Oct. 24, 1933. H. F. SADGEBURY 1,931,741

VENDING MACHINE

Filed July 18, 1931 5 Sheets-Sheet 1

Fig. 1.

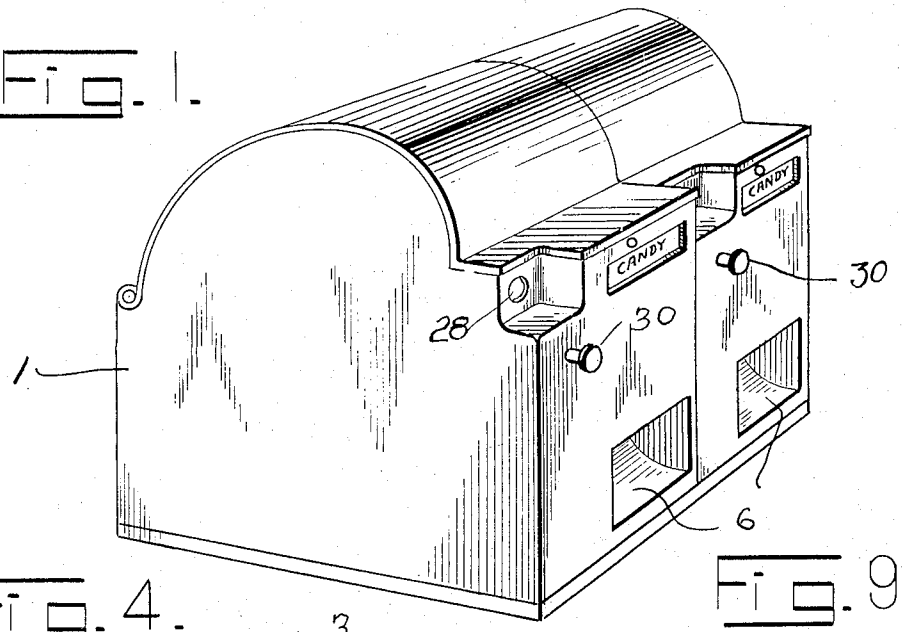


Fig. 4.

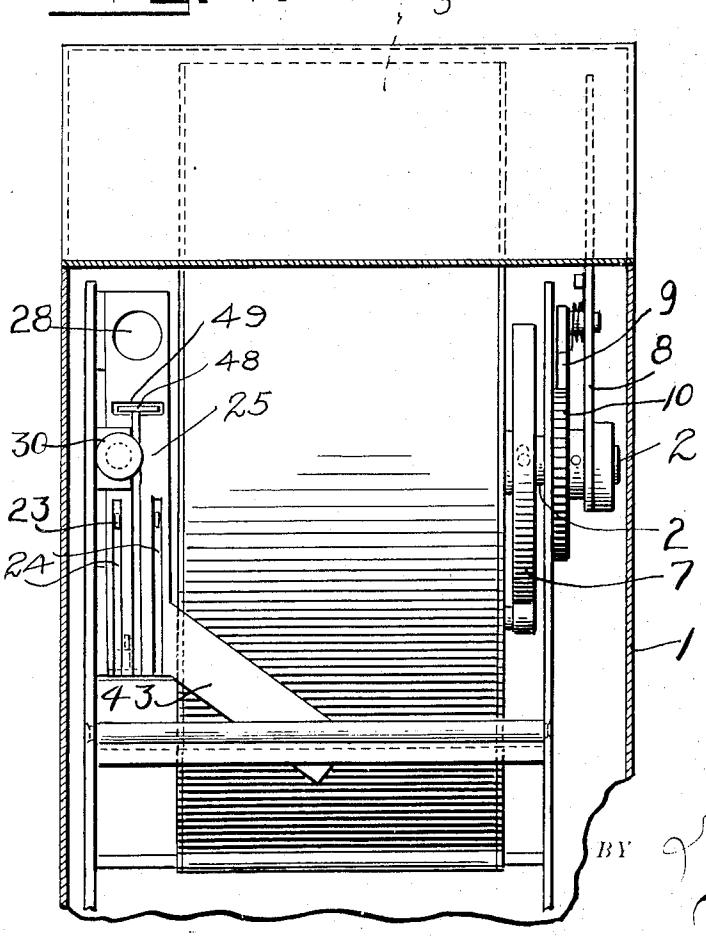
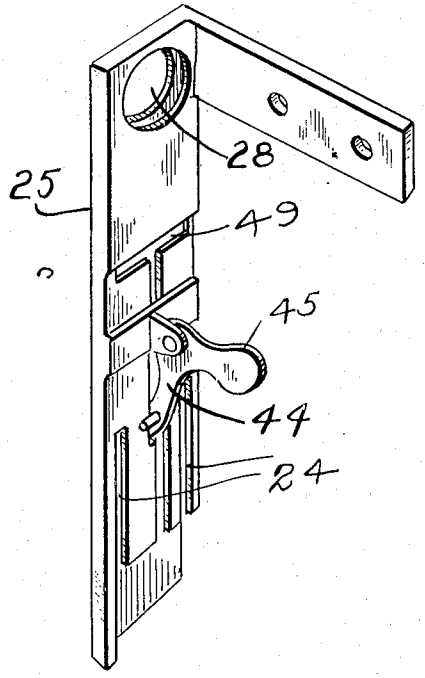


Fig. 9.



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VENDING MACHINE

Filed July 18, 1931 5 Sheets-Sheet 2

Fig. 2.

