This invention relates to a coin operated banking machine including a dispensing apparatus and more particularly a ticket or tab dispensing machine.

The development of the attribute of thrift in children and young people is an important aspect of education which is largely neglected today. This is due not only to the general level of prosperity of parents, but also because of a lack of appropriate facilities through which this attribute may be cultivated. Of course, a deposit of small dollar sums could be made at a bank by a trip of several blocks or several miles, but this is highly inconvenient and not conducive to all at the saving of a portion of children's pocket change. Thus, it is evident that some type of banking equipment is needed to fill this gap for teaching children how to manage money by investing a portion of their savings. Such equipment would have to be completely foolproof and dependable, would have to be easily accessible to the children, and must not require the constant services of other people. A banking machine of the vending type but possessing unique qualities is therefore needed for this purpose.

Vending machines of various types and for various purposes are well known in modern society. Although these machines have been adapted to dispense a multitude of items, still there are associated with such machines certain problems with respect to both the users and the owners or operators thereof that prevent them from being absolutely dependable. These problems include pilferage, loss of coins due to article jamming, multiple dispensing with one coin, and others too numerous to list. Such difficulties, although in many situations not really significant, have prevented the adaptation of dispensing machines to the business activities including banking where complete safety of investment, absence of potential malfunctions of the equipment, protection from pilferage, and completely foolproof and reliable operation are absolute requirements.

It is therefore an object of this invention to fill the gap in the present banking business by providing a unique banking machine for encouraging the saving of coins by children.

It is a further object of this invention to provide a banking machine incorporating a dispensing apparatus which can be readily and safely used in connection with ordinary banking operations, with savings bond dispensing, and with other related transactions. It is a further object to provide a machine for dispensing tickets with a printed redeemable value thereon, which dispenser is entirely free of fault and affords complete protection to the machine owner and user from pilfering, coin loss due to tab jamming during operation, coin loss due to being empty, slipping of dispersed tabs back into the dispensing slot when renewal is clumsily attempted by children, multiple dispensing with one coin, jamming of successively dispersed tabs, and other such defects which in the past have prevented the successful use of dispensing machines for banking purposes and related transactions in connection with which people require utmost safety and confidence.

It is a further object of this invention to provide a ticket dispensing apparatus which operates completely automatically, is relatively simple in construction, is readily serviced, requires no human maintenance under normal conditions, renders banking operations adaptable to schools and the like, encourages saving of loose change due to its convenient location and automatic operation, allows saving of coins of various denominations, is lightweight, may be readily mounted upon the wall or upon a floor stand, and possesses the sturdy characteristic of banking institutions.

These and other objects will be apparent upon a perusal of the following specification and the drawings in which:

FIG. 1 is a perspective view showing the banking machine mounted upon a floor stand;

FIG. 2 is a top view of the machine with the cover removed to show the internal mechanism;

FIG. 3 is a front view of the machine with the cover removed;

FIG. 4 is an enlarged sectional end view taken on plane IV—IV of FIG. 2 and

FIGS. 5a through 5g are a wiring diagram sequence representing the circuitry during the various phases of operation of the machine.

Basically, the invention comprises an automatic banking machine adaptable to schools and the like which dispenses tickets, coupons, or bonds of designated value in exchange for coins of various denominations. The tickets are collectible in a booklet for redemption at a local franchised bank after enough have been collected to make a trip to the bank worthwhile.

More specifically, the inventive banking machine utilizes a plurality of adjacent coin operated ticket dispensers, each including a vertical ticket guide to hold a stack of tickets, a horizontally sliding ejector which pushes the bottom ticket in the stack forward out of the housing, a dispensing solenoid which activates this slide, a coin mechanism including a coin operated switch which activates this solenoid, a piffer-proof safety door over the slot in the housing through which the ejected ticket passes, a ticket actuated delivery switch which holds the dispensing solenoid in the active position, an anti-jacking switch actuable with the slide ejector and in electrical series with the delivery switch for the prevention of pilferage, and an empty switch actuated by a weight on the stack of tickets to be dispensed for rejecting coins when the tabs have been depleted.

