D. W. ANTHONY.

OIL DISPENSING MACHINE.

APPLICATION FILED OCT. 31, 1916.

1,303,145.

Patented May 6, 1919.

8 SHEETS—SHEET 1.

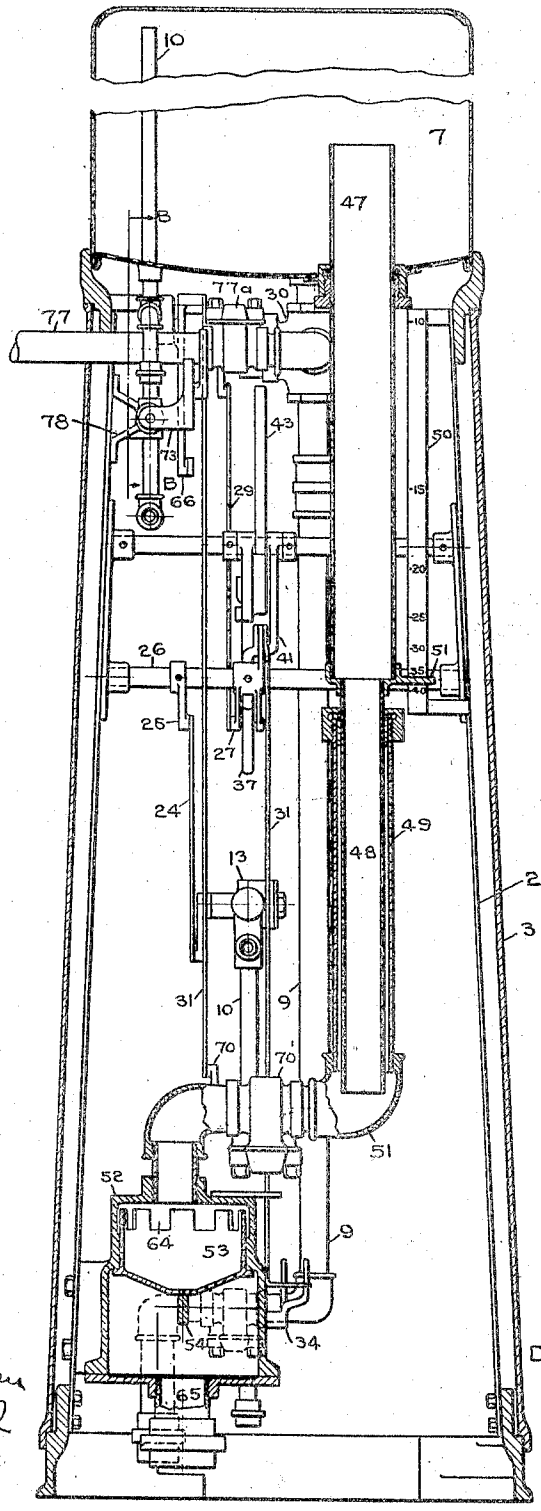


FIG.

WITNESSES:

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BY Paul & Paul

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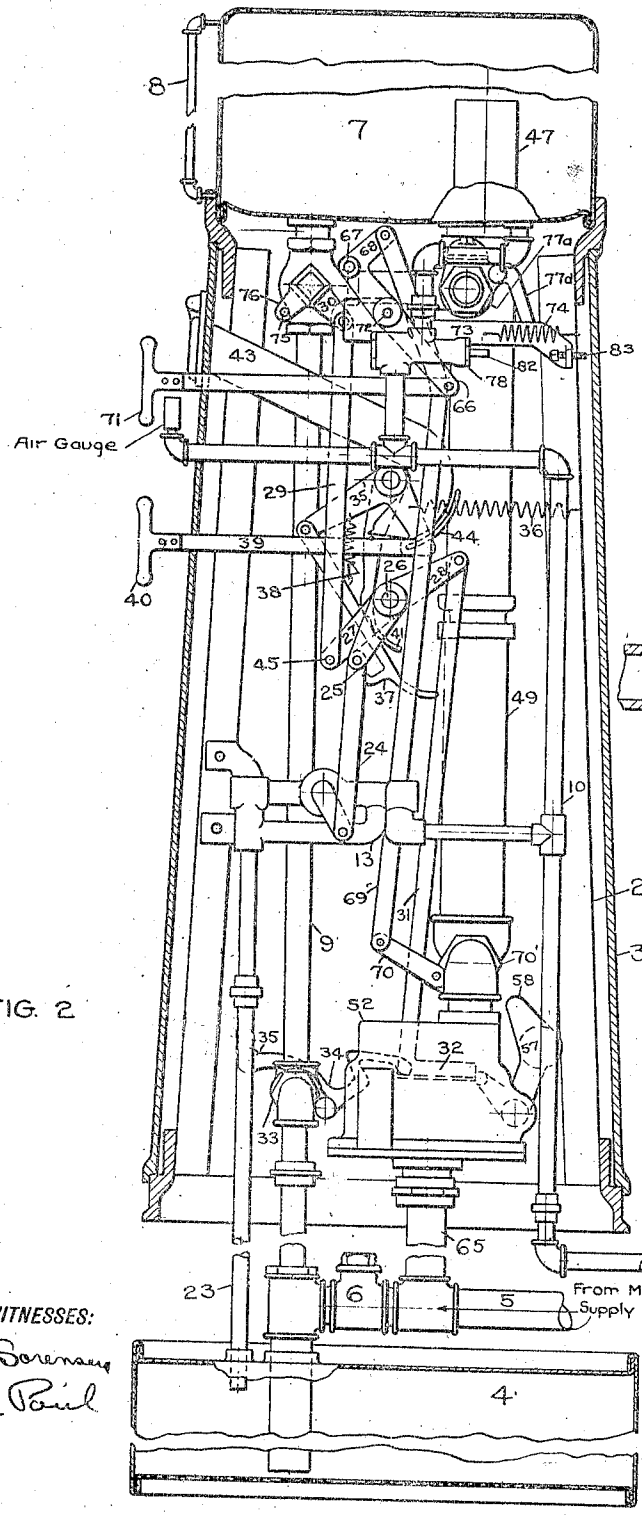


FIG. 2

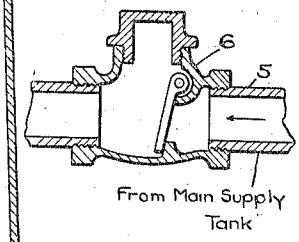
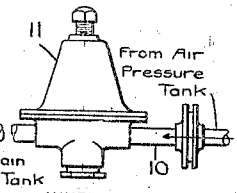


FIG. 2a



WITNESSES:

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8 SHEETS—SHEET 3.

