W. F. MORIARTY.

COIN CONTROLLED MECHANISM.

APPLICATION FILED NOV. 26, 1917. RENEWED APR. 3, 1922.

1,419,581. Patented June 13, 1922.

7 SHEETS—SHEET 1.

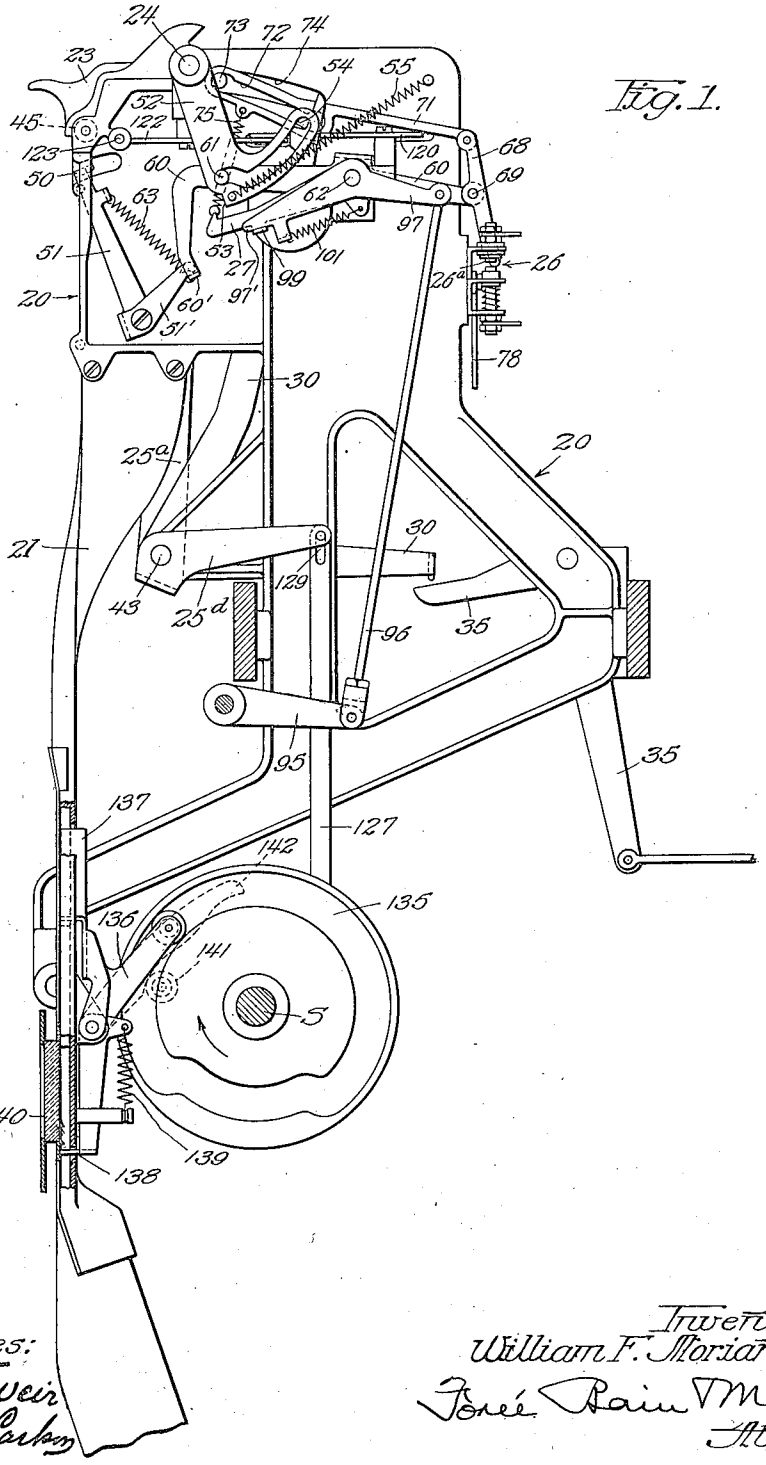


Fig. 1.

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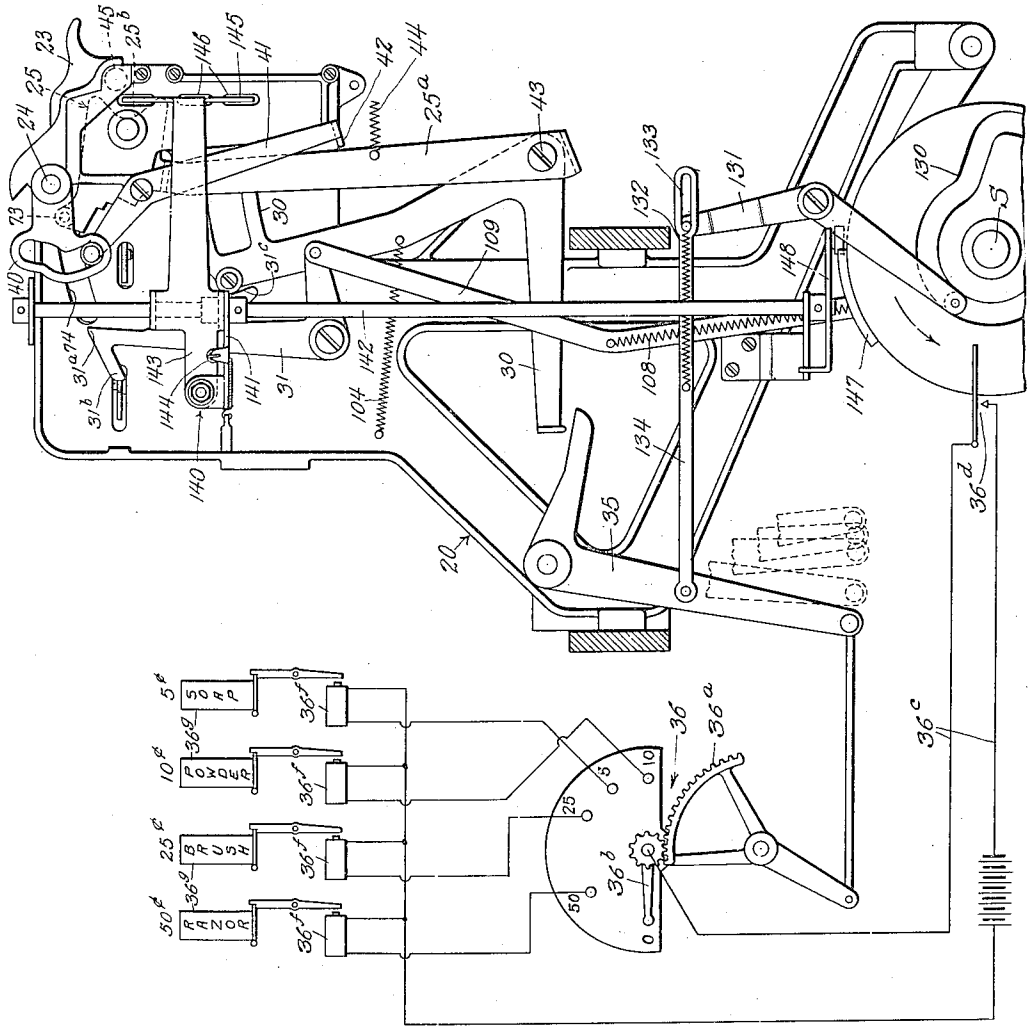


Fig. 2.

