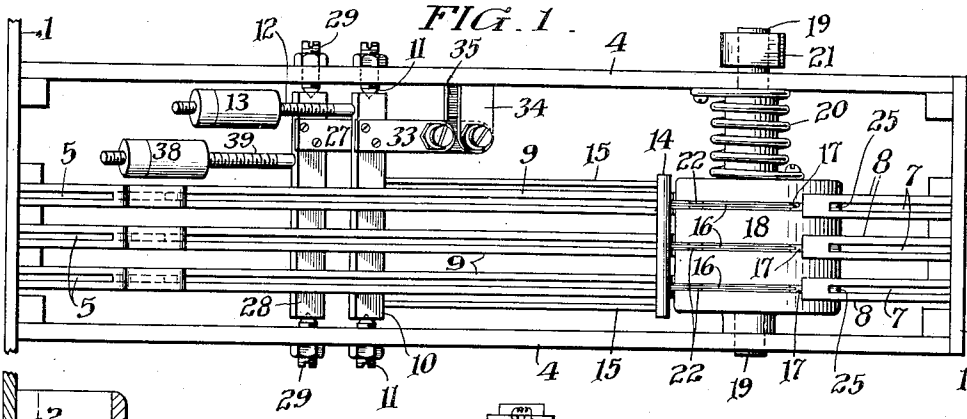
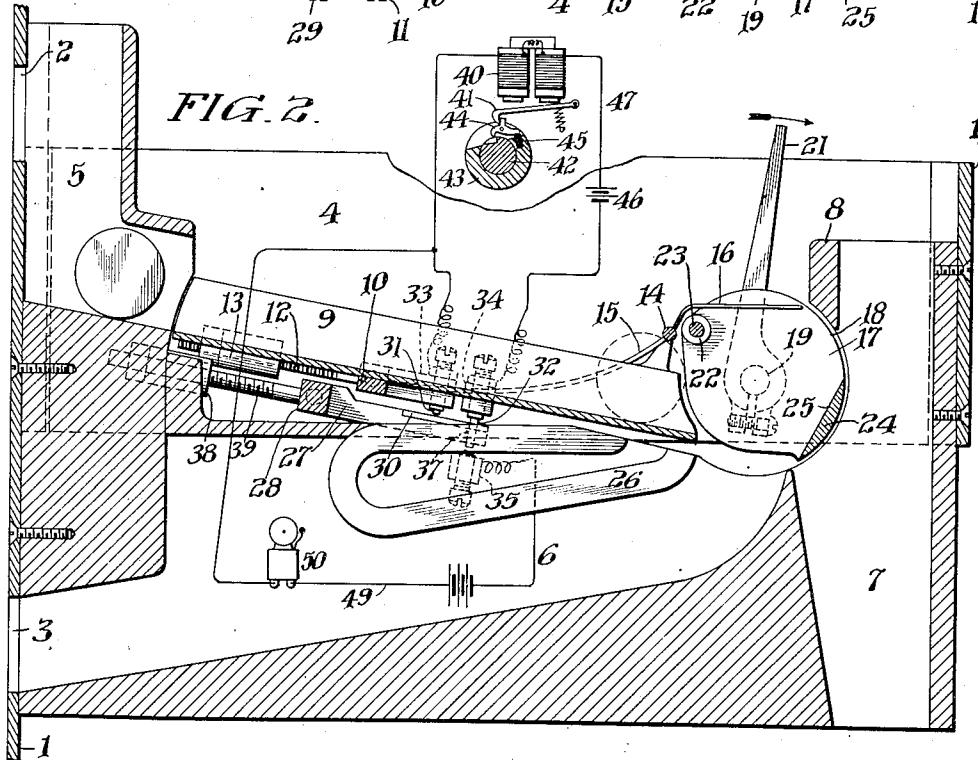
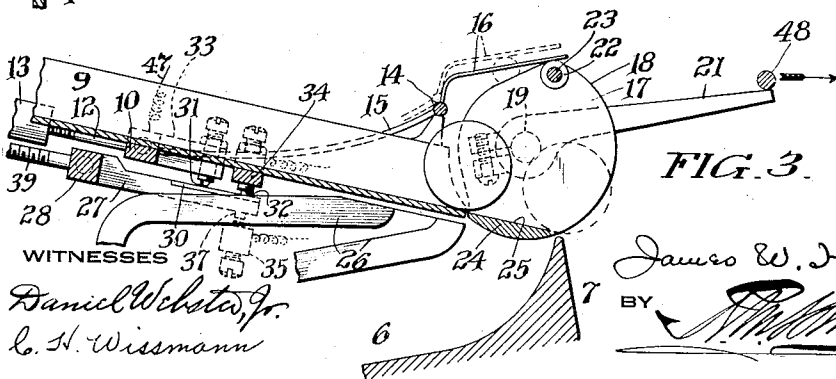


