

(No Model.)

J. A. WILLIAMS.
VENDING MACHINE.

No. 581,383.

Patented Apr. 27, 1897.

Fig. 1

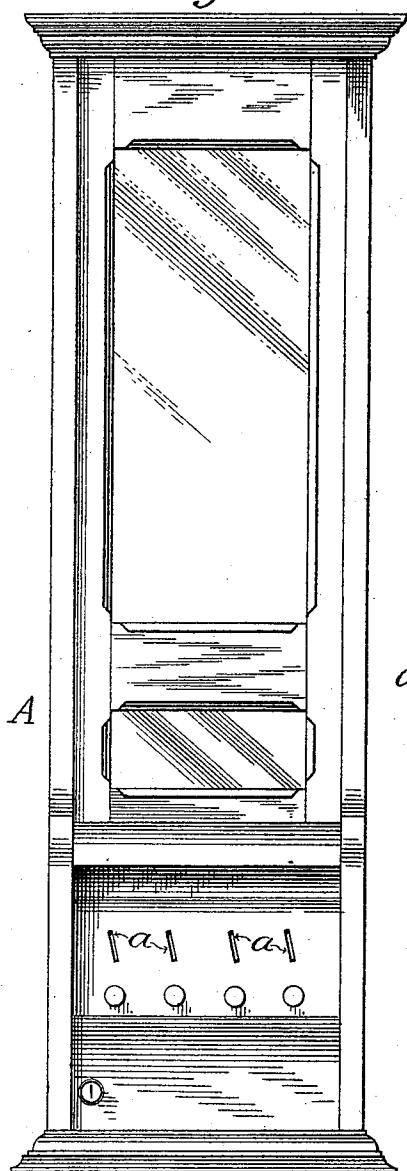


Fig. 2

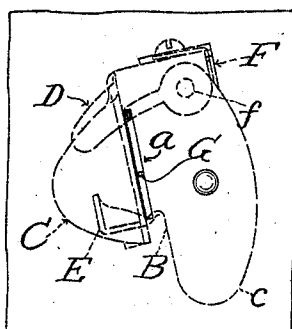


Fig. 5.

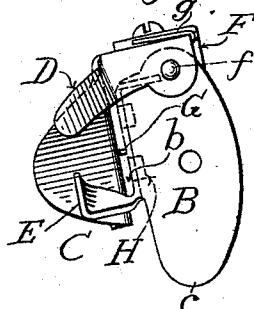


Fig. 3.

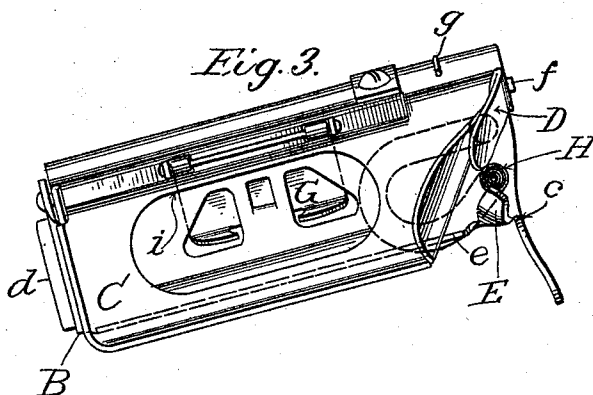


Fig. 4.

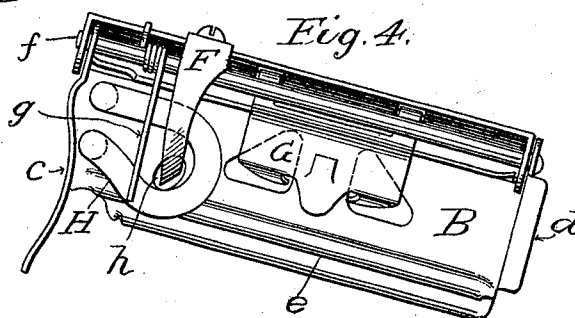


Fig. 7.

