thereof with a pin or stud 57, which has engagement in an opening in the casing 1 of the lock, as shown in Figs. 2, 3, and 4. The opening in the door-stile through which the cylinder-casing is extended is circular in outline, so that it can be

conveniently and quickly bored with an auger. The pin 57 and its opening in the casing 1 are arranged so as to hold the cylinder-casing 53 in such position that the key-slot 58 in its initial position shall be horizontally extended, as indicated in Fig. 4, so that the said slot will be adapted to more readily receive the key, no matter at which stile of the door the lock be arranged.

In the operation of the improved lock it will be understood that when both knob-spindles are free and the bolt 48 is not thrown the door may be readily opened from either side by simply turning the knobs. When the button 37 is turned to throw the dog in locking engagement with the cam 20^b of the outer knob-spindle to lock said spindle, the latch-bolt 21 may only be operated from the outer side of the door by means of the key, which when inserted in the cylinder communicates thereto and to the cam or collar 72 its turning movement, the arm 73 of collar 72 engaging arm 74 of the bolt 21 and serving to retract the same. When it is desired to lock the door from the inside, whether the outer knob-spindle be locked or not, the locking-bolt 48 may be thrown by turning the button 41 without the use of any key whatever. When the door is thus locked, the key 51 when inserted from the outside of the door and turned first communicates its movement to the cylinder, the bit 66 on collar 55 at the inner end of the cylinder coming in engagement with the projection 67 and serving to retract the locking-bolt 48. A reverse movement of the key will also throw bolt 48 into locked position, as will be obvious. When the key is turned to retract the bolt 48, the movement of the cylinder 52 is imparted through the collar 72 to retract the latch-bolt 21 also, so that by a simple turning movement of the key both bolts of the lock may be retracted and the door may be more conveniently opened, whether the outer spindle is locked or not.

From the above description of my improvements it will be obvious that the improved lock constructed according to my invention is especially well adapted for use by reason of the ease with which it may be placed in position on the door, as well as by reason of the convenience of its operation and its simplicity and strength. The absence of any master-key whatever is also a very important advantage. since it insures against inconvenience due to leaving the key in the lock. It will also be obvious from the above description of my invention that the lock embodying my improvements is capable of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the various parts of the device herein set forth in carrying out my invention in practice.

Having thus described my invention, I claim—

1. In a lock, the combination of a casing adapted to be contained in an opening in a door-stile or the like, an escutcheon-plate adapted to be extended above said opening and screws collared in the escutcheon-plate and having threaded engagement with the lock-casing and adapted, when turned, to move the casing toward and from the escutcheon-plate, substantially as set forth.

2. In a lock, the combination of a casing adapted to be contained in an opening in a door-stile or the like, a bolt movable in the casing, means for moving the bolt, an escutcheon-plate adapted for attachment to the door over the opening therein, said lock-casing being adjustable toward and from the escutcheon-plate, and a button collared in the escutcheon-plate and provided with a stem operatively engaged with the bolt-moving means, substantially as set forth.

3. In a lock, the combination of a casing adapted to be contained in an opening in a door-stile or the like, a bolt movable in the casing, a socketed part held for movement in the casing and operatively connected with the bolt for moving the same, an escutcheon-plate adapted for attachment to the door over the opening therein and a button collared on the escutcheon-plate and provided with an angular stem having a detachable engagement with the socketed part in the casing, substantially as set forth.

4. In a lock, the combination of a casing adapted to be contained in an opening in a door-stile or the like, a bolt movable in the casing, a socketed part held for movement in the casing and operatively connected with the bolt for moving the same, an escutcheon-plate adapted for attachment to the door over the opening therein, screws collared on the escutcheon-plate and having threaded engagement with the lock-casing for adjustment of the casing toward and from the escutcheon-plate and a button also collared on the escutcheon-plate and provided with a stem having a detachable, sliding engagement with the socketed part in the casing, substantially as set forth.

