Oct. 25, 1960 F. B. DOUD 2,957,567

VENDING MACHINE

Filed Feb. 3, 1955 3 Sheets-Sheet 1

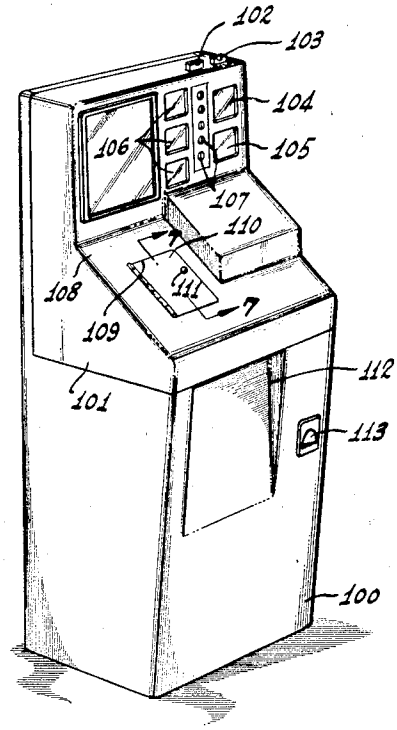
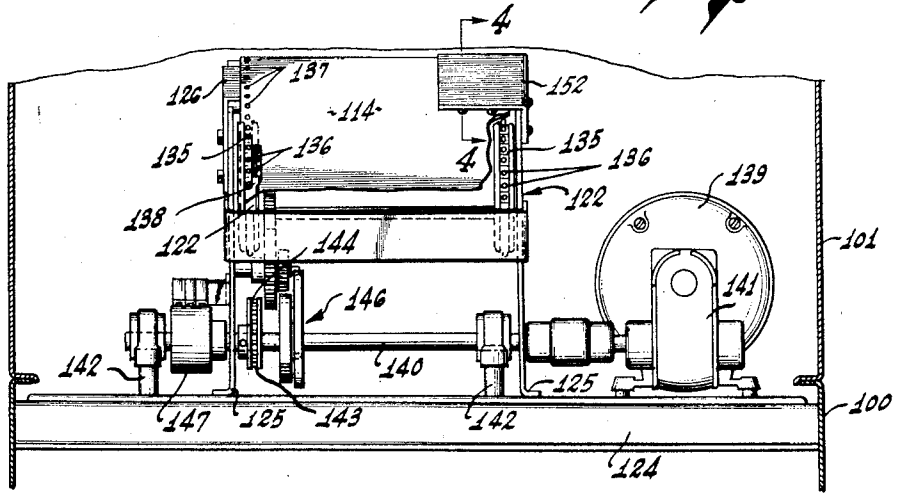


Fig. 1

Fig. 2



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Fig. 3

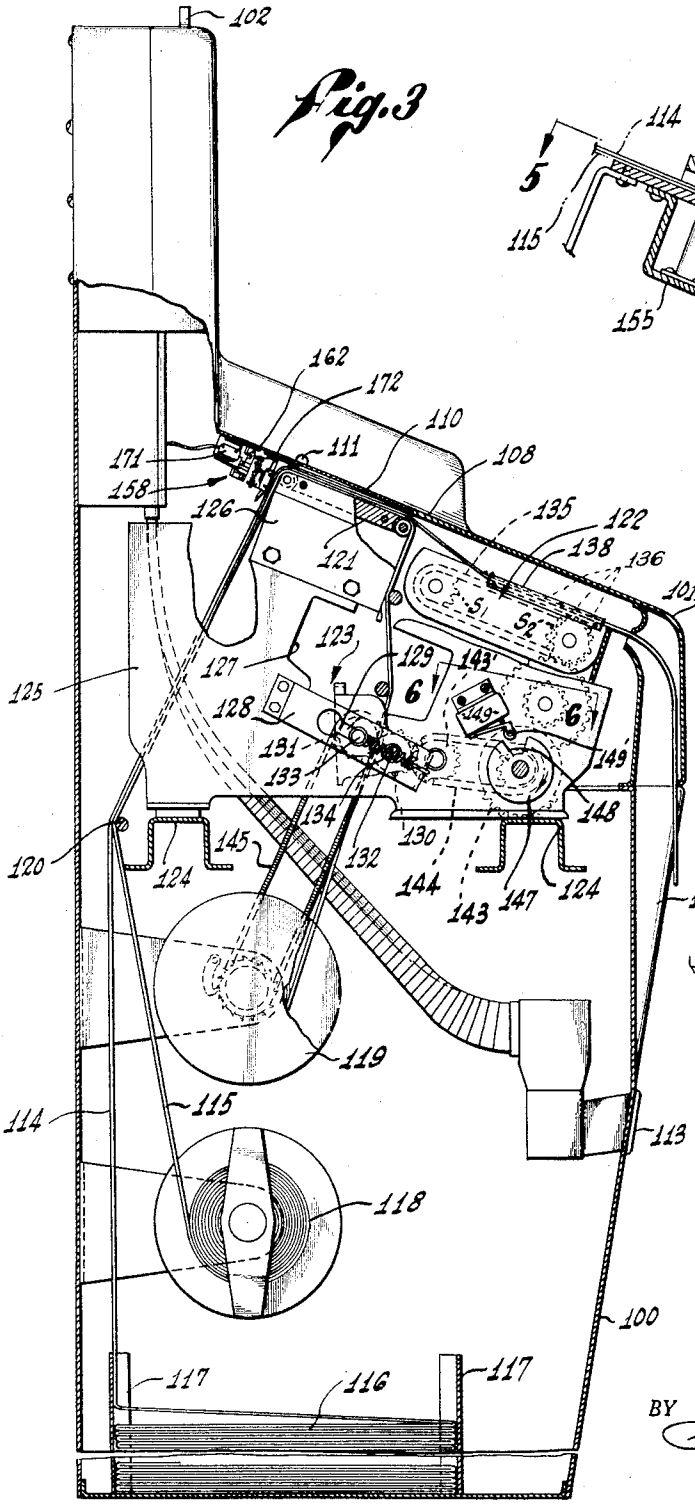
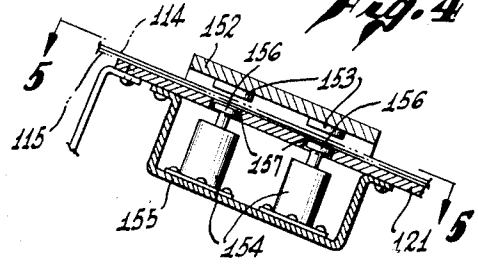


