

(No Model.)

3 Sheets—Sheet 1.

(Application filed Feb. 16, 1900.)

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Patented May 15, 1900.

COIN CONTROLLED APPARATUS.

(Application filed Feb. 18, 1900.)

(No Model.)

3 Sheets—Sheet 2.

Fig. 4.

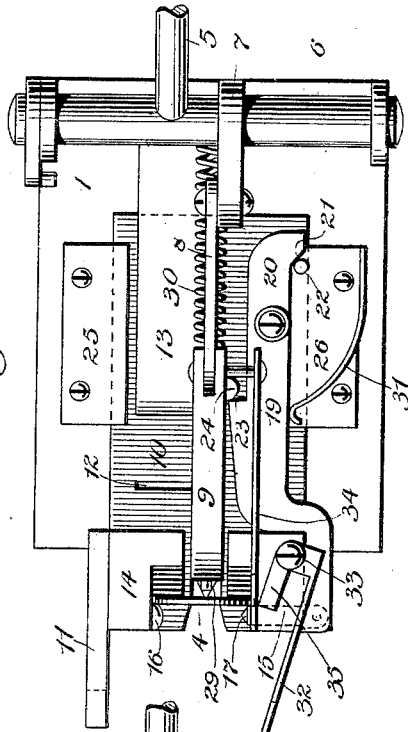


Fig. 5.

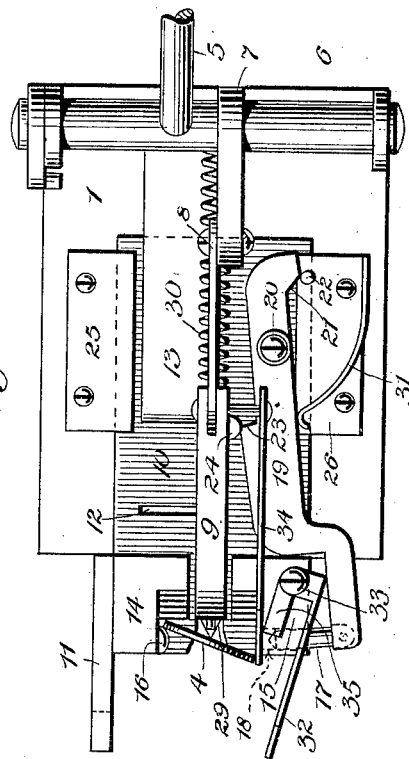


Fig. 3.

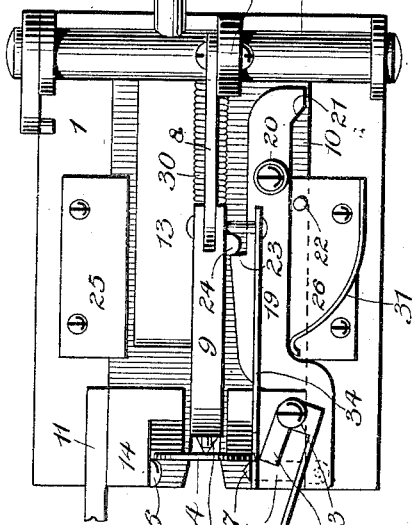
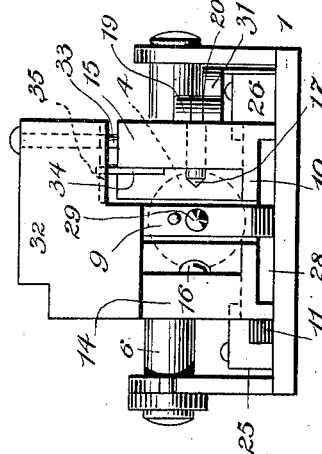


Fig. 6.



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3 Sheets—Sheet 3.

Fig. 7.

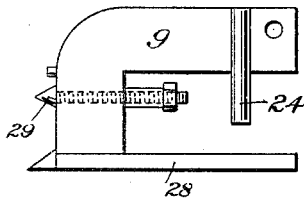


Fig. 9.

