Dec. 28, 1965 R. T. CORNELIUS ETAL 3,225,880

COIN MECHANISM

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FIG. 1

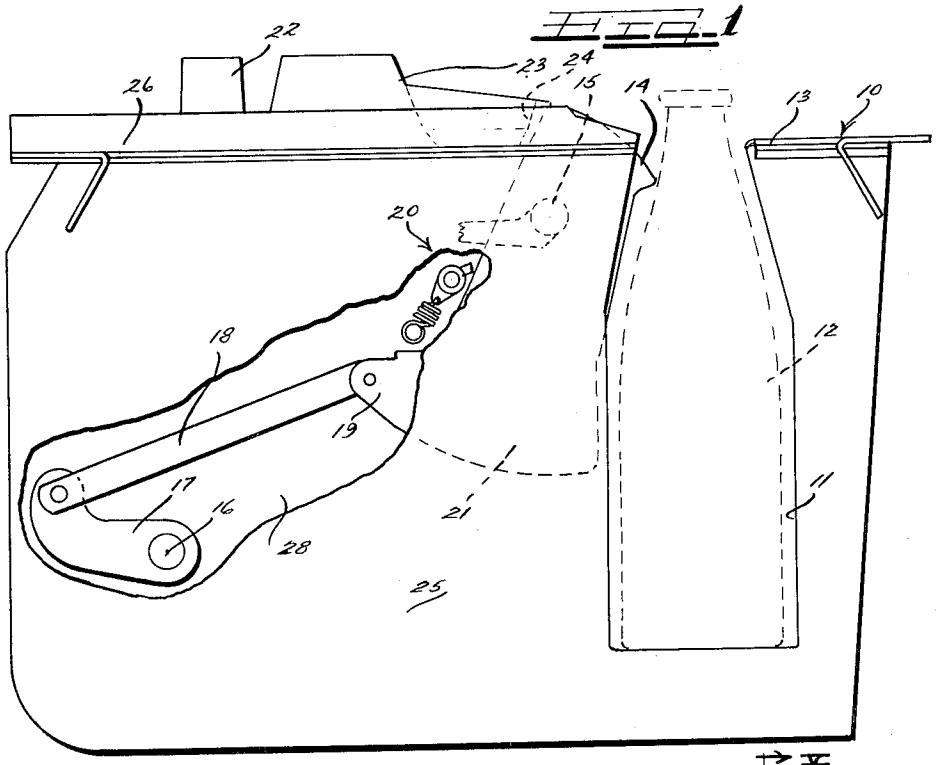
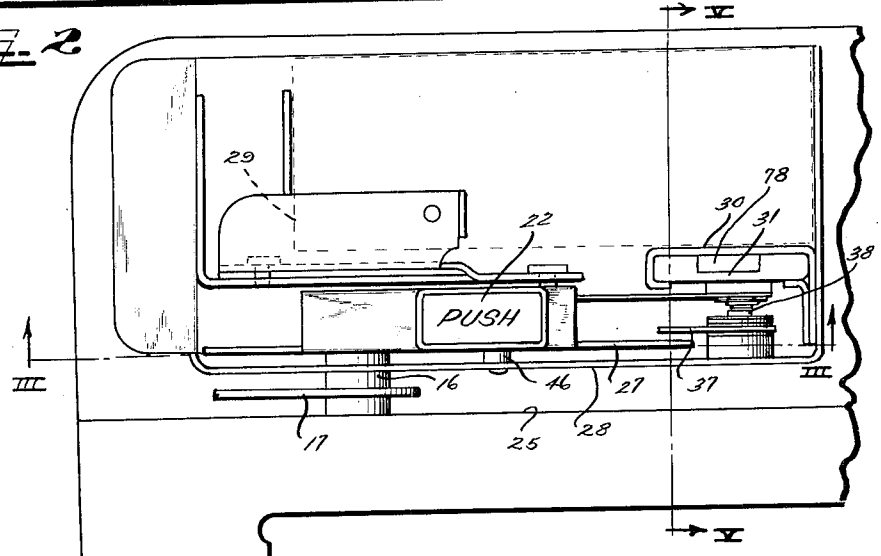


