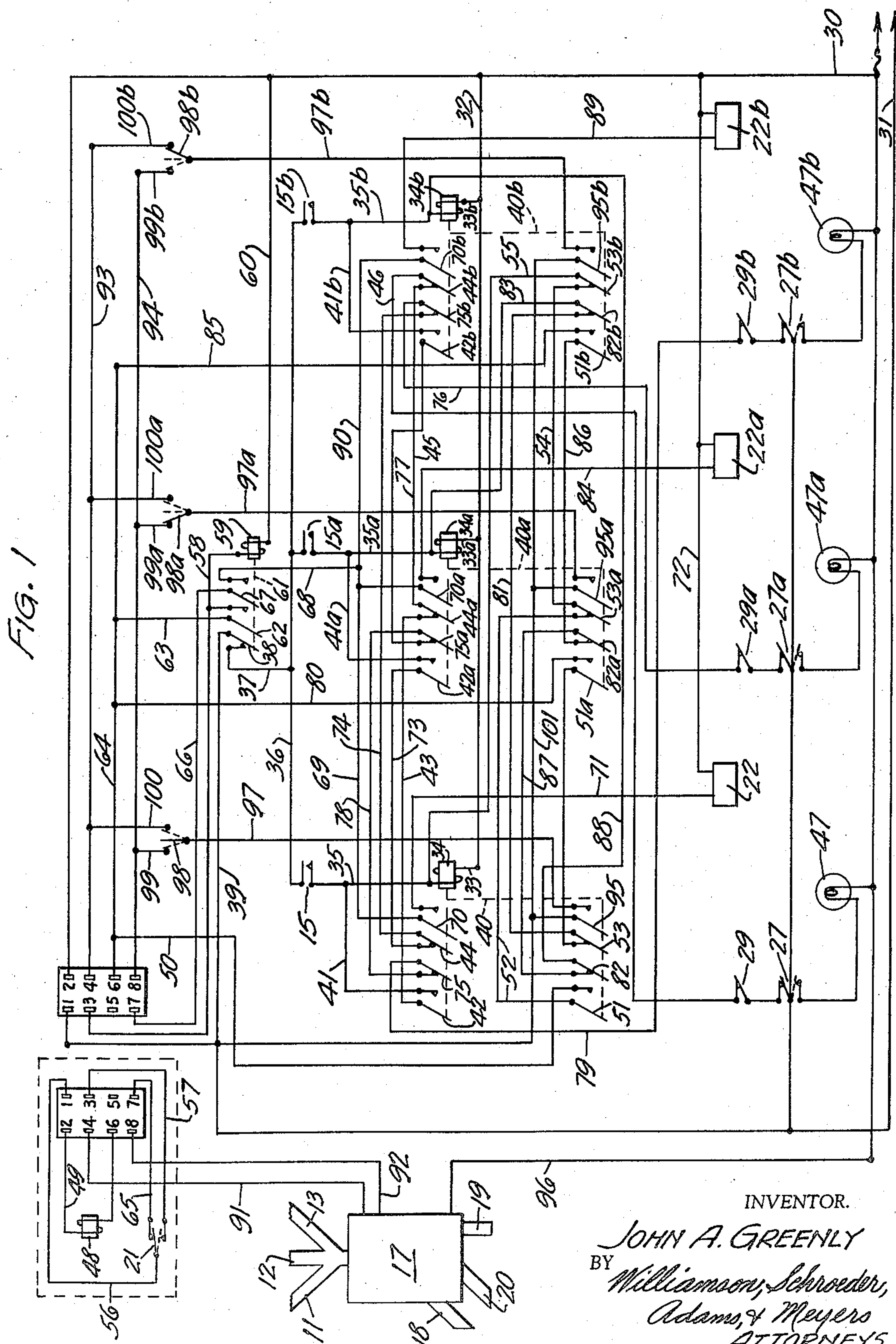


Filed Feb. 4, 1957

DISPENSING MACHINE WITH COIN-OPERATED  
ARTICLE PRE-SELECTOR

2 Sheets-Sheet 1