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Fig. 3.

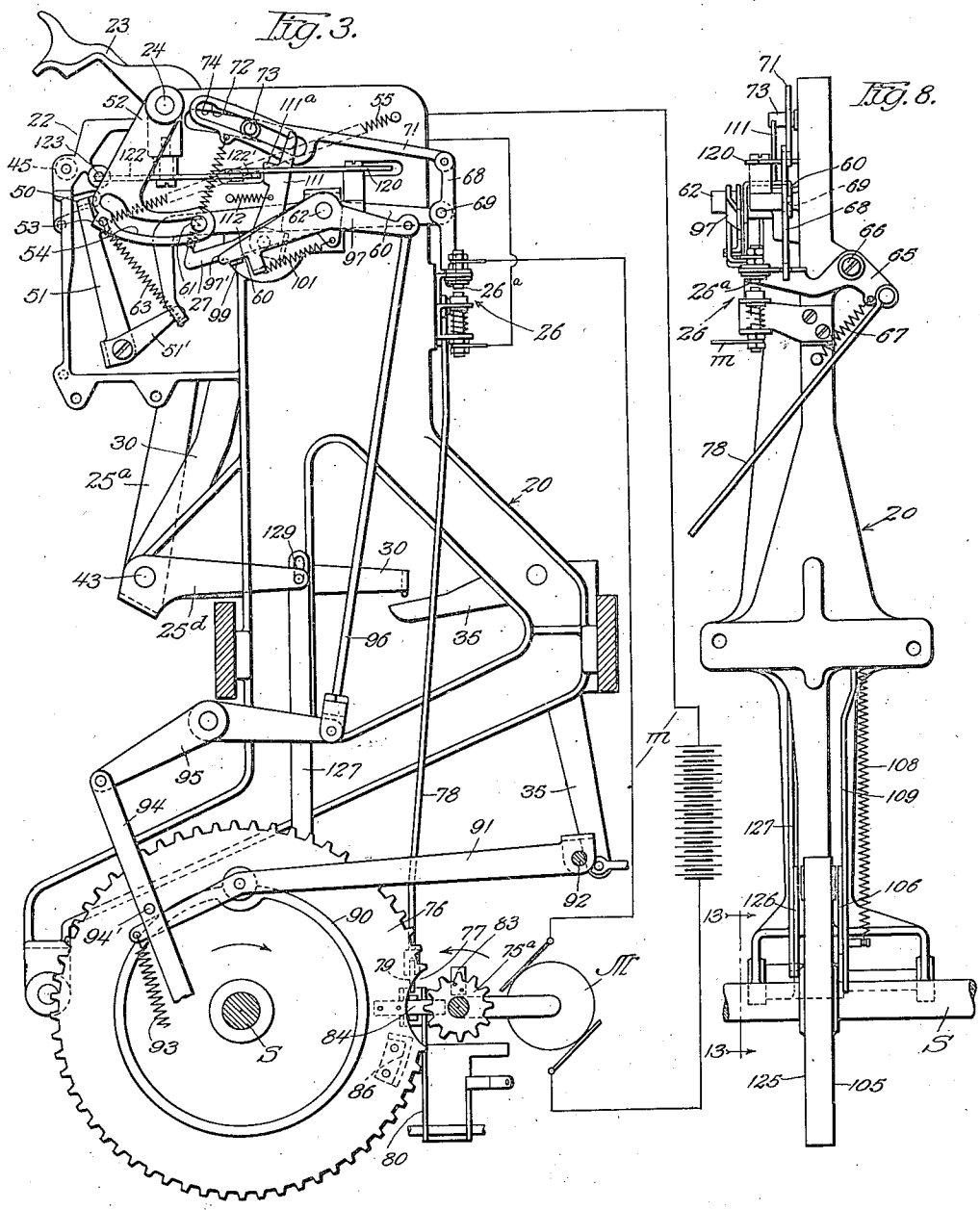


Fig. 8.

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Fig. 4.

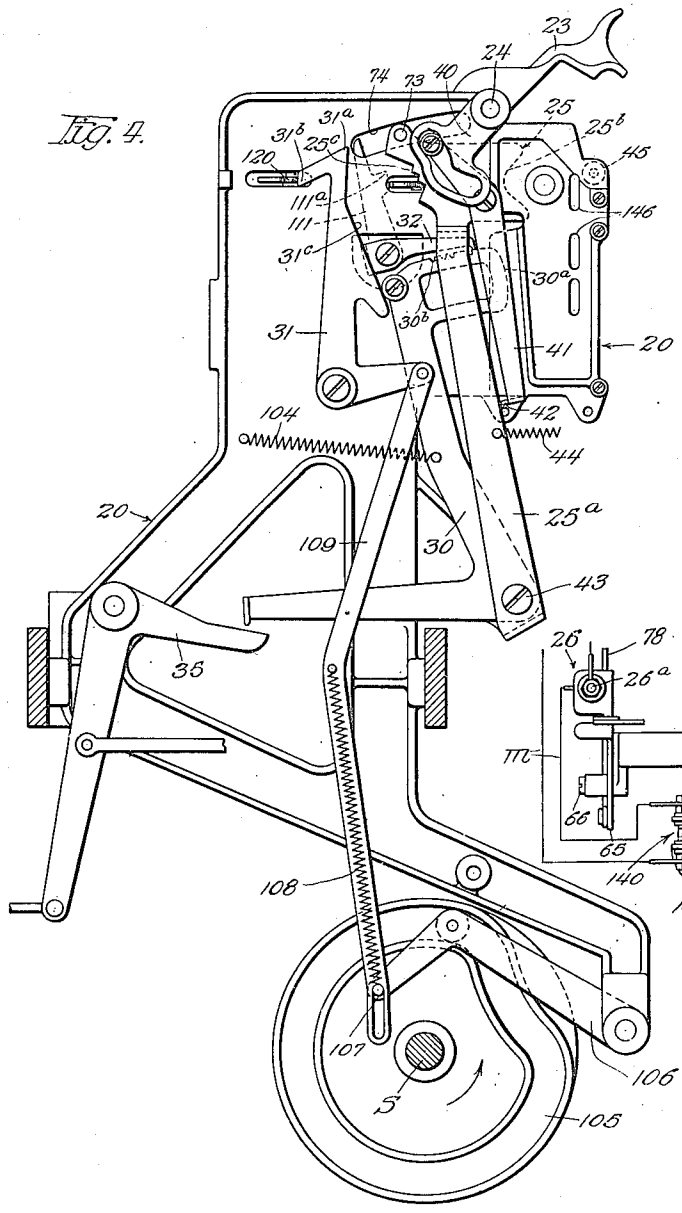
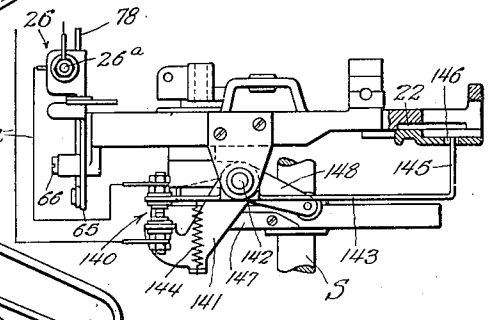


