

No. 637,305.

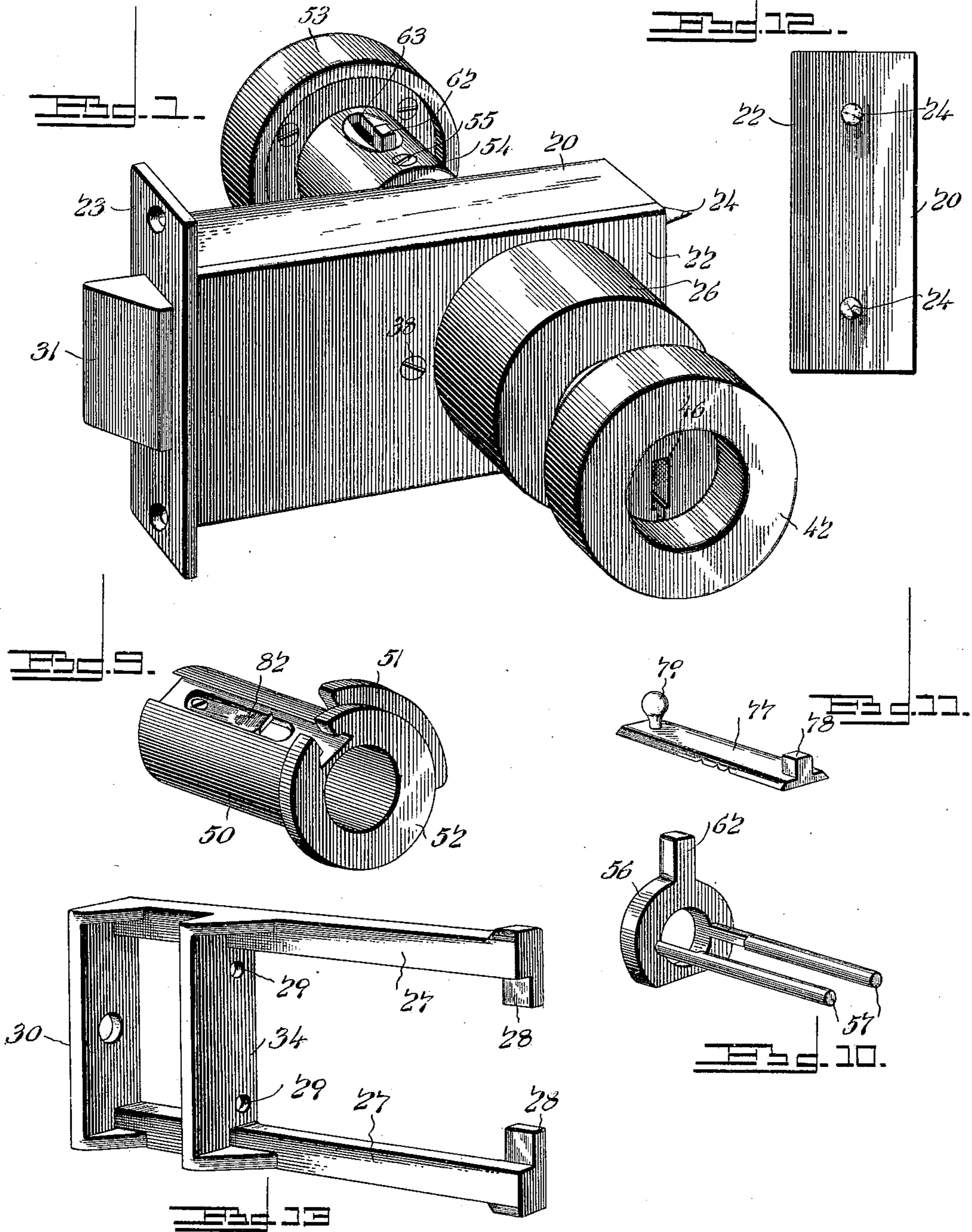
A. S. VOGT.

Patented Nov. 21, 1899.

(Application filed Dec. 31, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses

E. F. Stewart,
D. D. Cook

Austin S. Vogt Inventor

By *W. S.* Attorneys,

C. Snow & Co.

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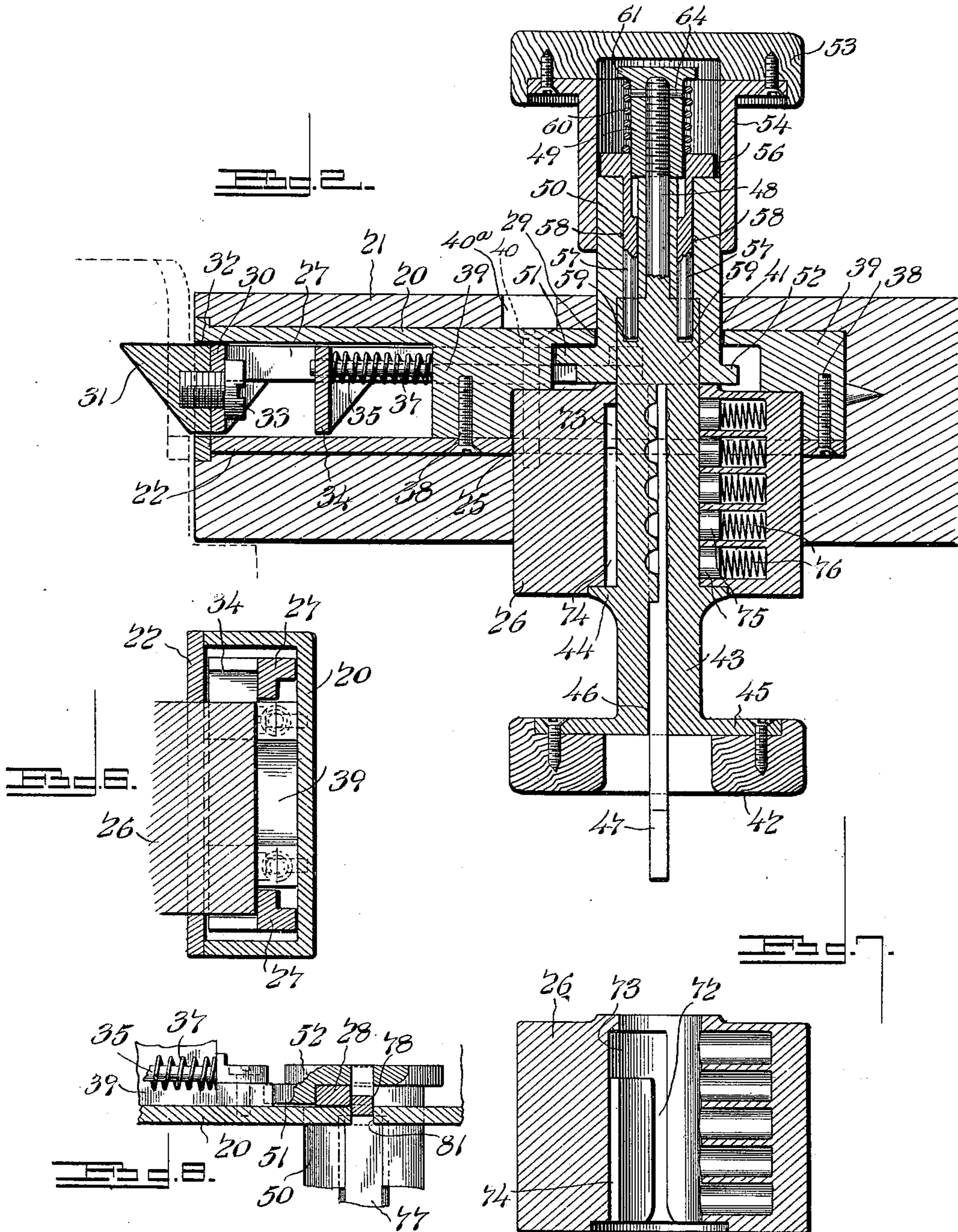
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3 Sheets—Sheet 2.



