March 29, 1932. C. A. PERKINS 1,851,290

LIQUID DISPENSER

Filed March 7, 1930 2 Sheets-Sheet 1

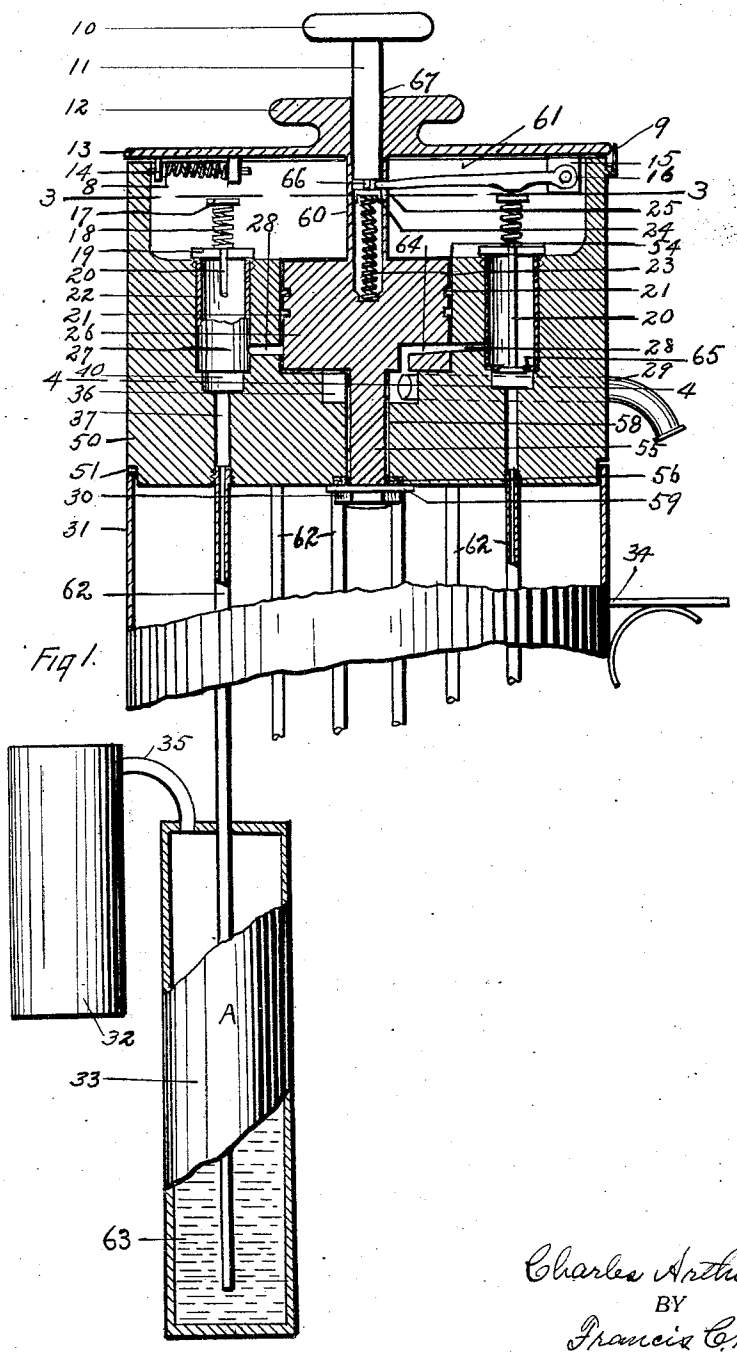

Fig 1.