J. W. HUGHES.
 COIN CONTROLLED MECHANISM.
 APPLICATION FILED MAR. 2, 1915.

1,228,674.

Patented June 5, 1917.



UNITED STATES PATENT OFFICE.

JAMES W. HUGHES, OF HADDON HEIGHTS, NEW JERSEY, ASSIGNOR TO HUGHES-LIPPINCOTT COMPANY, A CORPORATION OF PENNSYLVANIA.

COIN-CONTROLLED MECHANISM.

1,228,674.

Specification of Letters Patent.

Patented June 5, 1917.

Application filed March 2, 1915. Serial No. 11,464.

To all whom it may concern:

Be it known that I, JAMES W. HUGHES, a citizen of the United States, and resident of Haddon Heights, county of Camden, and State of New Jersey, have invented an Improvement in Coin-Controlled Mechanism, of which the following is a specification.

My invention has for an object to provide a coin controlled automatic mechanism for actuating in a predetermined manner a device or devices for dispensing goods or articles of merchandise or the like, wherein a coin or coins of predetermined size and weight only may be employed to cause the proper operation of the device. The invention has for a further object to provide an automatic coin controlled mechanism which is so arranged and constructed as to eject bogus or false coins and thereby prevent proper operation of the dispensing or like mechanism. It has for a further object to provide a means for separating and selecting valid or proper coins from counterfeit or bogus coins or disks, whereby the former coins may be collected in a suitable receptacle, and while casting out and ejecting the latter coins and disks.

With the above and other objects in view, the nature of which will be more fully understood from the description hereinafter, the invention consists in the novel construction of coin controlled automatic mechanism as hereinafter more fully described and defined in the claims.

Referring to the drawings:

Figure 1 represents a plan of a coin controlled vending mechanism embodying my invention; Fig. 2 represents a sectional elevation of the same; Fig. 3 represents a sectional elevation of a portion of Fig. 2 showing the parts in a different position.

1 designates the casing of a vending machine having its front provided with openings 2 and 3, the former serving to receive the coin while the latter, under certain conditions, discharges and returns the coin to the outside of the machine. 4 designates the frame of the machine which is provided with a receiving coin chute 5, a discharge coin chute 6 leading to the opening 3, and a main coin chute 7 leading to the cash box or like receptacle for receiving and collecting the coins. In the machine here shown, by way of example, I have illustrated a three coin machine, that is, a machine which may

require the insertion of three coins in order to cause the mechanism to come into operation for the desired purpose, and it will, therefore, be understood that the casing 1, at the front, is provided with three openings 2 and three openings 3, these two sets of openings being preferably located one above the other. In connection with the main coin chute 7 it will be noted that the frame forming the said chute is carried upwardly within the casing, as shown at 8, above the point for receiving the coin for the purpose of alining with a similar chute (not shown), which discharges the coins from a similar control mechanism arranged in superposed relation; and there may, of course, be as many of these machines as desired, and the coins from each pass through the continuous main chute 7 to the cash box or boxes.

