

(No Model.)

2 Sheets—Sheet 1.

J. A. WILLIAMS.
VENDING MACHINE.

No. 566,433.

Patented Aug. 25, 1896.

Fig. 1.

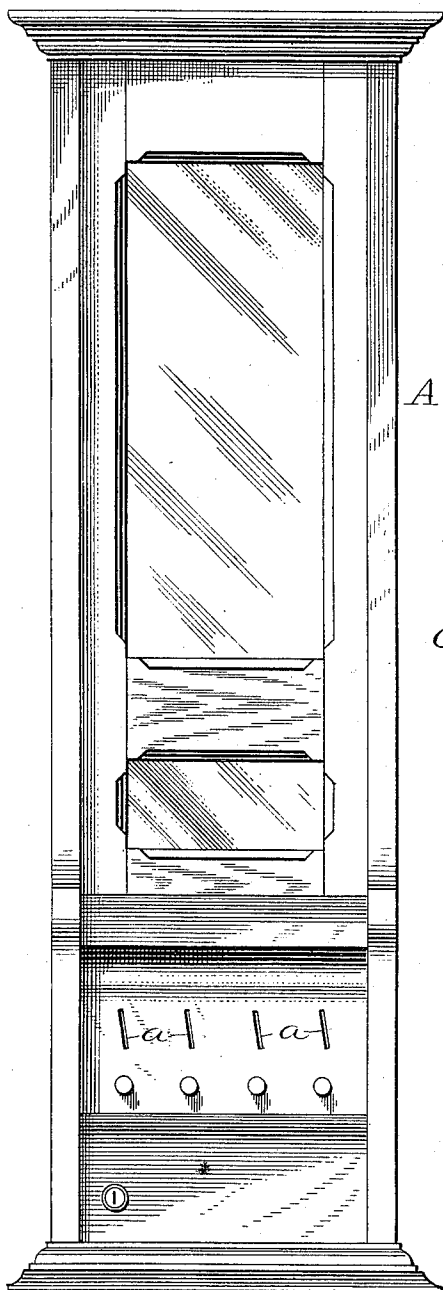


Fig. 2.

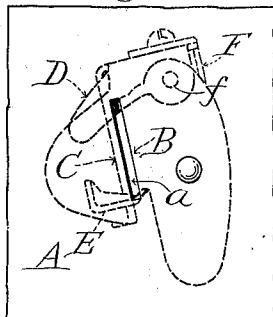


Fig. 5.

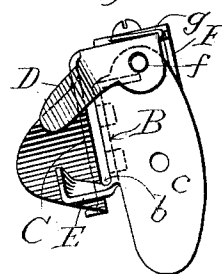


Fig. 3.

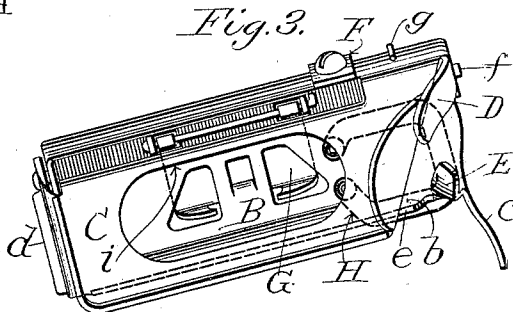
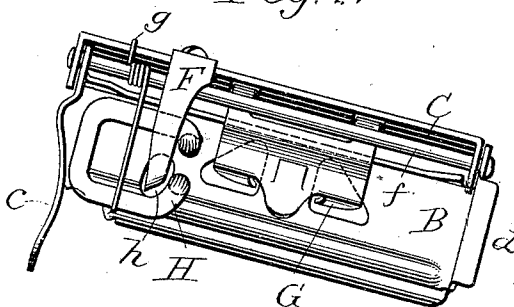


Fig. 4.



Attest
C. C. Burdine
D. C. Burdine

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by Dodget & Sons
Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

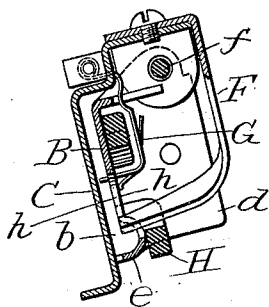


Fig. 7.

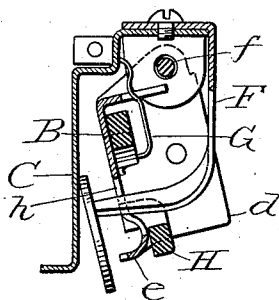
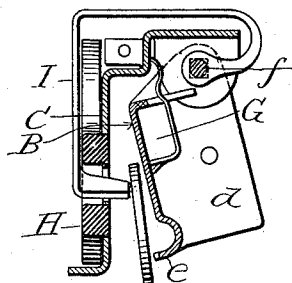


Fig. 8.



