A coin mechanism for use with a merchandising machine in which provision is made for replenishing the supply of change coins with two coins of those deposited when the machine operates to deliver an article of merchandise and in which an electrically-driven coin return mechanism returns the deposited coins to the customer in the event that he changes his mind about making a purchase before having operated a selecting button.
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COIN MECHANISM WITH TWO-NICKEL CHANGE REPLENISHER AND ELECTRICAL COIN RETURN

BACKGROUND OF THE INVENTION

Various types of coin mechanisms have been used on merchandising machines in the prior art. The more sophisticated of these coin mechanisms first test the deposited coins, then totalize the aggregate sum of genuine coins deposited to establish a credit and upon operation of the dispensing unit return a number of coins in change corresponding to the difference between the sum deposited and the purchase price of the article which has been selected. One such coin mechanism is described and claimed in our copending application Ser. No. 826,091 filed May 20, 1969, now U.S. Pat. No. 3,593,831. In the mechanism shown in the copending application, change is made by delivering to the customer a number of nickels aggregating the required change. In order to obviate the necessity for a serviceman frequently to replenish the supply of nickels to be given in change, an arrangement is provided which holds one nickel of the deposited coins in escrow until the customer either makes a purchase or actuates a mechanical coin return. If the customer makes a purchase, the nickel which had been held in escrow is delivered to the change coin supply tube. If the coin return is operated a mechanical linkage throws the nickel which had been held into the coin return chute.

While the mechanism disclosed in our copending application successfully replenishes the supply of change to a limited extent, we have discovered that the supply of change is exhausted in a shorter period of time than is desirable. Ideally, the supply of change coins would not be exhausted between regular visits of the operator to service the machines. We have found that our mechanism disclosed in the copending application when used in connection with high capacity machines runs out of change a considerable period of time before the regular visit of the operator is due. Consequently, customers are required to use the exact change and sales are lost.

We have invented an improved changemaking coin mechanism which replenishes the supply of change coins with two of the deposited coins on each operation of the machine if the customer has deposited two of the coins of that denomination which is being used as change. This is accomplished by our mechanism in a simple and expeditious manner. The change replenishing system operates in a certain manner.

We have further discovered that mechanically operating coin return systems used to throw a coin or coins held in escrow into the coin return chute may result in jamming of the coin mechanism. That is, the speed of operation of mechanisms of this type is substantially entirely under the control of the customer who may operate the linkage too fast with the result that the path of the coin travelling to the return chute is uncertain and jamming may occur. We have found this to be particularly true where two coins are held in escrow by the coin mechanism.

We have invented an electrically-driven coin return mechanism which is especially adapted for use in coin mechanisms wherein one or more coins of the denomination used for change are held in escrow either for delivery to the change coin supply tube or for return to the customer. Our coin return mechanism operates in a smooth and certain manner. Its influence on the coins held in escrow is not under the control of the customer.

SUMMARY OF THE INVENTION

One object of our invention is to provide a coin mechanism which is capable of replenishing the change coin supply with two coins on each operation of the machine.

Another object of our invention is to provide a coin mechanism having an electrically-driven coin return mechanism.

A further object of our invention is to provide a coin mechanism affording two-coin change replenishment and having an electrically-driven coin return system.

Still another object of our invention is to provide a two-coin change replenishing system which is not subject to jamming.

Other and further objects of our invention will appear from the following description.

In general our invention contemplates the provision of a coin mechanism in which two deposited coins of the denomination used for change are held in escrow pending a purchase by the customer or return to the customer by means of an electrically-driven coin return system.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

FIG. 1 is a side elevation of our coin mechanism affording two-coin change replenishment and having an electrical coin return system.

FIG. 2 is a side elevation of the other side of the coin mechanism illustrated in FIG. 1.

FIG. 3 is an elevation of one side of the change coin replenishing unit of the coin mechanism illustrated in FIG. 1.

FIG. 4 is an end view of the change-coin-replenishing unit shown in FIG. 3 taken along the line 4—4 of FIG. 3.

FIG. 5 is a side elevation of the other side of our change-coin-replenishing unit illustrated in FIG. 3.

FIG. 6 is a fragmentary view illustrating the condition of the coin mechanism drive in accepting coins which have been deposited therein.

FIG. 7 is a fragmentary view of the drive mechanism shown in FIG. 6 illustrating the action of the drive system in returning coins to the customer.