Since, in the present instance, the mechanism for receiving the coin from the chutes 5 is identical in construction, one of these mechanisms only will be described, but like parts in all will be given the same numerals of reference. 9 designates a coin runway or guideway fixed to a cross bar 10, which latter is delicately adjusted for pivotal movement by means of the adjustable pivot studs 11. These studs are threaded into the frame 4 at opposite sides and are provided with conical points adapted to seat in suitable countersunk openings in the ends of the bar 10, thus providing means for permitting the bar 10 and its runway 9 to rock in the required manner. 12 designates a threaded rod secured to the bar 10 and carrying a counterweight 13, which is adjustable thereon, as will be readily apparent, and serves as a means for maintaining the runway 9 in the proper position to receive a coin as it leaves the chute 5. In normal position of the parts, therefore, the coin is free to pass onto the tilting runway, and as the latter is normally inclined downwardly from the chute 5, the coin naturally travels to the opposite end or to the right, as shown in Fig. 2. The adjustment of the counterweight 13 is made with respect to the weight of the coins, so that the added weight of the latter upon this end of the runway causes the said runway to tilt and thus set into operation certain controlling mechanism. The coin or coins, upon reaching the end of the runway 9, strike against and are held by a stop bar 14 which is connected to a plurality of

spring arms 15 having their opposite ends secured to the pivoted bar 10 in order to make it possible for the stop bar 14 to move out of the path of the coin or coins at certain times, and thus release the coins, as will be later explained.

16 designates a plurality of arms, of any suitable nature, which extend upward and laterally from the stop bar 14 and pass respectively into suitable grooves 17 in the rock drum 18. The drum 18 is keyed or otherwise secured to a rock shaft 19 and is normally held in inoperative position by means of the torsion spring 20. A trip arm 21 is provided for causing operation of the drum and moving the parts in the proper manner. The grooves 17 are provided respectively with cam rollers 22 freely mounted for rotation upon the pin 23; and since the said cam rollers are located adjacent the arms 16 and are arranged to contact therewith during a movement of the drum, the said arms will be lifted and the stop bars 14 raised to release the coins. By reference to Fig. 2, it will be seen that the grooves or slots 17 in the drum are partially closed at one side, as shown at 24, in order to form a guideway 25, which is adapted to aline with the bottom of the runway 9 in one position and thus pass the coin from the runway into the main chute 7. 26 designates a magnet having its poles positioned adjacent the place where the coin comes to rest in the runway, so that in case an iron or steel slug is inserted, instead of a valid coin, the said magnet will cause the runway to have greater angular movement than normally required by the weight of a valid coin, and thereby operating preferably a type of alarm device. This action also causes the coin to move past the stop bar 14 and strike the guide surface 25, which remains in its normal position guarding the main chute 7, and the coin consequently is diverted into the discharge chute 6 and returns through the opening 3. 27 designates an arm fixed to a second cross bar 28, which is preferably pivoted at suitable points 29 in a manner similar to the pivoting of the cross bar 10. The arm 27 preferably extends beneath the runway and terminates in a bridge contact plate 30 which is below and in alinement with two contact plugs 31 and 32, the former being carried by the movable arm 33 fixed to the cross bar 10, while the latter is carried by a bracket 34 from the main frame 3 and is a fixed contact. 35 designates a contact plug carried by a bracket 36 from the main frame, and therefore a fixed contact, the point of which is preferably in alined relation with the point of the contact 32. Between these two contacts, however, there is preferably interposed the pivoted arm 27 which carries a contact pin 37 extending through the said arm and adapted to engage

either the contact 32 above or the contact 35 below according to the position of the arm 27. The arm 27 is normally held in balanced relation by the counterweight 38 upon the threaded rod 39 of the bar 28. It will be further noted that the contact pin 37 forms a permanent contact with the bridge plate 30 so that when the movable contact 31 engages the plate 30 a circuit is closed through the said pin 37 and either the contact 32 or contact 35, as the case may be, and according to the position of the arm 27. By way of example of a means for putting a power device into operation under the control of the coin actuated mechanism, I have illustrated the following: 42 is a continuously rotating shaft upon which is sleeved a part 43 which is to be intermittently put into operation under the control of the coin actuated mechanism.