Fig. 4



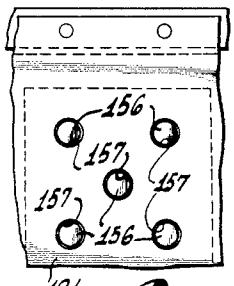


Fig. 5

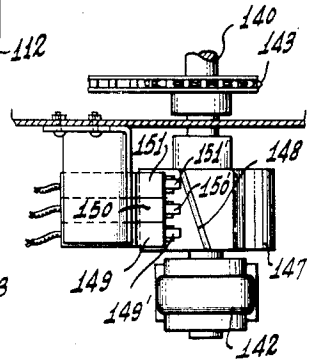


Fig. 6

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Fig. 7

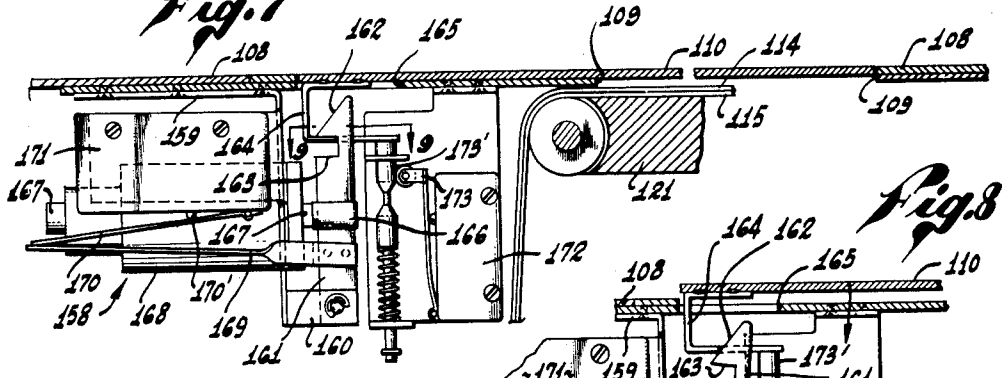
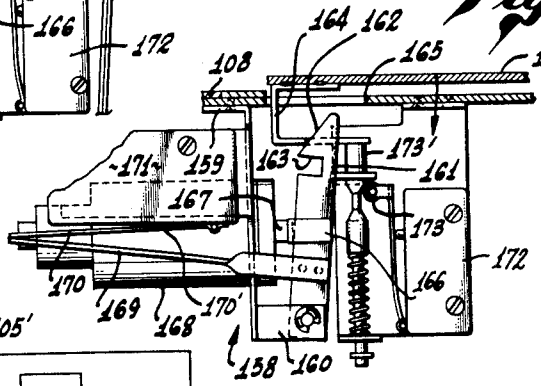
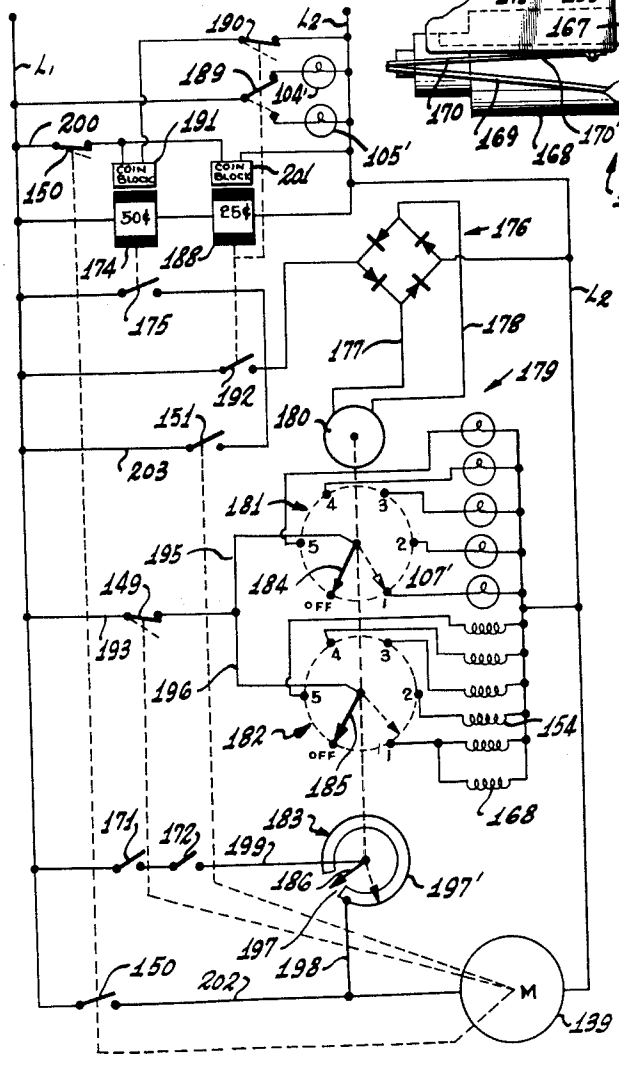