Referring to the drawings, the banking machine includes the dispenser assembly 10 mounted on floor stand assembly 12. The dispenser includes housing sub-assembly 14, and an optionality of the housing sub-assemblies 11. Each of these dispensers includes a guide sub-assembly 16, a dispense solenoid sub-assembly 18, an ejector slide sub-assembly 20, a piffer-proof door assembly 22, and empty switch assembly 24, a delivery switch assembly 26, an anti-jacking switch assembly 28, and a coin reject mechanism 19.

The dispenser 10 may be suitably mounted upon a floor stand 12 including a base 40 and columns 42. The housing assembly 14 includes cover 44 that extends over the top, front and two ends of the dispenser assembly, and embodies coin receiving slots 46, 48 and 50, tab dispensing slots or openings 52, 54, 56, and coin reject cup 58, 60 and 62. Cover 44 also envelopes end space 70 on one end of the dispenser assembly, which space may incorporate a suitable alarm device actuated by an attempted moving of the entire machine. The cover is locked in place over the mechanism to permit only authorized removal for adding tickets and removing money. Referring to FIGS. 2 and 3, it is seen how the three tab dispensing mechanisms 11 are located longitudinally within the housing, each cooperating with one coin slot, one tab dispenser slot and one coin reject cup in the housing cover shown in FIG. 1. In FIGS. 2 and 3 the middle dispenser is shown in detail while two adjacent dispensers are shown at least partly in phantom to avoid duplication in...
the drawings and specification. This middle dispenser will be described in detail hereinafter, and it is to be understood that each of its adjacent dispensers operable as similar in all respects independently, and receive a different denomination coin as indicated by the designations on the cover in Fig. 1. Housing 14 also includes bottom panel 29, back panel 31 and inner front panel 94.

When the cover is removed from the rest of the housing and the dispenser units as in FIGS. 2 and 3, the three individual units 11 separated by partitions 72 are shown, each including among other things, an ejector mechanism 20 and its operating solenoid 18. Ejector 20 includes a flat rectangular slide 74 which is reciprocally movable as indicated by the arrows in FIGS. 2 and 4 within guide 76 so that at its forward position it projects into the lowermost portion of vertical tab guide means 16 as indicated in phantom in FIG. 2.

The rectangular ticket guide means 16, including side walls 82 and 84, may be seen more clearly in FIGS. 3 and 4. This guide supports a stack of premium tickets or tabs 90. These tabs are biased downwardly by a weight 92, preferably made of metal to assure proper dispensing. This weight also actuates empty switch 24 in a manner to be described hereinafter. The bottom tab in the stack is aligned with slide 74 so that when the slide moves toward the front 94 of the housing, it pushes the lowermost tab out slot 96 in the housing casing and slot 98 in the housing cover 44 to cause it to protrude from the housing as shown at 100 in FIG. 4. Slide 74 is actuated by lever 102 which is fixedly mounted upon shaft 104, as is solenoid armature 106. Shaft 104 is mounted upon a suitable bracket 105 secured to the housing. Armature 106 may be constructed of a laminated magnetizable metal as shown in FIG. 2 and includes a cooperating stationary portion 107. Thus, upon actuation of electrical coil 110 the pivotal portion 106 of the armature rotates counterclockwise toward the coil as shown in phantom in FIG. 4 to contact portion 107. This causes shaft 104 to rotate counterclockwise and shift lever 102 to the position shown in phantom in FIG. 4. This lever extends through openings 116 in slide 74 and thus as it rotates, pushes slide 74 toward the front 94 of the housing. The slide thus pushes the lowermost tab 100 of the stack 90 out the front of the dispenser as described above. Also fixedly mounted upon shaft 104 is lever 116 which is attached to the terminal end of which pivot pin 118 in sliding door 120 of the pinproof door assembly 22. This sliding door is guided by suitable laterally positioned channel guides 122 shown in FIGS. 2 and 4. Upon rotation of shaft 104, lever 116 shifts upwardly to the position shown in phantom, thus raising door 120 to allow tab 100 to project out openings 96 and 98. This door in its lower position prevents pilfering by a method involving delivery switch 26 and to be described more fully hereinafter.