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By *W. S.* Attorneys,

Austin S. Vogt Inventor

C. A. Snow & Co.

No. 637,305.

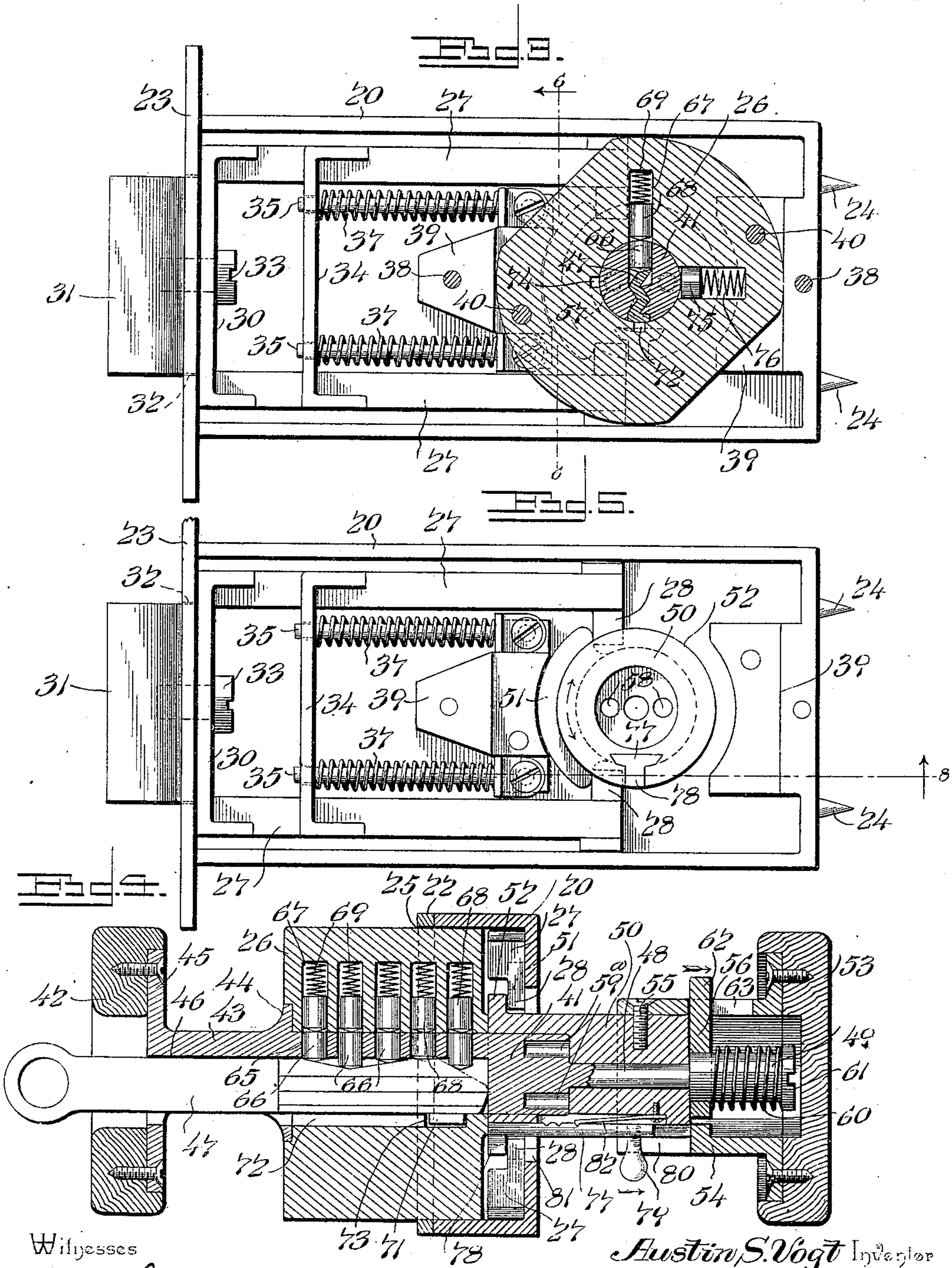
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3 Sheets—Sheet 3.



Witnesses

E. F. Stewart
[Signature]

By *[Signature]* Attorneys,

Austin S. Vogt Inventor

Cashnow & Co.

UNITED STATES PATENT OFFICE.

AUSTIN SNEERINGER VOGT, OF TYRONE, PENNSYLVANIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 637,305, dated November 21, 1899.

Application filed December 31, 1898. Serial No. 700,802. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN SNEERINGER VOGT, a citizen of the United States, residing at Tyrone, in the county of Blair and State of Pennsylvania, have invented a new and useful Lock, of which the following is a specification.

My invention relates to locks of the barrel-and-tumbler type, and has for its object to provide a lock of this class wherein a knob is attached to and is movable only with the barrel, said knob being provided with a key-hole for the reception of the tumbler-adjusting key, whereby when the key is in place it is rotatable with the knob and without special manipulation to withdraw the bolt of the lock.

