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C. A. GOLDSMITH ET AL

1,566,591

AUTOMATIC DISPENSING DEVICE

Filed Oct. 11, 1924

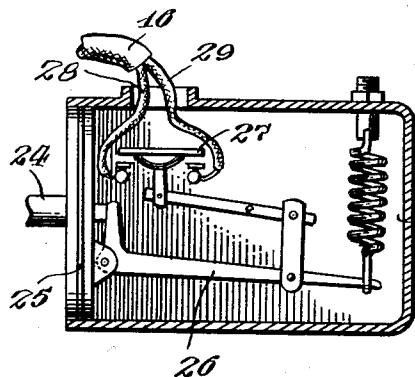


Fig. 3.

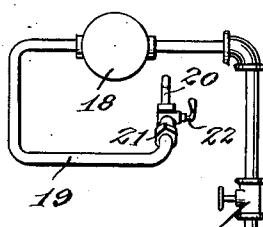
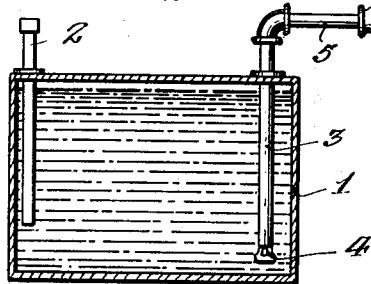


Fig. 1.

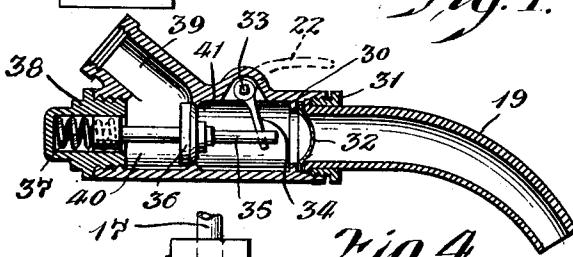
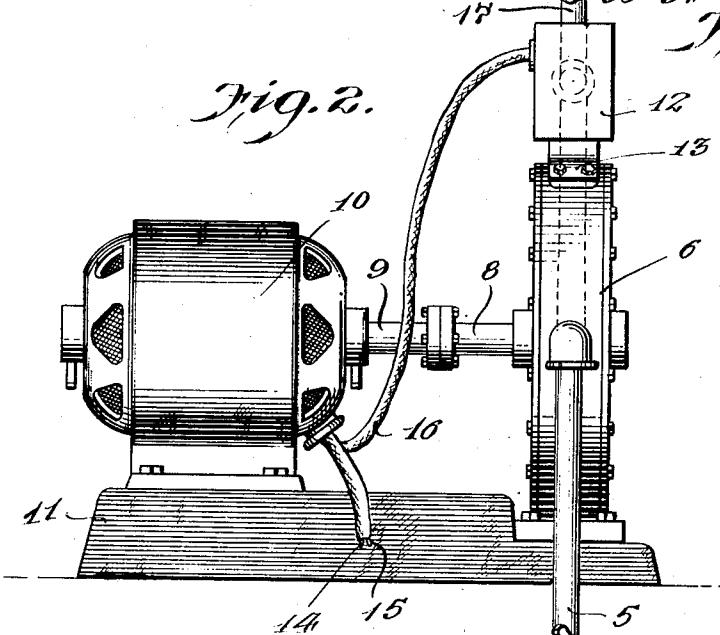


Fig. 4.

Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES A. GOLDSMITH, OF COLLINGSWOOD, AND JOSEPH F. MONTAGUE, OF CAMDEN, NEW JERSEY.

AUTOMATIC DISPENSING DEVICE.

Application filed October 11, 1924. Serial No. 743,150.

To all whom it may concern:

Be it known that we, CHARLES A. GOLDSMITH and JOSEPH F. MONTAGUE, citizens of the United States, and residents, respectively, of Collingswood, in the county of Camden and State of New Jersey, and Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Automatic Dispensing Devices, of which the following is a specification.

This invention relates to a dispensing device for liquids and has for its object the provision of a device which is automatically set in operation by the opening of the valve of the discharge pipe whereby the reduction of pressure in the discharge pipe will cause automatic operation of a motor for driving a pump connected with the discharge pipe.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawing forming a part of the specification; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claim.

In the drawings:

Figure 1 shows more or less diagrammatically the dispensing system.

