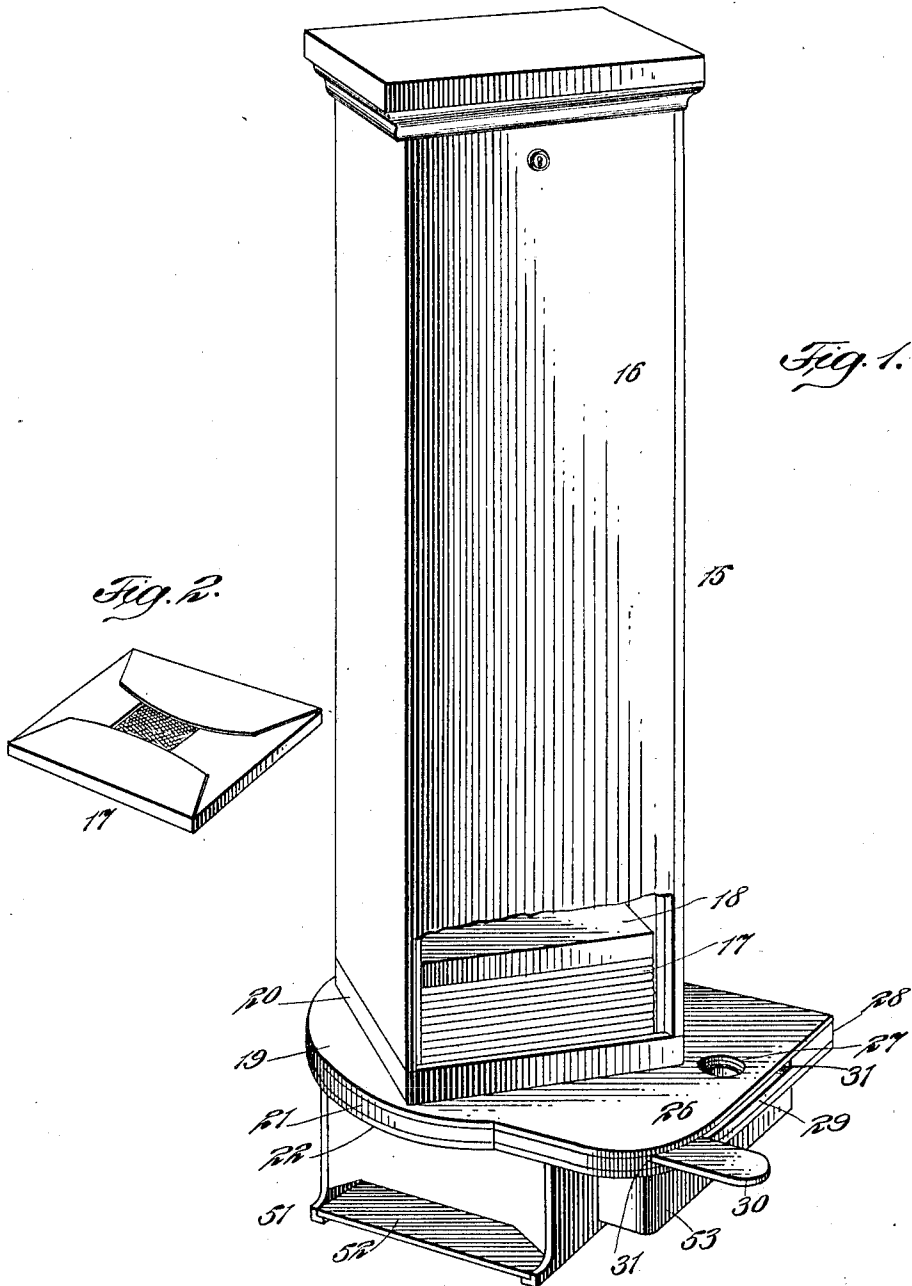


C. C. CLAWSON.
 COIN CONTROLLED VENDING MACHINE.
 APPLICATION FILED JULY 12, 1910.

1,020,966.

Patented Mar. 26, 1912.

3 SHEETS—SHEET 1.



Witnesses:
Julius H. [Signature]
Arthur Marion.

