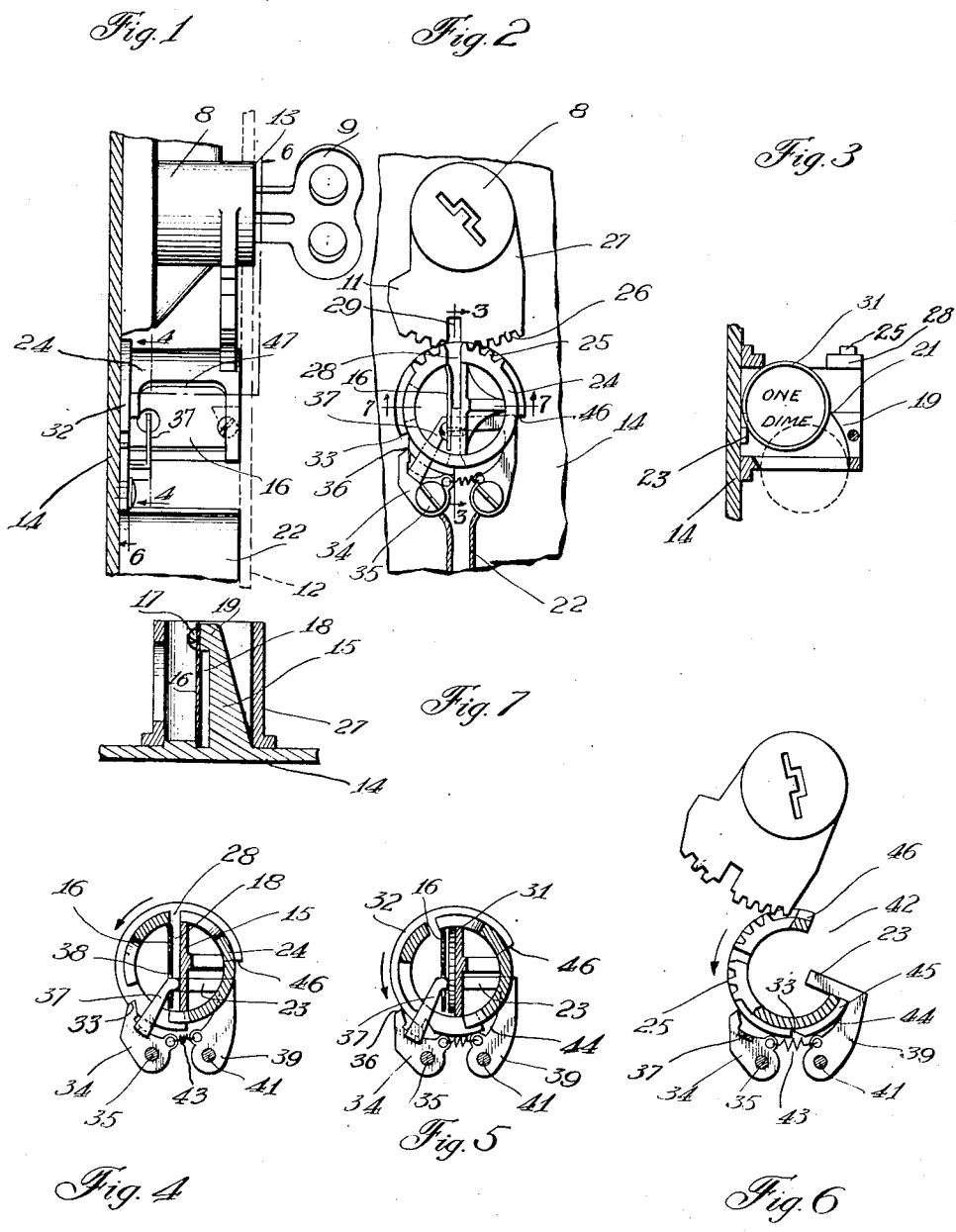


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COIN CONTROLLED LOCK
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COIN-CONTROLLED LOCK.

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This invention pertains to coin controlled apparatus, and the principles of the invention are illustrated in the present instance as embodied in a coin controlled lock adapted for use on public parcel checking cabinets, and the like.