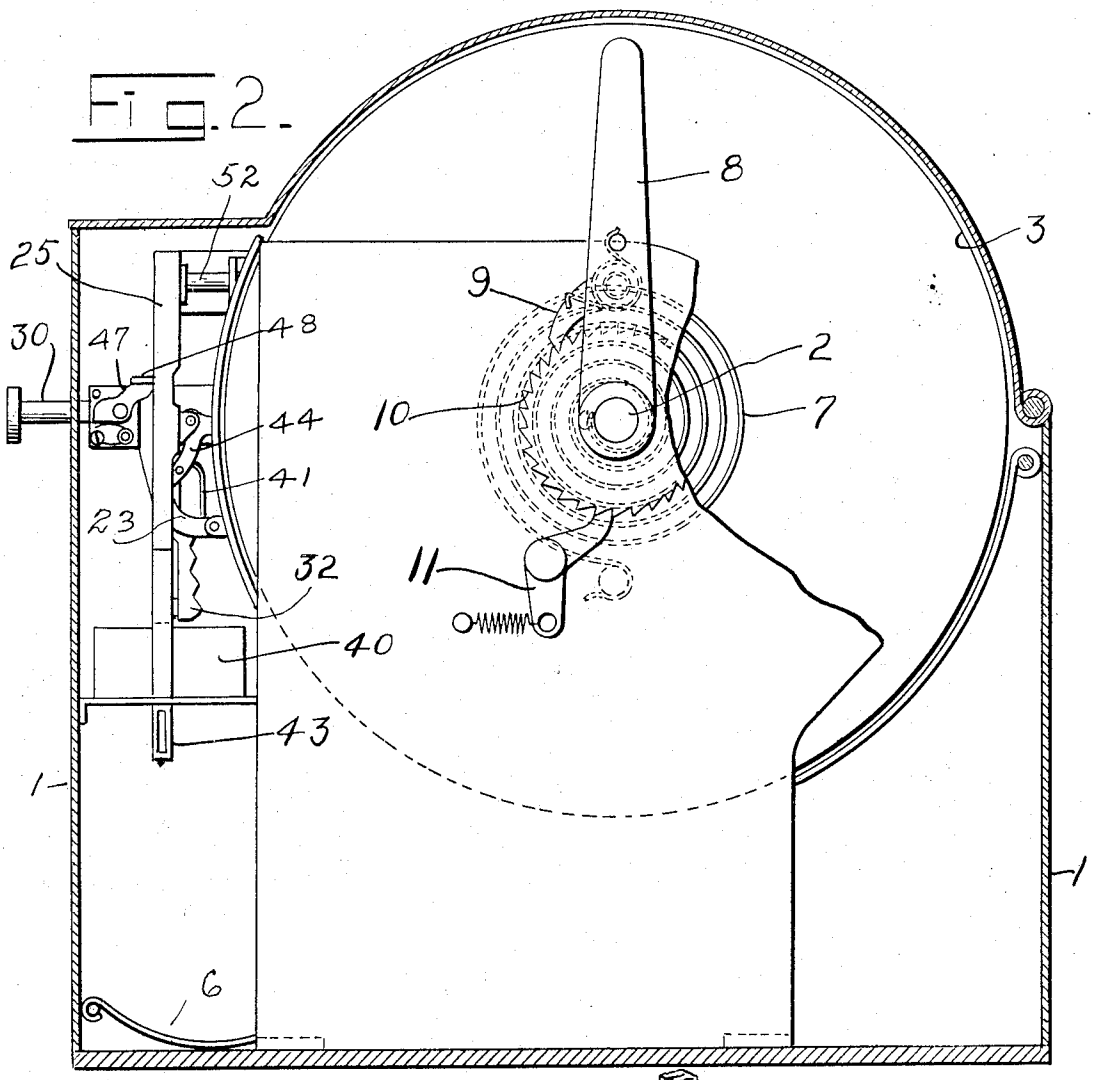
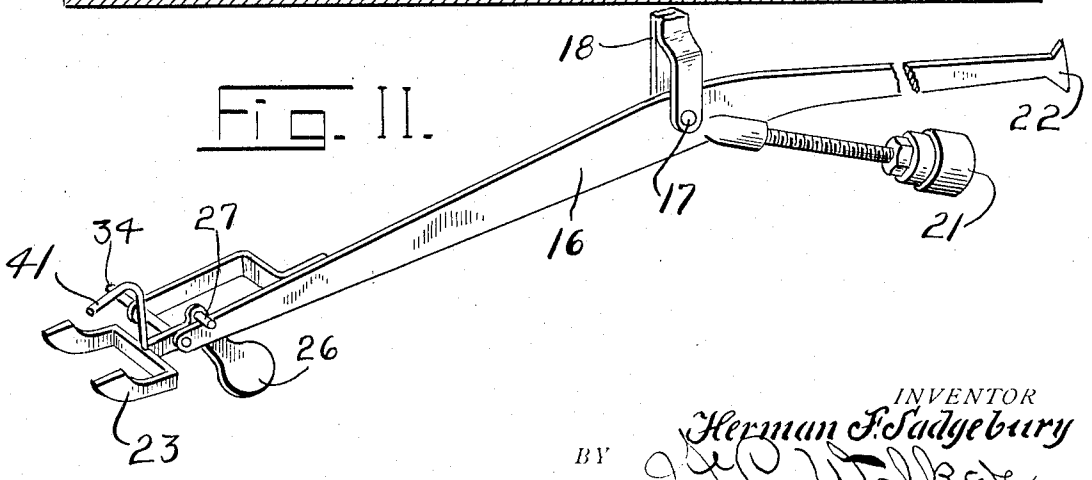


Fig. 11.



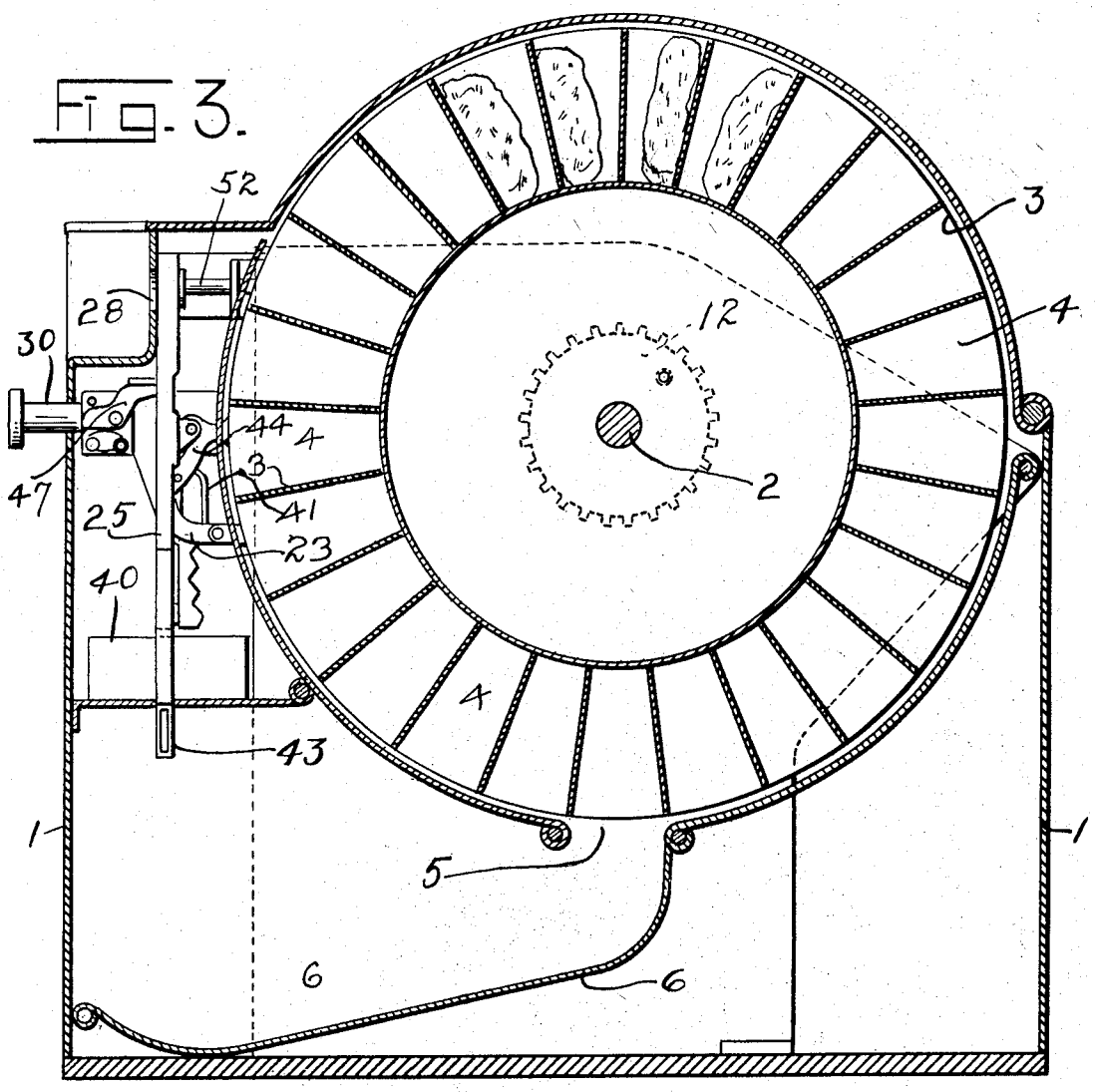
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VENDING MACHINE

Filed July 18, 1931 5 Sheets-Sheet 3

Fig. 3.