FIG. 2



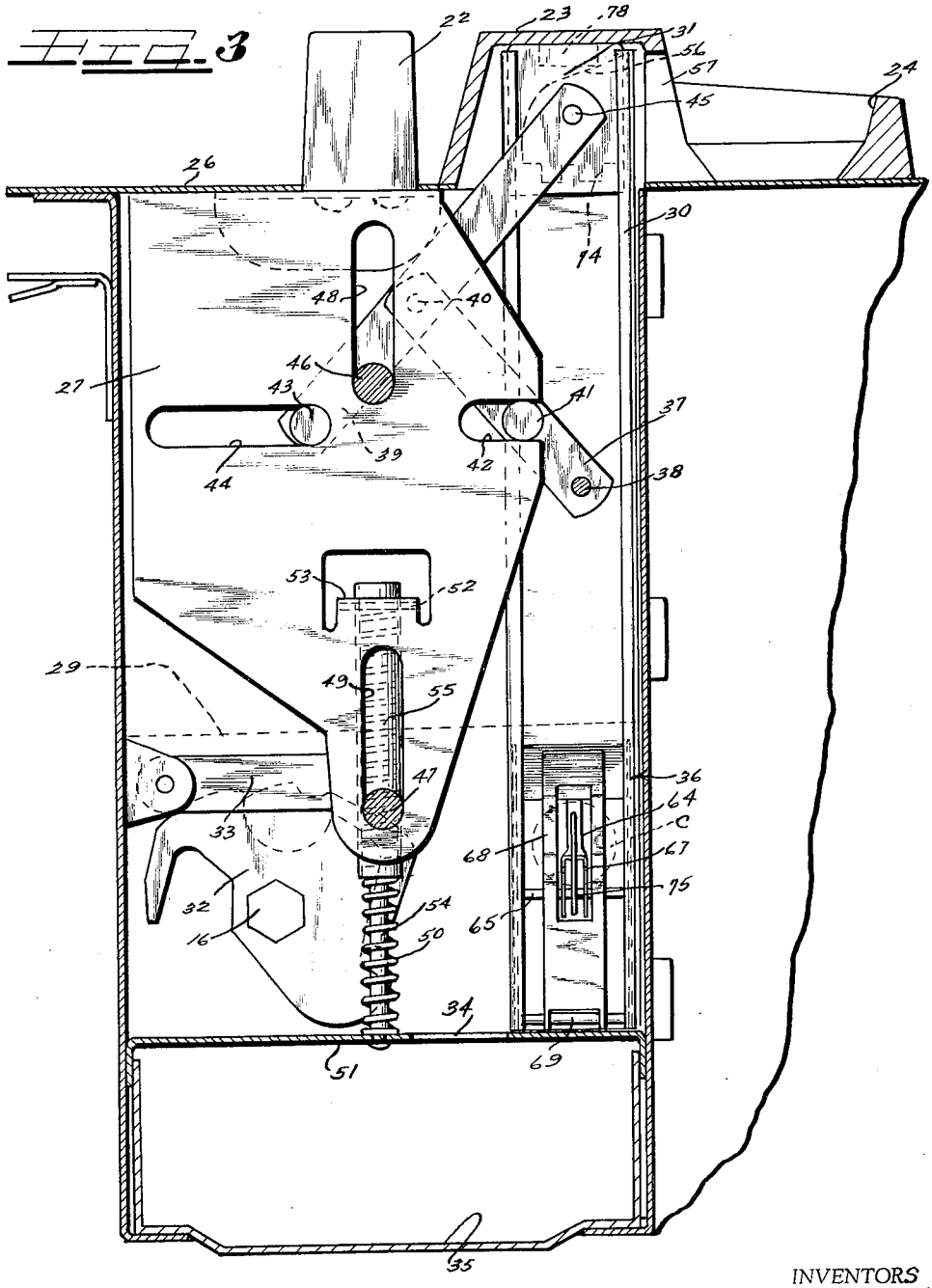
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COIN MECHANISM

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FIG. 3



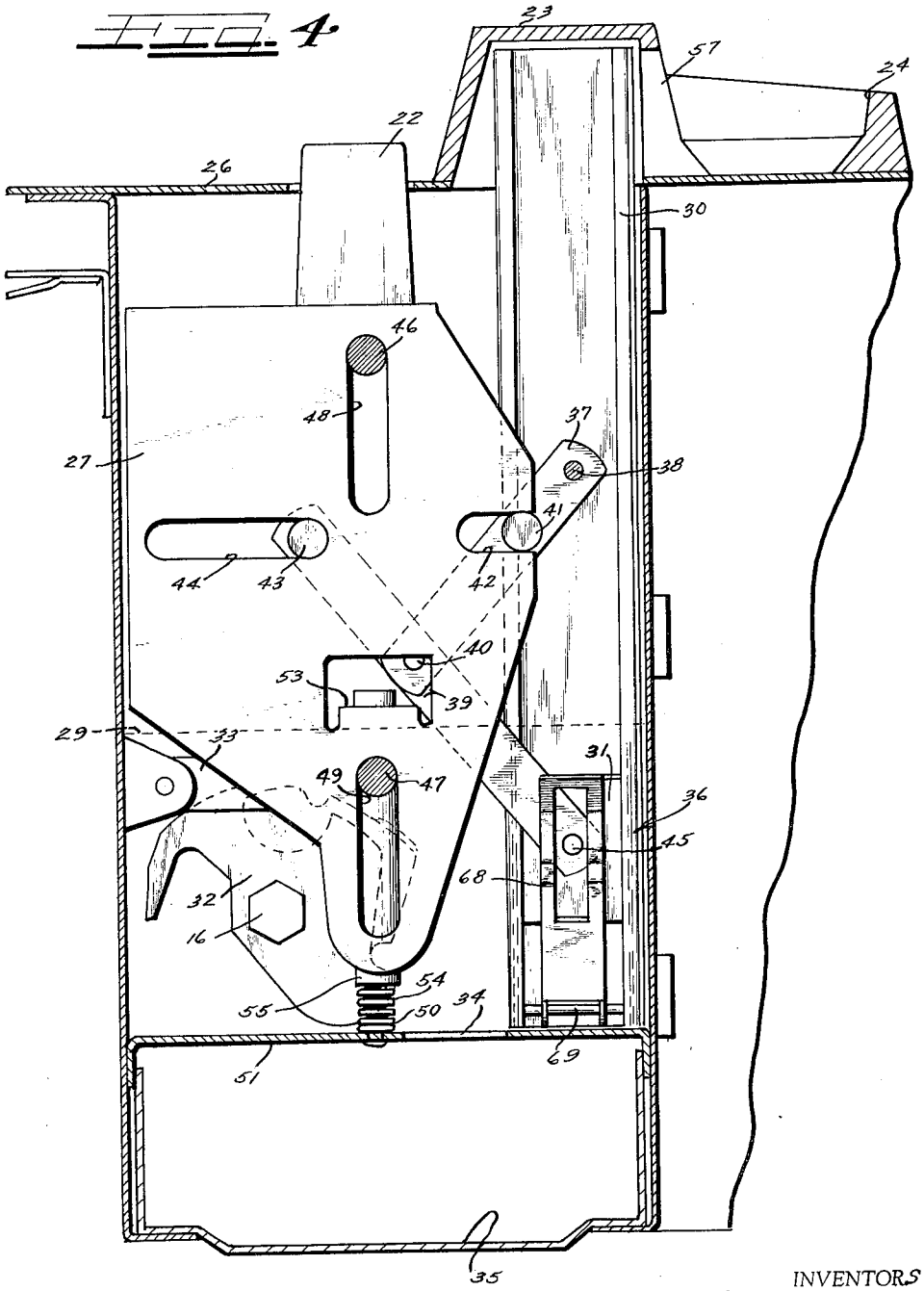
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COIN MECHANISM

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FIG. 4.