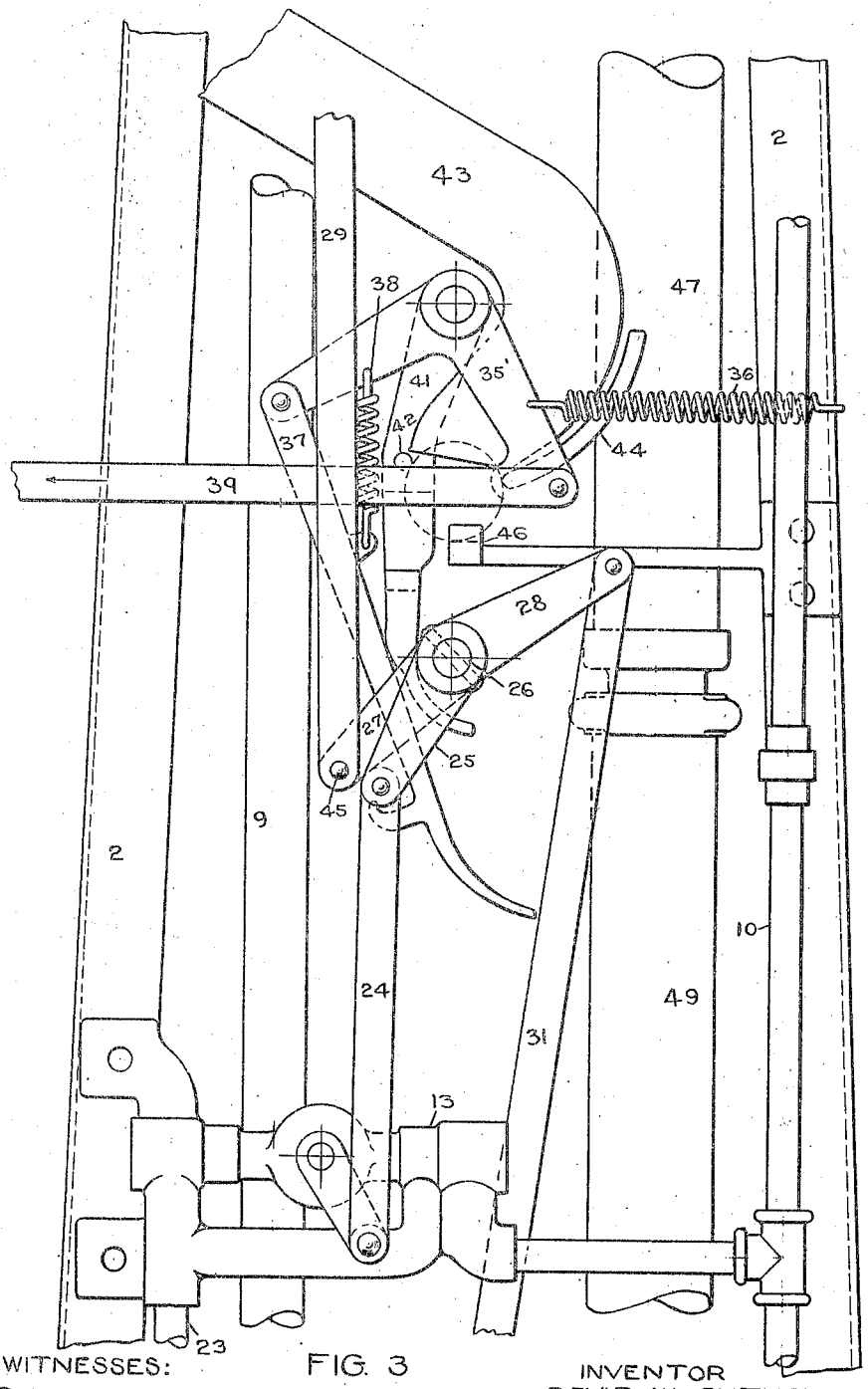


FIG. 3

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8 SHEETS—SHEET 4.

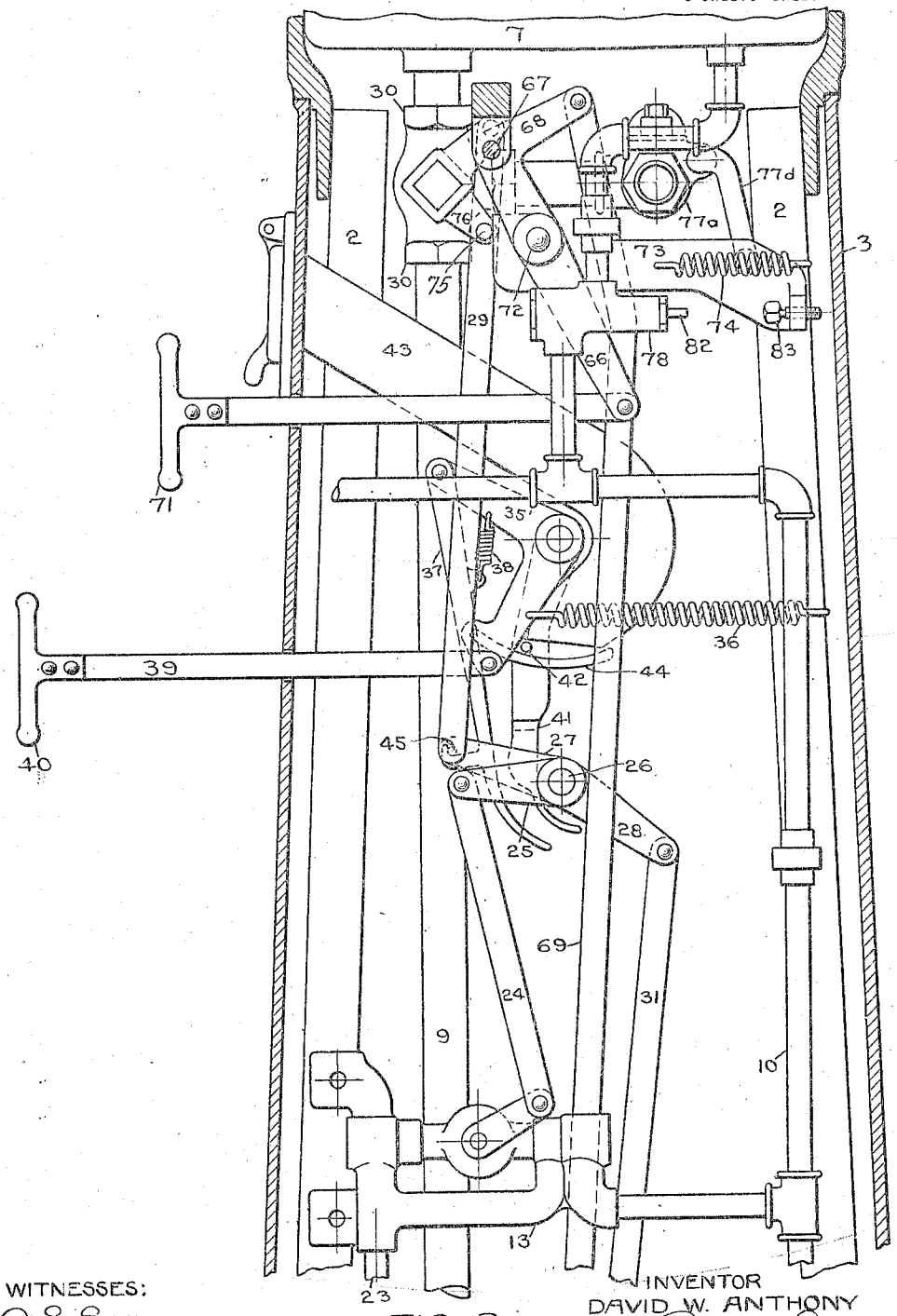


FIG. 3a

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8 SHEETS—SHEET 5.

