

J. H. EGAN.

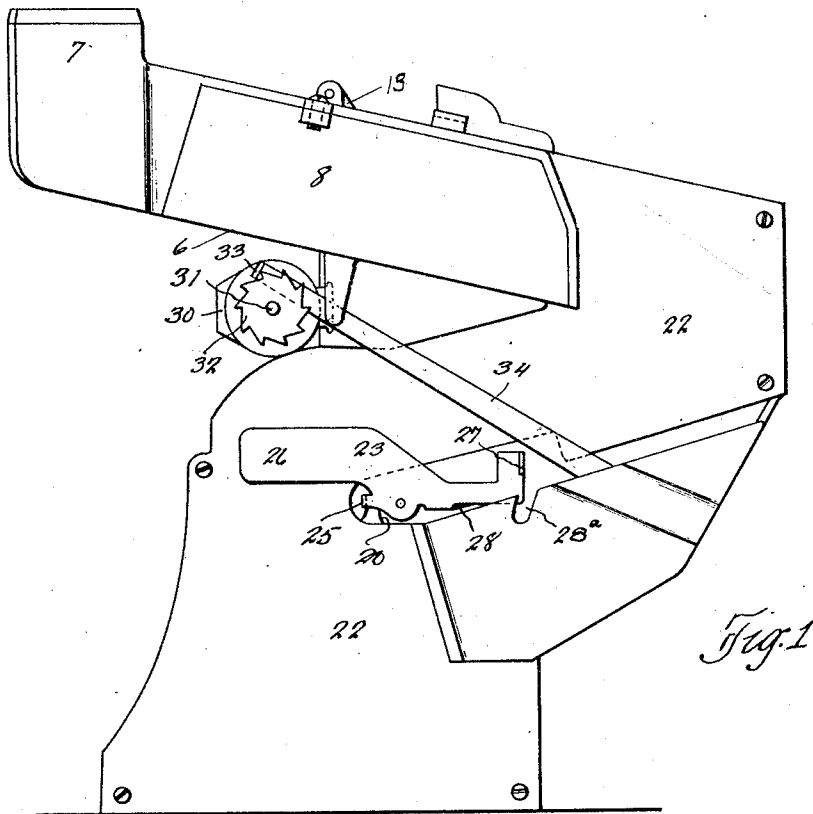
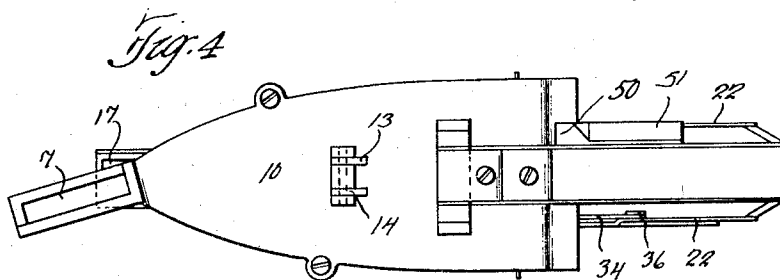
VENDING MACHINE.

APPLICATION FILED NOV. 8, 1919. RENEWED OCT. 25, 1920.

1,365,469.

Patented Jan. 11, 1921

3 SHEETS—SHEET 1.



Inventor.

James H. Egan

BY *E. E. Tew*
Att'y

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3 SHEETS—SHEET 2.