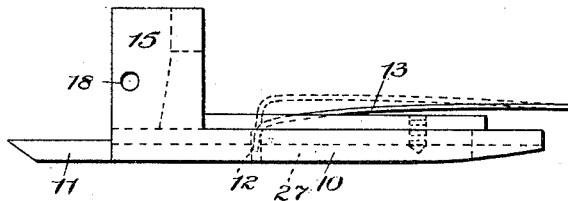


Fig. 8.

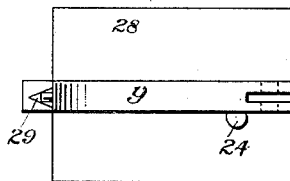


Fig. 10.

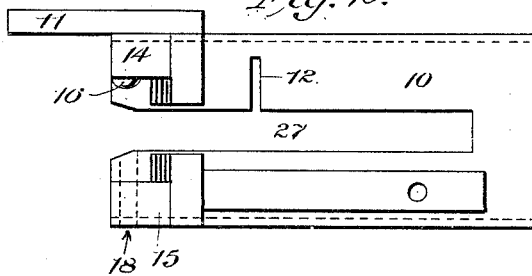
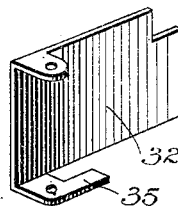


Fig. 11.



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 649,645, dated May 15, 1900.

Application filed February 16, 1900. Serial No. 5,459. (No model.)

To all whom it may concern:

Be it known that I, ULYSSE PERRIER, a citizen of the Republic of Switzerland, residing at No. 516 West Twenty-second street, New York city, county and State of New York, have invented certain new and useful Improvements in Coin-Controlled Apparatus, of which the following is a full, clear, and exact description.

My invention relates to coin-controlled apparatus; and it consists in the novel construction and arrangement of the operating parts hereinafter described.

The main object of my invention is to secure a simple, effective, compact, and durable machine whereby at the proper time and by the use of a coin of suitable denomination the apparatus may be operated by the movement of a suitable operating part.

The invention is applicable to coin-controlled machines irrespective of the purpose for which they are employed. Some of these machines are used for vending articles of merchandise, others for automatic-playing instruments, others for picture-machines, and others for a variety of purposes too numerous to mention here in detail.

In coin-controlled apparatus it is essential that the machine shall be capable of detecting and rejecting as far as possible fraudulent pieces or dummies employed in an attempt to work the machine. These dummies are sometimes in the form of washers, pasteboard disks, leaden slugs, thin metal pieces, and irregular-outlined pieces of a size capable of being inserted into the receiving-slot. In the present apparatus and the apparatus described in my previous application, Serial No. 732,011, filed September 29, 1899, attempts to operate the vending-machine by the use of such fraudulent pieces will be unsuccessful. The present apparatus—that is, the apparatus described in this application—is based partially upon the invention disclosed and claimed in my former application, above referred to, and contains features of improvement which in some respects simplify the previously-referred-to mechanism and in other respects embodies certain valuable features not embodied in the apparatus of my former application, which features of im-

provement perform the new and useful functions hereinafter described.

In the drawings, Figure 1 is a side elevation of the apparatus. Fig. 2 is a plan view of parts shown in Fig. 1. Fig. 3 is a plan view of the mechanism minus the coin-slide and the slide-clearing device. In this view a coin is in position and the operating parts partially advanced. Fig. 4 is a similar view with the operating parts advanced still farther. Fig. 5 is a similar view, the parts being advanced to substantially their extreme inward position, the coin being released. Fig. 6 is a view of the inner end of the mechanism as shown in Fig. 1, with some of the upper parts removed. Fig. 7 is a detail view of one of the operating parts. Fig. 8 is a plan view of the thing shown in Fig. 7. Fig. 9 is a side elevation of another detail. Fig. 10 is a plan view of the thing shown in Fig. 9. Fig. 11 is a perspective view of a detail of construction.

Figs. 1 and 2 show the parts in their normal position and with a coin part way down in the coin-slide. No attempt is made in the drawings or specification to illustrate the particular device or devices which are actuated or set in motion by this coin-controlled apparatus, since it is possible to apply it to such a great variety of devices. One of the parts of the apparatus shown in the drawings is termed a "carrier," and it is by the movement of this carrier that the vending-machine or other device is operated. This carrier is never moved unless a coin of suitable denomination is inserted, although an operating-handle of any desired form may be moved at any time. The coin acts as a coupling device between the operating part and the carrier device.

