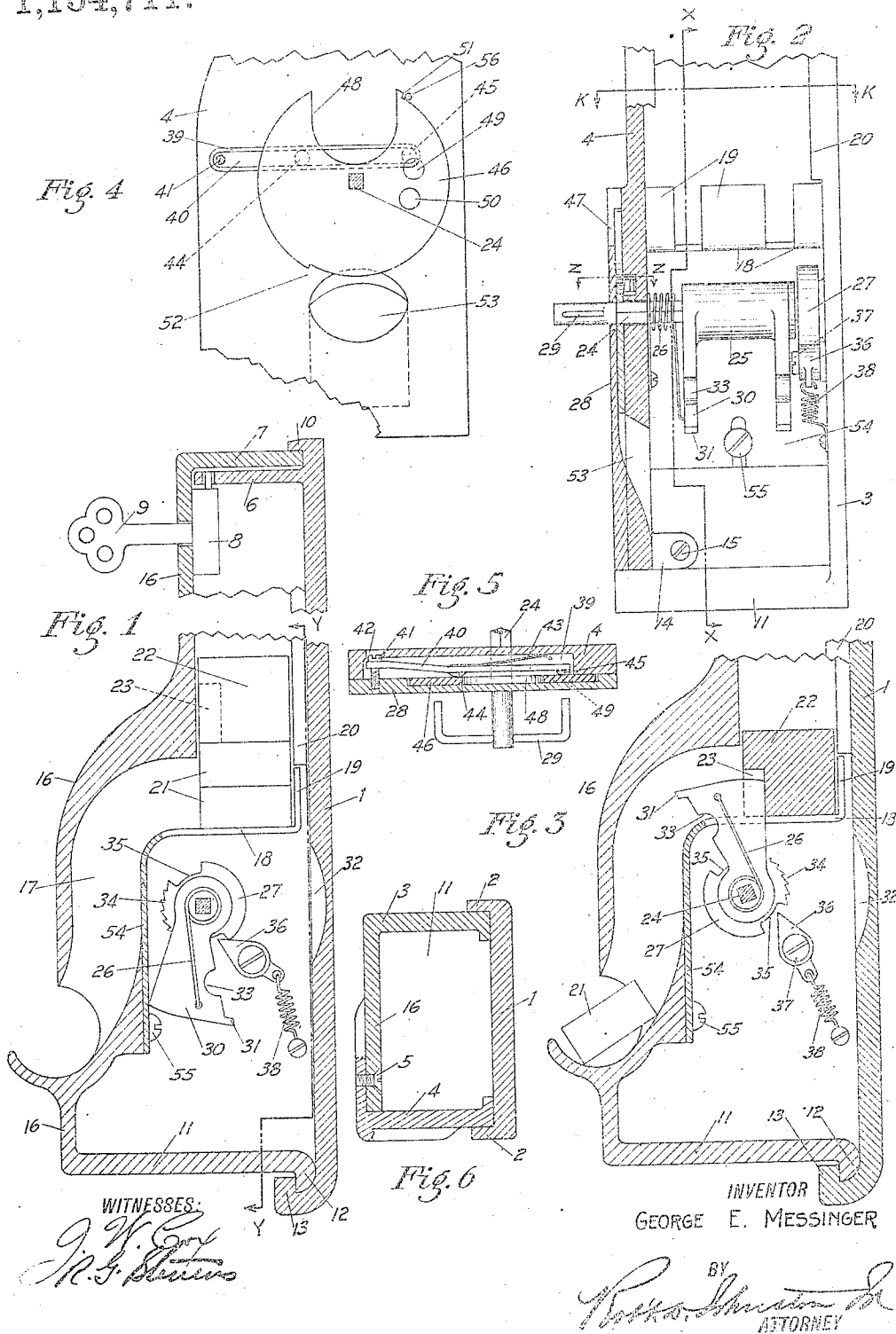


G. E. MESSINGER.
 COIN VENDING MACHINE,
 APPLICATION FILED DEC. 28, 1914.

1,154,711.

Patented Sept. 28, 1915.



UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

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Application filed December 28, 1914. Serial No. 879,300

To all whom it may concern:

Be it known that I, GEORGE E. MESSINGER, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Coin Vending-Machines, of which the following is a specification.

My invention relates to a coin vending machine and its objects are to safeguard against the use of spurious coins and to prevent the operation of the machine when the articles contained therein are exhausted.

