

No. 646,746.

Patented Apr. 3, 1900.

W. McC. MACK.
VENDING MACHINE.

(Application filed Aug. 18, 1899.)

(No Model.)

FIG. 1.

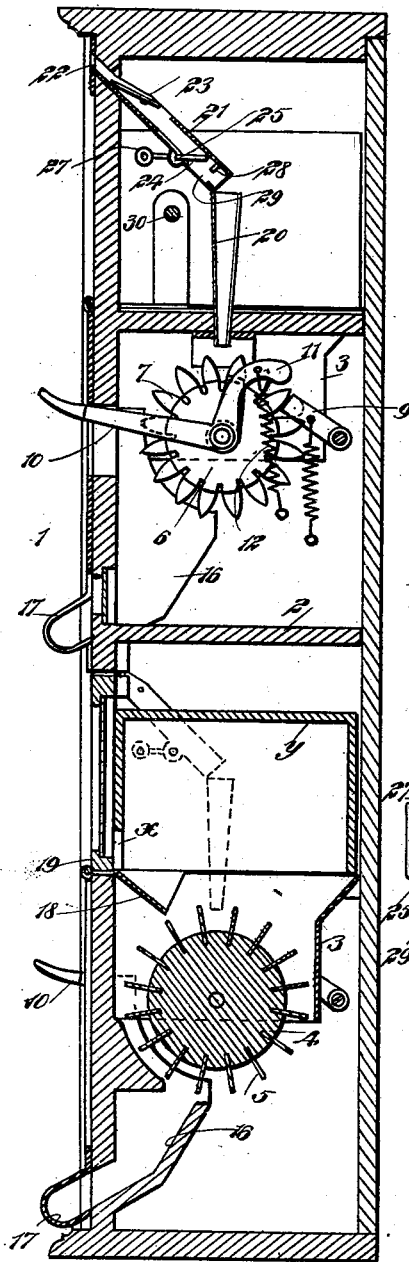


FIG. 2.

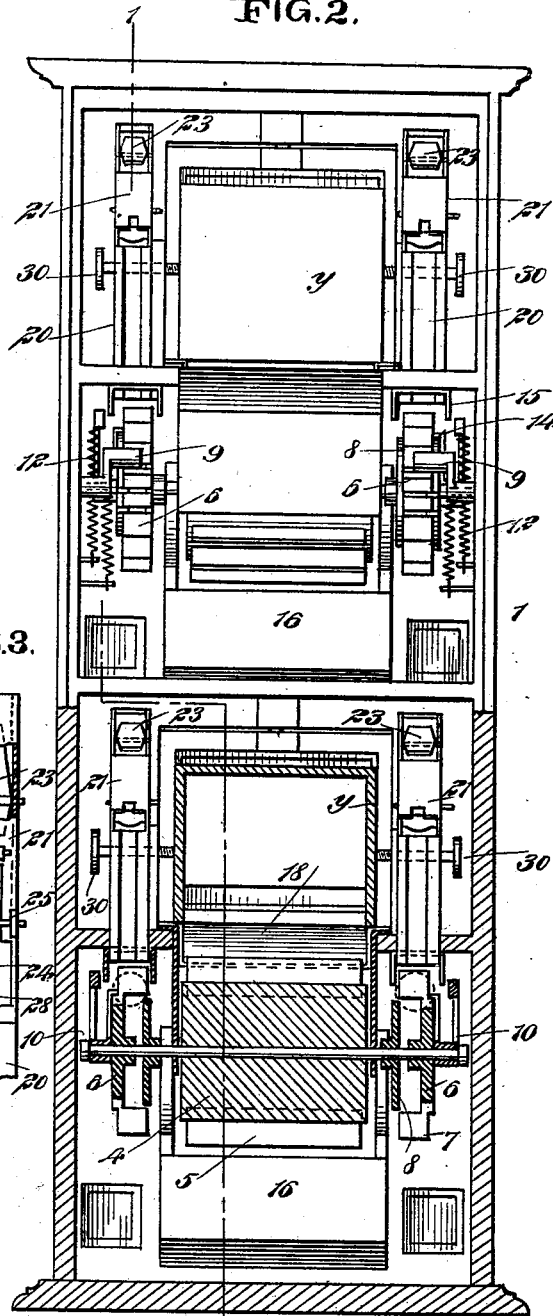


FIG. 3.