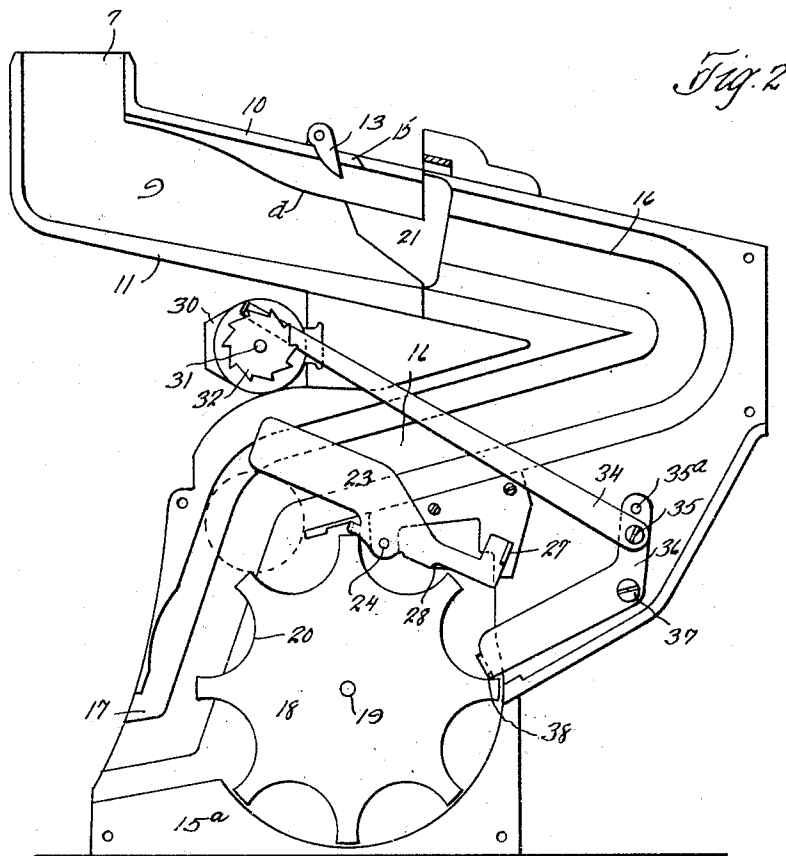
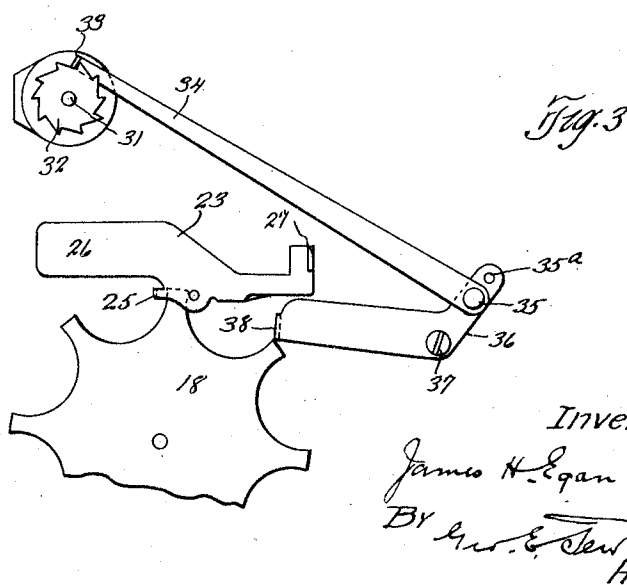
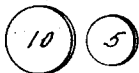


