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J. H. DEAN.

COIN CONTROLLED DEVICE.

APPLICATION FILED OCT. 13, 1904.

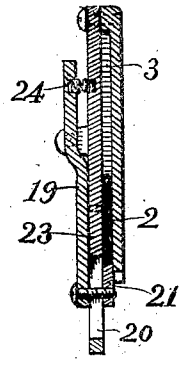


Fig.3.

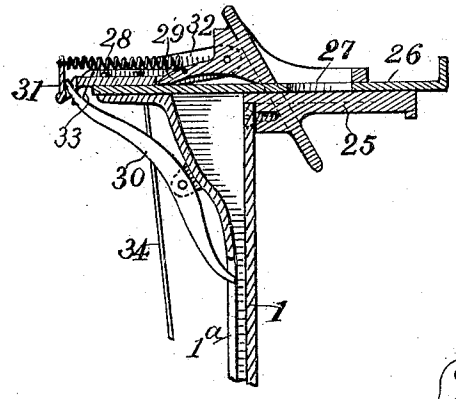


Fig.2.

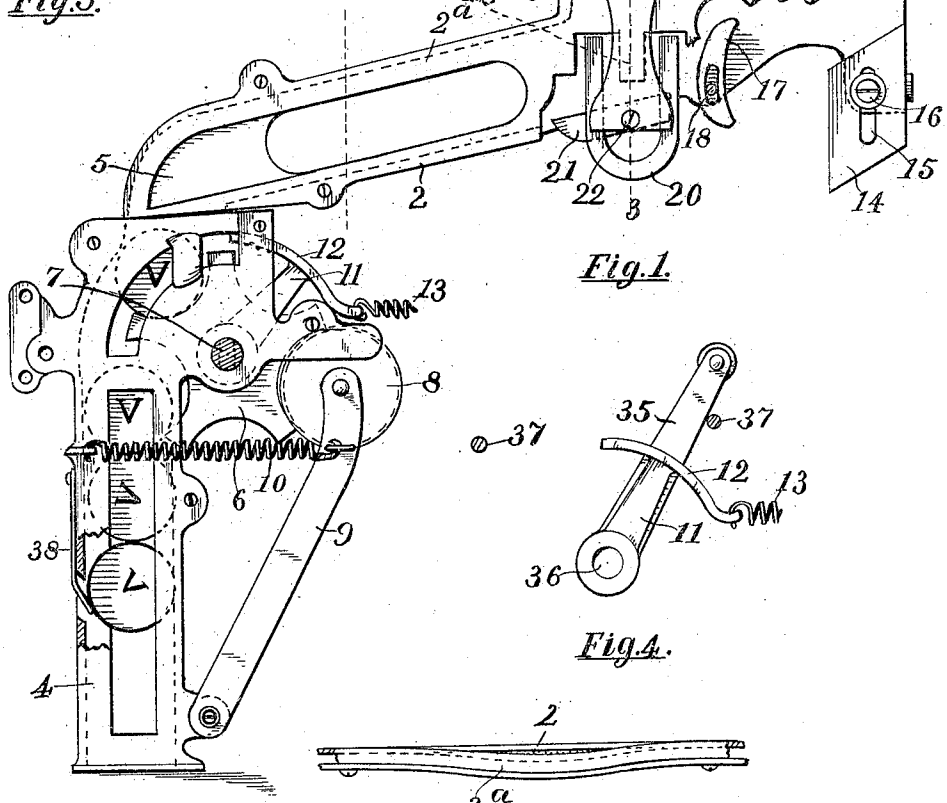


Fig.1.

Fig.4.

Fig.5.

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COIN-CONTROLLED DEVICE.

No. 798,269. Specification of Letters Patent. Patented Aug. 29, 1905.

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To all whom it may concern:

Be it known that I, JOHN H. DEAN, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Coin-Controlled Devices; 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.