Fig. 9.



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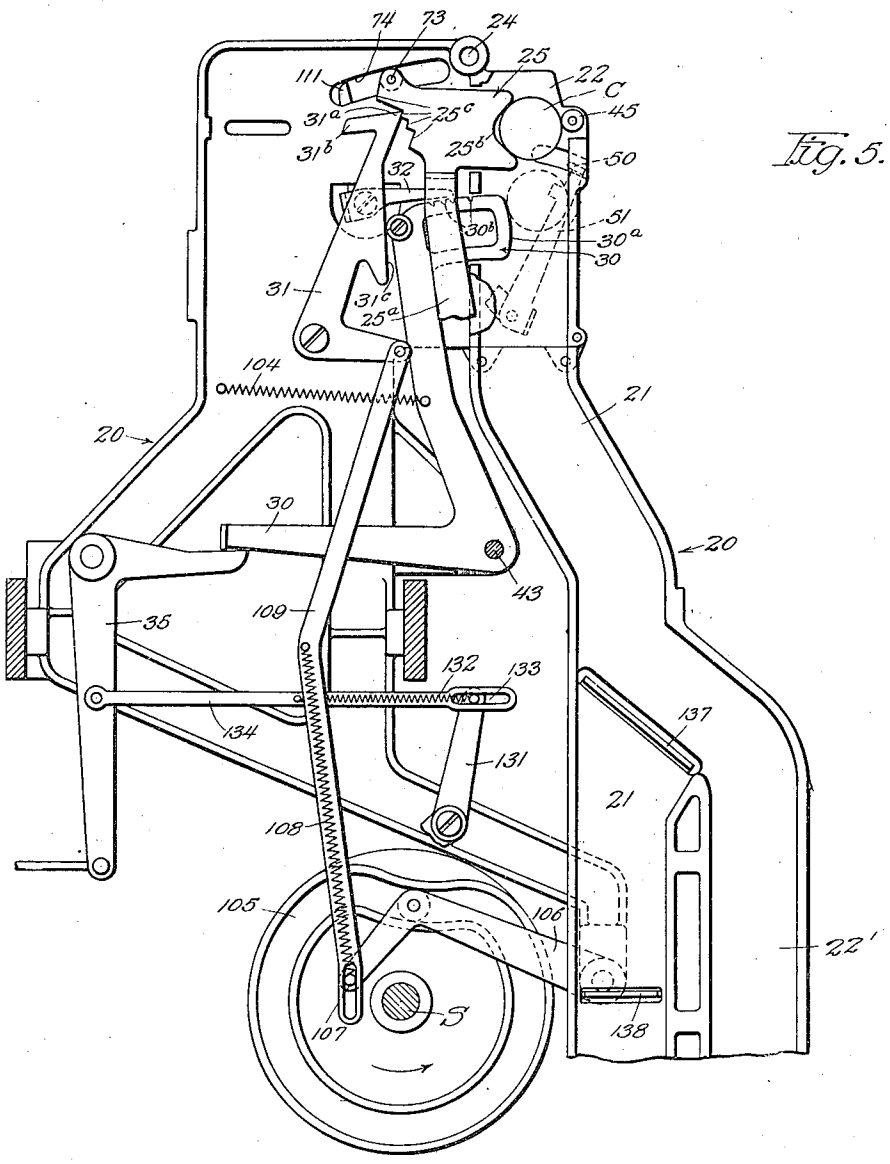


Fig. 5.

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Fig. 6.

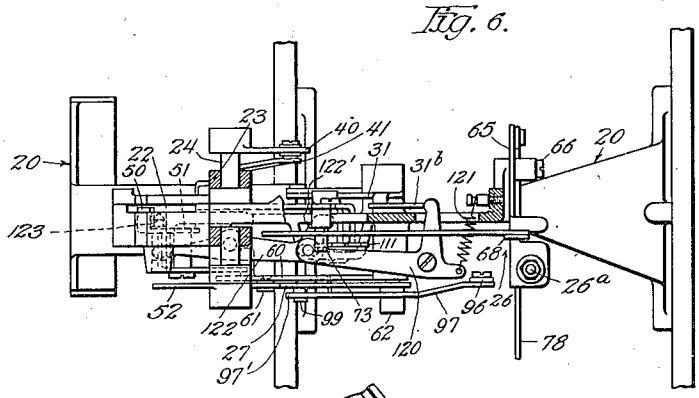
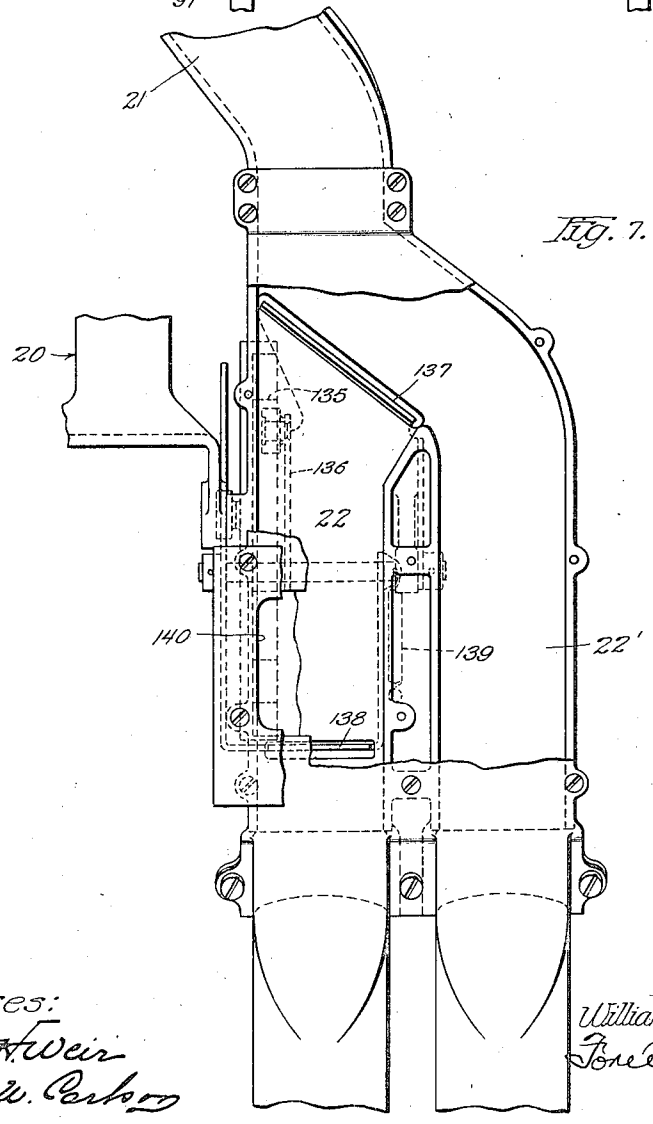