One of the primary purposes of this invention is the provision of improved mechanism for controlling the operation of the lock through the instrumentality of a coin, and the invention aims to provide mechanism of this character which will be positive and reliable in operation, and not apt to get out of order, and which can be economically manufactured and readily assembled.

Other objects and advantages of the invention should be apparent as the same becomes better understood by reference to the following description, when considered in connection with the accompanying drawings.

Referring to the drawings:

Fig. 1 is a fragmentary side elevation of a lock embodying my invention;

Fig. 2 is a front elevation thereof looking toward the left at Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view on the line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 4, showing the parts in another position;

Fig. 6 is a sectional view on the line 6—6 of Fig. 1 the coin receiver being omitted; and

Fig. 7 is a horizontal sectional view on the line 7—7 of Fig. 2.

Referring now to the drawings more in detail, reference character 8 indicates generally a key cylinder, equipped with the usual locking tumblers adapted to be manipulated by a key 9, which in the type of lock illustrated serves as an identifying check by which the customer may recover or obtain access to the belongings which he has deposited in a parcel locker and locked therein by turning the key, which when the lock is locked is capable of being withdrawn.

The key cylinder is connected to a locking bolt of any preferred construction, and in the present instance this bolt comprises an extension 11, fixedly attached to or formed integrally with the key cylinder, and projecting therefrom so that upon rotation of the cylinder the bolt will be swung into

locking relation with the parcel locker door to hold the same in locked position. Other types of bolts and other modes of connection to the key cylinder may obviously be employed if found preferable. A fragment of the front plate of the locker cabinet frame is shown in dotted lines in Fig. 1, and indicated by reference character 12, and it will be observed that the lock embodying my invention is disposed at the rear of this plate and only the outer end 13 of the key cylinder is exposed through an aperture in the plate. The working parts are therefore concealed from view and protected from being tampered with.

Beneath the key cylinder upon the back plate 14 of the lock there is fixedly mounted a coin receiver formed by an integral forward extension 15 of the back plate, and a thin plate 16 attached thereto by screw 17, or otherwise, so as to provide a coin slot 18, adapted to receive and contain the coin by which the lock is controlled. A shoulder 19, formed integrally with the extension 15, and to the face of which the plate 16 is secured, is shaped, as illustrated in Fig. 3, to provide a limiting extremity or point 21, spaced from the rear plate 14 a distance very slightly in excess of the diameter of the coin for which the lock is designed so that the coin may pass through the slot and into the coin box 22 when the finger 23, which will later be described, is withdrawn from the path of the coin; but when this finger is in operative position, as shown in Fig. 3, the coin will be held in the receiver, as shown in full lines.

A rotatably mounted barrel 24 surrounds the coin receiver and is provided near its outer end with gear teeth 25 arranged to mesh with companion teeth 26 formed on the perimeter of the radial extension 27 from the key cylinder, upon which extension the locking bolt 11 in the present instance is formed. It will be obvious, therefore, that as the key cylinder is oscillated, the barrel 24 will be correspondingly oscillated, but in a reverse direction. The circumferential wall of the barrel is longitudinally slotted at its upper side, as indicated at 28, and the extension 27 is also slotted at 29 in alignment with the slot 28, both of these slots when the lock is in unlocked position being in alignment with the coin receiver slot 18, in order that a coin may be introduced into

the receiver through an aligned slot formed in the front plate 12. When a coin is thus introduced, it will assume the position in the receiver illustrated in full lines in Fig. 3, the coin being indicated in this figure and in Figure 5 by reference character 31.

