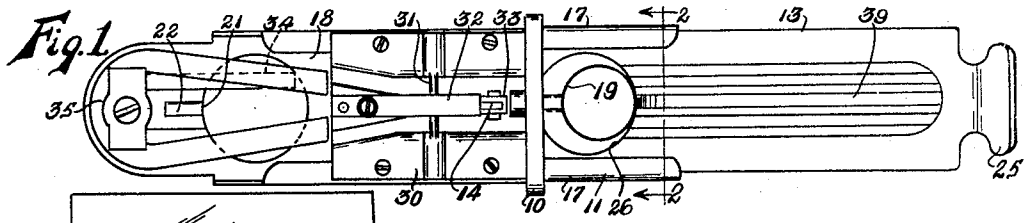
Feb. 14, 1933. L. M. HALL ET AL 1,897,193

COIN CONTROLLED DEVICE

Filed Jan. 27, 1932

Fig. 1.



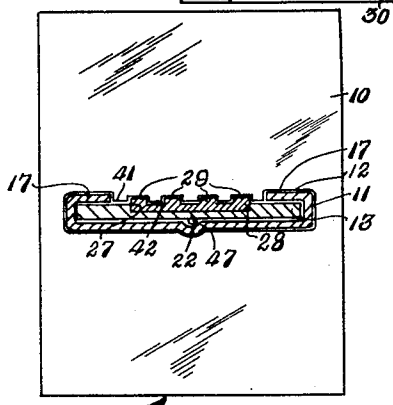


Fig. 2.

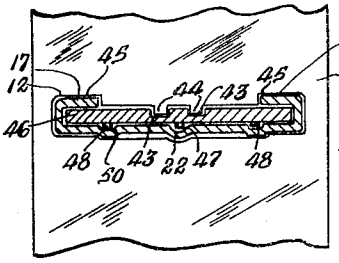


Fig. 4.

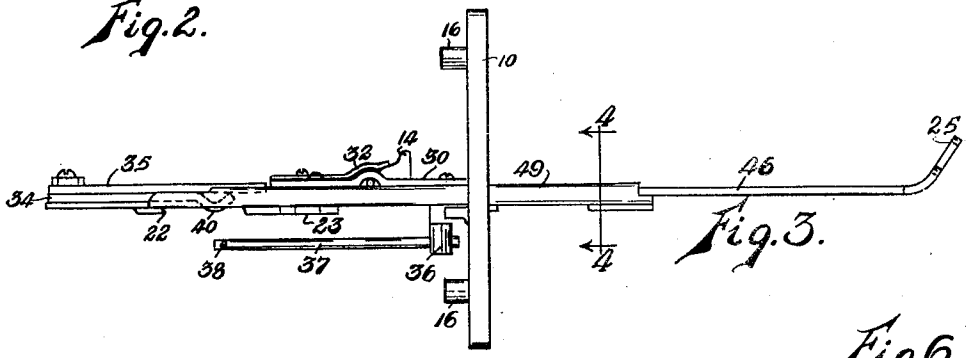


Fig. 3.

Fig. 6.

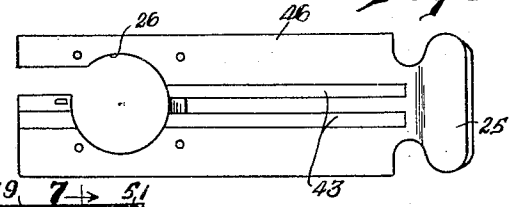


Fig. 7.

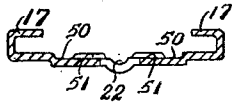
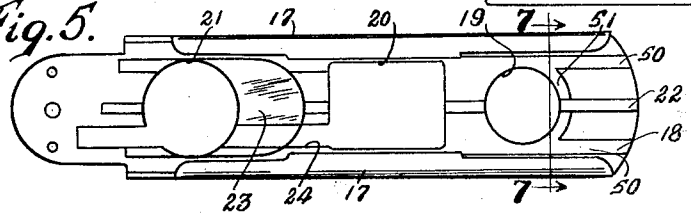


Fig. 5.