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COIN MECHANISM

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FIG. 5

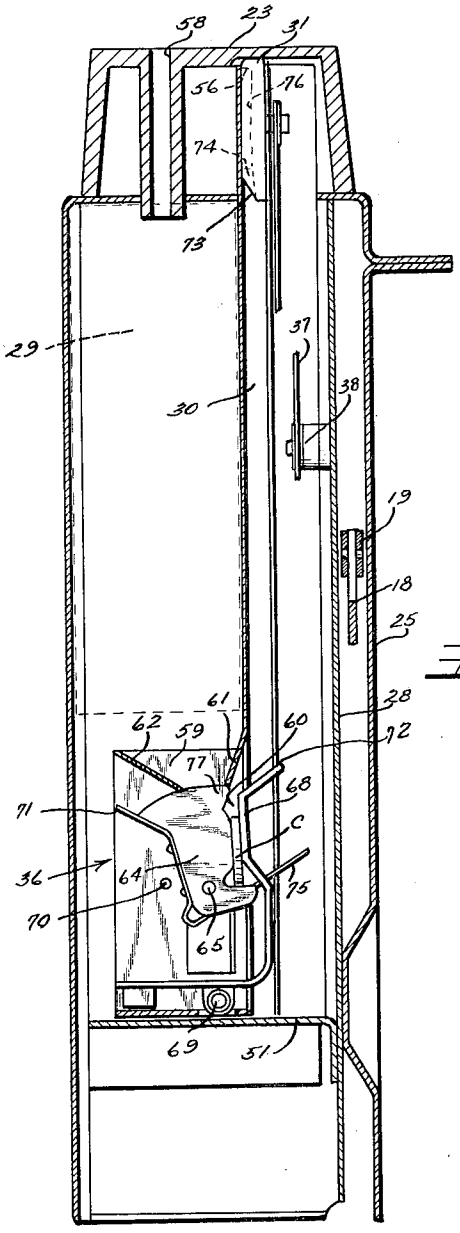


FIG. 6

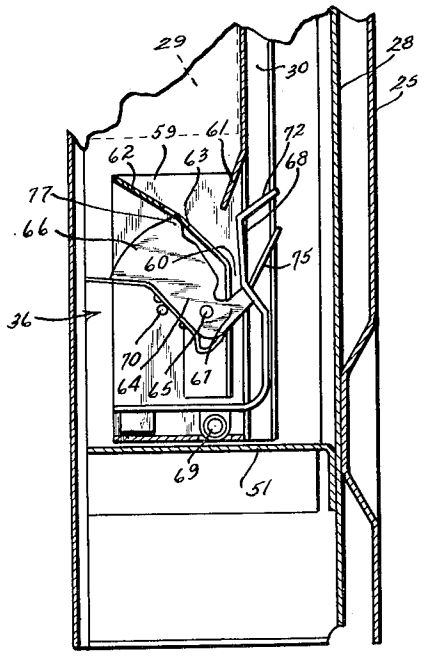
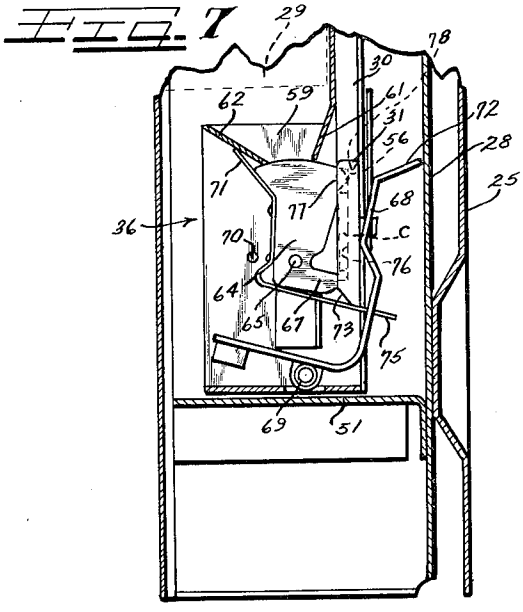


FIG. 7



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United States Patent Office 3,225,880 Patented Dec. 28, 1965

3,225,880

COIN MECHANISM

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Filed Nov. 15, 1962, Ser. No. 237,871
23 Claims. (Cl. 194—1)

This invention relates generally to coin mechanisms, and more specifically to coin mechanism construction which is particularly adapted to be employed within the bin of a dispenser or vending machine such as typically is provided with a hinged top cover.

Although the principles of the present invention may be included in various dispensing devices, a particularly useful application is made in a vending machine of the type which has a freely openable top cover, the goods to be dispensed being disposed therein and being removable therefrom upon being manually moved to engage a bin door after the required coin deposit has been made. More specifically, in the bottled beverage industry, top-opening coolers have been provided for some time wherein the beverage bottles are vertically disposed in parallel rows, and each resting on the bottom, or disposed close to the bottom, of the bin. The necks of the various bottles project upwardly through elongated slots by which the bottles may be moved to a bin door which will yield or swing open when the bottle is brought to bear thereagainst, provided that the right coin deposit has been made.