FIG. 8 is a schematic view of one form of electrical circuit which may be used in our coin mechanism.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIGS. 1 and 2 of the drawings our coin mechanism indicated generally by the reference character 10 includes a frame 12 which supports a coin slot 14 for receiving coins and for directing them to a coin separator and slug rejector of any suitable type known to the art, such for example as that shown in Gabrielsson U. S. Pat. No. 2,975,880, from which the coins pass to a totalizer assembly indicated generally by the reference character 18 such for example as that shown in Baker U.S. Pat. No. 2,996,163. As is more fully described in that patent, the totalizer mechanism produces an aggregate movement downwardly of a bar 20 equal to the sum in coins passing through the totalizer.
mechanism. Bar 20 drives the rotor 22 of a totalizer switch assembly, indicated generally by the reference character 24, selectively to set up circuits for conditioning the selecting units to be energized and to set up changemaking circuits. This action, which will be described in more detail, also is described in our copending application referred to hereinabove. In the course of the operation of the machine one of a number of change determining solenoids 26 may be energized selectively to set the coin making mechanism indicated generally by the reference character 28 to give from one to four coins such as nickels in change. The changemaker mechanism per se is described in detail in Krakauer et al. U.S. Pat. No. 3,135,271.

After having travelled through the totalizer 18 the coins enter a coin guide and change coin replenishing structure indicated generally by the reference character 30. All coins save the first two coins of the denomination which is given in change pass through the guide unit 30 to an escrow bucket indicated generally by the reference character 32 which may be operated alternatively to return deposited coins to the customer or to accept the coins when a purchase has been made. The details of the escrow bucket structure are more fully described in Auerbach et al. U.S. Pat. No. 3,446,327.

Referring now to FIGS. 3 to 5 coin guide unit 30 includes a guide 34 one side of which is formed with a nickel guide track and the other side of which is formed with a dime guide track. We secure a dime track cover plate 36 over the dime track on guide 34 by any suitable means such as by screws 38. Screws or the like 40 secure a nickel track cover plate 42 over the nickel track on the other side of the guide 34. A quarter track 44 is secured to the outside of the nickel track cover plate 42 by any means such for example as by the screws 40.

In the form of our coin mechanism illustrated in the drawings, nickels are given in change as required. Our mechanism is capable of replenishing the supply of change coins in the change coin tube 46 by two nickels on each operation of the machine. Since only the nickel coin track is of interest in connection with the replenishing of the supply of change coins the dime and quarter track is illustrated in detail but the nickel track has been illustrated in broken lines in FIG. 3. This track is made up of a first section 48 which directs a nickel entering into the space between cover 42 and guide plate 34 to a second curved section 50 which directs the nickel into a straight track section 52 leading toward the change tube 46. We mount a U-shaped nickel pawl indicated generally by the reference character 54 on a pin 56 on the assembly 30 for movement between a position at which a lug 58 thereon extends through an arcuate opening 60 in plate 42 into the path of a nickel travelling along the guide section 52. As will be explained more fully hereinabove the first nickel directed by track section 50 to the track section 52 travels along the latter until further movement thereof is arrested by lug 58. A second nickel directed by track section 50 to track section 52 travels therealong until its edge rests against the edge of the first nickel. A third nickel directed by section 50 toward section 52 will strike the edge of the second nickel and will be directed by the second nickel downwardly and out of the guide unit 30 into the escrow bucket 32.

We pivotally mount the bellcrank 62 to a leg of the pawl 54. A spring 68 extending between an ear 70 on the assembly 30 and the other end of the bellcrank 62 normally urges the bellcrank to rotate in a counterclockwise direction as viewed in FIG. 5. This movement of the bellcrank, if permitted, drives pawl 54 to a position at which the lug 58 moves downwardly as viewed in FIG. 3 and out of the path of nickels on the track section 52 to permit both nickels to roll downwardly and into the coin tube 46.

The operating linkage of our coin mechanism to be described in detail hereinafter includes a pin 72 which normally engages an offset 74 on bellcrank 62 to locate the bellcrank at such a position that the lug 58 of the pawl 54 is in the path of nickels on the track section 52. When a purchase is made, pin 72 moves in the direction of the arrow A in FIG. 5 to permit spring 68 to drive bellcrank 62 and pawl 54 to a position at which nickels on track section 52 are permitted to pass to the coin tube 46.