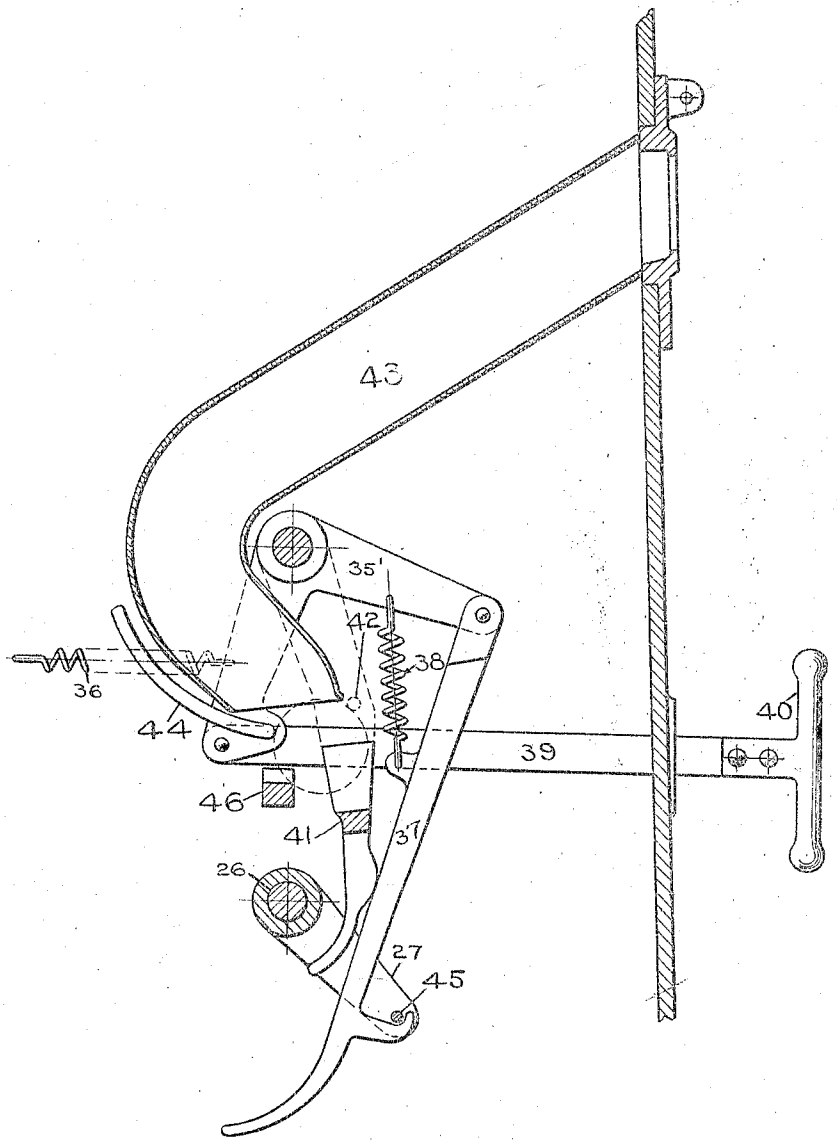


FIG. 4

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8 SHEETS—SHEET 6.

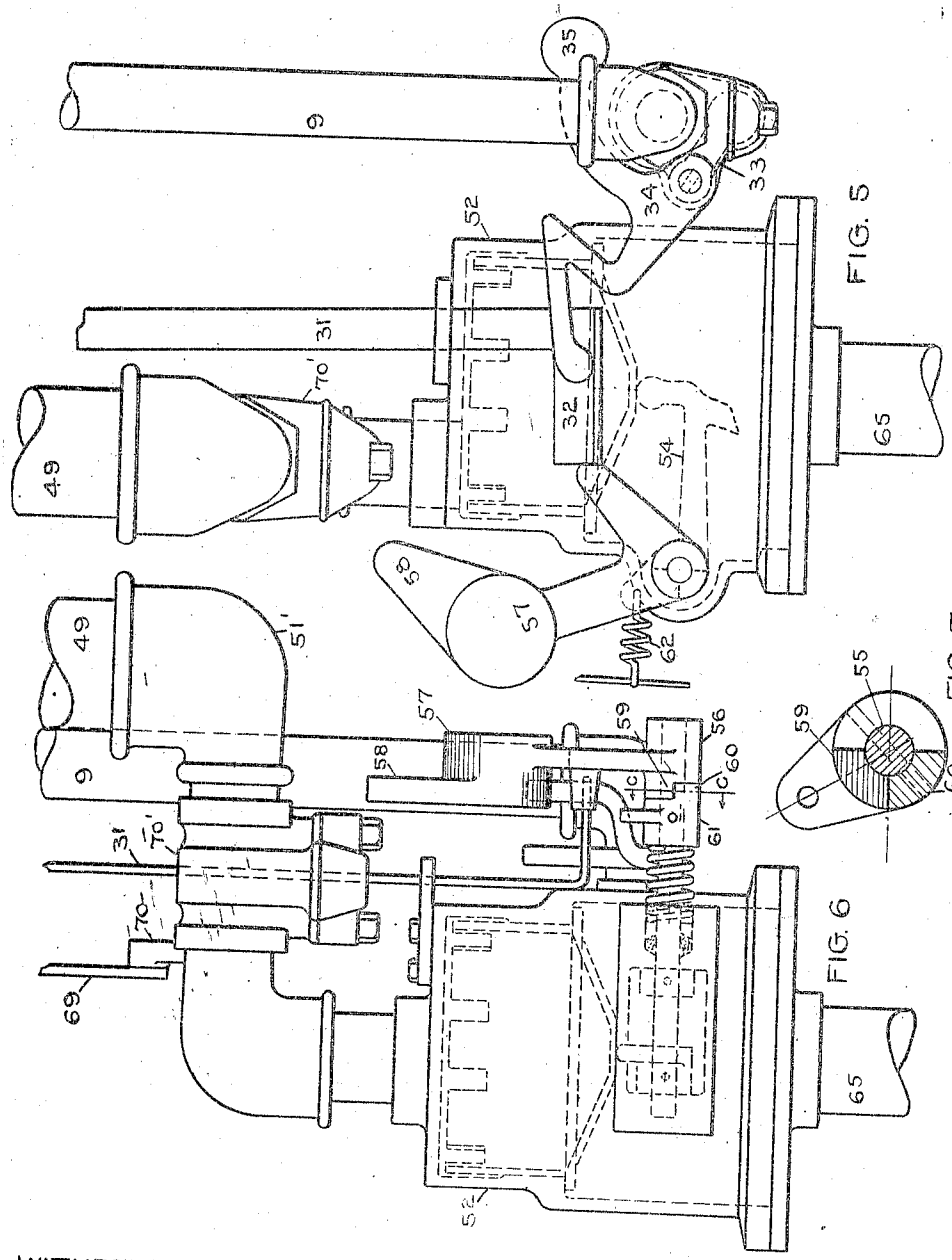


FIG. 5

FIG. 7

FIG. 6

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8 SHEETS—SHEET 7.