1 is a suitable casing or frame support upon which the controlling mechanism may be mounted. 2 is a stationary coin-chute carried by said mechanism, said chute being preferably arranged on an incline.

3 is a slot of any suitable form arranged above the coin-chute, so that coins passing through said slot will enter said chute and be conducted by the latter into the operative position hereinafter referred to.

4 is a coin.

5 is an operating-handle of any suitable form. In the drawings the operating-handle is adapted to swing and is mounted upon a pivotal center 6. This handle carries a crank-arm 7, which is connected by link 8 to an operating part 9.

10 is a carrier upon which is mounted a merchandise-ejector 11. In the carrier 10 may be formed a slot or its equivalent 12.

13 is a spring or its mechanical equivalent carried by the frame 1 and having a nose adapted to engage in the slot 12 and normally hold the carrier in its retracted position. The engagement between the slide and the spring 13 is such, however, that upon the application of sufficient power the carrier 10 may be advanced, since the spring only frictionally engages the same. The degree of resistance, however, may be varied as desired.

14 and 15 are bearing-supports carried by the slide 10, between which supports the coin, by which the operating part 9 and the carrier 10 are coupled, falls and is supported during said coupling operation. The coin is thus held at this point in a position whereby said machine may be operated—that is, when the coin is in this position the mechanism may be actuated to operate the machine in this embodiment to eject the article to be vended.

16 is a stud or bearing-point carried by the support 14, and 17 is a movable stud or bearing-point which is adapted to project through an opening 18 in the support 15.

19 is a gate mounted on carrier 10. The bearing-point 17 is carried by said gate 19, which may be mounted in such manner that it may be caused to swing and withdraw the bearing-point 17 from its operative positions in engagement with a coin. When the movable bearing-point 17 is retracted by the swinging of the gate 19, the parts are uncoupled and the coin may be ejected in the manner hereinafter described. The gate 19 may be pivoted at 20 to the carrier-slide 10, the normal position of which is stationary and retracted substantially as shown in Fig. 3, in which position the bearing-point 17 projects into the path of the coin to retain it at one edge and aid in coupling of the parts. The fixed stud 16 engages the opposite side of the coin for the same purpose. The gate 19 may have a cam-face 21.

22 is a stationary stud located in the path of movement of the cam-face 21 and by which the gate 19 may be tilted. The gate 19 may also be provided with another cam-face 23, and the operating-slide 9 may carry a suitable stud or shoulder 24, the path of movement of which is in the direction of the cam-face 23, so that by the movement of said stud 24 the gate may be tilted. 25 and 26 may be suitable guideways for the carrier-slide 10. In the carrier 10 may be formed a long slot 27, through which the operating-slide 9 may project. This operating-slide 9 may have a flanged portion 28, which projects underneath the slide 10 and to afford a suitable support

for said slide 9. The slide 9 carries a preferably-adjustable bearing-point 29, which may be advanced or retracted to the desired position, determinable by the thickness of the coin of the denomination suitable to operate the machine. The bearing-point 29 is preferably placed so as to impinge substantially against the center of the coin 4 when the latter is in the positions indicated in Figs. 3 and 4.

30 is a spring whereby the operating-slide 9 may be retracted to its normal position. (Indicated in Fig. 1, solid lines.)