It has been known to place a coin mechanism externally of the refrigerated bin with linkage extending through the bin wall for control of bin door movements. This type of construction has several disadvantages including the necessity for having one or more holes in the cabinet wall. It has also been known to dispose a coin acceptor mechanism within the bin with its axis coaxial with and corotatable with the pivotal axis or hinge of the bin door. This latter construction has this disadvantage that there has been no known way of including a coin rejection mechanism, especially in the location normally allocated to the coin mechanism. Still further, we have found that when structure has been invented for doing so, there has been no further structure available commercially for returning slugs or rejected coins in a vertical direction to the level from whence the coins were inserted.

Accordingly, it is an object of the present invention to provide an improved coin mechanism.

A further object of the present invention is to provide means by which a coin acceptor may be connected to a bin door when a coin rejector is employed therewith.

A still further object of the present invention is to provide means by which a coin may be removed vertically subsequently to its being rejected by a rejector mechanism.

A still further object of the present invention is to provide a structure for transferring a coin from a rejection mechanism to a coin-raising mechanism.

A still further object of the present invention is to provide a coin return mechanism which accepts only one coin at a time for individual return thereof.

Yet another object of the present invention is to provide a manually operable coin return mechanism.

A still further object of the present invention is to provide a manually operable coin return mechanism wherein a short manual movement is magnified to effect a somewhat longer distance of coin return.

A still further object of the present invention is to provide a coin return mechanism whereby the coin is returned with a predetermined returning force.

Many other advantages, features and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which a preferred structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

On the drawings:

FIGURE 1 is a fragmentary front view, partially broken away, of a coin mechanism provided in accordance with the principles of the present invention;

FIGURE 2 is a fragmentary enlarged top view of the structure shown in FIGURE 1, with a top plate removed;

FIGURE 3 is a cross-sectional view, partly in elevation, taken along line III—III of FIGURE 2;

FIGURE 4 is similar to FIGURE 3 except that the parts are illustrated in an actuated or coin-returning or transferring position;

FIGURE 5 is a cross-sectional view taken along line V—V of FIGURE 2, the lower portion thereof being illustrated in a transient position;

FIGURE 6 is an enlarged fragmentary view of the lower portion of FIGURE 5 but wherein the parts are illustrated in a normal position; and

FIGURE 7 is also an enlarged fragmentary view of the lower portion of FIGURE 5 but wherein the parts are illustrated in a coin-transferring relation, and thus corresponding to the position shown in FIGURE 4.

As shown on the drawings:

The principles of this invention are particularly useful when embodied in a vending machine or dispensing device of the top opening bin type generally indicated by the number **10**. The vending machine **10** includes an unloading station **11** to which an article **12**, such as a bottle, may be manually transferred. Rack structure partially illustrated at **13** prevents removal of the bottle **12** from any part of the machine except at the station **11**. However, at the station **11**, there is an article blocking member or bin door **14** supported on a pivotal support axis **15** which prevents removal of the bottle **12**. The bin door or blocking member **14** is prevented from rotating to a bottle-freeing position by structure described below until the proper coin deposit has been made. To this end, there is provided a shaft **16**, connected to a coin acceptor described below, to which there is secured an arm **17** extending radially therefrom, the arm **17** being corotatable with the acceptor shaft **16**. A link **18** is connected at one end to the other end of the arm **17**, and at its other end, to a connecting portion **19** of the bin door **14**. When the acceptor shaft **16** is free to turn, an upward force applied by the bottle **12** against the bin door **14** causes the bin door to pivot in a counterclockwise direction as shown, the bin door **14** thereby acting through the link **18** and the arm **17** to cause the acceptor shaft **16** to pivot in a clockwise direction as shown. Once this type of movement has begun, a click-stop mechanism **20** controls movement of the bin door and thereby insures that the coins will not be lost or released before the bottle **12** is removed, even if it is temporarily released by lowering of the bottle. Moreover, the bin door **14** or blocking member has a lower portion **21** which is thus pivoted into the unloading station **11** between the advancing bottle **12** and the next bottle to prevent the entry of a second bottle therein until after the acceptor mechanism is provided with an additional coin deposit. It is apparent that as the movement of the bottle **12** progresses, the click-stop mechanism **20** will be released to enable a restoration of the parts to the illustrated position by a return spring (not shown) or by the inherent weight of the parts. We wish to emphasize that the axis of the acceptor shaft **16** is offset in a downwardly and laterally disposed direction from the pivotal support axis **15**

whereby space is provided above the axis of the acceptor shaft 16 for disposing a rejector mechanism beneath a coin return button 22, a coin slot housing 23, and a coin return tray 24. The structure described includes a wall plate 25 which is partially broken away in FIGURE 1, and a flanged top plate 26.

Referring to FIGURE 2, there is shown an enlarged fragmentary view of the structure of FIGURE 1 with the top plate 26 removed. The coin return button 22 comprises a part of the coin return mechanism and is connected to a slide member 27 which is disposed parallel to an intermediate plate 28. The button 22 is also connected to drive coin scavenging means on a coin rejector 29 in a known manner. The coin rejection mechanism 29 may be of any known type, several of which are commercially available.

(For the reader desiring further information about coin rejectors, attention is invited to U.S. Patent No. 2,588,510, and 2,651,399, as well as to other patents having similar classifications.) Other suitable framing or housing is provided to support and enclose the coin rejection mechanism 29 in position to receive coins from the coin slot structure 23. Coins pass through the rejector mechanism 29 by gravity and are discharged from the bottom thereof at one place if accepted and at another place if rejected. Extending vertically adjacent to the coin rejector 29 is a channel-defining means 30 within which is disposed a reciprocable coin carrier 31 described more fully below.