The solenoid assembly 18 is actuated by coin switch 25 in coin reject sub-assembly 19 shown in FIG. 3. This switch includes housing 130 and extension arm 132 which is positioned within coin channel 134 so that when a coin contacts the switch, it assumes the position shown in phantom in FIG. 3 while the coin passes. The coin is inserted in coin slot 48, (FIG. 1) from whence it falls into coin chute 138 (FIG. 3) and into channel 140. Solenoid 142 located adjacent this channel is normally actuated so that pivotal flange 144 and its attached extension piece 146 are held rearwardly against the solenoid and out of the coin channel 134. When the solenoid is deactivated, flange 144 and its extension piece 146 move toward the front of the housing to allow extension of 146 to enter channel 134 and prevent coins from falling therethrough onto switch arm 132. This causes the coin to rest and fall into reject channel 148 through funnel 150 and into a return cup 60 attached to housing cover 44 as shown on the right end unit in FIG. 2. This solenoid 142 is deactivated to cause a coin return during certain stages of operation of the dispenser.

Empty switch 24 shown in FIG. 4 deactivates the solenoid 142 when the guide 164 empty of tabs 90. Empty switch 24 includes switch body 160 and lever arm 162 mounted adjacent the guide means 16 as shown in FIG. 4. When the supply of tabs 90 has been depleted, weight 92 lowers and depresses lever 162 to the position shown in phantom in FIG. 4. This deactivates solenoid 142 and lights the indicator bulb 166 shown in FIG. 3 in a method to be described hereinafter, so that the light is visible through glass 17 (FIG. 1).

Mounted to the housing behind the slide 74 is an anti-jacking switch assembly 28 as shown in FIG. 4. Included in this switch assembly are switch housing 186 and its lever arm 182 which moves to the front of the housing under the force of a biasing spring when the slide 74 moves forwardly. Switch arm 182 rests the rear surface of slide 74 so that as the slide moves forward, arm 182 moves also to the position shown in phantom in FIG. 4 and thereby closes the switch. This switch is located in electrical series with delivery switch assembly 26 located adjacent slot 96 in the housing and beneath guide 16 and tabs 90 as shown in FIGS. 2 and 4. This delivery switch assembly 26 includes switch body 188 and lever arm 190 which extends upwardly into the path of the dispensed tab 100. Thus, when a tab is pushed forwardly by the slide 74, this tab 100 depresses arm 190 to throw switch 188. When the anti-jacking switch 28 is forward and the delivery switch 26 is depressed, the dispensing solenoid 18 is held in its activated position by a method and for a purpose to be described hereinafter.

Located beneath each dispensing unit is a money receiving drawer 200 with a suitable handle 202 thereon. Coins which fall through channel 134 and depress switch arm 132 to actuate coin switch 25 thus fall into box 200 for collection in exchange for a dispensed tab which protrudes through the housing slot for removal. If on the other hand, the unit is empty or malfunctions so that solenoid 142 is de-energized, the coin entering chute 138 will bump into projection 146 and be re-routed down channel 148 into funnel 150 where it will fall into coin return cup 60. This coin return cup projects beneath funnel 150 by virtue of a cutout portion 204 in box 200. This cutout may be seen most easily in the box under the right hand end unit in FIG. 2. The coin reject mechanism is not shown in detail since it is very conventional and may be readily obtained from National Rejectors, Inc. of St. Louis, Missouri, for example. This coin reject mechanism includes the conventional bent coin release lever 206 which spreads the elements of the coin channel 140 to allow the bent coin to pass through return channel 148. Obviously the structure of the coin mechanism may be altered in various ways since it is only important basically as an element in the combination. The electrical control circuit for each dispensing unit includes a relay mechanism 208 suitably mounted to the housing as shown in FIG. 2, as for example, by a bracket 210. This relay includes two sets of switching contacts 212 and 213, the function of which is explained in connection with FIG. 5. Also included in the circuit is a general safety switch 220 which closes to allow operation of the units 11 only when the housing cover 44 is placed on the dispenser to depress the switch and thereby close the same. This protects the person serving the machine from electrical shock due to accidental contact with the electrical components.

