United States Patent

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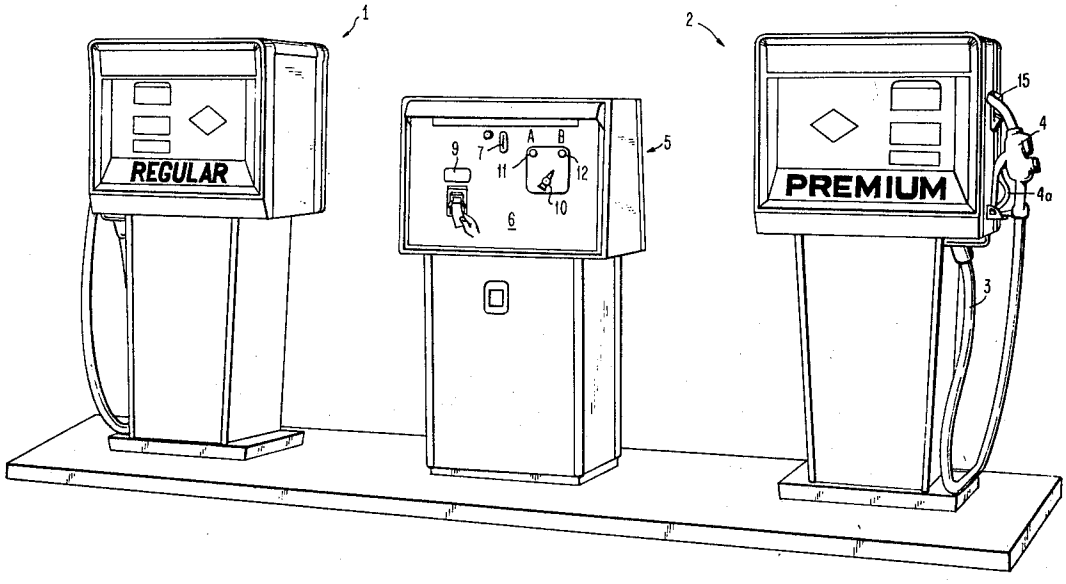
[54] MONEY-OPERATED LIQUID DISPENSING APPARATUS
6 Claims, 9 Drawing Figs.

[52] U.S. Cl. 194/5
[51] Int. Cl. G07f 13/00
[50] Field of Search 222/2, 20; 194/5, 13

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ABSTRACT: Money operated dispensing equipment for dispensing fluids, e.g., gasoline, etc., from self-serving fluid dispensers located, for example, at an automobile service station of the well-known type. A console controls plural dispensers simultaneously, and a control unit in each dispenser stores and removes credit independently of the console.



