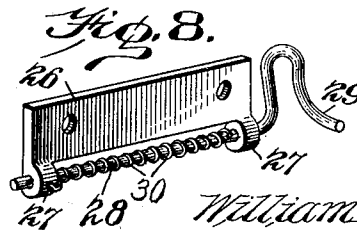
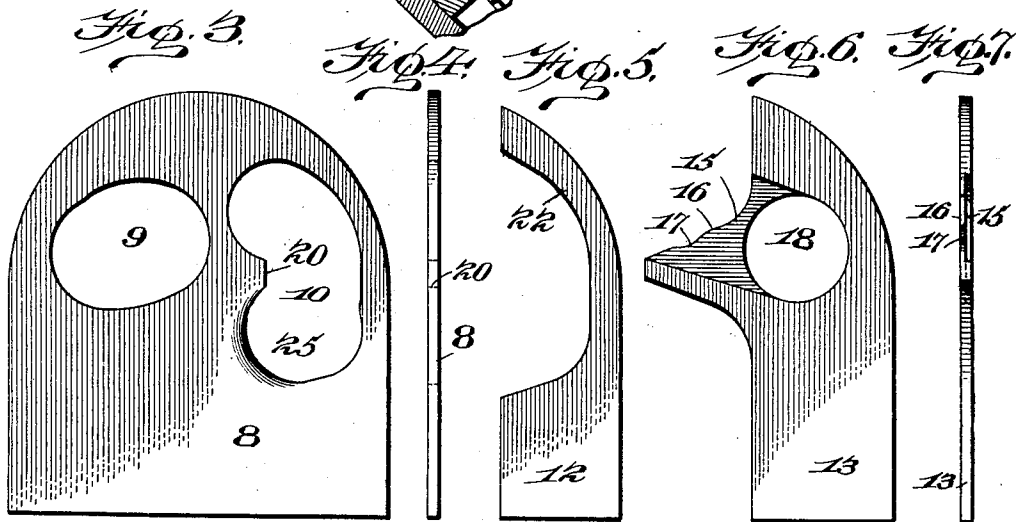
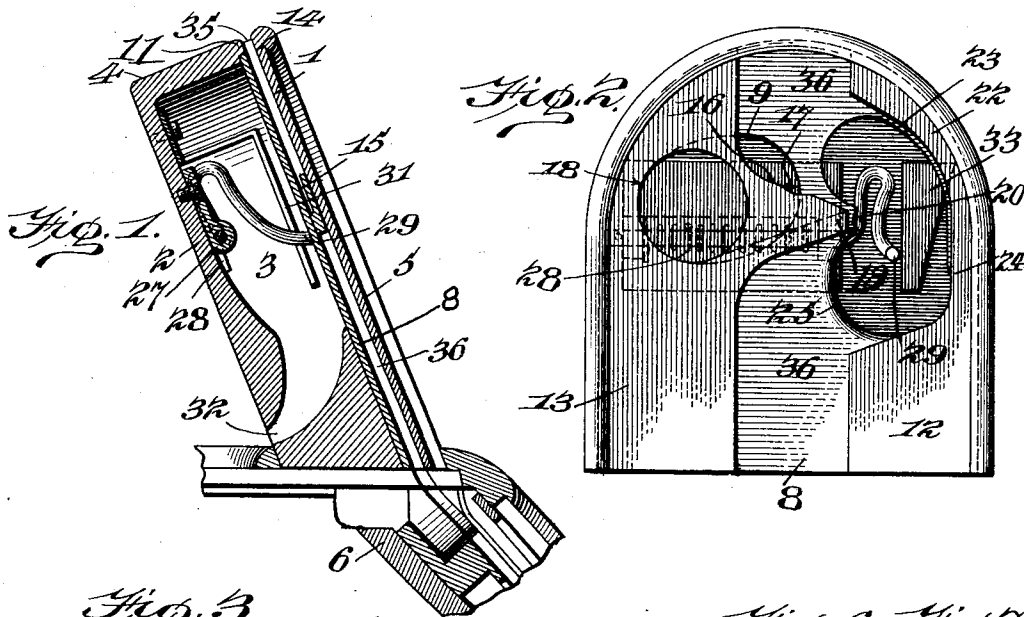


W. L. DECKER.  
COIN SEPARATOR.

APPLICATION FILED JAN. 10, 1903.