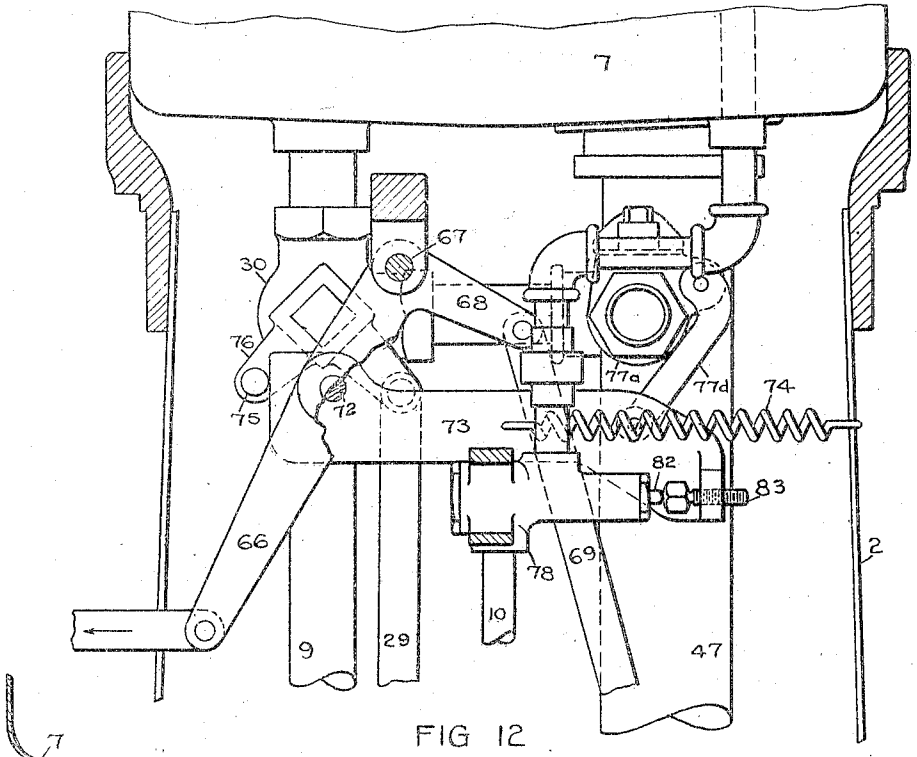


FIG 12

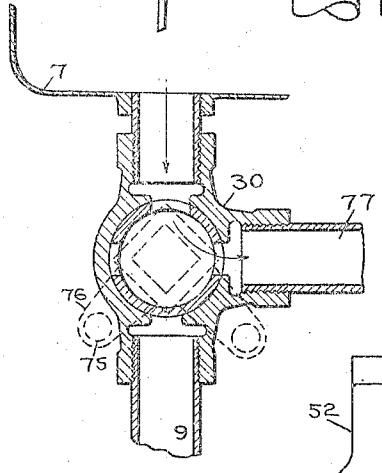


FIG 13

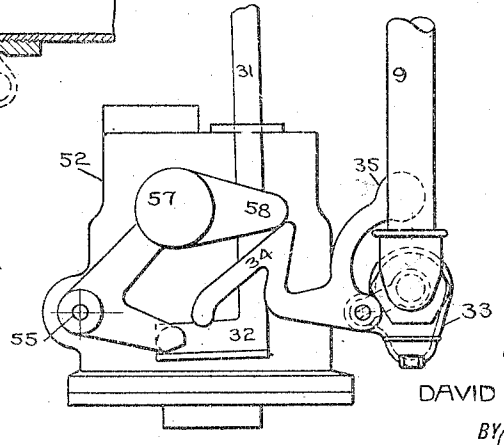


FIG 8

WITNESSES:

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OIL DISPENSING MACHINE.

APPLICATION FILED OCT. 31, 1916.

1,303,145.

Patented May 6, 1919.