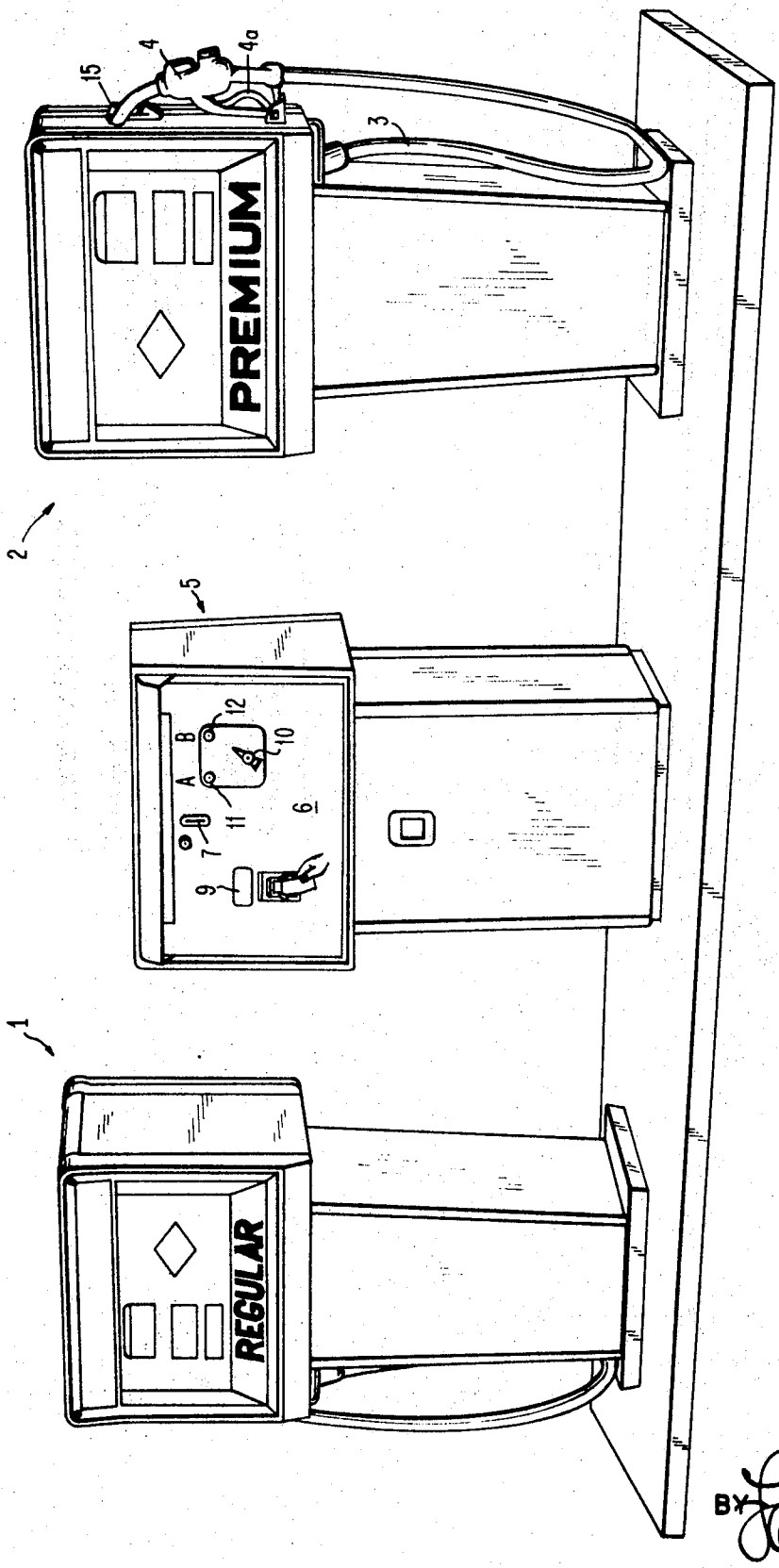


FIG. 1

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FIG. 2

FIG. 2A	FIG. 2B	FIG. 2C

FIG. 2A

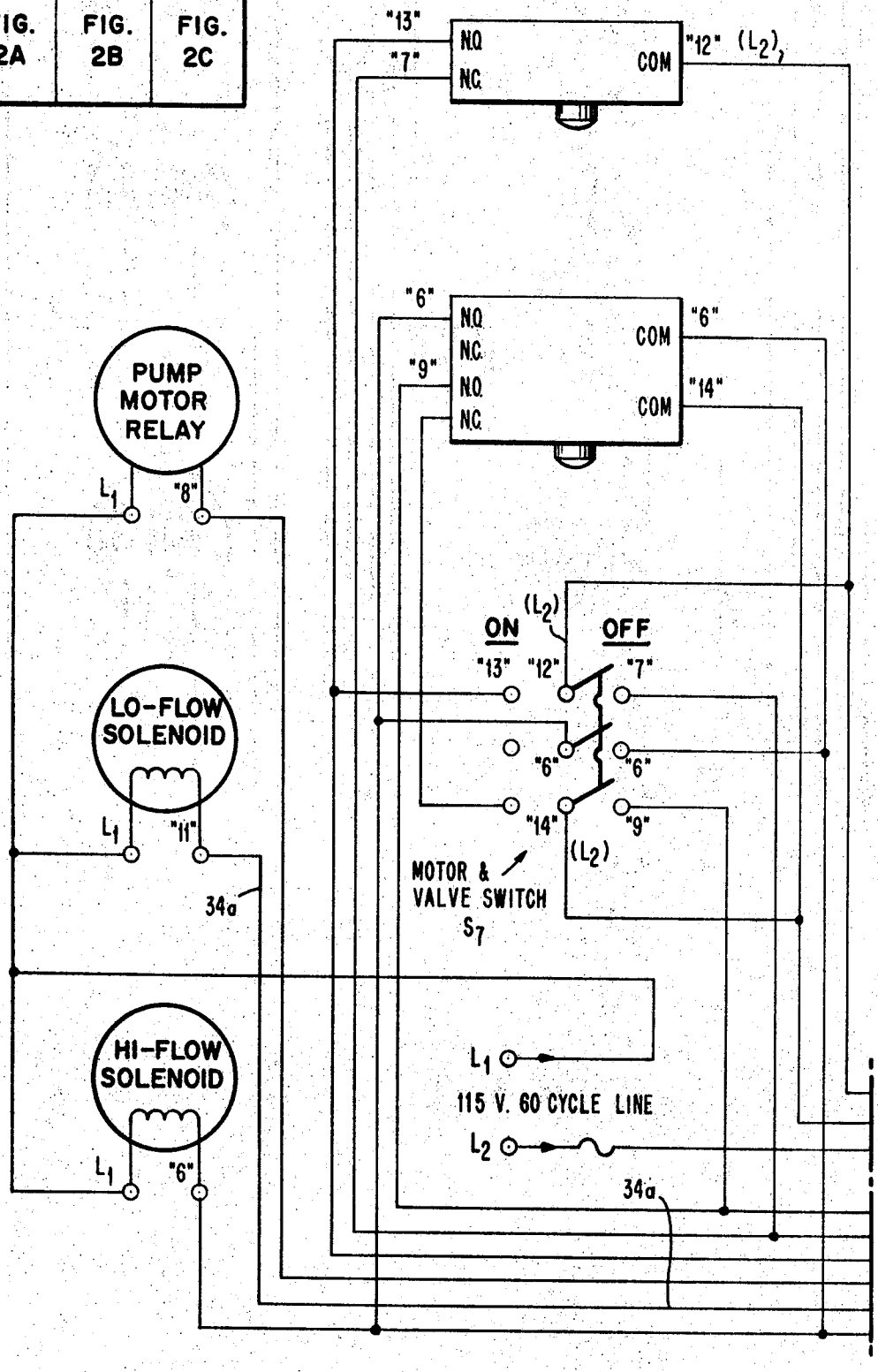
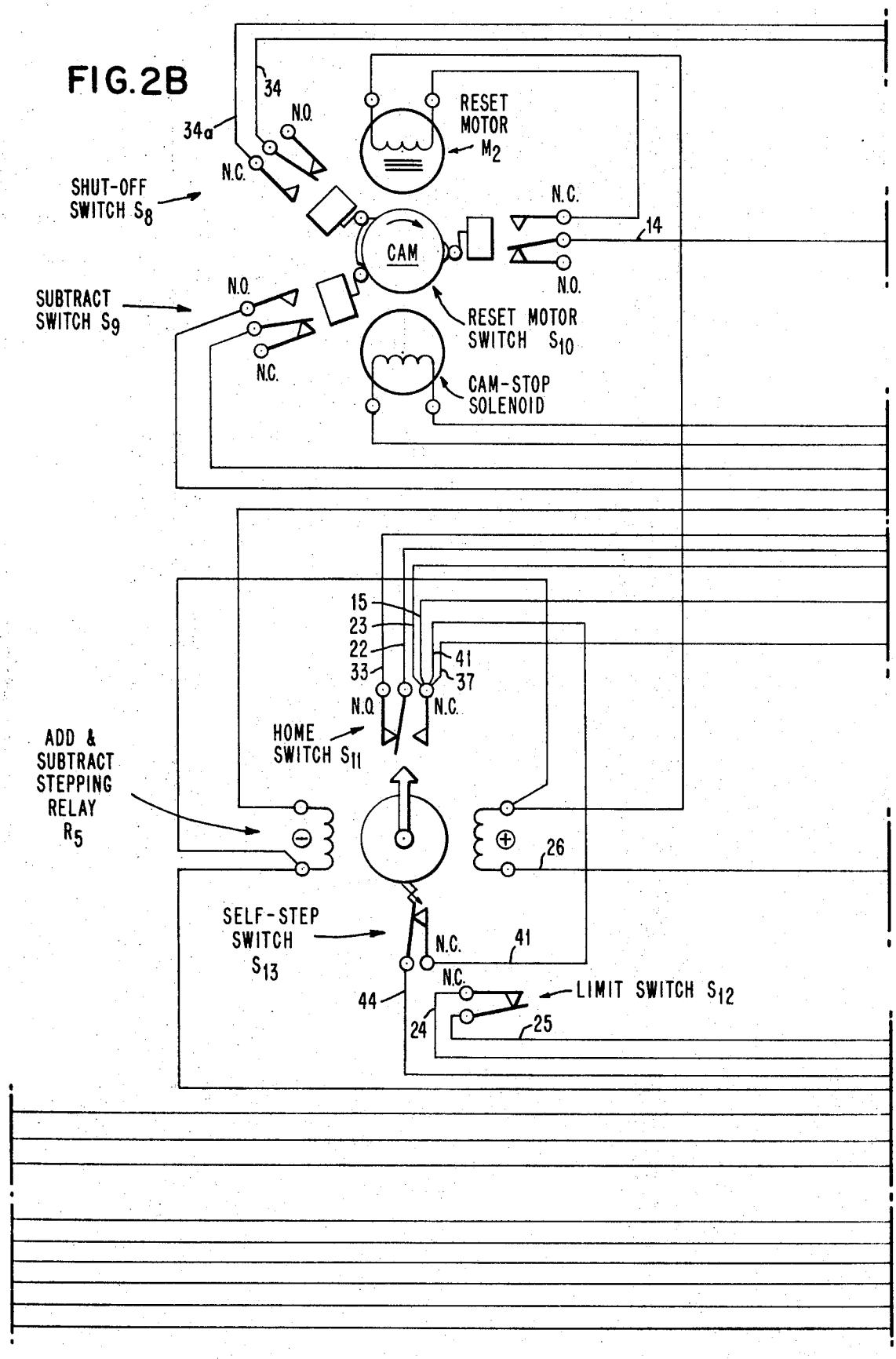