Fig. 8





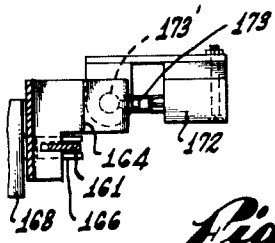


Fig. 9

Fig. 10

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2,957,567

VENDING MACHINE

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Filed Feb. 3, 1955, Ser. No. 485,933

7 Claims. (Cl. 194—10)

The present invention relates generally to vending machines and more particularly to a coin actuated vending machine for issuing forms such as insurance policies.

This case is concerned with improvements in the vending machine disclosed in copending application Serial No. 329,180, filed January 2, 1953, entitled Vending Machine, now Patent No. 2,854,116, issued Sept. 30, 1958.

The above-identified prior application discloses an insurance policy vending machine capable of receiving from one to several coins for issuing policies of varying amounts determined by the number of coins inserted. A duplicate copy of each policy issued is retained in the machine for auditing purposes.

In this prior machine, a window is provided in the machine housing through which a purchaser of a policy may insert on a blank policy form certain identifying information. Normally this window is sealed by a closure plate operably connected to mechanism within the housing, such mechanism being responsive to a first coin inserted in the machine to move the closure plate to its open position. Perforating mechanism is operable in response to the insertion of the first and each successive coin inserted in the machine to indicate, on both the original and duplicate copies of the policy the amount of the policy issued.

Upon completion of the form, a button on the exterior of the housing is depressed by the purchaser to cause operation of the mechanism to close the closure plate and operation of feed mechanism to vend the policy.

The present invention provides a machine for vending forms, such as insurance policies of varying amounts, which is comprised of certain of the basic elements contained in the above described prior vending machine but wherein various elements have been improved and simplified whereby there results a vending machine which is less costly to manufacture, less prone to malfunctioning, and easier to operate.

The present improved vending machine is generally similar to the prior machine and retains substantially the same feed mechanism for the forms as is employed in the prior machine with certain slight modification being had in the drive means for the duplicate record feed mechanism.

In lieu, however, of a sliding type of closure plate for the window which is actuated to its open position in response to the insertion of a first coin, this invention provides a door operable to open and closed positions exteriorly of the machine. Latch means, released in response to the insertion of the first coin, serve to normally secure the door in its closed position.

A novel switch arrangement is provided for initiating operation of the feed mechanism upon closing of the door by the purchaser and securing of the door by said latch means. Moreover, whereas in the prior machine proper sequential operation of the various machine components is achieved through switch elements associated with the closure plate, phasing of machine operation in the present improved machine is derived from sequentially actuated switches associated with the feed mechanism. The present vending machine provides for simplified assembly and servicing procedures and for improved positive operation.

Accordingly, a general object of the invention is the provision of an improved coin actuated form vending machine.

Another object of the invention is the provision of a simplified coin actuated vending machine for issuing insurance policies of varying amounts.

A further object of the invention is the provision of such a vending machine wherein delivery of the completed policy is automatically initiated by the closing of a door across an access window in the machine by the purchaser.

And another object of the invention is the provision of novel mechanism for preventing delivery of the completed policy until the access door has been closed and locked.

Still another object of the invention is the provision of a vending machine as in the foregoing wherein the delivered policy has imprinted thereon an amount determined by the number of coins inserted by the purchaser.