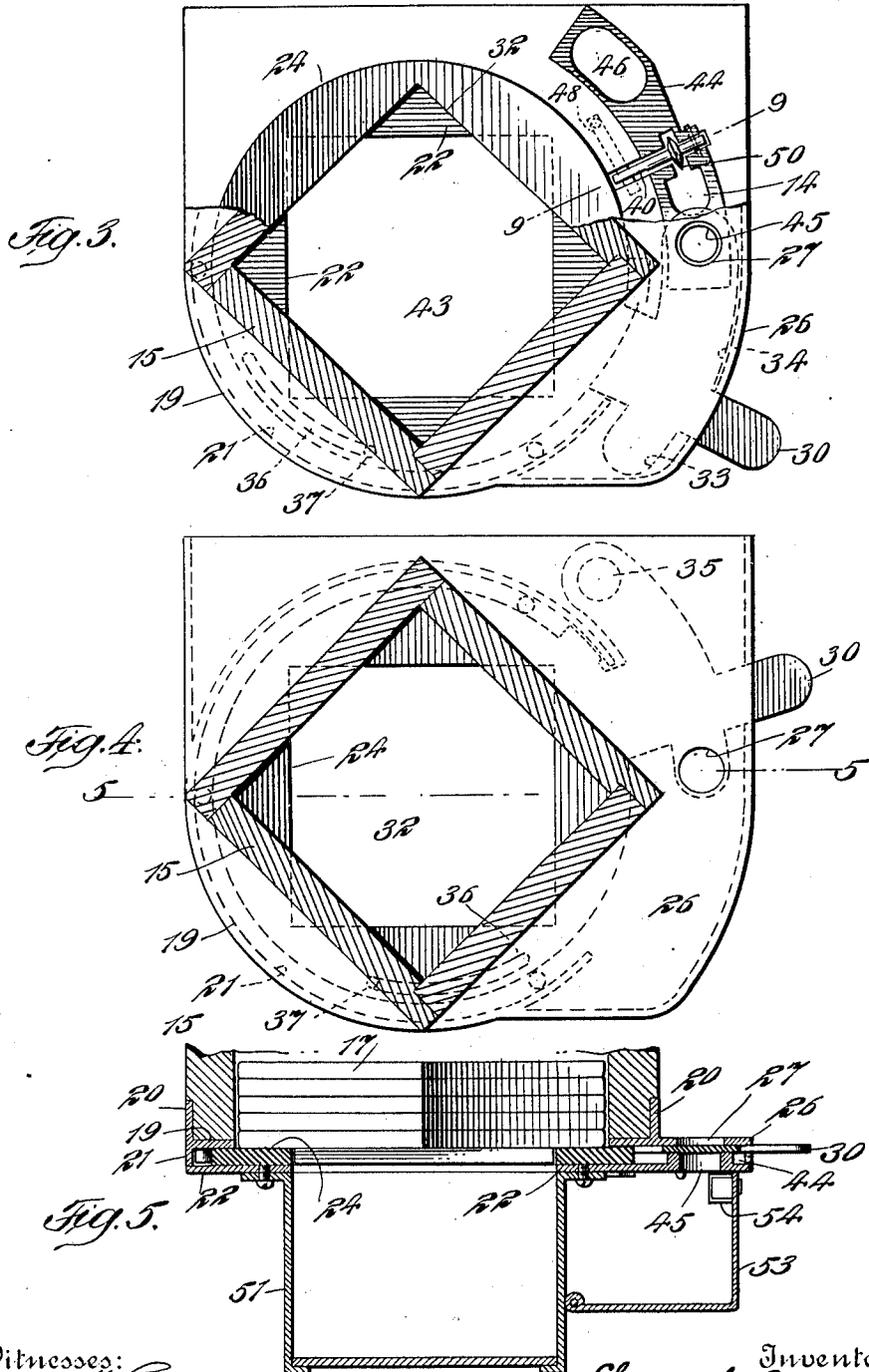
Inventor
Clement C. Clawson
 By his Attorney *Philo C. Gill*

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3 SHEETS-SHEET 2.