Circuitry

In FIG. 5, there is depicted several sequences, namely 5a through 5g, of the electrical circuitry representing the successive operations of each of the three dispensing units. In operation, three of the circuits shown in FIG. 5a are connected together in series to accommodate the three units. That is, points 224 and 226 of a circuit are connected to points 225 and 227 of the preceding dispensing unit circuitry, and a third identical
circuit is connected to the second one. One safety switch 220, closed by locking housing cover 44 in place, is provided for the three connected circuits. This switch is shown only in FIG. 5c for convenience. The sequence of operation involved with this circuitry will be explained as applied to the middle unit 11 which was heretofore described in structural detail. Each of the other dispensing units would function independently in a manner similar to this when independently actuated by a coin of the designated denomination.

Referring to FIG. 5a, points 224 and 226 are connected across a conventional power line, preferably 110 volts, by a suitable plug (not shown). Embodied in the circuit are delivery switch 26, coin actuated switch 25, empty switch 24, anti-jacking switch 28, relay switches 212 and 213, dispensing solenoid 18, coin return solenoid 142, relay 208, and empty indicating bulb 166. In FIG. 5a, the depicted circuitry represents a dispensing unit which contains a stack of tabs and is ready to dispense a tab when a coin is actuated. Delivery switch 26 is in its normal position in contact with point 239 and has its arm 190 raised (FIG. 4). Relay switches 212 and 213 are in their normal positions in contact with dead points 238 and point 242 respectively. Empty switch 24 has its arm 162 placed in its normal raised position with the switch in contact with both points 246 and with coin return solenoid 142. Therefore, a complete electrical circuit may be traced from point 224 through switch 220 to point 228, through switch 26 to point 230, through switch 213 to point 242, through switch 24 to point 246, through solenoid 142 to point 252, and back to point 226. Thus solenoid 142 is now actuated so that the extension piece 146 shown in FIG. 3 is withdrawn from the coin slot to allow coins to fall through channel 134 onto switch arm 132.

In FIG. 5b, the coin has been dropped through slot 48, down chute 135 into channel 134 to depress switch arm 132 of switch 25 thereby causing switch 25 to contact point 234 rather than its normal biased contact with point 236. Thus, a circuit may be traced from point 224 to point 229, across switch 25 to point 234, through relay 208 to point 254 and back to point 226. Relay switches 212 and 213 are now activated by passage of current through the coil of relay 208, and they contact points 240 and 244 respectively. Upon switch 213 contacting point 244, another complete circuit forms and may be traced from point 224, through switch 226 to point 230, through switch 213 to point 244, through relay 208 to point 254, and back to point 226. Since switch 213 is now in contact with point 242, the circuit traced through point 242 and reject solenoid 142 is no longer complete. Thus, it may be seen that as soon as one coin is inserted into one dispensing unit, any coin inserted in this unit before the complete cycle has taken place will be rejected. This is caused by the inactive state of solenoid 142 which allows projection 146 to block coin channel 134 leading to switch arm 132, thereby deflecting coins into return channel 148.

After the coin passes switch 25, switch arm 132 raises to its normal position thereby causing switch 25 to recontact point 236 as shown in FIG. 5c. Relay 208 remains activated and switches 212 and 213 by the current flow through switch 26 and switch 213. When switch 25 recontacts point 236 another circuit is formed due to the switch 213 now being actuated by the relay to contact point 240. This circuit shown in FIG. 5c may be traced from point 224 to point 239, hence through switch 25 to points 236 and 238, through switch 213, through solenoid 18 and back to point 226. With the activation of solenoid 18, armature 106 shown in FIG. 4 pivots on shaft 104 to rotate lever 102 and push slide 74 toward the front of the housing. This slide pushes the lowest member 160 out through slots 96 and 98 and depresses arm 190 of delivery switch 26. Also, arm 184 of anti-jacking switch arm 182 moves forward with slide 74 to close switch 28 as shown in FIG. 4.