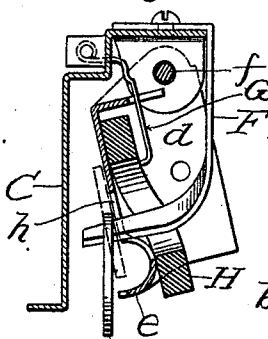
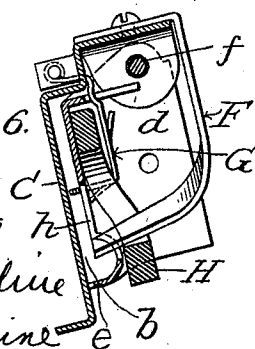


Fig. 6.



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D. Burdine
D. Burdine

Inventor,
John A. Williams,
by Dodget Sons. Attys.

UNITED STATES PATENT OFFICE.

JOHN A. WILLIAMS, OF BROOKLYN, NEW YORK.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,383, dated April 27, 1897.

Original application filed February 13, 1896, Serial No. 579,173. Divided and this application filed July 27, 1896. Serial No. 600,617. (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-Machines, 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, near the coin slot or inlet, so that they may attract and hold any magnetic body introduced into said way, and so, also, that an incoming coin shall act as a stripper to remove adhering matters from the magnet. 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.

Machines of the class above indicated have

been somewhat extensively introduced into use, and with results more or less satisfactory, but as constructed up to the present time they have not been provided with any means for arresting and throwing out disks of iron or magnetic material of the same dimensions as the coin or token for which the machine is designed. The desirability of equipping this style of machine or this coin-detector with such a device has long been appreciated, but its adoption has been prevented by the seeming impracticability of dislodging the arrested body and discharging it from the coin way or chute without permitting it to enter and set the ejecting mechanism.

In my Patent No. 566,433, dated August 25, 1896, I have described a construction whereby the desired result is attained through the use of a stripper-arm. The construction here described causes the incoming coin to strip the magnet.

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 run-way *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 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 to the fixed plate D 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 I locate as shown in Figs. 3 and 4, its ends being bent laterally and carried through openings in the plate, as shown. The magnet may be retained in place by one arm of spring *g* bearing against it, as shown, or in any other convenient way.

Under the present construction the poles of the magnet are located at a point near the forward or receiving end of the coinway and in advance of the stop-arm F in order that they may attract and hold any magnetic bodies from the moment they enter the coinway. As a result of this arrangement a magnetic disk or washer introduced into the coinway will be held just within its receiving end and directly in line with the coin-slot until an incoming coin or other disk or washer bears against its rear edge, pushing it from the magnet-poles and permitting it to drop through the then open side of the coinway.

It will be seen that by this construction I dispense with the use of a stripper-arm as such, though it is desirable to retain the arm F for its original or primary purpose of a stop-arm to prevent the action of spring *g* from projecting the disk, washer, or other object through the coinway without affording opportunity for the detecting devices to act upon it.

This case is a division of application Serial No. 579,173, filed February 13, 1896, patented August 25, 1896, No. 566,433.

Having thus described my invention, what I claim is—

1. In a coin-detector, the combination of a coinway, and a magnet located beside said coinway and within such close proximity to its inlet that an incoming coin, disk, or washer shall bear directly against and detach any magnetic body held by the attractive force of the magnet.

2. In a coin-detector, the combination of a laterally-inclined fixed plate provided with a coin-sustaining lip or flange at its lower edge; a movable plate located by the side of the

fixed plate and constituting therewith a coin-
way; and a magnet having its pole or poles
in close proximity to the coinway and in such
proximity to the coin slot or inlet that mag-
netic bodies adhering to the magnet-poles
shall be engaged and removed by an incoming
coin, disk, or washer.

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

JOHN A. WILLIAMS.

Witnesses:

CHAS. H. BARTLETT,
J. F. WILLICOMBE.