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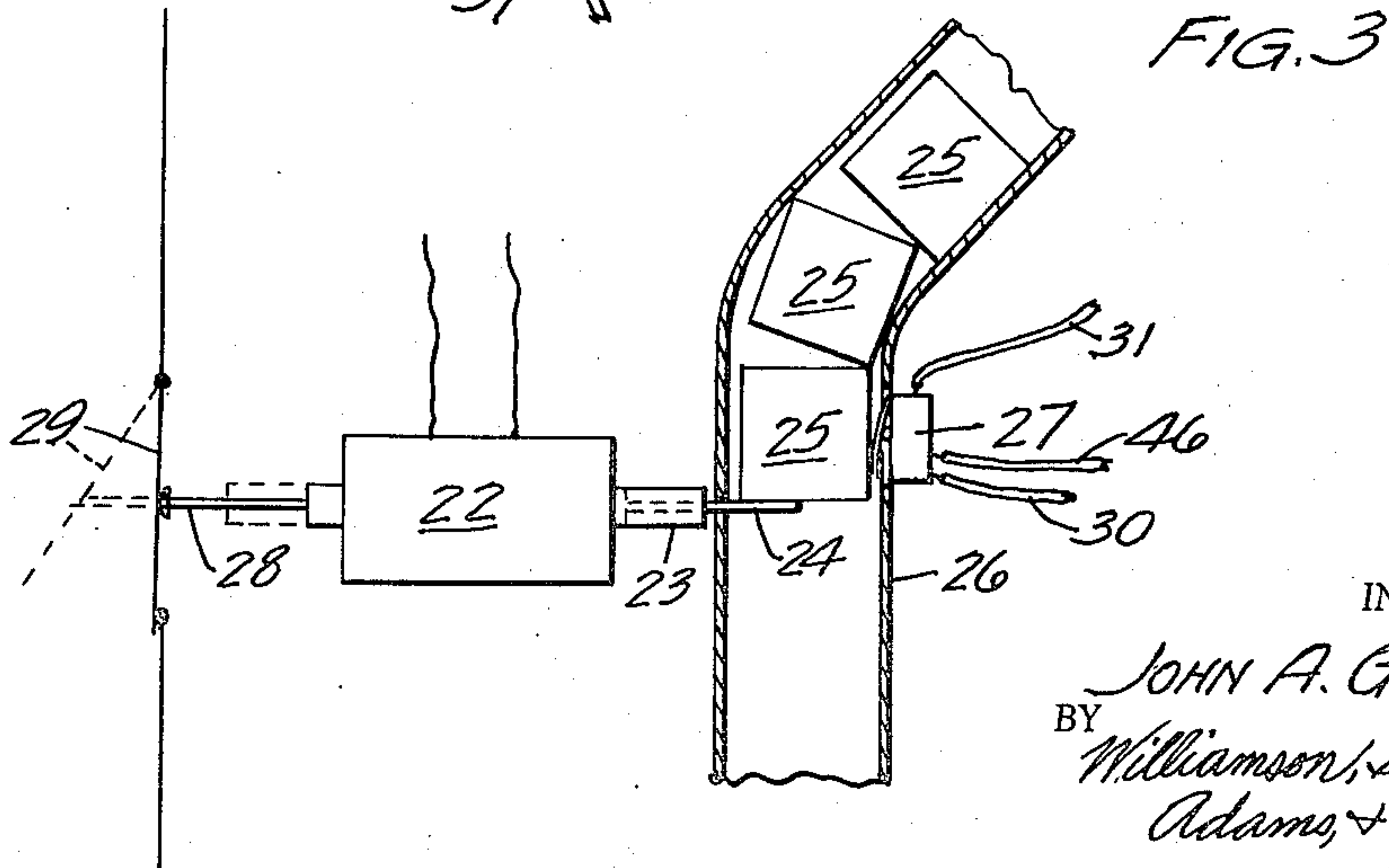
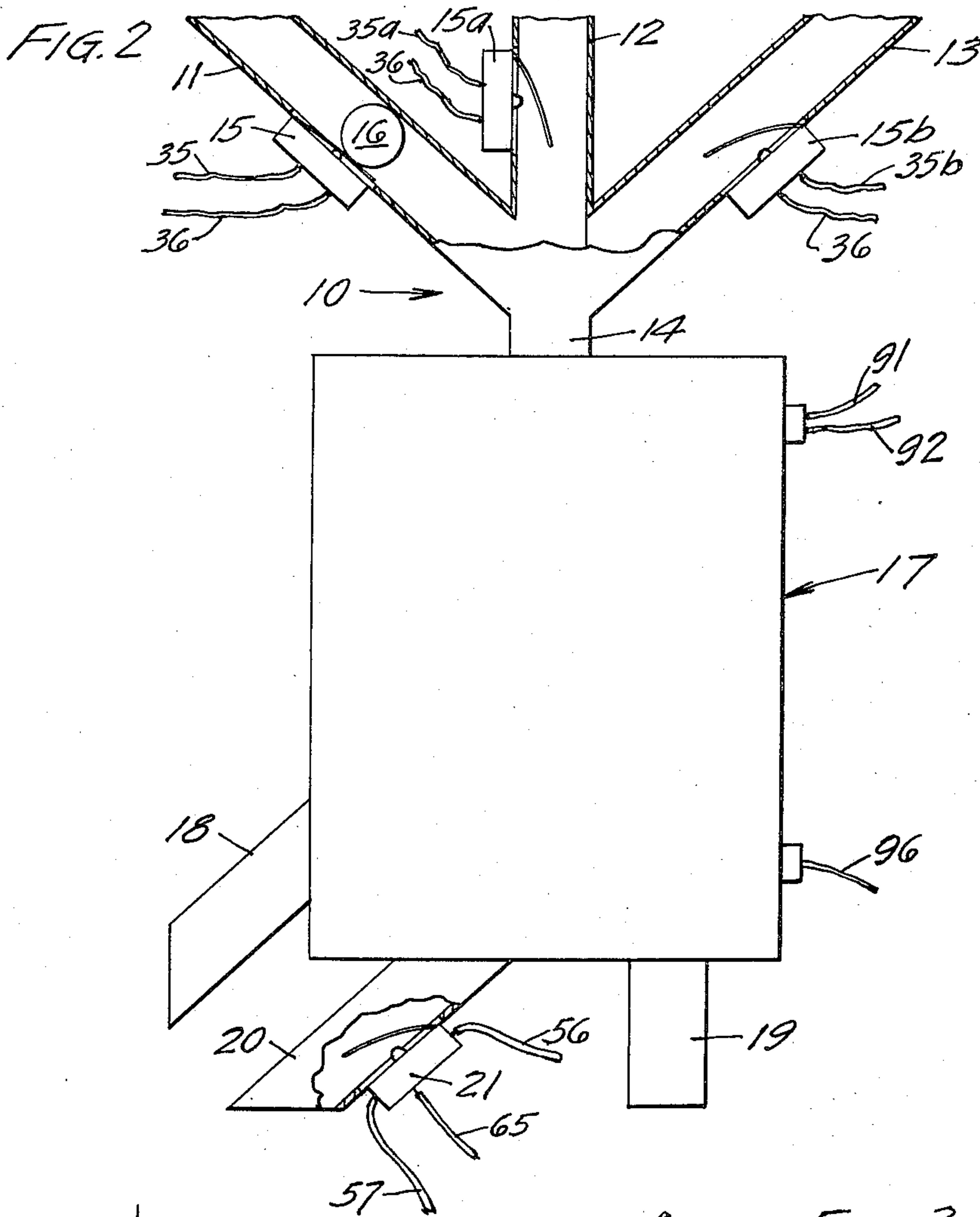
Sept. 2, 1958