And a further object of the invention is the provision of a vending machine as above including improved mechanism for providing certain necessary sequential operation of the various machine components.

Further objects, features, and advantages of my present invention will become apparent from the following detailed description of the same in which reference is had to the accompanying drawings wherein:

Fig. 1 is a perspective view of the cabinet which forms the housing of the present vending machine;

Fig. 2 is a front elevation of certain of the mechanism contained within the housing of Fig. 1;

Fig. 3 is a side elevation of the mechanism contained in the housing of Fig. 1 with parts broken away for the sake of clarity;

Fig. 4 is an enlarged sectional view taken substantially along line **4—4** of Fig. 2;

Fig. 5 is a view looking in the direction indicated by the arrows on the line **5—5** of Fig. 4;

Fig. 6 is an enlarged detail view of the drum cam actuated switch assembly embodied in the machine as viewed in the direction indicated by the arrows on line **6—6** of Fig. 3 and with the drum cam rotated slightly in a clockwise direction from its position in Fig. 3 for the sake of clarity;

Fig. 7 is an enlarged view of the access door latching mechanism, the view being taken substantially along line **7—7** of Fig. 1;

Fig. 8 is a view of the door latching mechanism with the parts thereof shown as they appear during closing of the access door;

Fig. 9 is a section taken along line **9—9** of Fig. 7; and

Fig. 10 is a schematic showing of the electrical circuit embodied in the present machine.

Referring now to Fig. 1, the housing of the present vending machine comprises a lower frame casing **100** and an upper frame casing **101** which is removably locked to the lower frame casing so that only authorized personnel may have access to the operating mechanism within the housing.

An upper horizontal panel of the upper frame casing **101** carries a 50¢ coin slot **102** and a 25¢ coin slot **103**. Prior to the insertion of any coins into the machine, a light behind a transparent window **104** will be lit to indicate through window **104** that either quarters or half dollars may be inserted.

Upon the insertion of the first or any odd number of quarters in the machine, window **104** will become dark

and a light behind a transparent window 105 will be lit to indicate that a second quarter should be inserted.

The numeral 106 designates a series of panels containing instructions, in numbered steps, for operating the machine. At 107 are shown a plurality of transparent windows adapted to be sequentially illuminated from behind, by lights associated with each window, upon the insertion of each 50¢, to indicate to the purchaser the corresponding amount of the policy.

Upper frame casing 101 is provided with an inclined upper panel 108 in which is formed a window 109 normally closed by a hinged door 110, or the like. Door 110 is normally locked in its closed position by a subsequently described latch mechanism which is unlocked in response to the first 50¢ inserted in the machine. The purchaser may then open the door, by grasping a handle 111 on the door, to uncover the access window 109. As will be seen, the blank policy forms are fed directly beneath this window so that the purchaser may insert certain necessary information thereon. Upon closing and locking of the door, operation of feed mechanism within the housing is automatically initiated, as will be described, to deliver the completed policy to the purchaser.

The policy is delivered into a recessed portion 112 formed in the sloping front panel of the lower frame casing 100. This latter panel also includes a coin return slot 113.

Reference now is had to Figs. 2 and 3 wherein the numeral 114 designates the blank insurance policy forms and the numeral 115 designates blank duplicate paper which has duplicated thereon the information placed on the original forms.

The original forms 114 are printed in a continuous strip or web with the portion of the web between adjacent policies being perforated to facilitate the separation of one policy from the adjacent policy. As will be seen, the original policies comprise a pair of folded sheets with carbon backing on each.

The web 114 of original policy forms is folded in accordion fashion along the perforated portions to form a supply or stack of such forms at 116. Vertical guides 117 rising from the bottom panel of the housing embrace the four corners of the stack to retain the latter in position in the housing.

The web 115 of blank duplicate paper is received from a supply roll 118 mounted within the housing at a point above the stack 116 and is, as will be seen, subsequently rewound on a take-up reel 119 for storage and later transfer for auditing purposes.

The web of original policies 114, is, during operation of the machine, fed together with and in overlying relationship to the web of duplicate paper 115 around a guide roller 120, and over a plate 121. Upon passing over the plate 121, the original policy web 114 and duplicate paper web 115 are separated with the former web moving over a chain feed mechanism generally indicated at 122 and the latter web passing through a friction roller feed mechanism 123 onto the take-up reel 119.

Plate 121 is disposed in slightly spaced, parallel relationship to the upper inclined panel 108 of the upper frame section 101 and is positioned directly beneath the window 109 so as to form a backing for the forms to permit the purchaser to insert the necessary information on the latter.

Extending laterally of the housing and fixed at their opposite ends to the side panels of the lower frame section 100 are a pair of horizontal channel members 124 from which rise a pair of spaced, parallel supporting walls 125.

Chain feed mechanism 122 is fixed to walls 125 at their forward portion while plate 121 is supported from the walls 125 as by plates 126 fixed to opposite ends of plate 121 and to the walls 125 as illustrated.