FIG.2B


34
34a
N.O.
N.C.
SHUT-OFF SWITCH S_8
RESET MOTOR M_2
CAM
N.C.
N.O.
14
SUBTRACT SWITCH S_9
N.O.
N.C.
RESET MOTOR SWITCH S_{10}
CAM-STOP SOLENOID
15
23
22
33
41
37
N.O.
N.C.
HOME SWITCH S_{11}
ADD & SUBTRACT STEPPING RELAY R_5
26
SELF-STEP SWITCH S_{13}
N.C.
41
N.C.
LIMIT SWITCH S_{12}
44
24
25

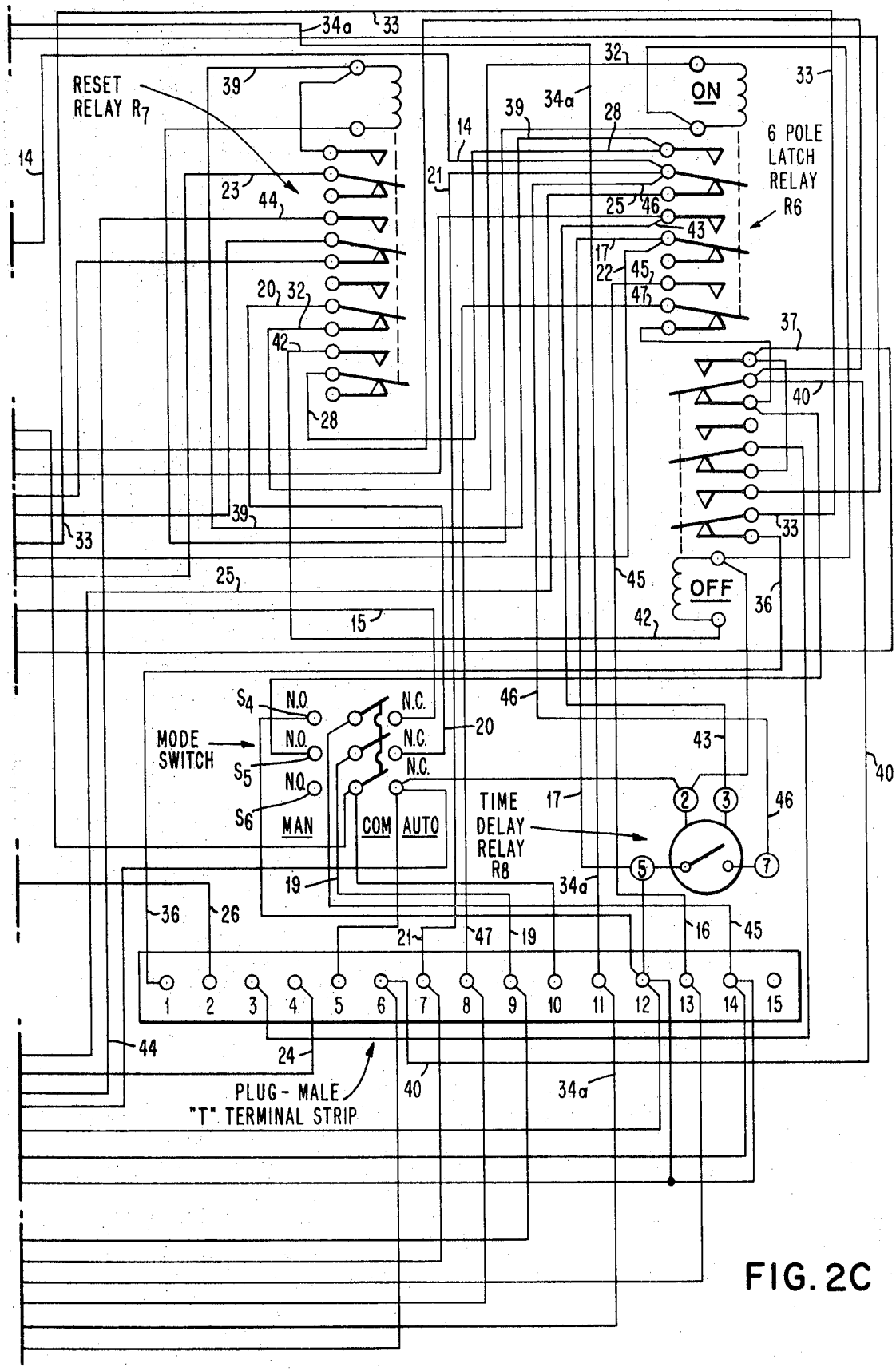

RESET RELAY R_7
ON
OFF
6 POLE LATCH RELAY R6
MODE SWITCH
S_4
S_5
S_6
N.O.
N.C.
MAN
COM
AUTO
TIME DELAY RELAY R8
PLUG - MALE "T" TERMINAL STRIP
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

FIG. 2C

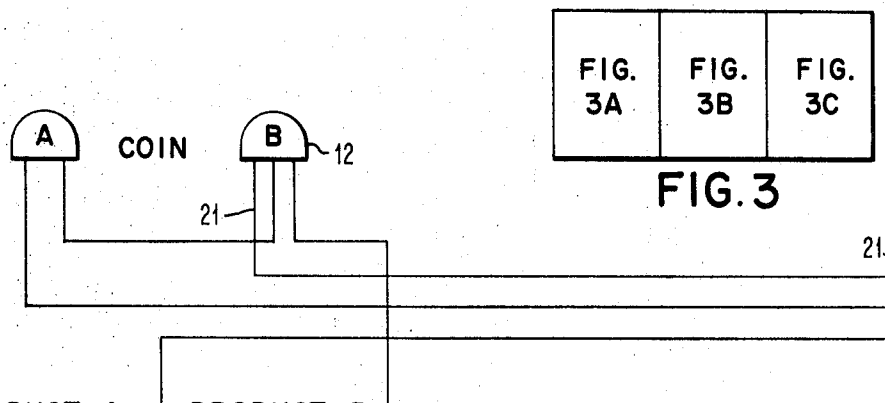

FIG. 3A
FIG. 3B
FIG. 3C

FIG. 3

A
COIN
B
12
21
21
PRODUCT-A
PRODUCT-B
A
B
16
10
SELECTOR SWITCH S1
14a
2 POLE RELAY #1
R1
14
10
12
6
5
4
3
2
1
PRODUCT A TERMINALS