Witnesses:
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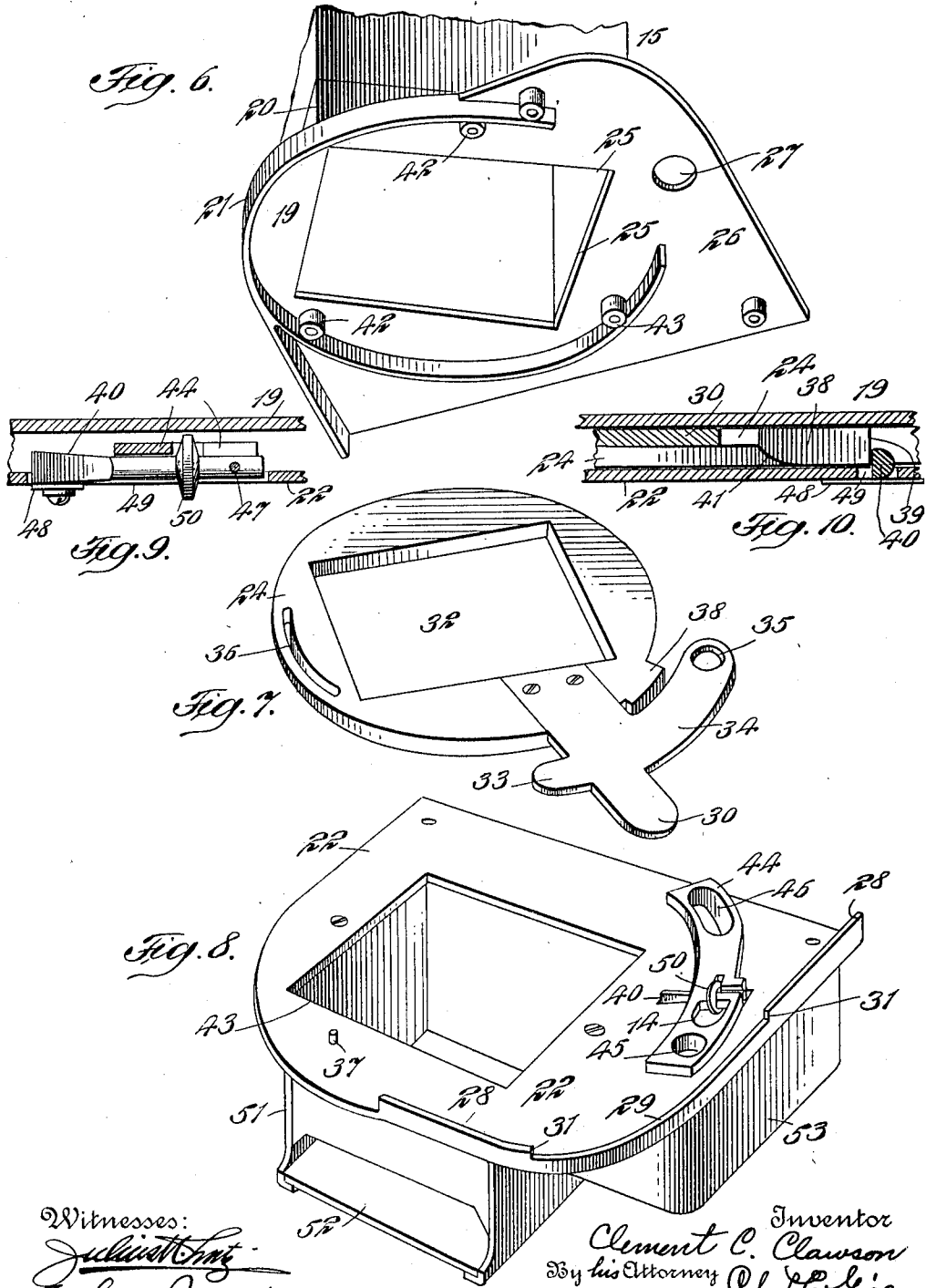
Inventor
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3 SHEETS-SHEET 3.



Witnesses:
Julius C. [Signature]
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Inventor
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UNITED STATES PATENT OFFICE.

CLEMENT C. CLAWSON, OF FLAGTOWN, NEW JERSEY.

COIN-CONTROLLED VENDING-MACHINE.

1,020,966.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed July 12, 1910. Serial No. 571,573.