Supporting walls 125 have openings 127 therethrough and spanning a lower part of each of such openings is a plate 128 fixed at its opposite ends to the respective wall. Each of the plates 128 are slotted as at 129.

Friction feed mechanism for the duplicate paper web 115 comprises a pair of friction rollers 130 and 131. Roller 130 has a central shaft 132 extending therethrough which has its opposite ends journaled in the plates 128 while roller 131 has a central shaft 133 extending therethrough which has its ends slidably and rotatably received in the slots 129.

A spring 134 at each end of roller 131 serves to bias the latter toward roller 130 so as to frictionally grip the duplicate paper web 115 therebetween.

Sprocket chain feed mechanism 122 comprises a pair of spaced parallel sprocket chains 135 having lugs 136 which project through spaced perforations 137 (Fig. 2) formed along each edge of the original policies 114. A guide 138 overlies each of the sprocket chains to maintain the perforated portions of the original policies in operative engagement with the lugs 136 of the sprocket chains. Sprocket chains 135 pass around a pair of spaced sprockets S1 and S2, the latter of which is driven, in a manner to be presently described, to feed the original policies through the machine. For specific details of a sprocket chain which is especially suitable for use in the present machine, reference may be had to the aforementioned copending application Serial No. 329,180.

The driving mechanism for the sprocket chain feed 122 and the friction roller feed 123 comprises an electric motor 139 (Fig. 2) which drives a shaft 140 through a speed reduction unit 141. Shaft 140 extends through suitable openings formed in the support walls 125 and is journaled at spaced points as by bearings 142 carried by the support members 124.

Mounted on the main driving shaft 140, adjacent the left hand one of the support walls 125 is a sprocket 143. A sprocket chain 144 passes over sprocket 143 and over 143' journaled in left hand wall 125 and carrying a gear (not shown) meshing with a gear (not shown) on friction roller 13 of the friction feed mechanism 123. Friction rollers 130 and 131, are suitably geared together (gearing not shown) for opposite, simultaneous rotation so that both rollers will, upon operation of motor 139, be simultaneously driven in a manner to feed the web of duplicate paper 115. Take-up reel 119 is driven from the friction roller 131 as by a spring belt drive 145 to provide for winding up of the duplicate paper on the take-up reel 119.

Sprocket chain feed mechanism 122 is driven from the main driving shaft 140 through suitable power transmission means illustrated as being a gear train 146, which meshes with a gear fixed to sprocket S2 of feed mechanism 122. One type of gear train which is especially suited for use in the present vending machine is disclosed in the copending application, Serial No. 329,180.

During operation of the machine certain hereinafter described sequential functions are necessary. To this end, there is mounted on main drive shaft 140, outboard of left hand support wall 125, a drum cam 147 formed with an open segment, as shown in Fig. 3, and with an inclined leading edge 148 as shown more clearly in Fig. 6. As was previously mentioned, the drum cam has been rotated slightly in a clockwise direction in Fig. 6, from its normal position shown in Fig. 3, so as to permit a clearer showing of said leading edge. Three microswitches 149, 150 and 151 are mounted on the left hand support wall 125 and include actuating elements 149', 150', and 151'. During inoperative periods of the machine these actuating elements are disposed in the open segment of the cam as indicated in Fig. 3. Upon rotation of cam 147, switches 149, 150 and 151 will be sequentially actuated by engagement of their actuating elements with the leading edge 148 as will be seen.

A generally L-shaped member 152 (Fig. 2) has one leg attached to the right hand support wall 125 and the other leg disposed in slightly spaced, overlying, parallel

relationship to the plate 121. As is more clearly shown in Fig. 4, the overlying portion of member 152 has fixed to its under surface a plurality of dies 153 having raised numbers (not shown) formed thereon corresponding to the different denominations of the policies issued by the machine. Each of the dies 153 is aligned with one of a plurality of solenoid actuated stampers 154 carried by a bracket 155 attached to the underside of plate 121. The solenoid actuated stampers include plungers having resilient pads 156 operable through openings 157 formed in plate 121 to force the original policy and duplicate paper webs 114 and 115, which move between plate 121 and member 152, against the dies 153. Owing to carbon backing (not shown) on the sheets of the original policy forms 114, the second page of the original policy and the duplicate paper 115 will have imprinted thereon the numbers formed on the die associated with a given stamper. The solenoid actuated stampers and accordingly the dies 153 are arranged in the pattern illustrated in Fig. 5.

Referring now to Fig. 3, door 110 for window 109 in upper inclined panel 108 is adapted to be locked in its closed position shown, until the insertion of the first 50¢ into the machine, by a releasable latch assembly generally indicated at 158.

This latch assembly is shown more clearly in Figs. 7, 8 and 9 and comprises a support 159 fixed to the under side of panel 108. Support 159 has a depending portion provided at its lower end with a lateral arm 160 to the free end of which is pivoted the lower end of a latch member 161.