FIG. 3A

FIG. 3B

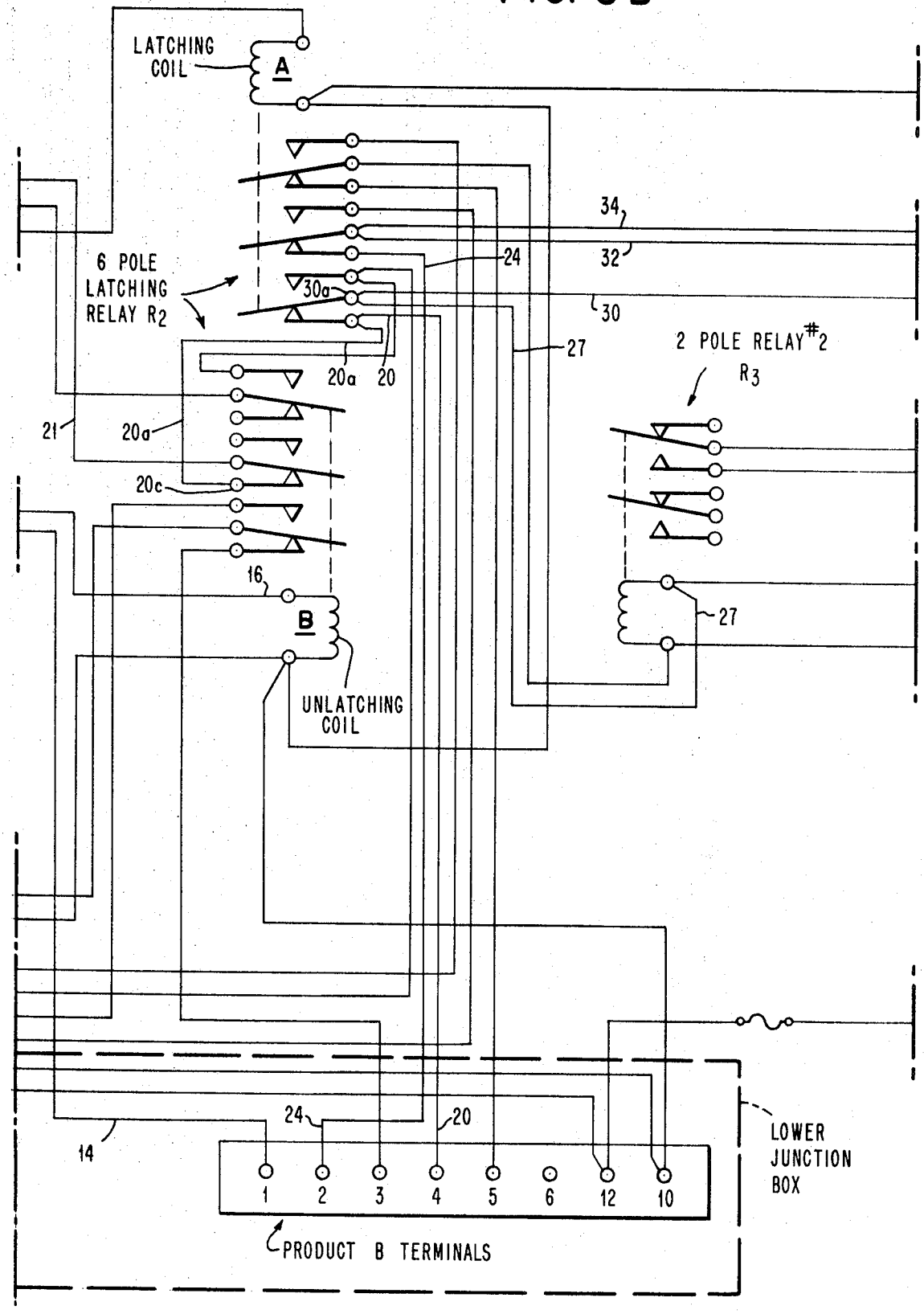
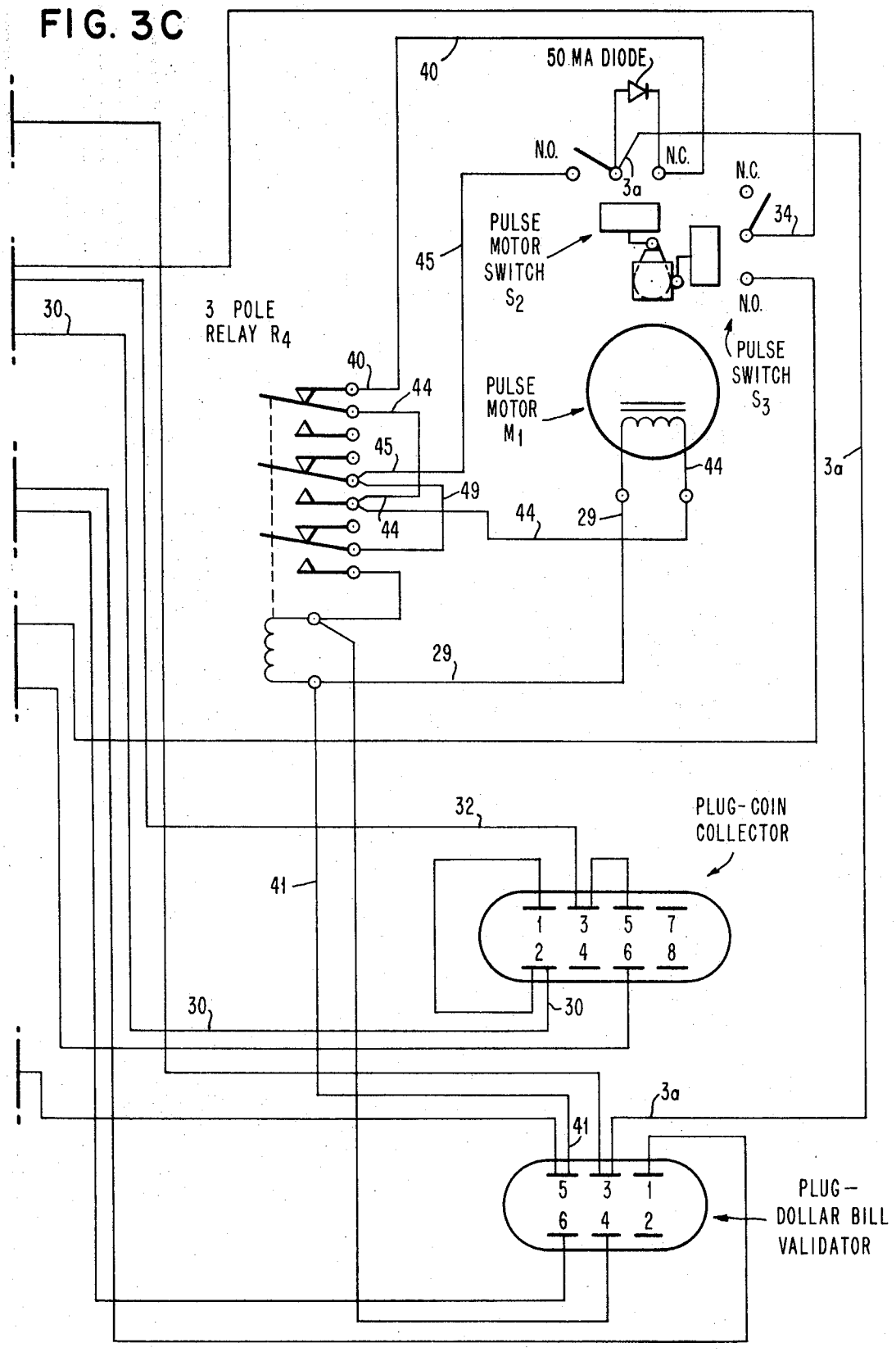