Fig. 7.



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Fig. 10.

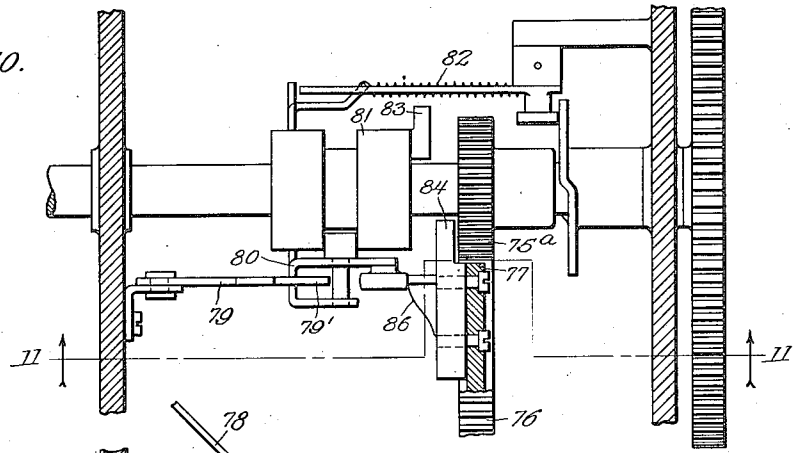


Fig. 11.

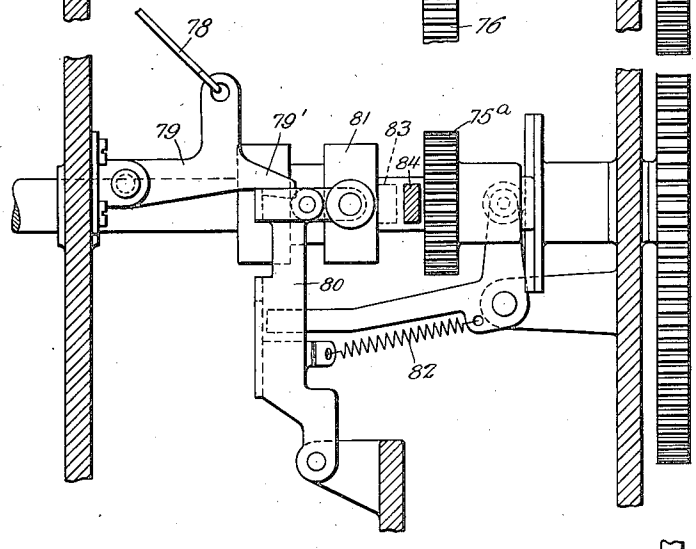


Fig. 12.

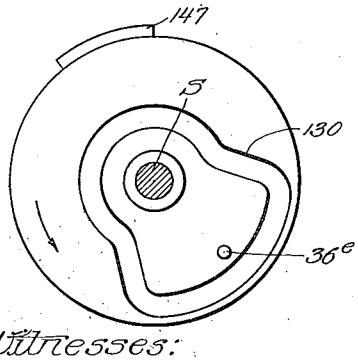
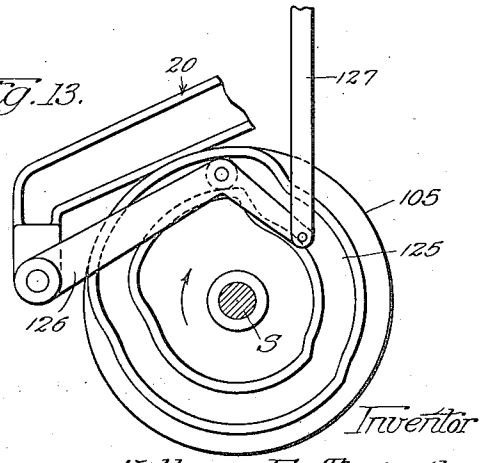


Fig. 13.



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UNITED STATES PATENT OFFICE.

WILLIAM F. MORIARTY, OF CHICAGO, ILLINOIS, ASSIGNOR TO SERVICE INVENTION & DEVELOPMENT COMPANY, A CORPORATION OF DELAWARE.

COIN-CONTROLLED MECHANISM.

1,419,581. Specification of Letters Patent. Patented June 13, 1922.

Application filed November 26, 1917, Serial No. 203,899. Renewed April 3, 1922. Serial No. 549,155.

To all whom it may concern:

Be it known that I, WILLIAM F. MORIARTY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Mechanism, of which the following is a specification.

This invention relates to means for control by and distinctive response to, coins of different value.

One of the objects of the invention is to provide a mechanism having a single slot receptive of coins of different values and operable in response to coin insertion to function distinctively in accordance with the different coin values.

Another object of the invention is to provide a mechanism for power operation through a predetermined cycle, responding to the presence of a coin of any one of several certain values for the initiation of its cyclic operation, and having means to prevent functional operation of the device if the inserted disc fails to meet primary tests of coin character in the course of the first part of the cyclic operation, and wherein a vital, variable-operable element is actuated selectively in accordance with value-determining characteristics of the coin.

A further object is to provide for direct control of the selectively settable element by a coin-diameter gage.