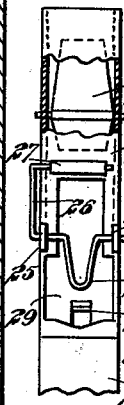
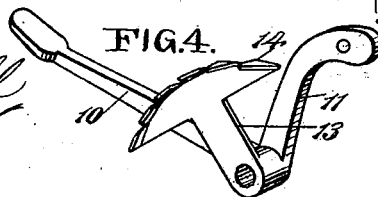


FIG. 4.



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VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 646,746, dated April 3, 1900.

Application filed August 18, 1899. Serial No. 727,664. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM McCOY MACK, of Bridgton, in the county of Cumberland and State of Maine, have invented a new and

Improved Vending-Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in coin-controlled vending-machines particularly adapted for vending cigars or the like; and one object is to provide a machine of suitable construction and so arranged that a single cigar or a number of cigars may be discharged from the machine upon the deposit of a coin of certain value; further, to construct the device for containing and vending cigars from a plurality of boxes of different prices or grades; and a further object is to so construct the coin-chutes that any coin deposited smaller than the coin for which the chute is intended will be discharged without placing the machine in operative condition, as will lighter disks of tin or the like and washers.

I will describe a vending-machine embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a section on the line 1 1 of Fig. 2 of a vending-machine embodying my invention. Fig. 2 is a partial elevation and partial section with the back of the casing removed. Fig. 3 shows a portion of a coin-chute employed, and Fig. 4 shows one of the operating-levers employed.

Referring to the drawings, 1 designates a casing, here shown as provided at about its center with a horizontal partition 2, dividing the casing into upper and lower compartments. In each compartment is a hopper 3, designed to receive cigars from boxes placed thereon, and mounted to rotate in each hopper is a delivery-wheel, consisting of a cylinder 4, having outwardly-extended blades 5, which form side walls of pockets for receiving cigars, each pocket being of a size to receive one cigar only. The shaft of each delivery-wheel extends outward through the opposite side walls of its hopper, and to each projected end of the shaft is attached a coin-

receiving wheel 6. Each coin-receiving wheel is made in the form of a disk having on its periphery a number of teeth 7, which project laterally or inward of the disk portion and reach nearly to a stop-disk 8, attached to the shaft. The coin delivered from a chute to be hereinafter described is designed to be received between adjacent teeth 7. Backward rotation of the coin-wheels, and consequently a backward rotation of the delivery-wheel, is prevented by means of spring-pressed dogs 9, engaging with the teeth of the coin-receiving wheels. Forward motion is imparted to the coin-wheels and to the delivery-wheels by means of levers extended outward through openings in the casing.

Each lever 10 is mounted loosely on the shaft of the delivery-wheel at the outer side of the coin-wheel. The lever has an upward and rearward projection 11, from which a spring 12 extends to a fixed pin in the casing, the spring serving to move the outer end of the lever to its uppermost position for operation. Attached to each lever is a plate 13 of resilient metal, and the plates carry one, or more inwardly-extended ratchet-teeth 14, the number of teeth depending upon the number of steps the delivery-wheel is to be rotated for discharging cigars—that is, if a single cigar is to be discharged there will be but one tooth on the plate; if three are to be discharged, there will be three teeth on the plate, and if six are to be discharged there will be six teeth on the plate.