LATCHING COIL
A
6 POLE LATCHING RELAY R2
34
32
24
30a
30
27
2 POLE RELAY #2
R3
20a
20
21
20a
20c
16
B
27
UNLATCHING COIL
14
24
20
1
2
3
4
5
6
12
10
PRODUCT B TERMINALS
LOWER JUNCTION BOX

FIG. 3C


40
50 MA DIODE
N.O.
N.C.
3a
N.C.
34
PULSE MOTOR SWITCH S_2
45
30
3 POLE RELAY R_4
N.O.
PULSE SWITCH S_3
40
44
PULSE MOTOR M_1
45
44
3a
49
44
44
29
29
32
PLUG-COIN COLLECTOR
41
1 3 5 7
2 4 6 8
30
30
3a
41
5 3 1
6 4 2
PLUG-DOLLAR BILL VALIDATOR

MONEY-OPERATED LIQUID DISPENSING APPARATUS

One feature of my invention is that two customers can dispense fuel at the same time from separate dispensers in simultaneous deliveries.

Another feature of my invention is that each dispenser unit is controlled by a novel credit memory control unit, which stores and removes credit independently of a console for the insertion of money and selection of the dispenser unit.

Another feature of my invention is that accurate delivery of fuel is assured by the direct mechanical drive from the computer and variator unit in the gasoline dispenser, thereby positively protecting both the customer and the owner of the service station from losses from inaccurate delivery.

Another feature of my invention is that the apparatus is provided with an automatic 3-minute shutoff, or for any predetermined time, which allows sufficient time for maximum delivery of the fluid, but reduces hazards which might be caused by careless use by the self-service customer or by vandalism.

Another feature of my invention is that the dispensing unit automatically will slow down to a low rate of delivery of gallons per minute when the dispensing unit is nearing the completion of the delivery for which money has been inserted.

In said drawings:

FIG. 1 is a somewhat diagrammatical representation of an island at an automobile service station showing two dispensing units, and with the control console positioned between the two units.

FIG. 2 is a diagram showing the arrangement of FIGS. 2A, 2B and 2C.

FIGS. 2A, 2B and 2C in the composite show the wiring diagram for dispenser control.

FIG. 3 is a diagram showing the arrangements of FIGS. 3A, 3B and 3C.

FIGS. 3A, 3B and 3C in the composite show the wiring diagram for the collector console.

Referring to FIG. 1; two gasoline dispensers indicated generally at 1 and 2 are of the well-known type which includes within the housing of the dispenser piping connection to a fuel source of supply; a meter connected to the outlet end of the fuel piping; a variator and computer connected to the outlet drive shaft of the meter; and a dispensing hose 3 connected to the outlet, piping of the meter; said hose 3 at the outside of the housing, being provided at its distal end with a dispensing nozzle 4 for delivery of fuel into a receptacle, e.g., the gasoline supply tank of an automobile.

The collector console is indicated generally by the reference mark 5, the face 6 of the console 5 includes a coin slot 7 for the insertion of coins, quarters, and/or half-dollars, and a dollar bill tray within an opening covered by the hinged member 9.

The console face 6 also includes a selector switch 10 which is adapted to be turned by its handle means to operate either the pump 1 or the pump 2. The pump 1 is designated by the letter A superimposed over a lightbulb 11 and the pump 2 is indicated by the letter B superimposed over the lightbulb 12. When the switch operating handle 10 is turned to either the lightbulb 11 or the light bulb 12, an electrical circuit is closed and the bulb becomes lighted, which indicates whether the circuit is closed to pump 1 or pump 2.

As hereinafter described in detail, a brief step-by-step operation of the console and gasoline dispenser is as follows:

1. The customer selects the product desired with the product selector switch 10 on the console face 6. The light above the selector knob will become lighted to indicate the product selected.

2. The door cover 9 is lifted upwardly on its hinge and dollar bills are inserted in the currency acceptor tray, and one to six dollar bills are inserted. It is to be noted that the dollar bill is inserted face up in accordance with instructions printed below the dollar bill tray cover 9, and that from one to six dollars can be accepted.

3. Quarters or half-dollars are inserted in the coin slot 7, and any combination of coins and dollar bills may be accepted up to a maximum of a predetermined amount, and, in the mechanism disclosed, up to a maximum of $6.75.

4. As the selector switch 10 has been turned to the pump light 12 which is lighted, the nozzle 4 of the pump 2 is removed from its supporting bracket and the operating switch 15 controlling the electrical circuit to the pump motor is turned to "on" position.

5. The nozzle 4 is then inserted in the fuel tank fill pipe and the operating lever 4a is moved to open the valve of the nozzle 4 and dispense the fuel. The nozzle 4 automatically stops dispensing when the volume of gasoline at the price per gallon has reached the equivalent of the amount of coins and/or dollar bills inserted; the nozzle 4 is of the type which is adapted to shut off the flow of fuel when the tank of the automobile becomes filled by automatic means of the well-known type within the nozzle.

6. The pump switch 15 is then turned to "off" position by its switch handle member, and the nozzle 4 is replaced on its supporting bracket, as shown at the right-hand side of the dispenser 2, in FIG. 1.

It is to be noted that if the customer neglects to turn off the pump switch for the motor of the pump, the mechanism as hereinafter described will automatically open the circuit to the pump motor at the end of a 3-minute delivery time, or at the end of some time period which may be predetermined.

OPERATION

In the following description of operation, product B has been selected. If product A were selected, the circuitry thereof is symmetrical and would be identical except for the numbering of the wiring, etc.

Select Product

Move selector switch 10 (S_1) to the position indicating product B as indicated in FIG. 1.

Referring more particularly to FIGS. 3A, 3B, and 3C; L_2 current from terminal 1 on the product B terminal strip is conducted through the wire 14 to a fixed contact on 2-pole relay R_1, and through the wire 14a to the B terminal of the selector switch 10. The B common terminal of selector switch 10 is connected through the wire 16 to the unlatching coil B of the latching relay R_2, which latches the relay in B position.

The light 12 beneath product B identification lights up upon selection of product B, and L_2 current from terminal 4 on the product B terminal strip is brought through wiring 20 to a fixed contact on latching relay R_2, and from that contact on R_2 through the wire 20a to another fixed contact 20c and thence through the closed contact by the wire 21 to the terminal and a socket for the light 12.