5. In a lock, the combination of a casing, a latch-bolt movable in the casing, knob-spindles adapted for independent turning movement and for connection with knobs at opposite sides of the casing and having operative connection with the latch-bolt for moving the same, a detent device for holding one of the spindles against turning movement, and a rotative button movable relatively to the casing and operatively connected with the detent device, substantially as set sorth.

6. In a lock, the combination of a casing, a latch-bolt movable therein, knob-spindles adapted for turning movement independent one of the other and adapted for connection

with knobs at opposite sides of the casing, cams on the respective spindles and provided with cam-surfaces engaged with the latch-bolt for moving the same, and one of said cams being formed with a notch, a dog pivoted in the casing and adapted for engagement with the notched cam, a tumbler movable in the casing and having an arm connected with and arranged to move the dog into and out of engagement with the cam, and a rotative button having operative connection with the tumbler to move the same, substantially as set forth.

7. In a lock, the combination of a casing, a latch-bolt movable therein, knob-spindles adapted for independent turning movement and for connection with knobs at opposite sides of the casing and having operative connection with the latch-bolt for moving the same, a detent device for holding one of the spindles against turning movement, a tumbler pivoted in the casing and having two arms one of which has engagement with the detent and a spring held at its ends in the casing and having its central part engaged by the other arm of the tumbler, substantially as set forth.

8. In a lock, the combination of a casing, a locking-bolt movable therein, a latch-bolt also movable therein, a button at one side of the casing and operatively connected with and arranged to move the locking-bolt, a knob-spindle operatively connected with and arranged to operate the latch-bolt and key-actuated mechanism located at the other side of the casing and connected with and arranged to operate both of said bolts, substantially as set forth.

9. In a lock, the combination of a casing, a bolt movable therein a cylinder mounted to turn and provided with a key-slot and with peripheral grooves intersecting said key-slot and having tumblers mounted for endwise movement along the closed edge of said slot, a casing inclosing said cylinder and formed with openings to receive the outer ends of said tumblers, spring-pressed tumblers in said openings in the casing in position for engagement with the cylinder-pins held to the cylinder-casing with portions extended in the peripheral casing-grooves, means for operating the latch-bolt from said cylinder when turned, and a key adapted for insertion in the cylinder and having notches arranged to coincide with the peripheral grooves in the said cylinder, substantially as set forth.

10. In a lock, the combination of a casing, a latch-bolt held for sliding movement therein, and provided with a recess in its extremity, a swinging part held for pivotal movement at the end of said latch-bolt and adapted, when moved in one direction, to be housed within said recess and when moved in an opposite direction, to be extended beyond the end of the latch-bolt, a shoulder on said latch-bolt and a shoulder on said swinging portion and adapted, when said portion is protruded from the extremity of the latch-bolt, to be engaged with the shoulder thereon to limit the outward movement of said swinging portion, substantially as set forth.

11. In a lock, the combination of a casing, a latch-bolt movable therein, a locking-bolt also movable in the casing, a key-cylinder mounted to turn at one side of the casing and having a projection within the casing arranged for engagement with the locking-bolt to throw the same, a sleeve within the casing and having at one end a bearing on the key-cylinder and at the other end a bearing in the casing, said sleeve having an arm connected with the locking-bolt to operate the same, a button for moving said sleeve and a cam having a finger adapted for engagement with the latch-bolt to move the same, said cam being held to turn on the sleeve and having an arm arranged in the path of the projection carried by the key-cylinder, substantially as set forth.

12. In a lock, the combination of a casing, a latch-bolt movable therein, a knob-spindle having means actuated from it for moving the latch-bolt, a locking-bolt also movable in the casing, a button at one side of the casing and having means operated from it to actuate said latch-bolt and a key-cylinder at the opposite side of the casing and having means actuated from it to move both the latch-bolt and locking-bolt, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

PETER LA BELLE.

Witnesses:
JOHN F. MCCLURE,
O. E. MCWILLIAMS.