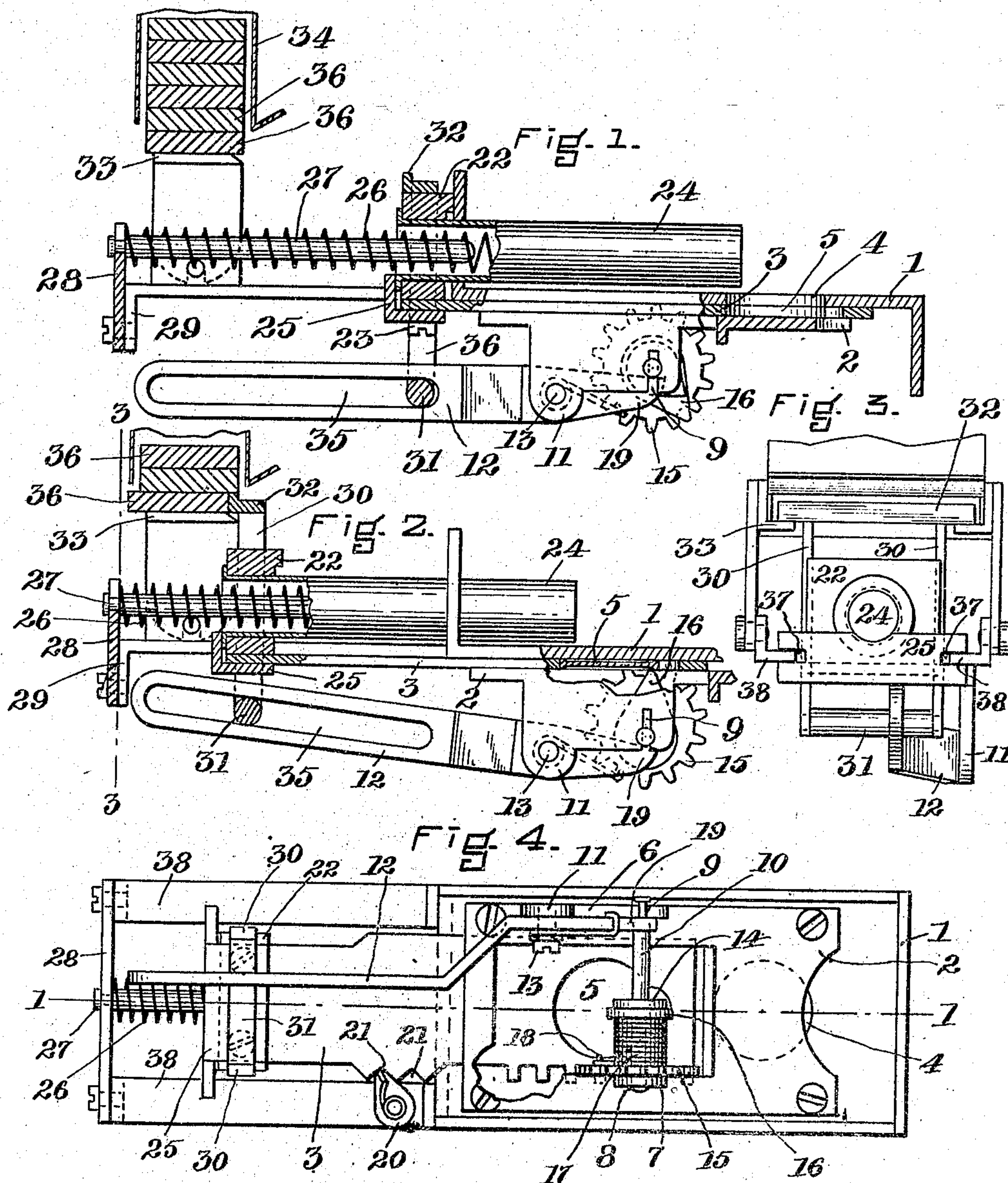


900,924.

Patented Oct. 13, 1908.



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UNITED STATES PATENT OFFICE.

ALBERT D. GROVER, OF MALDEN, MASSACHUSETTS.

COIN-CONTROLLED VENDING-MACHINE, &c.