8 SHEETS—SHEET 8.

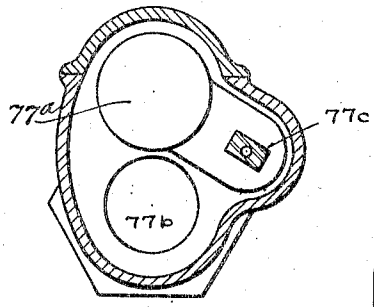


FIG. 12a

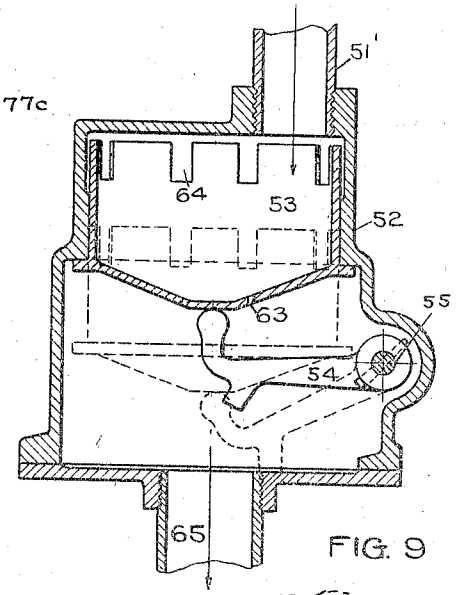


FIG. 9

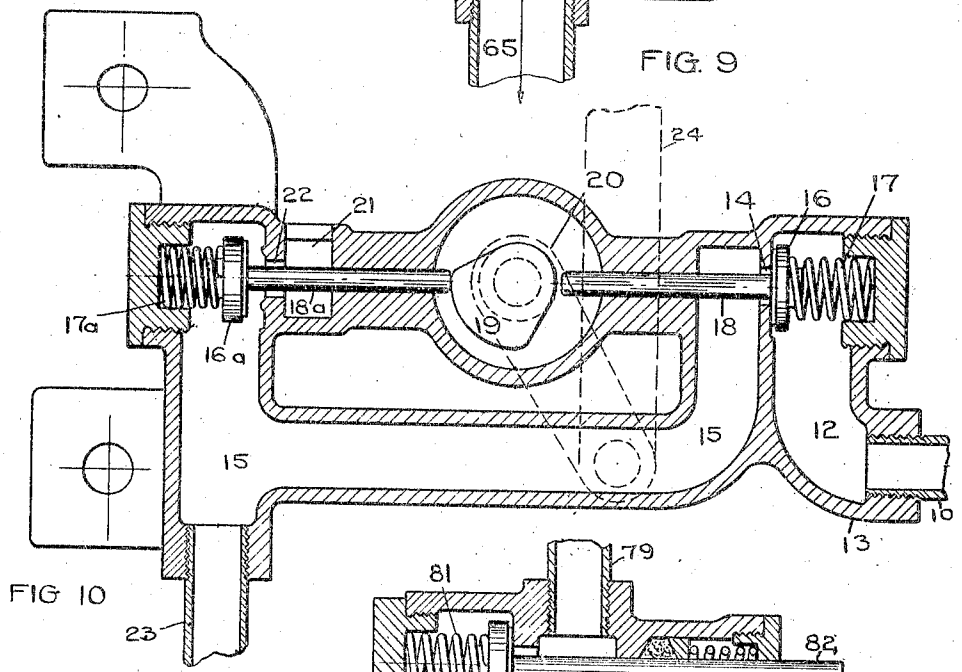


FIG 10

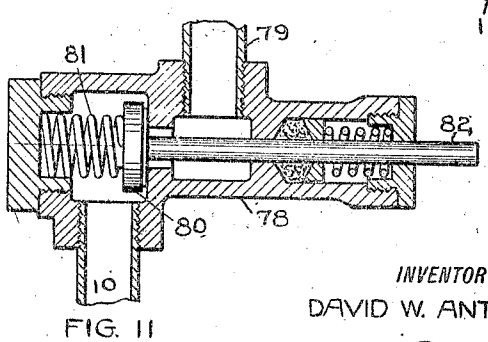


FIG. 11

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UNITED STATES PATENT OFFICE.

DAVID W. ANTHONY, OF MINNEAPOLIS, MINNESOTA.

OIL-DISPENSING MACHINE.

1,303,145. Specification of Letters Patent. Patented May 6, 1919.

Application filed October 21, 1916. Serial No. 126,752.

To all whom it may concern:

Be it known that I, DAVID W. ANTHONY, a citizen of the United States, resident of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Oil-Dispensing Machines, of which the following is a specification.

My invention relates to a machine designed particularly for delivering a predetermined quantity of fuel oil upon the deposit of a coin in the machine, but the invention may also be used for vending a lubricating oil.

The primary object of the invention is to provide a mechanism by means of which the driver of a car can easily obtain a supply of liquid fuel upon the deposit of a coin in the machine, the amount delivered being regulated according to the denomination of the coin without the service of an attendant or other person, and thereby the driver can obtain fuel for his engine at any time of day or night.

A further object is to provide a mechanism by the adjustment of which the quantity dispensed can be increased or decreased as the market price of the fuel rises and falls.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification,

Figure 1 is a vertical sectional view through a vending machine embodying my invention,

Fig. 2 is a similar view taken on a section line at right angles substantially to the section line of Fig. 1,

Fig. 2^a is a detail sectional view of a check valve for preventing backward flow of the fuel oil from the auxiliary supply tank,

Fig. 3 is a detail view of the mechanism, made operative by the deposit of a coin for controlling the movement of the fuel oil supply valve,

Fig. 3^a is a detail sectional view showing the position of the parts when the operator has drawn out the handle to release the coin and open the valves controlling the flow of the fuel oil to the dispensing tank,

Fig. 4 is a detail sectional view, showing the relative position of the coin chute and the mechanism controlled by the deposit of the coin,

Fig. 5 is a detail view, showing the mechanism for closing the fuel inlet valve and actuated by the overflow from the delivery tank,

Fig. 6 is a detail view of the overflow tank and mechanism connected therewith, as shown in Fig. 5, viewed from a point at right angles substantially to the view point of Fig. 5,

Fig. 7 is a sectional view on the line *c—c* of Fig. 6,

Fig. 8 is an outside view of the overflow tank, showing the valve controlling the fuel supply in its closed position,

Fig. 9 is a vertical sectional view through the overflow chamber,

Fig. 10 is a detail sectional view of the valve mechanism for controlling the admission of air to the delivery tank and the exhaust therefrom,

Fig. 11 is a detail sectional view of the air valve by means of which the admission of fluid pressure to the delivery tank is controlled,

Fig. 12 is a detail sectional view, showing the mechanism for controlling the discharge of the oil from the delivery tank,

Fig. 12^a is a detail sectional view of the gate valve by means of which the operator can check the flow from the dispensing tank should he desire to do so before the tank has been emptied,

Fig. 13 is a detail sectional view of the valve for controlling the admission of fuel oil to the tank and its discharge therefrom.

In the drawings, 2 represents an upright frame having an inclosing casing or jacket 3. 4 is an auxiliary supply pressure tank to which the fuel oil is delivered through a pipe 5 from a main fuel supply tank, not shown. This tank 4 is preferably located beneath the dispensing apparatus and may

be located in the ground or in some suitable receptacle, if preferred. A check valve 6 is provided in the pipe 5 to prevent backward flow of the fuel oil when air pressure is admitted to the tank 4. Mounted on the top of the machine frame is a tank 7 having a suitable gage 8 and which I prefer to designate as the dispensing tank or the one from which the fuel oil is delivered by gravity or by air pressure to the tank of the car or truck that is being filled. (See Fig. 2).

A pipe 9 leads from the tank 4 up through the bottom of the tank 7 and through which a supply of fuel oil is raised and delivered to the tank 7. An air pipe 10 communicates with a source of air under pressure and is provided with a suitable reducing valve 11 by means of which the pressure of the air in the tank 7 may be regulated. This pipe 10 communicates with a passage 12 provided in a casting 13 having a port 14 leading from the passage 12 to a passage 15. (See Fig. 10). A valve 16 is mounted in the passage 12 for closing the port 14 and is normally held on its seat by a spring 17. The stem 18 of said valve projects into the path of a cam 19 that is mounted on a crank arm 20. An exhaust port 21 is provided in the casting 13 and communicated with the passage 15 through a port 22 and a valve 16ª is mounted to close the port 22 and normally held in its closed position by a spring 17ª and is provided with a stem 18ª, also in the path of the cam 19. When, therefore, the crank arm 20 is rotated, the stems 18 and 18ª will be alternately reciprocated to open the valves connected therewith or allow them to close. A pipe 23 leads from the passage 15 to the top of the auxiliary supply pressure tank 4. When the cam 19 is operated to open the valve 16, air will be admitted to the passage 15 and thence will flow through the pipe 23 into the auxiliary supply pressure tank, and when the valve 16ª is opened, the valve 16 will be allowed to close, shutting off the inflow of air and allowing the air in the auxiliary-supply pressure tank to escape through the ports 22 and 21, thereby relieving the pressure in the tank 4 and checking the flow of the fuel from this tank to the dispensing tank.