To all whom it may concern:

Be it known that I, CLEMENT C. CLAWSON, a citizen of the United States, and a resident of Flagtown, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

The invention relates to improvements in coin-controlled vending machines, and it consists in the novel features and structure hereinafter described, and particularly pointed out in the claims.

While my invention is capable of embodiment in machines adapted for the sale of various articles, I present the same herein, for illustration, in a machine intended for the sale of flat rectangular packages containing a towel and a piece of soap wrapped therein, and said machine comprises a cabinet to contain a stack of the packages, a stationary plate at the bottom of the cabinet containing an opening whose edges are on the same vertical planes as the inner walls of the cabinet, a rotary goods-ejector plate directly below said stationary plate and having an opening corresponding with the opening therein, a base-plate directly below said goods-ejector plate and having an opening corresponding with the opening in said stationary plate but at opposite portions always out of register therewith, and suitable receptacles below said base-plate to receive the coins and temporarily support the packages discharged from the stack by the goods ejector. When the ejector-plate is in its initial position the stack of packages, at its corners, rests on the base-plate with the bottom package within the opening in the ejector-plate, said opening then being in register with the opening at the bottom of the cabinet and out of register with the opening in said base-plate, and when the ejector-plate is moved to its operated position its opening and the package therein are turned into register with the opening in said base-plate and out of register with the opening at the bottom of the cabinet, whereby the package in the ejector-plate becomes unsupported and falls through the opening in the base-plate and the stack is left supported, at its corners, on said ejector-plate. When the ejector-plate is returned to its initial position, its opening passes into register with the opening at the bottom of the cabinet and the stack settles down on the base-

plate, the bottom package entering the opening in the ejector disk or plate and resting at its corner portions on said base-plate.

The invention resides more particularly in the rotary ejector-plate, coin mechanism and connected and cooperating parts and will be understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a perspective view, partly broken away, of a vending machine constructed in accordance with and embodying my invention; Fig. 2 is a detached perspective view of one of the packages sold by the machine; Fig. 3 is a horizontal section, partly broken away, through the machine, the rotary ejector-plate being indicated in its normal position ready for operation upon a proper coin being fed to the machine; Fig. 4 is a horizontal section through the machine, with the goods-ejector illustrated in its operated position; Fig. 5 is a vertical section through a portion of the machine on the dotted line 5-5 of Fig. 4; Fig. 6 is a detached perspective view of the lower portion of the cabinet and plate secured to the bottom thereof and forming a chamber to receive the rotary goods-ejector plate; Fig. 7 is a detached perspective view of the goods-ejector plate; Fig. 8 is a detached perspective view of the base-plate to the lower side of which a coin receptacle and a receptacle for the goods sold are secured and upon the upper side of which the bottom plate shown in Fig. 6 is secured with the goods ejector plate shown in Fig. 7 resting within the circular chamber (represented in Fig. 6) formed between said base-plate and said bottom plate; Fig. 9 is an enlarged detached sectional view through a portion of the plates represented in Figs. 6, 7 and 8 and is presented to illustrate in side view the spring-bar which prevents the rotation of the goods-ejector plate at improper times, the section being about on the dotted line 9-9 of Fig. 3, and Fig. 10 is a detached sectional view illustrating a portion of the coin mechanism, the spring-bar in the position shown in Fig. 10 serving to prevent the rotation of the ejector-plate in the absence of a proper coin, and the ejector plate being shown as partly moved from its initial position.

In the drawings, 15 designates the cabinet of the machine, 16 a removable front door

for the same, 17 a stack of packages within said cabinet to be sold and 18 a suitable weight placed upon the said stack for assuring the downward feed of the packages.

Upon the lower end of the cabinet 15 is secured a frame comprising a plate 19 having an upwardly extending flange 20 to receive the lower edges of the cabinet 15 and a downwardly extending flange 21 which rests upon a base-plate 22 and forms a shallow cylindrical chamber for the rotary goods-ejector plate 24. The plate 19 has formed in it within the outline of the flange 20 an opening 25 which is in vertical line with the inner surfaces of the cabinet 15 and in an outline corresponding with the packages 17. The plate 19 has a laterally extending portion 26 containing a horizontal circular opening 27 for the coin. Below the outer edges of the extension 26, the base-plate 22 is formed with the vertical flange 28 which engages the lower surface of the adjacent edges of the plate 19, and said flange 28 is cut away, as at 29, to form a runway for the handle 30 of the goods ejector plate 24. At the ends of the runway or recess 29 are shoulders 31 which form stops to limit the throw of the handle 30.

