Aug. 25, 1953 W. STACKHOUSE 2,649,949

COIN-CONTROLLED LOCK MECHANISM

Filed Jan. 19, 1951

Fig. 1.

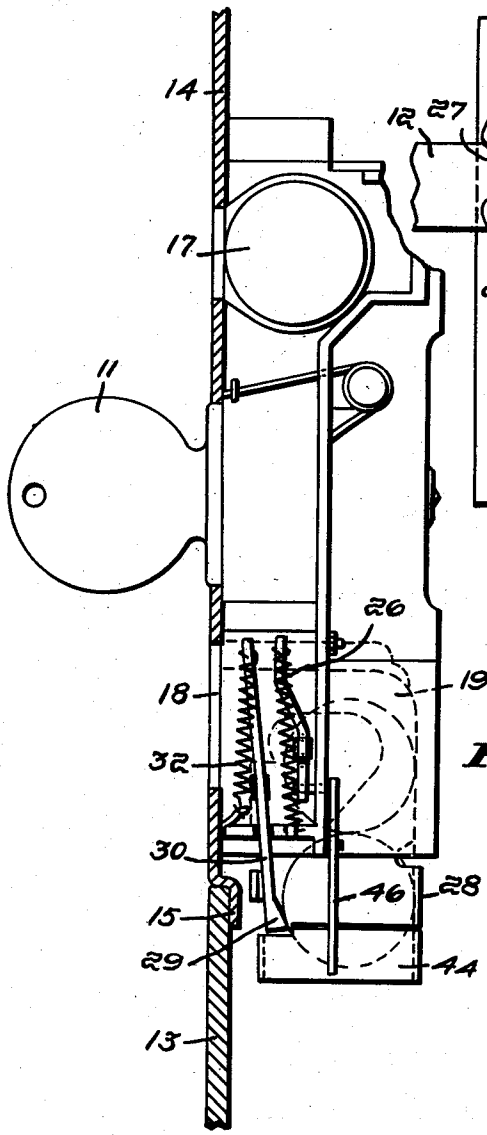


Fig. 2.

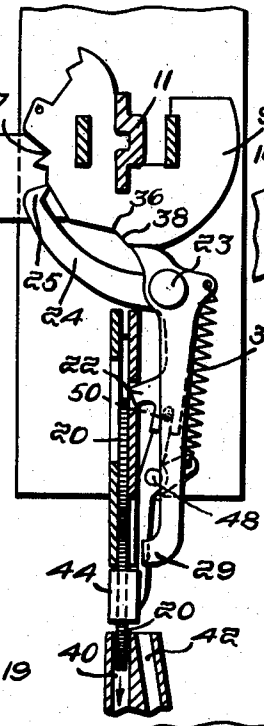


Fig. 3.

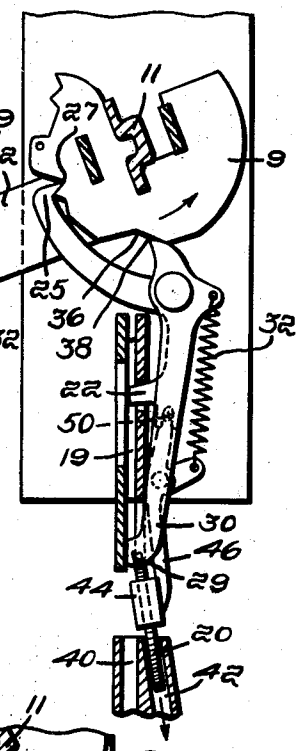


Fig. 4.

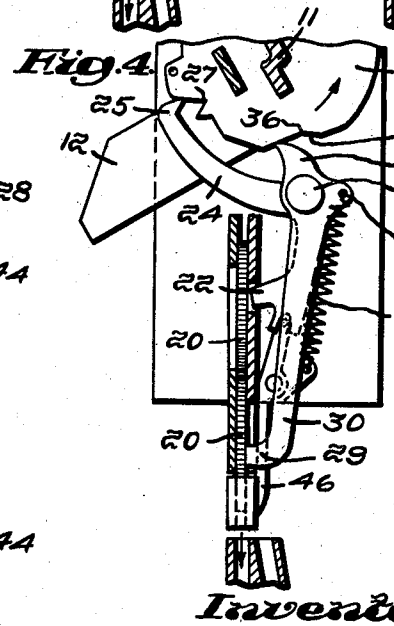
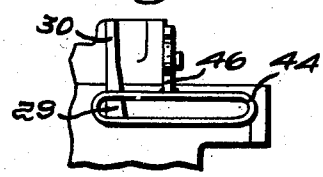


Fig. 5.