In FIG. 5d, switch 28 is shown in the closed position, which condition occurs after a partial stroke of the dispensing solenoid 18. When the solenoid stroke is complete switch 26 contacts point 232 as shown in FIG. 5e. This completes the circuit traced from point 224 to point 228, through switch 26 to point 252, through switch 28, through solenoid 18 to point 256 and back to 226. This represents the circuitry when the ejector slide was moved forward to its limit to push the dispensing tab partially out of the housing which tab then holds switch 26 depressed due to the limited amount of clearance between the bottom edge 53 of the guide 16 and the switch arm 190 over which the tab must pass.

When the tab is completely removed, switch 26 assumes its normal position in contact with point 230 to give the circuitry shown in FIG. 5f, which is the same as FIG. 5a. The unit is then ready to dispense another tab upon being actuated again by another coin. Relay 142 is again activated to allow coins to actuate switch 25.

In FIG. 5g, switch 28 is shown the circuitry of one dispensing unit when all of the tabs of the unit have been exhausted. Switch 26 and relay switches 212 and 213 are in their normal position, but switch 24 is now in contact with point 248 instead of point 246, since weight 92 (FIG. 4) has depressed switch arm 162 to the position shown in phantom. Thus, the circuit may be traced from point 224 to point 228 through switch 26 to point 252, through switch 213 to point 242, through switch 24 closed by weight 92 to point 248, and through bulb 166 to points 230 and 226. The lighting of this bulb indicates to the user the empty condition of the dispensing unit. Also, normally active coin return solenoid 142 is now inactive due to the contact of switch 24 with point 248 instead of point 246 so that projection 146 on flange 144 now protrudes into coin channel 134 and causes coins dropped into chute 138 to be deflected into return channel 148, and through funnel 150 to the return cup. Thus, weight 92 serves not only to maintain the stack of tabs in the proper arrangement to prevent malfunction during the dispensing operations, but also controls empty switch 24.

Anti-jacking switch 28 safeguards the machine from tampering with paper clips, hair pins, or the like through slot 96 in the housing to cause depression of switch arm 190 of delivery switch 26. If this switch were not in electrical series with delivery switch 26, a paper clip inserted through the tab dispensing slots could depress arm 196 (FIG. 4) to contact switch 26 with point 232 and complete the circuit across dispensing solenoid 18 to obtain a tab. This possibility of pilfering is completely eliminated by the anti-jacking switch 28 which does not close until the unit has been coin actuated to cause movement of the slide 74 through the coin actuated switch and the solenoid 18 as in FIG. 5c.

Delivery switch 26 itself is important for several reasons. Firstly, it holds solenoid 18 in its active position as long as the tab which protrudes partly into and partly out of the housing and guide 16 remains in that position. This prevents a second tab from being dispensed by the solenoid either by chattering which is characteristic of solenoids, or by the insertion of a second coin. Multiple dispensing by chattering would obviously be detrimental to the owner or operator of the machine. In addition this multiple dispensing could jam the two together at the base of the stack as could the ejection of a second tab by inserting a second coin before removal of the first tab. All such potential malfunctioning must be completely eliminated when such machines are to be used for dependable banking operation. Delivery switch 26 serves still another purpose in that while the solenoid remains activated, the dispenser slide 74 remains in contact with the protruding tab 160 and prevents clumsy fingers, of children for example, from inadvertently pushing the tab back into the housing.

Safety door assembly 22, which is lifted to uncover slot 96 only when the dispensing solenoid has been coin
actuated, provides a further safeguard to prevent pilfering of the machine by tampering with switch 26 or the stack of tabs 90 with knives etc. It should readily be seen from the description of the structural and circuitry details that the operation of the machine is completely automatic. This automation stimulates saving of coins by users, especially school children, since it is simple to operate and fascinating to watch. The dispensed tabs may be collected and preferably placed in a booklet which, when full, is redeemable at a local franchised bank or the like. Because of this unique function of the machine, it may readily be appreciated that the machine must be completely dependable and stable in its operation and appearance.