A further object of my invention is to devise means which will reject and return spurious coins and prevent the introduction of other coins until a spurious coin has been removed.

A further object of my invention is to enforce the complete operation of the machine after the proper coin has been introduced and before another coin can be inserted.

With these several objects in view, my invention comprises the details of construction and arrangements of parts which in their preferred embodiments only, are hereinafter more particularly described and illustrated in the accompanying drawings which form a part of this specification, and in which:—

Figure 1 is a vertical sectional elevation taken on the line $x-x$ of Fig. 2. Fig. 2 is a vertical sectional view on the line $y-y$ of Fig. 1. Fig. 3 is a view similar to Fig. 1, showing the rejecting mechanism at the completion of its travel and locked. Fig. 4 is a detail view showing the coin plate and its lock in initial position. Fig. 5 is a detail view taken on the line $z-z$ of Fig. 2, showing the coin mechanism in plan. Fig. 6 is a cross section on the line $k-k$ of Fig. 2.

Similar reference numerals refer to similar parts throughout the drawings.

I have shown my invention mounted within a casing formed of three longitudinal sections comprising a back 1 having angled side flanges 2, and two side members 3 and 4 which are both angled in cross section and adapted to overlap and to be connected together by screws 5. The rear edges of the sides are adapted to be lapped by the back flanges 2 and the back is provided with a forward extending tongue 6 which projects

under the top 7 of the casing and is adapted to be engaged by a lock 8 controlled by a key 9. The back has a top flange 10 which overlaps the top 7. The top 7 and bottom 11 of the casing are formed integral with the side member 3 and the bottom has at its rear edge a down turned lip 12 which is adapted to interlock with the upturned lip 13 of the back member 1. The side member 4 of the casing is provided at one of its forward bottom edges with a flange 14 which is connected by a screw 15 to the front wall 16 of the casing which is a part of the frame member 3. The side walls 3 and 4 are increased in thickness at the base of the machine and a discharge chute 17 is provided in the front wall 16, having its upper end disposed horizontally and having as extensions of its rear or bottom wall integral spaced bars 18 which extend to the rear of the back and have upturned ends 19 which project under rear guide flanges 20 for the pocket that receives the stack of articles 21 to be delivered. These articles are preferably in the form of square packages of gum, matches, or other commodities and are charged into the rectangular chamber provided in the upper portion of the casing, the lower article resting upon the arms 18. A weight 22 follows the articles down and is provided in its forward face with a notch 23 for the purposes hereinafter described.

Below the bars 18 I dispose a transverse rocker shaft 24 having its intermediate portion squared and I mount fast thereon the oscillatory ejector 25. This is mounted on the shaft between a coiled spring 26 on one side and a ratchet wheel 27 on the other side. The outer end of the shaft projects through the side wall of the casing and through a plate 28 forming the outer wall of the compartment in which the coin control mechanism is disposed and which plate is riveted or otherwise attached to the side plate 4. The shaft, where it passes through the plate 28, is rounded and takes a bearing therein. A handle 29 is attached to the shaft end to turn same.

The ejector 25 consists of an elongated sleeve having thereon two integral spaced segment shaped ejector arms 30 disposed in parallelism and adapted when swung upwardly to pass between the plates 18. These ejector arms are similar and are shown in

side elevation in Fig. 1, where it will be seen that they are provided at their article engaging corners with a lip 31 which swings up through a groove 32 in the back member 1 and engages the rear edge of an article 21. These ejectors are also notched out at 33, which notches in ejecting position, see Fig. 3, swing over the inner wall of the chute 17. One end of the spring 26 is connected to the casing and the other to the outer end of an arm 30 and it serves to hold the latter normally in retracted position, as shown in Fig. 1.

The ratchet 27 is fast on the shaft 24 with the ejector and comprises a set of ratchet teeth 34 which extend about a part of its periphery, the toothed portion terminating at each end in a notch 35. The periphery of the ratchet wheel between the notches 35 and on the opposite side from the teeth 34 is plain. A pointed detent 36 is pivotally mounted on the stud bearing 37 screwed into the wall 3 and a spring 38 also connected to said wall and to the rear end of the detent 25 to hold it in neutral position, that is to say, pointing toward and in position to engage the teeth 34.