No. 900,924.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT D. GROVER, a citizen of the United States, residing in Malden, county of Middlesex, Commonwealth of Massachusetts, have invented certain new and useful improvements in Coin-Controlled Vending-Machines and the Like, of which the following is a specification, reference being had to the drawings which accompany and form a part of the same.

My invention relates to a coin-controlled device designed to prevent persons from fraudulently obtaining goods from a vending machine by the use of tokens other than the proper money token.

The object of my invention is to so form and arrange the parts of a coin-controlled fraud preventing device for vending machines and the like that a proper money token will act through the intervening parts to set the goods-ejector to eject a package of goods from the vending machine.

A further object of the invention is to prevent the breaking of the fraud preventing devices by persons who seek to obtain goods from the machine by attempting to operate it without using a proper money token.

In the drawings accompanying this specification—Figure 1 is a sectional elevation of my device taken through line 1—1, Fig. 4, showing the parts in their normal inoperative positions. Fig. 2 is a partial sectional elevation taken on line 1—1, Fig. 4, showing the device with a proper money token in the coin-slide and the ejector positioned to eject a package of goods. Fig. 3 is a rear end elevation of my device as shown in Fig. 2 with the ejector positioned to eject a package of goods. Fig. 4 is a bottom view of my device with the parts in position shown in Figs. 2 and 3.

In the embodiment of my invention as shown in the drawings, 1 represents the plate upon which the various parts of the mechanism are mounted; and 2 a small bottom plate which is attached to the plate 1 by screws or other means in such manner as to form a space between said plates in which the coin-slide 3 may be slidably mounted. The plate 1 is provided with a coin-hole 4 positioned to register with the coin-opening 5 in the plate 3. The bottom plate 2 is provided with lugs 6 and 7 in which are the bearings 8 and 9 arranged to receive the shaft 10. The lug 6 also has a portion 11 to which the lever 12 is pivoted by the screw 13.

The shaft 10 has revolubly mounted thereon a drum 14, to one end of which the gear 15 is fastened, its other end having a segment or testing finger 16 revolubly mounted thereon. The drum 14 is surrounded by a spiral spring 17, one end of which is attached to the gear 15 by the pin 18, the other end being secured to the segment 16, the spring being designed to yieldingly hold the segment so that it will revolve with the gear 15 when not obstructed, but when a coin of the proper denomination is inserted in the coin-hole 5 and the slide 3 moved inwardly, the end of the segment 16 will contact with the face of the coin and slide thereon until its end hits against the slightly raised rim or milled edge of the coin, when the point of the segment will be carried along with the coin, thereby acting as a cam to raise the shaft 10 and the outer end of the lever 12 by its contact with the upper side of the end 19 of said lever 12. This raising of the shaft 10 and the outer end of the lever 12 is illustrated in Fig. 2 of the drawings.

There is attached to the under side of the plate 1 an oscillating spring-controlled pawl 20 which is adapted to engage depressions 21, 21, in the side of the coin-slide 3, the object of said pawl 20 being to prevent the coin-slide from returning to its normal position after a money token is inserted therein and the coin-slide 3 partially shoved in. When the coin-slide is shoved inwardly to its full movement, the pawl 20 passes by the two notches and is swung to the right as shown in Fig. 4, so that the slide is free to return to its normal position. The other end of the coin-slide 3 has a block 22 secured to it by the screws 23, 23, which block has a hole therein to receive the inner end of the plunger 24, the plunger 24 being held in the hole in said block 22 by an angle piece 25, which is provided with holes and mounted upon the screws 23. The plunger 24 is provided with a rim to prevent its being pulled out of the hole in the block 22. It is prevented from being shoved inwardly by said angle-piece 25. The plunger is hollow and has mounted therein the inner end of the spiral spring 26, the outer end of said spiral spring 26 being mounted upon a pin 27 which is secured at its outer end in the plate 28; the plate 28 being secured to a downwardly projecting portion 29 on the end of the plate 1 by screws or rivets.