A further object of the invention is to so construct the mechanism of a barrel-and-tumbler lock as to provide for shifting the barrel to render the tumbler or barrel locking mechanism inoperative, whereby the barrel is turnable by means of an attached knob without the use of a tumbler setting or adjusting key.

A further object of the invention is to provide a second knob for the manipulation of the bolt, which is movable, to retract the bolt independently of the barrel-carried knob, said second or independently-movable knob being capable of a plurality of revoluble or angular adjustments with relation to the barrel and having attached thereto the bolt-operating lug or segment whereby the angular adjustment of said lug or segment or the extent of swinging movement thereof about the common axis of the barrel and the barrel-carried knob as a center may be varied by turning the independently-movable knob.

A further object of the invention is to provide means whereby the independently-movable knob is normally locked against accidental movement or movement independent of the barrel, but is releasable by the manipulation of means within reach of a hand grasping said knob.

A further object of the invention is to provide means whereby the independently-movable knob may be locked against movement and the barrel may be locked, independently of its tumblers, to prevent the manipulation of the bolt by means of the barrel-carried

knob, even with the aid of a tumbler adjusting or setting key, without interfering with the operation of the lock by means of the inner or independently-movable knob, and also to provide such locking means, independent of the barrel-locking tumblers, as will secure the bolt against movement, independently of the barrel, to prevent the repression of the bolt by the direct application thereto of a tool outside of the lock and its cooperating members.

A further object of the invention is to provide a reversible lock of the class named whereby without change of construction the same may be applied to either a right or a left hand door, and also to provide means whereby the parts may be reversed to suit the direction of swinging movement of a door while maintaining the knobs respectively at the desired sides of the plane of the door or, in other words, with the barrel-carried knob at the outside of a house or room door.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a lock constructed in accordance with my invention, viewing the same from the outside or that side at which the barrel-carried knob is arranged. Fig. 2 is a horizontal section taken in the plane of the axis of the barrel. Fig. 3 is an elevation of the lock with the face-plate omitted and the barrel in section. Fig. 4 is a vertical section taken in the plane of the axis of the barrel. Fig. 5 is an end elevation of the stem of the independently-movable or inner knob, showing the relative positions of the arms of the yoke, the bolt-operating lug or segment, and the bolt-locking slide. Fig. 6 is a transverse section on the plane indicated by the line 6 6 of Fig. 3. Fig. 7 is a detail longitudinal section of the barrel-casing. Fig. 8 is a detail horizontal section on the plane indicated by the line 8 8 of Fig. 5. Fig. 9 is a detail view in perspective of the bolt-operating lug or segment and carrying-sleeve, forming a member of the inside or independently-movable knob-spindle. Fig. 10 is a similar view of the knob-spindle-locking clutch. Fig. 11 is a similar

view of the bolt-locking slide. Fig. 12 is an inner end elevation of the lock-casing. Fig. 13 is a detail view of the bolt-yoke.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

In the drawings I have illustrated my invention in connection with a mortise-lock, wherein 20 represents the lock-casing fitted in a mortise in the door, which is indicated in section at 21, said casing having a removable face-plate 22, a guard-plate 23, which is secured against the edge of the door, and at its rear end a plurality of marking-spurs 24, of which two are shown arranged adjacent, respectively, to the upper and lower sides of the casing. Each of these spurs or pins is located so that its point is at equal distances from three adjacent edges or surfaces of the casing. For instance, the upper spur is arranged with its point at equal distances from the upper surface and from the opposite side surfaces of the casing. Therefore in marking a door for the reception of the lock-casing it is only necessary to place the end of the case where it is desired to arrange the lock, and by pressing the spurs into the wood the exact locations for the center of a bit to be used in making the ends of the mortise are indicated. Obviously, after boring the two end holes, of which the centers are indicated, the outer sides of said holes marking the extremities of the mortise and the width thereof being equal to the thickness of the casing, the intermediate material may be removed as in the ordinary practice.

One of the side walls of the casing, and preferably the removable face-plate 22, is provided with an opening 25 for the reception of the adjacent end of the barrel-casing 26, said opening being of irregular contour and the adjacent end of the barrel-casing being of corresponding contour, whereby the lock-casing is adapted to occupy either of two positions with relation to the barrel-casing, said positions being at an angular distance of one hundred and eighty degrees. In other words, the interlocking connection between the lock-casing and the barrel-casing is such as to provide for the arrangement of the lock-casing in either of two diametrically opposite positions with relation to the barrel-casing, and in the construction illustrated this relation is effected by flattening the opening 25 at diametrically opposite points and correspondingly flattening the adjacent end of the barrel-casing, said flats being adapted to register in either of the said positions of the lock-casing with relation to the barrel-casing. This adjustment of the lock-casing provides for adapting the device for use in connection with either a right or a left hand door.

Arranged within the lock-casing is a bolt-yoke having spaced arms 27 terminating at their inner ends in opposite intumed ears 28, which are offset from the planes of the arms 27 at one side or are of less thickness than

said arms, for a purpose hereinafter explained; said ears being located adjacent to a bolt-stem opening 29 in the lock-casing, said bolt-stem opening being arranged in registration with the barrel-casing opening 25. Said yoke-arms are connected at their outer ends by a transverse bar 30, to which is attached the bolt head or nose 31, operating in a bolt-opening 32 in the guard-plate 23. The means of attachment of the bolt head or nose to the cross-bar 30 is such as to allow the former to be reversed in position, whereby the bevel thereof may be arranged toward either side wall of the lock-casing, and in the construction illustrated the means of attachment consists of a screw 33, whereby upon loosening the screw the bolt head or nose may be turned to adapt the lock to be applied to either an inwardly or outwardly swinging door. Also the arms 27 of the yoke are connected by a second cross-bar 34, through which extend guide-pins 35, attached at their rear ends to suitable brackets secured within the lock-casing, and coiled upon the guide-pins are bolt-actuating springs 37, which bear at their outer extremities against the cross-bar 34, and thus yieldingly hold the bolt extended or in its locking position. The removable face-plate 22 is secured in place by means of screws 38, engaging lugs or posts 39 within the lock-casing, and other screws 40, extending through the lock-casing from the opposite side, engage the barrel-casing 26 to secure the latter in the desired position or with the lock-casing at the desired adjustment with relation to the barrel-casing. Obviously the openings with which the screws 40 engage must be at an interval corresponding with the angle through which the lock-casing may be adjusted with relation to the barrel-casing to insure the proper engagement thereof with the barrel-casing in both positions. The screws 40 may be introduced after the arrangement of the lock-casing and barrel-casing to secure said parts together by passing them through gimlet or auger openings 40^a in the door. (Indicated in dotted lines in Fig. 2.)