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DISPENSING MACHINE WITH COIN-OPERATED  
ARTICLE PRE-SELECTOR

2,850,133

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2 Sheets-Sheet 2



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2,850,133

## DISPENSING MACHINE WITH COIN-OPERATED ARTICLE PRE-SELECTOR

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7 Claims. (Cl. 194—10)

This invention relates to dispensing machines, and more particularly to a coin-operated pre-selector mechanism for dispensing individual articles from a plurality of types thereof.

In the conventional vending machine, it is customary to insert coins totaling the price of an article to be dispensed therefrom following which a lever is manually actuated in order to release and deliver a correspondingly selected article. In the event the article selected has been exhausted from the machine, then the coins inserted into the machine will be returned only after all of them have been accumulated and the purchaser must then start his operation of the machine over again if he desires to make another selection.

Another characteristic of some conventional vending machines is a construction and electrical wiring system which will permit jamming of the machine by violently handling the control members or shaking the entire machine so as to result in the delivery of more than the single article paid for. In some instances, the machine will not return coins already inserted at the time that jamming takes place.

It is an object of the present invention to overcome the above noted difficulties and to provide a relatively simple and inexpensive mechanism which will dispense one of a plurality of articles of different types in response to automatic selection by actuation of inserted coins alone and without further attention to manually operable levers, buttons and the like.

Another object of the invention is to provide a dispensing mechanism wherein coins may be inserted at one of several locations to pre-select the desired article, the location of the last inserted coin determining which article will be dispensed so that a purchaser may change his mind after having started to place coins in a receptacle or slot representing another article.

A further object of the invention is to provide a machine of the class described wherein a plurality of coin slots represent different types of articles to be dispensed, and the first coin placed in a slot representing an article which has become exhausted, will automatically return the purchaser's money without requiring a complete accumulation of the total purchase price followed by an attempted delivery of an exhausted article.

A still further object of the invention is to provide a mechanism which is coin-operated for pre-selecting an article wherein an electrical pre-selector circuit will be conditioned prior to the vending of an article and will be returned to an unconditioned status upon the vending of an article from the machine, the entire actuation of the mechanism being accomplished by the travel of a coin or coins.

These and other objects and advantages of the invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to the same parts throughout the several views and in which:

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Figure 1 is a diagrammatic representation of the electrical circuit for my dispensing machine;

Figure 2 is a detailed diagrammatic representation of the article pre-selector and coin-operated vending switch mechanism with a coin shown in the process of pre-selecting an article from the first pre-selector chute and switch; and

Figure 3 is a detailed diagrammatic representation of the article dispensing mechanism, showing the relationship between the relay drop switch and the solenoid-operated gate member.

With continued reference to the drawings, my coin-operated vending machine comprehends a mechanism which includes generally a pre-selector chute member 10 having a plurality of individual chutes 11, 12 and 13 which feed into a common delivery chute 14, as shown in Fig. 2. My system adapts itself to any number of pre-selector chutes but for convenience I have shown but three in the disclosure of this specification. The vending machine proper (not shown) may have the usual outer casing and be provided with a plurality of article chambers, each containing a specified type of article as is well known in the art. Each of the individual pre-selector chutes represents a different type of article, information on which is available to the purchaser prior to making his coin slot selection. The pre-selector chutes 11, 12 and 13 are provided respectively with coin drop selection switches 15, 15a and 15b. Each of the coin drop selection switches is actuatable to closed contacts momentarily when a coin 16 is inserted into the corresponding chute. In Figure 2, the coin 16 is shown in the course of closing coin drop selection switch 15 as it passes downwardly in the pre-selector chute 11.

