

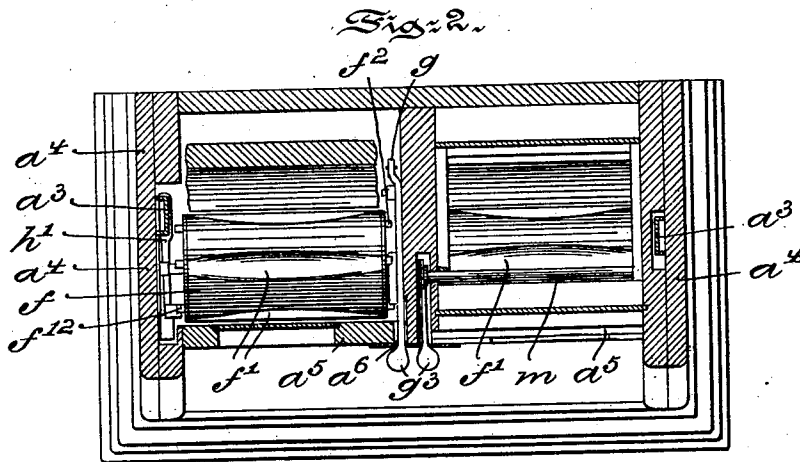
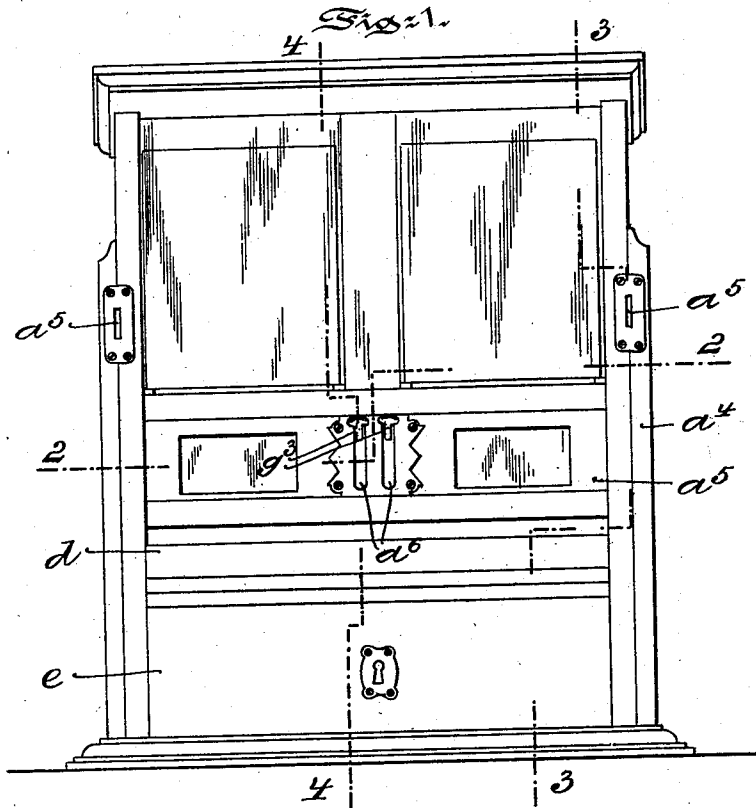
No. 726,934.

PATENTED MAY 5, 1903.