Many particular objects of the invention, which consists in the mechanisms and combinations hereinafter set forth and claimed will become apparent to those skilled in the art from the following description when taken in conjunction with the accompanying drawings, wherein:—

Fig. 1 is an elevation from the right, with the mechanism in inert condition.

Fig. 2 is a similar view from the left, with a diagram of dispensing means.

Figs. 3 and 4 are right and left elevations with the coin door raised, before the coin is inserted.

Fig. 5 is a view with parts broken away to show the coin in first position.

Fig. 6 is a plan view.

Fig. 7 is an elevation of a coin chute mechanism.

Fig. 8 is a rear elevation of Fig. 3.

Fig. 9 is a detail plan view of a contact structure, and associated mechanism.

Fig. 10 is an elevation of the switch shifting mechanism.

Fig. 11 is a section taken on line 11—11 of Fig. 10.

Fig. 12 is a full face view of the cam wheel shown in Fig. 2.

Fig. 13 is a section taken on line 13—13 of Fig. 8.

The specific mechanism hereinafter described is particularly designed for employment in a machine that receives coins of different values in a single coin slot and in exchange therefor delivers merchandise. It will be apparent, however, that if a power-actuated part or selector element be selectively and distinctively worked in accordance with different coin values, many and variant mechanisms may be employed to utilize the selective actions so effectuated; and therefore the illustration of detailed commercial mechanisms is limited to those parts that are cognate to the coin handling and to the control of a selectively operable part effectuated thereby, showing only diagrammatically one of the many possible utilizations of the controlling movements of the selector element, without intent to limit the present invention to the use that is thus suggestively presented.

Referring to the specific construction that is herein shown (the casing of the machine and all non-working auxiliaries being dispensed with in the illustration for simplicity), the general plan of operation of the machine may readily be understood. A frame 20, suitably designed to give support and bearings where needed, is provided with a coin chute 21, Fig. 5, extending down the front of the machine from a coin-slot 22 that is guarded by a door or cover 23 pivoted at 24. The slot is of adequate size to receive any coin within a desired range, in this instance a dime, nickel, quarter or half-dollar, to which, respectively, and according to their values, the mechanism is distinctively to respond. The cover 23 is lifted, a coin C inserted and the cover is closed, as preliminaries to the operation of the machine.

Initially the coin is positioned by the forked head of the first gage 25 in the position shown in Fig. 5. The spring pressed, pivoted, coin positioned gage 25 and the spring-closed door 23, which jointly exercise control over an electric switch 26 cause said switch to close an energized circuit *m* for a motor M, which can, therefore, only begin

its operation pursuant to the presence of a coin in the machine and to the closure of the door. Normally when the motor is once started it will operate a main shaft S cyclically through a predetermined, and in this instance a single, cycle of revolution.

In order, among other things, that the door may not be opened to interfere with the circuit in the motor during the cycle of operations mechanically insured, the door is locked shut by a lock-dog 27 at the commencement of motor operation and so held pending the completion of the cycle. Also the motor switch may be positively held closed.

Considering only the generalities of normal operation, the motor driven shaft, S, in the course of its single rotation operates to set a kindred second gage 30 to one of certain selective positions accordant with the diameter of the coin held by the first gage. The second gage is thus set through the medium of a controlling lever 31 that causes the forward swing of the second gage lever 30 and is itself controlled in its shaft-impelled movement by the position of the first gage 25 which in turn is dependent upon the diameter of the coin. The second gage 30 is latched in forward or set position by pawl 32. Subsequently the first gage, having completed its primary function, is sufficiently retracted to permit the coin to pass down to the second gage, the curved end, 30^a, of which acts to hold the coin wedged between it and the front wall of the coin chute, thus to employ the coin itself as a limitation stop for locking the second gage against forward movement past its set position (see dotted lines Fig. 3).

This locking of the second gage having been accomplished, further movement of the shaft S operates the selective element or controlled device 35, which herein takes the form of a bell-crank lever, and the shaft-actuated movement of which is limited by the lateral arm of the second gage 30 so that the effective throw of selector lever 35 is determined by and accordant with the diameter of the coin. This variant and coin-responsive motor-actuated movement of the selector element 35 may be transformed into some desired selective work in many ways, as, in the instance diagrammatically shown, to set the controlling mechanism 36 of vending apparatus so that upon electrical actuation of the vending apparatus later in the cycle of the machine, the merchandise vended may be of a character accordant with the value of the coin employed. Where used (as this invention practically has been used) in a machine for vending a variable quantity of postage stamps and making change, the selective control element 35 may be employed to set the "credit" in the machine accordantly with the value of the coin, other mechanisms, (foreign to the present invention) operating within the cycle of motor-impelled actuation to deliver the stamps to any amount within the credit limit, subtract their value from the established credit and deliver the residual change, before the cycle is finished.

Thus in general, it will be observed, the power-actuated selector which determines the ultimate operation of the vending machine, is actuated under limitation set by the coin-diameter gage 30. This gage, specifically, is itself locked in its limiting position by the coin, and is set, preferably, as a result of the operative passage of the coin past a first gage to which the coin is introduced by the operator.

Door, temporary stop, and first gage.

On the left end of its shaft 24 the door 23 carries a cam-slot lever 40 to actuate a pivoted lever 41 that has at its lower end a finger 42 cooperating with the main arm 25^a of the first gage 25 to throw said gage back about its pivot 43 when the door is open. This facilitates insertion of a coin into position to be engaged by the forked end 25^b of the first gage when the latter is pulled forward by its spring 44 upon closure of the door following insertion of a coin. The spring pressed first gage 25, when it is pulled forward, will hold any one of the named coins in its forked end, pressing it against roller 45.

To prevent a coin from dropping past the first gage immediately upon insertion and while the gage is door-retracted, a temporary stop 50 is provided (Fig. 1) on a lever 51 that is pivoted at the right of the frame and actuated from the door 23 so as to be rocked forward to coin-chute-closing position as the door is opened and back to inert position as the door is closed. On the right side of the machine the door shaft 24 carries a lever 52 having a locking nose 53 and a cam slot 54 to cooperate with lock lever 27, said lever being also engaged by the door closing spring 55. The cam slot engages a pin 61 on a lever 60 pivoted, at 62, concentrically with latch 27, and having at its forward end a hook 60′ to engage under a lateral arm 51′ of the bell crank lever 51, these two parts being kept in engagement by a tension spring 63. As the door opens, the front end of the lever 60 is depressed by the coin-slot-action and temporary stop 50 swings rearwardly, closing the coin-chute until the first gage has started forward, when the said stop swings forward out of the way, leaving the coin held only by the spring pressed first gage 25.

