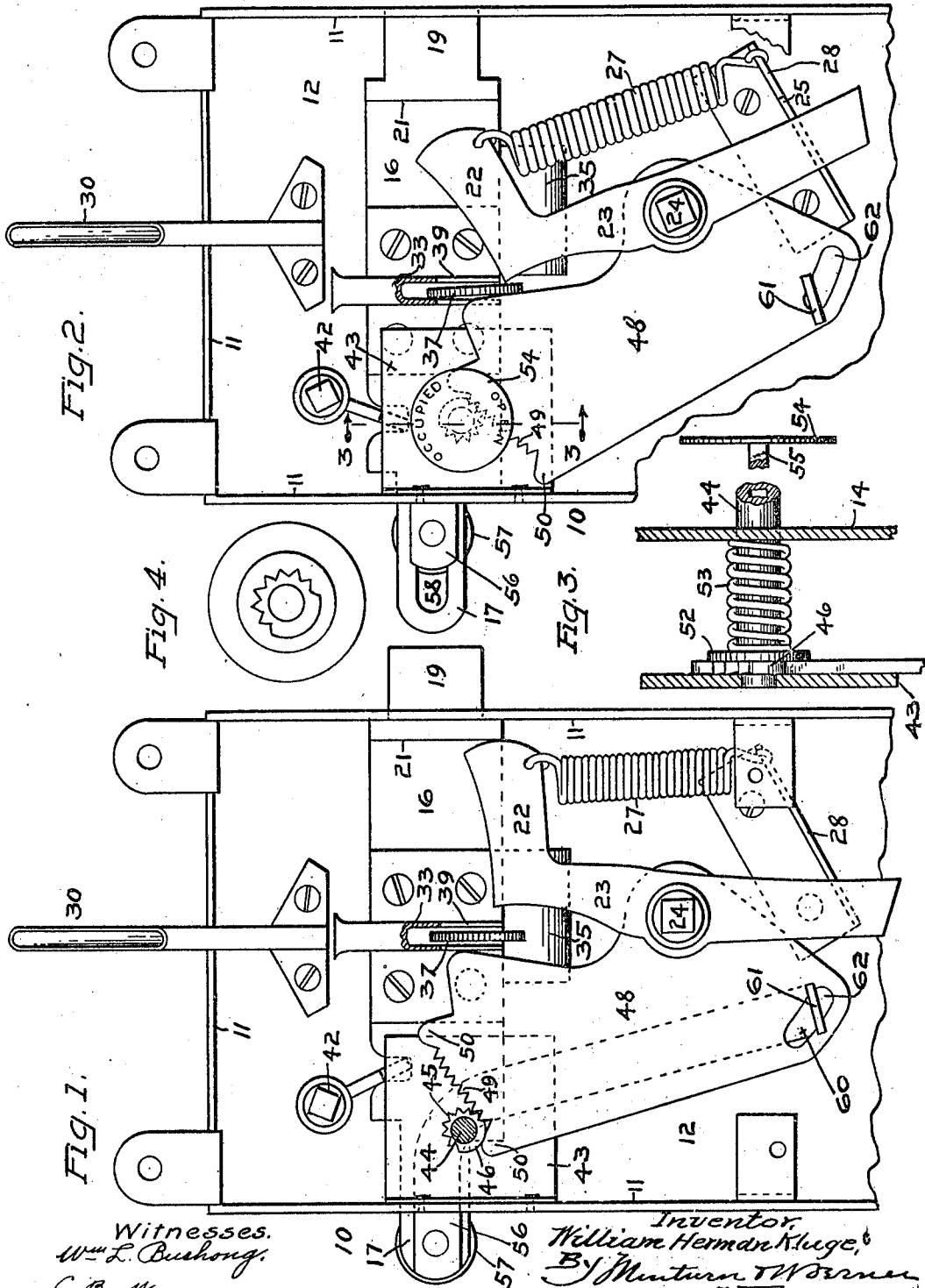


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 INDICATOR FOR COIN CONTROLLED LOOKS.
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Witnesses.
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UNITED STATES PATENT OFFICE.

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INDICATOR FOR COIN-CONTROLLED LOCKS.

955,969.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM HERMAN KLUGE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Indicators for Coin-Controlled Locks, of which the following is a specification.

This invention relates to improvements in coin-controlled locks and the object is to provide an indicator which will be controlled by the same coin that controls the lock and thereby indicate whether the room is "occupied" or "open".

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front inside view of my improved lock with the inner plate of the case or housing removed, the view showing the bolt in its outer shot position. Fig. 2 is a like view showing the bolt in its inner shot position. Fig. 3 is a detail in vertical section on the line 3—3 of Fig. 2, and Fig. 4 is a detail in end view of the dial shaft showing all of the parts in front of the bolt plate assembled thereon.