Referring to FIGURE 3, a coin acceptor or totalizing mechanism 32 of a known type is carried corotatably on the acceptor shaft 16 and is disposed beneath one portion of the rejector mechanism 29 for receiving acceptable coins therefrom. A pivoted stop lever 33 of a known type also cooperates with the acceptor 32 to prevent bottle-releasing rotation thereof in the absence of the proper coin deposit therein. When the proper coinage is present in the acceptor 32, the lever 33 does not prevent clockwise rotation thereof, thereby enabling the bin door 14 to pivot to a bottle-releasing position. Such corresponding pivoting of the acceptor 32, in a clockwise direction as shown in FIGURE 3, causes the coins therein to fall out through a slot 34 into a coin drawer 35.

Any coins which pass through the rejector mechanism 29, which the rejector 29 classifies as unacceptable, are discharged from the bottom thereof at the other side for reception by a portion 36 of the coin return mechanism which also extends beneath the rejector 29. The details of the portion 36 of the coin return mechanism are described in greater detail below. Reciprocation of the coin return button 22 by hand effects reciprocation of the slide member 27 which not only actuates any coin scavenger portion of the rejector 29, but also effects reciprocation of the coin carrier 31 from a position shown in FIGURE 3 within the coin slot housing 23, to a position shown in FIGURE 4 adjacent to the coin return mechanism 36.

To this end, there is provided a first lever 37 which is pivotally supported at one end by a stub shaft 38 secured to the intermediate plate 28 (FIGURE 2), the other end of the lever 37 being pivoted to a second lever 39 at a point 40. The lever 37 is provided with means 41 disposed intermediate its ends which has slidable engagement with a slot 42 in the slide member 27, and the lever 39 is provided with means 43 at one end which has slidable engagement with a further slot 44 in the slide member 27. The other end of the lever 39 is pivotally connected as at

the slide member 27. The slide member 27 is urged in a vertical direction by a spring 50 acting between a frame member 51 and the slide member 27 through a cross pin 52 carried on a laterally extending ear 53. The spring 50 is internally guided by an internal guide pin 54 secured to the frame member 51, and is jacketed by an external sleeve 55 through which the pin 52 extends.

In the vending machine, the level of the top or cover plate 26 is substantially coplanar with the lowest accessible level within the machine. Therefore, when a coin is rejected and received by the return mechanism 36 as shown at C, it is necessary to raise the coin to the level of the top or cover plate 26. Such raising is effected by manually depressing the button 22, thereby causing the slide member 27 to move against the spring 50, thereby storing energy therein. Upon release of the button 22, the spring returns the slide member 27 to the position illustrated in FIG. 3 from that shown in FIGURE 4. Such reciprocation of the slide member 27 actuates the levers 37 and 39 in such manner that the coin carrier 31 is reciprocated from the position illustrated in FIGURE 3, to the position illustrated in FIGURE 4, and then back to the position illustrated in FIGURE 3. As the slide member begins its downward movement, the upper edge of the slot 42 acts against the upper surface of the slide pin 41 causing it to pivot about the axis of its pivotal support 38. As movement of the slide member 27 progresses, the slide pin 41 moves to the left, as shown, in the slot 42 until the slot 42 is aligned with the axis of the pivotal support 38. Further downward movement of the slide member 27 causes the slide pin 41 to slide toward the open end of the slot 42 until the position illustrated in FIGURE 4 is reached. During this movement, the other end of the lever 37 moves in an arc, and in particular, the pivotal connection at 40, about which the lever 39 is pivotal, moves in such arc. Since the slide pin 43 is restrained to lateral movement by the slot 44, and since the coin carrier 31 is restrained by the channel-defining means 30 to vertical movement, the pivoting of the lever 37 progressively moves the lever 39 from the position illustrated in FIGURE 3 to a position where it is horizontal and aligned with the slots 42 and 44, and thence as the pivotal connection 40 is moved downwardly further, the coin carrier 31 continues its downward movement and the slide pin 43 moves to the right as illustrated until the position shown in FIGURE 4 is reached. At this position, the coin carrier 31 receives the rejected coin C, and upon release of the button 22, the spring 50 returns the movable components to the position illustrated in FIGURE 3. The total movement of the slide member 27 is defined by the slots 48 and 49. The coin carrier 31 thus moves parallel to the slide member 27, and in the same direction, by an amount which is several times greater than the amount the slide member 27 is moved. When the spring 50 restores the parts from the the position illustrated in FIGURE 4 to the position illustrated in FIGURE 3, it is evident that the coin carrier 31 is accelerated considerably so that it moves at a higher velocity than the slide member 27. As the coin carrier 31 reaches its uppermost position, any coin contained therein continues to move upwardly due to its own inertia and is thus thrown against an upwardly laterally extending internal surface 56 which thereby deflects the coin laterally through a slot 57 in the slot housing 23, into the coin return tray 24.

When a coin is deposited in the device through a coin slot 58 in the coin slot housing 23, as shown in FIGURE 5,

the coin rejector mechanism **29**. The coin return mechanism **36** is best shown in FIGURE 6 and includes means which defines a hopper **59** which acts like a funnel to receive and direct a rejected coin into a coin pocket **60**. The channel-defining means **30** extends substantially to the frame member **51**, but its back side terminates in a rearwardly bent lip **61** which defines the front side of the hopper. The bottom or back side of the hopper **59** is defined by a plate **62** which is slotted at **63**. Beneath the hopper **59**, there is disposed a coin support member or coin blocking member **64** pivotally carried on the pivot pin **65**, the support member **64** being pivotable within and through the slot **63**. The upper end of the support member **64** is indicated at **66** and comprises a coin-blocking portion which may pivot clockwise as shown to block the egress of any coin from the hopper **59** which may have been received by the hopper **59** from the lower coin discharging end of the coin rejector **29**. The lower end of the support member **64** comprises a bifurcated lower portion **67**.