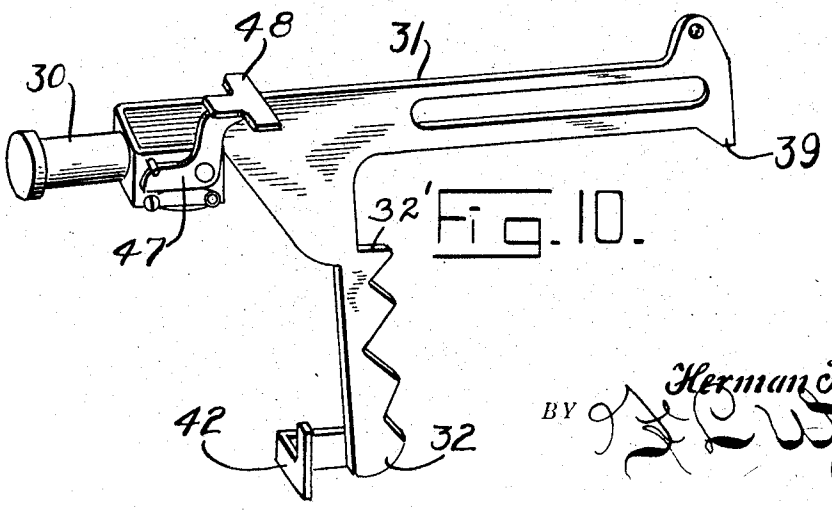


Fig. 10.

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Oct. 24, 1933. H. F. SADGEBURY 1,931,741

VENDING MACHINE

Filed July 18, 1931 5 Sheets-Sheet 4

Fig. 5.

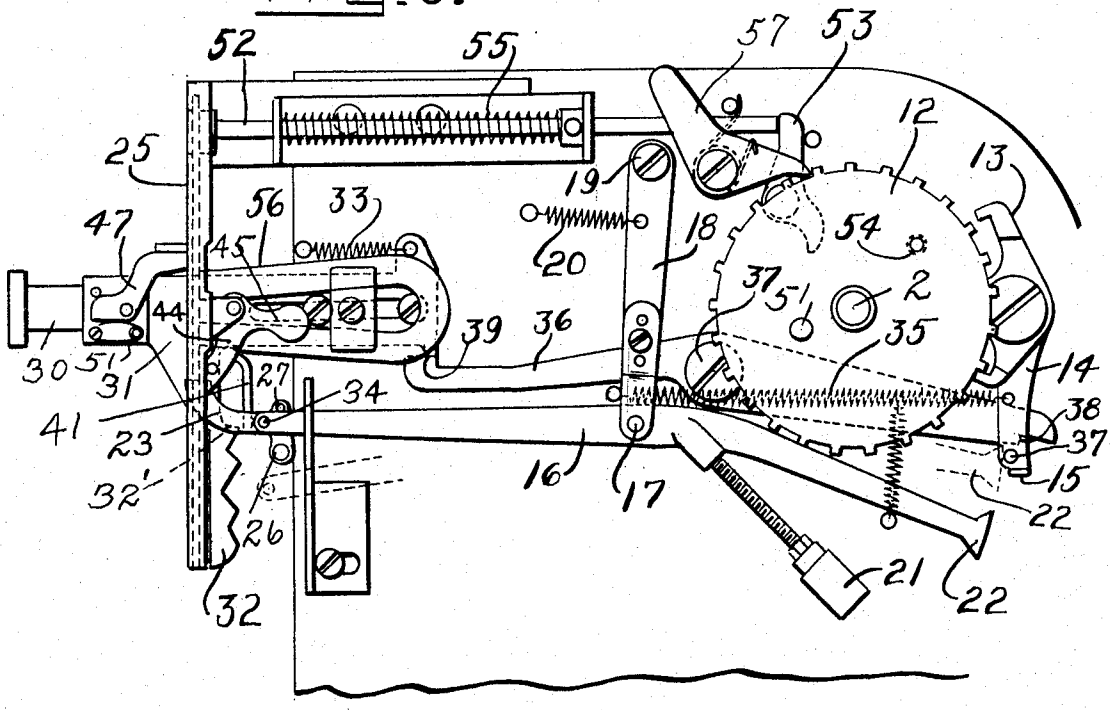
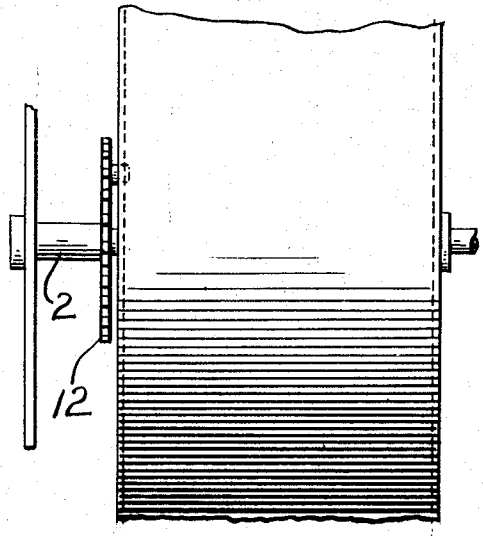


Fig. 12.