Fig. 10



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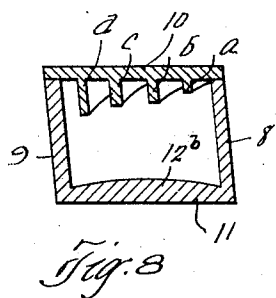
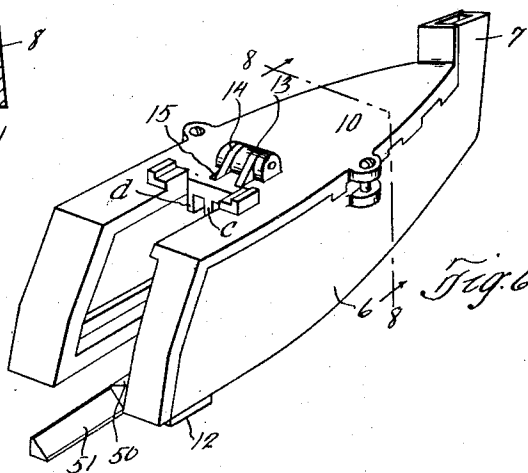
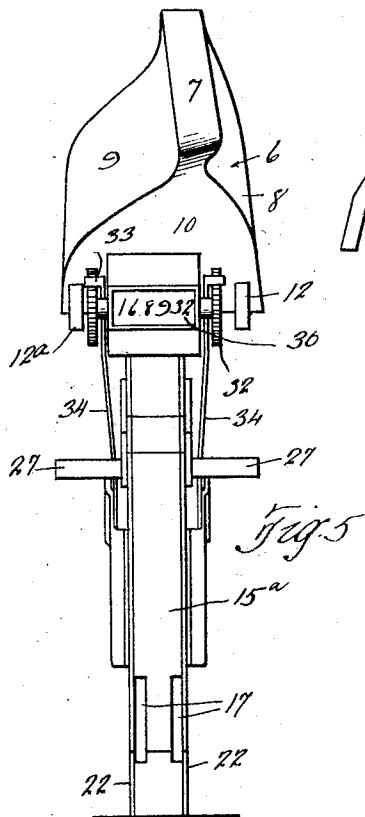
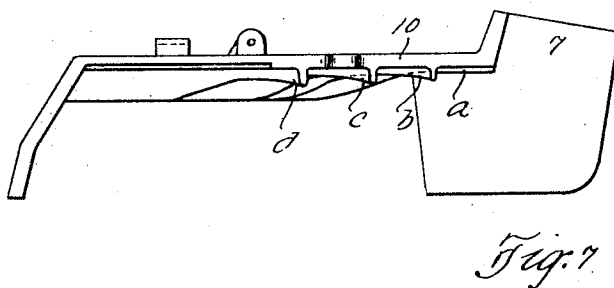
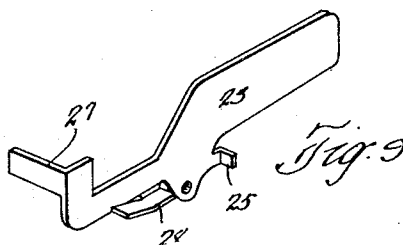
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3 SHEETS—SHEET 3.



Inventor
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By *E. E. Tew* Att'y.

UNITED STATES PATENT OFFICE.

JAMES H. EGAN, OF PHILADELPHIA, PENNSYLVANIA.

VENDING-MACHINE.

1,365,469.

Specification of Letters Patent.

Patented Jan. 11, 1921.

Application filed November 8, 1919, Serial No. 336,648. Renewed October 25, 1920. Serial No. 419,487.

To all whom it may concern:

Be it known that I, JAMES H. EGAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to check delivering machines of that type in which a check or token is delivered upon the deposit of a particular coin, and the machine will be found particularly useful at soda fountains and other places where it is customary for the purchaser to buy a check which is surrendered when the goods are delivered. Instead of employing a cashier for the purpose of selling checks, the present machine may be installed.

It will also be found useful in other places where checks are delivered in exchange for money, and parts of the machine may be used to separate coins of different values.

Primarily it may be stated that the present machine is adapted to receive either coins or checks in the same slot opening, and its first operation is to separate the coins and checks and deliver the same to different places. The second operation occurs when a coin is deposited, and the machine will separate coins of different values, and these coins will then operate a delivery device or mechanism which will deliver a check corresponding to the value of the coin. The machine thus embodies a selective separating mechanism and a delivery mechanism, the latter being coin operated.

In the machine as disclosed in the accompanying drawings, I provide for a separation of five different items, a five cent piece, a one cent piece, a ten cent piece, a ten cent check or token and a five cent check or token. The diameters of these are all different and the differences of diameters control the selective separation. The five cent piece has the largest diameter; the five cent check the next; the ten cent check the next; the one cent piece the next, and finally the ten cent piece.

The machine also includes a register which is operated upon the delivery of the checks.

In the accompanying drawings, Figure 1 is a side elevation of the mechanism; Fig.

2 is a similar view with one of the side plates removed; Fig. 3 is a view similar to Fig. 2, with the parts in different position; Fig. 4 is a top view; Fig. 5 is a front elevation; Fig. 6 is a perspective of the separating device; Fig. 7 is a detail of the top or upper part of the separating device; Fig. 8 is a section on the line 8—8 of Fig. 6; Fig. 9 is a perspective of the tripping device of the delivery mechanism; Fig. 10 is a perspective of the checks or tokens.