Operation

The dispensing apparatus, as described above, is intended to be used as a savings machine for school children, by enabling the periodic purchase of redeemable coupons or bonds which may be collected in a booklet for redemption after a specified number of bonds or coupons are assembled.

In operation therefore, the machine will be placed, as one example, in the hall of a school. It may be mounted on a floor stand as in FIG. 1, or fastened to the wall. The cover 44 of the installed machine is removed from the dealer and each of the three guide means 16 is filled with a stack of tabs 90. Each of the plurality of stacks possesses tabs representing a different denomination and having printed designations thereon indicating such. Thus, for example, the three units disclosed may be adapted to dispense tabs representing five cent, ten cent, and twenty-five cent tabs. When a booklet is, for example, $5 of one of these units has been collected after a period of time, the booklet is presented to a local bank under franchise for deposit or redemption of the specified amount. After the three stacks of tabs 90 have been placed in the guide means 16, a weight 92 is placed on the top of each stack as shown in FIG. 4. Cover 44 is then replaced and locked into place. Thus, the unit is ready to dispense tabs.

When a person wishes to obtain a 10¢ tab, for example, a dime is inserted into the middle slot on the machine. This dime falls through slot 48, into chute 138, past the normally active solenoid 142, into channel 144 to activate arm 132 of switch 25 and thence into coin box 200. When switch 25 is thus actuated, the electrical circuitry follows the series of operations shown in FIG. 5 to dispense a tab. That is, switch 25 contacts point 234 to activate relay 208 and thus relay switches 212 and 213. After the coin has passed switch 25, the switch reverts to contact point 236 to actuate dispensing solenoid 18 which causes armature 106 to assume the position shown in FIG. 4. This rotates shaft 104 and thus lever 116 to lift door 120 and lever 102 to move slide 74 forward, thereby forcing the lowest mark tab 100 from the bottom of the stack of tabs 90 over switch arm 190 of switch 26, depressing the same, and out through slots 96 and 98. Simultaneously anti-jacking switch arm 182 follows the slide to assume the position shown in phantom in FIG. 4. This sequence of operations is shown in FIGS. 5d and 5e wherein switch 26 leaves point 230 and thus deactivates relay 208, and contacts point 232 to hold dispensing solenoid 18 in the active position through switch 28 until the tab 100 has been removed from the machine by the user. When the tab is removed, the circuit again reverts to that represented in FIG. 5f, and is ready to dispense another tab. When the stack of tabs has been depleted, the indicator device is actuated as shown in FIG. Sg and all later inserted coins are rejected in that particular unit of the machine by the inactivation of solenoid 142. The 5¢ and the 25¢ units operate similarly under independent actuation by dropping nickels or quarters through slot 46 and slot 50 respectively. After the dispensed tab has been completely removed by the user, solenoid 18 becomes inactive due to switch 26 reverting to contact 230. This causes armature 106 to assume its original raised position and thereby causes levers 102 and 116 to assume their original position.

Other features and advantages, and certain modifications of the banking machine of this invention are possible and will occur to those skilled in the art. The embodiments described are intended to be illustrative and are not intended to limit the scope of the invention other than as incorporated within the definitions provided in the appended claims and the reasonable equivalents there-to.