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Oct. 24, 1933. H. F. SADGEBURY 1,931,741

VENDING MACHINE

Filed July 18, 1931 5 Sheets-Sheet 5

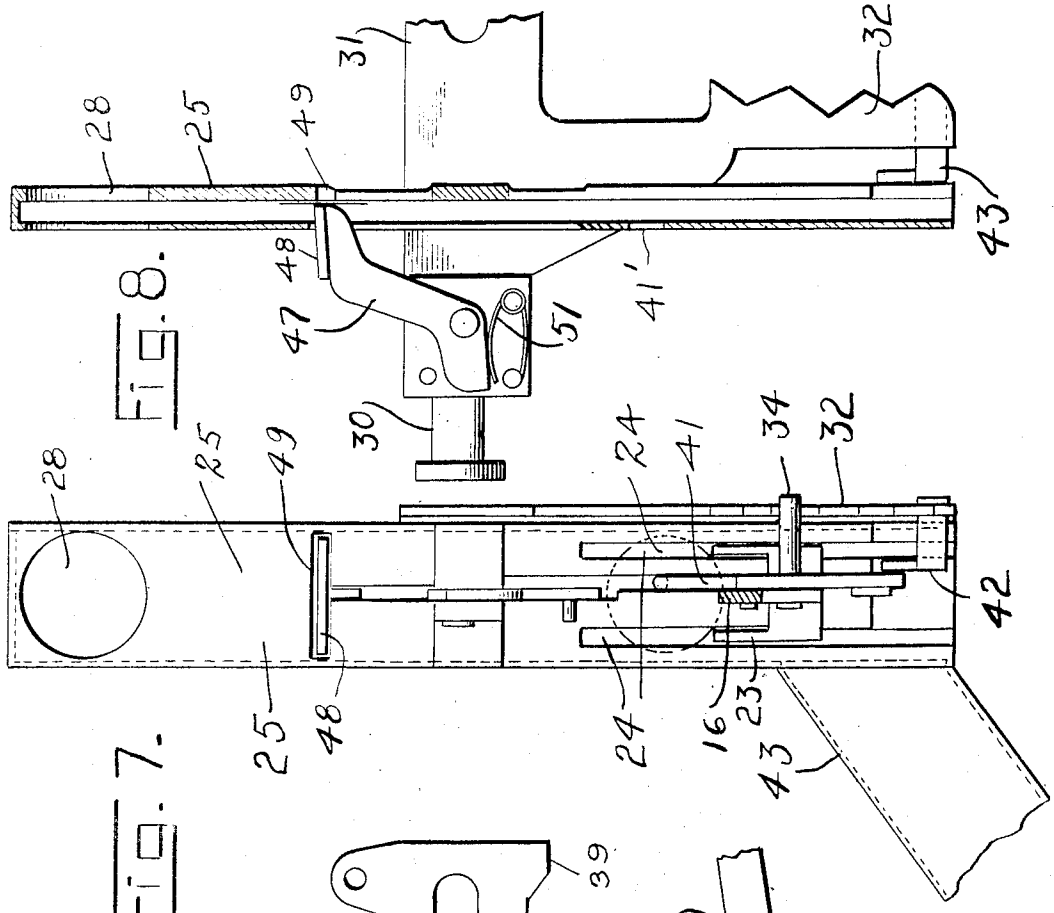


Fig. 8.

Fig. 7.

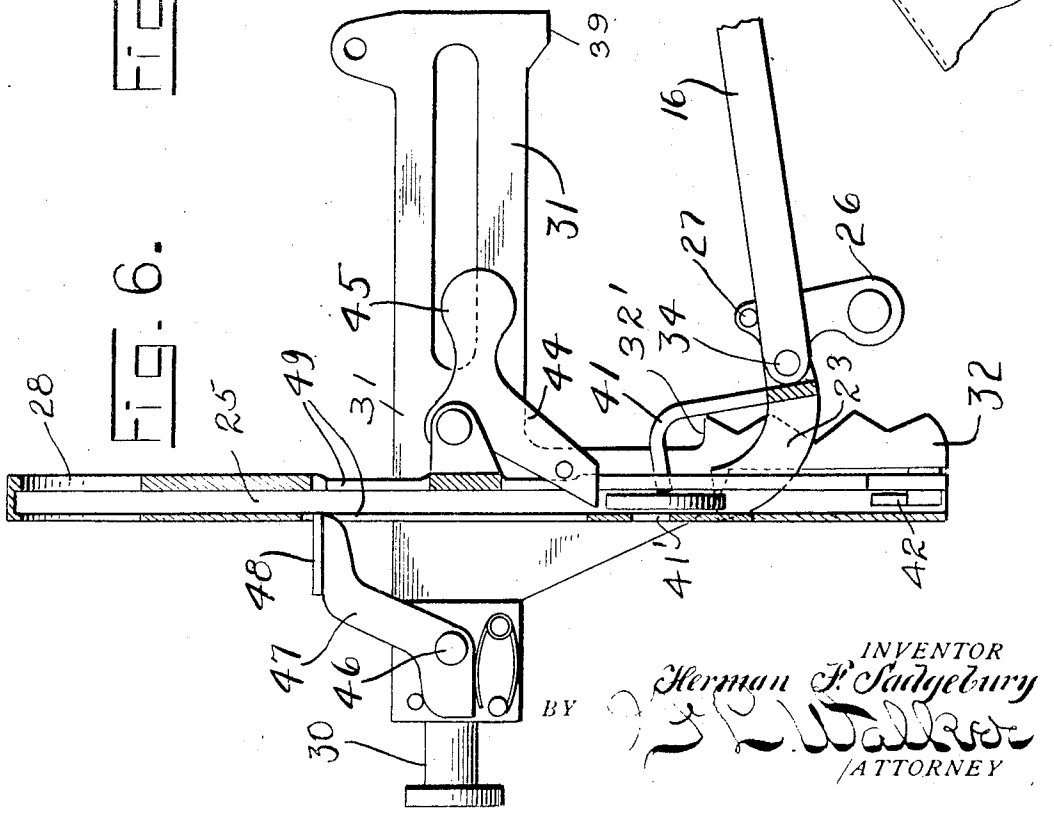


Fig. 6.

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UNITED STATES PATENT OFFICE

1,931,741

VENDING MACHINE

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Application July 18, 1931. Serial No. 551,703

30 Claims. (Cl. 194—73)

This invention relates to dispensing apparatus and more particularly to a vending machine of the coin or check controlled type.

As the preferred embodiment of the invention there is herein shown and described a vending machine wherein a rotary magazine is automatically released by successively deposited coins or checks for motor actuation through step by step movement past a discharge point, there being provision for rejection of coins of improper weight and washers, and also means for preventing fraudulent tripping of the release mechanism and for closing the coin depository when the magazine is exhausted.

The object of the invention is to simplify the construction as well as the means and mode of operation of vending machines whereby they will not only be cheapened in construction, but will be automatic in operation, uniform in action, and unlikely to get out of repair.

A further object of the invention is to provide a vending machine which is not subject to actuating power applied by the operator, which due to undue force and "strong arm" methods frequently results in great damage to the apparatus, but to the contrary to provide motor actuating means which upon release will operate the apparatus uniformly and easily without strain and without attention by the operator.

A further object of the invention is to provide a coin controlled escapement for the motor actuated magazine, by which the magazine will be limited to a step by step movement.

A further object of the invention is to provide an improved coin testing and weighing means whereby a coin or check of either over-weight or under-weight will be ineffectual to operate the apparatus.

A further object of the invention is to provide selective means having a reasonable range of determination of proper and improper coins and checks.

A further object of the invention is to provide automatic protective means against fraudulent tripping of the mechanism by insertion of wires, strips or other implement in the coin depository.

A further object of the invention is to provide an improved form of washer detector and rejector.