The coin return system of our mechanism to be described in detail hereinbelow includes a pin 76 which is normally located adjacent to the upper arm of bellcrank 62. It will be appreciated that the distance between pin 76 and the upper arm of bellcrank 62 is sufficient to permit enough movement of the bellcrank under the influence of spring 68 to accept coins on the track section 52. When the coin return is energized in a manner to be described, pin 76 moves in the direction of the arm B in FIG. 5 to drive bellcrank 62 in a clockwise direction as viewed in FIG. 5 to cause pawl 54 to be driven in a clockwise direction as viewed in FIG. 3. When that occurs, lug 58 sweeps along the length of slot 60 to cause coins on track section 52 to be thrown back so that they fall out of the guide 30 and downwardly into the escrow bucket 26 which is concomitantly actuated in a manner to be described to return coins to the customer.

When the tube 46 has a full supply of nickels therein a lock-out lever 73 is pivoted on a pin 75 so positioned that a lug 77 thereon prevents nickels from entering onto track section 52.

Referring now to FIGS. 1, 2, 6 and 7 our coin mechanism includes a solenoid 78 which, in a manner to be described, is energized when a customer makes a purchase to draw its armature 80 upwardly to rotate a latch 82 in a counterclockwise direction as viewed in FIGS. 2, 6 and 7 to actuate motor switch 84 and to release a lever 86. A spring 88 drives the lever 86 in a counterclockwise direction upon release of the lever end thereof to cause an offset 90 on the upper end of the lever to close the vend switch 92. Closing of motor switch 84 energizes reset motor 94 in a manner to be described.

Motor 94 when energized rotates a shaft 96 in a counterclockwise direction as viewed in FIGS. 1, 6 and 7. A cam 98 on shaft 96 has a recess 100 into which followers on a single cycle switch 102 and a full cycle switch 104 may drop upon movement of the cam 98. In the normal position of the parts a re-entrant recess 106 in a drive link 108 receives a crank pin 110 on the cam 98. We pivotally connect one end of the link 108 to an arm 112 by means of a pin 114. A spring 116 normally biases arm 112 to a position such that the lower edge of the link 108 rides on the upper edge of the offset 90 on the arm 86. When solenoid 78 is energized offset 90 moves to a position at which it is below a re-
cess 188 in the underside of link 108. In this condition of the parts which is illustrated in FIG. 6 in broken lines, when switch 84 closes to cause cam 98 to be driven crank pin 110 remains in the recess 106 so that link 108 is driven to oscillate arm 112. In the course of that oscillation a roller 120 on the arm actuates a totalizer resetting arm 122 to reset the totalizer in a manner described more fully in the Auerbach et al. patent referred to hereinafore. As cam 98 completes a revolution the notch or recess 118 acts on offset 90 to restore the arm 86 to its latched position.

The upper end of arm 112 carries a pin 124 which extends through a slot 126 in the coin mechanism to a location at which it may engage the changemaking mechanism drive lever 128. When the arm 112 oscillates in the manner described it engages lever 128 to cause that lever to oscillate. When lever 128 oscillates it actuates the escrow bucket in the manner described in the Auerbach et al. patent to accept coins contained therein. At the same time, pin 72 which is on an extension of the upper end of lever 128 moves away from the offset 74 so that coins such as nickels which had been on the guide track section 52 are permitted to roll into the coin tube 46.

When a customer desires the return of his coins before he has made a selection he operates a coin return switch to energize motor 94 in a manner to be described. When energized the motor rotates in the same direction as it did for acceptance of coins. However, when the coin return switch is operated unlatch solenoid 78 is not energized. Under these conditions link 108 continues to be supported by the offset 90 and crank pin 110 moves out of recess 106 and upon continued rotation thereof as illustrated in broken lines in FIG. 7 it engages the underside of link 108 to move it in a clockwise direction as viewed in FIG. 2 around the pin 114. When that occurs, a notch 130 in the end of the link 108 engages an offset 132 in a coin return operating lever 134 to move the lever in a clockwise direction around its pivot pin 136. Upon this occurrence a pin 138 extending through an opening 140 in the central panel of the mechanism pulls the coin return bar 142 downwardly against the action of a spring 144.

As bar 142 moves downwardly a pin 146 thereon riding in a slot 148 in one end of an arm 150 rotates the arm in a clockwise direction as viewed in FIG. 1 around a pivot pin 152. A spring 154 connects arm 150 to one end of a lever 156, the other end of which carries the pin 76. Thus, when the motor 94 is energized without concomitant energization of unlatch solenoid 78 the coin return bar 142 is driven to cause pin 76 to sweep the two nickels off track section 52 to permit them to fall into and through the escrow bucket 32. The movement downwardly of bar 142 actuates the escrow bucket 32 in the manner described in the Auerbach et al. application to return coins therein to the customer. As the pin 138 moves downwardly as viewed in FIG. 2 to pull the coin return bar 122 downwardly it also acts on the resetting arm 122 to reset the coin mechanism.