In the barrel-casing is mounted a revoluble barrel 41, carrying a knob 42, which in the ordinary use of the lock will be arranged at the outside of the plane of the door to which the lock is attached, and I preferably attach the knob directly to a stem 43, which is integral with the barrel, a collar 44 also being formed upon said stem to fit in a seat formed in the outer end of the barrel-casing, and a flange 45 being formed at the outer end of the stem for attachment to a grip-ring of wood or other suitable material, constituting the knob 42. While I prefer to construct the body portion of the knob of annular shape, to give access to the end of the barrel-stem, in which is formed a keyhole 46, it will be understood that this feature is susceptible of modification without departing from the essential construction of a barrel-carried knob provided with a keyhole for the reception of a tumbler adjust-

ing or setting key 47, which is adapted to turn with the knob, after proper insertion, in the manipulation of the lock.

The barrel is provided beyond the inner end 5 of the barrel-casing with a spindle or stem extension 48, terminally threaded for engagement with a removable barrel-nut 49, and this barrel-nut secures, in operative relation with the barrel and its spindle or stem extension, a sleeve 50, carrying a bolt-operating lug 51 of segmental construction, which is interposed between and is in operative relation with the ears 28, the function of said lug being to impart motion to the bolt to withdraw it 15 within the lock-casing. Said sleeve also carries a flange 52, which is seated upon said ears 28 or in contact with the offset faces thereof, as shown clearly in Fig. 4. The inner end of the barrel projects into the lock-casing beyond the inner end of the barrel-casing, as shown in said Fig. 4, and the sleeve 20 50 is counterbored to receive the same, said sleeve being adapted for rotary movement independently of the barrel.

The sleeve 50 forms the body portion of the 25 stem of an inner knob 53, or that knob which is ordinarily arranged at the inner side of the door of a building or apartment, said knob having a cuff 54 fitted exteriorly upon the sleeve and secured thereto by means of screws 30 55 or equivalent devices. Thus, when otherwise unaffected, the sleeve 50, by means of the knob 53, may be turned upon the barrel and independently thereof to withdraw the 35 bolt in opposition to the actuating-springs of the latter. It is desirable, however, for reasons which will be apparent as the nature of my invention is more fully disclosed, to lock the independently-movable knob normally in a fixed relation to the barrel, and 40 hence I employ a clutch 56, consisting of a collar mounted for axial sliding movement with relation to the sleeve 50, and spaced pins 57, arranged parallel with and preferably at opposite sides of the barrel spindle or 45 extension, said pins extending through suitable guides 58 in the sleeve and projecting into the counterbore at the inner end of the latter for engagement with sockets 59, formed 50 in the extremity of the barrel, said clutch being yieldingly held in engagement with the barrel to lock the independently-movable knob in a fixed relation to the barrel-carried knob by means of a spring 60, which is coiled 55 upon the nut 49 and bears at its extremities respectively against the clutch 56 and a shoulder formed by an enlargement or head 61 of the nut. Assuming, however, that the barrel is locked against rotary movement and it is 60 desired to operate the lock by means of the independently-movable knob, I have provided the clutch 56 with a radial grip or ear 62, extending outwardly through a longitudinal slot 63 in the cuff 54, where it is within reach of 65 the finger of a hand grasping said inner knob to provide for the disengagement of the clutch (to release the inner knob) and the turning

of the knob practically in one operation. The nut 49 is secured against displacement by means of a transverse pin 64, which extends 70 transversely through the barrel-spindle or stem extension 48.

The tumbler mechanism of the lock embodying my invention is analogous in some respects to that of similar mechanism in locks 75 heretofore devised in that the barrel is provided with a number of radial openings 65, arranged in a longitudinal series for the reception of barrel or setting pins 66, said barrel-pins communicating at their inner ends 80 with a key-seat which consists of a prolongation of the keyhole 46 at the outer end of the barrel, as hereinbefore described, and the barrel-casing is provided with a corresponding series of openings 67, adapted to register, 85 respectively, with the barrel-openings 65, and have arranged therein the tumblers 68, with their actuating-springs 69, said openings being closed at their outer ends to form bearings for the adjacent extremities of the springs 90 by means (not shown) which when the lock is set up for use must be secured against displacement, as will be understood by those skilled in the art to which my invention appertains. The cooperating or registering setting-pins and tumblers 66 and 68, as in the 95 ordinary practice, are of complementary lengths, and the key 47, of which the blade may be corrugated, as illustrated, is provided with an edge contour suitable for adjusting the 100 setting-pins 66 so as to remove the spring-actuated tumblers 68 from engagement with the barrel openings or sockets 65, and thus allow the rotation of the barrel within the barrel-casing. The key which I employ, however, 105 is provided with a lateral tongue 71, extending in the opposite direction from the pin-operating edge and adapted to traverse a longitudinal channel 72, formed in the inner surface of the barrel-casing, said channel at 110 its inner end communicating with one end of a cross or segmental channel 73, of which the length determines the extent of angular or turning movement of the barrel-carried knob in the operation of the bolt, or, in other words, 115 limits the movement of the barrel, said cross-channel terminating in abrupt walls forming stops arranged in the path of the key-tongue 71. At the opposite end from the longitudinal channel 72 the transverse or cross chan- 120 nel 73 communicates with the inner end of a second longitudinal channel 74, which, in common with the channel 72, extends to the outer end of the barrel. Thus to operate the lock by means of the outer or barrel-carried knob 125 it is necessary to insert the key into the key-seat to adjust the setting-pins 66, the tongue 71 of the key traversing the channel 72 to the inner end thereof. While the key remains in place the knob may be turned through an 130 arc equal to the length of the cross-channel 73; but after the knob has been turned through said arc the key may be withdrawn by causing the tongue 71 thereof to traverse

the second-named channel 74 for a purpose hereinafter explained.