Latch member 161 has an inclined upper edge 162 and a transverse slot 163 opening through a longitudinal edge. Slot 163, in the locked condition of door 110 (Fig. 7), receives therein one leg of an L-shaped cooperating latch member 164 fixed to the door 110 and projecting through an opening 165 in panel 108 when the door 110 is closed.

Pivoted latch member 161 is fixed, as by an element 166, to the plunger 167 of a solenoid 168. The plunger 167 is biased to the left, as viewed in Fig. 7, by a spring, not shown, within solenoid 168 so that pivoted latch member 161 will normally be retained in its latching position shown in Fig. 7. Upon closing of door 110, the latch member 164 will engage the inclined edge 162 of pivoted latch member 161, as shown in Fig. 8, to cam the latter to its unlatched position to permit the lateral portion of latch member 164 to aline itself with slot 163. The pivotal latch member 161 will then be biased to its latched position with the lateral portion of latch member 164 disposed in the slot to prevent opening of door 110 until solenoid 168 is energized to pivot latch member 161 to its unlocked position.

Attached at one end to pivoted latch 161 is an arm 169 which is engaged at its other end with a leaf spring 170 which operates the actuating element 170' of a normally closed microswitch 171. The arrangement is such that when latch member 161 is cammed to its unlatched position upon closing of the door 110, arm 169 will exert a force on actuating element 170' through spring 170 to retain switch 171 in its open condition until the latch member 161 is biased to its locked position with latch member 164 received in slot 163.

A second normally open microswitch 172 includes an actuating element 173 operated by a cam element 173' axially movable by latch member 164, upon closing of the door, to close the switch 172. Switches 171 and 172 are, as will be seen, connected in electrical series. The latching arrangement is so constructed that upon closing of door 110, normally closed switch 171 will first be opened, normally open switch 172 will then be closed, and finally switch 171 will be reclosed by movement of latch member 161 into latching engagement with latch member 164. It will be apparent therefore that the circuit through the series-connected switches 171 and 172 will not be completed until the door 110 is locked in its closed position. Cam element 173' is spring biased upwardly, as shown, so that upon momentary energization of solenoid 168, door 110 will be urged to a slightly open position (Fig. 8).

Operation of the present vending machine will be described by reference to the electrical circuit embodied in the machine, which circuit is schematically shown in Fig. 10.

A pair of leads L1 and L2 are provided for connection to a suitable voltage supply, not shown. Upon inserting a half dollar into coin slot 102, a coin switch mechanism 174, associated with that coin slot, will operate to momentarily close a normally open switch 175 to connect a rectifier 176 across the terminals L1 and L2. The pulse of D.C. current from the rectifier is applied through leads 177 and 178 to a stepping selector switch, generally indicated at 179, including a rotary solenoid 180.

Selector switch 179, which may be any conventional, resettable stepping switch, includes a plurality of rotary switch devices 181, 182 and 183 driven by the rotary solenoid 180. Upon the pulse of D.C. current from rectifier 176 being applied to solenoid 180, by the momentary closing of switch 175, rotary contact arms 184, 185, and 186, associated, respectively, with rotary switches 181, 182 and 183 are stepped from their off position, illustrated in solid lines to their dotted line positions.

If the first coin deposited is a quarter, a coin counting switch mechanism 188 becomes operative to actuate a switch 189 from its solid line position, wherein a light 104' is energized to illuminate window 104 and indicate that either quarters or half dollars may be inserted in the machine, to its dotted line position, wherein light 104' is de-energized and a light 105' is energized to illuminate window 105 and indicate that an additional quarter should be inserted in the machine.

Simultaneously with the above actuation of switch 189, a switch 190, in the energizing circuit of the 50¢ coin block 191, is opened to de-energize that coin block and return to the purchaser any coins inserted in the 50¢ coin slot 102 before the second quarter is inserted into the machine.

Coin counting switch mechanism 188 becomes operative upon the insertion of a second quarter into coin slot 103 to return switch 189 to its solid line position and reclose switch 190. Simultaneously, a switch 192 is momentarily closed to connect rectifier 176 across the terminals L1 and L2. The resulting pulse of D.C. current fed to the selector switch 179 through leads 177 and 178 will, as in the case of the insertion of a half dollar into the machine, cause stepping of the selector switch in the manner previously described.

The insertion of the first half dollar or first two quarters into the machine causes rotary contact 184 to be stepped to its dotted line position wherein a circuit is completed from left hand power lead L1, through lead 193 including the drum cam actuated switch 149, lead 195, arm 184, contact button #1 on the selector switch, light 107' to the right hand power lead L2. Light 107' is thereby energized to indicate through the appropriate one of the windows 107 the corresponding amount of the policy.