Referring now to FIG. 8 we have shown one form of electrical circuit which may be used with our coin mechanism. Respective conductors 158 and 160 are connected to the terminals 162 and 164 of a suitable source of voltage provide the power for our coin mechanism. In the circuit of FIG. 8 the totalizer switch TS steps in response to the deposit of coins to position the various contact arms thereof in engagement with the pricing contacts associated with a price board 166 of a type known in the art. As is described more fully in the Auerbach et al. patent this action sets up the changemaking solenoids CSO to CS3 and a resistor R to give from no nickels to four nickels in change depending upon the price of an article selected. A correct change switch CC can be operated to disable the changemaker and to illuminate a lamp 168 to indicate that the correct change must be deposited.

When a sum in coins aggregating the purchase price of at least the least expensive article in the machine one of a number of selector switches SS1 to SS5 may be actuated to energize the corresponding latching solenoids LS1 to LS5 so as to at least the purchase price of an article corresponding to the actuated selector switch has been deposited. When that is done, a circuit through the unlatch solenoid winding US is completed from line 158 through a coin return switch CR, through the reset motor full cycle switch 2FC, through the motor switch MS, through winding US, through the actuated selector solenoid and corresponding drive solenoid, through the price board 166 through the totalizer switch TS, and through the correct change switch CC to line 160.

Normally a circuit for a coin return magnet winding CRM is complete from line 158, through CR, through 2FC and through motor switch MS and through winding CRM to line 160. This winding CRM permits coins to be deposited in the coin mechanism so long as power is available. When power is lost the magnet is deenergized to block the coin paths to return deposited coins to the customer in a manner to be described. Such coins otherwise would be lost since the electrical coin mechanism to be described cannot be actuated.

Energization of winding US closes the vend switch VS to complete a circuit to the vending unit drive motor M1 through switch 1FC. When the vend motor begins to operate it changes the condition of its full cycle switch 1FC in a manner known to the art to ensure that the motor rotates through a full cycle.

Energization of winding US also changes the condition of a motor switch MS to complete the circuit of the reset motor M2 from full cycle switch 2FC which is connected to line 166 through switch CR and through switch MS to the motor M2 the other terminal of which is connected to conductor 160. At the same time the circuit to CRM is opened to return any coins which might be deposited during the dispensing cycle. As the motor begins to drive it completes its own holding circuit by changing the condition of switch 2FC to complete the holding circuit through switch CR. At the end of the full cycle the switch returns to its initial condition.

When a customer desires to have his money returned before he has made a selection he may operate switch CR from the condition shown to energize motor M2 from line 158 through switch CR and through a single line switch 25C through the motor M2 to line 160. It will be appreciated that with switch CR actuated unlatch solenoid US cannot be energized by operating a selector switch. In the course of the revolution of cam 98 it at one point concomitantly actuates switches 25C and 2FC from the condition shown to the opposite condition. This action ensures that the motor M2 cannot continuously be cycled by holding the coin return switch operated even though the totalizer switch TS has been reset. That is, it ensures that the motor will be
stopped after totalizer switch TS has reset so that only a single revolution of the motor takes place.

Referring again to FIGS. 1 and 2 a bracket 170 on frame 12 supports winding CRS. An arm 172 has an offset 174 of magnetic material extending through a slot in bracket 170 suspends the arm on the bracket. A spring 176 biases arm 172 to a position at which offset 174 is remote from winding CRS. In this position of the arm a plurality of offsets 178 are in the paths of coins emerging from coin separator 16 and direct the coins to the coin return slot. When winding CRS is energized it moves arm 172 against the action of spring 176 to a position at which the projections are out of the coin paths so that coins may go to the totalizer 18.

In operation of our coin mechanism a customer desiring to make a purchase deposits in the slot 14 a sum in coins aggregating at least the purchase price of the desired article. Thus coins first pass through the coin separator and slug rejector 16 then through the totalizer 18 and into the coin guide and change coin replenishing unit 30. Assuming that the change tube 46 is not full so that lug 77 does not block the passage of the first two nickels onto the track section 52 and assuming that the coins deposited include two nickels, they are directed onto the track section 52 by track section 50. Others of the deposited coins pass into the escrow bucket 32.

