

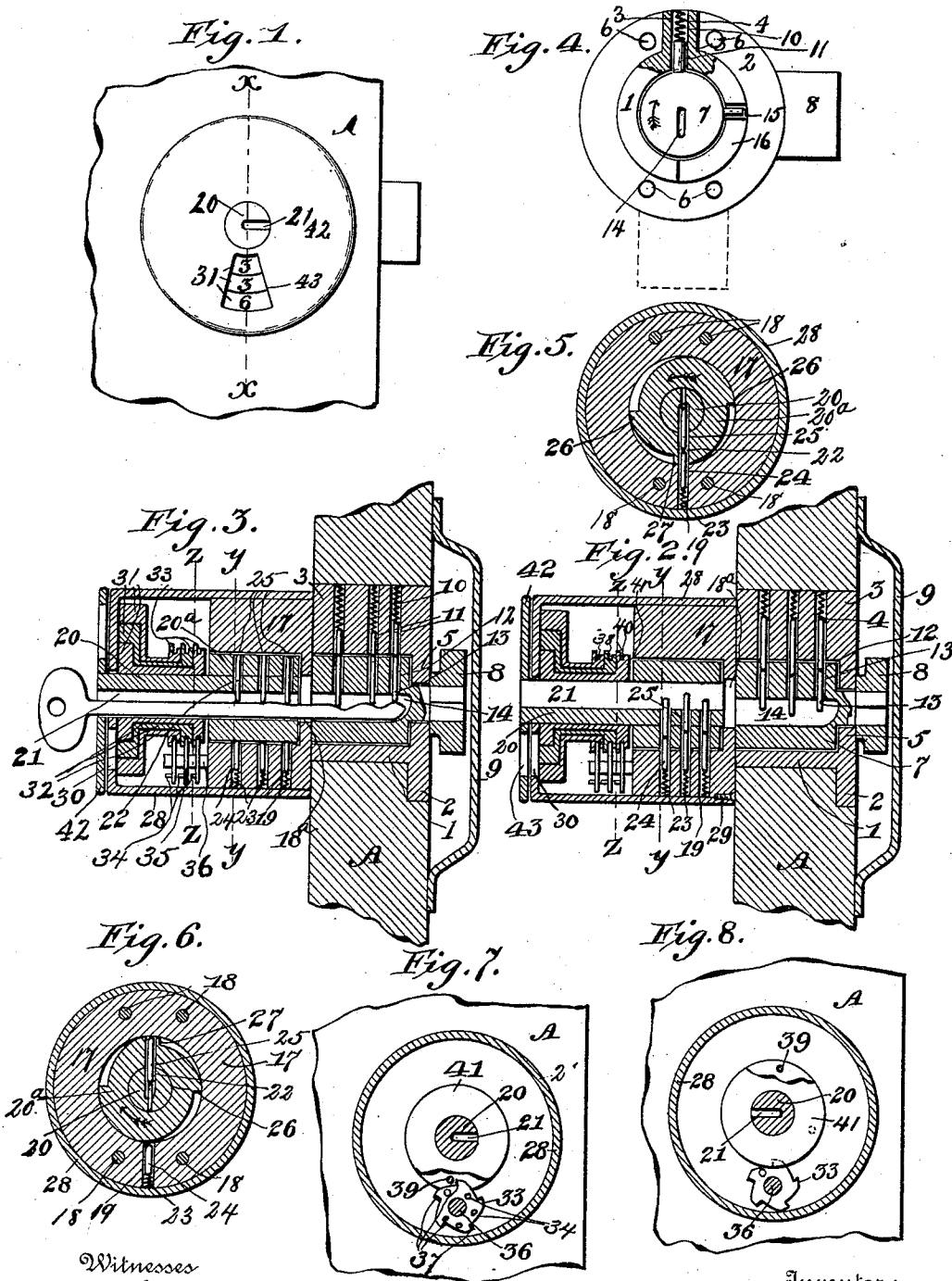
(No Model.)

2 Sheets—Sheet 1.

W. F. BEASLEY.
KEYHOLE GUARD.

No. 499,504.

Patented June 13, 1893.