Inventor:
Wells Stackhouse,
By Kenway, Jenney, Witter & Hildreth
Attorney

Patented Aug. 25, 1953

2,649,949

UNITED STATES PATENT OFFICE

2,649,949

COIN-CONTROLLED LOCK MECHANISM

Wells Stackhouse, Havertown, Pa., assignor to American Locker Company, Inc., Boston, Mass., a corporation of Delaware

Application January 19, 1951, Serial No. 206,840

2 Claims. (Cl. 194—92)

1

This invention relates to coin controlled locks requiring the insertion of a plurality of coins to effect operation of the lock. Some difficulty has been experienced with such locks by patrons who are unaware that a plurality of coins are required to operate the lock and this is particularly true where a single coin lock has been converted to require two or more coins. It occasionally happens that a patron drops in a single coin and then, being unable to operate the lock, walks away dissatisfied. Not only is this dissatisfaction undesirable but the one coin in the lock may give trouble to the next patron and even jam the lock when he tries to insert the normally required number of coins. The primary object of my invention resides in the provision of mechanism for returning to the patron, when he tries to operate the lock, the deposited coin or coins that are insufficient to effect the operation. The return of these coins not only eliminates loss to the patron and the possibility of generating ill will but also leaves the lock in normally operative condition for the next patron.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawing in which—

Fig. 1 is a side elevation, partially broken away, of a coin controlled lock embodying my invention with two coins supported in lock operating position,

Fig. 2 is a fragmentary sectional view showing the lock in its final movement to the locking position with the coins released,

Fig. 3 is a like view showing the return of a single coin to the patron,

Fig. 4 is a like view showing the lock in the normal unlocked position, and

Fig. 5 is a bottom plan view of Fig. 1.

The invention is particularly applicable to coin controlled locks of the nature shown in Patent 1,640,605 dated August 30, 1927, and, for purposes of description, I have herein disclosed my improved lock mechanism as applied to a parcel checking cabinet and requiring the insertion of two dimes to release the lock which is normally held in the unlocked position of Fig. 4.

In the drawing, 9 indicates generally a key cylinder equipped with the usual locking tumblers adapted to be manipulated by a key 11, 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.

2

The key cylinder is provided near its outer end with a locking bolt 12 adapted to be moved with the cylinder from the locked position of Fig. 2 to the unlocked position of Fig. 4. A fragment of the front plate of the locker cabinet frame is shown at 13 in Fig. 1. The front plate 14 of the lock is disposed over an opening in the plate 13, its lower end being provided with a lip 15 engaging the inner face of the plate 13 and its upper end being equipped with a lock (not shown) by which the plate 14 and the parts assembled thereon are detachably secured in position in the cabinet. A recorder 17 may be connected to the cylinder 9 so as to be operated by each actuation of the lock, whereby the number of lock actuations and consequently the number of coins deposited is recorded.

The front plate 14 is provided beneath the key cylinder with a coin slot 18 through which coins can be inserted edgewise into a coin receiving channel 19 in the lock rearwardly of the front plate. The channel illustrated is adapted to hold two coins 20 with the upper coin in position to be engaged by a feeler 22. The feeler is on the bottom end of a lever pivoted at 23 and having an arm 24 provided with a tooth 25 for engaging in a notch 27 of the locking cylinder. A spring 26 normally swings the lever in a direction engaging the tooth in the notch which thereupon serves to hold the lock in the unlocked position of Figs. 3 and 4.

The bottom coin is held in the coin channel between a side wall 28 and the laterally disposed end 29 of an arm 30 pivoted at 23, and the bottom coin supports the upper coin in position to be engaged by the feeler 22. The arm 30 is held in the coin retaining position by a spring 32 anchored at its bottom end and having its top end engaged with a laterally projecting portion 33 of the arm. A tooth 34 carried by the arm extends into a recess 36 in the locking cylinder. The upper coin 20 held in the position shown in Figs. 1 and 4 prevents entrance of the feeler into the coin channel 19, thereby preventing the tooth 25 from entering the notch 27, with the result that the key cylinder is free to turn to the locking position of Fig. 2. During this movement the cam shoulder 38 of the recess 36 engages the tooth 34 and swings the arm 30 and its end 29 outwardly, thus releasing the coins.