For operating the crank arm to open the valves 16 and 16ª, I prefer to provide a link 24 connecting the said crank arm 20 with an arm 25 on a shaft 26. Arms 27 and 28 are mounted on said shaft, the former connected by a push bar 29 with a valve 30 in the pipe 9 which controls the admission of the fuel oil to the tank 7 and the arm 28 is connected to a similar bar 31 having a foot 32. A gate valve 33 is mounted in the pipe 9 and is normally open to allow the fuel oil to flow upwardly through the pipe 9 to the dispensing tank and this valve is provided with an arm 34 having a weight 35. The arm 34 normally rests on the foot 32 and the valve is held in its open position thereby, (see Fig. 5). When the bar 31 is moved downwardly, the foot will be moved also out of engagement with the arm 34 to allow the valve 33 to be closed when the desired amount of oil has been delivered to the dispensing tank, as will hereinafter appear. A bell crank 35′ is mounted to oscillate in the upper part of the machine and is normally held in its retracted position by a spring 36 and carries a hook 37 also held in a retracted position by a spring 38. An operating bar 39 projects through the machine casing and is connected to one arm of the bell crank 35′ and is provided with a hand grip 40. When this bar 39 is pulled outward, the bell crank will be rocked to swing forward against the tension of the spring 36. An arm 41 has its pivot concentric with the pivot of the crank 35′ and has its free end arranged to bear on the hook 37 and said arm 41 is provided with a pin 42. A coin chute 43 is arranged to deliver a coin between the pin 42 and a web 44 mounted on the bell crank 35′ and positioned to sweep past the open end of the coin chute.

A pin 45 is mounted in the arm 27 in the path of the hook 37 when it is pressed outwardly against the tension of its springs 38. Normally, however, this spring will hold the hook in its forward position and the mechanism will be inactive when the bar 39 is pulled out until a suitable coin is deposited in the coin chute. This will be due to the fact that the hook 37 will be held in a retracted position and the rib 44 will swing back and forth across the open end of the chute without actuating the arm 41. As soon, however, as a coin is deposited, it will drop down between the rib 44 and the pin 42, resting upon the cross bar 46, and thereupon pressure of the rib on one side of the coin will be transmitted to the bar 41 to push the hook 37 outwardly to a point where it will engage the pin 45 and rock the arm 25 to change the position of the air valves to admit the air pressure to the auxiliary supply pressure tank. At the same time the foot 32 will be lowered out of the path of the arm 34. (See Figs. 3 and 4).

The rib 44 sweeping past the end of the chute also serves to disengage or dislodge a coin which may have stuck in the chute, partially projecting therefrom.

The valve 33 is normally held open by the weight 35 to allow the fuel oil to flow upwardly through the pipe 9 when the air pressure is admitted to the auxiliary tank.

It is desirable in an apparatus of this kind to provide a means for regulating the vol-

ume of oil delivered to the dispensing tank of a value equal to the denomination of the coin deposited in the chute. To this end I provide an overflow pipe 47 mounted to slide in the bottom of the dispensing tank and having an open upper end and connected at its lower end with a pipe 48 which telescopes with a pipe 49 and forms a continuation of the pipe 47. A bar 50 is mounted adjacent to the pipe 47 and has graduations thereon indicating the price of the oil per gallon, and a finger 51 is mounted on the pipe 47 to slide up and down on the bar 50. The pipe 47 is of greater cross sectional area than the intake pipe of the dispensing tank and when the oil rises above the level of the open end of the pipe 47 it will overflow therein and hold the level at that height and prevent a greater amount of oil remaining in the dispensing tank than the purchaser has paid for through the deposit of a coin. For instance, suppose the price per gallon of the oil is 35¢. The overflow pipe will be adjusted so that the finger thereon will be opposite the graduation of the "35" on the bar 50 and then the open end of the overflow pipe will be at such a level in the dispensing tank that the quantity of oil entering the tank to reach that level will be of the value of one dollar, which is the coin the user of the machine must deposit in the chute to be able to operate the dispensing mechanism. The quantity of oil at this price dispensed would be a little less than three gallons. If the price per gallon is 20¢, then the overflow pipe is raised until the finger is opposite the graduation "20" and the operator of the machine will then obtain five gallons upon the deposit of a dollar. If the price is ten cents per gallon, then the overflow pipe is raised to the top of the tank, when the dollar coin will pay for the delivery of ten gallons.

For the purpose of controlling the feed through the overflow, I provide a pipe 51' leading from the pipe 49 to an overflow chamber 52 and in this chamber I provide a cup 53 into which the overflow oil is discharged. This cup is mounted to slide vertically in the overflow tank and rests upon an arm 54 that is mounted on a shaft 55 having bearings in the walls of the overflow chamber. A hub 56 is loosely mounted on the shaft 55 and carries a weighted arm 57 having a finger 58 thereon. A lug 59 is provided on the hub 56 in the path of a similar lug 60 on a hub 61 that is secured to the shaft 55 and is rocked therewith when the arm 54 is depressed by the weight of the cup 53. A spring 62 normally holds the hub 61 in the position illustrated in Figs. 5 and 6. When, however, the arm 54 is depressed to the position indicated by dotted lines in Fig. 9, the hub 61 will be rocked with the shaft and the lug 60 engaging the lug 59 will throw the weighted arm 57 past its center and the finger 58, dropping by gravity with said arm, will strike the arm 34 and move valve 33 to its closed position, thereby shutting off the flow of oil to the dispensing tank. The overflow oil accumulating in the cup 53 will pass out through the ports 63 and the openings 64 and flow back to the supply tank through the pipe 65. When the valve 38 is closed, as above described, the flow of the fuel oil to the dispensing tank will cease and the oil in the tank will be prevented from flowing back to the supply tank.

Referring now to Fig. 12, 66 represents a lever pivoted at 67 and having an arm 68 connected by a bar 69 with a link 70. A gate valve 70' is mounted in the overflow pipe and has its stem connected with the link 70 to be rocked by oscillation of said link to close said valve when air pressure is admitted to the dispensing tank, as will hereinafter appear. A handle 71 is connected to the lever 66 for rocking it back and forth and said lever has a projection 72 to engage a slide 73 which is normally retracted by a spring 74 and is positioned to contact with a pin 75 on an arm 76 of the valve 30 for the purpose of rotating said valve to an open position, and allowing the oil to flow from the dispensing tank into the delivery pipe 77, which is connected with the pipe 9 and has a suitable hose connection (not shown) for insertion into the oil tank of the car, so that the oil may flow by gravity from the dispensing tank directly to the supply tank of the engine.

The operator may desire to close the pipe leading from the dispensing tank temporarily, and I therefore provide a gate valve 77^a arranged to close a port 77^b in the discharge pipe and having a stem 77^c that is connected by a link 77^d with the slide 73 and so arranged that when the operator releases the handle 71 and the slide 73 returns to its normal position, it will close the valve 77^a and cut off the flow of oil from the dispensing tank without, however, changing the position of the valve 30, which remains open to the delivery pipe until such time as it is opened to the intake pipe 9 from the auxiliary supply tank when the control bar 39 is released or made effective by the deposit of a coin of the required denomination in the chute.