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# UNITED STATES PATENT OFFICE.

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## COIN-SEPARATOR.

**SPECIFICATION** forming part of Letters Patent No. 782,832, dated February 21, 1905.

Application filed January 10, 1903. Serial No. 138,563.

*To all whom it may concern:*

Be it known that I, WILLIAM LLOYD DECKER, a citizen of the United States, residing at New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coin-Separators, of which the following is a full, clear, and exact specification.

My invention relates to that class of machines wherein articles or packages of goods are stored in a manner whereby they may be withdrawn or vended upon the deposit of a predetermined coin or check, and particularly to that part of the apparatus into which the coin or check is placed and through which it must pass before actuating the machine; and my invention has for its prime object to separate out all spurious, as well as undersized coins and annular blanks or dummies, and all objects that differ in size, weight, or shape from the coin prescribed.

Further objects of my invention are to provide a slotway that is constructed interiorly to prevent the stuffing of cardboard, wire, or other like material down said slotway to a point where it can reach and operate or interfere with the coin-actuating mechanism; to provide a main coin guide or slotway having the plane of its greater transverse dimension inclined to the vertical and horizontal, so that the token is supported by one of its flat faces, the guide or slotway providing a chute of such slope and size as to permit of the proper descent of a predetermined coin to a point where it can be brought into working position; to provide in said chute at suitable points intermediate of its ends a supplemental or switching branchway terminating in a discharge-opening for tokens that are undersized in both thickness and diameter and an escape-opening, arranged directly in open relation with said chute, constructed and arranged to arrest and reject any token undersized in diameter, and to provide a further interrupting-passage in said main chute having a spring-controlled arm that is pivotally adjusted and adapted to project through the last-named passage into the line of travel of a descending token in said

chute to form a pivotal or yielding support that will not respond when contacted with by the flat face of a proper coin in its quick descent past said escape-opening, but which will respond to the weight of a heavier spurious token and to a washer or ring or any object other than a prescribed token, which will cause the spring-controlled arm to tip back and throw it out.

My invention will now be fully described in connection with an article-delivery machine in which it serves as a mouthpiece and coin-receiving means arranged in operative connection with the coin-actuating mechanism, and the novel features of my invention will be particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar numerals of reference indicate corresponding parts in all the views.

Figure 1 represents a vertical section of my improved coin-separator, showing it mounted in proper working position on the top front ledge of the machine with its slotway in alignment or register with that of the machine to which it is attached. Fig. 2 is front view of said coin-separator with the front wall or cover thereof removed. Fig. 3 represents a front view of the back plate which forms or constitutes one member of the coin-selective device. Fig. 4 is an edge view of Fig. 3. Figs. 5 and 6 represent rear views of the plate members which are employed in conjunction with the rear or back plate to provide a slotway. Fig. 7 is an edge view of the plate shown in Fig. 6. Fig. 8 represents a detached and enlarged view of a spring-controlled arm that is employed, in connection with the main slotway, to eliminate washers and rings, spurious coins, &c.

Referring to said drawings by numerals, 1 represents the shell or casing that comprises inclosing rear and side walls 2 and 3, which terminate at the top 4 to form a spherical-shaped box with front opening, the front edges of which are flanged to provide for a rim or bead 5. The casing is preferably made of light castings and is suitably secured to the sup-

porting edges of the framework 6 of the supporting-machine 1 to maintain said casing in an inclined or tilted position, as shown in Fig. 1. The rear wall 2 of the casing is provided with a discharge-opening 32, that is arranged with reference to the interior of the casing and the top of the machine, upon which it is mounted, to allow of the immediate discharge of any improper or undersized coin or check employed in an attempt to operate the vending-machine.