Immediately below and also to the right as illustrated, of the support member **64**, there is disposed a check member **68** which is supported by a pivot pin **69**. The check member **68** is slotted as shown in FIGURE 3 so that the bifurcated portion **67** extends therethrough with clearance. The coin pocket **60** is thus defined at its front by the check member **68**, at its bottom by the bifurcated portion **67**, and at its rear by the slotted portion of the plate member **62**, the uper end of the pocket **60** being open and communicating with the hopper **59** for receipt of a rejected coin. When a rejected coin falls into the hopper **59**, it orients itself flatly against the member **62** and slides downwardly into the pocket **60** and comes to rest on the bifurcated portion **67** on its edge as shown in FIGURE 5. The bifurcated portion **67** centers the coin with respect to the rejected coin-receiving means **36**, in a direction perpendicular to the drawing.

The mass of the support member **64** and the location of the pivot pin **65** is so distributed that the support member **64** will pivot in a counterclockwise direction to the rest position illustrated in FIGURE 6 where further pivoting is precluded by engagement with a fixed stop pin **70**. In a similar manner, the weighted check member **68** has its mass so distributed that it also tends to pivot in a counterclockwise direction to the position illustrated in FIGURE 6 thereby defining the minimum or coin-receiving thickness of the pocket **60**. However, when a rejected coin C is received in the pocket **60**, its mass upsets the delicate balance of the support member **64** so that it begins to pivot in a clockwise direction as shown in FIGURE 5 until the check member **68** is engaged. Pivoting in the clockwise direction by the support member **64** may continue, it serving also to drive or partially pivot the check member **68** ahead of it. Clockwise pivoting is ultimately limited by engagement of a spring stop **71**, secured to the support member **64**, with the lower surface of the plate member **62**. Receipt of the first coin in the coin pocket **60** thus closes the bottom of the hopper **59** to retain therein any further coins which may be received until the coin in the coin pocket **60** has been removed. Receipt of the coin C thus pivots the parts from the position shown in FIGURE 6 through the position shown in FIGURE 5, the pivoting continuing to a position of equilibrium.

At this point, the plunger **22** is depressed which brings the coin carrier **31** downwardly to pick up the coin C.

The check member **68** has an upwardly directed cam surface **72** which is at all times disposed in the path of the coin carrier **31** within the channel-defining means **30**. The lower edge of the coin carrier **31** is engageable with the cam surface **72** to further pivot the check member **68** out of the way, the lower edge of the coin carrier **31** being beveled or cammed as shown at **73** so that the carrier is received between the coin C and the check member **68**. Near the lower edge of the coin carrier **31**, there are provided a pair of slots **74** which receive the extreme ends of the bifurcated portion **67**. Further downward movement of the coin carrier **31** causes its lower edge to engage a leaf spring **75** which extends between the bifurcations and which may be integral with the spring **71**. The coin carrier **31** acting through the leaf spring **75** causes the support member **64** to force the coin C to the right into a pocket **76**, the upper surface of which is identified at **56**. The yieldability of the spring **75** serves to accommodate overtravel of the coin carrier **31**. The support member **64** includes a projection or overhanging portion **77**, the upper surface of which aids in closing the hopper, as shown in FIGURE 5. During coin transfer, the portion **77** extends into a further slot in the coin carrier **31**, the bottom of which slot comprises a cam surface **78** (FIGS. 1 and 3) engageable with the lower side of the projection **77** during initial upward movement of the coin carrier **31** for positively pivoting the support member in a return direction, thereby directly overcoming any binding or friction. The coin-receiving means **36** thus is actuated to transfer the coin to the coin carrier as brought out in FIGURE 7, the support member **64** serving to hold the coin C within the pocket **76** until after the upper edge of the coin has cleared the lower edge of the lip **61**, after which the rear side of the channel-defining means **30** holds the coin within the pocket in its upward travel.

The broad principles of this invention may be practiced using other structure. To that end, this invention contemplates the steps of receiving the rejected coin C from the source which here constitutes the rejector mechanism **29**, directing the coin into a transfer position in the coin pocket **60**, transferring the coin C from the coin pocket **60** to the pocket **76** in the coin carrier **31**, and thereafter moving the coin carrier **31** to a position where the coin is accessible. The method preferably further includes the step of closing the source, which here comprises closing the hopper **59** which is in effect an extension of the rejection mechanism **29**, such closing preferably being simultaneous with the last part of the coin movement to the transfer position. The method thus further preferably includes reopening the source **59**, preferably as soon as the coin carrier **31** has left the transfer position.

Although various minor modifications might be suggested by those versed in the art, it should be understood that we wish to embody within the scope of the patent warranted hereon all such embodiments as reasonably and properly come within the scope of our contribution to the art.

We claim as our invention:

1. A device for dispensing articles, including in combination:

(a) a coin rejector mechanism having an upper coin-receiving end, and operative to classify a coin as being acceptable or rejected; and

(b) a coin return mechanism extending beneath a portion of said rejector mechanism for receiving a rejected coin, and operative to raise such coin externally of said rejector mechanism to a position adjacent to said upper end of said rejector mechanism where it is rendered accessible.