The separating mechanism comprises a hollow casing 6, the sides of which converge or incline to an inlet slot or neck 7, into which the coins or checks are dropped. The side walls 8 and 9 of this casing lean slightly toward one side as shown in Fig. 8 and the separating action is effected by a series of ribs depending from the top 10 of the casing. These ribs are indicated at *a*, *b*, *c* and *d*, and they lead respectively to different parts of the delivery mechanism, forming runways down which a coin or check will roll.

Assuming now that a five cent piece, which is the coin of largest diameter, is deposited in the slot 7, it will roll down the bottom 11 of the casing and will be caught by the first rib *a*, and will follow down the side 8 of the casing and be delivered through a spout or slot at 12. If a five cent token is deposited it will pass under the rib *a* because it is of less diameter than the space between the said rib and the bottom 11 of the casing, and will be caught by the rib *b*, by which it will be guided to its appropriate place in the delivery mechanism. If a ten cent token is deposited, it will pass the ribs *a* and *b*, and be caught by the rib *c* and guided to a different place. And similarly a one cent piece will be caught by the rib *d*, while a ten cent piece, being of smallest diameter, will pass all of the ribs and roll against the side wall 9, to its proper place.

In the earlier tests of such a separating device, I found that the smaller coins had a tendency to fall sidewise or "lie down" and choke the device, but by numerous experiments, I found that this tendency was corrected by making the top surface of the bottom 11 convex, as indicated at 12'. This convexity is very slight, but for some reason, of which I am not certain, the coins or metal checks, when rolling down this convex

runway, will remain on edge and will follow the respective ribs to the proper outlet, this action being assisted by the lean or inclination of the side walls 8 and 9 of the device.

At 13 and 14 are two pivoted detents which work through slots 15 in the top 10 of the casing and which serve to prevent the five and ten cent checks from being run back out of the slot 7 by tilting the machine forward.

As stated, the machine is adapted to deliver a ten cent check when a ten cent piece is inserted and a five cent check when a five cent piece is inserted. When a one cent piece is inserted, no check delivery occurs but the penny is thrown out without operation of the delivery mechanism.

For delivery of the five and ten cent checks respectively, the machine is made double. That is, it has two delivery mechanisms assembled on opposite sides of a single support. A ten cent check will be directed to one mechanism and a five cent check to the other, and the ten cent and five cent pieces respectively will be delivered in such manner as to produce a single operation of said mechanisms respectively. Inasmuch as both delivery mechanisms are the same in construction, a description of one will answer for both.

The central supporting member or plate of the delivery mechanism is indicated at 15^a and it consists of a casting which stands edgewise and on top of which the separating case 6 is mounted. At each side this supporting plate has formed therein a runway 16, the upper end of which is in line with the passage between the ribs *a* and *b* on one side and *b* and *c* on the other side, so that the five and ten cent checks are delivered by the separating device to the respective runways. In Fig. 2, the runway shown happens to be the five cent runway. This runway leads downwardly, with a bend, to a discharge outlet 17, from which the check is delivered when the device is operated.

Rotatably mounted in a recess in the plate or frame 15 is a star wheel 18, which turns on a pivot 19 by the weight of the checks. This star wheel has recesses 20 corresponding in size and shape to the check. The points of the star wheel project partly across the runway 16 and they act to stop a check in its passage down the runway, but when the wheel turns, the check is allowed to drop to the outlet opening 17. A finger 21 at the top of the runway, acts as a guide to deliver the checks from the separating device into the runway. The runways 16 and wheels 18 are inclosed or covered by side plates 22, fastened to the sides of the middle plate 15^a.

The turn of each wheel is controlled by an escapement, these escapements being actuated respectively by the five and ten cent

coins. Each escapement consists of an irregular lever 23, pivoted at 24 to the side of the plate 15^a. On one side the lever has an offset finger or projection 25, which is so located as to engage in front of one of the teeth 70 of the star wheel as shown in Fig. 3, the extending end 26 of the lever acting as a weight to assist in dropping the lever to engagement. On the opposite side, the lever has a projecting finger 27 which projects through a slot 28^a in the side plate 22 and extends outwardly or sidewise a sufficient distance to bring it in line with the slot outlet 12 at one side of the separating device or the slot outlet 12^a at the other side of the separating device. Obviously, the outlet for the five cent piece will be on the side having the five cent checks. When the coin falls from said outlet, it will strike the finger 27 and tilt the lever 23 to the release position, as shown in Fig. 2, permitting the star wheel controlled thereby to turn and deliver the check.