The operation of the parts thus far described is substantially as follows: A coin 4 is passed through the slot 3. It drops into the chute 2 and is conducted to the position indicated in Fig. 3 just to the rear of the bearing-points 16 and 17 in the pocket formed between the supports 14 and 15 of the carrier-slide 10. The operating-handle 5 is then grasped and moved from the position indicated in Fig. 1 toward the position indicated in dotted lines therein. By this movement the operating-slide 9 is advanced first to the position indicated in Fig. 3, in which the bearing-point 29 is brought up against the rear of the coin 4, the opposite side of the coin being engaged at its edges by the bearing-points 16 and 17. In the position indicated in Fig. 3 it will be observed that the stud 24 is adjacent to the cam-face 23 of the gate 19. If the coin is of the proper thickness, the operating-slide 9 cannot be advanced farther independent of the carrier-slide 10, because the bearing-point 29 will firmly press against the rear of the coin 4. Therefore the further movement of the operating-handle will cause the operating-slide 9, the coin 4, the bearing-points 16 and 17, the carrier 10, and the ejector 11 to advance bodily. The continued advance of said parts will bring them substantially into the position indicated in Fig. 4, wherein the cam-face 21 on the gate 19 will be brought adjacent to the stationary stud 22. Continuing the movement of the operating-handle 5, the parts connected thereto and coupled therewith through the medium of the coin 4 will be advanced to the position indicated in Fig. 5, in which it will be observed that the gate 19 has been tilted by reason of the engagement of the cam-face 21 against the stationary stud 22. This tilting of the gate 19 withdraws the bearing-point 17 from in front of the coin 4, uncoupling the operating part 9 from the carrier-slide 10, and releasing the coin, permitting it to be ejected by the slight independent advance of the operating-slide 9, as shown in Fig. 5. The coin 4 as soon as disengaged may drop by gravity into a suitable receptacle. (Not shown.) By moving the handle 5 from the position shown in dotted lines, Fig. 1, to the position shown in solid lines all of the parts are returned to their normal position, or this retraction may be accomplished by the use of a suitable counterweight or spring—for example, a

spring such as shown at 30—attached at one end to the frame 1 and at the other end to the operating-slide 9.

Other details of construction may be employed—as, for instance, a spring 31—to throw the gate 19 back to its normal position. A swinging shield 32, pivoted at 33, may be employed to normally stand in the position indicated in Figs. 1 and 2, so that as the coin slides into its operative position it will not jump or bound out. This shield 32 may be caused to swing out of the way by means of an arm 34, carried by the operating-slide 9, which arm may press against the shield 32 or an extension 35 therefrom to move the said shield out of the way after it has performed its function of preventing the accidental bounding out of the coin 4.

36 is a clearing-blade that may be carried by the operating-slide 9 and may pass through a slot in the long chute 2, so that each stroke of the operating-handle will reciprocate said clearing-blade, and thereby remove anything that may become lodged in the chute 2. Suppose a fraudulent substitute were lodged in the chute at the position indicated at Fig. 2 by the coin 4. The advance of the operating part would cause the blade 36 to be projected through said chute, dislodging said dummy and throwing it out of the way. Paper or other material stuffed into the machine for the purpose of clogging it would also be ejected in this same way. A cutting-blade 37 may also be carried by the operating part 9, which blade is located in a suitable position—for example, underneath the coin-slot 3—so that in case a fraud is attempted by the letting into the machine of a coin having a string attached thereto the string will be severed, so that the coin cannot be withdrawn. Friction-fingers 38 and 39 may be employed to yieldingly press upon the surface of the chute 2, over which the coin has to pass. These fingers may not press against the surface with sufficient force to stop the passage of a coin of suitable weight; but if a fraudulent substitute or dummy of very light weight, as aluminium, were employed its momentum would not be enough to enable it to pass the friction-fingers 38 or 39, but said dummy would be checked, say, at the position of coin 4 in Fig. 2 and would be ejected by the clearing-blade 36. These friction-fingers may carry weights 40 or 41, if desired. In case an attempt is made to operate the machine by means of a washer the said fraudulent substitute for a coin will be automatically detected and rejected in the same manner as described in my previously-referred-to application—that is, the bearing-point 29 upon the operating-slide 9 when advanced will project through the hole in the washer, allowing a slight independent advance of the operating part 9, causing the stud 24 to bear against the cam-face 23 of the gate 19, thereby swinging the gate and removing the bearing-point 17, so that the forward end or butt of the operating part 9 will

engage the rear of the washer and push it out of the pocket between the arms 14 and 15 of the carrier-slide. In case a paper disk succeeds in passing the friction-fingers 38 and 39 and should get into the position indicated by the coin in Fig. 3 the sharp end of the bearing-point 29 would cut into the soft material and the disk would be ejected the same as the washer. A coin other than the proper denomination or a slug which might be thinner than the proper coin would be treated in the same way as the washer.

Obviously the form and arrangement of the parts herein described and shown in the drawings may be modified in a variety of ways without departing from the spirit and scope of this invention.