2. A device for dispensing articles, including in combination:

(a) a coin rejector mechanism having an upper coin-receiving end;

(b) means for receiving a rejected coin disposed beneath said coin rejector mechanism; and

(c) a manually movable coin carrier positionable in one carrier position in alignment with said receiving means and operable to receive a coin therefrom, and movable to a second carrier position where the coin is rendered accessible adjacent to said upper end of said rejector mechanism.

3. A device for dispensing articles, including in combination:
(a) a coin rejector mechanism having an upper coin-receiving end;
(b) means disposed beneath said coin rejector mechanism and operative to receive and, when actuated, to transfer such coin; and
(c) a manually movable coin carrier positionable in one carrier position in alignment with said receiving means and operable to actuate said receiving mechanism and to receive a coin therefrom, and movable to a second carrier position where the coin is rendered accessible adjacent to said upper end of said rejector mechanism.

4. A coin return mechanism, comprising:
(a) means for receiving a rejected coin;
(b) a first lever pivotally supported at one end;
(c) a second lever pivotally supported intermediate its ends on the other end of said first lever;
(d) a manually movable slide member engaging said first lever intermediate its ends, and engaging said second lever at one end; and
(e) a coin carrier secured to the other end of said second lever, said carrier, in response to movement of said slide member, being positionable in alignment with said receiving means to receive a coin therefrom, and being movable therefrom to a remote position where such coin is accessible.

5. A coin return mechanism, comprising:
(a) means for receiving a rejected coin;
(b) a coin carrier positionable in alignment with said receiving means and operative to receive a coin therefrom in one carrier position, and movable to a second carrier position where the coin is accessible;
(c) a manually movable slide member; and
(d) means connecting said slide member to said coin-carrier and operative to effect coin-carrier movements which are parallel to, which are in the same direction as, and which are longer than the slide member movements.

6. A coin return mechanism, comprising:
(a) means defining a hopper directed to receive a rejected coin;
(b) a pivoted support member disposed beneath said hopper and receptive of the rejected coin therefrom;
(c) a pivoted check member which with said support member defines a coin pocket; and
(d) a manually movable coin carrier adapted at one position to pivot said check member in a direction away from the coin, and to pivot said support member to effect transfer of the coin from the pocket into said carrier, said carrier being movable to a second carrier position where the coin is accessible.

7. A coin return mechanism, comprising:
(a) means defining a hopper directed to receive a rejected coin;
(b) a manually vertically reciprocable coin carrier positionable in a lower coin-receiving position, and movable to an upper carrier position where the coin is accessible; and
(c) means receptive of the coin from said hopper means, and operative to transfer the coin to said coin carrier in response to being actuated by downward movement of said coin carrier.

8. A coin return mechanism, comprising:
(a) means defining a hopper directed to receive a rejected coin;
(b) means defining a normally open coin pocket beneath said hopper, and a portion of which means is pivotable in response to receipt of a coin to block the lower end of said hopper means; and
(c) a manually movable coin carrier engageable with said pivotable portion to effect further pivoting thereof by which said pivotable portion effects transfer of the coin into said carrier, said carrier being movable with such coin to a position where the coin is accessible.

9. A device for dispensing articles, including in combination:
(a) a coin rejector mechanism having an upper coin-receiving end;
(b) means disposed beneath said coin rejector mechanism and operative to receive and, when actuated, to transfer such coin;
(c) a movable coin carrier positionable in one carrier position in alignment with said receiving means and operable to actuate said receiving mechanism and to receive a coin therefrom, and movable to a second carrier position where the coin is rendered accessible adjacent to said upper end of said rejector mechanism; and
(d) manually movable means connected to said coin carrier and disposed along one side of said rejector mechanism, said means being operative to effect coin-carrier movements between said carrier positions in response to an input movement which is somewhat shorter than the distance between said positions.

10. A device for dispensing articles, including in combination:
(a) a coin rejector mechanism having an upper coin-receiving end;
(b) means disposed beneath said coin rejector mechanism and operative to receive and, when actuated, to transfer such coin;
(c) a manually movable coin carrier positionable in one carrier position in alignment with said receiving means and operable to actuate said receiving mechanism and to receive a coin therefrom, and movable to a second carrier position where the coin is rendered accessible adjacent to said upper end of said rejector mechanism; and
(d) channel-defining means disposed along one side of said rejector and guiding said coin carrier and retaining any coin therein during coin-carrier movement.

11. A coin return mechanism, comprising:
(a) means for receiving a rejected coin; and
(b) a manually movable coin carrier positionable in alignment with said receiving means and operative to receive a coin therefrom in one carrier position, and movable upwardly to a second carrier position, said coin carrier having an upwardly laterally extending internal surface below which the coin is disposed, said surface being engageable by the coin for deflecting the upwardly moving coin to an accessible place.

12. A coin return mechanism, comprising:
(a) means for receiving a rejected coin;
(b) a movable coin carrier positionable in alignment with said receiving means and operative to receive a coin therefrom in one carrier position, and movable to a second carrier position where the coin is accessible;
(c) a spring; and
(d) means connected to said spring and to said coin carrier and movable manually in a direction to load said spring to a predetermined amount, said means being movable by said spring in the opposite direction and being operative to move said carrier from said second position to said one position.

13. A coin return mechanism, comprising:
(a) a pivoted support member receptive of a rejected coin;
(b) a pivoted check member disposed to hold the rejected coin on edge on said support member; and
(c) a manually movable coin carrier adapted at one position to pivot said check member in a direction away from the coin, and to pivot said support member to effect transfer of the coin therefrom into said carrier, said carrier being movable to a second carrier position where the coin is accessible.

14. A coin return mechanism, comprising:
(a) a pivoted member having a bifurcated portion operative to support a rejected coin on edge at a predetermined position;
(b) a pivoted check member disposed to hold the coin against said support member; and
(c) a manually movable coin carrier adapted at one position to pivot said check member in a direction away from the coin, and to pivot said support member to effect transfer of the coin therefrom into said carrier, said carrier being movable to a second carrier position where the coin is accessible.