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UNITED STATES PATENT OFFICE

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COIN CONTROLLED DEVICE

Application filed January 27, 1932. Serial No. 589,072.

This invention relates to a coin-controlled device of the kind commonly known as a coin slot and adapted upon proper operation, to actuate other mechanism with which the coin slot is associated.

An object of the invention is to provide a device of the kind described provided with means to preclude fraudulent operation of the device.

Another object is to provide such means which in no way affect or endanger smooth operation of the properly actuated mechanism.

Another object is to provide means positively operative upon the coin used to actuate the coin slot device for facilitating or expediting release of the coin therefrom.

Another object is the provision of means of the kind described which are simple in manufacture and efficient in use.

These and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a top plan view of a coin-controlled mechanism of this invention, in position to receive a coin.

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a side elevational view of a coin slot device comprising modified structure.

Fig. 4 is a cross sectional view taken on line 4—4 of Fig. 3.

Figs. 5 and 6 are top plan views of the slide and housing, respectively, seen in Figs. 3 and 4.

Fig. 7 is a cross sectional view taken on line 7—7 of Fig. 5.

The coin-controlled mechanism of this invention comprises briefly a support plate, adapted to be vertically positioned, a housing extending through a horizontal slot in the support plate, a slide positioned upon the housing, a downwardly-urged, spring actuated trigger adapted to prevent operation of the device without a proper coin, to eject coins not of a pre-determined diameter, and a magnet adapted to engage magnetic coins to prevent operation of the device. Heretofore, fraudulent operators have found it possible to actuate mechanisms of this kind, by inserting a thin strip of metal through the slot either above or below the slide, thereby holding up the downwardly urged trigger and accomplishing repeated and unauthorized operations of the coin slot and the associated mechanism, generally an amusement device or a vending machine of some kind. The present invention provides means preventing such fraudulent operation, said means consisting, briefly, of complementary studs, ways and ridges provided on the support plate, slide and housing and effectively precluding insertion of strips and the like for fraudulently operating the coin slot.

The present invention likewise provides for another improvement in coin devices, consisting of means effecting positive downward directing of the coin at the time the coin is released from the device, thereby obviating difficulties formerly encountered when gravity operation was depended upon.

With reference to the drawing: The support plate 10 may be rectangular in shape as shown and provided with interiorly threaded studs 16 on its inside face facilitating its attachment to a suitable vertical surface, generally a wall of the mechanism or device with which the coin slot is associated. The housing 11 extending through the slot 12, projects on both sides of the plate 10 and comprises an elongated strip or plate formed to provide lateral flanges 17 overhanging the top face 18 of the housing. The housing is provided with an aperture 19 adjacent its outer end, an aperture 20 intermediate the ends of the housing and positioned close to the inner face of the support plate 10, and a coin-release aperture 21 provided adjacent the rear or inner end of the housing. A central groove 22 extends longitudinally of the housing. Just forwardly of the coin-release aperture 21, the housing is provided with a depressed portion 23 upon which a coin drops immediately prior to its release from the device. Adjacent one side of the housing the latter is cut to provide a slot 24 communicating with the apertures 20 and 21 and within which travels the arm actuating the mechanism with which the coin slot is associated.

The slide 13 seen in Figs. 1 and 2 consists of

a strip receivable within the flanges 17 and slidable upon the housing. The strip is provided at its outer end with an upturned handle 25 and adjacent its inner end with a coin-receiving aperture 26 adapted, in the inoperative position of the device, to register substantially with the aperture 19 of the housing. A shallow channel 27 is milled in the upper face of the slide 13 and extends from the outer edge of the aperture 26 to the outer end of the slide. Within the channel 27 a plate 28, snugly receivable in the channel is secured. On its uper face the plate 28 is formed to provide ridge 29 projecting above the top surface of the slide. A downwardly projecting arm 36 is secured to the underface of the slide adjacent the inner end thereof. This arm is adapted to move back and forth in the slot 24 of the housing. A rod 37 is commonly attached to the arm 36 and when said arm has been moved inwardly by actuation of the slide, it actuates the mechanism with which the coin-slot is associated, the rod 37 being positively connected with such mechanism at its inner end 38.