The goods-ejector plate 24 is a generally flat plate having an opening 32 therein corresponding with the opening 25 in the plate 19 and being of a thickness about equal to that of the individual packages 17, which, one after another, enter the opening 32 and are by the rotation of the plate 24, moved to a position at which they may descend or fall through said opening. The plate 24 has the handle 30 secured to it or forming an integral part thereof, and said handle is formed at one edge with the shutter-lip 33 and at the other edge with the segmental or arc blade 34 having in its outer end a horizontal coin-opening 35 corresponding in dimensions with the coin-opening 27 in the extension 26 of the plate 19 and with the dimensions of the coin, such as a five cent piece, it may be determined shall be appropriate as the price for each of the packages 17. In the normal inoperated position of the plate 24 the coin-opening 35 is in vertical register with and below the coin-opening 27 (Fig. 3). In the operated position of the plate 24 (Fig. 4) the lip 33 is directly below the coin-opening 27 and will support any coin that may then be fed to said opening 27, thereby preventing the same from becoming lost to the purchaser, said coin remaining within the opening 27 until the plate 24 has been restored to its normal or inoperated position, when said coin will descend within the opening 35 in position to secure the discharge of a package 17 on the next movement of the plate 24 to its operated position. The plate 24 has preferably formed in it an arc-slot 36 receiving a pin

37 extending upwardly from the plate 22 and designed, with said pin, to aid in limiting the throw of the plate 24 from the handle 30. At one edge the plate 24 is formed with a laterally projecting section 38, which vertically considered extends between the lower surface of the extension 26 of the plate 19 and the upper surface of a corresponding portion of the plate 22, as shown in Fig. 10. At one end said section 38 forms a shoulder 39 to engage, at the proper time, a bar 40 to prevent the operation of the plate 24, and at its other end said section 38 is formed with a cam-edge 41 to ride over and depress said bar 40 on the return of the plate 24 from its operated to its normal or initial position.

The base-plate 22 affords a support for the goods ejector plate 24, said plate 24 when resting flat on said base-plate being centered by rollers 42 (Fig. 6) secured on pins depending from the plate 19. The plate 22 has formed in it a hole 43 of rectangular outline corresponding in size and shape with the hole 32 in the plate 24 and the hole 25 in the plate 19. Upon the plate 22 is a raised rigid curved coin-runway 44 having at one end a vertical hole or holes 45, 14, less in diameter than the predetermined coin intended for the machine and at its other end a larger opening or hole 46 down through which the coins finally fall. When a coin of requisite character is fed to the coin opening 27 in the plate 19 it will pass into the opening 35 of the goods-ejector and rest over the opening 45 and upon the runway 44, and then when the goods-ejector is operated, or moved from its position shown in Fig. 4 to that represented in Fig. 3, the coin will, by the walls of the opening 35, be moved along the coin-runway 44 until it reaches the opening 46, whence by reason of then being left unsupported it will fall through said opening. The coin intended for use with the machine should snugly fill the opening 35 both vertically and horizontally considered.

I provide means for preventing the operation of the goods ejector in the absence of a proper coin, and these means comprise a bar 40, hereinbefore referred to, secured at one end by a pivot 47 and at its other or free end resting on a leaf spring 48 and adapted to have at its free end vertical play within a slot 49 in the plate 22. The spring 48 normally holds the free end of the bar 40 pressed upwardly, as shown in Figs. 8, 9 and 10, so that said bar may normally stand in the path of the section 38 of the goods ejector 24 and prevent the rotation of said ejector. On the bar 40 is a part, preferably in the form of a wheel 50, which normally projects upwardly through a slot in the runway 44 to a plane above the level of said runway. When a coin of proper character

is fed to the machine and moved along the runway 44 by the walls of the aperture 35, said coin will be carried across and depress or hold depressed the wheel 50 and thereby also the free end of the bar 40, so that the section 38 of the goods-ejector may pass said bar in the regular operation of the machine. Should an attempt be made to operate the machine with no coin or a coin or disk deficient in thickness in the aperture 35, the wheel 50 will, when said aperture reaches it, enter the same and allow the spring 48 to hold the free end of the bar 40 upwardly in the path of the section 38, so as to prevent the rotation of the goods-ejector 24. One advantage of the bar 40 is that due to its being pivoted at one end and free at the other, a slight vertical movement of the wheel 50 results in a multiplied or much more pronounced movement in said bar at its free end.