I provide in the side wall above the shaft 24 a transverse narrow groove 39, see Figs. 4 and 5, and in this groove is mounted transversely a detector bar 40, which is mounted at one end on a screw 41, the head of which is set opposite an opening 42 in the wall 4 to give access thereto for the purposes of adjustment. On the inner side of the bar I solder or otherwise fasten a flat spring 43 which bears against the inner wall of the groove 39 and forces the free end of the bar 40 outwardly. This plate carries on its outer face a spud 44 disposed to the left of the shaft 24 (Fig. 5) and a detent 45 disposed to the right of the shaft and at the free end of the bar. The spud 44 is rounded while the detent 45 is adapted to arrest the rotation of the coin disk 46 in the manner that will now be described.

Fast on the shaft 24 is mounted a circular coin disk 46, which is seated in the coin chute formed in the plate 28 and, as shown in Fig. 2, it projects above the open front side of the coin slot 47, see Fig. 2. The coin disk 46 is provided with a notch 48 in its periphery which stands opposite the coin slot when in coin receiving position and which is semicircular in its lower part and has the exact dimensions of the coin to be used. The disk 46 has on its right side a pair of openings 49 and 50 spaced from the shaft center the same distance of the detent 45. The spud 44 is also spaced approximately the same distance from the shaft center as the center of the coin when seated in the pocket. The periphery of the disk is reduced on one side to form spaced stop shoulders 51 and 52 which engage a stop 56 and when the

disk has been given a complete ejecting movement the coin in the notch comes opposite to and falls through an inclined slot 53 in the side member 4 and is delivered thereby into the bottom of the casing which forms the till.

The inner wall of the chute 17 is preferably formed by a vertically adjustable plate 54 which is slotted and held by a screw 55, passing through said slot, at the desired height so that it will support the articles so that but one will be ejected at a time.

In operation, after assembling the casing, charging it and locking the sections by lock 8, the several articles will be supported one above the other on the arms 18 and will be forced downwardly by the weight 22. When a correct coin is inserted in the slot 47, the handle 29 on the shaft 24 is grasped and turned to the left. In doing this the coin, the inner face of which stands flush with the inner face of the disk 46, will ride under the spud 44 without thereby causing any substantial change in the position of the detector bar 40 or permitting it to shift into a position where its detent 45 will engage either opening 49 or 50 in the disk. When the plate has been turned fully to the left, the coin is ejected and the ejector arms 30 will have engaged the lower article and forced it out through the chute 17. At the same time the dog 36 will have been shifted from engagement in the notch 35 and will have ridden over the teeth 34 and stand free in the other notch 35, see Fig. 3. On reverse movement the dog 36 is rocked downwardly and permits the ratchet disk and the arms 30 to be swung back down to initial position bringing the other notch 35 opposite the dog and permitting it to right itself therein. After a coin has passed the detection devices, the dog 37 engages the ratchet teeth 34, preventing any reverse movement of the ejector either by the spring or the operator, and making it necessary to complete the turning of the ejector before a new coin can be inserted. If a coin that is too thin is inserted, the spring tension on the bar 40, as soon as the coin comes under its spud 44, will force the bar inwardly and its detent 45 will engage in the hole 49 and arrest the travel of the disk. Also if there is an indentation or opening at or near the center of the coin, the latter will pass under the spud 44 and permit the detent to move inwardly and engage in the opening 50. The detent operates to arrest the travel of the disk while the coin is exposed and this gives notice that no other coin can be inserted.

When the last article has been ejected the weight 22 drops and its notch 23 permits it to fall behind the ejector arms 30 and hold the coin disk locked in position to close the slot and prevent the insertion of a coin until the device is refilled and reset.

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

5 A spurious coin detecting means for coin vending machines, comprising a coin chute, a rotatable disk in said chute having a coin notch in its periphery, said chute having its outer wall cut away to leave partially exposed a coin seated in said notch, a detector arm disposed transversely across the disk notch when in its coin receiving position, a projection on the arm disposed in the path of the coin and adapted to engage the coin as soon as said disk is moved and be-

fore the coin has moved from under said side opening in the chute, a detent on the arm, a plurality of stops arranged on the disk and all adapted when engaged by the detent to arrest the disk while the coin is exposed, and means to yieldingly hold the detector arm to its work, substantially as described.

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

GEORGE E. MESSINGER.

Witnesses:

R. D. JOHNSTON, Jr.,

NOMIE WELSH.