Witnesses

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Charles Tipped

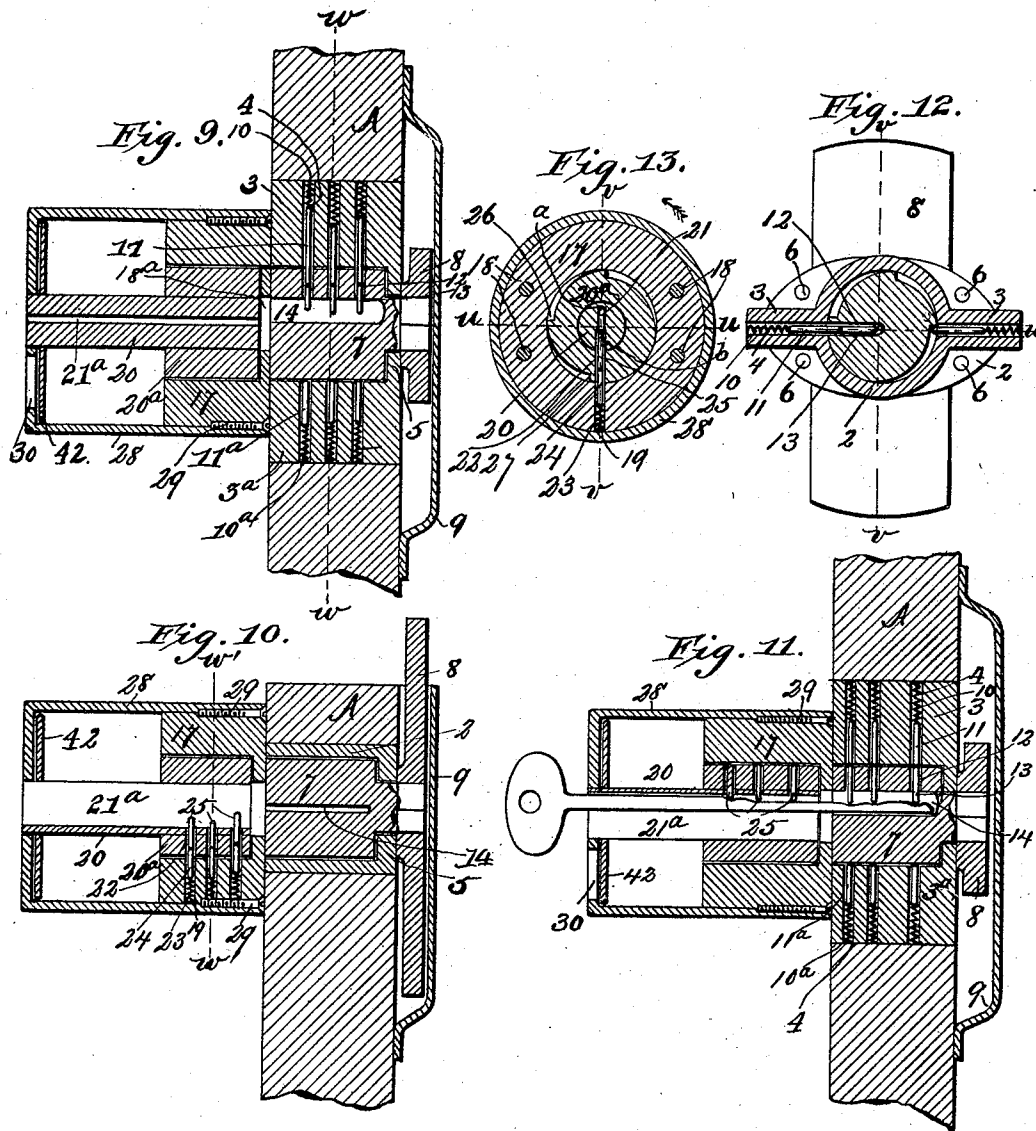
Inventor

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UNITED STATES PATENT OFFICE.

WILLIAM F. BEASLEY, OF BALTIMORE, MARYLAND.

KEYHOLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 499,504, dated June 13, 1893.

Application filed March 23, 1893. Serial No. 467,385. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BEASLEY, a citizen of the United States, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Locks and Keyhole-Guards Therefor; 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.