An important feature of my invention is the cancellation of a pre-selected article prior to completion of the purchase where several coins are employed so that if coin 16 were followed with another coin placed, for example, in pre-selector chute 12, then coin drop selection switch 15a would cancel the conditioning of the system previously established by switch 15 and now condition the system to vend an article corresponding to chute 12. This procedure may be reproduced with as many coins as can be employed until the last coin which completes the purchase is inserted into a chute. The selected chute receiving the last coin thus causes the other selections to be cancelled out and to condition the machine for delivering an article corresponding with the said last chute. Details of the circuit for accomplishing the foregoing will be explained under operation of the system.

With continued reference to Figure 2, when a coin passes into the common delivery chute 14, it enters the coin rejector and coin changer mechanism indicated generally at 17. The rejector and coin changer mechanism may be any conventional mechanism of this sort wherein slugs, tokens and the like will be instantaneously rejected via chute 13, and the accepted coins will be accumulated or collected via the chute 19. The last coin completing the purchase may be deflected into chute 20 where it will momentarily actuate the switch 21 to set off a cycle of events resulting in the delivery of the selected article from the vending machine.

The ultimate action resulting in the delivery of an article is diagrammatically set forth in Figure 3. The vend solenoid 22 which corresponds to chute 11 of the pre-selector 10 is provided with a core 23 which is connected in turn to article release mechanism such as gate 24 which will permit the lowermost of a plurality of articles 25 to be discharged from the article delivery chute 26 and permit remaining articles 25 to advance downwardly and be retained by gate 24 after it has assumed its latching position. The lowermost of articles



25 maintains the switch 27 in closed condition so as to signify that the articles 25 are not sold out or exhausted. When the last of the articles 25 has been released by gate 24, then switch 27 will be permitted to open and thereby affect the circuit as will be subsequently described. Also in Figure 3 is shown a switch actuator 28 connected to core 23 of the vend solenoid 22. The switch actuator 28 is adapted to open the relay drop switch 29 simultaneously with the release of the lowermost article 25. The relay drop switch, when opened, will cause return of the circuits to their original position ready for another selection by a subsequent purchaser. It is understood that the vend solenoid together with an article-delivering chute and the other members shown in Figure 3 are duplicated for each of the types of articles corresponding to the pre-selector chutes 11, 12 and 13.

Referring now to Figure 1, the actuation of the various mechanisms of my invention and the energization of the electrical circuits will be described under various circumstances under which the vending machine may be operated. The electrical source for energizing my circuits is provided through lines 30 and 31. Assuming now that a coin 16 has been dropped into pre-selector chute 11 as shown in Figure 2, then the coin drop selection switch 15 will be momentarily closed. Closing switch 15 will cause current to flow from line 30 into conductor 32 and thence into lead 33, relay 34, conductor 35, and through the closed coin drop selection switch 15. The circuit is then completed through conductors 36 and 37, then through normally closed switch 38 and lead 39, then back to the other line member 31. Energization of the relay 34 will then cause the entire selective relay member 40 to actuate all of the switches interconnected with the relay electromagnet 34 as indicated by the dotted line representation.

As soon as the selective relay 40 is energized, a holding circuit is established through conductor 32, lead 33, relay electromagnet 34, conductor 35, conductor 41, and then through switch 42 which is now closed. Current then flows through lead 43 to the closed switch 44a of the selective relay assembly 40a, thence through lead 45, and through closed switch 44b of the selector relay assembly 40b. The circuit then continues through conductor 46, relay drop switch 29, sold-out switch 27 and back to line 31. The foregoing holding circuit maintains selective relay assembly 40 and its electromagnet 34 energized even though coin 16 has passed the coin drop selection switch 15 and has permitted the latter to again open.

If an article 25 had not been in position to be vended from the article discharge 26, then the sold-out switch 27 would have sprung to the dotted line position shown in Figure 1. The switch 27 in the dotted line position would establish a current from the line 31 therethrough and then through the sold-out lamp 47 and back to the other line 30. As long as energy is supplied to lines 30 and 31, a continuing indication of the exhaustion of one or more articles is thus effected. It should also be noted that, if sold-out switch 27 lies in the dotted line position for the lack of an article to maintain it in its full line position, then the return lead 46 to line 31 which is a part of the holding circuit for selective relay 40 would be interrupted and the electromagnet 34 for selective relay 40 would be deenergized the instant a coin passed the coin drop selection switch 15. As long as the selective relay 40 is energized, electrical current is maintained through the coin return electromagnet 48, but if the electromagnet 48 is deenergized, then all coins entering the rejector and coin changer mechanism 17 will be automatically returned therefrom without accumulating or actuating the vend switch. The coin return electromagnet 48 is maintained in energized condition through the circuit established from line 30 through block terminal connections 2—2 through lead 49, through block terminal connections 6—6, through conductor 50, through switch

51, conductor 52, switch 53a in the selective relay assembly 40a, then through lead 54, through switch 53b in selective switch assembly 40b, through conductor 55, through conductors 35 and 41, through switch 42, conductor 43, switch 44a, conductor 45, switch 44b, lead 46, through relay drop switch 29, and sold-out switch 27 to the other line member 31. It will be noted that the circuit for energizing the coin return electromagnet 48 includes the sold-out switch 27. Thus, if an article 25 is exhausted so that the sold-out switch 27 will be moved to its dotted line position in Figure 1, then the coin return electromagnet cannot be energized and the very first coin 16 placed in the chute 11 will be automatically returned, since the electromagnet 48, when not energized, will automatically cause all coins entering the common delivery chute 14 to be rejected through the outlet rejection chute 18.