In operation of the device as so far described it will be assumed that a box containing cigars which retail for ten cents each, or three for a quarter, is first placed in the upper compartment and that a box containing cigars that retail for five cents each, or six for a quarter, is placed in the lower compartment. Now if a person desires one ten-cent cigar he will place a ten-cent piece in the upper chute leading to the coin-wheel, (shown at the right-hand side in the upper compartment of Fig. 2,) the coin will fall between the teeth of this coin-wheel, as indicated by dotted lines in the lower portion of Fig. 2, and the inner edge of the coin will engage against the stop-disk 8 and also against the walls of a guide 15, secured in the casing, the said walls being extended down at opposite sides of the coin-

wheels and having a length sufficient to retain the coin in position in the wheel until the last motion is imparted by the lever to the wheel. The upper edge of the coin projects
 5 into the line of movement of the tooth on the plate 13. Therefore by pushing down on the outer end of the lever the coin-wheel will be rotated through the space of one step. This of course imparts a corresponding motion to
 10 the delivery-wheel, so that a cigar will fall from one of its lower pockets into a chute 16 and discharge into a receiver 17 at the outer side of the machine, from which the cigar may be removed. If three cigars are desired from
 15 this upper box, a twenty-five-cent piece is to be placed in the chute leading to the coin-wheel, (shown in the upper compartment at the left-hand side of Fig. 2,) and the operating-lever is to be moved up and down three times,
 20 as this particular lever carries a plate having three teeth 14. Upon the first downward movement of the lever the first tooth on the plate engaging with the coin will move the coin-wheel one step. Then as the lever is
 25 moved upward by its spring the rear beveled edge of the first tooth will engage with the coin, spring the plate out so that the second tooth will engage with the coin, and move the wheel another step. When the lever is
 30 again pressed down, then of course the third tooth on the plate will operate in the same manner. During each step motion of the coin-wheel and the delivery-wheel a cigar will be discharged from the delivery-wheel.
 35 The delivery-wheel in the lower compartment has the two coin-receiving wheels described, and coacting with one of the coin-wheels is a lever having a single tooth, and co-acting with the other coin-wheel is a lever
 40 carrying six teeth, so that by this downward movement of the lever six cigars will be discharged. When the cigars are placed in the casing, the cover of the box is to be first removed and the box placed on the hopper with
 45 the open end downward, so that the cigars may fall into the pockets that are uppermost in the hopper. Inclined guides 18 will prevent the cigars from falling to the forward pockets of the delivery-wheel, or, in other
 50 words, the cigars will fall into pockets forward of the pocket directly in front of the top pocket. The casing will be provided with doors 19, so that the cigar-boxes may be placed in the casing, and these doors will be pro-
 55 vided with glass panels, so that the brand of cigars may be seen on the label on the end of the box, and preferably before placing a box
 60 of cigars in the casing a portion of its end wall will be broken away, as indicated in the drawings at *x*, so that it may be seen when a box is empty.

There will of course be a coin-chute for each coin-receiving wheel, and as these several coin-chutes are of similar construction, excepting that each one is adapted in size for a particular size of coin, a description of one will answer for all. The chute consists of a

section 20, extended in a vertical direction and adapted to discharge a coin upon the wheel below it, and an inclined section 21, 70 communicating with an opening 22 in the front of the casing.

Mounted to swing in the upper portion of the section 21 of the coin-chute is a deflecting-plate 23. The upper end of this deflect- 75 ing-plate engages normally against the bottom wall of the chute-section 21, and its lower end is substantially on a plane with the top wall of the chute-section which is arranged on the lower portion thereof. 80

Mounted to swing transversely in the chute-section 21 and through an opening in the lower wall thereof is a washer-discharging device, here shown as consisting of a wire loop 24, 85 having bearings in ears 25 and being provided with an arm 26, upon which is a counterbalance 27, which normally holds the inner end of the loop 24 against the inner side of the top wall of the chute-section. Projected inward from the upper wall of the chute-section 21 90 and below the loop 24 is a lug 28.