44 is a spring actuated dog hinged to the sleeve, which dog when free is oscillated by the spring 45 to engage the rotating shaft 42 and by it cause the sleeve 43 to be rotated. An armature 41 is arranged to engage a heel of the dog 44 as the sleeve is moved around, and thereby oscillate the dog to pull it out of engagement with the shaft, as illustrated in Fig. 2. This armature is operated by an electro-magnetic device 40 of any suitable character, which is arranged in a circuit 47 having its ends leading to the electric contact terminals 33 and 34 respectively. This circuit 47 contains a battery or other source of electric energy 46. It is manifest that when the circuit 47 is open the electro-magnetic device 40 is demagnetized and the armature 41 drops into position to engage the dog 44. When the runway or pivoted guide 9 is tilted by the coin the circuit 47 is completed through the contact points 31 and 32, and the electro-magnetic device 40 is energized and lifts the armature 41. When this is accomplished the dog 44 is pressed into engagement with the rotating shaft 42 and causes the sleeve 43 to be rotated. This rotation continues until the coin leaves the runway or guide and permits it to assume its normal position, at which time it opens the circuit and the armature 41 drops once more into the path of the heel of the dog, and the movement of said dog with the sleeve pulls the former against the hooked end of the armature and causes the disengagement of said dog from the shaft. The sleeve or operable part 43 is then arrested. In practice a movable part 48, Fig. 3, is employed to operate the arm or lever 21 to cause the delivery of the coin from the end of the pivoted runway or guide and acts to regulate the time within which the circuit remains closed. This part 48 may be operated in any suitable manner but in practice is controlled by the movement of the dispensing means which is put in operation

by the power devices aforesaid. These dispensing means are not disclosed as they form no part of the present invention.

In the normal position of the pivoted arm 27 the contact pin 37 is resting in engagement with the contact point 32, while the contact point 31 is spaced from the plate 30 of the arm 27 and consequently the circuit is broken. Since the contact 32 is fixed upon the frame 4, a movement of the runway 9 under the action of a coin in its operative position, will cause the contact 31 to contact with the plate 30 and thus close the circuit, the terminals of which are the contact points 31 and 32 connected by the bridge piece 30. The adjustment of the runway is, as has been stated, a very delicate one and the weight of a proper valid coin for operating the machine is just sufficient to move the contact 31 into a position to close the circuit but ordinarily no farther. In case, however, a heavier coin is placed in the machine, or an iron slug which will be acted upon by the magnet 26, then the movement of the runway 9 will be greater than before and consequently the bridge piece 30 will be drawn away from the contact point 32 and the contact pin 37 will strike the contact 35, thus closing a separate and distinct circuit 49 from the operating circuit 47 and one which controls a suitable alarm mechanism 50 to give warning that an attempt is being made to operate the machine with a bogus coin.

In the operation of the machine here shown, three coins are inserted through the respective openings 2, and each traverses the separate guideway provided for the purpose and assumes a position resting against the stop bar 14. In this position their weight under the conditions of adjustment is just sufficient to overbalance the runway and permit it to swing about its pivot so that the circuit is closed by the bridge piece 30 and contacts 31 and 32. The closing of this circuit causes the operating mechanism of the machine to be brought into motion, and incidentally, trip or actuate the arm 21 so that the drum 18 and its adjuncts are thrown to the position shown in Fig. 3. In this position the cam rollers 22 have engaged their respective spring arms 16, thereby raising the stop bar 14 to release the coins so that they are free to traverse the guideway 25 which now spans the chute 6 and directs the coins into the main chute 7. As the coins leave the ejecting mechanism and enter the chute, the runway automatically returns under the action of the counterweight 13 to its normal inclined position ready to receive other coins and repeat the operation. In case an iron slug or washer is placed in the machine the magnet will act as an auxiliary force to abnormally tilt the runway beyond its normal operative posi-