Cycle control mechanism.

Joint control of the first gage and the door mechanism over the motor circuit switch 26

is desirable so that the motor may not be run idly when no coin is in place and so that the motor may not start until the door is closed, to be locked pending completion of an operation cycle. It may be effected in various ways, that preferred and shown providing the movable contact 26ª of the switch upon one end of the lever 65 (Fig. 8) that is pivoted at 66 upon the frame, the depression of this pivoted lever against the tension of its spring 67 being controlled by a trigger lever 68 pivoted, as at 69, to the door-controlled lever 60 heretofore referred to. Vibration of lever 68 on its pivot 69 throws the lower end of the lever forward to align with, or rearward to miss, the receptive part of lever 65, so that depression of lever 68, caused by door-closure, will close the movable contact 26ª upon its stationary contact, only provided that the trigger-lever 68 stands in the vertical position shown in Fig. 3 rather than in the inclined position shown in Fig. 1. Vibration of trigger-lever 68 is controlled by the first gage, there being a link 71 pivoted to the upper end of lever 68 and provided with a cam slot 72 engaging a pin 73 that is carried by the first gage and projects through a slot 74 in the frame, this pin acting, when the first gage is thrown fully forward, to draw link 71 forward, as shown in Fig. 1, to tilt the trigger 68 to inert position and, as the first gage is retracted, acting against the upper edge of the cam slot to force the trigger-lever 68 over the vertical position, as shown in Fig. 3, a light spring 75 serving to hold the cam slot wall in engagement with the pin. Thus, when a coin is inserted and the door is closed, the motor circuit is closed at the switch 26 and the motor starts operating, driving a pinion 75ª which co-operates with the mutilated gear 76, on shaft S, whose toothless space 77 stands normally in register with the pinion. But the depression of the receptive end of lever 65 for switch 26 also causes the pinion 75ª to effect driving cooperation with gear 76, for said lever 65 pulls upon link 78 that raises a latch 79 holding under restraint a shifter lever 80 for a sleeve 81 that is splined slidable on the motor shaft, with these results. The spring 82 pulls over the shifter lever moving the sleeve 81 along the motor shaft until its starting lug 83 lies in the plane of a complemental opposed lug 84 on the gear 76. Therefore the main shaft is started through these two lugs and the pinion meshes with the teeth of the gear. Also the shifter lever passes under a nose 79′ of latch lever 79, holding it raised and accordingly holding switch-lever 65 in switch closing position until the end of the cycle.

A cam 86 is provided on the gear 76, which, just as the cycle of shaft S is being completed, cams over the shifter lever so that it may be re-latched by part 79.

Thus, normally the shaft will perform a full cycle of rotation before the pinion, again coming in register with the space of the gear, allows the shaft to come to rest.

The performances so far described have resulted in the coin being in the clasp of the first gage and the motor having started in operation to rotate the shaft S through a single revolution.

Door lock.

The first function accomplished by rotation of the main shaft is to lock the door so that there can be no interference with the continuity of motor operation on the part of the user. Specifically a rim-cam 90 working against the roller on lever 91 rocks the lever on its fixed pivot 92 against the tension of the spring 93 so that through pin 94′, link 94, lever 95, and link 96, the rear end of lever 97, on the right of the machine (Fig. 3) pivoted concentrically with lever 60, is raised, tending to lift it from the finger 99 of latch lever 27 but the latch lever tends to follow the lever 97 because of the interposed connecting spring 101 and so its latching nose rises to engage the point 53 of the door carried lever 52.

Second gage set-up.

Also promptly upon commencement of main shaft rotation the controller lever 31 is thrown forward against the tension of spring 104 until stopped by the first gage. Thus the face cam 105 on the shaft S works a roller on the lever 106 that has lost motion connection by slot and pin 107, but opposed by spring 108, with link 109 that is connected to the lateral arm of bell crank lever 31. This lever has a point 31ª, tail 31ᵇ and working surface 31ᶜ. For cooperation with the point 31ª the first gage 25 has a series of shoulders 25ᶜ, shown as four in number, arranged in step form so that when a 50 cent piece is in place the point 31ª will be stopped by the rearmost shoulder, when a quarter is in the machine the point can just escape the rearmost shoulder and engage the second shoulder, as shown in Fig. 5, and so on, to give a different position to the controller lever 31 for each of the four coins intended to be received.

As the lever 31 swings forward its surface 31ᶜ, cooperating with a roller on the second gage 30, pushes the latter forward about pivot-rod 43 and the curved nose 30ª of the second gage accordingly takes a position spaced from the front wall of the coin chute very slightly less, as a minimum, than the diameter of the coin. A pawl 32 that, on the right of the machine is equipped with a release-lever 111 having a finger 111ª and advanced by the spring 112, has its pawl tooth arranged to cooperate with notches 30ᵇ in the second gage head. The release

lever 111 has its end in the path of vibration of the first-gage-carried pin 73, and as the first gage is forward, under the present assumption, the pawl engages the second or "quarter" notch in the second-gage head as shown in Fig. 5 to latch the diameter-gage set.

Thus, during the residence of the coin in the clasp of the first gage, in the course of its passage there past, the second gage is power set to restrict the open space of the coin chute to slightly less than true coin-diameter. If a disc that measures between true coin sizes for which the machine may be set is inserted (say a penny) the second gage cannot latch in any but the next-larger-coin position, (nickel position, in the assumed instance) so that the coin chute will be left open enough to pass the disc by this diameter-gage.

The cam 105 causes the controller lever 31 to retreat immediately after completing its second-gage-setting operation, thereby leaving the first gage free to be cam displaced against its spring tension to drop the coin to the second gage, as hereafter described.

Washer testing.

During the interval of pivotal oscillation of the controller lever a testing operation preferably takes place. As the tail 31[b] of the controller lever swings forward it leaves contact with the bell crank lever 120 (Figs. 4 and 6), which, under tension of spring 121, is thrown laterally so that its forward end throws over a lever 122, the forward extremity of which pushes in toward the coin chute a plunger 123 that works across an area that would register with a hole in a washer were the latter used in lieu of, say, a five or twenty-five cent piece. Of course if the object which occupies the first position in the coin chute at this time is the proper coin, solid-centered, this swinging of the lever system 120, 122 cannot occur, but where a washer is inserted in the machine and this swinging of the lever system does occur, because the pin enters the washer-hole, then a hook 122′ of the lever 122 is thrown over into the path of the nose 111[a] of the release lever 111 for the second gage pawl 32 before the second gage reaches its forward limit of throw and therefore the second gage is incapable of remaining in set condition but will idly follow the controller lever through its vibration front and back. Under the assumed conditions of an attempt to use a washer in the machine the restoration of the controller lever 31 will retract the plunger 123 from the washer, thereby conditioning the latter to fall when subsequently the first gage is retracted, but, there being no possibility of lodgment of this washer against the second gage, the cycle of operations of the machine will be completed, but only idly, the subsequently operated parts moving in their proper orders but without producing any operative effect on the apparatus 36 that typifies mechanism to be ultimately controlled.