Money Insertion

Electrical credit impulses are received from both the dollar bill validator 9 and/or from the coin mechanism operatively connected with the coin slot 7. L_2 current supplied from the pin 2 of the plug-coin collector through the wire 30 to the movable contact 30a of the latching relay R_2. L_2 current from the plug-dollar bill validator from the pin 5 thereof is connected by means of the wire 41 to the coil of relay R_4, and through the wire 29 to the pulse motor M_1. L_1 current supplied from the pin 3 of the plug-dollar bill validator through the wire 3a to the common terminal of the pulse motor switch S_2, and from the normally closed terminal of pulse motor switch S_2 through the wire 40 to the fixed contact of the 3-pole relay R_4 and through the movable contact of relay R_4 through the wire 44 to another fixed contact of relay R_4 and to the pulse motor M_1.

The normally open terminal of S_2 is connected through the wire 45 to a movable contact on the relay R_4, and through the wire 49 to another movable contact of relay R_4. Energizing these circuits operates the pulse motor M_1 to supply L_2 current from the normally open terminal of pulse switch S_3 through the wire 34 to the same movable contact as wire 32 is at-

tached. Electrical credit impulses then are transmitted from fixed contact of R_2 through the wire **24** to terminal 2 of terminal strip B.

Credit Storage

The terminal **2** of terminal strip B in FIG. 3B is connected through an interconnecting wire to the terminal **2** on the PLUG-MALE T terminal strip, shown in FIG. 2C for the B product dispenser. It is noted that the numbers in quotation marks, e.g., "**6**," in the drawing FIG. 2A, refer to the numbers on the PLUG-MALE T terminal strip shown in FIG. 2C.

The terminal **2** of the terminal strip in FIG. 2C is connected through the wire **26** to the add-coil of the add-subtract stepping relay R_5. The first such electrical impulse to said add-coil causes a ratchet to advance one step, thus switching "-Home" switch S_{11} from N.C. (normally closed) to N.O. (normally open) contact. This opens current through N.C. contacts and wire **22** to movable contact on latching relay R_6, and through the wire **17** to the pin ○ of the time delay relay R_8, and through the wire **16** to **12** of the terminal strip supplying L_2, and from N.C. contact of R_5 through the wire **33** to movable contact of R_6, and from the fixed contact through wire **36** to **1** on the terminal strip. Thus, the L_2 current is removed from **1** on the B terminal strip.

This first electrical impulse switching also makes up circuits through N.O. contacts as follows:

L_2 current from the movable contact as stated above is applied through the wire **23** to movable contact of reset relay R_7, and through the wire **15** to automatic terminal of the MODE switch S_4, and through the wire **41** to the fixed contact of the self-stepping switch S_{13} and through the wire **37** to fixed contact on R_6.

Additional electric impulses, one for each 25 cents merely advance the ratchet wheel one step each, with no change in the switch relationship until the 27th step. At the 27th step, the S_{12} limit switch opens and breaks the L_2 current circuit from R_6 through the wire **25** and through the wire **24** connected to T_4 on the terminal strip. Such breaking of the circuit removes the L_2 current from T_4 in the console through the wire **20** to R_2, thus deactivating the coin collector through the wire **30**, and energizing the R_3 relay through the wire **27**, and opens the L_2 circuit to the validator. Credit is now stored on R_5 in the amount of the number of steps applied to the ratchet wheel which as stated above, are at 25 cents each, corresponding to the amount of money inserted up to the maximum of 27 steps, which is a maximum of $6.75.

DISPENSER HANDLE B TURNED ON, READY FOR DELIVERY

Turning on the dispenser operating handle activates the power reset mechanism of the dispenser, and resets the computer mechanism to "zero," and turns on S_7 at two common contacts, one being from T_{14} and the other from T_{12} of the dispenser terminal strip. Upon the turning on of S_7, L_2 current is supplied from T_{14} to T_9 through the switch. The current is conveyed from T_9 through the wire **19** to the movable contact of S_5, the MODE switch, which being in automatic position supplies the same L_2 current through the wire **20** to the movable contact of the relay R_7, and from the fixed contact of R_7 through the wire **32** to the latch coil of R_6, which latches R_6 in the "on" position. Also, at S_7, the L_2 current from T_{12} is applied to T_{13}, and from T_{13} through the wire **45** to the fixed contact on R_6, the 6-pole latching relay. The relay R_6 being in "on" position, L 2 current is supplied through the movable contact and the wire **47** to T_8 of the terminal strip which is wired to the pump motor relay in the station control box. Also, a circuit is made up from R_6 through the wire **40** to T_6, which is wired to the hi-flow solenoid to open the main valve. Product B is now supplied under pressure to the dispensing nozzle **4** at the end of the dispensing hose.

DELIVERY OF PRODUCT B INTO THE FUEL TANK OF THE VEHICLE

Opening of the valve of the dispensing nozzle **4** in the customary manner by the operator allows the product B to flow, which causes the meter to drive the computer clock register means. A shaft from the computer mechanism drives the input shaft to the cam in the dispenser control box through a 2½to 1 gear reduction to provide one revolution of the cam for each 25 cents worth of the product delivered. As the cam starts to rotate, it progresses for four-fifths of a revolution, or 288°, or 20 cents, at which time the switch S_9 is closed by the long dwell lobe of the cam. The closing of switch S_9 makes up an L_2 circuit from R_6 through the wire **30**, the switch contacts, wire **29** to the fixed contact on R_7, through the wire **27** to subtract coil R_5, indexing the ratchet wheel back one step. Continued rotation of the cam causes one switch closure of S_9 for each 25 cents of delivery until the ratchet wheel on R_5 is stepped back to zero position. At zero position, the Home switch S_{11} is caused to switch from N.O. to N.C. contacts. The switching action of S_{11} removes the L_2 current supply from those elements mentioned in the paragraph supra. The L_2 current of S_{11} is applied through the N.C. contacts of the wire **33** to the movable contact on R_6. R_6 being in latch-on condition, the L_2 current is routed through a fixed contact, through the wire **34** to the common terminal of the shutoff switch S_8, through the N.O. contact of the switch through wire **34**^{a} to the terminal T_{11} of the terminal strip and thence to the low-flow solenoid. The low-flow solenoid delivers the product at a reduced flow rate until the cam rotates the long dwell lobe into a position to actuate S_8. The amount delivered by the low-flow solenoid since the shut down of the high-flow solenoid is 5 cents worth of product. The actuation of S_8 breaks the L_2 supply current circuit to the low-flow solenoid, thereby stopping delivery.

DELIVERY COMPLETED AND HANDLE TURNED TO OFF POSITION

Turning the handle to "off" position actuates S_7 switching from the N.C. to the N.O. contacts. This breaks the L_2 current circuit between T_{14} and T_9 releasing the latch-on coil of R_6. Also the L_2 circuit is open between T_{12} and T_{13}, which opens the pump motor relay in the station control box and applies L_2 current between T_{12} and T_7 through the wire **21** to a movable contact on R_6, through the wire **14** to the common contact of S_{10}, the Reset Motor Switch. The same movable contact on R_6 supplies a fixed contact, through the wire **39** to the coil of R_7, and through the wire **28** to a movable contact on R_7. The application of L_2 current to the coil R_7 makes up the N.O. contacts providing power through a fixed contact and the wire **42** to the unlatched-off-coil of R_6. After the operating handle of product B has been turned off, the system is returned to normal condition and is ready to accept money for the next disposition of product B.