It may sometimes be desirable to hasten the discharge of the oil from the dispensing tank and I therefore provide a valve casing 78 in the air supply pipe 10 having a pipe connection 79 with the bottom of the dispensing tank and provided with a valve 80 normally closed by a spring 81 and having a stem 82 in the path of an adjustable screw 83 carried by the slide 73. These parts

are so arranged that when the slide 73 reaches a predetermined point the valve 80 will be opened, admitting air to the dispensing tank for hastening the discharge of the fuel oil therefrom. This air pressure may or may not be utilized, as preferred.

To prevent the air pressure admitted to the dispensing tank from flowing down through the overflow pipe, the valve 70′ is closed through the movement of the push bar 69 and the link 70 when the operator moves the handle 71 to discharge the oil from the dispensing tank and admit the air pressure thereto. When, however, the oil is discharged from the dispensing tank by gravity the closing of the valve 70′ will be unnecessary.

Briefly, the operation of the machine is as follows: The person desiring the dollar's worth of gasolene or other fuel oil dispensed from the machine will deposit the coin in the chute and it will drop down by gravity to the position indicated by dotted lines in Fig. 4. The operator will then grasp the handle 40 and pull it outward, causing the movement of the web 44 to be transmitted to the pin 42 and the arm 41 and pressing the hook 37 outwardly to a point where it will engage with the pin 45. The arm 25 will thereupon be rocked and the air valve opened to admit air to the auxiliary supply tank. At the same time the arms 27 and 28 will be rocked to move the foot 32 downwardly out of engagement with the arm 34, so that when the overflow cup is depressed the weighted arm will be tilted to engage the arm 34 and close the valve 33 to shut off the flow of fuel oil from the auxiliary tank to the dispensing tank. Upon operating the valve 30 to discharge the oil from the dispensing tank, the bar 31 will be raised with the rocking of the arms 27 and 28 to open the valve 33 and hold it in its open position, and the weighted arm 57 in its raised position, ready to again descend when the overflow cup is filled following the deposit of another coin and the filling of the dispensing tank. In other words, I have provided means for positively opening the valve in the supply pipe to the dispensing tank when the valve of the dispensing tank is set to discharge the oil from the tank, and this supply valve will be held positively in its open position until another coin is deposited in the machine and the delivery valve cut off from the delivery pipe and opened again to the supply pipe. When the level for which the overflow pipe has been set is reached by the oil flowing into the dispensing tank and the surplus oil flows down through the overflow pipe into the cup beneath, the weighted arm 57 will be actuated to close the supply valve and cut off the flow of oil to the dispensing tank. Then the operator, by the movement of the handle 71, will cut off the valve 30 from the supply pipe and open it to the delivery pipe 77 and if the mechanism has been previously adjusted, will also admit air to the dispensing tank to hasten the discharge of the fuel therefrom. Upon the release of the handle 71 the spring 74 will return it to its normal position and open the valve 70′ in the overflow pipe, but the valve 30 will remain open to the delivery pipe until it is rotated again upon the deposit of another coin and the rocking of the arm 25. Therefore, although the valve 33 may be normally open, no oil can flow from the tank 4 to the dispensing tank 7 until another coin has been deposited and the valve 33 opened to the supply pipe.

In various ways the details of construction herein shown and described may be modified and still be within the scope of my invention.

I claim as my invention:

1. The combination, with a liquid supply tank, of a dispensing tank having a discharge opening, an inlet pipe leading from said supply tank to said dispensing tank, a dispensing valve controlling the flow of liquid into said dispensing tank and its discharge therefrom and normally closing the inlet to said tank, a normally open inlet valve in said supply pipe, means for closing said inlet valve when the liquid in said tank rises above a predetermined level, and mechanism actuated through the movement of said dispensing tank valve in closing said inlet passage and opening said dispensing tank to its discharge for opening said inlet valve and holding it in its open position.

2. The combination, with a liquid supply tank, of a dispensing tank having a discharge opening, an inlet pipe leading from said supply tank to said dispensing tank, a dispensing valve controlling the flow of liquid from said dispensing tank, a normally open inlet valve in said supply pipe, means for closing said inlet valve when the liquid in said tank rises above a predetermined level, and mechanism actuated by the movement of said dispensing valve in opening said dispensing tank to its discharge for positively moving said inlet valve to its open position and holding it in such position.

3. The combination, with a liquid supply tank, of a dispensing tank having a discharge pipe, an inlet pipe leading from said supply tank to said dispensing tank, a normally open inlet valve in said pipe, means for locking said valve in its open position, mechanism for tripping said locking means to release said valve, and means for automatically closing said valve when a predetermined quantity of liquid has entered said dispensing tank.

4. The combination, with a liquid supply tank, of a dispensing tank having a dis-

charge pipe, a pipe leading from said supply tank to said dispensing tank, an inlet valve in said pipe normally open, means for holding said valve in its open position, mechanism for tripping said holding means, an overflow pipe connected with said dispensing tank and means actuated through the overflow of the liquid in said pipe for closing said inlet valve and checking the flow to said dispensing tank.

5. The combination, with a liquid supply tank, of a dispensing tank having a supply pipe connection therewith, a discharge pipe leading from said dispensing tank, a normally open inlet valve in said supply pipe, means for locking said inlet valve in its open position, a pipe for admitting air under pressure to said supply tank, a valve in said pipe and mechanism for simultaneously opening said air valve to admit pressure to said supply tank and release said inlet valve, and means for closing said inlet valve when a predetermined quantity of liquid has entered said dispensing tank.

6. The combination, with a liquid supply tank, of a dispensing tank having a discharge passage, a supply pipe leading from said supply tank to said dispensing tank, a normally open inlet valve in said supply pipe, means for holding said valve in its open position, mechanism for tripping said holding means, and a weighted arm mounted to close said inlet valve when a predetermined quantity of liquid has been delivered to said dispensing tank.

7. The combination, with a liquid supply tank, of a dispensing tank having a discharge passage, a supply pipe leading from said supply tank to said dispensing tank, a normally open inlet valve in said pipe, means for locking said valve in its open position, mechanism for tripping said locking means, an overflow pipe communicating with said dispensing tank, an overflow chamber for said pipe, a cup therein arranged to receive the overflow from said pipe and be depressed thereby, and a weighted arm actuated through the depression of said cup for closing said inlet valve when a predetermined amount of liquid has been delivered to said dispensing tank.

8. The combination, with a supply tank, of a dispensing tank having a supply pipe connection therewith, a normally open inlet valve for said supply pipe, means for locking said valve in its open position, mechanism for tripping said locking means, a second valve in said inlet pipe normally closed and mounted to open the passage to said dispensing tank when said locking means is tripped, a delivery pipe for said dispensing tank communicating with said second valve, and mechanism for returning said locking means to its locking position and opening said inlet valve and closing the inlet passage through said second valve and opening said delivery pipe to said dispensing tank.