My invention relates to improvements in coin-controlled devices, and more especially to means for preventing fraud by the use of spurious slugs or coins of inferior size; and my invention consists of the various means interposed to divert the spurious slug or small coin and prevent the same from passing through the vending mechanism of the machine or operating the same, as hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 represents an elevation of a device embodying my invention with parts broken away to show the construction; Fig. 2, a detail of the upper part of the same, shown in vertical section on the line 2 2 of Fig. 1; Fig. 3, a detail in vertical section on the line 3 3 of Fig. 1; Fig. 4, a detail of the operating-lever and parts attached thereto; and Fig. 5, a detail in plan view of a portion of the inclined coin-chute, showing means of discharging coins of inferior size.

Like numerals refer to like parts in all of the figures.

1 is a vertical coin-chute which receives the coin from the slide; 2, an inclined chute down which the coin rolls to the operating-wheel of the vending mechanism; 3, a chamber between the vertical chute 1 and the inclined chute 2, into which the coin rebounds from the anvil.

4 is a vertical chute into which the coin is discharged after it has been through the operating-wheel of the vending mechanism; 5, a lateral opening in the side of the inclined chute, through which the coin of inferior size will be discharged, for which purpose the upper part 2^a of the inclined chute is curved laterally, as shown in Fig. 5, tilting the upper edge of the coin outward toward the opening 5, whereby it is caused to fall through said opening.

6 is the operating-wheel of the vending mechanism, which in this instance is adapted to operate a cigar-vending device such as shown in Patent No. 758,588 to Erickson and Fagan, dated April 26, 1904. It is obvious, however, that various other operating means for a vending-machine may be substituted for the same without materially departing from the invention.

7 is a shaft which operates the vending mechanism and is operated by the wheel 6 mounted thereon.

8 is a holding-wheel for the wheel 6, which yieldingly engages the recesses in the same to hold it from turning when operated, as hereinafter described. This holding-wheel is mounted on a pivoted arm 9 and held in engagement with the wheel 6 by the spring 10. To operate the wheel 6 when a coin is in one of the recesses of the same, an arm 11 is provided which is suitably journaled with its axis 36 in line with the axis of the shaft 7 and connected to a suitable operating-crank 35, which crank is limited in its movement by stops 37, and on the end of the arm 11 and overhanging the rim of the wheel 6 is a segmental pusher 12, adapted to engage the edge of a coin in the recess of the wheel and force the coin and wheel around the axis of the shaft 7 to the extent permitted by the stops 37.

13 is a retracting-spring to restore the arm and lever to place after it has been operated. The vertical chute 1 is provided at its upper end with a suitable enlargement to receive the coin horizontally and turn the same to vertical position, as shown in Fig. 2. Arranged above this receiving end is a slide 26, horizontally movable and provided with an opening 27 to receive the coin upon a suitable table 25, projecting outside of the machine.

28 is a retracting-spring attached to the slide 26 to restore the same to its outward position after it has been pushed inward.

29 is a stop to limit the outward movement of the slide.

30 is a lever pivoted on the chute 1 and having its lower end adapted to enter an opening 1^a in the chute to intercept and detain a coin. The upper end of the lever 30 is engaged by the inner end of the slide 26 and depressed to