In addition to the tumblers 68 the barrel-casing is provided with a series of cushion-pins 75, actuated by springs 76, said cushion-pins being arranged diametrically opposite the second or outlet channel 74, with the object of allowing the outward movement of the setting-pins 66 during the removal of the key from the key-seat, the barrel being located with the tongue 71 in alignment with said outlet-channel 74. It will be understood that these cushion-pins are designed to allow the setting-pins to move outward as the key is withdrawn from its seat, and they serve as convenient means for returning said setting-pins to their normal positions within the barrel to prevent the setting-pins from remaining extended beyond the barrel-surface, and thus interfering with the subsequent turning of the barrel; but it is obvious also that other means may be employed for thus allowing the outward yielding of the setting-pins during the withdrawal of the key from its seat. The cushion-pins 75 are preferably of larger diameter than the setting-pins and also than the tumblers, and hence said cushion-pins will not enter or engage with the guideways or openings 65, in which the setting-pins operate when the barrel is turned to aline the same. The tumblers and cushion-pins are preferably arranged at an interval of ninety degrees from each other, and the length of the limiting transverse channel 73 is also ninety degrees, whereas the extent of angular movement of the barrel necessary to withdraw the bolt from its engaging to its disengaging position is less than ninety degrees.

As hereinbefore described, the manipulation of the lock by means of the barrel-carried knob can be accomplished only by communicating motion to the sleeve forming the spindle of the independently-movable knob, the clutch 56 being employed to connect the barrel and said sleeve normally for simultaneous movement. It is desirable at times to so arrange the parts that the lock may be operated from either side without the use of a key, or, in other words, that the lock may perform the ordinary functions of a latch, whereby the door may be opened from either side simply by turning the adjacent knob. To adapt the mechanism to perform this function, I so construct the parts as to adapt the barrel to occupy either of two positions with relation to the lug or segment carrying sleeve 50, said positions being approximately at an angle of ninety degrees to each other. As above described, the clutch 56 is provided with pins 57 for engagement with sockets 59 in the barrel, the engagement of said pins with the sockets 59 being designed to maintain the barrel and lug or segment carrying sleeve in their normal positions, when the barrel may be locked by means of the tumblers 68, and the use of the key is necessary in order to release the barrel. The barrel,

however, is also provided upon a line approximately at an angle of ninety degrees to a line connecting the sockets 59 with auxiliary sockets 59^a, with which said pins 57 may engage to secure the barrel and sleeve in their adjusted relative positions. The relation between the parts is such that the pins 57 cannot accidentally engage the auxiliary sockets 59^a, for the reason that when the clutch is disengaged from the barrel to release the inner or independently-movable knob and said knob is turned to withdraw the bolt the pins 57 do not come into registration with the auxiliary sockets, for the reason that the angular interval between the sockets 59 and 59^a is greater than that throw of the knob which is necessary to withdraw the bolt, the former being approximately ninety degrees, while the latter is somewhat less than ninety degrees. When, however, it is desired to adjust the parts to perform the function of a latch, the clutch 56 is withdrawn to disengage its pins from the sockets 59, and the key having been fitted in its seat to adjust the setting-pins 66 the barrel is turned until the tongue 71 of the key comes in contact with the limiting-stop, and hence into alignment with the outlet-channel 74, whereupon the key is withdrawn, and pins 57 are allowed to engage the auxiliary sockets 59^a, with which they are then in registration, to lock the barrel in its new or adjusted position with relation to the lug or segment carrying sleeve. Obviously this angular adjustment of the barrel disposes the tumbler-openings 65 out of registration with the tumblers, and the movement of the barrel necessary to withdraw the locking-bolt is insufficient to return the openings 65 to registration with the tumblers 68, and hence the barrel cannot become locked in the barrel-casing while the barrel and inner knob occupy their adjusted relative positions. To return the parts to their normal positions, it is necessary only to disengage the clutch 56 from the barrel and turn the latter to cause registration of the sockets 59 with the clutch-pins 57, thereby arranging the tumbler-openings 65 in registration with the tumblers. Thus by a simple relative arrangement of parts I am enabled to vary the adjustment of the barrel with relation to the latch mechanism, (consisting of the bolt and means for withdrawing the same,) whereby the device embodying my invention is adapted to perform the functions of either a lock or a latch while having the advantages of the barrel-locking means and the barrel-carried knob.

It will be understood from the foregoing description that when the barrel and the lug or segment carrying sleeve 50 are locked in their normal relative positions the barrel can be turned only when the proper key occupies the seat 46 and that owing to the stop-tongue 71, which is carried by the barrel when the key is seated, the barrel can be turned only through a limited angle, and hence in one di-

resection from its normal position. On the other hand, when the independently-movable knob is released from the barrel it may be turned in either direction to withdraw the bolt, owing to the fact that the bolt-yoke is provided with opposite ears 28 and the sleeve 50 with a bolt-opening lug or segment 51, of which the extremities are arranged approximately in contact, respectively, with said ears 28, the length of the lug or segment 51 being preferably equal to the interval between the ears to avoid lost motion or play in the lock. I utilize this relation between the parts to provide for locking the barrel-carried or outside knob positively against movement to retract the bolt even by the aid of the tumbler-setting key, while allowing the inner or independently-movable knob to be turned to open the door from the inside. To accomplish this, I mount upon the lug-carrying sleeve 50 a locking-slide 77, carrying a locking-lug 78, which normally occupies a position in the plane of the flange 52, the latter being cut away for its reception, as shown clearly in detail in Fig. 9. The slide may be mounted in any suitable manner upon the sleeve, as by cross-sectionally dovetailing the same to fit a corresponding longitudinal guide in the sleeve, and at that extremity adjacent to the knob the slide is provided with an outwardly-extending grip or knob 79, adapted to operate in a slot 80 in the cuff 54. The locking-lug 78 is located at an interval from the adjacent end of the bolt-operating lug or segment 51, which is equal to the width of the adjacent yoke-ear 28, whereby said ear is adapted to snugly fit between said lugs 78 and 51, said ear normally occupying a position between the transverse planes of said parts, as indicated in Fig. 5; but said lug 78 when in its normal position occupies a position in the longitudinal plane of the flange 52, and hence out of the longitudinal path of the ear 28, whereby the bolt is free to operate and may be withdrawn by turning the sleeve in either direction, as hereinbefore explained. By adjusting the slide, however, to arrange the lug 78 in the longitudinal plane of the ear 28 or in the path thereof, whereby said ear is arranged snugly between said locking-lug 78 and the adjacent end of the bolt-operating lug or segment 51, the bolt-operating lug can be swung toward the lug 78 to withdraw the bolt, but cannot be turned in the opposite direction, and hence the bolt cannot be withdrawn by means of the barrel-carried knob, for the reason that the limiting devices by which the direction of movement of the barrel is controlled prevent the turning of the barrel in any other direction than that which would cause said bolt-operating lug or segment to move away from the lug 78, or, in other words, which would cause said locking-lug to press forward against that ear which is interposed between the lug 78 and the adjacent end of the bolt-operating lug 51. Therefore when the locking-lug 78 is in the