9. The combination, with a liquid dispensing tank having an inlet pipe and a dispensing valve arranged to open the passage through said pipe, a delivery pipe communicating with said tank, mechanism for operating said dispensing valve to close said inlet passage and open said dispensing tank to said delivery pipe, an operating handle for said mechanism, a cut-off valve in said delivery pipe, and means for closing said cut-off valve when said handle is released after operating said dispensing valves to temporarily cut off the flow from said dispensing tank.

10. The combination, with a liquid dispensing tank having an inlet pipe and a valve controlling the flow of liquid therein, of a delivery pipe communicating with said tank through said valve, a slide mounted to engage and operate said valve to close the inlet therethrough and open the passage from said dispensing tank to said delivery pipe, mechanism for operating said slide, a spring for normally holding said slide in its normal position, and a cut-off valve in said delivery pipe actuated when said slide is released to temporarily close the passage through said delivery pipe.

11. The combination, with a dispensing tank having an inlet pipe and a delivery pipe, of a dispensing valve for controlling the flow of fluid through said inlet and delivery pipes and normally closed to said inlet pipe and dispensing tank, mechanism for operating said valve to open the passage through said inlet pipe and close the passage through said delivery pipe or close the passage through said inlet pipe and open the passage through said delivery pipe, a supply tank communicating with said inlet pipe, a normally open valve in said inlet pipe and means actuated by the excess liquid for closing said normally open valve when the liquid in said dispensing tank rises above a predetermined level.

12. The combination, with a liquid supply tank, of a dispensing tank having a discharge opening, an inlet pipe leading from said supply tank to said dispensing tank, a normally open valve for said inlet pipe, means for locking said valve in its open position, means for moving said locking means to its release position, and an overflow device provided with means mounted to close said inlet valve when the liquid in said dispensing tank rises above a predetermined level.

13. The combination, with a liquid supply tank, of a dispensing tank having a discharge opening, an inlet pipe leading from said supply tank to said dispensing tank,

a normally open valve for said inlet pipe, means for locking said valve in its open position, a valve normally closed to the inlet of said dispensing tank, and mechanism for opening said normally closed inlet valve and simultaneously releasing said locking means.

14. The combination, with a liquid supply tank, of a dispensing tank and a controlling inlet valve therefor, an inlet pipe leading from said supply tank to said dispensing tank, a normally open valve therein, means for locking said valve in its open position, means for opening said controlling valve to the inlet of the dispensing tank and releasing said locking means, and mechanism for automatically closing said inlet pipe valve when a predetermined level of liquid has been reached in said dispensing tank.

15. The combination, with a supply tank, of a dispensing tank having a discharge passage, an inlet pipe leading from said supply tank to said dispensing tank, a normally open inlet valve for said pipe, mechanism for locking said valve in its open position, mechanism for simultaneously admitting air to said supply tank, and releasing said locking means, and means for closing said inlet valve when a predetermined quantity of liquid has been delivered to said dispensing tank.

16. The combination, with a supply tank, of a dispensing tank having a discharge passage, an inlet pipe leading from said supply tank to said dispensing tank, a valve for controlling the flow of liquid to said dispensing tank and the discharge therefrom and normally closing the passage through said inlet pipe, an inlet valve for said pipe, normally open, and means for locking it in its open position, means for opening said dispensing tank valve and tripping said locking means, means for closing said inlet valve when a predetermined quantity of liquid has been delivered to said dispensing tank, said locking means opening said inlet valve and again locking it in its open position when said dispensing tank valve is opened to its discharge passage.

17. The combination, with a liquid supply tank, of a dispensing tank having a discharge opening, an inlet pipe leading from said supply tank to said dispensing tank, a dispensing valve controlling the flow of fluid into said dispensing tank and its discharge therefrom and normally closing the inlet to said tank, a normally open inlet valve in said supply pipe, mechanism for locking said inlet valve in its open position, means for moving said locking mechanism to its release position when said dispensing tank valve opens the passage to said dispensing tank, means for closing said inlet valve when the liquid in said tank rises above a predetermined level, the movement of said dispensing tank valve to close said inlet passage and open said dispensing tank to its discharge operating said locking means to open said inlet valve and hold it in its open position.

18. The combination, with a dispensing tank, of supply and discharge pipes therefor, a valve for controlling the flow of fluid through said pipes and normally closing said supply pipe, means for operating said valve, a normally open supply valve, mechanism connected with the operating means of said dispensing tank valve for holding said supply valve in its open position, said mechanism being moved to its release position when said dispensing tank valve is operated to open said supply pipe, means for closing said supply valve when a predetermined quantity of liquid has been delivered to said dispensing tank, the movement of said dispensing tank valve to close said supply pipe and open said discharge pipe operating said locking means to return and lock said supply valve in its open position.

19. The combination, with a liquid supply tank, of a dispensing tank having a discharge passage, an inlet pipe leading from said supply tank to said dispensing tank, a normally open inlet valve in said pipe, means for locking said valve in its open position, tripping mechanism for operating said locking means to release said valve, means for automatically closing said valve when a predetermined quantity of liquid has entered said dispensing tank, the return of said tripping mechanism to its normal position operating said locking means to open said valve and lock it in its open position.

20. The combination, with a liquid supply tank, of a dispensing tank having a discharge pipe, a pipe leading from said supply tank to said dispensing tank, an inlet valve in said pipe, normally open, means for holding said valve in its open position, mechanism for tripping said holding means, an overflow pipe connected with said dispensing tank, means actuated through the overflow of the liquid into said pipe for closing said inlet valve and checking the flow to said dispensing tank, and said overflow pipe being adjustable in said dispensing tank for varying the level at which the liquid in said tank will flow into said pipe.

21. The combination, with a liquid supply tank, of a dispensing tank, a supply pipe leading from said supply tank to said dispensing tank, a discharge pipe for said dispensing tank, a dispensing tank valve normally closed to the inlet of said dispensing tank, a supply pipe valve normally open, mechanism for opening said dispensing tank valve, to the inlet of said tank, means for closing said supply pipe valve when a pre-

determined quantity of liquid has entered said dispensing tank, and means actuated by the closing of said tank valve to its inlet for opening said supply valve.

22. A liquid vending machine comprising a dispensing tank having a discharge opening and valve, a supply tank having a pipe connection with said dispensing tank, and a valve for said pipe connection, an overflow cup and casing having a pipe connection with said dispensing tank to receive the overflow liquid therefrom when it rises above a predetermined level, and mechanism actuated by the movement of said cup under the weight of the overflow liquid for closing said pipe connection valve and shutting off the flow of liquid to said dispensing tank.

In witness whereof, I have hereunto set my hand this 25th day of October, 1916.

DAVID W. ANTHONY.