Attest,
W. C. Burdine
D. C. Burdine

Inventor,
John A. Williams,
by *Dodget Sons*
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UNITED STATES PATENT OFFICE.

JOHN A. WILLIAMS, OF BROOKLYN, NEW YORK.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,433, dated August 25, 1896.

Application filed February 13, 1896. Serial No. 579,173. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WILLIAMS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Vending Apparatus, of which the following is a specification.

My invention relates to that class of coin-controlled vending-machines in which is used a coin detector or tester consisting, essentially, of a fixed plate and a movable plate inclined at such an angle that a coin traversing the space between them shall rest against the movable plate, with means for throwing said movable plate away from the fixed plate.

The invention consists in combining with such a coin detector or tester a magnet the poles of which are brought to or nearly to one side of the coinway, so that they may attract and hold any magnetic body introduced into said way.

It further consists in combining with the tester and the magnet a throw-off or stripper to detach the magnetic body from the magnet-poles and eject it from the chute or coinway. This ejector may, and preferably will be, an existing part of the tester or detector, though it is entirely practicable to employ for the purpose a special ejector additional to the detecting or testing devices proper. In practice it is usual to employ several of these coin-detectors side by side, together with mechanism to be set or rendered operative by the passage of the coin to a given point, said mechanism serving to eject or deliver the article to be sold. I have therefore represented the invention embodied in such a machine, omitting, however, the ejecting or dispensing mechanism, which forms no part of my invention and is susceptible of considerable variation.

In the drawings annexed, Figure 1 is a front elevation of a vending-machine suitable for vending packages of chocolate, gum, or the like, showing the oblique coin slots or inlets. Fig. 2 is an enlarged view showing the coin-slot and in dotted lines the mechanism directly back of it; Fig. 3, a side elevation of the coin-detector by itself from the left face; Fig. 4, a similar elevation from the opposite side; Fig. 5, an outer end view of the coin-

detector; Figs. 6 and 7, transverse sectional views with the movable plate in its two positions, and Fig. 8 a view illustrating a modification.

Vending-machines of various types have heretofore been provided with magnets for arresting disks and washers of iron or other magnetic material introduced for the purpose of setting or connecting the delivery mechanism; but though many efforts have been made to apply such magnetic arresters to the particular type of coin-detector here shown and described it has never before been successfully accomplished so far as I am aware. This coin-detector is highly efficient without the magnet for the arrest of other than magnetic bodies, but it has hitherto been deemed impracticable to combine the magnet with the arrester and provide means for detaching the attracted body from the magnet without displacing or interfering with other parts. I accomplish the desired result in a very simple and efficient manner, which I will now explain.

A indicates a cabinet or receptacle of any approved form and dimensions, adapted to contain the goods to be dispensed and provided at the lower front part with a series of coin-slots *a*, set at a slight inclination from a vertical position. Immediately back of each slot *a* is a coin tester or detector comprising a fixed plate B and a swinging or movable plate C, the faces of which are normally parallel, but separated a distance sufficient to produce a free runway *b* for a coin or token of the predetermined value and class. Each coin-tester is so set with reference to its slot *a* that the coinway *b* shall be in alinement therewith and its mouth or outer end just back of the slot.

The fixed plate B is formed with end plates *c* and *d*, by which to attach it to the frame of the cabinet, and with a laterally-projecting flange or lip *e* along its lower edge to form a track or support for the coin from one end of the plate to the other. To permit the escape of disks, washers, and like articles thinner than the intended coin or token, the lip or flange *e* is cut away along its outer edge except a short distance at or near each end, the lateral inclination of the plate causing the

disk or article to run naturally toward the outer edge or cut-away portion.

Movable plate C is advisably flanged along its lower edge and ends to give it stiffness and is bent over laterally at its top, as shown in Figs. 5, 6, and 7. The top leaf or bent-over portion of plate C is formed with ears at its ends, which are connected by a hinge pin or rod *f* with similar ears formed upon plate B, and a spring *g*, coiled about the hinge-pin *f* and bearing at its ends against the respective plates, serves to press the swinging plate toward the fixed plate and to hold its inner face against the edge of flange or lip *e*.