Presuming that articles 25 are not exhausted and that the last coin 16 requisite for a purchase is placed in the chute 11 of pre-selector 10, then no change in the pre-selector system will be made as the coin passes coin drop section switch 15. Since the coin return electromagnet is energized to prevent the automatic rejection of coin 16, it will pass into the rejector and coin changer mechanism 17, and then be diverted to chute 20 in which it actuates the vend switch 21 by depressing it temporarily to the dotted line position shown in Figure 1. The following circuit is then established: current from line 31 feeds into the block terminal connection 1—1, then through conductor 45, vend switch 21, lead 57 to the block terminal connections 3—3. Current then flows through the conductor 58, the vend relay electromagnet 59, and through lead 60 back to line 30. When the vend relay electromagnet 59 is energized, vend relay 61, as indicated by the dotted line switch interconnection, will move to the right in Figure 1 and simultaneously operate the three switches associated therewith. A holding circuit is established for a short time through the lead 60, electromagnet 59, conductor 58, switch 62 (now closed), lead 63, conductors 64 and 50, through switch 51 in the selective relay 40 which has remained closed, through conductor 52 and switch 53a, then through conductor 54 and switch 53b, through conductors 55, 35 and 41, through switch 42 (now closed) in selective relay 40, conductor 43, switch 44a, conductor 45, switch 44b, lead 46, then through relay drop switch 29, switch 27, and back to the other line 31. The foregoing holding circuit will be maintained even though coin 16 passes the vend switch 21 and permits it to spring back to its normal full line position as shown in Figure 1.

Another circuit, however, is established through energizing the vend relay 61. This circuit is established from line member 31 to block terminal connection 1—1, through conductor 56 and vend switch 21 in its normally closed full line position, lead 65 and to block terminal connections 7—7. Current then flows through conductor 66 to the switch 67 which is held closed by the holding circuit for vend relay electromagnet 59, and then connects with lead 68. Lead 68, in turn, connects with the conductor 69 which, in turn, is connected to the switch 70 in the selective relay assembly 40, the latter still remaining closed because of the pre-selective quality of coin 16 when it was placed in pre-selector chute 11 prior to actuating the vend switch. Since the respective corresponding switches 70a and 70b in selective relay assemblies 40a and 40b remain open, current from the conductor 69 must pass through the closed switch 70, as noted. The vend solenoid 22 is then energized by connection of switch 70 through lead 71 and through the return lead 72 which connects with the other line member 30. It will be remembered that vend solenoid 22, when energized, not only releases an article 25, as shown in Figure 3, but also opens the relay drop switch 29 through its core actuator 28, as previously noted. It will be remembered further that the holding circuits for both



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selective relay assembly 40 and the vend relay 61 included the relay drop switch 29. These relay assemblies 40 and 61 are thus returned to their normal position with the switches in full line orientation to the left, as shown in Figure 1. Vend solenoid 22, having its circuit through switches 70 and 67 of the respective relays 40 and 61, is immediately deenergized and permitted to return to gate closing position, as shown in Figure 3, before another article 25 can be dispensed from the machine.

A feature of my invention resides in the double-throw character of vend switch 21 which prevents multiple actuation of the vend solenoid through jarring of the mechanism at the time an article is dispensed. This feature is made possible by arranging vend switch 21 so that the vend relay can be energized only by depressing the vend switch to its dotted line position, following which the vend solenoid itself can be actuated only after the vend switch 21 returns to its full line position. The instant vend solenoid 22 is energized, the holding circuit for vend relay 61 is broken and vend solenoid 22 cannot again become energized until pre-selector relay 40 is again energized and vend switch 21 is again depressed by coin operation.