15. A coin return mechanism, comprising:
(a) means defining a hopper directed to receive a rejected coin;
(b) a pivoted support member disposed beneath said hopper means and receptive of a rejected coin therefrom, said support member including a coin-blocking portion normally retracted from said hopper means, said support member being pivotal in response to the weight of the coin to dispose said coin-blocking portion in a hopper-means-blocking position; and
(c) a manually movable coin carrier adapted at one position to pivot said support member further to effect transfer of the coin therefrom into said carrier, said carrier being movable to a second carrier position where the coin is accessible.

16. A method of returning a coin that has been rejected by a gravity-operated coin rejector, to its insertion level, comprising the steps of:
(a) receiving the rejected coin by gravity from the rejector;
(b) directing the coin into a transfer position;
(c) transferring the coin to a carrier; and
(d) elevating the carrier to a position above the rejector to the insertion level at which position the coin is accessible.

17. A method of returning a coin that has been rejected by a gravity-operated coin rejector, to its insertion level, comprising the steps of:
(a) receiving the rejected coin by gravity through a path leading from the rejector;
(b) directing the coin into a transfer position;
(c) closing off the path through which the coin was received;
(d) transferring the coin to a carrier;
(e) elevating the carrier to a position above the rejector to the insertion level at which position the coin is accessible; and
(f) reopening the path.

18. A coin return mechanism, comprising:
(a) means for receiving a rejected coin;
(b) a manually movable coin carrier positionable in alignment with said receiving means and operative to receive a coin therefrom in one carrier position, said carrier being movable upwardly to a second carrier position; and
(c) a deflection surface against which an upwardly moving coin is thrown by said carrier, and from which such coin is laterally deflected to an accessible place.

19. A coin return mechanism, comprising:
(a) means defining a hopper directed to receive a rejected coin;
(b) a pivoted support member disposed beneath said hopper and receptive of the rejected coin therefrom;
(c) a manually movable coin carrier adapted to pivot said support member in one direction to transfer and to receive a coin therefrom in a first position; and
(d) a cam surface on said coin carrier engageable with a portion of said support member, in response to movement of said carrier from said first position toward a second position where the coin is accessible, to pivot said support member toward its original position.

20. Apparatus for returning a rejected coin comprising in combination:
(a) means for receiving the rejected coin from its source;
(b) means for directing the coin from said receiving means into a transfer position;
(c) a vertically reciprocable coin carrier movable into a lower position adjacent to said transfer position;
(d) means operated in response to downward movement of said carrier for transferring the coin to said carrier; and
(e) means secured to said carrier for moving it downwardly to said coin-transfer position, and upwardly to an upper position in which the coin is rendered accessible.

21. Apparatus for returning a rejected coin comprising in combination:
(a) means for receiving the rejected coin from its source;
(b) means for directing the coin from said receiving means into a transfer position;
(c) means for supporting the coin while in said transfer position and operative to close-off the source from which such rejected coin was received;
(d) a coin carrier movable into a position adjacent to said transfer position;
(e) means operated by said carrier for transferring the coin to said carrier;
(f) means secured to said carrier for moving it to said coin-transfer position, and to a further position in which the coin is rendered accessible; and
(g) said supporting and close-off means being movable to reopen the source in response to movement of said carrier away from said coin-transfer position.

22. A device for dispensing articles, including in combination:
(a) a rigid frame having an upwardly opening gate;
(b) a blocking member having a support axis pivoted on said frame, and normally disposed to block removal of an article through the gate, said blocking member having a dimensional extent in the direction of said support axis;
(c) a coin rejector mechanism supported on said frame and having an upper coin-receiving end disposed at substantially the height of said gate, and operative to classify a coin as being acceptable or rejected;
(d) a coin return mechanism supported on said frame and extending beneath a portion of said rejector mechanism for receiving a rejected coin, said coin return mechanism including means by which it is operative to raise such coin externally of said rejector mechanism to a position above the level of said gate at which it is rendered accessible;
(e) a coin acceptor extending beneath another portion of said rejector mechanism and receptive of the acceptable coins, said acceptor being supported by said frame for rocking about an axis parallel to and offset from said pivotal support axis, and being disposed along its axis within the dimensional extent of said blocking member;
(f) an arm extending radially from the acceptor axis and corotatably secured to said acceptor; and
(g) a link having a pivotal connection with said blocking member and a pivotal connection with said arm for rocking said acceptor in response to pivoting of said blocking member.

23. A coin return mechanism, comprising:
(a) means for receiving and temporarily supporting a rejected coin; and
(b) a manually vertically reciprocable carrier having a coin-receiving pocket, said carrier with its pocket being movable downwardly into said receiving means and operative in response to its downward movement into said receiving means to receive in said pocket a coin from said receiving means, and operative to

further temporarily support such coin, and said carrier being movable upwardly with the coin out of said receiving means to an uppermost carrier position to render accessible the coin supported thereby.

References Cited by the Examiner

UNITED STATES PATENTS

326,778	9/1885	Price	232—59
984,223	2/1911	Jones	194—63
1,693,051	11/1928	Richardson et al.	194—63
1,983,073	12/1934	Du Grenier	194—1
2,132,804	10/1938	Richardson et al.	
2,262,425	11/1941	Grunig	194—61
2,309,055	1/1943	Ferris	194—65
2,572,539	10/1951	Thompson	194—1
2,831,604	4/1958	Sloyer	221—133
2,922,571	1/1960	Kennedy	232—57.5

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