adjusted position above mentioned, in the plane of the yoke-ear 28, the outer or barrel-carried knob is positively locked against movement irrespective of the tumblers, and hence cannot be turned to operate the bolt even when the proper key is inserted to set the tumblers. On the other hand, the lock may be manipulated by means of the inside knob, for the reason that by disengaging the clutch 56 from the adjacent end of the tumbler said inner or independently-movable knob may be turned in the opposite direction or in that direction which will carry the bolt-operating lug or segment 51 toward the locking-lug 78, applying pressure to that other ear 28 which is interposed between the locking-lug and the bolt-operating lug, and hence carrying the locking-lug forward in advance of the ear 28.

Should it be desirable to secure both knobs against operation, it is only necessary to withdraw the locking-slide 77 to occupy a second adjusted position, wherein the lug 78, while still in the path of the adjacent ear 28 of the bolt-yoke, also engages a lock-notch 81 in the adjacent slot of the lock-casing. Obviously the sleeve cannot be turned without disengaging the lug 78 from the notch 81, the barrel cannot be turned without communicating motion to the sleeve, and the bolt cannot be repressed independently of the knobs, as by an instrument inserted into the catch or bolt socket of the door or frame. Thus when the slide is in its first adjusted position the outer knob is locked against movement irrespective of the tumblers, while the inner knob is free to be operated to withdraw the bolt, and when the locking-slide is in its second adjusted position both knobs and the bolt are locked positively against movement. To secure the slide in either of its adjusted positions, I employ a catch 82, consisting of a spring provided with a double-faced nose for engagement with either of a series of seats or notches formed in the under or inner side of the slide. Obviously the adjustment of the slide may be accomplished without any special manipulation of the catch, the double-beveled nose of the latter allowing the slide to be adjusted in opposition to the resistance offered by the catch, while the latter maintains the slide after adjustment against accidental displacement.

The operation and advantages of my improved lock, particularly in connection with the outer or tumbler-locked knob, which may be released and turned by the same hand of the operator, will be readily understood from the foregoing description, and, furthermore, it will be obvious that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described my invention, what I claim is—

1. A barrel-and-tumbler lock having a

latch mechanism, a barrel unconnected with the latch mechanism, a latch-operating spindle mounted for latch-operating movement independently of the barrel, and means, movable independently of the barrel and spindle, for securing the same in fixed relative positions, substantially as specified.

2. A barrel-and-tumbler lock having a knob-carrying barrel, and a second independently-movable bolt-operating knob, and a clutch to connect the knobs for simultaneous movement, and having an operating-grip located adjacent to the bolt-operating knob, substantially as specified.

3. A barrel-and-tumbler lock, having a knob-carrying barrel, a second knob operatively connected with the latch mechanism, and normally-operative means for communicating motion from the barrel to the independently-movable knob and for locking the second knob to the barrel and adapted for disengagement to release the second knob, substantially as specified.

4. A barrel-and-tumbler lock having a knob-carrying barrel, a second latch-operating knob movable independently of the barrel, and a clutch normally connecting the barrel and bolt-operating knob for simultaneous rotary movement and having an operating-grip located adjacent to the bolt-operating knob, substantially as specified.

5. A barrel-and-tumbler lock having a barrel-carried knob and a latch-operating knob, one of which is capable of independent revoluble movement, and means for locking the barrel to the latch-operating knob in either of a plurality of relative revoluble adjustments, substantially as specified.

6. A barrel-and-tumbler lock having a barrel-carried knob and a latch-operating knob, either of which is capable of independent revoluble movement, and a clutch for connecting the barrel with the latch-operating knob in either of a plurality of revoluble adjustments, substantially as specified.

7. A barrel-and-tumbler lock having tumblers and setting-pins, and a barrel-casing provided, in addition to the tumbler-guides, and at an interval therefrom, with outwardly-yielding cushioning devices for repression by the setting-pins to allow the removal of a tumbler-setting key when the setting-pins are out of registration with the tumblers; the inward movement of the cushioning devices being limited to prevent them from entering the setting-pin guides, substantially as specified.

8. A barrel-and-tumbler lock having a barrel, and a cooperating barrel-casing, one of which is provided with tumblers, and the other with setting-pins for registration therewith, and that member which is provided with tumblers being further provided with a space into which the setting-pins may be temporarily extended, to allow the removal of a tumbler-setting key when the setting-pins are out of registration with the tumblers, and yielding

means, to which the setting-pin guides are inaccessible, for returning the setting-pins to their normal positions, substantially as specified.

9. A barrel-and-tumbler lock having a barrel, tumblers, and setting-pins, and having its barrel-casing provided with spring-held cushion-blocks with which the setting-pins may register to allow the withdrawal of a tumbler-setting key when the setting-pins are out of registration with the tumblers, the setting-pin guides being inaccessible to the cushion-blocks, substantially as specified.

10. A barrel-and-tumbler lock having latch mechanism, and a barrel capable of revoluble movement independent of the latch mechanism, to occupy a plurality of positions with relation thereto, and means for connecting the barrel with the latch mechanism in either of a plurality of relative positions, substantially as specified.

11. A barrel-and-tumbler lock having its barrel capable of revoluble movement independent of the latch mechanism, and having tumblers and setting-pins, and means for connecting the barrel with the latch mechanism in either of two positions of the barrel, to provide for communicating motion from the barrel to the latch mechanism, the relation between the parts, in one of said positions, being such as to prevent registration of the setting-pins with the tumblers during the operation of the latch mechanism, substantially as specified.

12. A barrel-and-tumbler lock having a barrel, tumblers, and setting-pins, and provided in its barrel-casing with spring-pressed cushion-blocks, a latch mechanism with relation to which the barrel is independently revoluble, and means for connecting the barrel with the latch mechanism, when the former is arranged with the setting-pins in registration with said cushion-blocks, substantially as specified.