Now, suppose that a coin has been placed in chute 11 so as to energize the selective relay assembly 40 prior to the full accumulation of coins which will constitute the full purchase price for the article selected, and the purchaser changes his mind as to the article which he desires to purchase. The coin or coins already inserted in the machine will have been accumulated in the rejector and coin changer mechanism 17 and a newly inserted coin can be added thereto through a different chute such as that numbered 12 in Figure 2. The coin, as it passes downwardly in chute 12, will close the coin drop selection switch 15a and energize the electromagnet 34a which operates the selective relay assembly 40a. The energization is effected through line 30, conductor 32, lead 33a, electromagnet 34a, lead 35a, coin drop selection switch 15a, conductors 36 and 37, switch 38, and lead 39 which connects with the other line member 31. The instant that electromagnet 34a is energized, the entire selective relay assembly 40a will move to the right and actuate all the switches therein. Since the selective relay assembly 40 was maintained energized through a holding circuit which included the normally closed switch 44a of the selective relay assembly 40a, the opening of the latter switch through energization of electromagnet 34a will break the holding circuit and selective relay assembly 40 will return to its normal position with the switches oriented as shown in Figure 1 and will remain deenergized until the coin drop selection switch 15 is again momentarily closed. At the same time that the electromagnet 34a was energized, and the electromagnet 34 was deenergized, a new holding circuit for selective relay assembly 40a becomes established through line member 30, conductor 32, lead 33a, electromagnet 34a, conductors 35a, and 41a, switch 42a (now closed), line 73, switch 44 of selective relay assembly 40 (now closed), conductor 74, switch 75b in selective relay assembly 40b, lead 76, through relay drop switch 29a and the sold-out switch 27a and back to the other line 31.

Now, suppose that the selective relay assembly 40a remains in its energized condition through the holding circuit just described and a subsequent coin is inserted in chute 13 of pre-selector 10 in such a manner as to close the coin drop selection switch 15b. The momentary closing of the latter switch will energize electromagnet 34b and actuate the selective relay assembly 40b so as to shift all of the switch members to the right from the position shown in Figure 1. The circuit established is from line 30 through conductor 32, lead 33b, electromagnet 34b, conductor 35b, coin drop selection switch 15b, conductor 36, lead 37, switch 38, lead 39, and back to the other line 31. Before the coin passes the coin

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drop selection switch 15b, a holding circuit is established for selective relay assembly 40b and the selective relay assembly 40a is caused to drop its own holding circuit since the latter included the switch 75b as above described but is now opened with the energization of electromagnet 34b. The new holding circuit for selective relay assembly 40b is established through line 30, conductors 32 and 33b, electromagnet 34b, conductors 35b and 41b, switch 42b (now closed), conductor 77, switch 75a, in the selective relay assembly 40a, conductor 78, switch 75 in selective relay assembly 40, lead 79, relay drop switch 29b, the sold-out switch 27b, and back to the other line member 31. The selective relay assembly 40b thus remains energized while the other selective relay assemblies 40 and 40a both remain unenergized.

In the case where selective relay assembly 40a had become energized with the other assemblies 40 and 40b deenergized and the last coin completing a purchase had been inserted in the chute 12, the coin would then operate the vend switch 21 and cause an article to be dispensed in accordance with the selection and as previously described. The same energizing circuit for vend relay 61 is established by depressing of vend switch 21 as was previously described but the holding circuit for vend relay 61 must be through different switches than those associated with the coin drop selection switch 15. In the present instance, the holding circuit for the vend relay 61 is established through line 30, conductor 60, electromagnet 59, conductor 58, switch 62 (now closed), lead 63 into conductor 64, then to lead 80, through switch 51a (now closed), switch 53 in the selective relay assembly 40, conductor 81, switch 82b in the selective relay assembly 40b, lead 83, conductors 35a and 41a, closed switch 42a, conductor 73, switch 44, lead 74, switch 75b, lead 76, relay drop switch 29a, sold-out switch 27a, and back to the other line member 31. As before, the holding circuit includes the relay drop switch for the vend solenoid associated with the corresponding selective relay assembly which is currently in held position to pre-select the article. The vending of articles through energization of the vend solenoid 22a is accomplished through line 30, conductor 72, vend solenoid 22a, conductor 84, switch 70a, through a short length of conductor 69, lead 68, switch 67, conductor 66, block terminal connections 7—7, conductor 65, vend switch 21 (now returned to its normal position), lead 56, block terminal connections 1—1, and back to the other line member 31. As in the case of vend solenoid 22, the vend solenoid 22a, upon releasing its associated article, will also open the relay drop switch connected thereto and deenergize the selective relay assembly 40a as well as the vend relay 61 since both of these relays include the relay drop switch 29a in their respective holding circuits.

Now suppose that the selective relay assembly 40b is the one which is energized while selective relay assemblies 40 and 40a are deenergized and that the last coin has been inserted through the pre-selector chute 13 and has been diverted to the discharge chute 20 where it will actuate the vend switch 21 in passing. Again, the temporary depression of vend switch 21 will energize the vend relay 61 through the previously described circuit including the electromagnet 59. The holding circuit for vend relay 61 now becomes as follows: current flows from line 30 to conductor 60, through electromagnet 59, into conductor 58, through switch 62 (now closed), through conductors 63 and 64, then through the lead 85, switch 51b, conductor 86, switch 82a, conductor 87, through switch 82, conductor 88 to leads 35b and 41b, then through switch 42b which is held closed by selective relay assembly 40b. The circuit is completed through conductor 77, switch 75a, conductor 78, switch 75, conductor 79, and through the switches 29b and 27b, then back to the other line member 31.