When the customer makes a selection by operating one of the selecting switches S1 to S5, unlatch solenoid US is energized to rotate latch 82 in a counterclockwise direction as viewed in FIG. 2. This action first closes motor switch MS (84) to energize M2 (94). When latch 82 is released in the manner described arm 86 moves in a counterclockwise direction under the influence of spring 88 first to close the vend switch VS (92) to complete the circuit of motor M1 which is energized for a full revolution through its full cycle switch 1FC to deliver and article to the customer.

When motor M2 is energized it completes a cycle of revolution in a counterclockwise direction as viewed in FIG. 2 through its holding switch 2FC. At the same time, offset 90 has moved under slot 118 so that upon continued rotation of cam 98 and pin 110 link 108 oscillates arm 112. This action first operates reset arm 122 to reset the totalizer mechanism 18. At the same time, pin 124 actuates arm 128 to cause pin 72 to move away from offset 74 to cause spring 68 to drive lever 62 to move lug 58 out of the path of nickels on track section 52 to permit the nickels to move into the change coin tube 46. At the same time, escrow bucket 32 is actuated to accept coins therein. Actuation of switch MS also deenergizes winding CRS to permit arm 172 to pivot to a position at which coins which may be deposited during the dispensing cycle are returned to the customer.

If a customer desires to have his coins returned before he makes a selection he actuates switch CR to disable the unlatch solenoid US and to energize motor M2. The motor completes a full cycle through switch 2FC. Switch 2SC ensures that it will go through only a single cycle even if the coin return switch be held. With motor M2 energized and with solenoid US deenergized as the motor rotates pin 110 rides out of recess 106 and ultimately engages the underside of arm 108 to move the arm in a clockwise direction as viewed in FIG. 2. When that occurs lever 134 moves in the same direction to draw coin return bar 142 downwardly to actuate the lever 156 to move pin 76 into engagement with the upper end of lever 62 to move pawl 54 in a direction to sweep the nickels off track section 52 and down toward escrow bucket 32. At the same time escrow bucket 32 is actuated in a direction to return coins to the customer.

If for any reason power is lost the coin return magnet CRM is deenergized so that the coin diverting fingers 178 enter the coin paths to cause deposit coins to be returned to the customer.

It will be seen that we have accomplished the objects of our invention. We have provided a coin mechanism affording two-nickel change replenishing. Our coin mechanism has an electrical coin return which operates in a smooth and simple manner to return deposited coins to the customer. Our mechanism automatically prevents the passage of coins into the totalizer when power is lost.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated by and is within the scope of our claims. It is further obvious that various changes may be made in details within the scope of our claims without departing from the spirit of our invention. It is, therefore, to be understood that our invention is not to be limited to the specific details shown and described.

Having thus described our invention, what we claim is:

1. A coin mechanism for use with a merchandising machine operable to deliver an article of merchandise in response to deposit in said mechanism of coins aggregating at least the purchase price of an article and to the actuation of a selection switch, apparatus including, a customer actutable selection switch, a customer actutable coin return switch, escrow means having a neutral condition at which it receives coins deposited in said mechanism and retains received coins pending a customer decision, said escrow means being operable from said neutral condition alternatively to accept coins therein or to return coins therein to the customer, an electric motor having a shaft, means responsive to operation of each of said selection switch and said coin return switch respectively for energizing said motor to drive said shaft in the same direction, first means responsive to operation of said coin return switch and including said shaft driven in said direction for operating said escrow means from said neutral condition to return coins, and second means responsive to operation of said selection switch and including said shaft driven in said one direction for operating said escrow means from said neutral condition to accept coins.

2. An assembly as in claim 1 in which said second operating means comprises a coin accept member adapted to be driven to operate said escrow means and means responsive to actuation of said selection switch to deliver an article of merchandise for concomitantly energizing said motor and providing a mechanical coupling between said motor shaft and said coin accept member.

3. An assembly as in claim 2 in which said coupling providing means comprises a link, means providing a releasable connection between said link and said motor shaft, means pivotally connecting said link to said coin accept member for movement between a first position at which said coupling is released and a second position at which said coupling is engaged, means normally holding said link in said first position and means re-
sponsive to actuation of said selection switch to deliver an article for releasing said holding means.

4. An assembly as in claim 3 in which said releasable coupling comprises a crankpin on said motor shaft and a slot in said link for receiving said pin.