8 represents the back plate provided with an elliptical discharge-opening 9, arranged in an inclined position, and an elongated coin-escape opening 10, irregular in outline. Said plate when supported upon the internal ledge or seating 11 divides the casing into two chambers or portions, which have communication only through the said openings in the plate. Arranged flatwise against and superimposed on said plate 8 are the spacing-plates 12 and 13, which are spaced apart to form, by reason of the contours of their contiguous edges and the underlying back 8, a tortuous main slotway of a proper depth and breadth to accommodate for the descent of a properly sized coin therethrough when dropped or deposited therein. The front wall of the slotway is completed by inserting in place the face or cover plate 1, that slidably fits in the groove 14 in the front bead 5. The plate 13 is cut away to form a groove 15 in one of its faces, said groove being inclined, the top wall 16 of the groove being of course much thinner than the balance of the plate, and the edge of the wall 16 will be hereinafter referred to as the "tread" or "coin-support," said support extending a distance within the lines of and immediately below the mouth of the chute. This top wall 16 is provided with a notch or depression 17, that serves to slightly arrest the descent of the coin or other token introduced. A circular discharge-opening 18 is formed at the bottom of the groove 15. As will be seen, the plate 13 is also provided with a nose or projection 19, serving to make the coin-chute tortuous; but said nose does not extend when in proper position to the wall of the elongated opening, thereby forming a ledge, as at 20, which forms a support for the coin in the chute. The plate 12 has an upwardly-extending arm 22, which is of such width that when secured on top of the plate 8 it does not extend to the edge of the elongated opening 10, and thereby forms a ledge 23 on one side of the opening; but said ledge terminates at 24, whereby the coin-slot is wider than the prescribed coin, or rather the coin has no support at this point in the slot other than one that will be hereinafter described. In this connection it will be noted that the wall of the elongated opening 10 is beveled or rounded, as at 25.

Attention will now be called to the special devices for arresting and rejecting unfit coins and checks, spurious coins, &c.

As shown, the main slotway is located in a general inclined plane and takes a course downward in a curved or zigzag direction, the first turn therein being directly beneath the inlet-opening and against the concave edge 16, which all descending coins are bound to strike by reason of its position. Arranged to join the main chute at that point is the supplemental or switching chute 15, which extends laterally in a downward direction, where it terminates and registers in open relation with the coin-discharge opening 9 of the back plate. Said supplemental slot is of a width to coincide, substantially, with that of the main chute or slotway, but which by reason of its depth will not accommodate the predetermined coin when it is placed in proper relation to the back plate to form a slotway, but will, on the other hand, allow of the reception and descent of all thinner coins or blanks of the same diameter dropped into the main slotway.

26 is a plate secured to the rear wall 2 in a suitable manner and provided with depending lugs 27, in which is journaled a shaft 28, one end of which is bent upward to form a spear-point 29, which extends up through the elongated slot 10 to a point about on the same plane as the top of the plate 8.

30 is a coiled spring positioned around the shaft 28, one end of which is secured to said shaft, while the other end is secured to one of the lugs 27, as shown in Fig. 8.

The primary function of the point 29 is to test the weight of tokens introduced into the machine that happen to pass the supplemental slotway, and thus determine the path of the token after its introduction into the machine.

31 is a cover or shed secured to the rear wall 2 and extending downward over the shaft 28 to a point below the discharge-opening of the slot 15, thereby guiding all coins from the slot 15 to the discharge-opening 32. To the rear and at the bottom of the casing is another shed 33, also secured to the rear wall 2, but spaced apart from the shed 31 and positioned under the elongated slot or opening 10 to guide all tokens rejected from the main slotway toward the discharge-opening 32, the point 29 being located between the two sheds 31 and 33.

If a proper coin, token, or other object is introduced into the mouth 35 of the slotway 36, it will follow the slotway, first rolling on the thin edge 16, where it is retarded slightly by reason of engagement with the notch 17, and continuing its course will be supported at its edges by means of the ledge 23 and point 20 over the elongated opening 10 and upon leaving them will be balanced on the point 29 and projected by reason of its momentum

into the machine. Now should a coin of the diameter, but thinner than the prescribed coin be inserted, it will by reason of the general incline of the case slide on the bottom of the chute and drop into the slot 15, as will readily be understood, and be discharged from the machine through the opening 32, as the edge 16 will not afford a treadway or support for a thin coin. Now should a spurious or even a genuine but worn coin, a washer, or token other than the prescribed coin be inserted it will follow the path of the chute; but in the event of its diameter being less than the distance between the edge of the ledge and the point 20 it will fall through the elongated opening 10, while spurious coins and other improper tokens will pass beyond this point, but will be arrested or speared by the point 29, whereupon the point will respond to the weight of the spurious coin and other improper tokens by turning on its shaft to permit the improper token to escape laterally through the opening 10, thence out of the machine, whereas the spring of point 29 permits a genuine nickel to pass by resisting deviation of the latter from its path sufficiently to send it on its way through the main chute to the machine.