A further object of the invention is to provide improved means for closing the coin depository upon exhaustion of the magazine.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

In the accompanying drawings wherein is shown the preferred, but obviously not the only form of embodiment of the invention, Fig. 1 is a perspective view of two machines of the present type connected side by side. Fig. 2 is a side elevation with the side wall of the cabinet removed. Fig. 3 is a vertical sectional view through the magazine. Fig. 4 is a front elevation with the front of the cabinet removed. Fig. 5 is an enlarged detail view of the magazine escapement and operating mechanism therefor. Figs. 6, 7 and 8 are detail views of the coin depository and contiguous related mechanism. Fig. 9 is a further rear perspective view thereof. Fig. 10 is a detail perspective view of the operating plunger slide. Fig. 11 is a perspective view of the counterbalanced coin weighing arm. Fig. 12 is a detail view of the magazine and escapement wheel therefor.

Like parts are indicated by similar characters of reference throughout the several views.

In the present apparatus the deposited coin falls upon a pivotally mounted weighing arm which is capable of longitudinal motion in addition to its pivotal motion. The weight of the coin determines the relative position of the longitudinally movable weighing arm which upon manual depression of a plunger serves to operate an oscillatory escapement anchor to release the motor actuated magazine if the arm is positioned within a definite range by a coin or check of proper size and weight, but if positioned beyond such range in either direction by an excessively heavy or light weight coin or check the longitudinal motion of the arm under influence of the manually depressed plunger will be idle and the magazine is not released.

Referring to the drawings, 1 is the cabinet within which is loosely journaled upon the shaft 2 a rotary magazine 3 having a succession of peripheral pockets 4—4 to contain articles or commodities to be dispensed. These may be single articles or package goods, or may be bulk commodities such as candy, nuts or the like loosely contained in the pockets 4—4. Upon rotation of the magazine such pockets 4—4 are brought successively into registry with a discharge opening 5 communicating with the dispensing bowl or cup 6 into which the contents of the registering pocket fall.

The rotary magazine is actuated by a motor spring 7 coiled about the shaft 2 with one end attached to the shaft and the other end attached to the magazine. A lever 8 loosely journaled upon the shaft 2 carries a pawl 9 having engagement with a ratchet wheel 10 fast upon the shaft for winding the spring by an oscillatory motion of the lever. A spring actuated detent 11 engaging with the ratchet wheel 10 holds the motive spring 7 under tension to which it has been subjected by the operation of the lever 8. Also secured to the rotary magazine 3 for unison rotation therewith, is a toothed escapement wheel 12 engaged by a double pawl or escapement anchor 13 to limit the rotation of the magazine 3 under influence of the motive spring 7 to a step by step movement. The escapement anchor 13 is provided with a dependent operating arm 14 laterally bent at its lower end as at 15 for the engagement of the rear end of the coin weighing coupler member 16. The coin weighing and coupler bar 16 is pivoted at 17 to the lower end of a swinging arm 18 pivoted at 19 to the frame of the apparatus and normally drawn forwardly by the retracting spring 20. The weighing and coupler bar 16 is counterbalanced by an adjustable weight 21 and the rear extension 22 of the bar 16 extends into proximate relation with the laterally projecting terminal 15 of the escapement anchor arm 14. The coupler bar 16 is swingingly adjusted about its pivotal connection 17 into or out of operative relation with the escapement anchor arm in accordance with the weight of the deposited coin. At its forward end the coupler bar 16 carries a bifurcated pivotally connected head 23 which projects through slots 24 in the inner or rear wall of a vertical coin chute 25 and hence into the path of a descending coin deposited in the coin chute. The pivotally mounted bifurcated head 23 is counterbalanced by a weighted arm 26, and its pivotal movement in one direction is limited by the engagement of a stud 27 with the supporting coupler arm 16. The coin chute 25 has at its upper end an orifice 28 through which a coin or check may be deposited in the chute. Such coin descending through the chute 25 comes to rest upon the bifurcated head 23 of the coupler bar 16 as is shown in Figs. 6 and 7. The weight of the coin supported within the coin chute 25 upon the head 23 tends to oscillate the coupler bar 16 about its pivotal connection 17 with the swinging arm 18. If the coin is of proper weight the coupler bar 16 will be oscillated to present its rear extension 22 opposite in proximate relation with the lateral extension 15 of the escapement anchor arm 14 as is shown by dotted lines in Fig. 5. However if the coin is over-weight the coupler bar 16, being oscillated about its pivotal connection 17 to greater degree, the rear extension 22 will be elevated above the level of the lateral extension 15 of the escapement anchor arm 14 and hence upon subsequent rearward movement of the coupler bar 16, such bar will pass idly above the portion 15 of the escapement anchor arm. To the contrary if the coin is under-weight the coupler bar 16 will not be oscillated thereby sufficiently to present the rear extension 20 in operative relation with the portion 15 of the escapement anchor arm 14 and again upon subsequent longitudinal movement of the coupler bar 16 such movement will be idle. To reciprocate the coupler bar 16 and thereby effect operation of the escapement to release the magazine for an advance movement under influence of the motive spring 7, there is provided at the front of the apparatus a manually depressible plunger 30 connected to a reciprocatory slide 31 having a downwardly extending notched cam arm 32 as is shown in Fig. 10. The slide 31 is mounted upon the frame of the apparatus for reciprocatory motion and is retracted by the spring 33. The pivoted coupler arm 16 carries a laterally projecting pin 34 which travels vertically with the oscillation of the bar 16 in proximate relation with the notched portion of the cam arm 32. Upon depression of the plunger 30 and consequent inward movement of the slide with its notched cam arm 32, the laterally projecting pin 34 of the coupler bar 16 will be engaged thereby and centered in one or another of the cam notches of the arm 32 according to the position to which the bar 16 has been deflected by the weight of the deposited coin. A coin of proper weight will deflect the bar 16 to the approximate position shown by dotted lines in Figs. 5 wherein upon depression of the plunger 30 the laterally projecting pin 34 will be engaged within the middle cam notch of the arm 32. The cam notch is of sufficient width to permit reasonable variation of the adjustment of the coupler bar 16 due to slight variation in the weight of the coin. Whatever the position of the arm 16 may be, providing it is within the range determined by the extent of the cam notch in the arm 32 of the plunger slide, the pin 34 will be centered in such notch upon depression of the plunger. Such centering of the pin 34 in the cam notch will accurately locate the rearward extension 22 of the coupler bar exactly opposite the projecting portion 15 of the escapement arm 14 and upon further inward movement of the slide 31 and cam arm 32, the coupler bar 16 will be given longitudinal movement permitted by the swinging motion of the arm 18 about its pivotal connection 19 against the tension of the spring 20. During its rearward motion when properly centered in the medial cam notch of the slide arm 32, the rear extension 22 of the coupler bar 16 engages and oscillates the escapement anchor arm 14 withdrawing one end of the double pawl or escapement anchor 13 from engagement with the escapement wheel 12 and positioning the opposite end of the pawl to arrest the escapement wheel and with it the magazine after predetermined advance movement. This adjustment of the escapement anchor 13 and the arm 14 is effected against the yielding resistance of the retracting spring 35. If the weight of the coin has been insufficient to deflect the coupling bar 16 to such degree that its lateral pin 34 will be engaged in the middle cam notch of the arm 32, that is to say if the weight of the deposited coin does not come within the permissible range as defined by the extent of the medial cam notch of the arm 32, the pin 34 being engaged in the upper cam notch of the series upon movement of the depressible slide will definitely locate the rearward extension 22 below the level of the lateral projecting portion 15 of the escapement anchor arm 14 and consequently upon further movement of the plunger 30 and slide 31 the coupling bar moves idly beneath the escapement anchor arm 14 and no release of the magazine is effected. Likewise if the coin or check is materially over-weight the coupler bar 16 being deflected to an extreme degree, presenting the laterally projecting pin 34 beyond the range of the medial cam notch of the slide arm 32, such pin will be engaged in a lower notch thereof presenting the rearward extension 22 of the coupler bar above the level of the projecting terminal 15 of

the escapement anchor arm 14 and upon subsequent movement of the slide the bar 16 moves idly above the extension 15 and again no operative movement of the magazine will be effected.