13. A barrel-and-tumbler lock having tumblers and setting-pins, and having its barrel-casing provided with yielding cushion-blocks arranged in a plane at an angle to the tumblers, latch mechanism, and a clutch connection between the barrel and the latch mechanism, whereby the barrel may be released to arrange its setting-pins in registration with said cushion-blocks, substantially as specified.

14. A barrel-and-tumbler lock having tumblers and setting-pins, and having its barrel-casing provided with cushion-blocks in registration with which the setting-pins of the barrel are arranged to allow the withdrawal of a tumbler-setting key, when the setting-pins are out of registration with the tumblers, latch mechanism, and a detachable clutch for communicating motion from the barrel to the latch mechanism, the distance between said cushion-blocks and the tumblers being greater than the throw of the barrel in actuating the latch mechanism, substantially as specified.

15. A barrel-and-tumbler lock having tumblers and setting-pins, and having its barrel-casing provided with cushion-blocks in registration with which the setting-pins of the barrel may be arranged to allow the withdrawal of a tumbler-setting key, a latch mechanism, and a clutch for locking the barrel to the latch mechanism in either of two adjustments at an interval corresponding with that between said cushion-blocks and the tumblers, the interval between the cushion-blocks and the tumbler being greater than the throw of the tumbler necessary to actuate the latch mechanism, substantially as specified.

16. A barrel-and-tumbler lock having tumblers and setting-pins, and having its casing provided with tumbler-openings, and a second set of openings arranged in a plane at an angle to that of the tumbler-openings, a latch mechanism, and means for connecting the barrel with the latch mechanism in either of two adjustments, wherein the setting-pins of the barrel are respectively in registration with the tumblers and said second set of openings, substantially as specified.

17. A barrel-and-tumbler lock having tumblers and setting-pins, and having its casing provided with tumbler-openings, and a second set of openings arranged in a plane at an angle to that of the tumbler-openings, and the barrel being capable of revoluble adjustment to arrange its setting-pins respectively in registration with said tumblers and the second set of openings, a latch mechanism, and means for connecting the barrel with the latch mechanism in either of two adjustments, wherein the setting-pins of the barrel are respectively in registration with the tumblers and said second set of openings, substantially as specified.

18. A barrel-and-tumbler lock having tumblers and setting-pins, and having a knob carried by the barrel and having a seat for a tumbler-setting key, the barrel-casing being provided with a second set of openings, of larger diameter than the tumbler-openings, for the temporary reception of the setting-pins carried by the barrel, substantially as specified.

19. A barrel-and-tumbler lock having tumblers and setting-pins, and having a knob carried by the barrel and provided with a seat for a tumbler-setting key, the barrel-casing being provided with a second set of openings, of larger diameter than the tumbler-openings, and similarly spaced thereto, said openings containing cushion-blocks, and means for revolubly adjusting the connection of the barrel with the latch mechanism, to arrange the setting-pins of the barrel in registration with said second set of openings in the barrel-casing, substantially as specified.

20. A barrel-and-tumbler lock having a barrel, tumblers and setting-pins, and having means for limiting the revoluble movement of its barrel, and also having its barrel-casing constructed to allow the temporary extension of the barrel-carried setting-pins, when

the barrel is at either limit of its movement, a latch mechanism, and means for connecting the barrel to the latch mechanism, in either terminal position of the former, substantially as specified.

21. A barrel-and-tumbler lock having means for limiting the revoluble movement of its barrel, and having its barrel-casing provided with yielding means, located at the limits of movement of the barrel, for allowing the temporary extension of the barrel-carried setting-pins, a latch mechanism, and a clutch for connecting the barrel with the latch mechanism at either limit of movement of the barrel, substantially as specified.

22. A barrel-and-tumbler lock having means for limiting the independent revoluble movement of its barrel, and having its barrel-casing provided at the limits of movement of the barrel with yielding means for allowing the temporary extension of the barrel-carried setting-pins, latch mechanism, and a clutch for connecting the latch mechanism with the barrel in either of the terminal positions of the latter, the revoluble throw of the barrel necessary to operate the latch mechanism and limited by the latch mechanism being less than the independent revoluble movement of the barrel allowed by said limiting means, substantially as specified.

23. A barrel-and-tumbler lock having barrel-carried knobs and an independently-movable latch-operating knob connected with the latch mechanism, the barrel being revolubly movable in one direction only from its normal position and being operatively connected with the latch mechanism, and means for locking the latch mechanism against movement in that direction in which it is adapted to be actuated by the barrel, substantially as specified.

24. A barrel-and-tumbler lock having barrel-carried and independently-movable knobs, the barrel being revolubly movable in only one direction from its normal position, a latch mechanism operatively connected with the knobs, and including a bolt-operating lug, and means for securing said bolt-operating lug against movement in that direction in which it is adapted to be actuated by said barrel, substantially as specified.

25. A barrel-and-tumbler lock having barrel-carried and independently-movable knobs, the barrel being revolubly movable in only one direction from its normal position, a latch mechanism operatively connected with the knobs, and including a bolt-operating lug, and a locking-slide having a stop-lug for engagement with the bolt to prevent movement of the bolt-operating lug in that direction in which it is adapted to be actuated by said barrel, substantially as specified.

26. A barrel-and-tumbler lock having barrel-carried and independently-movable knobs, the barrel being revolubly movable in only one direction from its normal position, a latch mechanism operatively connected with the knobs and including a bolt-operating lug,

and bolt-carried ears arranged in the path of movement of said lug in opposite directions, and a locking device for securing said lug against swinging movement in that direction in which it is adapted to be actuated by the barrel, substantially as specified.

27. A barrel-and-tumbler lock having barrel-carried and independently-movable knobs, the barrel being revolubly movable in only one direction from its normal position, latch mechanism operatively connected with the independently-movable knob, and including a bolt-operating lug capable of movement in opposite directions to withdraw the bolt, a detachable clutch for communicating motion from the barrel to the independently-movable knob, and a locking-slide carried by the independently-movable knob, for adjustment to lock said bolt-operating lug against movement in the direction in which it is adapted to be operated by the barrel, substantially as specified.