move its lower end into the chute when the slide is moved inward, and when the slide moves outward the upper end of the lever 30 engages a vertical surface 31 on the inner end of the slide to withdraw the lower end of the lever from within the chute and release the coin. The lower end and one side of the chute 1 are open and the coin free to escape therefrom except as obstructed by an adjustable anvil 14, having an inclined upper surface upon which the coin strikes and rebounds therefrom. This anvil is provided with a slot 15 and holding-screw 16, whereby it may be variously adjusted to effect the proper direction of the rebound of the coin. The surface of the anvil is inclined toward the chamber 3, opposite the open side of the chute 1, into which chamber the coin if sufficiently resilient will rebound from the anvil. This chamber is provided with an adjustable throat-stop 17, adjusted and held by a suitable screw 18, extending through a slot in the said stop, and the stop is located a sufficient distance from the anvil to afford a free passage therebetween for the escape of any coin or slug that may not rebound over the stop and into the chamber 3. Beneath this chamber is a movable bottom section 21, normally in line with the bottom of the inclined chute 2, which section when moved from its normal position permits a slug to drop out of the chute. A pendulum-arm 19 is pivoted on the chamber 3 and movably supports this bottom section 21 and also a small horseshoe-magnet 20, the poles of which magnet are normally in the plane of the side of the chamber and adapted to attract and hold any magnetic slug, such as a steel or iron washer or disk. In the same plane and between the poles of the magnet is a fixed portion 23 of the side of the chamber 3, which serves to hold the slug and detach the same from the magnet. The slug will thus drop when the magnet and section 21 are moved away and will not go down the inclined chute. To hold the arm 19 in normal position, a spring 24 is interposed between the chamber 3 and the upper end of said arm, and to move the arm outward at its lower end and release the slug a rod 34 is connected to the arm at the lower end and extending upward is attached to a lever 32, arranged at one side of a slide 26 and having a downwardly-inclined end 33 engaged by the slide as it is pushed inward, whereby the lever is raised, and thus the arm 19 will be pulled away from the chute at its lower end whenever the slide 26 is pushed in.

To exhibit the coins after they have passed through the operating mechanism, a slot is provided in the vertical chute 4, through which the coins may be seen as they descend the chute, and these coins are retained temporarily opposite this slot by means of a spring 38, which engages each coin in succession and yieldingly holds the same until it is crowded downward by the coins above.

In operation if a suitable coin—which in this case would be a five-cent nickel—is inserted in the opening 27 of the slide 26 and the slide pushed inward the coin will be moved over the upper end of the vertical chute 1 and fall into the same. The lever 30 is at the same time interposed in the path of the coin and temporarily retains the same, while the same movement of the slide will move the magnet and section 21 outward and release any slug that may have been detained by the magnet and drop the same downward. As the slide 26 returns to place the lever 30 is moved to release the coin, which falls down the chute 1 and rebounds from the upper inclined surface of the anvil 14 in the direction of the chamber 3. If this coin be a nickel, its resilience will be such that it will pass over the stop 17 and into the chamber 3 and from thence downward and, being non-magnetic, will not be detained by the magnet, but will roll on its edge down the inclined chute 2 and drop into one of the recesses of the wheel 6. Vibrating the lever 35 between the stops 37 will bring the pusher 12 in contact with the edge of the coin and, forcing the same about the axis of the shaft 7, will rotate the wheel and shaft a sufficient distance to operate the vending mechanism and discharge the coin into the upper end of the chute 4. If a cent or other small coin be put into the device, it may rebound sufficiently to pass through the same. It being too narrow to engage the upper groove of the inclined chute, when it reaches the portion 2^a of the same will be tilted from the perpendicular sufficiently to pass out of the chute through the opening 5 and will thus be prevented from going into the wheel 6. If a soft-metal slug, such as lead or brass, be put into the machine, as described, it will not rebound sufficiently to pass over the stop 17 and will thus fall between the stop and the anvil and escape downward. The stop 17 is required to be adjusted in such position as to in this way intercept all slugs that are not of proper resilience. If a slug of iron or steel or other magnetic metal is inserted in the device and is of sufficient hardness or resilience to rebound from the anvil and pass over the stop 17, the chamber 3 serves to stop its headway and causes it to fall vertically close to the magnet 20, and thus insures its detention by the magnet until the next movement of the slide 26, as heretofore described.

I am thus able by the use of simple and reliable devices to intercept and drop out of the chute any spurious coins or slugs that do not conform to the nature of the coin required to properly operate the machine. I thus prevent much of the fraudulent use of spurious coins or slugs in this class of machines.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a vertical chute open at the bottom, an inclined anvil below the same, a receiving-chamber spaced apart from the anvil, an inclined chute connected to the chamber, a magnet below the chamber and means for detaching slugs from the magnet.