The essential feature of this invention consists in a slotted barrel, (hereinafter referred to as the cover barrel) which is adapted to be placed above the key hole which it is desired to guard, the said barrel being capable of being rotated on an axis concentric to the axis of rotation of the key which enters the said key hole and which releases the locking mechanism of the catch of the drawer, door, &c. The normal position of the cover barrel is, by preference, such that a greater or less rotation thereof is required in order to cause the slot therein to come above and uncover the key hole, after which the key may be inserted through the slot into the said key hole and turned, withdrawing the catch and releasing the drawer, &c., at the same time rotating the cover barrel, while upon turning the key to shoot the catch, the cover barrel will be again rotated, after which the key may be withdrawn and the cover barrel rotated to its first position. If desired, a locking mechanism may be provided to lock the cover barrel against rotation, either in the position above described as normal, or in a position in which the slot uncovers the key hole, the said mechanism being adapted to be released by another key inserted in the slot in the cover barrel, the key in such a case serving as a means for rotating the said barrel in order to cause the slot to uncover the key hole, after which the key may be withdrawn and the before mentioned key for the catch inserted, and turned, as before. If desired, an indicating mechanism may be also provided adapted to be thrown by the rotation of the cover barrel, either upon the initial movement thereof from its normal position, or from the position in which it uncovers the key hole, thus affording a means of detecting whether the cover barrel has been rotated to uncover the key hole, or has been so rotated as to permit the turning

of the key for the catch, as the case may be. It will also be evident, that if desired, the above mentioned locking and indicating mechanisms may both be provided, in which case the indicating mechanism is by preference adapted to be thrown upon the initial movement of the barrel from its locked position, and in this case I prefer to secure on the said barrel a cover plate which is adapted to conceal the indicating mechanism, except when the said barrel is in a position to be locked, thus rendering it necessary to lock the barrel before the indicating mechanism may be read. I do not, however, desire to limit my claims on the last named feature of my invention to use in connection with key hole guards, and it is obvious that it may be applied to any form of lock in which it is desired to render it necessary to lock the locking barrel before reading the register. From the above it will be seen that when a locking mechanism for the cover barrel is employed, as above described, the invention becomes in effect a so-called "double key system," and as such is especially adapted for use in safe deposit boxes, where it is desired that the lessee of the box hold one key, say the key to the drawer, &c., and the employé in care of the boxes hold the other, (the key to the cover barrel) in order that neither can have access to the box without the presence and assistance of the other. When, in addition to the locking mechanism, the indicating mechanism is employed, the latter should be read by both the lessee and the employé after each locking of the drawer, &c., and before each opening thereof (which reading will correspond if the lock has not been tampered with), whereby the indicating mechanism will serve as a means of detecting the intervening opening of either lock, while the indicating mechanism when used without the locking mechanism for the barrel will serve as a means for detecting the turning of the key which serves to actuate the catch for the door, &c., and this being a cheap and simple construction is especially adapted to be used on desks or bureau drawers, closets or room doors, &c., when the use of only a single key is desired.

My invention therefore consists in the construction, arrangement and combination of the several parts of which it is composed, as

will be hereinafter more fully described and claimed.

Referring to the accompanying drawings in which corresponding parts are designated by similar marks of reference:—Figure 1 is a front elevation of a door having my invention applied thereto, the cover barrel being in its locked position. Figs. 2 and 3 are vertical longitudinal sections on line $x-x$ of Fig. 1, the cover barrel being shown therein in its covering (its locked position) and uncovering position, respectively. Fig. 4 is a front elevation of a form of locking mechanism for the catch of the door, it being shown partially in section. Figs. 5 and 6 are vertical transverse sections on lines $y-y$ of Figs. 2 and 3, showing the parts in the respective positions shown in the said figure. Figs. 7 and 8 are vertical transverse sections on lines $z-z$ of Figs. 2 and 3, showing the parts in the respective positions shown in said figures. Figs. 9 and 10 show a modified form of my invention, being horizontal and vertical longitudinal sections on lines $v-v$ and $u-u$ respectively of Figs. 12 and 13, the cover barrel being shown in its covering position. Fig. 11 is a view similar to Fig. 9, but with the cover barrel in an uncovering position. Figs. 12 and 13 are transverse sections on lines $w-w$ of Fig. 9, and lines $w'-w'$ of Fig. 10, respectively.