28. A barrel-and-tumbler lock having barrel-carried and independently-movable knobs, the barrel being revolubly movable in only one direction from its normal position, latch mechanism operatively connected with the independently-movable knob, and including an oppositely-movable bolt-operating lug, and bolt-carried ears arranged in the paths of movement in opposite directions of said lug, a clutch for communicating motion from the barrel to the independently-movable knob, and a locking device mounted upon the independently-movable knob, and having a lug for arrangement upon the opposite side of one of said bolt-carried ears from the adjacent end of the bolt-operating lug, for locking said lug against movement in that direction in which it is adapted to be moved by the barrel, substantially as specified.

29. A barrel-and-tumbler lock having an operating member movable independently of the barrel, the barrel being capable of movement in only one direction from its normal position, latch mechanism operatively connected with said independently-movable member, means for communicating motion from the barrel to the independently-movable member, and a locking device carried by the independently-movable member for locking the same against movement in that direction in which it is adapted to be moved by the tumbler in actuating the latch mechanism, substantially as specified.

30. A barrel-and-tumbler lock having a barrel movable only in one direction, and a latch-operating member movable in opposite directions independently of the barrel, means for communicating motion from the barrel to said independently-movable member, and a locking device for securing said independently-movable member against movement in that direction in which it is adapted to be moved by the barrel in actuating the latch mechanism, substantially as specified.

31. A barrel-and-tumbler lock having a bar-

rel movable only in one direction, and a latch-operating member movable in opposite directions independently of the barrel, means for communicating motion from the barrel to said independently-movable member, and a locking device, capable of a plurality of positions for locking the independently-movable member against movement in either one or both directions, substantially as specified.

32. A barrel-and-tumbler lock having its barrel-casing provided with longitudinal channels, in combination with a key provided with a lug projecting beyond the surface of the barrel to traverse either of said channels during the insertion and removal of the key, substantially as specified.

33. A barrel-and-tumbler lock having its barrel-casing provided with longitudinal channels, in combination with a key provided with a projecting lug to traverse said channels during the insertion and removal of the key, and clutch mechanism for connecting the barrel with the latch mechanism in either of a plurality of relative positions, substantially as specified.

34. A barrel-and-tumbler lock having its barrel-casing provided with longitudinal channels, in combination with a key provided with a projecting lug to traverse said channels during the insertion and removal of the key, and stops arranged in the path of said lug when the key is seated, substantially as specified.

35. A barrel-and-tumbler lock having its barrel-casing provided with longitudinal channels, in combination with a key provided with a projecting lug to traverse said channels during the insertion and removal of the key, stops arranged in the path of said lug when the key is seated, and means, movable when the barrel is at either of its adjustments controlled by said stops, for connecting the barrel and latch mechanism, substantially as specified.

36. A barrel-and-tumbler lock having its casing provided with spaced stops, a key having a projecting lug for arrangement between said stops when the key is in its tumbler-setting position, and means for allowing the movement of the tumbler-carried setting-pins, when the barrel is in either of its adjustments, controlled by the contact of said key-lug with the cooperating stops, substantially as specified.

37. A barrel-and-tumbler lock having its barrel-casing provided with an internal segmental limiting-groove, and longitudinal channels communicating with opposite ends of said groove, and a tumbler-setting key having a lug projecting beyond the surface of the barrel to operate in said groove and channels, substantially as specified.

38. A barrel-and-tumbler lock having a segmental limiting-groove, and longitudinal channels communicating with opposite ends of said groove, a key having a projecting lug for movement through said groove and chan-

nels, and means for revolubly shifting the connection of the barrel with the latch mechanism, substantially as specified.

39. A barrel-and-tumbler lock having means
5 for revolubly shifting the connection of the barrel with the latch mechanism, a tumbler-setting key provided with means for limiting the revoluble movement of the barrel, and means for permitting the withdrawal of the
10 tumbler-setting key when the barrel is in either of its adjusted positions with relation to the latch mechanism, substantially as specified.

40. A barrel-and-tumbler lock having a
15 latch-operating knob, a clutch for connecting the latch-operating knob with the barrel, and means independent of the barrel-locking tumblers, for securing the barrel against latch-operating movement, substantially as specified.

20 41. A lock having a latch-operating spindle, provided with a bolt-engaging member, and a locking-slide mounted upon the spindle, and having a lug for arrangement in the path of the latch-bolt, to secure the spindle against
25 revoluble movement in one direction while allowing latch-operating movement thereof in the opposite direction, substantially as specified.

42. A lock having a latch-operating knob
30 or handle, a locking-slide mounted upon the knob or handle, and having a lug for arrangement in the path of the latch-bolt, to lock the knob or handle against revoluble movement in one direction, while allowing latch-operating movement thereof in the opposite di-
35 rection, and a fixed stop on the lock-casing, for engagement by said lug, for locking the knob or handle and the bolt against movement, substantially as specified.

40 43. A barrel-and-tumbler lock having a barrel-carried knob provided with a keyhole for the reception of a tumbler-setting key, an independently-movable latch-operating member, an adjustable connection between the
45 barrel and the latch-operating member, whereby revoluble change in their relative positions may be made, and means for permitting

the withdrawal of the tumbler-setting key after the relative adjustment of the barrel and latch operating member, substantially as
50 specified.

44. A barrel-and-tumbler lock having a barrel-carried knob provided with a keyhole for the reception of a tumbler-setting key, said barrel being provided with a plurality of sets
55 of eccentric longitudinal sockets, a latch-operating member, with relation to which the barrel is capable of a plurality of revoluble adjustments, and a clutch mounted to slide longitudinally upon said latch-operating
60 mechanism and having pins for engagement, respectively, with said sets of sockets in the barrel, substantially as specified.

45. A barrel-and-tumbler lock having a barrel-carried knob provided with a keyhole for
65 a tumbler-setting key, an independently-movable latch-operating member, and a pin-carrying clutch mounted upon said latch-operating member, the barrel having sets of sockets for the reception of said pins, to lock the
70 barrel and latch-operating mechanism at relatively different revoluble adjustments, substantially as specified.

46. A barrel-and-tumbler lock having a lock-casing, and a barrel-casing having a re-
75 versible interlocking engagement with the lock-casing, substantially as specified.

47. A barrel-and-tumbler lock having a lock-casing provided in one wall with a seat flattened at opposite sides, and a barrel-casing
80 removably fitted in said seat and having flat-surfaced portions for registration with those of the seat, whereby the barrel-casing is capable of revoluble adjustment to vary the position of the latch mechanism with relation to the axis
85 of the tumbler, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

AUSTIN SNEERINGER VOGT.

Witnesses:

CHAS. W. WILLIAMS,
W. H. SCULLIN.