2. The combination of a vertical chute open at the bottom and side, a chamber at the open side of the chute, an anvil below the chute and spaced apart from the chamber to leave an opening therebetween, a magnet, an inclined bottom section to the chamber, an inclined chute, means for movably supporting the magnet and inclined section, and a stationary member between the poles of the magnet.

3. The combination of a vertical chute open at the bottom and side, a chamber at the open side of the chute, a stop at the entrance to the chamber and spaced apart from the anvil to leave an opening therebetween, a pivoted arm, an inclined bottom section, and a magnet supported on the arm, means for moving the arm out of normal position, an inclined chute connected to the chamber, and means for detaching a slug from the magnet.

4. The combination of a vertical chute open at the bottom, an inclined anvil below the chute, means for adjusting the anvil, a chamber at one side of the chute, an adjustable stop to the chamber and spaced apart from the anvil to form a bottom opening, means for adjusting the stop, an inclined chute connected to the chamber, a movable inclined bottom section to the chamber normally in line with the bottom of said inclined chute, a magnet normally in the plane of the side of the chamber, a pivoted arm supporting the bottom section and magnet, a spring to hold the arm in place, and means for temporarily moving the arm out of place.

5. The combination of a vertical chute open at the top and bottom, a slide movable above the chute and having a coin-receiving opening, a coin-stop operated by the slide and adapted to temporarily retain a coin in the upper part of the chute, an anvil below the chute, a chamber at one side of the chute, a movable magnet normally in the plane of the side of the chamber, means for moving the magnet, and means for detaching a slug from the magnet.

6. The combination of a vertical chute open at the bottom and side, an anvil below the chute, a chamber at the side of the chute, an inclined chute connected to the chamber, a movable bottom section to the chamber, a movable magnet normally in the plane of the wall of the chamber, a pivoted arm supporting the bottom section and the magnet, a slide above the vertical chute, a stop in the vertical chute and operated by the slide, and means for connecting the slide and pivoted arm to move the arm.

7. The combination of a coin-chute, a magnet arranged near the path of the coin, a pivoted arm supporting the magnet, means for detaching a slug from the magnet, a slide above the chute and having a coin-opening, a pivoted lever moved by the slide and extending through an opening in the chute, and a second lever moved by the slide and connected to the pivoted arm to move the same.

8. The combination of a coin-chute, a magnet arranged near the path of the coin, means for detaching a slug from the magnet, a pivoted arm supporting the magnet, a slide above the chute and having a coin-opening, a lever intermediately pivoted and having one end inserted in an opening in the side of the chute and the other end engaged by the end of the slide, a vertical surface on the slide to oppositely engage the lever, a pivoted lever, an incline on the lever and engaged by the slide, and a rod connecting the lever and the pivoted arm.

9. The combination of a vertical chute open at the top bottom and side, a chamber opposite the open side, an inclined chute connected to the chamber, a movable bottom section to the chamber, a movable magnet in the side of the chamber, a pivoted arm supporting the bottom section and the magnet, a slide above the vertical chute and having a coin-opening, a pivoted lever operated by the slide and extending through an opening in the chute, a second lever operated by the slide and connected to the pivoted arm, and means for detaching a slug from the magnet.

10. The combination of a vertical chute open at the top bottom and side, an inclined anvil below the chute, means for adjusting the anvil, a chamber at the open side of the chute, an adjustable stop to the chamber and spaced apart from the anvil, a movable bottom section to the chamber, a movable magnet in the side of the chamber, a pivoted arm supporting the bottom section and magnet, an inclined chute connected to the chamber, a slide above the vertical chute and having a coin-opening, a lever operated by the slide and extending through an opening in the vertical chute, a second lever operated by the slide, and a rod connecting said last-named lever and the pivoted arm.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. DEAN.

Witnesses:
LUTHER V. MOULTON,
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