In the annexed drawings two forms of the catch of the part to be closed, and the locking mechanism therefor are shown, together with the necessary modifications of the cover barrel, and parts adjacent thereto. As shown, the first form of locking device for the catch consists (see Figs. 2, 3 and 4) of a cylinder 1, which is inserted in the thickness of the part A to which it is desired to apply the key hole guard, and having an annular flange 2 on its rear end which is sunk in the rear face of the part A (shown in the said figures as a door) until its rear face is flush with the rear face of the latter. A longitudinal web 3 projects radially from one side of the periphery of the cylinder, and has a series of apertures 4 formed therein, extending from the inner surface of the central bore of the cylinder to the outer face of the web, while an annular flange 5 projects inwardly from the rear end of the cylinder, partially closing it, the cylinder being held in place by screws passing through apertures 6 in the flange and taking into the thickness of the part A. The barrel 7 is contained within the bore in the cylinder 1, its forward end being flush with the forward face of the part A, while its rear end is reduced in diameter, and passes through the partially closed rear end of the cylinder to behind the rear surface of the part A, where it is squared, and receives the catch or head 8, which when the part A is locked, projects beyond the locking edge thereof, but is adapted, on the rotation of the barrel, to be so turned as to lie entirely behind the said part, the catch or head 8, playing within a casing

formed by a plate 9 secured to the rear face of the part. Springs 10, are contained in the outer, and pins 11, in the inner ends of the apertures 4 in the web 3, the inner ends of the said pins being adapted to enter radial perforations 12 in the barrel 7, when the latter is in a position to cause the catch or head 8 to project beyond the locking edge of the part A. In the inner ends of the said perforations 12, pins 13 of unequal length are contained, which pins 13, when pressed outwardly by a key inserted in the longitudinal slot 14 in the barrel, will shove the pins 11 outwardly until their inner ends are flush with the outer surface of the barrel, thus releasing the latter, and permitting it to be rotated (in the direction of the arrows, Fig. 4) in order to release the catch. In order to limit the rotation of the barrel to the arc of ninety degrees, which disengages the catch I secure in the barrel a projecting lug 15, which plays in an off-set 16 in the end of the cylinder 1, by the end of which its movement is limited. As it is desirable to prevent the withdrawal of the key from the slot 14, except when the barrel is in a position to be locked, I may make the pins 13 near the forward surface of the part A, longer than those near the rear surface thereof, so that the key will be locked when the barrel is in any other position than its locked position by the impingement of the outer ends of the pins 13 upon the inner surface of the cylinder 1.

It will be evident that instead of using the above described form of locking mechanism for the part A, any form thereof may be used, in which a key rotating through an arc of a circle is adapted to shoot or withdraw a bolt, the key hole guard therefor being constructed as follows: A housing 17 (see Figs. 2, 3, 5 and 6) is secured to the forward face of the part A, by means of the screws 18 which pass through the apertures 6, and through the part A, their ends taking into the rear surface of the housing. The housing 17 has a central bore therein, the rear end of the bore being slightly reduced in diameter, as at 18^a. Radial apertures 19 are formed in the housing, their inner ends communicating with the central bore, while the cover barrel 20 is contained in the said bore, and has a longitudinal slot 21 therein, its rear end being strengthened by a button 20^a, the button and cover barrel having a series of holes 22 therein, the said holes and apertures being in alignment with each other when the slot 21 is in a position to cover the slot 14 in the barrel 7, such a position being the normal position of the barrel, and being shown in Fig. 2, in which figure the slot 21 is on one side of the common axis of rotation of the two barrels, while the slot 14 is on the diametrically opposite side thereof. Springs 23 are contained in the outer, and pins 24 in the inner ends of the apertures 19, while pins 25 of different length are contained in the holes 22 of the barrel, the last named pins being shoved inwardly