Disposed beneath and in vertical alignment with the coin channel 19 is a coin deposit chute 40, and a coin return chute 42 is disposed laterally adjacent to the chute 40. A coin receiving and deflecting member 44 is carried on one end

of a lever 46 pivoted at 48, the other end of the lever having a pin and slot connection 50 with the feeler arm 22. The member 44 is normally disposed in the positions of Figs. 2 and 4 in alignment with the channel 19 and chute 40 and receives the bottom portion of the bottom coin retained by the tooth 29 (Fig. 1). Movement of the lever 46 to the position of Fig. 3 is adapted to deflect this coin into the return channel 42 as illustrated in Fig. 3 and hereinafter described. The coin engaging end of the element 29 is somewhat inclined, as illustrated in Fig. 5, whereby the coin is released therefrom when moved laterally to the position of Fig. 3.

If the operator drops a single coin in the channel 19 and then attempts to rotate the key and lock, the same will rotate only from the position of Fig. 4 to that of Fig. 3. No upper coin being present, the feeler 22 is free to move into the channel and such movement shifts the member 44 to the position of Fig. 3. The coin is thereupon released from the element 29 and drops into the return chute 42 which returns it to the patron. When the key is released the lock automatically returns (in the direction of the arrows, Figs. 3 and 4) to the unlocked position of Fig. 4 by spring operated mechanism shown in Patents 2,222,434 and 2,437,742. When two coins are dropped into the channel the locking cylinder can be rotated to the locking position of Fig. 2 and the coins are thereupon released and dropped into the deposit chute 40.

Having thus disclosed my invention what I claim as new and desire to secure by Letters Patent is:

1. A coin controlled lock, comprising a locking bolt mounted for movement to and from locking and released positions, means normally restricting the bolt to limited movement from one of said positions, means providing a coin receiving channel in the lock, means providing a coin deposit chute in vertical alignment with and beneath the channel and a coin return chute laterally adjacent to said deposit chute, a coin deflecting member disposed between said channel and chutes, means at the bottom end of the channel normally biased to intercept and hold a coin in the channel, means controlled by movement of the bolt within the limited movement including a feeler movable to engage a coin in the channel above and supported by the first named coin for rendering the bolt retaining means inoperative when a coin is present in the channel in the path of movement of the feeler, means actuated by movement of said feeler beyond coin engaging position for moving said member to deflect the first named coin from the position retained by said intercepting means and into the return chute when no coin is present in the channel at said path and the bolt is given said limited movement toward the other position, and means controlled by movement of the bolt beyond its limited movement for withdrawing said coin intercepting and holding means and permitting the coins to drop from the channel into the coin deposit chute when said first and second named coins are present in the channel and the bolt is moved from said one position to the other position.

2. A coin controlled lock, comprising a locking bolt mounted for movement to and from locking and released positions, means normally restricting the bolt to limited movement from one of said positions, means providing a coin receiving channel in the lock, means providing a coin deposit chute in vertical alignment with and beneath the channel and a coin return chute laterally adjacent to said deposit chute, a coin deflecting member disposed between said channel and chutes, means normally biased to intercept and hold a coin in the channel above the coin deposit chute with the bottom portion of the coin extending into said member, said intercepting means being inoperative to hold the coin when the coin is moved laterally to said coin return chute, means controlled by movement of the bolt within its limited movement including a feeler movable to engage a coin in the channel above and supported by the first named coin for rendering the bolt retaining means inoperative when a coin is present in the channel in the path of movement of the feeler, means actuated by movement of said feeler beyond coin engaging position for moving said coin deflecting member to the coin return chute when no coin is present in the channel at said path and the bolt is given said limited movement toward the other position, and means controlled by movement of the bolt beyond its limited movement for withdrawing said coin intercepting and holding means and permitting the coins to drop from the channel into the coin deposit chute when said first and second named coins are present in the channel and the bolt is moved from said one position to the other position.

WELLS STACKHOUSE.

No references cited.