tion, so that while the contacts 31 and 32 are bridged for an instant by the piece 30 during this tilting action, the movement is so rapid that the electro-magnet 40 of circuit 47 controlled by these contacts does not build up in energy sufficient to operate the machine actuating mechanism. The continued tilting of the runway therefore brings the contact pin 37 into engagement with the contact 35, thus completing the alarm circuit by way of the contact 31, bridge piece 30 and contact 35, as will be understood.

In the abnormal position of the runway caused by the extreme tilting movement under the actuation of a bogus coin or coins, the coins will be lowered with the stop bar 14 but will not be liberated for discharge into the chute 6 until the operator is called to the apparatus by the alarm and operates the lever 21 sufficiently to lift the bar 14 to liberate the coin or slug and permit it to roll into the juxtaposed slot 17 of the drum where it will engage the wall 25 and be directed into the chute 6 and finally ejected from the machine.

To make the operation of my improved mechanism more fully understood the following explanations are given: As a genuine coin of normal weight is just sufficient to tilt the runway or guideway 9 into position to close the contact 31 to complete the circuit 47, it is manifest that if a spurious coin disk of abnormal weight were inserted this would also tilt the runway or guide 9 to first close the circuit 47 through the contact 31, and then by the depression of said contact with the runway press the contact 37 out of electrical connection with the contact 32 and break the said circuit 47. As before stated, this action of making and breaking the circuit takes place so rapidly that the electro-magnet 40 does not build up sufficiently in electrical energy to operate the armature 41. The reason of this is that the numerous coils of wire on these magnets operate upon closing a circuit on the principles of a choking coil, that is to say, the induction produced between the successive coils immediately on the closing of the circuit operates as a counterelectro-motive force to the initial electro-motive force of the battery and its circuit to prevent sufficient flow at the moment of closing to give the electro-magnet 40 sufficient strength. As this induction or counterelectro-motive force is effective only on closing of the circuit, it is manifest that the depression by the heavier coin or slug will be enabled to take place to open the circuit before time has elapsed in which to permit these inductions or counterelectro-motive force to be overcome by the battery current. For this reason the seemingly same tilting of the runway or guide 9 will put the power devices into operation by the insertion of a genuine coin but will prevent it being

put into operation by a coin or lug of heavier weight even when not of magnetic material, and hence not influenced by the permanent magnet 26.

5 It will be noted that the operation of my improved coin controlled device, in so far as it regulates the operation of an electro-magnetically controlled power device for a genuine coin and refuses to operate for a
10 non-magnetic spurious coin or slug of greater weight than the genuine coin, depends upon two circuit controlling devices; and the particular illustration of this invention which is given by way of example em-
15 ploys a circuit closing contact 31 and a circuit opening contact 32, these operating in succession so as to provide two conditions of the electro-magnetically operated devices. In the present case the circuit closer 31
20 causes the electro-magnet 40 to be energized, whereas the circuit breaker 32 opens the circuit and thereby causes the core of the electro-magnet to be deenergized and renders it inoperative to move its armature. While
25 this is the most desirable and preferred manner of controlling the armature 41 of the electro-magnetic device, it is manifest that the said armature may be controlled in various ways by two electric circuit control-
30 ling means, one operating for a slight movement of the pivoted runway or guide, and the other by a more extended movement thereof, and I desire to have it understood that I do not restrict myself to any particu-
35 lar character of circuit controlling devices or specific construction of the electro-magnetic devices, as these may be made in any suitable manner provided the tilting run-
40 way or means actuated by the spurious coin will first operate one electro-magnetic device to operate one circuit controlling device for producing a condition of an electro-
45 magnetic device for actuating the armature, and then operating the other of the circuit controlling devices for producing another electro-magnetic condition which prevents
50 operation of the armature, irrespective of the details of the devices or mechanism employed. It will now be apparent that I have de-
55 vised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the preferred embodiment thereof which has
60 been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