Figure 2 is a side elevation of the pump, motor and automatic switch.

Figure 3 shows more or less diagrammatically an automatic pressure controlled switch.

Figure 4 is a longitudinal vertical section of the spring pressed valve controlling the flow of fuel from the dispensing device.

Referring more particularly to the drawing, 1 designates a storage tank which is normally located below the horizontal level of the discharge end of the dispensing device and is adapted to be supplied with gasoline or other fuel when necessary through an inlet pipe 2. The suction pipe 3 extends into the tank 1 and has at its lower end a foot valve 4 which permits the flow of liquid through the pipe 3 but prevents the return of the liquid to the tank 1.

A pipe 5 connects pipe 3 with a rotary pump 6 and a check valve 7 in the pipe 5 prevents the return of the liquid from the pump. The pump, as shown in Figure 2, is directly coupled with the respective shafts 8 and 9 to an electric motor 10, the motor and the pump 6 forming a unit and mounted upon a base 11.

A pressure controlled switch 12 forming part of the motor and pump unit is connected with the pump casing as shown at 13.

The motor 10 is connected by means of wires 14 and 15 with a source of current, with the wire 14 leading directly to the motor while wire 15 is connected with a circuit generally designated by the numeral 16, the circuit 16 being connected with the automatic switch 12.

The discharge pipe 17 is connected to a pump 6 which is connected with a meter 18. An outlet pipe 19 is connected with the other side of the meter and is provided at its outer free end with a nozzle 20 and a spring valve 21 operated by a lever 22. A cut-off valve 23 in the pipe 17 permits closing of the system to the meter 18 and the discharge pipe 19 when desired or necessary. The meter 18 may be normally placed in a casing and which has provision for receiving the nozzle 20 so that a bore on the housing or casing may be locked to prevent unauthorized manipulation of the lever 22 and the valve 21. The pipe 19 as is usual is flexible so that the same may be moved to any convenient position in dispensing the liquids of the tank 1.

By-pass 24 connects the automatic switch control 12 with the discharge pipe 17 so that pressure in the pipe 17 is transmitted to a diaphragm 25 in the switch control for operating said diaphragm and actuating a lever 26 and moving contact 27 for closing the circuit 16 through wires 28 and 29 which connect with wire 15, as shown more particularly in Figure 3.

The operation of our device is as follows:

When the lever 22 is operated to open the spring pressed valve 21 in the discharge pipe 19 pressure is reduced in pipe 17 and pipe 24 by the discharge of the liquid from the pipe 19. The diaphragm 25 will return to its normal position shown in Figure 3 where-

by the switch 27 has closed the circuit as shown and the motor 10 will be actuated for driving the pump 6. As soon as the valve 21 is closed pressure built up in the discharge pipe in the by-pass 24 will actuate the diaphragm 25, lever 26 and open the switch 27.

The spring pressed valve shown more particularly in Figure 4 discloses a casing 30 having an internally threaded end to receive a gland 31 for locking the flexible hose and screen 32 to the casing 30. An operating handle 22 operates a shaft 33 which moves a rock arm 34. This rock arm drives a stem 35 carrying a valve 36 against the pressure of a spring 37 carried by a hollow plug 38. This plug is screwed into a threaded opening in alignment with the inner threaded end of the casing which receives the hose 19. A discharge nozzle 39 is in open communication with the chamber 40 in the casing 30 and to one side of the valve 36. The valve as is shown is adapted to normally engage a seat 41 and when the stem is operated by the rock arm 34 the valve is moved off of its seat and permits the fuel to be dispensed from the nozzle 39.

What we claim is:

A gasoline dispensing device comprising a storage tank for liquids, a pump connected with said tank, an electric motor directly connected with the pump, a pressure switch, a discharge pipe connected with the pump, a by-pass connecting the discharge pipe with the automatic switch, a valve in the discharge pipe for controlling the flow of liquid from said pipe, said motor being connected with a source of current, and a circuit connecting the motor with the switch whereby upon a predetermined pressure of the liquid in the discharge pipe and in the by-pass the switch will be opened for cutting off the motor, the valve in the discharge pipe provided with a stem, a spring acting on the stem for maintaining the valve closed, a crank adapted to be manually operated for engaging the stem and moving the valve to open position for controlling the flow of liquid from the discharge pipe and for releasing pressure in the by-pass for causing automatic operation of the switch.

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