What I claim is—

1. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier, a stationary bearing-point on said carrier, a removable bearing-point carried by the gate and means to swing said gate at the limit of its forward excursion.

2. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier and movable therewith, a bearing-point stationary with respect to the carrier and a bearing-point carried by the gate and movable with respect to the carrier, and means independent of the operating part and carrier whereby the gate may be operated near the limit of its forward excursion.

3. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier, a stationary bearing-point carried by the carrier, a movable bearing-point carried by the gate, means carried by the operating part to swing said gate when the carrier is in its retracted position, and additional means to swing said gate when the carrier and gate have advanced to substantially the limit of their forward excursion.

4. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier, a stationary bearing-point on said carrier, a removable bearing-point carried by the gate and means to swing said gate at the limit of its forward excursion, and a bearing-point carried by said operating part and adapted to pass between the aforesaid bearing-points.

5. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier and movable therewith, a bearing-point stationary with respect to the carrier and a bearing-point carried by the gate and movable with respect to the carrier, and means independent of the operating part and carrier whereby the gate may be operated near the limit of its forward excursion, and a bearing-point carried by said operating part and adapted to pass between the aforesaid bearing-points.

6. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a gate on said carrier, a stationary bearing-

point carried by the carrier, a movable bearing-point carried by the gate, means carried by the operating part to swing said gate when the carrier is in its retracted position, and
5 additional means to swing said gate when the carrier and gate have advanced to substantially the limit of their forward excursion, and a bearing-point carried by said operating part and adapted to pass between the afore-
10 said bearing-points.

7. In a coin-controlled apparatus, a movable operating part, a reciprocating carrier, a bearing-point carried by said operating part, a bearing-point carried by the carrier
15 and stationary with respect thereto, a gate carried by said carrier and a bearing-point carried by said gate and movable with respect to the carrier and means whereby the gate may be moved by the operating part.

8. In a coin-controlled apparatus, a movable operating part, a reciprocating slide, and detachable means for coupling said slide and operating part, a gate carried by said oper-
20 ating part and carrying a bearing-point engaging said coupling means and a device for tilting said gate and freeing said coupling device near the limit of the forward excursion of said carrier.

9. In a coin-controlled apparatus, an operating part, a bearing-point carried thereby,
30 a movable carrier independent of said operating part, bearing-point carried by said carrier, one of the said bearing-points being movable with respect to the carrier, means for moving said movable bearing-point, a coin-chute,
35 a swinging shield adjacent and forward of the foot of said chute and means for operating said shield.

10. In a coin-controlled machine in combination, a coin-chute, a support for the coin to hold said coin in position whereby said machine may be operated, an operating part to operate said machine, and means controlled
40 by the movement of said operating part to clear said chute between said coin-support and the entrance to said chute.

11. In a coin-controlled machine in combination, a coin-chute, a support for the coin to hold the coin in a position whereby said machine may be operated, a handle to operate
50 said machine, and means controlled by the movement of said handle to enter and clear said chute between said coin-support and the entrance to said chute.

12. In a coin-controlled machine in combination, a coin-chute, a support for the coin to hold said coin in a position whereby said machine may be operated, a handle to operate
55 said machine, and a blade reciprocated by the movement of said handle and adapted to enter and clear said chute between said coin-support and the entrance to said chute.

13. In a coin-controlled machine in combination, a coin-chute having a slot therein extending longitudinally of said chute, a support for the coin to hold said coin in a position whereby said machine may be operated,
65 a reciprocating handle to operate said machine, and a blade reciprocated by each reciprocation of said handle and adapted to enter said slot in said chute and clear said chute between said coin-support and the entrance to said chute.

14. In a coin-controlled vending-machine in combination, a coin-chute having a slot
75 therein extending longitudinally of said chute, a reciprocating handle to operate said machine, an ejector for the article to be vend- ed normally unconnected with said handle, a support for the coin to which said chute leads,
80 said support adapted to hold said coin in a position to couple said ejector and handle together, a blade reciprocated by each movement of said handle and adapted to enter said slot in said chute and clear said chute
85 between said coin-support and the entrance to said chute.

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