Upon disengagement of the escapement pawl or anchor 13 by the longitudinal movement of the coupler bar 16 when properly positioned to engage with the projecting portion 15 of the arm 14, a locking arm 36 pivoted at 37 falls into locking engagement with the escapement arm 14 by engaging a pin carried thereby within a notch or shoulder 38 upon the locking arm. The opposite end of the locking lever 36 extends beneath the depressible slide 31 which carries a cam nose 39 having operative engagement with the head of the locking lever 36 to disengage the shoulder 38 thereof from the pin 37 as the slide 31 is retracted. The locking lever 36 is normally held in inoperative position by the cam nose 39 of the slide 31 which upon the initial operation of the slide is moved beyond the head of the locking lever thereby releasing the latter for locking engagement with the escapement anchor arm 14. As is usual in escapement mechanism the advance movement of the magazine is effected by a double movement or two partial steps, one of which occurs when the first and normally engaging end of the escapement anchor is disengaged from the toothed wheel 12 which permits a limited movement of the magazine and tooth wheel until the latter engages with the opposite pawl of the escapement anchor, and a second movement occurs when the escapement anchor is again oscillated back to its normal position. This latter movement occurs under the influence of the retracting spring 35 upon the disengagement of the locking lever 36 from the pin 37 of the arm 14 and is delayed until the slide 31 has returned substantially to its normal outward position wherein the cam nose 39 again engages the head of the locking lever 36. During the longitudinal movement of the coupler bar 16 necessary to operate the escapement mechanism, the pivoted head 23 is retracted from the coin chute 25 sufficiently to permit the coin therein to continue its downward movement into the coin receiving box 40.

The pivoted bifurcated head 23 of the coupling bar 16 carries an upturned L-shaped finger 41 which as a coin descends upon the head 23 contacts with the lateral face of the coin as shown in Fig. 6 to limit the swinging movement of the pivoted head 23 about its pivotal connection with the coupling bar 16, and by thus holding the head 23 in relatively fixed relation with the coupling bar 16 and in the path of the coin, it compels the entire coupling lever 16 to be deflected about its pivotal connection 17 under the weight of the coin. However in the event that a washer is fradulently deposited in the coin chute such washer being open at its center will not arrest the L-shaped finger 41, which by projecting through the hole in the washer and thence through a clearance slot in the face of the coin chute 25, permits the head 23 to hinge upon the coupler bar 16 and swing downwardly without deflecting the coupler bar 16 sufficiently to bring it within the operative range as defined by the middle cam notch of the arm 32. The coupler bar 16 normally occupies an elevated position due to the counter weight 21, wherein the pin 34 will be maintained above the level of the uppermost cam notch of the series, and upon depression of the plunger 31 without a coin first having been deposited, the offset or shoulder 32' of the arm 32 will pass idly beneath the pin 34 and the coupler bar 16 will be unaffected thereby. However the weight of a deposited washer will initially depress the coupler bar 16 before the finger 41 enters the hole 41' sufficiently to present the pin 34 within the range of the first cam notch of the arm 32, in which it is locked against further descent regardless of the weight of the washer, by the entrance of the finger 41 into the hole 41'. As before mentioned, this locking engagement of the finger 41 in the hole 41' is effected by the oscillation of the bifurcated head 23 relative to the coupler bar 16. The coupler bar being thus held in an inoperative position, as though an underweight coin had been deposited, the subsequent depression of the plunger 31 will be ineffective to release the magazine escapement, but it will move the coupler bar idly beneath the out-turned portion 15 of the arm 14 and will withdraw the finger 41 from the hole 41' and from the hole in the washer, and will withdraw the bifurcated head 23 from beneath the washer, allowing the latter to drop through the coin chute into the coin receptacle.

In as much as there are legal requirements in some localities that coins improperly inserted must be returned to the operator, the furcations of the head 23 are spaced such distance apart that a dime or a penny deposited in the coin slot will not be detained by the head 23 but will pass between the fingers thereof and be permitted to continue its course down the coin chute where it contacts with a deflecting finger 42 carried upon the cam arm 32 of the slide 31 and which normally projects within the coin chute in the path of the descending coin. This deflective finger 42 prevents the improper coin from passing from the coin chute into the coin receptacle and diverts it laterally from the coin chute through the return chute 43 into the cup 6. This deflecting finger 42 is moved out of the coin chute 25 by the initial movement of the slide 31 under influence of the depressible plunger 30, as is shown in Fig. 8. A pivoted pawl 44 normally projected into the coin chute by a counterbalance weight 45 and moved therefrom by the descending coin operates to prevent a rebound of the coin as it engages with the head 23 of the coupler bar 16.

Pivoted at 46 to the depressible slide 31 is a spring tensioned arm 47 having a substantially T-shaped head 48 which is projected through registering slots 49 in the walls of the coin chute 25 upon depression of the manually operated plunger 30. Normally the T-shaped head 48 moves idly to and fro through the registering slots 49 in the opposite walls of the coin chute upon reciprocatory motion of the slide 31. However in the event that a wire, strip of metal, strip of paper or other material is inserted through the coin slot 26 for the purpose of depressing the head 23 of the coupling bar 16 and thus fraudulently operate the machine, the T-shaped head 48 upon contacting with such inserted wire or strip will be deflected about its pivotal connection against its tension spring 51 as shown in Fig. 8 and the head will thus be elevated slightly above the level of the registering slot 49 in the inner wall of the coin chute and will engage with the wall above such slot as indicated in Fig. 8 and thereby lock the slide 31 against further inward movement. The coupler bar 16 therefore cannot be actuated longitudinally to release the escapement mechanism. The coin chute 25 is provided with an opening in its inner or rear

wall opposite the coin receiving orifice 26. At the top of the machine there is mounted a reciprocatory plunger 52 operated by a bell crank lever 53 which is engaged by a stud 54 upon the escapement wheel 12 as the final article pocket 4 of the magazine reaches the discharge opening 5. The engagement of the stud 54 with the bell crank lever 53 reciprocates the plunger 52 against the tension of its spring 55 thereby projecting the enlarged head of the plunger into the coin receiving orifice 26 closing such orifice and preventing the deposit of further coins until the magazine has been replenished.