When the lock is in unlocked position, the parts will be in the positions shown in Figs. 1 and 2, and the key 9 will be held in the cylinder against withdrawal therefrom. In order to prevent actuation of the lock without the deposit of a coin therein, I have provided mechanism for that purpose, which will now be described. The base, or in other words that end of the barrel which is contiguous to the back plate 14, is provided with a circumferential flange 32, in which at one point is formed a notch providing an abutment or shoulder 33. Upon the back plate and below the barrel a dog 34 is pivotally mounted upon a pivot pin or screw 35, and comprises a shoulder 36 adapted to be disposed in the path of travel of the shoulder 33 when the barrel is rotated in a counterclockwise direction, viewing Fig. 2, and whereby the rotation of this barrel is limited. This dog is equipped with a tail 37 projecting through an opening 38 in the plate 16 into the slot 18 of the coin receiver, and when the shoulder 36 moves inwardly into the path of the shoulder 33, the tail 37 will be disposed across the coin slot 18 in the position shown in Fig. 4. This is the position that the parts will assume if attempt is made to manipulate the lock without first introducing a coin into the receiver, and when in this position, the dog by its engagement with the shoulder 33 precludes rotative movement of the barrel, and consequently, locks the key cylinder against operative movement. When the slots 28 and 29 are in vertical alignment, as shown in Fig. 2, the barrel will be positioned so that the peripheral flange 32 beneath the shoulder 33 normally holds the dog in retracted position with its tail 37 disposed outside the coin slot 18. A coin may therefore be inserted in the slot and retained therein, and when the key cylinder is now turned, the coin being disposed in the path of the tail 37 will hold the dog 34 in retracted position, as shown in Fig. 5, permitting the shoulder 33 to pass the shoulder 36 so that complete locking movement of the lock may be effected.

The coin is prevented from passing through the coin slot by the finger 23 in conjunction with the stationary point 21, as previously explained, and as illustrated in Fig. 3. The finger 23 is carried by a pawl 39 pivoted upon a pin or screw 41, and the inner end of the barrel is cut away to form a slot 42, through which the finger 23 projects into the coin slot 18. A single tractile spring 43, connecting the pawl 39 and the

dog 34, normally tends to urge both the finger 23 and the tail 37 into the coin slot. The pawl 39, as will be apparent from Figs. 5 and 6, is shaped to provide a cam surface 44, disposed in the path of that portion 45 of the barrel beneath the slot 42, and when the barrel is rotated in a counterclockwise direction, the pawl will be swung outwardly by this portion 45 into the position shown in Fig. 6, withdrawing the finger 23 from the coin slot, thereby releasing the coin and permitting the same to drop through the slot into the underlying coin box 22. Rotation of the cylinder and barrel in a counterclockwise direction is limited by engagement of the portion 45 with the finger 23, as shown in Fig. 6, and rotation in the opposite direction is limited by engagement of this finger with the shoulder 46 at the opposite end of the slot 42, as will be apparent from Fig. 2. The barrel is cut away at one side, as indicated at 47, to permit the entrance of the tail 37 into the coin slot, and the discharge of the coin therethrough from the receiver.

The operation of my invention is substantially as follows. Assuming that the lock is in the unlocked position shown in Fig. 2, should an attempt be made to lock the lock by turning the key in a clockwise direction without first depositing a coin, the shoulder 36 will, upon initial rotation of the barrel, enter into the path of the shoulder 33 under the influence of the spring 43, and thereby restrict the turning of the cylinder and barrel to a slight movement. Should, however, a coin be deposited in the receiver prior to the manipulation of the key, such coin will be retained in the receiver between the point 21 and the finger 23, and upon initial rotation of the barrel, the coin being disposed in the path of the tail 37 will hold the shoulder 36 out of the path of the shoulder 33, thereby permitting full throw of the key. As the barrel approaches the limit of its turning movement, the pawl 39 will be swung in a clockwise direction, as previously explained, withdrawing the finger 23 from the coin slot so as to release the coin and permit it to fall through the slot into the coin box. Upon actuation of the key in the reverse direction, the lock will be unlocked and the parts restored to normal position.

The structural details illustrated and described are obviously capable of considerable modification without exceeding the scope of the invention, as defined in the following claims.

I claim:

1. In a coin controlled lock, the combination of a key actuated cylinder, a stationary coin receiver, a rotatable barrel provided with a shoulder, a dog adapted to be disposed in the path of travel of said shoulder and provided with a tail adapted to enter said receiver when the dog enters the

path of said shoulder, and means for holding a coin in said receiver in the path of said tail whereby said dog is retained in inoperative position.