In many cases disks used to rob a machine are very nearly of the same thickness as the proper coins, and my invention is intended to defeat the use of such disks by providing a stop means, to-wit: the free end of the bar 40, which will be moved to an effectual stop position with only slight variations in the thickness of the coins or disks carried over the wheel 50 in the aperture 35 of the goods-ejector. The bar 40 is normally pressed upwardly by the spring 48 and its depression to permit the operation of the goods-ejector takes place when a coin of requisite thickness is carried by the aperture 35 across the wheel 50. If a washer of the exact thickness of the proper coin should be fed to the aperture 35 and carried across the wheel 50, the spring 48 will project the wheel into the opening in the washer and at the same time elevate the free end of the bar 40 to position to prevent the rotation of the goods-ejector. If a coin or disk of less than the requisite thickness or a washer should be fed to the coin-opening 35, the bar 40 will take a position to prevent the operation of the goods-ejector. If a coin or disk or washer of greater than the requisite thickness should be fed to the coin-openings 27, 35, it would lie partly in both openings and by its projection above the blade 34 prevent the goods-ejector from being operated. Should a coin deficient in diameter be fed to the coin-openings 27, 35, it is intended that it shall fall through the opening 45 or opening 14 and its use thereby prevented. My invention thus provides means for preventing the robbing of the machine by deficient coins, washers, disks and the like, and these means, with reference to the bar 40 and spring 48, are sensitive to slight variations in the thicknesses of the coins and disks and, as a consequence, of particular efficiency. The handle portion 30, lip 33 and blade 34 of the ejector 24 are less in thickness than the

main body of the ejector so that the same may ride closely over the raised coin-runway 44. The blade 34 should also be of the same thickness as the coin intended for use with the machine, while the body of the goods-ejector should be of the thickness of a package 17 to be sold.

Below the plate 22 is secured a receptacle 51 having a front opening 52. Each package discharged by the ejector-plate 24 falls into the receptacle 51 and may be removed through the opening 52 thereof. Upon the side of the receptacle 51 is provided a coin-receiver or receptacle 53, the latter being hinged at its lower inner edges to the side of the receptacle 51 and provided with a lock 54. The proper coins fall through the opening 46 into the receptacle 53 and coins of deficient diameter fall through the opening 45 into said receptacle.

In the employment of the invention the packages 17 will be stacked within the cabinet 15, and the goods ejector plate 24 being in its initial position (Figs. 1 and 3), the lower package will be within the hole 32 in said plate and rest at its four corner-positions on the base-plate 22, the hole 32 then exactly matching the hole 25 in the bottom-plate 22 and the hole 43 in the plate 22 lying angularly across the plane of said holes 32, 25. When a proper coin is fed to the coin openings 27, 35, the plate 24 may be given a rotary movement by means of the handle 30, the latter moving along the recess 29, until the hole 32 in said plate moves into angular relation to the hole 25 in the plate 19 and into exact parallelism with the hole 43 in the plate 22. This movement of the plate 24 results in the bottom package 17 inclosed within its hole 32 being left unsupported and falling into the receptacle 51 and in the coin descending through the hole 46 to the receptacle 53. During the movement of the plate 24 to its operated position its hole 32 turns angularly across the hole 25 in the plate 19 and said plate 24 is thereby enabled to support the stack of packages, but upon the return of the plate 24 to its initial position the edges of its hole 32 will aline with the edges of the hole 25 in the plate 19 and the entire stock will settle down and become supported on the plate 22, as before, the bottom package of the stack passing into the hole 32 of said plate 24 preparatory to being discharged on the next operation of the machine.

I have hereinbefore sufficiently described the mechanism for preventing the operation of the machine with the use of improper coins, disks, washers and the like.