5. An assembly as in claim 1 in which said first operating means comprises a coin return member, means normally providing a driving connection between said motor shaft and said coin return member and means responsive to actuation of said first operating means for disengaging said connection.

6. An assembly as in claim 5 in which said driving connection comprises a lever, means pivotally connecting one end of said lever to said coin return member, a link, means mounting said link for pivotal movement adjacent one end thereof interengagable means on the other end of said link and on the other end of said lever, and a crank pin on said motor shaft for engaging said link to pivot the link and to rotate the lever to drive said coin return member.

7. An assembly as in claim 1 in which said first and second operating means comprise a common drive link, said second operating said selection switch comprising a coin acceptor member and means providing a first normally disengaged coupling between said link and said coin acceptor member, said first operating means comprising a coin return member and means providing a second releasable normally engaged coupling between said link and said coin return member.

8. An assembly as in claim 7 including means mounting said link on said coin acceptor member for movement between a first position at which said first coupling is disengaged and said second coupling is engaged and a second position at which said first coupling is engaged and said second coupling is disengaged and means normally holding said link in said first position.

9. An assembly as in claim 8 in which said first operating means comprises first means for concomitantly releasing said holding means and energizing said motor.

10. An assembly as in claim 9 in which said second operating means comprises second means for energizing said motor.

11. An assembly as in claim 10 in which said releasing means comprises a conductive winding and in which said second means comprises means for preventing energization of said winding.

12. An assembly as in claim 1 in which said second means comprises a source of electrical power and means for connecting said motor to said source, an auxiliary coin return member, means mounting said auxiliary coin return member for movement between a first position at which all coins deposited in said mechanism are returned and a second position at which all coins deposited may pass through the mechanism, a spring biasing said auxiliary member to said first position, a conductive winding adapted to be energized to move said auxiliary member to said second position against the action of said spring and means normally connecting said winding to said source whereby all deposited coins are returned when said source fails.

13. An assembly as in claim 12 in which said first operating means comprises means for disconnecting said winding from said source to return coins deposited during an operating cycle of said machine.

14. An assembly as in claim 1, in which said second operating means comprises a cam on said shaft, said selection switch for energizing said motor, a full cycle switch responsive to said cam for ensuring that said motor is energized for a full revolution of said shaft and a single cycle switch responsive to said cam for ensuring that said motor stops at the end of a single revolution.

15. Apparatus as in claim 1 in which said first means includes a coin return member and a first releasable normally engaged coupling between said shaft and said coin return member and in which said second means include a coin accept member, a second releasable normally disengaged coupling between said shaft and said coin accept member and means for concomitantly releasing said first coupling and engaging said second coupling.

16. In a change-making coin mechanism for use with a merchandising machine operable to deliver an article in response to deposit in said mechanism of coins aggregating at least the purchase price of said article and to the actuation of a selecting switch, an assembly including, a customer actuable selection switch, a customer actuable coin return switch, a change coin reservoir for holding a supply of coins of the denomination given in change, escrow means having a neutral condition at which it receives a plurality of coins of said denomination and retains received coins pending a customer decision, said escrow means being operable from said neutral position alternatively to deliver coins held thereby to said change coin reservoir or to return said coins to the customer, a common electric motor having a shaft, means responsive to each of said selection switch and said coin return switch respectively for energizing said motor to drive said shaft in the same direction, first means responsive to operation of said selection switch and including said shaft driven in said one direction for operating said escrow means from said neutral condition to deliver said coins to said reservoir, and second means responsive to operation of said coin return switch and including said shaft driven in said direction for operating said escrow means from said neutral condition to return coins to the customer.

17. An assembly as in claim 16 in which said escrow means includes an inclined track leading toward said reservoir, means for directing the first two coins of said denomination onto said track, a pawl, means normally positioning said pawl in the path of coins directed on said track to retain coins thereon, said first operating means moving said pawl in one direction out of said path to permit said coins to advance along said track to said reservoir, said second operating means moving said pawl in the other direction to move said coins backwardly along and off said track to return said coins to the customer.
UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,768,615 Dated October 30, 1973

Inventor(s) Albert Kurimsky and William Rosenhagen

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 9, line 23, "said selection switch" should read -- means --;

line 49, "means" should read

-- said selection switch --.

Signed and sealed this 9th day of April 1974.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR. C. MARSHALL DANN
Attesting Officer Commissioner of Patents