ABNORMAL CONDITION IN DELIVERY; TIME DELAY

After the operating handle has been turned on and R_6 latches on, as described above, L_2 current is supplied from a fixed contact on R_6 through the wire **43** to the pin ○ on R_8, Time Delay Relay. This action starts a 180 second, plus or minus 15 seconds, timing cycle. Completion of this time before the operation handle is turned off results in the following circuitry and reactions: The L_2 current is supplied from the pin ○ to R_8 through the wire **46** to a movable contact on R_6 and through a fixed contact on R_6 to the coil of R_7, by the wire **39**, as mentioned above. An additional reaction would occur if the Home switch S_{11} was made up on N.O. contacts; L_2 current would be supplied through the wire **41** to S_{13}, a self-step switch, through the wire **44** to a fixed contact on R_7, through a movable contact on R_7, through the wire **27** to the subtract coil of R_5, which will step the ratchet wheel back to zero position. Although the L_2 current from R_6 would be applied through a wire to the common contact of S_{10}, the Reset Motor

Switch, which being off the short dwell lobe would make up the N.C. contact transferring the L_2 current through the wire 50 to the Reset Motor M_2, returning the cam to normal position. The time delay resetting returns all components to the dispensing control box to normal, the same as the turning off, except that money cannot be inserted for product "B" until the operating handle has been turned off.

DISPENSER UNIT OFF READY FOR NEXT DELIVERY

Operational Attitude of Components in Dispenser

1. Dispenser unit turned off and ready to accept credit by customer depositing coins or dollar bills in console.

A. Mode switches S_4, S_5, S_6 [3-SPDT (single pole double throw) 115 v. AC snap action switches with common actuator]. N.C. contacts made up.

B. Motor and valve switch S_9 [a DPDT (double pole double throw) snap action switch, 115 v. AC]. N.O. contacts made up.

C. Add and Subtract Ratchet Relay R_5 [a 2 coil, 27 step bidirectional sequencing relay with one Form B (off limit) contact SPST (single pole single throw) N.C., one form C (off normal) set of contacts SPDT N.O. contact made up.] Ratchet in zero position.

D. Control distribution relay R_6 (a 6-pole Form C interlocking relay 115 v. AC coils, 115 v. AC contacts). Six lower contacts made up, latch on turn off armature locked in.

E. Reset Relay R_7 (a 4-pole Form C Relay, 115 v. AC coil, 115 v. AC contacts). N.C. contacts made up. Coil not energized.

F. Shutoff (SPDT) snap action switch S_8. N.O. contacts made up.

G. Subtract (SPDT) snap action switch S_9 N.C. contacts made up.

H. Reset Motor (SPDT) snap action switch S_{10}. N.O. contacts made up.

I. Motion Control Cam, Reset Switch S_{10} on apex of short dwell lobe, shutoff switch S_8 on apex of long dwell lobe, and subtract switch S_9 just off trailing edge of long dwell lobe.

J. Reset Motor M_2 (unidirectional balanced oscillator type motor 115 v. AC not energized).

K. Cam Stop Solenoid. A laminated core, continuous duty in extended position.

L. Time delay relay R_8. A 180 second time delay relay, closed after delay, 115 v. AC timing circuit, 115 v. AC contacts. Contacts open, no power to timing circuit.

MONEY DEPOSITED DISPENSER UNIT OFF

Operational Attitude of Components in Dispenser

2. Dispenser turned off and money credit recorded.

A. Add and Subtract Ratchet Relay R_5. Off normal contacts N.C. made up. All other components remain as above.

MONEY DEPOSITED, DISPENSER ON, READY TO DELIVER

Operational Attitude of Components in Dispenser

3. Credit recorded, dispensing unit "on" and ready to deliver product.

A. Motor and Valve Switch S_7 N.C. contacts made up.

B. Control distribution relay R_6 Turn on coil is energized, upper contacts made up, latch on "turn on" and armature locked in.

C. Cam Snap Solenoid Coil energized armature in retracted position.

D. Time Delay Relay R_8 power applied to the timing circuit. Contacts open.

E. High-Flow Solenoid Valve open.

F. Low-Flow Solenoid Valve closed. All other components remain as above.

HIGH FLOW DELIVERY COMPLETED AND TOP OFF IN PROCESS

Operational Attitude of Components in Dispenser

4. High flow delivery completed. Five cents top off delivery in process, and dispensing system approaching shutoff.

A. Add and Subtract Ratchet Relay R_5 has returned to zero position, as described above.

B. High-Flow Solenoid has closed.

C. Low-Flow Solenoid has opened.

D. Main Control Cam. Reset motor switch S_{10} riding minor diameter of cam and approaching short dwell lobe. Subtract switch S_9 riding apex of long dwell lobe. Shutoff switch S_8 riding minor diameter of cam and approaching long dwell lobe.

E. Cam Stop Solenoid deenergized and armature extended. All other components in attitude as described above.

ENTIRE DELIVERY COMPLETE AND HANDLE NOT SHUT OFF

Operational Attitude of Components in Dispenser

5. Top Off Completed and Handle Not Turned Off

A. Low-Flow Solenoid closed.

B. Main Control Cam. Shutoff switch S_8 on apex of long dwell lobe. Subtract switch S_9 just off trailing edge of long dwell lobe. Reset motor switch S_{10} on apex of short dwell lobe. Stop lug on cam against end of solenoid stop lever. All other components as above.

ENTIRE DELIVERY COMPLETE AND HANDLE SHUTOFF

Operational Attitude of Components in Dispenser

6. Entire delivery completed and handle turned off.

A. Motor and valve switch S_7 N.O. contacts made up. N.C. contacts open.

B. Reset Relay R_7 coil energized, and N.O. contacts made up.

C. Control Distribution Relay R_6 Turn off coil energized, and 6 lower contacts made up and turn off armature locked in.

D. Time Delay Relay R_8 power removed from timing circuit and contacts open.

DISPENSER UNIT OFF—READY FOR NEXT DELIVERY

Operational Attitude of Components in Console

1. Ready to select and accept money. Product B selected as shown.

A. Selector Switch S_1 (a double pole double throw rotary type switch) is turned fully to the product B position.

B. Enabling Relay R_1 (a 2-pole Form C relay, 115 v. AC coil, 115 v. AC contacts). N.C. contacts made up, but coil not energized.

C. Product Selector Relay R_2 (a 6-pole Form C interlocking relay 115 v. AC coil, 115 v. AC contacts). Coil B energized, 6 lower contacts made up, latch on armature B locked in.

D. Money Acceptance Relay R_3 (a 2-pole Form C relay 115 v. AC coil, 115 v. AC contacts) N.C. coil energized. Circuit made up through lower contacts.

