

M. McANENY.
VENDING MACHINE.

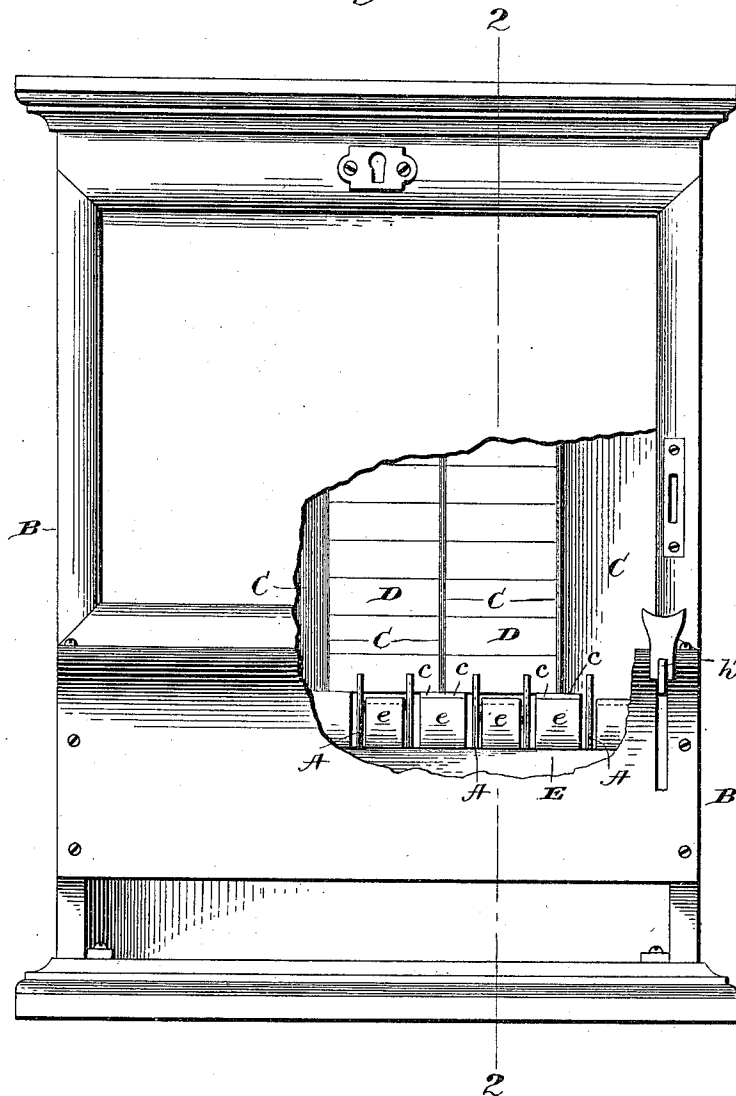
APPLICATION FILED MAR. 3, 1908. RENEWED FEB. 23, 1910.

976,089.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

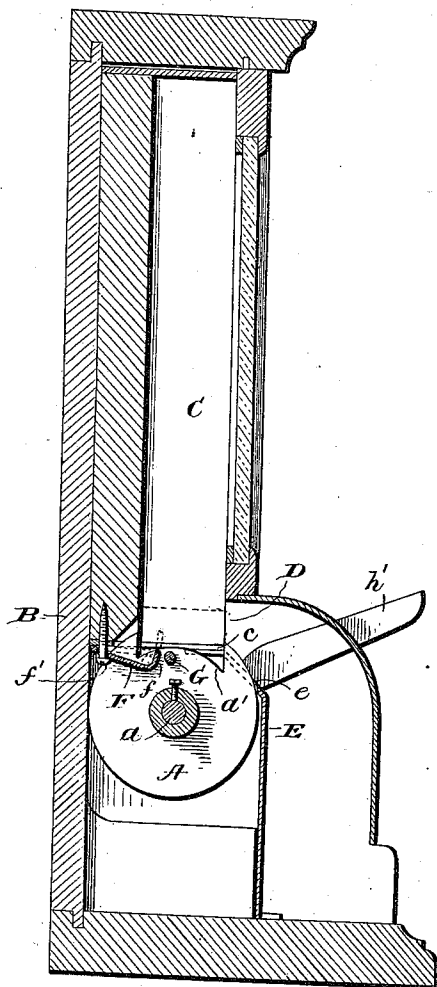


Fig. 3.