Stepping of selector switch 179 simultaneously causes rotary contact arm 185 to move over a contact button #1 on rotary switch 182 to momentarily complete a circuit from left hand power lead L1, lead 193, switch 149, lead 196, arm 185, through one of the solenoids 154 of the printing mechanism (Fig. 4) to the right hand power lead L2. The energized one of the solenoids 154 will be that associated with the one of the dies 153 which bears thereon an indication of the policy amount corresponding to a 50¢ purchase price. The policy blank 114, and, due to the carbon backing on the policy blank, also the duplicate paper 115, will thereby have imprinted thereon an indication of such amount.

Solenoid 168, embodied in the door latch mechanism,

is connected in parallel with the first actuated printing solenoid 154 so that upon the insertion of the first 50¢ into the machine, the door will be unlocked to permit the same to be opened by the purchaser.

If a policy of a greater amount is desired, additional coins may be inserted in the machine. For each additional half dollar or two quarters inserted in the machine up to the total number of coins corresponding to the greatest amount of the policy which may be purchased, the selector switch 179 is stepped to sequentially energize the lights 107' to indicate through the windows 107 the corresponding amount of the policy. Also the solenoids 154 will be sequentially energized to imprint on the policy 114 and duplicate paper 115 the ocrresponding amount of the policy. For each odd number of quarters inserted in the machine switches 189 and 190 will be operated as heretofore described.

In the off position (shown) of the selector switch 179, rotary contact arm 186 of rotary switch 183 will be positioned in an insulated or open segment 197 of an annular conducting strip 197' electrically connected with one terminal of drive motor 139 through a lead 198. The other terminal of motor 139 is connected to the right hand power lead L2, as shown.

Rotary contact arm 186 of switch 183 is connected to the left hand power lead L1 through a lead 199 including the serially connected switches 171 and 172 in the door latch mechanism. Upon the above described stepping of selector switch 179, arm 186 will move onto conducting segment 197'.

Thus, after the purchaser has deposited the desired number of coins in the machine and inserted the necessary information on the policy, which information will be transferred to the duplicate paper 115 by the aforedescribed carbon backing on the original policy, he will in accordance with the instructions 106 close the door 110. This door was, as described above, unlocked upon the insertion of the first 50¢ in the machine to permit opening thereof by the purchaser.

Closing and locking of the door results in the closing of the series-connected switches 171 and 172 as was described with reference to the door latch mechanism. Motor 139 will thereby be energized through lead 199, arm 186 of rotary switch 183, conducting strip 197', and lead 198.

Upon operation of motor 139, drum cam 147 will be rotated in the direction indicated by the arrow in Fig. 3 to sequentially actuate microswitches 149, 150 and 151 by virtue of the inclined leading edge 148 of the cam.

Leading edge 148 of the cam is so inclined that microswitch 149 will be actuated first. Switch 149 is normally closed and is, as seen in Fig. 10, serially connected in the energizing circuit for the lights 107', printing or stamper solenoids 154, and door latch solenoid 168. Upon rotation of drum cam 147, switch 149 is opened to prevent subsequent "pinballing" of the lights and solenoids upon resetting of the selector switch 179 to its off position as hereinafter described.

Secondly actuated microswitch 150 has a normally closed side serially connected in a lead 200 connecting one terminal of the 50¢ coin block 191 and the 25¢ coin block 201 to the left hand power lead L1, and a normally open side serially connected in a lead 202 connecting left hand power lead L1 to motor 139. Thus, upon rotation of drum cam 147 the normally closed side of switch 150 will be opened to de-energize the coin blocks 191 and 201 and return any subsequently inserted coins to the purchaser. Simultaneously the normally open side of switch 150, in lead 202, is closed with the result that motor 139 will continue to drive until the actuating element 150' of switch 150 rides into the open portion of the drum cam 147. The portion of the switch in lead 202 will then be reopened to de-energize motor 139 and the portion of switch 150 in lead 200 will be reclosed to energize the coin blocks 191 and 201 and condition the latter for the next purchase.

The third microswitch 151 operated from the drum cam 147 is, as shown in Fig. 10, disposed in a parallel energizing lead 203 for rectifier 176 and serves as a resetting switch for selector switch 179. Thus, upon operation of drum cam 147, switch 151 will be closed and selector switch 179 will be reset to its off position in response to the resultant D.C. current fed thereto from the rectifier 176.

This resetting operation is relatively rapid and will be accomplished before the motor 139 has driven the drum cam to its normal position wherein the side of switch 150 in lead 202 will be reopened by the dropping of actuating element 150' into the open segment of the cam. Thus, rotary contact arm 186 of rotary switch 183 will be positioned in the insulated segment 197 of annular conducting strip 197' and said reopening of switch 150 will cause motor 139 to stop when the drum cam has made one revolution.

The gearing driving the policy feed mechanism 122 is made such that during such one revolution of the drum cam 147, the web of original policies will be driven a distance equal to the length of a single policy. The completed policy will be delivered into the depressed area 113 in the front panel of the machine housing whereupon it may be detached along the preforated portion by the purchaser. The next following blank policy will be retained in position below window 109, for repetition of the purchasing cycle, by the sprocket chains 135. Upon the completion of each purchasing cycle, actuating elements 149', 150' and 151' will be positioned in the open segment of the drum cam 147 so that the machine will be conditioned for the next purchase.