when the barrel is in a locked position by means of the spring pressed pins 24, except upon the insertion of a proper key, when the inner ends of the pins 24 will become flush with the periphery of the button upon the cover barrel, thus unlocking the latter for the purpose of rotating it through the proper arc (one hundred and eighty degrees in the construction shown in the drawings) in the direction shown by the arrow in Fig. 5, until the slot 21 is directly above the slot 14 (the cover barrel having then the position shown in Fig. 6), permitting, upon the withdrawal of the said key, the insertion of a second and larger key (shown inserted in Fig. 3) which will release the locking mechanism of the catch or head 8, and permit the barrels 7 and 20 to be rotated rearwardly (*i. e.* in the direction of the arrow in Figs. 4 and 6, and in a direction opposite to the arrow in Fig. 5) through the necessary arc (ninety degrees as shown) in order to cause the catch or head to lie behind the part A, as shown in dotted lines in Fig. 4) in order to release the said part. When it is desired to again lock the part A, the barrels are rotated to the position which they occupied when the key was inserted, which is then withdrawn, and the cover cylinder rotated (either forward or backward) to its normal or locked position. If, however, I use an indicating mechanism thrown by the rotation of the cover barrel, it is desirable to provide means to prevent the backward rotation from the position in which it uncovers the slot in the barrel 7 (the latter being in its locked position) to its own locked position, at the same time permitting the backward rotation of ninety degrees necessary to release the part A, and I accomplish this result by placing a rearwardly facing shoulder 26 on the periphery of the button 20^a, in such a position as to be engaged by the spring pressed pins 24 when the cover barrel has completed its rotation of ninety degrees from its locked position, while a similar shoulder 27 may be also provided adapted to engage the pins 24 immediately after the initial rotation in a forward rotation from the said locked position, the said shoulders preventing a backward rotation of the cover barrel to its locked position and rendering necessary a complete forward rotation thereof upon each uncovering of the slot in the barrel 7, the forward rotation being interrupted, however, by the rearward rotation of ninety degrees necessary to unlock the part A.

The indicating mechanism, when such is provided is contained in a cylindrical casing 28, the rear end of which is secured on the periphery of the housing 17, (which is then made circular in cross section) and secured in place against unscrewing by locking pins 29 contained both in the housing and casing, and entering from the rear in order to prevent their removal, the head of the casing having a radial aperture 30 therein. The indicating mechanism is by preference such as

is described in another application filed by me in the United States Patent Office on the 13th day of February, 1893, serially numbered 462,112, the essential parts thereof being shown in the accompanying drawings. As shown therein the indicating disks 31 (which are seen through the slot 30) are journaled on the barrel 20 and are connected by concentric sleeves 32 with notched floating disks 33, which are engaged by pins 34, upon floating wheels 35 which are journaled on a stud 36 projecting from the housing 17, and are thrown thereby, each of the floating wheels being thrown by the shoulders 37 thereon, engaging projections 38 on the notched floating disks immediately adjacent thereto. The first floating wheel is thrown by a projection 39 contained in a groove 40 in a collar 41, keyed on the said cover barrel, the said projections 39 being placed at such a point in the groove as to throw the first floating wheel, and thus the indicating disks which have a series of marks on the face thereof, upon the initial movement of the cover barrel from its locked position, and prior to such a rotation thereof as will cause the shoulder 27 to engage the spring pressed pins 24, whereby the indicating mechanism will be protected against the injurious effects of a rearward rotation of the barrel at this point. When the cover barrel is unlocked by the rotation through the arc of one hundred and eighty degrees, in order to uncover the slot in the barrel 7, the indicating mechanism will be necessarily thrown and the projection 39, will, by the rotation of the barrel, be carried to the opposite side thereof to that on which the floating wheels are placed (see Fig. 8), and will be in such a position that the cover barrel can make the rearward rotation through the arc of ninety degrees to unlock the part A, without causing it to come into contact with the first floating wheel, and thus without affecting the accuracy of the registration.

I may, if I so desire, lengthen the cover barrel, so that it projects through and in front of the head of the casing 28, and key on the projecting part thereof a cover plate 42, having an aperture 43 therein in such a position that when the cover barrel is in its normal or locked position, the said aperture will be over the aperture 30 in the front of the casing, while when the barrel is rotated, or is in any other position the solid projection of the head of the casing 41 will be between the aperture 43 in the cover plate and the indicating disks, thus necessitating the rotation of the barrel to the locked position after the key is withdrawn, before the indicating mechanism can be read, thus preventing the cover barrel being inadvertently left in an unlocked position, the edges of the cover plate being milled if desired, in order to afford a means of turning the cover plate.