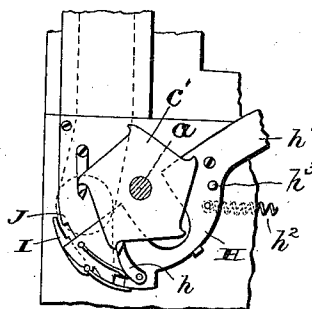
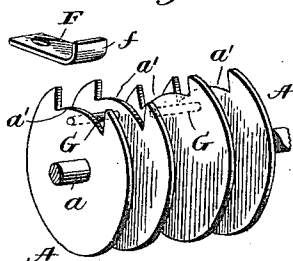


Fig. 4.



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UNITED STATES PATENT OFFICE.

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VENDING-MACHINE.

976,089.

Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed March 3, 1906, Serial No. 304,108. Renewed February 23, 1910. Serial No. 545,499.

To all whom it may concern:

Be it known that I, MICHAEL McANENY, of Denver, in the county of Arapahoe and in the State of Colorado, have invented a certain new and useful Improvement in Vending-Machines, and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a vending machine embodying my invention, a portion of the casing being broken away to show the interior construction; Fig. 2 is a vertical section on the line 2—2 of Fig. 1; Fig. 3 a detail view of delivery drum operating mechanism; and, Fig. 4 a detail perspective view of a portion of the delivery drum and the article leveling or lifting plate.

My invention relates to coin-controlled vending machines and has for its object the improvement of the merchandise, or article issuing or delivery mechanism of such machines, and to these ends my invention consists in the vending machine having the construction substantially as hereinafter specified and claimed.

My invention consists in the vending machine having the construction substantially as hereinafter specified and claimed.

In the machine shown in the drawings which I have selected to illustrate one embodiment of my invention, the delivery mechanism consist of a rotatable cylinder of drum A journaled horizontally in the lower part of a suitable casing B, having above the cylinder or drum a transverse series of article holders or hoppers C, which, in the case of the machine shown, have such form as to hold stacks of boxes D of matches, which the machine is to vend. For coöperation with each hopper C, the drum A has in its circumference a pocket for receiving the bottom box in the hopper, and by the engagement of the rear wall of the pocket with the box side, removes such box from the hopper and delivers it from the machine. The drum, as I prefer to make it, consists of a series of disks fixed upon a shaft *a*, there being a pair of disks for each hopper, and the pockets being formed by axially alining notches *a'* in the pair of disks, and until, by the revolution of the drum, a pocket is below its hopper, the lowermost box in such hopper rests on the peripheries of the disks, and in a plane above the lower edge of the

front wall of the hopper, so that said box cannot be removed from its hopper. When the box drops into its drum pocket, it then passes below the lower edge of the front wall of the hopper, and is then free to move with the drum and thereby be discharged from the machine. The box, when it drops into the drum pocket, rests at opposite sides upon horizontal ledges *c* on opposite sides of the hopper, between which the pair of disks for the hopper pass, and supported by said ledges is slid over the same by the action of the rear edges of the disk notches.

A guide plate E, situated in front of the drum, and having close thereto a downwardly and forwardly inclined portion *e* slotted for the disks to pass therethrough, causes the box to be disengaged from the drum, as the drum revolves past said inclined portion and directs the box to fall to the mouth of the machine in reach of the purchaser. Of course, the space between the lower edge of the front wall of the hopper and the box-supporting ledges *c* is only large enough to permit one box at a time to be passed therethrough by the action of the drum, and if the front or outer edge of the lowermost box should be in contact with the front wall of the hopper, as by the tilting of the box, then it would be impossible to eject such box by the operation of the drum. In actual use of the machine, I find that occasionally a box so tilts, due to the dropping of its rear portion, first into the drum pocket as the latter, by the turning of the drum, is being brought under the hopper to receive the lowermost box in the hopper, the front portion of the box resting and rocking on the forward wall of the pocket. To prevent the jamming of the machine which may thus be caused, I provide means whereby should the lowermost box rock or tilt, as I have just described, its rear portion will be raised, so that by the time the pocket is in position beneath the box to receive it, such box will be in a horizontal position, and will descend smoothly into the pocket, clearing the lower edge of the front wall of the hopper. The device shown in the drawings which I have provided for this purpose, consists of a vertically rocking or tilting plate F projecting forward from its pivot into the space between a pair of disks and beneath the hopper in position to have its front edge, which is given the form