J. M. JACOBS.  
VENDING MACHINE.  
APPLICATION FILED AUG. 16, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

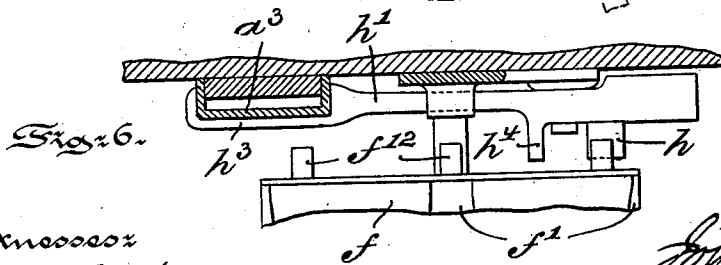
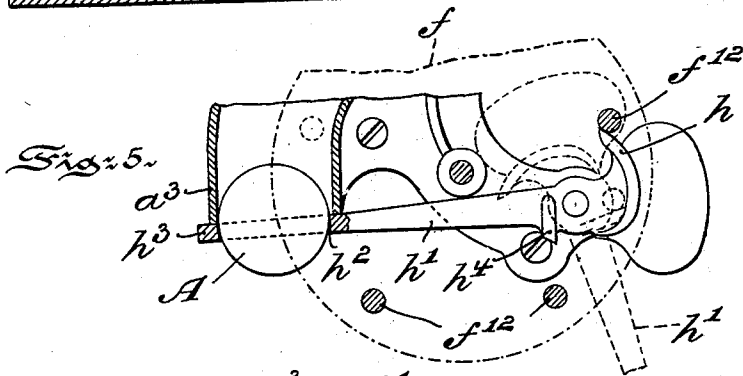
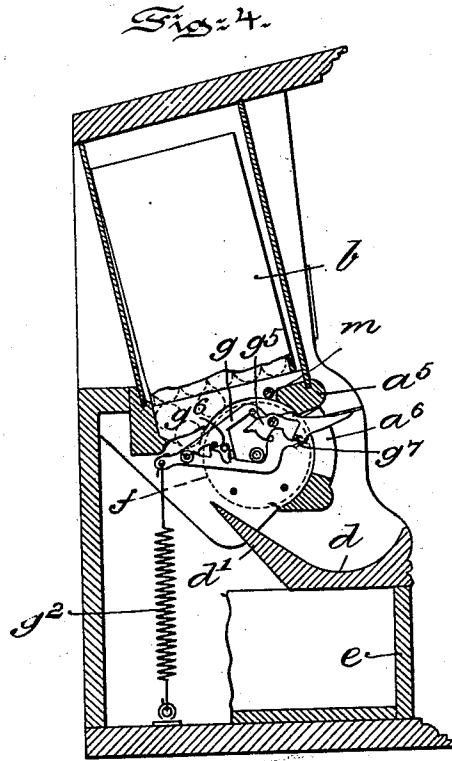
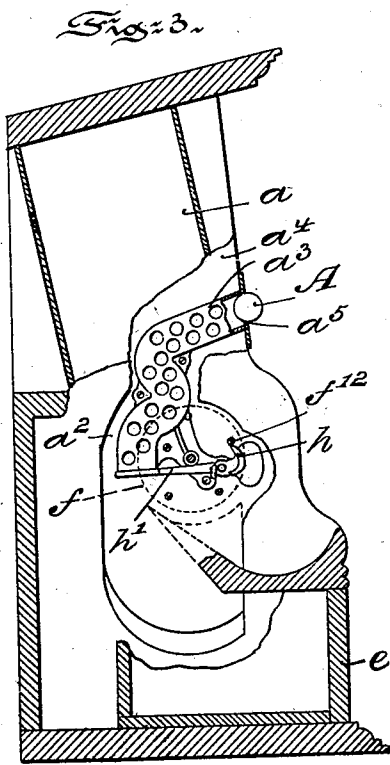