In operation when a coin of the proper denomination is passed into the opening 22 it slides onto the plate 23, and when it reaches a point to overbalance the upper end of the 95 plate the said plate will be tilted downward and the coin will be discharged between the upper and lower walls of the upper section of the chute. Then by engaging with the tongue or loop 24 it will swing said tongue or loop 100 downward, so that the coin may continue and fall into the section 20 of the chute. Should a coin of smaller diameter than that required be inserted, it will fall into the tongue or loop 24, moving it downward, as above described; 105 but the coin instead of passing into the section 20 will fall outward through an opening 29 in the bottom wall of the chute-section 21. Should a coin, metal disk, or similar device lighter than the coin designed to be used in 110 the chute be deposited, it will slide over the plate 23 without tilting the same and be directed onto the upper side of the chute-section 21, from which it will fall into a suitable receptacle. Should a washer or similar device 115 having a hole in its center be deposited, and assuming that said washer or similar device should have a weight sufficient to tilt the plate 23, it will fall onto the chute-section 21 and tilt the tongue or loop 24 until it removes 120 it a sufficient distance downward or against the lug 28 to permit the tongue or loop to be moved into the opening. This movement of the tongue is caused by the counterweight 27. Then the upper wall of the opening through 125 the washer or the like will engage with the upper side of the tongue or loop, swinging it downward, causing the washer or the like to fall outward through the opening 29. Coins that reach the coin-wheels will be discharged 130 therefrom on the floor of the casing or into suitable receptacles, and the casing will be provided with suitable doors, so that the accumulated coin may be removed. The boxes

y may be held from movement by clamping-screws 30.

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

1. A vending-machine, comprising a casing, a hopper therein, a delivery-wheel having a number of pockets, a toothed coin-receiving wheel attached to the shaft of the delivery-wheel, a lever loosely mounted on said shaft, a resilient plate carried by the lever, and a tooth on said plate adapted for engagement with a coin in the coin-wheel, substantially as specified.

2. A vending-machine, comprising a casing, a delivery-wheel in the casing having a number of pockets, coin-receiving wheels on the shaft of the delivery-wheel, one at each end, levers loosely mounted on the shaft adjacent to the coin-wheels, a plate carried by one of said levers and having a tooth for engaging with a coin in the coin-wheel, a plate carried by the other of said levers, and a plurality of teeth on said plate for successively engaging with a coin in the coin-wheel, substantially as specified.

3. In a vending-machine, a casing, a hopper in the casing, a delivery-wheel arranged in the casing and consisting of a cylinder having outwardly-extending blades forming the side walls of pockets, means for imparting a single step motion to said delivery-wheel upon the deposit of a coin, and means for imparting a plurality of step motions to said wheel upon the deposit of a coin, substantially as specified.

4. A vending-machine, comprising a casing, a delivery-wheel, a coin-receiving wheel fixed to the shaft of the delivery-wheel, the said coin-receiving wheel consisting of a disk hav-

ing outwardly and inwardly extended teeth, a stop-disk fixed to the shaft at the inner sides of the teeth, a lever loosely mounted on the shaft, a resilient plate carried by said lever, and a tooth on the plate adapted for engagement with a coin supported in the coin-receiving wheel, substantially as specified.

5. In a vending-machine, an inclined coin-chute having an opening in its lower wall, a swinging tongue extending normally across from the rear wall to the upper wall of the chute, and a lug extended downward from the inside of the upper wall of the chute, substantially as specified.

6. In a vending-machine, an inclined coin-chute having an opening through its lower wall, a tongue adapted to swing in said opening and normally extended across the chute, a counterbalance for said tongue, a lug in the chute below the tongue, and a plate mounted to swing in the chute above the tongue, the upper end of said plate engaging normally with the bottom wall of the chute and the lower end of said plate being substantially on a plane with the top of the chute, substantially as specified.

7. In a cigar-vending machine, a delivery-wheel, coin-controlled means for discharging a single cigar from said wheel upon the insertion of a single coin, and coin-controlled means for discharging a plurality of cigars from said wheel upon the insertion of a single coin, the two coin-controlled means being independent one from the other, substantially as specified.

WILLIAM MCCOY MACK.

Witnesses:

CHAS. L. LANG,
GEORGE H. TOWNSEND.