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

65 1. In a device of the character stated, the

combination of a coin runway mounted for tilting movement and adapted to be actuated by the weight of a coin, an electrical circuit closer arranged to be operated by said runway in tilted position, means to
70 positively hold a coin in arrested position to cause said runway to tilt, and means to release and discharge said coin from said runway.

2. In a device of the character stated, a
75 pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of the coin, means located adjacent the upper end of said run-
80 way for delivering a coin to said runway, an electrical circuit closer arranged to be operated by said runway in its tilted position, means to positively hold a coin in arrested
85 position to cause said runway to tilt, and means positively operated independently of the coin located adjacent the lower end of said runway for discharging said coin.

3. In a device of the character stated, a
90 pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, means located adjacent the upper end of said runway for deliv-
95 ering a coin to said runway, an electrical circuit closer arranged to be operated by said runway in tilted position, adjustable means to balance said runway in untilted
100 position to maintain said circuit closer in position to open the circuit, and means located adjacent the lower end of said runway for controlling the discharge of said coin, said means comprising mechanically op-
105 erated devices independent of the coin and the electric circuit closer for arresting the travel of said coin while in the runway and then controllably releasing it from the run-
way.

4. In a device of the character stated, a
110 pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, means located adjacent the upper end of said runway for deliv-
115 ering a coin to said runway, an electrical circuit closer arranged to be operated by said runway in its tilted position, means to hold a coin in position to cause said runway
120 to tilt and close said circuit, and operable means whose time of operation is controlled by the circuit closing means to release said holding means at a predetermined time to
125 cause said coin to be discharged.

5. In a device of the character stated, a
pivoted coin runway normally held in an in-
clined position and adapted to be actuated
by the weight of a coin, means located ad-
125 jacent the upper end of said runway for delivering a coin to said runway, a plurality
of circuit closers arranged to control inde-
pendent electrical circuits and arranged to
be successively controlled by said runway
while tilting, one of said closers being op-
130

erated by the position of the runway as determined by a valid coin and the other closer being operated by the position of the runway as determined by a coin of greater weight than the predetermined coin for operating the device.

6. In a device of the character stated, a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, means located adjacent the upper end of said runway for delivering a coin to said runway, a plurality of circuit closers arranged to control independent electrical circuits and adapted to be successively controlled by said runway while tilting, one of said closers being operated by the position of the runway as determined by a valid coin and the other closer being operated by the runway in a position as determined by a coin shape of magnetizable material, and a magnet located adjacent said runway with its magnetic field including the zone of said coin when in position to operate said runway whereby said runway is moved to an abnormal position to close said second circuit closer.

7. In a device of the character stated, a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, means located adjacent the upper end of said runway for delivering a coin to said runway, a plurality of circuit closers arranged to control independent electrical circuits, stop means to bring said runway to rest in a position to maintain one of said circuit closers closed when a valid coin is in operative position upon said runway, and a magnet located adjacent said runway with its field including the zone of said coin when in position to operate said runway, said magnet being adapted to cause said runway and said stop means to move and close said second circuit closer when a coin shape of magnetizable material is in operative position upon said runway.

8. In a device of the character stated, the combination of a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of the coin, a drum pivoted at the end of the runway and slotted to provide a passage for the coin and also provided with a guide from which the coin may run when the drum is turned to a position to bring said guide in alinement with the runway, two guide chutes one normally in communication with the lower end of the runway and slotted portion of the drum and the other in communication with the slotted portion of the drum when turned to bring the guide thereof in alinement with the runway, whereby the coin may be caused to be delivered into either the one or the other of the coin chutes.