We claim:
1. A coin operated banking machine comprising; an enclosed housing having a plurality of orderly arranged groups of premium tickets, each ticket of each group having printed thereon and representing a certain amount of redeemable money and the tickets of different groups being of different denominations; a vertical guide means for retaining a plurality of said tickets; a horizontally moving ejector slide means located adjacent the base of said guide means; an opening in said housing through which a ticket may pass and located adjacent the base of said guide means opposite said ejector means; a normally inactive solenoid means operatively connected to said ejector to shift said ejector and dispense the bottom ticket; a coin slot and connected chute in said housing; an electrical circuit including power supply leads and including said normally inactive solenoid, a two-way coin actuable switch in said chute, and a delivery switch at the base of said guide means and adjacent said housing opening; said coin switch being capable of activating said solenoid to shift said ejector and cause a ticket to protrude through said housing opening; and said delivery switch being thrown by the protruding ticket and being adapted when thrown to hold said solenoid active until the ticket is removed; said delivery switch being adapted to open and release said solenoid when said ticket is removed; and said ejector being biased to return to its original position upon release of said solenoid.
2. A tab dispensing machine comprising the combination of a housing; a vertical guide means for retaining a plurality of tabs; a horizontally moving ejector slide means located adjacent the base of said guide means; an opening in said housing through which a tab may pass and located adjacent the base of said guide means opposite said ejector means; a normally inactive solenoid means operatively connected to said ejector; a coin slot and connected chute in said housing; an electrical circuit including power supply leads and including said normally inactive solenoid, a two-way coin actuable switch in said chute, and a delivery switch at the base of said guide means and adjacent said housing opening; said coin switch being connected across said leads and capable of electrically activating said solenoid to shift said ejector and cause a tab to protrude through said housing opening; said delivery switch being connected across said leads in electrical parallel to said coin switch and adapted to be thrown to closed position by the protruding tab to hold said solenoid active until the tab is removed; said delivery switch being adapted to open and release said solenoid when said tab is removed; and said ejector being biased to return to its original position upon release of said solenoid.
3. The combination of claim 2 wherein said circuit includes a normally open anti-jacking switch connected in electrical series with said delivery switch and said solenoid; said anti-jacking switch being adapted to be thrown by the ejecting movements of said slide means to a closed position in electrical series with said delivery switch so that closure of said delivery switch without closure of said coin switch will cause said solenoid to remain inactive.
4. A dispenser comprising in combination a housing;
a vertical guide means within said housing and adjacent
one lateral face thereof; a stack of tabs of cardboard or
the like within said guide; a weight resting upon said
stack; a horizontally shiftable ejector means adjacent the
base of said guide means opposite said lateral face of said
housing; said ejector having a thickness roughly equal
to that of one of said tabs to be dispensed; a slot opening
in said housing lateral face aligned with said ejector; a
sliding door normally covering said slot; a normally in-
active solenoid operatively connected to said ejector and
said door to shift said ejector toward said slot against
the edge of a tab in said stack and to lift said door to allow
protrusion through said slot of said tab when said sole-
noid is activated; a coin receiving slot and connected
coin chute in said housing; an electrical circuit including
power leads and including said normally inactive sole-
noid, a two-way coin actuated switch normally biased
to one position and operatively associated with said chute,
said coin switch being electrically connected in series with
said solenoid across said power leads; a normally active
solenoid associated with said coin chute to normally al-
low coins to shift said coin switch to its second posi-
tion, a delivery switch at the base of said guide and capa-
ble of being shifted by a partially dispensed tab; said de-

delivery switch being in electrical series with said solenoid
across said power leads and being in electrical parallel
with said coin switch to hold said normally inactive sole-
noid activated until removal of said tab, and said circuit
including a normally open anti-jacking switch in electrical
series with said delivery switch so that closure of said de-

delivery switch without coin actuation of said coin switch
will cause said normally inactive solenoid to remain in-
active.

5. An article dispensing machine comprising a housing;
article storage means in said housing; article ejector means
adjacent said storage means to eject an article therefrom;
an opening in said housing through which said article can
be ejected; solenoid means to shift said ejector; an elec-
trical control circuit including power line leads; said
solenoid being electrically connected across said leads in
electrical series with a releasing, coin-actuated switch and
in series with a holding delivery switch, said releasing
switch being in electrical parallel with said holding switch;
said holding delivery switch being adapted to be closed by
a partially ejected article, and adapted to be held closed
until said article is removed from said housing so that
said solenoid is held actuated and said ejector is held in
its shifted condition until said article is removed, and
said delivery switch being opened upon removal of said
article whereby said solenoid is deactivated and said
ejector returns to its original position.

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