Although I have before described the normal position of the cover plate provided with registering mechanism as being opposite to

the locking position of the barrel 7, it is obvious that in the construction or in the use of the indicating mechanism by itself the position of the cover barrel may be changed to any position that will permit of the necessary backward rotation of the cover barrel to unlock the part A, without causing the projection 39 in its backward movement to strike the first floating wheel, and it will also be seen that when the indicating mechanism is not provided the locking mechanism of the cover barrel may be so adjusted as to cause the locking position thereof to be in any position either to cover or uncover the barrel 7.

In Figs. 9, 10, 11, 12, 13, a form of my invention is shown as applied to a drawer, in which the rearward rotation of the cover barrel is rendered unnecessary. In this construction, the longitudinal web 3 and the springs 10 and pins 11 therein are duplicated on diametrically opposite sides of the cylinder 1, such duplicate parts being lettered 3^a, 10^a and 11^a respectively, whereby the barrel 7 will be in a position to be locked twice on each rotation thereof at diametrically opposite points, while the catch or head 8 is lengthened and has its central position mounted on the rear of the barrel 7, either of its ends being thus adapted to secure the part A. The cover cylinder for this forming a locking mechanism is the same as that heretofore described in all respects, except that the slot 21^a therein, extends from one side of the barrel across the center of the opposite edge thereof, the distance from the center to the end of the slot nearest thereto being equal or greater than the distance from the center of the barrel 7, to the outer end of the slot therein, and that the normal position of the cover barrel is shown as such that the slot therein is normally at right angles to the slot in the barrel 7 when the latter is in a locked position. In these figures I have also shown the cover plate as being behind the head of the casing.

The operation of unlocking this form of my invention may be stated as follows, the several parts being presumed to be in the position shown in Figs. 9, 10, 12 and 13: The key for the cover barrel is inserted in the slot 21^a therein, unlocking it, whereupon the key, and with it the cover barrel is turned forwardly (in the direction of the arrow, Fig. 13) through an arc of ninety degrees, in which position (shown in Fig. 11), the end of the slot marked *a*, Fig. 13, uncovers the slot 14 in the locking barrel 7. The key for the said cover barrel may now be withdrawn, and the key for the locking barrel inserted in lieu thereof, its rear end projecting into the slot 14 in the locking cylinder, and moving the locking pins 12 and 13 thereof into an unlocking position, when the two barrels may be carried forward through another arc of ninety degrees, causing the catch or head 8 to assume the position at right angles to that shown in Fig. 12, thus disengaging the part A, and permitting its opening. When it is desired to

again lock the said part, it having been first closed, the key for the locking barrels and with it the two barrels 7 and 20 are again rotated forward through the further arc of ninety degrees, that is to say, until the holes 12 in the locking barrel are opposite the apertures in the second web 3^a, when the key may be re-drawn, leaving the locking barrel in a locked position, and the head 8 in a position to clamp the part A. The cover barrel is then rotated forward through the further arc of ninety degrees, bringing it to its original position, thus again locking the cover barrel. When it is again desired to unlock the part A, the key for the cover barrel may again be inserted, and the cover barrel turned through the arc of ninety degrees, as before, causing the end *b* of the slot 21 in the cover barrel to uncover the slot 14 in the locking barrel. The said key may now be withdrawn, and the key for the locking barrel inserted and turned through the arc of ninety degrees to disengage the part A, and through the further arc of ninety degrees to lock the said part, thus restoring the locking barrel 7 to the position shown in the drawings. As the cover cylinder has been thus turned through three arcs of ninety degrees each (two hundred and seventy degrees in all), the further rotation of the said barrel through another arc of ninety degrees will cause the cover barrel to regain its original position, all the parts being thus again in the position shown in said Figs. 9, 10, 12 and 13, and ready to be again unlocked, as first described.

It is, of course, obvious that the same indicating mechanism as that before described may be applied to the barrel and may be adapted, as in the case before described, to be thrown upon the initial movement of the barrel from its normal position, or that such a registering mechanism can be used without a locking mechanism, and I have not, therefore, deemed it necessary to show such an indicating mechanism in these figures, and it will also be obvious that in case the indicating mechanism be dispensed with the casing 29 may be also removed.