D indicates an arm or guard formed upon or attached to the swinging plate C and extending across the upper side of coinway *b* sufficiently to preclude the entrance of the prescribed coin or token without first lifting said arm and thereby swinging plate C away from fixed plate B. At the lower side of the coinway, and directly below arm D, is an arm E, which is slightly inclined to cause the coin to keep over next the fixed plate B in entering the coinway.

F indicates a stop-arm or arresting device attached to the movable plate C and extending down on that side of plate B opposite that at which the movable plate is located. The lower end of this arm is bent at a right angle, or thereabout, and its nose or end stands normally within an opening *h* in plate B and flush with the wall of coinway *b*, as shown in Fig. 6. The office of this arm F is to stop anything introduced into the coinway *b* to prevent it from being projected too rapidly through the coinway and from being thus caused to pass other arresting or testing devices to be described. It will be seen that as the spring *g* is normally under compression, and as the movement of plate C due to lifting of the arm D increases this compression, there is considerable tendency to shoot the coin forward as it passes beneath the arm D, and hence the necessity of the stop-arm F. As soon as the coin or token passes arm D plate C swings inward and bears against lip or flange *e*, the coin or other device meanwhile resting upon the full portion of said rib. In thus returning to its normal position the plate C carries stop-arm F out of the coinway and permits the coin, token, or device to roll downward along the rib or flange *e*, which inclines slightly downward from the coin-slot *a*, as shown. As seen in Fig. 3, the movable plate C is cut out from a point just above the line of rib or flange *e* to a point just below the height of a proper coin or token resting upon said rib or flange and throughout the greater portion of its length, so that a disk, washer, or like device of smaller diameter than the prescribed coin or token leaning against said plate C shall be without support as soon as it reaches the opening *i* thus made and fall laterally from the coinway unless so thin as to fall through the space between the cut-away edge of rib or flange *e* and the plate C.

G is a gravitating detent or arrester designed to catch and hold washers or perforated disks introduced into the coinway, said device consisting of a pendulous plate suspended in rear of fixed plate B and having two spurs or prongs which project through openings in said plate and extend across the coinway *b*, as in Figs. 3 and 6. A washer arrested by stop-arm F, and consequently rolling somewhat slowly along the coinway, will force back the very light detent, the prong of which will, however, promptly swing inward through the opening of the washer when said opening comes opposite the prong. If the first spur or prong fails to arrest it, the second one will do so.

To arrest disks of magnetic metal of the same dimensions as the prescribed coin or token, I apply to plate B a small permanent magnet H, which may be conveniently located, as shown in Fig. 4, its ends being bent laterally and carried through openings in the plate, as shown in Figs. 3, 4, 6, and 7. The magnet may be retained in place by one arm of spring *g* bearing against it, as shown, or in any other convenient way. In locating the magnet care is taken to bring its poles to such a point that anything adhering to it shall extend directly into the path of the stop-arm F, so that upon the introduction of another coin or token, or anything which shall cause the plate C to move away from plate B, said arm shall strike the adhering disk or article and force it from said poles. The precise location and manner of supporting the magnet is relatively unimportant, provided only it be in such relation to arm F, or to an arm carried by the movable plate C, that such arm shall remove adhering articles from its pole or poles. Obviously a bar-magnet may be used, though a horseshoe is preferred.

While I prefer the arrangement above described, it is quite feasible to arrange the magnet in different ways. Thus it may be carried by the swinging plate C, as in Fig. 8, and a stripper-arm I, carried from the plate B, or by any fixed support arranged in position to remove any body held by the magnet.

Having thus described my invention, what I claim is—

1. In a coin-detector, the combination of a stationary plate inclined laterally and provided with a projecting lip or flange to sustain a coin; a movable plate arranged by the side of the fixed plate and constituting with said fixed plate and flange a coinway; a magnet having its pole or poles in close proximity to said coinway; and an arm connected with the movable plate and serving to detach bodies held by the magnet as the movable plate recedes from the fixed plate.

2. In a coin-detector comprising a fixed flanged plate, a movable plate and an intervening coinway; a magnet having its pole or poles in close proximity to the coinway; and an arm connected with the movable plate and adapted to move across the coinway as the

movable plate recedes from the fixed plate; whereby it is adapted to perform the double function of dislodging any article adhering to the magnet, and acting as a stop for a coin
5 entering the coinway.

3. In combination with fixed plate B provided with flange *e*; movable plate C; magnet H; and arm F connected with movable plate

C, substantially as and for the purpose set forth. 10

In witness whereof I hereunto set my hand in the presence of two witnesses.

JOHN A. WILLIAMS.

Witnesses:

HORACE A. DODGE,
WILLIAM W. DODGE.