Like characters of reference indicate like parts throughout the several views of the drawing.

10 represents the casing within which the parts of my invention are assembled. It comprises an outer plate 12 having integral sides 11 at right angles thereto, and an inner plate 14 (see Fig. 3), which is removably secured to the casing.

The main bolt of the lock is shown at 16, the body of which is flat and comparatively thin and has its bearing against the plate 12. One end of the bolt is reduced in width to form a part 17 which is projected through a suitable opening in the side 11. The opposite end of the bolt is reduced in width to form shoulders which will limit the outward movement, and this end is thickened to form the part 19 which passes through the adjacent side 11 of the casing to engage a striking-plate (not shown). The increase in thickness at this end of the bolt forms the shoulders 21. A lever 23 having an upper bent end 22 is mounted on a shaft 24 which shaft is supported by the two plates 12 and 14 of the casing and is extended outside of the latter and terminates with a suitable

knob or handle (not shown). The bent end 22 of the lever is attached to one end of a spirally wound spring 27, and the opposite end of this spring is attached to a plate 28 which is secured to the plate 12 of the casing. The plate 28 extends in a downwardly oblique direction to serve the additional purpose of a guide to direct the coins deposited in the lock, into a suitable receptacle at the bottom of the casing. The end of the bent portion 22 of the lever 23 is held in constant contact with the shoulder 21 of the bolt by the spring 27. The lower end of the lever 23 is continued below the pivotal point 24 to contact with a shoulder 25 formed in the plate 28 whereby the movement of the lever in that direction is limited.

30 is a coin-chute, the lower end of which discharges within the casing above the bolt 16. Mounted on the bolt 16 so as to be directly under the discharge end of the chute 30 when the bolt is in its outer shot position, is a continuation 33 of the chute, the upper end of which will preferably be expanded into a funnel to insure the delivery of the coin from the upper section 30 to the part 33. An outwardly and upwardly bent plate 35 secured to the casing has its upper edge extending across the discharge end of the chute extension 33 far enough to prevent the discharge of a coin from said chute extension while the bolt is in its outer shot or locked position. The chute extension 33 has a transverse notch 39 in its lower end to permit the upper end of the lever 23 to travel through said chute extension except when prevented by the presence of a coin 37 therein. When the notch 39 is closed by the presence of the coin in the part 33, the lever 23 by contact with the coin will shoot the bolt 16 inwardly of the casing thereby unlocking the door, and as soon as the bolt moves far enough to cause the coin to pass the end of the bent plate 35, the coin will be free to drop by gravity, and should it fall too far to the front of the casing it will be directed to the rear by the oblique plate 28. The throw of the lever 23 is arrested by the contact of its lower end against the shoulder 25 of said plate 28, and a person manipulating the knob on the shaft 24 will invariably release his hold upon the knob at the arrest of the lever 23 by contact with shoulder 25 so that if the coin has not been

previously released, it will be upon this occurrence and will drop to the bottom of the casing.

42 is a key mounted in the lock-casing so as not to be removable therefrom, and having its stem extended outside and squared to fit the socket of a removable extension carried by a porter or other attendant who has occasion to frequently enter the room.

Supported by the lock-casing, between the bolt 16 and plate 14, parallel with the latter, is a plate 43 having a round hole to receive the reduced end of a dial-shaft 44. Mounted on the shaft 44 is a pinion wheel 45 having a blank portion 46 to limit its rotation. The shaft 44 extends through the plate 14 with a sliding fit. Loosely mounted upon the shaft 24 is a plate 48 having a circular segment of which the center of shaft 24 is the axis, provided with teeth 49 to engage the teeth of the pinion 45. Lugs 50 at each end of the toothed segment help to limit the travel of the plate 48.

Mounted on the dial-shaft 44 and overlapping the pinion 45 and toothed edge of plate 48 is a washer 52 which is held yieldingly against both of said parts by a spring 53 wrapped around the shaft 44 and located between the washer 52 and plate 14. By this manner of applying the spring the various movable parts are held in proper operative relation without binding, thereby leaving the dial-shaft always free to turn, which is essential for a reliable indicator.

54 is the dial bearing the proper inscriptions as "Occupied" and "Open", and having a stem 55, here shown as square in cross section, to fit in a corresponding longitudinal opening in the shaft 44.