It is to be understood that the mechanisms hereinbefore described are for illustrative purposes only, and that numerous modifications in design and arrangement may be made without departing from the spirit and scope of the following claims:

I claim:

1. In a form vending machine, the combination comprising: a housing having a window, a closure for said window movable between open and closed positions, releaseable latch means for locking said closure in closed position, means for moving said closure from said closed position when said latch means are released, electrical drive means within said housing for feeding forms to be vended past said window, first and second parallel-connected energizing circuits for said drive means, said first circuit including first and second switch means connected in electrical series and adapted to be closed to energize said drive means, means for closing said first switch means upon locking of said closure in closed position and opening said first switch means when said closure moves from said closed position, means operable by a user of the machine for simultaneously releasing said latch means and closing said second switch means to condition said drive means for operation upon subsequent closing of said first switch means by locking of said closure in closed position, said second circuit including third switch means adapted to be closed to energize said drive means, means operated by said drive means for closing said third switch means upon operation of said drive means and reopening said third switch means after predetermined movement of the drive means, and means for reopening said second switch means during said predetermined movement of the drive means.

2. The subject matter of claim 1 wherein said first switch means comprises a first, normally open switch in series with said second switch means, means for closing said first switch upon closing of said closure, said latch means comprising a latch member movable between latching and released positions, means for moving said member to released position during closing of the closure to permit movement of the latter to said closed position and thereafter moving said member to latching position to lock the closure in said closed position, said means op-

erable by a user of the machine including means for momentarily releasing said latch member, said first switch means further including a fourth switch connected in series with said first switch, and means for closing said fourth switch when said member is in its latching position and opening said fourth switch when said member is in its released position.

3. In a form vending machine, the combination comprising: a housing having a window, a closure for said window movable between open and closed positions, releasable latch means for locking said closure in closed position, means for moving said closure from said closed position when said latch means are released, electrical drive means within said housing for feeding forms to be vended past said window, first and second parallel-connected energizing circuits for said drive means, said first circuit including a first normally open switch, means for closing said switch when said closure is in closed position, stepping switch means including a second switch in series with said first switch, said stepping switch means having a normal open position and a series of closed positions, selectively operable means operable by a user of the machine for stepping said stepping switch means, said second switch being closed in response to the first stepping of said stepping switch means by said selectively operable means, means for releasing said latch means in response to said first stepping of said stepping switch means, said second circuit including a third switch adapted to be closed to energize said drive means, means operated by said drive means for closing said third switch upon operation of said drive means and reopening said third switch after predetermined movement of the drive means, and means for stepping said stepping switch means back to its normal open position during said predetermined movement of said drive means.

4. In a coin operated form vending machine, a plurality of solenoid operated stamping means each bearing indicia denoting a different monetary denomination, a first input terminal connected to one terminal of said solenoid operated means, a second input terminal, a stepping switch in circuit with said other terminal and the other terminals of said solenoid operated means, said switch having a normal open position and being movable through a series of closed positions for sequentially connecting said latter terminals to said other input terminal to sequentially energize said solenoid operated means, means operable by a user of the machine for stepping said switch to said positions sequentially, a motor, a first energizing circuit for said motor including first switch means in circuit with said motor and operated by said stepping switch, said first switch means being open in said open position of the stepping switch and closed in all said closed positions of the stepping switch, second switch means in series with said first switch means and adapted to be closed by the user of the machine after closure of said first switch means to energize said motor, a second energizing circuit for said motor in electrical parallel with said first circuit, said second circuit including third switch means operated by said motor for retaining the latter energized for predetermined movement thereof after said initial energizing thereof and for thereafter deenergizing the motor, and resetting means for said stepping switch including fourth switch means operated by said motor during said predetermined movement thereof for causing resetting of said stepping switch to its normal position.

5. The subject matter of claim 4 including fifth normally closed switch means in series with all of said solenoid operated means and operated by said motor to open position during said predetermined movement and prior to resetting of said stepping switch.

6. In a coin controlled vending machine, the combination of an electrical stepping switch having a series of successive positions and including means responsive to each energizing of the switch for stepping the latter from one of said positions to the next and for retaining the switch in said next position until the switch is deenergized and subsequently reenergized, a plurality of electrically operated stamping means for recording the coins inserted into the machine and each associated with a particular position of the stepping switch, said switch also including electrical contact means in circuit with said stamping means for effecting operation of each stamping means upon operation of the switch to the position associated with the respective stamping means, and means including a switch to be actuated by a user of the machine for momentarily energizing said stepping switch to step the latter from one position to the next in response to each actuation of said user-actuated switch.

7. The subject matter of claim 6 wherein said stepping switch also has a normal inoperative position in which all of said stamping means are inoperative, means for resetting said stepping switch to said normal position, a switch in series with all of said stamping means, and means for opening the latter switch simultaneously with operation of said resetting means.

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