Having thus described my invention, what I claim is—

1. In a coin-selector a coin-chute having the plane of its greater transverse dimension inclined to the vertical and horizontal so as to support a coin by its flat face throughout the length of the chute, except at one interrupted point, in combination with a plurality of passages leading from said interrupted point and pivoted selecting means in the plane of the bottom of the chute at said point, of less area than the chute, so as to leave a surrounding space, and maintaining the direct course of the coin but yielding to permit the deflection of spurious tokens.

2. The combination with a coin-chute having the plane of its greater transverse dimension inclined to the vertical and horizontal, and provided with an elongated opening in the wall thereof which supports the flat face of the coin, of a coin-support of varying widths disposed around said opening and pivoted means of less diameter than the chute positioned in said opening in the plane of the bottom of the chute leaving a space around it, and forming an auxiliary support of small area to direct the course of a coin or token introduced into said chute.

3. A coin-chute having an elongated opening intermediate its ends, of a width greater than the diameter of a prescribed coin, a coin-support extending laterally within the lines of said opening for a portion of the length of said opening and a pivoted coin-support projecting within the said opening to a point on a level with the rear wall of the chute to se-

lect and direct the course of a coin or token introduced into the machine.

4. The combination with a coin-chute having tortuous turns, a coin-support on the front wall of the chute to support coins of a prescribed thickness, of a supplemental chute under and in the same plane of said support in the direct course of coins introduced in the main chute to direct the course of thin coins.

5. The combination with a main coin-chute having tortuous turns, of a supplemental coin-chute of less depth than the main chute, opening through the lower wall of the main chute in line with the mouth of the main chute.

6. The combination with a main coin-chute having tortuous turns of a supplemental coin-chute of less depth than the main chute opening through the lower wall of the main chute, in line with the mouth of the main chute to receive thin coins, the prescribed coin being directed across the supplemental chute.

7. In a coin-separator, the combination with an inclined main slotway, that is provided with one or more zigzag courses, of a laterally and downwardly extending supplemental slotway that terminates in a discharge-opening, and that is of less depth and joined to said main slotway.

8. In a coin-separator, the combination with an inclined main slotway, that is provided with one or more tortuous turns, and that has at a suitable point between the curves forming said turns, an escape-opening that communicates with the outside of the case of said separator, of a supplemental slotway that joins said main slotway at an angle, and that is of less depth than the main slotway and joined thereto in a manner to present a contracted mouth thereto, substantially as described.

9. In a coin-separator, the combination with a main slotway, that is provided with an escape-opening intermediate of its ends, and a spring-controlled arm that is adjusted to present its free end normally through the escape-opening and on a line with the plane of the bottom of the main slotway where it is adapted to receive or spear coins or washers that are perforated, and which is adapted to operate to throw down the lodging washer, substantially as described.

10. The combination with a main coin-chute, of a supplemental slotway of the same width as the coin-chute, in the plane of the greater transverse dimension of the main chute, a ledge in the main chute above the supplemental chute along which objects of the proper thickness will travel while objects of less than the proper thickness will pass into the supplemental chute.

11. The combination with a main chute, of a supplemental slotway in the plane of the greater transverse dimension of the main chute, a ledge in the main chute, above the supplemental chute along which objects of

proper thickness will travel, while objects of  
less than the proper thickness will pass into  
the supplemental chute, a depression in said  
groove to retard the travel of an object and a  
5 selecting device in the main slot beyond said  
depression to direct the course of the object in  
the machine.

The foregoing specification signed this 8th  
day of December, 1902.

WILLIAM LLOYD DECKER.

In presence of—

JULIA AKERS WILSON,  
FRANK H. WAGGONER.