9. In a device of the character stated,

the combination of a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of the coin, a stop in the path of the coin adjacent to the lower end of the runway to temporarily hold the coin in position upon the runway, a drum pivoted at the end of the runway and slotted to provide a passage for the coin and also provided with a guide from which the coin may run when the drum is turned to a position to bring said guide in alinement with the runway, two guide chutes one normally in communication with the lower end of the runway and slotted portion of the drum and the other in communication with the slotted portion of the drum when turned to bring the guide thereof in alinement with the runway, whereby the coin may be caused to be delivered into either the one or the other of the coin chutes, and means controlled by the drum for operating the stop to release the coin when the drum is being turned to the position which brings its guide in alinement with the end of the runway.

10. In a device of the character stated, a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, in combination with means for normally holding the coin at the end of the runway, a drum for releasing the coin from the runway and guiding it to a point of discharge, means to return the drum to its initial position after the discharge of the coin, and means under the control of the runway for controlling a suitable power applying device.

11. In a device of the character stated, a pivoted coin runway normally held in an inclined position and adapted to be actuated by the weight of a coin, in combination with means for normally holding the coin at the end of the runway, a drum for releasing the coin from the runway and guiding it to a point of discharge, means to return the drum to its initial position after the discharge of the coin, means under the control of the runway for controlling a suitable power applying device, and adjustable counterbalancing devices for adjusting the balance of the runway so as to be oscillated by a coin of definite weight and unoscillated by a coin of lighter weight.

12. In a device of the character stated, a pivoted coin runway normally held in inclined position and adapted to be actuated by the weight of a coin, combined with a circuit closing device to close the circuit when the runway is tilted, electrically governed means for controlling the application of a power device whose time of operation is controlled by the circuit closing device of the runway, means for positively holding the coin stationary on the runway, and means independent of the coin for determin-

ing the length of time the coin shall hold the runway in tilted position.

13. In a device of the character stated, a pivoted coin runway normally held in inclined position and adapted to be actuated by the weight of a coin, combined with a circuit closing device to close the circuit when the runway is tilted consisting of a fixed contact, a contact secured to the tilting runway, and a pivoted counterbalanced arm adapted to make electrical connection with both of the contacts and arranged that when the runway is tilted under the action of the coin it closes the electric circuit, electrically governed means for controlling the application of a power device whose time of operation is controlled by the circuit closing device of the runway, and means for determining the length of time the coin shall hold the runway in tilted position to maintain the contact closed.

14. In a device of the character stated, a pivoted coin runway normally held in inclined position and adapted to be actuated by the weight of a coin, combined with a circuit closing device to close the circuit when the runway is tilted, consisting of a fixed contact, a contact secured to the tilting runway, and a pivoted counterbalanced arm adapted to make electrical connection with both of the contacts and arranged that when the runway is tilted under the action of the coin it first closes the electric circuit and then interrupts it, electrically governed means for controlling the application of a power device whose time of operation is controlled by the circuit closing device of the runway, a second fixed contact normally out of connection with the pivoted counterbalanced arm with which the electric circuit is completed when the runway is fully tilted, an alarm circuit controlled by the last mentioned contact, a magnet for imparting to the runway the full tilting movement, and means for determining the length of time the coin shall hold the runway in tilted position.

15. In a device of the character stated a pivoted runway adapted to be tilted by the weight of the coin, a yielding stop to support the runway in its tilted position under the weight of the normal coin, and a magnet arranged below the lower end of the runway to attract a spurious metal slug and depress the runway to a greater extent against the action of the yielding stop.

16. In a device of the character stated, a pivoted runway adapted to be tilted by the weight of the coin, a yielding stop to support the runway in its tilted position under the weight of the normal coin, a magnet arranged below the lower end of the runway to attract a spurious metal slug and depress the runway to a greater extent against the action of the yielding stop, elec-

trically magnetic controlled means arranged to be put into action by the tilting movement of the coin runway under the action of a normal coin, and an alarm device arranged to be put into operation by the abnormal tilting movement of the runway under the influence of the magnet and the spurious metal slug.