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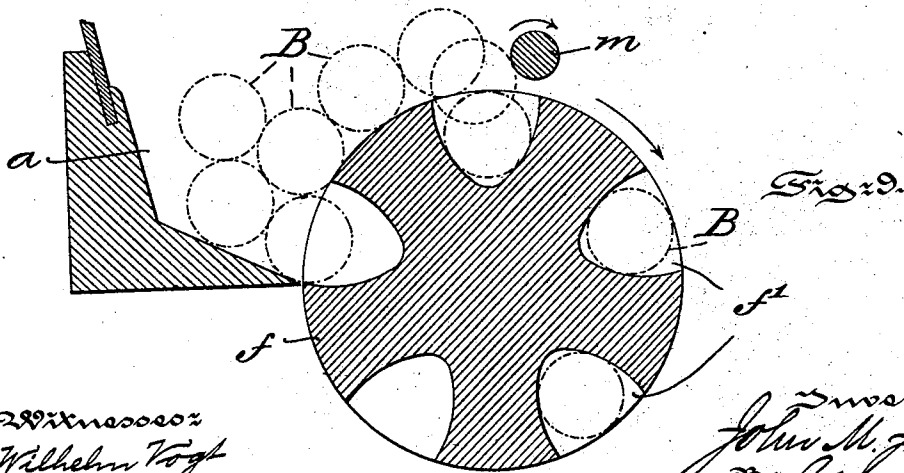
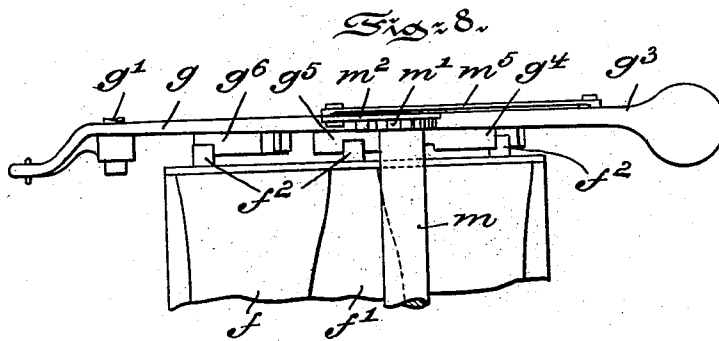
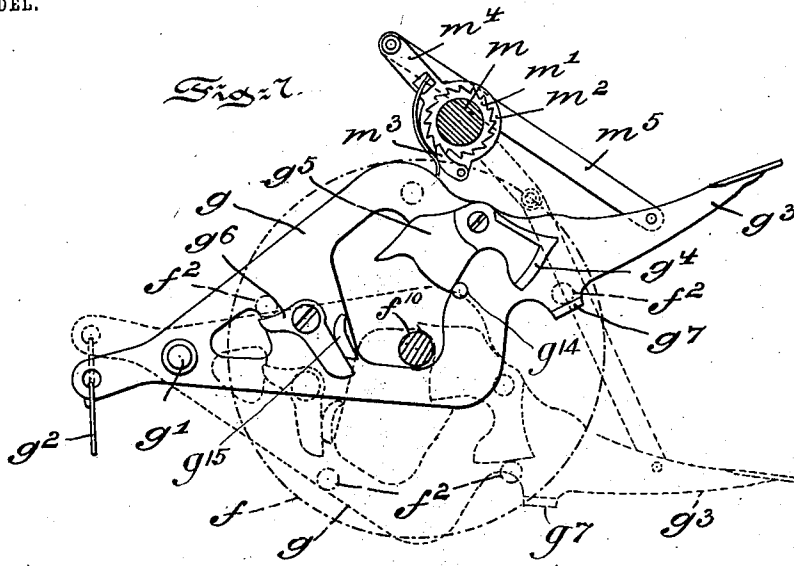
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J. M. JACOBS.  
VENDING MACHINE.  
APPLICATION FILED AUG. 16, 1902.

3 SHEETS—SHEET 3.

NO MODEL.



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# UNITED STATES PATENT OFFICE.

JOHN MILLER JACOBS, OF NORRISTOWN, PENNSYLVANIA.

## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 726,934, dated May 5, 1903.

Application filed August 16, 1902. Serial No. 119,856. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MILLER JACOBS, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention has relation to that class of vending-machines wherein the article to be vended is held within a case and delivered therefrom only by the operation of a normally-locked mechanism, the passage of a coin releasing the delivery mechanism, and in such connection it relates more particularly to the construction and arrangement of such a vending-machine.

The principal object of my invention is to provide, in a vending apparatus, a delivery mechanism of simple construction and arrangement and a locking means controlled by the passage of a coin through the apparatus and controlling the delivery mechanism, so as to permit of the manual manipulation of said mechanism when the locking means is controlled by the coin.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a front elevational view of a coin-controlled vending apparatus embodying main features of my invention. Fig. 2 is a horizontal sectional view taken on the line 2 2 of Fig. 1. Figs. 3 and 4 are vertical sectional views taken, respectively, on the lines 3 3 and 4 4 of Fig. 1. Fig. 5 is an enlarged sectional view illustrating in detail the coin-controlled locking mechanism of the apparatus. Fig. 6 is a top or plan view of Fig. 5. Fig. 7 is a side elevational view, enlarged, of the mechanism for rotating the delivery wheel or drum of the apparatus and of the feed or guide roll and accessories for guiding the articles into the pockets of the delivery wheel or drum, said drum and its stops being shown in dotted lines. Fig. 8 is a top or plan view of Fig. 7; and Fig. 9 is a vertical section, enlarged, of the delivery end of the case of the apparatus, the delivery wheel or drum, and the guide-roller.