Immediately adjacent the inner face of the support plate 10, a cover member 30 is attached to the upper faces of the flanges 17. The trigger member 14 is pivotally mounted on the cover member 30 by means of a small shaft 31 extending transversely of said cover. A spring strip 32 is secured adjacent the inner end of the cover and bears upon the trigger 14, urging said trigger toward an aperture 33 provided in the cover member.

Upon the upper face of the housing at the rear end thereof, the stop arm 34 is attached, said arm projecting into the aperture 21. Above the stop arm 34 a magnet 35 is fastened.

The device so formed and assembled is adapted to be operated in the following way: The slide 13 is moved out to the position shown in Fig. 1. A coin of predetermined diameter, commonly a five cent piece, is deposited upon the housing and within the coin-receiving aperture 26 of the slide. The downwardly urged trigger 14, in the inoperative position of the slide, rests against the top surface of the slide. The coin fills the aperture 26 so that the trigger rides over the top surface of the coin and continues in the central groove 39 until the slide has been moved completely inwardly. At this point the coin moves first into the depressed portion 23 of the housing and then outwardly of the coin-release aperture 21. In order to facilitate and expedite the release of the coin, and likewise to preclude the possibility of jamming, the arm 34 is provided with a hook portion 40 against which the innermost edge of the coin abuts whereby the coin is positively directed outwardly of the coin release aperture.

If no coin is deposited within the aperture 26 the trigger 33, upon the inward movement of the slide, is projected downwardly through the aperture 26 and precludes operation of the device. If a magnetic coin of the predetermined diameter is utilized, the magnet 35 holds the magnetic coin against its undersurface and further movement of the slide brings the coin into abutment against the end of the arm 34 so that complete operation of the device is prevented. If a coin of too small a diameter is used, the trigger 14, upon inward movement of the slide, ejects such coin through the aperture 20 of the housing and locks the slide against further inward movement.

The upper edge of the slot 12 in the support plate 10 is formed to provide downwardly projecting studs 41 so placed as to extend at the sides of and in the grooves 42 between the ridges 29 of the slide. It will be seen clearly by reference to Fig. 2 that the space that might otherwise result between the top face of the slide and the upper edge of the groove 12, is traversed at four points by the studs, grooves and ridges described so that it would be impossible for a fraudulent operator to insert a strip of any kind between the slide and the slot.

In Figs. 3 to 7 is illustrated a modification of the groove and stud means, and likewise means precluding insertion of a strip between the housing and the under face of the slide. Central ways 43 are milled directly in the upper face of the slide 46, and corresponding studs 44 are formed on the upper edge of the slot 12, said slot being likewise formed to snugly embrace the flanges 17, as seen at 45 (Fig. 4). As also clearly seen in Fig. 4, the bottom face of the slide, in addition to the central guide stud 47, adapted to ride in the housing groove 22, and which is common to both devices herein described, is likewise provided with the studs 48. The housing is formed with corresponding grooves 50 within which the studs 48 project when the lide is moved inwardly. The insertion of a strip between the housing and slide, in an attempt to hold up the trigger 14, is thus effectively prevented. Sothatthere may be no danger of the coin bringing up against the studs 44 and preventing operation of the device, the upper surface of the housing, adjacent the outer edge of aperture 19 is flattened as at 51 (Figs. 5 and 7), whereby excessive upward projection of the coin is obviated.

What is claimed is:

1. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having a horizontal slot therein, a housing extending through said slot, a coin-carrying slide member slidable in said housing, and adapted for full inward movement when provided with a coin of predetermined character, locking means adjacent the inner face of said support plate and adapted for down-

ward movement into the path of the slide to preclude operation thereof without a coin of the predetermined character, alternate ways and ridges provided on the exposed portion of the slide, and corresponding studs and spaces provided along the upper edge of said slot and adapted for interfitting relationship with said ways and ridges upon inward movement of the slide, for precluding entry of a strip or the like between the slide and said upper slot edge and inserted for the purpose of holding up said locking means to effect fraudulent operation of the device.

2. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having a horizontal slot therein, a housing extending through said slot, a coin-carrying slide member slidable in said housing, and adapted for full inward movement when provided with a coin of predetermined character, locking means adjacent the inner face of said support plate and adapted for downward movement into the path of the slide to preclude operation thereof without a coin of the predetermined character, alternate ways and ridges provided on the exposed portion of the slide, and corresponding studs and spaces provided along the upper edge of said slot and adapted for interfitting relationship with said ways and ridges upon inward movement of the slide, for precluding entry of a strip or the like between the slide and said upper slot edge, grooves provided on the housing and corresponding studs provided on the slide and adapted to extend into said housing grooves upon inward movement of the slide, said latter grooves and studs being adapted to preclude insertion of a strip or the like between the housing and the bottom face of the slide.

3. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having a horizontal slot therein, a housing extending through said slot and comprising an elongated plate formed with lateral flanges overhanging its top face, a coin-carrying slide strip slidable upon the housing within said flanges and adapted for full inward movement when provided with a coin of predetermined character, locking means adjacent the inner face of said support plate and adapted for downward movement into the path of said slide to preclude operation thereof without a coin of the predetermined character, alternate ways and ridges provided on the upper face of the slide and corresponding studs and spaces provided along the upper edge of said slot and adapted for interfitting relationship with said ways and ridges upon inward movement of the slide, the end portions of said slot being formed to snugly embrace the lateral flanges of said housing.

4. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having a horizontal slot therein, a housing extending through said slot and comprising an elongated plate formed with lateral flanges overhanging its top face, a coin-carrying slide strip slidable upon the housing within said flanges and adapted for full inward movement when provided with a coin of predetermined character, locking means adjacent the inner face of said support plate and adapted for downward movement into the path of said slide to preclude operation thereof without a coin of the predetermined character, ways provided on the upper face of the slide, corresponding studs projecting downwardly of the upper edge of said slot and adapted to extend into said ways upon inward movement of the slide, ways provided on the upper surface of the housing and corresponding studs projecting downwardly of the slide and adapted to extend into said housing ways upon inward movement of the slide the end portions of said slot being formed to snugly embrace the lateral flanges of said housing.

5. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having an aperture therein, a housing extending through said aperture, and having a coin-release opening adjacent its inner end, a coin-carrying member slidable in the housing and adapted for full inward movement when provided with a non-magnetic coin of predetermined diameter, locking means positioned above the housing and adapted to preclude full operation of the coin carrying member without a coin of the predetermined diameter, means extending transversely of the housing and coin carrying member to preclude insertion into the interior of the device of a strip or the like, a magnet positioned immediately above said coin release opening, an arm projecting into said opening immediately beneath the magnet and adapted for endwise abutment with a magnetic coin magnetically held by the magnet for precluding full inward movement of the coin-carrying member, and a downwardly bent portion formed adjacent the abutment end of said arm, said portion being positioned at the terminus of inward movement of a non-magnetic coin for positively directing such coin from the coin-release opening.

6. A coin controlled device comprising a support plate adapted to be vertically positioned against a wall member or the like and having an aperture therein, a housing extending through said aperture, and having a coin-release opening adjacent its inner end, a coin-carrying member slidable in the housing and

adapted for full inward movement when provided with a coin of predetermined diameter, locking means positioned above the housing and adapted to preclude full operation of the coin carrying member without a coin of the predetermined diameter, means associated with the upper and the lower surfaces and the sides of the coin carrying member and housing precluding access to said locking means from the exterior of the support plate, and means associated with said coin release opening for positively directing a coin through the opening.

In testimony whereof, I have hereunto subscribed my name this 25th day of January, 1932.

LOUIS M. HALL.

In testimony whereof, I have hereunto subscribed my name this 22nd day of January, 1932.

HARRY McCREARY.