17. In a device of the character stated, a pivoted coin runway adapted to be tilted by the weight of a coin, combined with means on the runway for positively holding the coin stationary at the discharge end of the runway, means controlled by the runway for putting a power device into operation when tilted by the weight of the coin, and means operated independently of the weight of the coin for independently releasing the coin from the runway.

18. In a device of the character stated, a pivoted coin runway adapted to be tilted by the weight of a coin, combined with means on the runway for holding the coin at the discharge end of the runway, means controlled by the runway for putting a power device into operation when tilted by the weight of the coin, a coin guide, and pivoted means for simultaneously bringing said guide into alinement with the lower end of the runway to guide the coin to a place of discharge and also to release the coin from the runway preliminary to its discharge.

19. In a device of the character stated, a pivoted coin runway normally held in an inclined position adapted to be actuated by the weight of a coin, means adjacent one end of the runway for controlling the discharge of the coin, a fixed contact adjacent said runway, a contact carried by said runway, an arm pivoted below said runway and provided with means for forming an electrical connection between said contacts, said contact forming the terminals of an electrical circuit including power devices and being adapted to be closed by the tilting of said runway under the weight of a valid coin, a fixed contact below said pivoted arm, said contact and the movable contact of the runway forming terminals of an electrical circuit containing an alarm device, and means carried by said movable arm for closing said alarm circuit through said contacts when the runway is tilted by a coin of greater weight than the valid coin and to a greater extent than the normal tilted position of said runway.

20. In a device of the character stated; a pivoted runway provided with a plurality of narrow slots arranged parallel to each other for respectively receiving a coin, said runway being normally held in an inclined position and adapted to be actuated by the combined weight of the coins, in combination with means common to all of the slots for normally holding the coins in position

in the plurality of slots at one end of the runway, a single drum for simultaneously releasing said coins from the runway and the means for holding them and guiding them to a point of discharge, means to actuate said drum, and means under the control of the runway and the simultaneous holding and releasing of the coins thereon for controlling a suitable power applying device.

21. In a device of the character stated, a pivoted runway provided with a plurality of narrow slots arranged parallel to each other for respectively receiving a coin, said runway being normally held in an inclined position and adapted to be actuated by the combined weight of the coins, in combination with common means for normally holding the several coins in position in the plurality of slots at one end of the runway, a single drum for simultaneously releasing said coins from the runway and guiding them to a point of discharge, means to actuate said drum, means under the control of the runway and the simultaneous holding and releasing of the coin thereon for controlling a suitable power applying device, and adjustable counterbalancing devices for adjusting the balance of the runway with respect to the combined weight of the coins.

22. In a device of the character stated, a movable coin runway adapted to be actuated by a coin, a power actuated device, electro-magnetic means for putting the power actu-

ated device into and out of operation, and two circuit controlling means for controlling the operation of the electro-magnetic means for putting them into operation by a partial movement of the coin actuated means and out of operation by a further movement thereof in succession.

23. In a device of the character stated, a pivoted runway adapted to be actuated by a coin, a power actuated device, an electro-magnetically operated means for putting the power actuated device into and out of operation, a source of electric energy for energizing the electro-magnetic means, and two current controlling devices arranged to be put into operation in succession by the pivoted runway under the actuation of a spurious coin, one of said current controlling devices arranged to cause the electro-magnetic means to be energized for putting the power actuated devices into operation by a partial movement of the runway and the other of said current controlling devices arranged to be put in operation by a further movement of the runway to cause the electro-magnetic means to maintain the power actuated devices out of operation.

In testimony of which invention, I hereunto set my hand.

JAMES W. HUGHES.

Witnesses:

CLARA H. WISSMANN,
FLORENCE DEACON.