The coin then drops into the casing (not shown), in which the machine is inclosed.

The lever 23 is also provided with a cam finger or projection 28 which is located in the line of movement of the points of the star wheel, and as the wheel turns one of these points will engage said cam with a wiping action and will then tilt the lever so that the finger 25 will catch the next tooth in advance, as shown in Fig. 3 and thus stop further turn of the wheel until the escapement is again released by the deposit of another proper coin.

I also provide a register for indicating the number of operations. This register is indicated at 30 and at each end its shaft 31 is provided with a ratchet wheel 32, adapted to be engaged by hook 33 at the end of a pawl 34, which is connected at its other end by a pivot pin 35 to a lever 36, which is pivoted at 37 to the supporting plate 15^a, and has a finger 38 projecting into position to be engaged by one of the teeth of the star wheel. When the wheel turns, the lever is rocked on its pivot and this pulls the pawl 34, whose finger 33 engages a tooth of the ratchet 32 and turns the register shaft. After the point of the star wheel passes the finger 38, as shown in Fig. 3, the lever 36 drops back and the pawl 34 rides up and drops over the next tooth of the ratchet wheel for the next operation. The register counts the number of operations in numbers of nickels, but as one side is a ten cent operation, I arrange to turn the ratchet wheel two steps when that side is operated. This is done by making the pivot connection 35 of the pawl 34 at an outer point 35^a on the lever 36. This increases the extent of the movement of the pawl 34 so that on the back slip it will ride over two teeth of the ratchet 32 and so when operated will turn the register two steps. Hence, on the five cent side, the pawl 34 is

connected to the lever 36 at the point 35, while on the ten cent side it is connected to said lever at the point 35^a.

In operation, the attendant will first load 5 the machine by depositing a number of five and ten cent tokens or checks in the slot 7, and the separating device will pass these tokens respectively to the runways 16 at the opposite sides of the middle plate, where 10 they will be caught and held by the respective star wheels. Assuming that the purchaser desires a five cent check, he deposits a five cent piece in the slot 7. This will be guided through the casing 6 in the manner 15 above described and will be discharged at the outlet 12 and will drop thence onto the finger 27, releasing the escapement in the manner above described and permitting the star wheel to turn one step and deliver one 20 check through the opening 17. The escapement, after one check is passed, will catch and stop the star wheel, the parts being reset for the next operation. If a customer desires a ten cent check, the same operation 25 will take place except that the ten cent piece deposited will be delivered to the opposite side of the machine, from which a ten cent check will be delivered. If a penny is deposited in the slot 7, it will be caught by the 30 rib 6 and run out of the separating device through the opening 50, where it will strike a deflector 51 and be thrown entirely clear of the machine.

It will be appreciated that the separating 35 device could be used for the separation of coins or the like independently of the delivery mechanism, but the two when combined form an apparatus which will be found very useful in selling five or ten cent articles or 40 checks of different values. It has the advantage that all the checks and coins are de-

posited at the same place, thus avoiding confusion and a duplication of machines for different values. The principles of the invention may be embodied in machines of different types and no limitation in this respect 45 is to be understood.

I claim:—

1. A separating device for coins and the like, comprising an elongated casing forming a runway for the coins and having an inlet slot at one end and a plurality of outlets at the other end, the top of the casing having a plurality of ribs depending into the runway and increasing in depth successively from one side of the runway toward 55 the other and the upper surface of the bottom of the runway being convex.

2. A separating device for coins or the like, comprising an inclined runway having 60 an inlet slot at one end and a plurality of outlets at the other end, said runway increasing in width toward the latter end, and the top of the runway having a plurality of ribs increasing in depth successively from 65 one side of the runway to the other.

3. A separating device for coins or the like, comprising an inclined runway having an inlet slot at one end and a plurality of outlets at the other end, said runway increasing in width toward the latter end, and 70 the top of the runway having a plurality of ribs increasing in depth successively from one side of the runway to the other, the bottom of said runway being convex in cross 75 section.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. EGAN.

Witnesses:

NINA POWELL,
WM. R. JACKSON.