2. In a coin controlled lock, the combination of a key actuated cylinder, a stationary coin receiver, a rotatable barrel surrounding said receiver and operatively connected with said cylinder, and means for restricting the movement of said barrel, said means being rendered inoperative by the presence of a coin in said receiver.

3. In a coin controlled lock, the combination of a rotatable cylinder, a stationary coin receiver, cylinder-actuating means rotatable about said receiver and rotatable with said cylinder, and means extending through said actuating means into said receiver and into the path of a coin therein for limiting the movement of said cylinder, said means being rendered inoperative by the presence of a coin in said receiver.

4. In a coin controlled lock, the combination of a rotatable key cylinder, a rotatable barrel operatively connected with said cylinder, a stationary coin receiver, means for limiting the movement of said barrel, said means being rendered inoperative by the presence of a coin in said receiver, and means actuated by said barrel for releasing said coin from the receiver.

5. In a coin controlled lock, the combination of a key cylinder, a stationary coin receiver, a rotatable barrel connected with said cylinder, means for retaining a coin in said receiver, means for limiting the movement of said barrel, said means being rendered inoperative by the presence of a coin in said receiver, and means whereby said coin retainer is rendered inoperative by movement of said barrel.

6. In a coin controlled lock, the combination of a key cylinder, a rotatable barrel, a stationary coin receiver, a dog adapted to engage said barrel to limit the rotation thereof, said dog being provided with a tail adapted to enter said coin receiver, a coin retaining finger projecting into said receiver, and means for withdrawing said finger after a predetermined movement of said barrel.

7. In a coin controlled lock, the combination of a key cylinder, a coin receiver, a rotatable barrel surrounding said coin receiver and operatively connected with the cylinder, a pivotally mounted dog adapted to engage the barrel to limit the rotation thereof, a tail projecting from said dog into said receiver, a coin retaining finger projecting into the receiver, and means for withdrawing said finger upon predetermined movement of said cylinder.

8. In a coin controlled lock, the combination of a key cylinder, a stationary coin receiver, a rotatable barrel connected with said cylinder and provided with a circumferential flange having a notch therein, a pivotally mounted dog adapted to engage in said notch and provided with a tail adapted to enter said coin receiver when the dog enters the notch, the presence of a coin in said receiver being adapted to prevent engagement of said dog in said notch, a coin retaining finger normally projecting into said receiver, and means carried by said barrel for withdrawing said finger to release the coin from said receiver.

9. In a coin controlled lock, the combination of a key cylinder, a rotatable barrel, a coin receiver, a pair of pivotally mounted members, and means for yieldingly urging said members into said receiver, one of said members being rendered inoperative by a coin in the receiver and the other member being rendered inoperative by movement of the barrel.

10. In a coin controlled lock, the combination of a rotatable barrel, a stationary coin receiver, a dog for locking said barrel against rotation, said dog being rendered inoperative by a coin in the receiver, and a coin retainer independent of said dog and normally projecting into said receiver and adapted to be rendered inoperative by movement of said barrel.

11. In a coin controlled lock, the combination of a key cylinder provided with a radial extension, a slotted stationary coin receiver, a rotatable barrel surrounding said receiver, said barrel and cylinder extension being slotted to permit the introduction of a coin into said receiver, a movable finger for holding a coin in said receiver, barrel locking means rendered inoperative by the presence of a coin in said receiver, and means for withdrawing said finger upon predetermined movement of said barrel.

12. In a coin controlled lock, the combination of a key cylinder, a rotatable barrel, geared to said cylinder, a stationary coin receiver, barrel locking means rendered inoperative by the presence of a coin in said receiver, and coin retaining means rendered inoperative by movement of the barrel.

13. In a coin controlled lock, the combination of a key cylinder, a stationary coin receiver, means for limiting the movement of said cylinder except when a coin is in said receiver, said means including a device rotatable about said receiver and connected to said cylinder, and coin retaining means rendered inoperative upon predetermined movement of said cylinder.

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