At a mid-length point of the coin chute 25 there is provided the usual horse-shoe magnet 56 mounted upon the reciprocatory slide 31 and moving therewith which will attract and hold slugs of iron or steel deposited in the coin chute 25. Such slugs while being retarded in their descent by the magnet 56 will nevertheless strike the head 23 of the coupler bar 16 with sufficient force to move the bar into operative relation with the first cam notch of the series, the resistance of the counter weighted coupler bar 16 supplemented by the attraction of the magnet being sufficient to arrest the slug in such position. Upon subsequent depression of the plunger 31 the coupler bar will be moved idly to withdraw the head 23 from beneath the slug, and the magnet 56 which is carried upon the slide will be withdrawn from the coin chute and the slug stripped therefrom is allowed to fall through the chute into the coin receiving compartment, without however having caused operative release of the magazine.

As a safety or precautionary measure against misoperation of the magazine by a hand or an implement introduced through the delivery bowl and discharge opening 5, a spring detent 57 is provided which engages the toothed wheel 12 to prevent reverse rotation of the magazine.

Inasmuch as the equilibrious coin weighing coupler bar 16 is counterbalanced in a state of equilibrium in effective or ineffective relation by the weight of the coin, it will be obvious that in lieu of depositing a single coin, combinations of coins may be employed to afford the required counterbalancing effect. Thus, without any change in mechanism or operation, but merely by varying the adjustable counterbalance weight 21, the apparatus is adaptable to different selling prices of the dispensed articles requiring multiple coins. Thus the apparatus may be properly counterbalanced to respond to multiple cents of sales prices of two, three or four cents; or comprising a "nickel" and the necessary number of "pennies" to make six, seven, eight or nine cents; or fifteen cents, comprising a "nickel" and a "dime"; or larger sums represented by other combinations of coins. Mention in the claims of deposited coin or coins is to be understood and construed as inclusive of combinations of coins necessary to afford the required counterbalancing weight.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. In a vending machine, a traveling magazine progressively movable past a discharge point, automatic actuating means therefor, a detent limiting the magazine to a step by step movement, manual operating means for disengaging the detent to permit a single advance step, and coin balanced floating coupler means counterbalanced in a position of equilibrium by a deposited coin of proper weight for interconnecting the manual operating means with the detent.

2. In a vending machine, a traveling magazine movable progressively past a discharge point, automatic actuating means therefor, a detent limiting the magazine to a step by step movement, manual operating means for the detent, a gravity controlled coupler member for connecting the manual operating means and the detent having an intermediate range of operative adjustment and inoperative ranges of adjustment at each side of such operative range, and a coin depository directing a deposited coin into counterbalancing relation with the coupler member to adjust said coupler member into operative or inoperative relation with the detent according to the weight of the coin.

3. In a vending machine, a rotary magazine progressively movable past a discharge point, automatic actuating means therefor, an escapement mechanism limiting the magazine to a step by step movement, manual operating means for the escapement and an equilibrious coin weighing means counterbalanced by a coin of proper weight in such position of equilibrium as to effect operative co-relation of the escapement operating means and the manual operating means preparatory to manual operation.

4. In a vending machine, a rotary magazine progressively movable past a discharge point, an actuating spring therefor, winding means for tensioning the spring, a toothed wheel revoluble with the magazine, a double pawl rocking detent operatively engaging the wheel to limit the rotation of the maazine and adapted upon rocking action to release the magazine for an advance movement of predetermined extent, manual means for rocking the detent, a coin controlled coupler means for operatively connecting the manual operating means and the detent, and a coin balancing device controlling the coupler, the deflective range of which is divided into ineffective over and underweight ranges, and an intermediate effective permissible weight range.

5. In a vending machine, a traveling magazine progressively movable past a discharge point, automatic actuating means therefor, an escapement mechanism limiting the magazine to a step by step movement, manually operable actuating means for the escapement mechanism, an equilibrious coupling member capable of oscillatory motion under influence of a deposited coin and of longitudinal motion by manual effort, and a coin depository directing coins into counterbalancing relation with the coupling member to cause the latter to assume a position of equilibrium under influence of deposited coins of proper weight wherein it is

effective to release the magazine by its longitudinal movement but ineffective to release the magazine when counterbalanced by any coins of improper weight.

6. In a vending machine, a traveling magazine progressively movable past a discharge point, automatic actuating means therefor, an escapement mechanism limiting the magazine to a step by step movement, manually operable actuating means for the escapement mechanism, a coin depository, variable coupling means for operatively connecting the manual actuating means and escapement mechanism controlled by the weight of a deposited coin, and means for further adjusting said coupling means into predetermined operative or inoperative relation with the escapement mechanism independently of the weight of the coin.

7. In a vending machine, a traveling magazine progressively movable past a discharge point, automatic actuating means therefor, an escapement mechanism limiting the magazine to a step by step movement, manually operable actuating means for the escapement mechanism, a coin depository, variable coupling means for operatively connecting the manual actuating means and the escapement mechanism controlled by the weight of the coin, and means for further adjusting the coupling means within predetermined ranges of adjustment selectively determined by the weight of the coin to accordingly effect operation or non-operation of the escapement mechanism upon operation of the manual actuator.

8. In a vending machine, a traveling magazine progressively movable past a discharge point, automatic actuating means therefor, an escapement mechanism limiting the magazine to a step by step movement, a manually operable actuator for the escapement mechanism, a pivoted coupling lever having tilting motion into and out of operative relation with the escapement mechanism, a swinging arm to which the coupling lever is pivoted adapted by its swinging motion to permit a to and fro reciprocatory motion of the coupling lever independently of its tilting motion, said coupling member being actuated longitudinally in different positions of tilting adjustment by the manually operable actuator, and a coin depository directing a coin into counterbalancing relation with the pivoted coupling member for determining its position of tilting adjustment.

9. In a vending machine, a coin depository, a traveling magazine progressively movable past a discharge point, automatic motive means therefor, an escapement mechanism limiting the magazine to a step by step movement, a manually operable actuator for the escapement means, and equilibrious coupling means for the actuator and escapement means assuming different positions of equilibrium respectively effective and ineffective to release the escapement means in accordance with variations of the weight of deposited coins.

10. In a vending machine, a coin controlled traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable actuator for releasing the magazine, a variable coupling element for the actuator and governor means, and locating means operated by the actuator for positioning the coupling element in predetermined operative or inoperative relation with the governor means selectively determined by a deposited coin.

11. In a vending machine a coin controlled traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable actuator for releasing the magazine, a variable coupling element for the actuator and governor means, and centering means operated by the actuator for locating the coupling member in predetermined position within inoperative and operative ranges of its variation selectively determined by a deposited coin.

12. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable member for releasing the magazine for successive movements, a variable coupler member for connecting the manually operable member with the magazine governing means adjustable through an extended range of movement in accordance with the variations of weight of deposited coins, and divider means separating the range of movement of the coupler member into operative and inoperative portions of predetermined extent selectively determined by the weight of a deposited coin.

13. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable member for releasing the magazine for successive movements, a variable coupler member for connecting the manually operable member with the magazine governing means adjustable through an extended range of movement in accordance with the variations of weight of deposited coins, divider means separating the range of movement of the coupler member into operative and inoperative portions of predetermined extent selectively determined by the weight of a deposited coin, and means for centering the coupler member in the selected portion of its range of variation by the operation of said manually operable member.

14. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable member for releasing the magazine for successive movements, an oscillatory coupler lever for connecting the manually operable member and the governor means adapted to be moved into operative or inoperative relation therewith in accordance with the weight of a deposited coin, a pivotally connected head for said lever, a coin chute into which the head extends to intercept a coin descending therethrough, stop means engaging the coin for limiting the pivotal movement of the head relative to the lever whereby the weight of the coin is transmitted to the lever to effect oscillatory motion thereof.

15. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable member for releasing the magazine for successive movements, a coupler member for operatively connecting the manually operable member and the magazine governing means moved into operative relation by the weight of a deposited coin, means for locking said coupler member in inoperative position, held against operative engagement by a deposited coin but permitted locking engagement through the opening of a deposited washer.

16. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement past a discharge point, motive means and governor means therefor, a manually operable member for releasing the magazine for successive movements, coupling means for operatively connecting the manually operable member and the governing means, a locking detent therefor operative through the opening of a deposited washer and means engaged thereby for locking the coupler in inoperative position but held out of such locking engagement by a deposited coin.

17. In a coin controlled vending machine, a traveling magazine automatically movable through a step by step movement, past a discharge point, motive means and governor means therefor, a manually operable mechanism for releasing the magazine for successive movements, a coin chute, coin selective means associated therewith, a deflector member normally projecting into the chute and deflecting therefrom certain coins as determined by the selective means said deflector member being withdrawn therefrom by the actuation of the manually operable magazine release member to permit the continued movement of other coins as determined by said selective means through the chute into a coin receiver.

18. In an apparatus of the character described, a magazine for a commodity to be vended, and governor means therefor, a coin chute, a reciprocatory manually operated actuator for the magazine governor means, a magnet carried by the reciprocatory actuator in proximity to the chute and exerting magnetic influence to retard a slug passing through the chute, a release mechanism for the magazine governing means normally disconnected therefrom and idly operable by said reciprocating actuator, said magnet being reciprocated in unison with the actuator to release the slug for continued passage through the chute upon idle operation of the magazine release mechanism, said release mechanism being operatively positioned relative to the magazine governing means upon deposit of a proper coin.

19. A manually operable release member for the magazine, and coupling means therefor including a lever mounted for both pivotal and longitudinal motion, a bifurcated head for said lever pivotally connected therewith for oscillation independently of the lever, the furcations of which are spaced apart to permit the passage therebetween of an improper coin but to arrest a proper coin, means for limiting the independent oscillating of the bifurcated head by the deposited coin, the weight of which tends to move the lever into operative relation and a magazine governing means which is operated to release the magazine by the subsequent operation of the manually operable release member.

20. In a coin controlled vending machine, the combination with a dispensing apparatus and coin controlled operating means therefor including a reciprocatory manually operated member, a coin chute, a detent pivoted to the reciprocatory manually operated member and normally projected idly transversely of the coin chute by the reciprocation of said manually operable member, said detent being rendered effective to prevent operation of the machine by its engagement with a foreign body inserted into the coin chute in intercepting relation with the path of said detent.

21. In a coin controlled vending machine, a dispensing apparatus and coin controlled operating means therefor, including a manually operable member, a coin chute, a detent member pivotally mounted upon the manually operable member and normally moving idly therewith in a path intersecting the coin chute, said detent member being adapted to be deflected out of its normal path into engagement with stop means to arrest the manually operable member upon its engagement with a foreign body inserted in the coin chute into the path of said detent.

22. In a vending machine, the combination with article delivery mechanism, of control means therefor, a manually operable actuator, a coupling means for operatively connecting the actuator and control means including a coin balancing device, the deflection of which under the weight of a coin is divided into an overweight range and underweight range within either of which the operative coupling of the actuator and control means will not be effected, and an intermediate permissible weight range within which operative coupling of the actuator and control means will be effected, and a coin depository for directing a deposited coin into such balancing relation.

23. In a vending machine, delivery means for the vended commodity, control means therefor, an operator member therefor, and a coin balancing device effective within a predetermined medial range of deflection and ineffective in either direction beyond such medial range to effect operative connection of the operator member and control means, and a coin depository by which a coin is delivered to said coin balancing device.

24. In a vending machine, delivery means for a vended commodity, control means therefor, an actuating device normally disconnected from the commodity delivery control means, a coin balancing device assuming different positions of equilibrium under counterbalancing influence of coins of different weights and effective to operatively interconnect the actuating device, and delivery control means within a predetermined range of movement under counterbalancing influence of a coin of proper weight and ineffective when moved to a position outside such predetermined range by a coin of improper weight, and a coin depository by which a coin is delivered to the balancing device.

25. In a vending machine, delivery means for vended commodity, control means therefor, an actuating device normally disconnected from the commodity delivery control means, a reciprocatory coupling member for transmitting motion from the actuating device to the delivery control means normally positioned out of operative relation therewith and subject to adjustment proportionate to the weight of a deposited coin through successive inoperative and operative ranges of movement wherein a coin of permissible weight will move said member into operative relation and a coin of either overweight or underweight will move said coupling member into inoperative relation to the delivery control means.

26. In a vending machine, a delivery apparatus for a vended commodity, control means therefor, an actuating device therefor, and a movable coin controlled member automatically adjusted proportionately to the weight of a deposited coin and movable through an overweight range, an underweight range and an intermediate permissible weight range, only within the latter of which the governor is effective to permit operation of

the delivery apparatus upon operation of the actuating device.

27. In a vending machine, a delivery apparatus for a vended commodity, control means therefor, an actuating device therefor, and a movable coin controlled member automatically adjusted proportionately to the weight of a deposited coin and movable through an overweight range, an underweight range and an intermediate permissible weight range, and means controlled by the actuating device for arresting the governor in predetermined relation with the delivery control means within the particular selective range of movement determined by the weight of a deposited coin.

28. In a vending machine, a delivery apparatus for a vended commodity, control means therefor, an actuating device therefor, and a movable coin controlled member automatically adjusted proportionately to the weight of a deposited coin and movable through an overweight range, an underweight range and an intermediate permissible weight range, and means for adjusting the governor member to predetermined position within the coin selected range of movement upon operation of the actuating device.

29. In a vending machine, a delivery apparatus for a vended commodity, control means therefor, an actuating device therefor, and a movable coin controlled member automatically adjusted proportionately to the weight of a deposited coin and movable through an overweight range, an underweight range and an intermediate permissible weight range, and means for temporarily locking the governor member within the selected range of movement during the operation of the actuating device.

30. In a vending machine, a delivery apparatus for a vended commodity, control means therefor, an actuating device therefor, and a movable coin controlled member automatically adjusted proportionately to the weight of a deposited coin and movable through an overweight range, an underweight range and an intermediate permissible weight range, and means for adjusting the governor member additionally to that effected by the weight of the coin to a predetermined position within the coin selected range of movement during the operative movement of the actuator.

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