Referring to the drawings, *a* represents a closed chamber or compartment of the apparatus wherein the box or case *b*, containing the articles B to be sold, is placed. The box or case *b* has its bottom open to permit of the feeding by gravity of the articles B downward to the delivery or discharge end of the chamber or compartment *a*. This discharge end of the chamber *a* is open and inclines forward toward the front of the apparatus. Below the chamber *a* is arranged a shelf *d*, having a back extension or wing *d'*, extending upward toward the chamber *a*. Below the shelf *d* is arranged the drawer or box *e*, into which the coins fall after releasing the delivery mechanism hereinafter described and in which they are collected. One of the side walls of the compartment *a* is cut away, as at *a*<sup>2</sup>, to receive the coin-chute *a*<sup>3</sup>. The chute *a*<sup>3</sup> is secured to the inner face of a cover-plate *a*<sup>4</sup>, which is fastened to the exterior of the cut-away side wall of the compartment *a*, as clearly illustrated in Figs. 1, 2, and 3. The chute *a*<sup>3</sup> has a slotted entrance end *a*<sup>5</sup>, located at the front of the apparatus.

In the drawings the apparatus is illustrated as especially adapted for the vending of cylindrical objects, such as cigars, cigarettes, or other objects. For this purpose in the space between the forwardly-inclined discharge end of the compartment *a* and the shelf *d* is adapted to rotate with a step-by-step movement a wheel or drum *f*, having in its periphery a series of pockets *f'*, shaped to conform to the shape of the article to be vended. This drum or wheel *f* serves as a closure for the discharge end of the compartment *a* when the drum or wheel *f* is at rest and a means for conveying the articles singly from the compartment *a* to the shelf *d* at each partial revolution of the drum or wheel *f*. The mechanism for rotating the drum or wheel *f* with a step-by-step movement is controlled by a lever-arm *g*, pivoted intermediate of its ends, as at *g'*, to one of the sides of the compartment *a* and having its body slotted, so as to surround the axis *f*<sup>10</sup> of the drum *f* and to oscillate freely without impinging upon said axis. The inner end of this lever-arm *g* is normally depressed by a spring *g*<sup>2</sup>, extending from the arm *g* to a fixed part of the apparatus, preferably the base, as illus-

trated in Fig. 4. The free outer end of the lever-arm  $g$  projects beyond the front plate  $a^5$  of the machine in the form of a key or handle  $g^3$ . The front portion of the arm  $g$  oscillates in a slot  $a^6$ , formed in said plate  $a^5$ , as clearly illustrated in Figs. 1, 2, and 4. The drum or wheel  $f$  has at one of its ends a series of pins  $f^2$ , equally spaced and alined with and corresponding in number to the pockets  $f'$  of the drum or wheel  $f$ . On this end of the drum  $f$  the pins  $f^2$  serve as a means for transmitting the oscillating movement of the lever-arm  $g$  into a step-by-step movement of the wheel or drum  $f$ . In the normal position of the lever-arm  $g$  a pin  $f^2$  rests beneath the tailpiece  $g^4$  of a pawl  $g^5$ , pivoted to the arm  $g$  within the chamber  $a$ . When the lever-arm  $g$  is operated by the depression of the key  $g^3$ , the pawl  $g^5$  through its tailpiece  $g^4$  presses upon one of the pins  $f^2$  and turns the drum or wheel  $f$  a predetermined distance. When the spring  $g^2$  returns the arm  $g$  to its normal position, a next succeeding pin  $f^2$ , which rests above the pawl  $g^5$ , rides over said pawl and depresses its tailpiece  $g^4$  until the pin slips under the tailpiece  $g^4$ , as clearly illustrated in full and dotted lines in Fig. 7. A dog or stop-pawl  $g^6$  at the rear of the arm  $g$  prevents a retrograde movement of the wheel or drum  $f$  by normally resting under a third pin  $f^2$  in series, while a stop projection  $g^7$  on the arm  $g$  immediately below the tailpiece  $g^4$  of the pawl  $g^5$  limits the forward movement of the wheel or drum  $f$  by resting under one of the pins  $f^2$ , when the arm  $g$  returns to its normal position and said pin has passed under the tailpiece. The rear end of the pawl  $g^5$  is adapted to impinge upon the axis  $f^{10}$  of the drum and to thereby lock the tailpiece against the pin  $f^2$  during the downward movement of the lever  $g$ . A stop-pin  $g^{14}$  limits the throw upward of the tailpiece  $g^4$ . Backward movement of the pawl  $g^5$  is prevented by a stop or lug  $g^{15}$ . This step-by-step movement of the drum or wheel  $f$  is normally prevented by a locking device adapted to be released only when a coin  $A$  is passed into and through the chute  $a^3$ . To accomplish this, the other end of the drum  $f$  is provided with a second series of pins  $f^{12}$ , corresponding in number and position to the pins  $f^2$  at the opposite end of the drum  $f$ . One of the pins  $f^{12}$  rests normally upon the cam projection  $h$ , carried at the front weighted end of a lever  $h'$ , the rear end of the lever  $h'$  being slotted, as at  $h^2$ , and forming normally a closure for the lower end of the chute  $a^3$ . The lever  $h'$  is pivoted intermediate of its ends in the side wall  $a^4$  of the compartment  $a$  and is so weighted that the inner end  $h^3$  is normally pressed against the chute  $a^3$ , as illustrated in detail in Figs. 5 and 6. When now a coin  $A$  drops through the chute  $a^3$  and onto the slotted end  $h^2$  of the lever  $h'$ , the weight of the coin will tilt the inner end of the lever downward and raise its weighted end and also the cam  $h$ .