First gage retraction.

As the shaft S progresses, subsequently to the commencement of throw-back of the controller lever 31 a cam 125 operates on the roller of lever 126 which draws down a link 127 against the tension of its return spring 128 more than enough to take up the lost motion of slot-and-pin connection 129 of said link with the bell crank arm 25[d] of the first gage 25. This lost motion connection gives the first gage the capacity for easy vibration under the influence of the lever 41 (Fig. 4) and the spring 44, heretofore referred to. In consequence, the first gage is positively retracted against the tension of its return spring 44 to an intermediate position, for enough away from the roller 45 to allow the coin to drop down the coin chute into locking cooperation with the second gage 30, but not far enough to cause the gage-carried pin 73 to operate the release lever 111 for the second-gage pawl 32.

Selector-operation.

When the coin has thus taken its position shown in dotted lines in Fig. 5, interposed between the curved nose of the second gage 30 and the front wall of the coin chute 22, the dimeter-gage 30, already latched against retraction, is coin-locked against advance. Now a cam 130 acts on a roller of the bell crank lever 131 to throw its vertical arm forward, thereby tending, through a spring connection 132 supplementing a lost motion slot-and-pin-connection 133, to draw forward the link 134 that is connected with the bell-crank selector lever 35. Under this actuation the lateral arm of the selector element rises as far as is permitted by the rearwardly extending arm of the second gage 30, which in turn is locked against yielding by the coin. Thus the various positions taken by the selector lever 35 are directly limited by the second gage setting, and indirectly by the presence of a coin, of the value for which the diameter gage is set, to act as a stop or lock for the second gage 30. It will be apparent, of course, that if there is no coin locking the gage 30, the latter will swing forward, permitting the selector element to travel through its fullest range.

Vending operation.

These movements of the selector element 35 thus made to vary in range conformably to coin-diameter may be usefully transformed as, in the diagrammatic illustration in Fig. 2, to operate a gear arc 36[a] that com-

municates motion to a pinion carried indicator lever 36^b which takes positions opposite the fifty, twenty-five, five or ten indications, accordantly with the value of the coin in the machine, thereby typifying a form of credit-indication or coin value indication. This in itself is a useful result that may be utilized or supplemented in divers ways. The position taken by the indicator arm will be maintained through substantially the rest of the cycle of the shaft S, and as typifying that the machine may thereafter during its full cycle of motor driven operation perform vending functions, among others, the indicator 36^b may be made the movable switch element of a multiple point switch, each indication-point constituting a terminal for a parallel branch of an energized circuit 36^c, the common wires of which include a switch 36^d for operation by a switch closing pin 36^e on one of the shaft driven wheels of the machine, and each branch of which may include an electromagnet 36^f which when energized trips the door of a merchandise-charged dispensing receptacle 36^g, to deliver for instance, respectively, a 50¢ razor, a 5¢ package of soap, etc.

It has been pointed out that should no coin stop at the diameter gage 30 to lock it (as will be the case where a washer is sought to be employed or a metallic disc of diameter different from the diameter of a true coin) the selector lever 35, meeting with no material resistance will make its fullest traverse. In so doing it will travel beyond its last, or 10¢, selective position so that no merchandise delivery will be made when switch 36^d is closed.

Before the completion of cycle of rotation of the shaft S, the first-gage cam 125 aforesaid gives a final impulse to the movable system connected with the first gage 25 so that the latter is thrown to fully retracted position, its pin 73 tripping the release tail 111 of the holding pawl 32 and permitting the second gage to drop back to normal position after the controller lever 35 has started its return toward normal position. This releases the coin which travels down the chute 21.

Coin display operation.

But before the coin release last described occurs a cam 135 operating the roller on a lever arm 136 (Fig. 1) draws back said arm withdrawing a switch gate 137 from the position shown in Fig. 1 so as to leave unimpeded the vertical leg of the coin chute 22. Thus the coin, dropping straight through the chute may fall upon a holding gate 138 pressed by a spring 139 to a chute-closing position to retain the coin in position for display through the sight glass protected orifice 140 until the next operation of the shaft commences. Early in the next shaft-rotation a roller 141 (Fig. 1) will work a release lever 142 for the last mentioned gate 138 permitting the coin, thus temporarily held in display position, to travel to its point of ultimate deposit. Normally, and throughout that period of operation of the machine when the coin is dropped from the first gage to the second gage, the switch gate 137 is closed, and therefore any washer, non-receivable coin (such as a penny) or the like, that drops through the machine without stopping at the second or diameter gage, in fashion as heretofore described, will be diverted by the switch gate 137 to a shunt leg 22′ of the coin-chute (shown in Fig. 7) to be disposed of differently from a true coin, as by ejection from the machine.

Clog-test.

In order to prevent the machine from being worked by clogging the chute with string suspended coins, paper wads or other clogs, a test of the coin chute condition is made after the coin has been dropped by the second gage.

To this end a supplemental electric switch 140 (Fig. 9) is provided in the motor circuit *m*, having a positively moved contact-carrying lever 141 fast on a pivotal vertical shaft 142 and a second contact lever 143 pivoted on the same shaft but loose so that it may tend always to follow the lever 141 under the tension of the light connecting spring 144. The end of the lever 143 is fashioned into explorer fingers 145 registering with slots 146 in the side of the coin chute at suitable points, and the vertical rock shaft 142 is controlled by a cam 147 on the edge of a suitable wheel on the shaft S, this cam being arranged to work a crank 148 of the rock shaft 142 shortly before main shaft S completes its cycle. If the explorer fingers 145 meet with an obstruction, switch arm 143 cannot follow the positively moved switch arm 141 and therefore the switch 140 opens, stopping the motor instantly and leaving the machine inert until it is put in order by an attendant. Thus one who has suspended a coin by a thread in second-gage cooperation is prevented from re-working the machine, and further the presence of clogging elements in the chute, of whatever sort, will cause this automatic stoppage of machine operation.

Release operations.