While the vend relay 61 is held in energized condition,



the vend switch 21 snaps back to its full line position as shown in Figure 1 so as to actuate vend solenoid 22b. The circuit establishing actuation of solenoid 22b is completed from line member 30 to the solenoid, then through conductor 89, switch 70b, which remains closed in the selective relay assembly 40b, then through conductor 90 lead 68, switch 67, conductor 66, block terminal connections 7—7, lead 65, switch 21, lead 56, block terminal connections 1—1, and back to the other line member 31.

As previously described, whenever a vend solenoid is actuated, its associated relay drop switch is also opened. Thus the drop switch 29b is opened by vend solenoid 22b and, since the holding circuits for both the selective relay assembly 40b and the vend relay 61 include the relay drop switch 29b, both of these relays will become deenergized and return to normal position. In the meantime, of course, an article will have been delivered in the same manner as previously described. In the event the associated sold-out switch 27b lies in its dotted line position because the associated article is exhausted from the machine, then the sold-out lamp 47b will become lit and the coin return electromagnet 48 will be deenergized so as to permit immediate return of the first coin placed in chute 13.

Prior to dropping the vend relay 61, switch 38 which is a part thereof remains open. Since all of the coin drop selection switches 15, 15a and 15b include the switch 38 in their respective circuits, there is no opportunity for a newly inserted coin to actuate one of the coin drop selection switches during the vending period so as to obtain an article in addition to that which has been fully paid for. Of course, after the vend is complete, then the vend electromagnet 59 will become deenergized and switch 38 will become closed. The entire system is then ready for a new cycle of operation.

It will be evident from the foregoing that additional pre-selector chutes may be employed so as to correspond with the number of types of articles which it is desired to dispense. In such instance, there would, of course, be an additional selective relay assembly for each additional pre-selector chute and the previously described inter-relation of switch members would be continued so as to cancel out all previous selections when a new chute receives a coin and there are articles remaining which correspond to the chosen pre-selector chute.

The rejector and coin changer device 17 is of any conventional design which can be energized and controlled in such a manner as to require an accumulation of a given sum of money as a purchase price according to the combination of coins utilized and to return the proper change to the purchaser when the combination of coins exceeds the proper purchase price. Since the purchase price of the different articles dispensed from the machine disclosed herein may vary from article to article, means must then be provided to condition the rejector and coin changer mechanism so as to actuate the vend switch 21 when the proper summation of the purchase price has been reached. Details of the operation of rejector and coin changer 17 are not given since such devices are known in the art and, for the purposes herein, it is deemed sufficient to show a pair of conductors 91 and 92, each electrically connected to mechanism 17 and respectively connected to the block terminal connections 4—4 and 8—8. The main conductor 93 continues from the block terminal connection 4—4 and the main conductor 94 continues from the block terminal connection 8—8. The pre-selector 17 may be internally adjusted so as to give a number of pricing combinations and, in the instant representation, the mechanism 17 is indicated as being capable of registering three price combinations, one when the main conductor 93 is energized, the second when main conductor 94 is energized, and the third being effected when neither of the main conductors 93 or 94 are energized.

Now relating the pricing combinations of mechanism 17 to the pre-selector arrangement disclosed herein, each of the selective relay assemblies 40, 40a and 40b are provided with respective switches 95, 95a and 95b. Supposing that selective relay assembly 40 is the one which is being held in energized condition, the switch 95 will then be closed and the following circuit may be established: electrical energy from line member 30 passes into conductor 96 and thence to the ejector and coin changer mechanism 17 from which it continues optionally through lead 91 or 92 or through neither of the foregoing if a circuit it not completed. The switch 95 of selective relay assembly 40 is connected to a conductor 97 which, in turn, is connected to a three-way switch 98. The three-way switch 98 in the instant case is shown in neutral or open position but may be swung to the left to contact the connecting lead 99 joined with the main conductor 99 or may be swung to the dotted line position at the right to close the contact with connecting lead 100 which, in turn, is joined to the main conductor 93. Since the three-way switch 98 has been placed in neutral or open position, it makes no difference that the switch 95 is closed since no current will pass through the conductor 96 and through either of the conductors 91 or 92. Hence, the particular price selection which exists when neither of the main conductors 93 or 94 (which connects respectively with the conductors 91 and 92) are energized, then prevails. There is, of course, no opportunity for the main conductors 93 and 94 to be energized from any other source since the corresponding pricing switches 95a and 95b in the selective relay assemblies 40a and 40b respectively must necessarily remain open as long as selective relay assembly 40 is energized.

Now supposing that selective relay assembly 40a is the one which has been energized by a coin 16 passing through pre-selector chute 12, then the pricing switch 95a will be closed and the following circuit established or conditioned: line member 30, conductor 96, conductor 92, block terminal connections 8—8, main conductor 94, lead 99a, through three-way switch 98a, conductor 97a, switch 95a, conductor 101 and back to the line member 31. In this instance, a price is established in mechanism 17 responsive to energization of the conductor 92. It will be observed, however, that three-way switch 98a could be set at neutral or open position or could be swung to the right to establish connection through conductor 100a with the main conductor 93 and the conductor 91 to yield a different pricing arrangement.