This cam  $h$  will ride under and clear the pin  $f^{12}$ , thus freeing the drum or wheel  $f$  and permitting of its step-by-step movement, as hereinabove described. The weight of the coin tilts the lever  $h'$  until the lever reaches the position indicated in dotted lines in Fig. 5, wherein the weight extends inward beyond the pivotal support for the lever  $h'$ , when the coin  $A$  drops from the slotted end  $h^2$  of the lever into the box or receptacle  $e$ . When now the drum  $f$  is rotated, a pin  $f^{12}$  after passing the cam  $h$  will strike against a projection  $h^4$ , formed on the lever  $h'$ . The inner side of the pivotal point and the movement of the pin  $f^{12}$  and drum  $f$  will now move the inner end of the lever  $h'$  upward until the weighted end passes outward beyond the pivotal point and restores the lever  $h'$  to its normal position. When so restored, the cam  $h$  rests under the next succeeding pin  $f^{12}$  of the drum  $f$  and locks said drum until the passage of a coin  $A$  through the chute  $a^3$  again releases the cam  $h$  from the pin  $f^{12}$ . The cylindrical objects  $B$  collect in the bottom of the compartment  $a$  and rest upon the periphery of the drum  $f$  in a more or less disordered condition. To properly guide or feed separate objects  $B$  into a pocket  $f'$  and to prevent more than the required number from entering said pockets, there is provided a feed and guide roller  $m$ , arranged above the drum and adapted to be rotated in the same direction as the drum  $f$  rotates. To accomplish this, to one end of the roller  $m$  is secured a ratchet  $m'$ , and adjacent to the ratchet freely oscillates upon the roller  $m$  a plate  $m^2$ , carrying a pawl  $m^3$ , engaging the teeth of the ratchet  $m'$ , so as to turn the ratchet  $m'$  and roller  $m$  in the required direction. An arm  $m^4$ , projecting from the plate  $m^2$ , is connected by a link  $m^5$  with the key end  $g^3$  of the lever-arm  $g$ . When now said key  $g$  is depressed to actuate the drum, the link  $m^5$ , arm  $m^4$ , and plate  $m^2$  operate through the pawl  $m^3$  and the ratchet  $m'$  to thereby turn the roller  $m$ . This movement of the roller  $m$  serves, as clearly illustrated in Figs. 7, 8, and 9, to properly guide the cylinders  $B$  into the pockets  $f'$  of the drum  $f$ . If required, the pockets  $f'$  may be arranged to carry two cylinders  $B$  or any number, as required, in which instance the drum  $f$  when manipulated will deliver the contents of one pocket  $f'$  upon the insertion of the proper coin, no matter whether the pocket  $f'$  carries one, two, or more objects.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vending apparatus, a drum having in its periphery a series of pockets, a compartment having a discharge end closed by said drum, a feed and guide roller arranged within the compartment adjacent to and above the delivery side of the drum, a mechanism for rotating said drum with a step-by-step movement in one direction, and means

controlled by said mechanism for turning the roller in the same direction during the rotation of the drum.

2. In a vending apparatus, a delivery drum  
5 or wheel having in its periphery a series of pockets for the reception of the articles to be vended, and a guide or feed roller located adjacent to and above the delivery side of the drum or wheel, in combination with mechanism for rotating said drum or wheel with a  
10 step-by-step movement in one direction, and

means controlled by said mechanism for correspondingly rotating said feed or guide roller.

In testimony whereof I have hereunto set 15  
my signature in the presence of two subscribing witnesses.

JOHN MILLER JACOBS.

Witnesses:

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THOMAS M. SMITH.