of an upturned flange or lip *f*, engage the underside of the lowermost box in the hopper, so that by the lifting of said plate such box will be rocked upward until it reaches a horizontal position, at which time the lifting plate is caused to descend, permitting the box, in a horizontal position, to descend into the drum pocket. For actuating the lifting plate at the proper time, the pair of disks is provided with a cross-bar or pin *G*, which, by the revolution of the disks at the proper time, is brought into contact with the rocking plate, to lift the same, and then passing out of contact therewith, permits the same to drop. A very simple and inexpensive means for supporting the tilting plate consists of a screw *f'* passing through a hole or perforation in the rear end of the plate, the fit of the hole on the screw being sufficiently loose to allow the necessary vertical rocking or swinging of the plate. The plate is maintained in position laterally or against sidewise movement by the pair of disks between which it projects.

I have described the drum as provided with a series of pockets and a hopper for each pocket, but, of course, I do not limit myself to any particular number of pockets, as the scope of my invention extends to the employment of a drum having a single delivery device. The multiplication of pockets and hoppers, however, enlarges the capacity of the machine, and preferably a drum having a series of pockets will be employed, and to effect the delivery of an article or box from but one hopper at a time, the pockets are not in alinement axially, but extend in a spiral course around the drum.

For rotating the drum, it is provided at one end with a ratchet wheel *c*, the teeth of which, in succession, are engaged by a pawl *h*, carried by a pivoted rocking plate *H* having an arm *h'* which extends to the exterior of the machine casing, and adapted to be depressed to cause the partial rotation of the drum, a spring *h²* being provided to return the pawl carrying rocking plate after being depressed to position for a fresh operation. Carried by the rocking plate *H* is a locking dog or detent *I* having a shoulder which normally engages a stop or abutment *J*, and said dog or detent *I* is only freed

from its abutment to permit the rocking plate to be operated when the proper coin is placed in the machine, and engaging said dog or detent releases it from its stop or abutment. The rocking plate *H*, or lever, carries a pin *h³* that, when the lever has moved far enough to rotate the drum sufficiently to deliver one box or package, strikes the teeth or depressions of the ratchet wheel, and the drum thereby locked from overthrow.

The stop or abutment *J* is formed in the edge of a plate *K*, which plate is provided with a coin guide *l*, upon which a coin dropped in the slot in front of the machine is adapted to travel and such guide causes the coin to travel so near to the pawl or dog *I* that a coin of the predetermined size shall be just sufficient on an upward travel of the dog to carry the dog over the abutment *J*, and permit the rocking plate or lever to swing and to rotate the shaft *a*.

Having thus described my invention, what I claim is:—

1. In a vending machine, the combination of a hopper, a rotatable pocketed drum whose pocket passes beneath the hopper, a vertically movable rocking plate situated at the hopper outlet to engage an article passing from the hopper to the drum pocket, and means to operate said plate.

2. In a vending machine, the combination of a hopper, a rotatable pocket drum comprising notched disks, a pivoted plate extending between the disks beneath the hopper situated to engage and tilt an article passing into a pocket from the hopper, and a part carried by the disks adapted by the rotation thereof to actuate said plate.

3. In a vending machine, the combination of delivery means, a ratchet wheel for operating said means, an operating lever for said ratchet wheel, and a pin attached to the lever and moved by the lever in contact with the ratchet wheel to prevent overthrow of the ratchet wheel.

In testimony that I claim the foregoing I have hereunto set my hand.

MICHAEL McANENY.

Witnesses:

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