In another application filed by me on the 13th day of February, 1893, and serially numbered 462,112, I have claimed the combination of a plate adapted to cover a key hole, and a registering mechanism actuated by the rotations of the said plate from the said covering position, and the combination of a rotating plate adapted to cover a key hole, a locking mechanism locking the said plate in a position to cover the key hole, and a register actuated by the rotations of the said plate from its locked position, and I do not therefore claim such a construction broadly herein, but

What I do claim is—

1. A key hole guard consisting of a slotted barrel, adapted to be placed over a key hole and to be rotated on an axis concentric to the center of rotation of the key for the said

key hole which is inserted therein, through the slot in the said barrel, substantially as described.

2. A key hole guard consisting of a slotted cover barrel adapted to be rotated on an axis concentric to the center of rotation of the key inserted therethrough, in combination with a locking mechanism for the said cover barrel actuated by another key, substantially as described.

3. A key hole guard consisting of a slotted cover barrel adapted to be rotated on an axis concentric to the center of rotation of the key inserted therethrough, in combination with an indicating mechanism adapted to register the rotations of the cover barrel, substantially as described.

4. A key hole guard consisting of a slotted cover barrel adapted to be rotated on an axis concentric to the center of rotation of the key inserted therethrough, in combination with a locking mechanism for the said cover barrel actuated by another key and an indicating mechanism adapted to register the rotations of the cover barrel from its locked position, substantially as described.

5. A key hole guard consisting of a slotted cover barrel adapted to be rotated on an axis concentric to the center of rotation of the key inserted therethrough, in combination with a locking mechanism for the said cover barrel, actuated by a separate key inserted in the said slot, substantially as described.

6. A key hole guard consisting of a slotted cover barrel adapted to be rotated on an axis concentric to the center of rotation of the key inserted therethrough, in combination with a locking mechanism for the said cover barrel, and actuated by a separate key inserted in the said slot; and an indicating mechanism adapted to register the rotations of the cover barrel from its locked position, substantially as described.

7. The combination of a part, having a key hole therein, to receive a revolving key, of a slotted cover barrel journaled above the said key hole and revolving on an axis concentric to the axis of rotation of the said key, substantially as described.

8. The combination with a part, having a key hole therein to receive a revolving key, of a slotted cover barrel journaled above the said key hole and revolving on an axis concentric to the axis of rotation of the said key, and a locking mechanism for the said cover barrel actuated by another key, substantially as described.

9. The combination with a part, having a key hole therein to receive a revolving key, of a slotted cover barrel, journaled above the said key hole and revolving on an axis concentric to the axis of rotation of the said key, and an indicating mechanism adapted to register the rotation of the said cover barrel substantially as described.

10. The combination with a part, having a key hole therein to receive a revolving key, of a slotted cover barrel journaled above the said key hole and revolving on an axis concentric to the axis of rotation of the said key, a locking mechanism for the said cover barrel actuated by another key, and an indicating mechanism adapted to be thrown upon the movement of the said cover barrel from its locked position, substantially as described.

11. The combination with a revolving slotted barrel, with a catch driven thereby, and with locking mechanism for the said barrel, disengaged therefrom by a key inserted in the slot therein; of a slotted cover barrel journaled above the first named barrel and rotating on an axis concentric to the axis of rotation thereof, substantially as described.

12. The combination with a rotating barrel, of an indicating mechanism adapted to be thrown thereby, and a cover plate rotating with the said barrel, and adapted to cover the indicating mechanism, substantially as described.

13. The combination with a rotating barrel, of a locking mechanism therefor, and an indicating mechanism adapted to be thrown by the rotation of the said barrel from its locked position, and a cover plate rotating in the said barrel and adapted to uncover the indicating mechanism, when the barrel is in a locked position, substantially as described.

14. A key hole guard consisting of a barrel, slotted to permit the passage of a key, in combination with a locking mechanism for the said barrel actuated by the insertion of a key in the said slot, and with an indicating mechanism thrown by the rotation of the said barrel from its locked position, substantially as described.

In witness whereof I have affixed my signature in presence of two witnesses.

WILLIAM F. BEASLEY.

Witnesses:

VERNON M. DORSEY,
JAS. W. WALKER.