The block 22 has grooves in its sides in

which are slidably mounted the side pieces 30, 30, of the goods-ejector so they will freely slide in said grooves vertically. The side pieces 30, 30, are joined at their lower ends by a round pin 31 and at their upper ends by the cross-piece 32 which forms the goods-ejector, the said cross-piece 32 being so formed as to slide freely between the angular shelves 33, 33, which support the goods in a stack. The angular shelves 33, 33, form the lower end of the goods holding stack 34, serving as ledges upon which the ends of the lowermost package of goods rest, the front and back of the lower end of the goods stack being cut away so that the cross-bar 32 of the ejector can freely enter the front, pass over the ledges 33, 33, and out at the back, drop down to the position shown in Fig. 1, and pass under said ledges 33, 33, on the return of the plunger and ejector to their normal positions as shown in Fig. 1. The ejector is raised to a position to eject the goods by the lever 12 through the slot 35 and the pin 31. The pin 31 is free to slide in the slot 35. 36, 36, etc., represent packages of goods in the goods-stack 34, the lowermost one of which rests upon the ledges 33, 33.

The angle-piece 25 is formed with the slots 37, 37, which engage the portions 38, 38, of the plate 1, which serve to guide the end of the coin-slot 3 when the plunger is pushed to its extreme inward position to eject a package of goods.

The operation of my machine is as follows:—In case no money token is placed in the coin-opening 5 of the coin-slide 3 the plunger is free to be pushed to its extreme inward position without being locked and will be returned to its normal position as shown in Fig. 1 by the spring 26, as the drum 14 will freely revolve on the shaft 10, and as the lever 12 will be maintained in the position shown in Fig. 1 the pin 31 will slide in the slot 35 without any vertical movement of the ejector 32 and without ejecting a package of goods. When a proper money token is placed in the coin-opening 5 and the plunger 24 shoved inwardly, the segment 16 will revolve until it contacts with the face of the coin, slide thereon until it strikes the milled edge, when it will be revolved and act as a cam to lift the end of the shaft 10 which is inclosed in the slot 9, thereby depressing the end 19 of the lever 12 downward, raising its inner end and the goods-ejector 32 through the medium of the pin 31 to the position shown in Fig. 2, or until it is opposite the lowermost package of goods, when further inward movement of the plunger 24 will cause said ejector 32 to push a package of goods outwardly from the vending machine. Further inward movement of the plunger 24 will revolve the segment 16 to a point where it

will slip from the milled edge of the coin and allow the lever 12 to assume its normal position as shown in Fig. 1, and the goods-ejector 32 to drop downwardly to a point where it will clear the bottom of the shelves 33, 33 so it can be returned to its normal position by the spring 26.

Heretofore, fraud preventing devices of this kind have been so arranged that when an improper token has been inserted in the coin-opening 5, or no token has been put in there, the coin-slide would be locked by ~~pawls~~ and locking devices so that hammering or violent pushing of the plunger 24 would break it from its fastenings or destroy the locking device. In the device herein shown the plunger and coin-slide may be moved in and out freely at all times regardless of whether there is a proper money token or an improper money token inserted in the coin-opening, or whether there is no token in the coin-opening.

It is obvious that my invention is not confined to the exact form of parts shown in the drawings illustrating one embodiment thereof, and that the form and arrangement of the parts may be varied without departing from the spirit of my invention.

What I claim is—

1. In a coin-controlled device, a coin-slide having a coin-opening adapted to receive a coin; a goods-ejector slidably mounted in said coin-slide; and means co-acting with a coin of the proper denomination to position said goods-ejector to eject a package of goods.

2. In a vending machine, a coin-controlled device for ejecting goods, comprising a coin-slide having a coin-opening; a plunger for slidably moving said coin-slide; a goods-ejector mounted on said coin-slide and movable therewith; and a lever for moving said goods-ejector vertically upon said coin-slide to position it to eject a package of goods.

3. A coin-controlled goods-ejector, comprising a coin-slide provided with a coin-opening; a goods-ejector slidably mounted on said coin-slide; a coin-controlled lever slidably connected with said goods-ejector; means co-acting with a coin of a predetermined denomination to operate said coin-controlled lever to cause it to position the goods-ejector to eject goods; a plunger; and means for returning the coin-slide to its normal position.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses, this the 30th day of November, A. D. 1906.

ALBERT D. GROVER.

Witnesses:

RICHARD P. ELLIOTT,
ARTHUR P. HARDY.