Located between the plate 43 and the bolt 16 is a bent bar, one end, 56, of which, extends outside of the lock-casing and is provided with a knob 57. The extension 17 of the bolt 16 has a longitudinal slot 58 through which the knob 57 is passed and because of the slot 58 a limited movement of the bolt 16 is permitted without moving the bent bar or lever. After the bolt 16 has been shot inwardly to the position shown in Fig. 2, and the indicator mechanism moved substantially to the position there shown, the bolt will be returned by the action of the spring 27 through lever 23, leaving the indicator mechanism undisturbed, and the coins inserted in the chute 30 while the room or booth is occupied will not affect the adjustment of the parts of the indicator mechanism. The end of the inner portion 60 of the bent bar terminates with a lateral extension or bent part 61 which passes through a slot 62 in plate 48 concentric with shaft 24, and the edges of this part 61 will preferably be notched to engage the plate 48 on each side of the slot to prevent the withdrawal of the part 61 except when the latter

is turned lengthwise of the slot, which does not occur while the parts are assembled in the finished condition.

When the person in the room or booth desires to retire from same, he will unlock the door by an outward movement of the knob 57. The first periods of this movement will be permitted by the slot 58 without moving the bolt 16, but when the outer end of said slot is reached, the bolt will be moved so as to unlock the door and at the same time the end 61 of the bent bar or lever 56—60 will return the segment-plate 48 to the position shown in Fig. 1, which will rotate the shaft 44 and expose the "Open" inscription on the dial. The dial will be set to the position of "Occupied" by inserting a coin in chute 33 and moving the plate 42 by pressing the coin against it by lever 23 and knob of shaft 24, but the plate 48 will remain in the position thus given it until it is moved back by the above outward movement of knob 57 and lever 56—60.

Having thus fully described my invention, what I claim as new and wish to secure by Letters Patent of the United States, is—

1. In a lock, a coin-carrying bolt, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying an indicator, a cogged wheel mounted on said spindle, a wheel-segment having teeth meshing with those of the cogged wheel, said segment being moved in one direction by contact therewith of the coin in said movable bolt by the shooting of the bolt, and a separate means for returning said segment to its first position.

2. In a lock, a coin-carrying bolt, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying an indicator, a cogged wheel mounted on said spindle, a wheel segment having teeth which mesh with those of the cogged wheel and adapted to be moved by the contact with the wheel of the coin in said movable bolt by the shooting of the bolt, a bent bar having one end loosely secured to said wheel-segment and the other end extending outside of the casing of the lock and terminating with a knob.

3. In a lock, a lock casing, a coin-carrying bolt, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying an indicator, a cogged wheel mounted in a fixed manner on said spindle, a wheel-segment having teeth which mesh with those of the cogged wheel, said wheel-segment having a concentric slot and adapted to be moved by contact therewith of the coin in said movable bolt by the shooting of the bolt, a bent bar having one end loosely secured in the concentric slot of said wheel-segment and the other end extending outside of the casing of the lock and terminating with means for manually operating the bar.

4. The combination with a lock casing, of a coin-carrying bolt, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying a circular dial bearing suitable inscriptions, said dial being located outside of the lock casing, a cogged wheel mounted in a fixed manner on said spindle, a wheel-segment adapted to oscillate and having teeth which mesh with those of the cogged wheel, said wheel-segment having a slot and adapted to be moved by the contact therewith of the coin in said movable bolt by the shooting of the bolt, means carried by said cogged wheel and wheel-segment for limiting the rotary movement of the spindle, a bent bar having one end loosely secured to the slot in said wheel-segment and the other end extending outside of the casing of the lock and terminating with means for manually operating the bar.

5. A lock casing, a coin-carrying bolt mounted in said casing having an end projecting from the casing and longitudinally slotted, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying an indicator, a cogged wheel mounted on said spindle, an oscillatory wheel-segment having teeth meshing with those of the cogged wheel and moved in one direction by contact with the coin carried by said bolt when the bolt is shot inwardly of the lock, a bent bar having its

lower end loosely connected with said toothed segment and its other end extending outside of the lock casing and terminating with a knob.

6. A lock casing, a coin-carrying bolt mounted in said casing having an end projecting from the casing and longitudinally slotted, means by contact with a coin when carried by the bolt for shooting the bolt, a spindle carrying an indicator, a cogged wheel mounted on said spindle, an oscillatory wheel-segment having teeth meshing with those of the cogged wheel and moved in one direction by contact with the coin carried by said bolt when the bolt is shot inwardly of the lock, a washer mounted on said spindle and overlapping the cogged wheel and wheel-segment, a spring to press the washer against said toothed parts, a bent bar having its lower end loosely connected with said toothed segment and its other end extending outside of the lock casing and terminating with a knob which projects through the slotted end of the bolt.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this 25th day of January, A. D. one thousand nine hundred and ten.

WILLIAM HERMAN KLUGE. [L. s.]

Witnesses:

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