If the selective relay assembly 40b is energized, then the pricing switch 95b will be closed and the following circuit established from line member 30: conductor 96, to mechanism 17, then through conductor 91 to block terminal connections 4—4, and into the main conductor 93. Current then continues into the lead 100b through three-way switch 98b, conductor 97b, switch 95b, conductor 101, and back to the other line member 31. The position of switch 98b is such as to yield a third price when the pricing switch 95b is closed, although it is understood as previously explained, that the three-way switch 98b can be moved to neutral or open position, or to closed position with respect to the lead 99b so as to effect one of two other price combinations. In the event that a mechanism 17 is utilized wherein four pricing combinations are available, then an additional line would be employed and each of the pricing switches would be provided with a four-way switch instead of a three-way switch. Similarly, even greater numbers of pricing combinations can be accommodated through the selective switching arrangement described above.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of my invention.



What I claim is:

1. In an electrically operated vending machine requiring an accumulator, mechanism for retaining a plurality of types of articles, a coin chute for each type of article adapted to receive a plurality of coins for purchasing an article, a switch mechanism in each of said coin chutes adapted to be actuated by a coin in passing therethrough and automatic pre-selecting means and pre-conditioning means for dispensing an article of the type associated with a particular chute, and means operated by each of said switch mechanisms to cancel out the operation of a previous pre-selection by said pre-selecting means made by passage of a coin through another chute prior to accumulating payment of a total purchase price.

2. In an electrically operated vending machine requiring an accumulator, mechanism for retaining a plurality of types of articles, a coin chute for each type of article adapted to receive a plurality of coins for purchasing an article, a switch mechanism in each of said coin chutes adapted to be actuated by a coin in passing therethrough and automatic pre-selecting means and pre-conditioning means for dispensing an article of the type associated with a particular chute, means interconnecting all of said switch mechanisms and operable by each such switch mechanism to cancel out the operation of a previous pre-selection by said pre-selecting means made by passage of a coin through another chute prior to accumulating payment of a total purchase price, and coin-operated vend switch mechanism for dispensing a pre-selected article.

3. In an electrically operated vending machine requiring an accumulator, mechanism for retaining a plurality of types of articles, a coin chute for each type of article adapted to receive a plurality of coins for purchasing an article, a common chute interconnecting with all of said coin chutes, a coin rejector and changer mechanism interconnecting with said common chute, a switch mechanism in each of said coin chutes adapted to be actuated by a coin in passing therethrough and automatic pre-selecting means and pre-conditioning means associated with each switch mechanism for dispensing an article of the type associated with a particular chute, means operated by each of said switch mechanisms to cancel out the operation of a previous pre-selection made by passage of a coin through another chute prior to accumulating payment of a total purchase price, a coin outlet for said coin rejector and changer mechanism and a coin-operated switch mechanism in said outlet for dispensing a pre-selected article.

4. In an electrically operated vending machine, mechanism for retaining a plurality of types of articles, a coin chute for each type of article adapted to receive a plurality of coins for purchasing an article, a switch mechanism in each of said coin chutes adapted to be momentarily actuated by a coin in passing therethrough, a selective relay for each coin chute switch mechanism, adapted to be energized by actuation thereof and each

having a holding circuit and a plurality of switches, one of which controls said holding circuit for maintaining the selective relay energized after the said coin has passed the switch mechanism, each of the other selective relays being deenergized and having a normally closed switch operatively connected therewith, all of said normally closed switches lying in series with said holding circuit for breaking said circuit whenever one of said other selective relays becomes energized so as to open its normally closed switch.

5. The subject matter set forth in claim 4, wherein a coin-operated vend switch mechanism is adapted to release an article of the pre-selected type and simultaneously to break the holding circuit and return the energized selective relay to normal deenergized condition.

6. In an electrically operated vending machine, mechanism for retaining a plurality of types of articles, a coin chute for each type of article adapted to receive a plurality of coins for purchasing an article, a switch mechanism in each of said coin chutes adapted to be momentarily actuated by a coin in passing therethrough, a selective relay for each coin chute switch mechanism, adapted to be energized by actuation thereof and each having a holding circuit and a plurality of switches, one of which controls said holding circuit for maintaining the selective relay energized after the said coin has passed the switch mechanism, each of the other selective relays being deenergized and having a normally closed switch operatively connected therewith, all of said normally closed switches lying in series with said holding circuit for breaking said circuit whenever one of said other selective relays becomes energized so as to open its normally closed switch, and a vend relay having a holding circuit for maintaining the vend relay energized, a double throw vend switch normally biased to a first closed position and actuable by a coin to move said vend switch to a second closed position and thereby energize said vend relay, and a vend solenoid actuated through a circuit including another of said selective relay switches closed by the selective relay which is energized, said vend solenoid circuit also including the double throw end switch in its first closed position whereby an article will not be vended until said vend switch returns to its normally biased first closed position to prevent a multiple vending of articles without full payment therefor.

7. The subject matter set forth in claim 5, and pricing means for each type of article, said pricing means including a circuit through each of said selective relays and energized by one of said plurality of switches in the selective relay which is energized prior to completion of the purchasing of an article.

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