I have shown and described the details of the most satisfactory embodiment of the invention known to me, without intending to confine my claims to such details further than the claims themselves indicate.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In a coin-controlled vending machine, a rotary horizontal disk-plate goods-ejector having an exposed laterally extending operating handle, a laterally extending stop-shoulder integral therewith and an opening to receive a coin flatwise, a horizontal plate over said ejector containing a coin-opening corresponding with the coin-opening in the ejector, and a plate below said ejector having a segmental coin-runway and at the outer end thereof an escape opening for the coin, combined with a transverse stop-bar (40) crossing the path of said stop-shoulder and having an upwardly projecting part in the path of the coin-opening in the ejector and adapted to enter the same, and a spring normally acting to move said bar into the path of said stop-shoulder and its said upwardly projecting part against said ejector to enter the coin-opening therein; substantially as set forth.

2. In a coin-controlled vending machine, a rotary horizontal disk-plate goods-ejector having an exposed laterally extending operating handle, a laterally extending stop-shoulder integral therewith and an opening to receive a coin flatwise, a horizontal plate over said ejector containing a coin-opening corresponding with the coin-opening in the ejector, and a plate below said ejector having a segmental coin-runway and at the outer end thereof an escape opening for the coin, combined with a transverse stop-bar (40) crossing the path of said stop-shoulder and having a wheel thereon in the path of the coin-opening in the ejector and adapted to enter the same when the ejector is operated without a proper coin in said opening, and a spring normally acting to move said bar into the path of said stop-shoulder and its said wheel against the ejector to enter said opening therein; substantially as set forth.

3. In a coin-controlled vending machine, a rotary horizontal disk-plate goods-ejector having an exposed laterally extending operating handle, a laterally extending stop-shoulder integral therewith and an opening to receive a coin flatwise, a plate over said ejector containing a coin-opening corresponding with the coin-opening in the ejector, and a plate below said ejector having a segmental coin-runway and at the outer end thereof an escape opening for the coin, combined with a transverse stop-bar (40) crossing the path of said stop-shoulder and having a pivotal support at one end adjacent to said runway and provided near said end with an upwardly projecting part in the path of the coin-opening in the ejector to enter the same in the absence of a proper

coin therein, and a spring normally acting against said bar to turn the same upwardly on its pivotal support, whereby with slight movement at the pivotal end of the bar the other end of said bar is given an effective projection into the path of said stop-shoulder; substantially as set forth.

4. In a coin-controlled vending machine, a rotary horizontal disk-plate goods-ejector having an exposed laterally extending operating handle, a laterally extending stop-shoulder integral therewith and an opening to receive a coin flatwise, a plate over said ejector containing a coin-opening corresponding with the coin-opening in the ejector, and a plate below said ejector having a segmental coin-runway and at the outer end thereof an escape opening for the coin, combined with a transverse stop-bar (40) crossing the path of said stop-shoulder and having a pivotal support at one end adjacent to said runway and having near said end a wheel in the path of the coin-opening in the ejector to enter the same in the absence of a proper coin therein, and a spring normally acting against said bar to turn the same upwardly on its pivotal support, whereby with slight movement at the pivotal end of the bar the other end of said bar is given an effective projection into the path of said stop-shoulder; substantially as set forth.

5. In a coin-controlled vending-machine, a rotary horizontal disk-plate goods-ejector having an exposed laterally extending operating handle, a laterally extending stop-shoulder integral therewith and an opening to receive a coin flatwise, a plate over said ejector containing a coin-opening corresponding with the coin-opening in the ejector, and a plate below said ejector having a segmental coin-runway and at the outer end thereof an escape opening for the coin and in advance thereof an opening through which a coin deficient in diameter may fall, combined with a transverse stop-bar crossing the path of said stop-shoulder and having an upwardly projecting part in the path of the coin-opening in the ejector and adapted to enter the same, and a spring normally acting to move said bar into the path of said stop-shoulder and its said upwardly projecting part against said ejector to enter the coin-opening therein; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 11th day of July A. D. 1910.

CLEMENT C. CLAWSON.

Witnesses:

ARTHUR MARION,
CHAS. C. GILL.