As the shaft completes its full cycle of rotation, cam 125 causes link 127 to rise to its highest position freeing the first gage to travel clear home to forward or normal position so that its pin 73 draws forward the link 71 to trip the switch holding trigger lever 68 allowing the motor circuit switch 26 to open, and then, promptly, the cam 90

(Fig. 3) allows the lever arm 91 to drop, through its appropriate train of links and levers to move the forward end of lever 97 downward thereby, through the projection 97', to withdraw the door-latch 27 from latching position. This completes the restoration of the machine to its normal condition, ready for next opening of the door and repetition of the cycle of operations described.

It will be apparent to those skilled in the art that by the construction described, employing the coin-measuring or first gage to set the second or diameter gage, and the second gage directly to control the selective operation of the selector element 35, and the coin itself to lock the diameter gage, one is able by a simple and efficient apparatus to effect a selective setting of the device ultimately to be operated accordantly with coin value through the direct utilization of the major characteristic of differentiation of coin value, namely, by coin diameter; and further that by the construction described herein there is provided a motor driven cyclicly operating structure with the assurance that under normal operation the insertion of a coin and door-closure will initiate a cycle that will be inevitably completed in point of time and sequence of operation; but completed idly if the article inserted does not respond to salient tests for the characteristic of a true coin; and further that one procures very simply an advantageous functioning of the device that is ultimately to be operated.

Many other and further advantages of this invention will be apparent to those skilled in the art from the foregoing description and it will be apparent to such persons that many changes may be made in the specific embodiment of my invention without departure from the spirit thereof within the scope of the appended claims.

Having described this invention, what is claimed is:

1. In a machine of the character described, the combination of a coin receiver suitable for the reception of coins of different value and to position any such coin to act as a fixed stop; a gage movable to different settings accordantly with diameter measurements of different stop-acting coins, and a selector mechanism cooperating with said gage as a stop for determination of its selective operation accordantly with the gage position determined by the coin-diameter.

2. In a machine of the character described the combination with a coin-diameter gage receptive of coins of different value and having a movable part to be locked in fixed position by the coin being gaged, of a selector element movable through a variant range limited by the coin-locked position of the gage, and means for moving said selector element.

3. In a machine of the character described a power shaft for variable extent of movement, a selector element power driven from said shaft and a coin diameter gage, receptive of coins of different values and arranged to be positioned accordingly to their diameters, said gage constituting a stop for limiting the movement of said selector accordantly with coin-diameter.

4. In a machine of the character described the combination of a power shaft, a movable selector element, resilient power transmission connection between said shaft and said element to move said element through a range variable by limitation of its throw, and a coin diameter gage, receptive of coins of different diameters, for limiting the throw of said selector element accordantly with coin diameter.

5. In a machine of the character described the combination of a coin chute, a spring pressed first gage to be positioned by the coin accordantly with its diameter, a power operated second gage cooperating with the first gage for limitation of the second gage movement by the position of the first, means to latch the second gage in predetermined position, means to effect transfer of a coin from first gage to the second gage to constitute of the coin a lock for the second gage, selector means for cooperation with the second gage, and power means for operating said selector means through a range limited by the coin-locked position of the second gage.

6. In a machine of the character described a structure to receive coins of different values and position any such coin to act as a fixed stop; a coin diameter gage settable to predetermined positions for coaction with stop-acting coins of different diameters, means controlled by the inserted coin to set said gage, a selector element and means controlled by the said gage to determine the setting of said selector element.

7. In a machine of the character described the combination of a power shaft, a selector element operable thereby through a range determined by limitation, a coin-diameter gage for limiting said selector operation, power means to set said gage for coaction with coins of different values, operable through a range determinable by limitation, and means operable by the coin in passage to said diameter gage for limiting the setting of said diameter gage.

8. In a machine of the character described the combination of a selector element, means to operate it through a range determinable by limitation, a coin diameter gage for limiting said selector setting range, said gage adapted to receive and be locked by a coin,

and means operable during the passage of a coin to the diameter gage for setting said gage to cooperate only with a coin of specific diameter.

9. In a machine of the character described the combination of a coin chute, a spring pressed first gage arranged to be positioned by a passing coin, a power actuated second gage arranged to be set by the first gage for cooperation only with a coin of predetermined diameter approximating but not less than the diameter of the coin passing the first gage, said second gage arranged to receive and be locked by the coin if the latter be of the diameter for which the second gage is set, and power actuated selector means having a selectively variable range of movement limited by the setting of the second gage.

10. In a machine of the character described the combination of a coin chute, of a first gage 25 spring pressed to cooperate with the coin to receive position in accordance with the coin diameter, a second gage, a controller element for moving the second gage, power operated means for actuating said controller element through a range determined by the position of the first gage, means for latching the second gage in predetermined positions corresponding with diameters of different coins accordantly with the position to which it is moved by the controller means, means to operate the first gage to feed the coin to the second gage to lock the latter, a selector element, and power actuated means for moving said selector element to position limited by the second gage.

11. In a machine of the character described the combination of a coin chute, a cover therefor, a spring-pressed gage for measuring the diameter of a coin in said chute, means for retracting said gage when the cover is open, and a temporary stop for positioning the coin to be acted on by the gage movable to coin stopping position in the chute when the door is open and out of such position when the door is closed.

12. In a machine of the character described the combination of a coin chute, a first gage for cooperation with a coin therein, to be positioned accordantly with coin diameter, a second gage, means for setting said second gage in accordance with predetermined coin diameter approximating that of the coin diameter determined by the first gage, means for holding said second gage in set position, means for actuating the first gage to deliver the coin to the second gage, and means controlling the holding means for the second gage operable while the coin is held by the first gage to test the penetrability of the latter and arranged to release the holding means for the second gage if the article held by the first gage is penetrable.

13. In a machine of the character described the combination of a coin diameter gage settable for cooperation with coins of different predetermined diameters, means to hold said gage in set position, selector means operative accordantly with the set position of the diameter gage, and means for testing the penetrability of a coin arranged to free the gage if the coin be penetrable.

14. In a machine of the character described the combination of a cyclicly operable power shaft, motor means to drive it through a cycle of operation, switch means controlling said motor means, a coin chute, a closure for said coin chute, a diameter gage, affected by the presence of a coin in the chute, said closure and gage jointly controlling the motor switch, selector means, power shaft operated means for setting said selector means in accordance with coin diameter, and power shaft controlling means for locking said closure closed during a predetermined portion of the cycles of operation of said shaft.

15. In a machine of the character described, the combination of a coin diameter gage movable to different positions in harmony with different coin diameters, means to move said gage to diameter-indicating position, means to latch said gage against return movement, and means for testing the permeability of a coin arranged to disable said latching means if the coin be penetrable.

In testimony whereof I hereunto set my hand.

WILLIAM F. MORIARTY.