E. Pulse Motor Starting Relay R_4 (a 3-pole Form C relay 115 v. AC coil, 115 v. AC contacts). N.C. Coil not energized.

F. Pulse Motor Holding Switch S_2 (SPDT Snap Action Switch) N.O. contacts made up. Actuator on lobe of motor holding cam.

G. Pulse Switch S_3 (SPDT Snap Action Switch). N.C. contacts made up. No circuit.

H. Pulse Motor M_1 (60 r.p.m. synchronous geared motor 115 v. AC). Receiving 115 v. half wave rectified current from 50 MA diode to act as brake.

I. Pilot Lights P_1, Product A; P_2, Product B (a neon 1 watt 115 v. AC lamp). P_2 energized and lighted.

MONEY DEPOSITED—DISPENSING UNIT OFF

Operational Attitude of Components in Console

2. Money deposited and product selector isolated.

A. Enabling Relay R_1. Coil energized normally open contacts made up. All other components remain as described in 1.

MONEY DEPOSITED, DISPENSER ON, READY TO DELIVER

Operational Attitude of Components in Console

3. Money deposited, dispenser on and selection of product A or B possible.

A. Enabling Relay R_1 coil not energized, normally closed contacts made up.

B. Money Acceptance Relay R_3 coil not energized, normally closed contacts made up.

C. Pilot Light P_2 not energized and not lighted. All other components remain as above. High flow delivery completed, and top-off in process. Entire delivery completed, but handle not turned to shutoff position.

Although I have shown and described my invention in connection with two gasoline dispensers for dispensing product A and product B, and described herein the dispensing of product B with specificity, it is obvious that with only ordinary skill in the art my invention could be utilized to dispense three or more products, the circuitry of the additional third, or fourth, etc., products being symmetrical and identical except for the numbering of the wiring, etc.

I do not desire to limit myself to the precise details of construction and arrangement herein shown and described, as it is obvious that various modifications of my invention may be made without departing from the essential features of my invention.

I claim:

1. Money operated dispensing apparatus for dispensing fluids from a multiplicity of fluid dispensers, including:

A. a fluid dispenser which includes a meter, computer, and a variator which may be selectively preset to deliver fluid at a preselected price, and switch means for turning "on" and turning "off" dispensing means of said fluid dispenser;

B. a coin and currency console acceptor adapted to accept and validate coins of preselected value and paper currency of preselected value, said coin and currency console acceptor being adapted to accept any combination of said coins and paper currency only up to a preselected value for which said console acceptor has been preset;

C. a credit memory control unit in each of said fluid dispensers, said credit memory control unit being adapted to store and remove credit independently of said console acceptor;

D. manually setable selector means for determining which of said fluid dispensers is selected for said coins and currency deposited in said console acceptor;

E. means for enabling another of said fluid dispensers, by movement of said selector means, to dispense fluid, after said first-named dispenser has been activated, by the deposition of additional coins and currency in said console acceptor; and

F. means enabling said first- and second-named fluid dispensers to separately and simultaneously dispense fluid, and separately and simultaneously compute the volume and price thereof.

2. Money operated dispensing apparatus for dispensing fluids from a multiplicity of fluid dispensers, including:

A. a fluid dispenser which includes a meter, computer, and a variator which may be selectively preset to deliver fluid at a preselected price, and switch means for turning "on" and turning "off" dispensing means of said fluid dispenser;

B. a coin and currency console acceptor adapted to accept and validate coins of preselected value and paper currency of preselected value, said coin and currency console acceptor being adapted to accept any combination of said coins and paper currency only up to a preselected value for which said console acceptor has been preset;

C. a credit memory control unit in each of said fluid dispensers, said credit memory control unit being adapted to store and remove credit independently of said console acceptor;

D. manually setable selector means for determining which of said fluid dispensers is selected for said coins and currency deposited in said console acceptor;

E. means for enabling another of said fluid dispensers, by movement of said selector means, to dispense fluid, after said first-named dispenser has been activated, by the deposition of additional coins and currency in said console acceptor;

F. means enabling said first- and second-named fluid dispensers to separately and simultaneously dispense fluid, and separately and simultaneously compute the volume and price thereof;

G. means for turning "off" said dispensing means of said fluid dispenser automatically at predetermined time interval after said dispensing means of said fluid dispenser has been turned "on" manually.

3. Money operated dispensing apparatus for dispensing fluids from a multiplicity of fluid dispensers, including:

A. a fluid dispenser which includes a meter, computer, and a variator which may be selectively preset to deliver fluid at a preselected price, and switch means for turning "on" and turning "off" dispensing means of said fluid dispenser;

B. a coin and currency console acceptor adapted to accept and validate coins of preselected value and paper currency of preselected value, said coin and currency console acceptor being adapted to accept any combination of said coins and paper currency only up to a preselected value for which said console acceptor has been preset;

C. a credit memory control unit in each of said fluid dispensers, said credit memory control unit being adapted to store and remove credit independently of said console acceptor;

D. manually setable selector means for determining which of said fluid dispensers is selected for said coins and currency deposited in said console acceptor;

E. means for enabling another of said fluid dispensers, by movement of said selector means, to dispense fluid, after said first-named dispenser has been activated, by the deposition of additional coins and currency in said console acceptor;

F. means enabling said first- and second-named fluid dispensers to separately and simultaneously dispense fluid, and separately and simultaneously compute the volume and price thereof;

G. a high-flow solenoid and a low-flow solenoid operatively connected with said dispensing means of said fluid dispensers; and

H. means for initially activating said high-flow solenoid and with the low-flow solenoid being nonactivated, when said credit in said credit memory control unit has been removed to a predetermined low point, said high-flow solenoid is deactivated and said low-flow solenoid activated by said means.

4. Apparatus as in claim 3, wherein the "means" in (H) is a rotatable cam provided with a long dwell lobe and with a short dwell lobe operatively connected to activate a switch means.

5. Apparatus as in claim 3, including means for turning "off" said dispensing means of said fluid dispenser automati-

cally at a predetermined time interval after said dispensing means of said fluid dispenser has been turned "on" manually.

6. Money operated dispensing apparatus for dispensing fluids from a multiplicity of fluid dispensers, including:

A. each of said multiplicity of fluid dispensers provided with a meter, computer, and a variator which may be selectively preset to deliver fluid at a preselected price, and switch means for turning "on" and turning "off" dispensing means of each of said fluid dispensers;

B. a coin and currency console acceptor adapted to accept and validate coins of preselected value and paper currency of preselected value, said coin and currency console acceptor being adapted to accept any combination of said coins and paper currency only up to a preselected value for which said console acceptor has been preset;

C. a credit memory control unit in each of said fluid dispensers, said credit memory control unit being adapted to store and remove credit independently of said console acceptor;

D. manually setable selector means for determining which of said fluid dispensers is selected for said coins and currency deposited in said console acceptor;

E. means for enabling another of said fluid dispensers, by movement of said selector means, to dispense fluid, after said first-named dispenser has been activated, by the deposition of additional coins and currency in said console acceptor; and

F. means enabling each of said fluid dispensers to separately and simultaneously dispense fluid, and separately and simultaneously compute the volume and price thereof.