INVENTOR.
Charles Arthur Perkins
BY
Francis C. Huebner.
ATTORNEY

March 29, 1932. C. A. PERKINS 1,851,290

LIQUID DISPENSER

Filed March 7, 1930 2 Sheets-Sheet 2

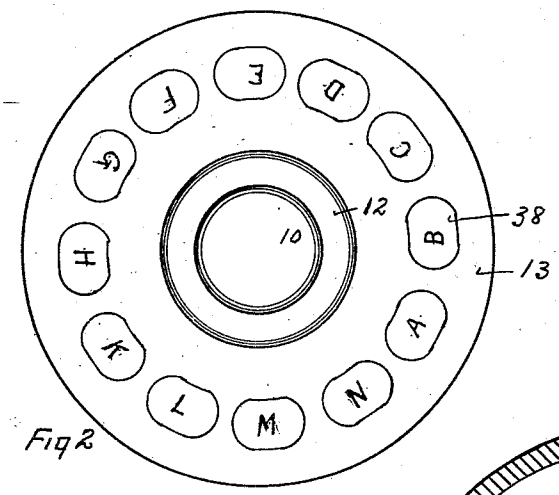

Fig 2

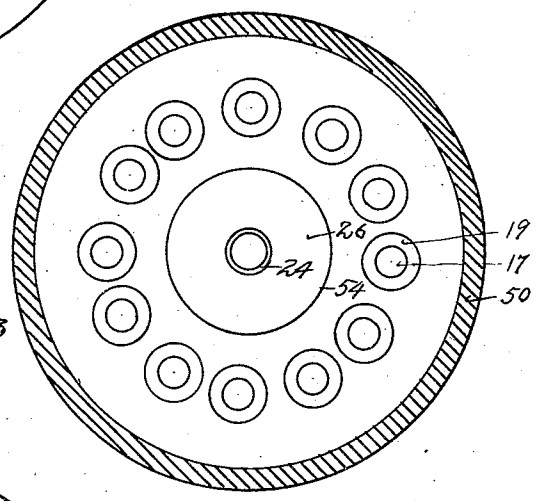

Fig 3

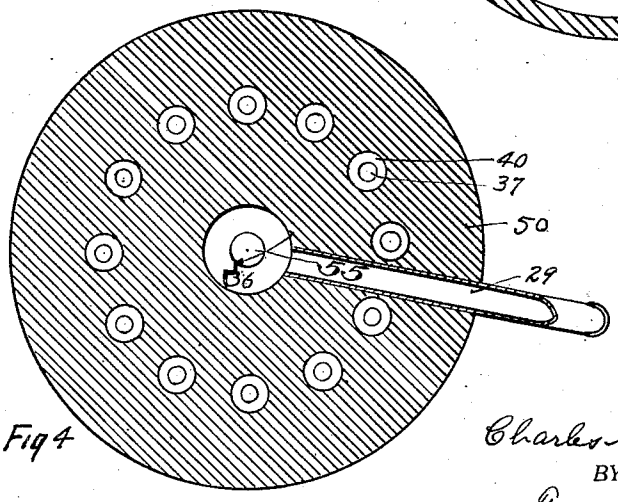

Fig 4

INVENTOR.
Charles Arthur Perkins
BY
Francis C. Huebner,
ATTORNEY.

Patented Mar. 29, 1932 1,851,290

UNITED STATES PATENT OFFICE

CHARLES ARTHUR PERKINS, OF FRESNO, CALIFORNIA

LIQUID DISPENSER

Application filed March 7, 1930. Serial No. 433,941.

My invention relates to a device for dispensing liquids. The object I have accomplished is the construction of a device whereby an operator can selectively dispense one of a plurality of liquids through a single discharge pipe. It has primarily been designed to dispense oil where a merchant keeps a plurality of grades and brands in separate containers but it can be used for dispensing soda water of various flavors or other liquids. Another object is compactness and ease of operation.

Figure 1 of the drawings is a fractional, vertical, sectional view of the device with parts cut away. Figure 2 is a top view of the device. Figure 3 is a cross sectional view along the section line 3—3 in Figure 1. Figure 4 is a cross sectional view of the device along the section line 4—4 in Figure 1.

Referring to the drawings, in Fig. 1 is shown a head or block 50, having the top recessed to form a depression or cup 61. In the bottom of the cup a cylinder 54 is formed, the cylinder being of less diameter than the diameter of the cup. In the bottom of the cylinder a well 36 is bored which should be of less diameter than the diameter of the cylinder. Well 36 has outlet 29 to the outside of block 50. At the bottom of well 36 a bearing hole 58 is made. The cylinder and bearing hole should have a common axial line, and the well 36 should surround the bearing hole. A rotor 26 is constructed to rotatingly fit within the cylinder 54. To make said fit oil tight rings 21 can be used in grooves in the rotor adapted for the insertion of said rings. To the rotor is attached a shaft 55 which fits in the bearing hole 58. The rotor and shaft are held in the block by means of a nut 30. A washer 59 is inserted between nut 30 and the block for the purpose of holding in position packing 56 to make the bearing leakproof. Rotor 26 has an upwardly extending hollow stem 60 to which is rigidly attached the cover 13, which cover is surmounted by a knob 12 by which knob the combined rotor and cover can be revolved. A separate view of the top or cover is shown in Fig. 2, which shows a plurality of oblong lettered designs 38 each of which letters indicate a separate kind or brand or grade of oil or liquid, which can be drawn through the common discharge pipe, the object for which will be hereinafter described. Within the cup and a uniformly spaced distance from the cylinder are a plurality of valve cage chambers 27. At the bottom of each valve cage opening is an auxiliary chamber 40 of less diameter than the valve cage chamber. A lead 37 connects chamber 40 with a pipe 62, which pipe leads to the source of supply of the oil or fluid to be dispensed. In Fig. 1 I have shown pipe 62 entering a tank 33 partly filled with liquid 63, a compressed air reservoir 32, and a connection 35 between the top of the tank and the compressed air reservoir, so a constant pressure of air can be had on the top of the liquid in tank 33.

A valve cage 22 is formed to fit within the valve cage chamber, said valve cage having a valve seat 65 formed at the bottom. A valve 20 is adapted to cooperate with the valve seat 65. The top of the valve cage 19 is adapted as a closure for the valve cage chamber and also as a guide for the stem of valve 20. It is noted that the relation of the valve seat and the valve is that the pressure of the oil or liquid through lead 37 will tend to keep the valve closed, and on opening the valve, chamber 40 is adapted to receive the head of the valve so the fluid can flow through opening 37, around the valve and into the valve cage.

From each valve cage and valve cage chamber is a lead 28 to cylinder 54, all of which openings should be aligned on a common plane a spaced distance from the bottom of the cylinder.

The rotor has a conduit 64 extending from the bottom of the rotor to a fixed location on its periphery, positioned so that one end of the lead is constantly open into well 36 regardless of the position of the rotor within the cylinder, and the other end of the conduit is aligned to register with each of the leads 28 as the rotor is turned on its axis. It will be seen that by rotating the rotor the operator can selectively register a complete open line from the discharge pipe 29 to either of

the plurality of tanks shown excepting for the restrictions of valves 20.

The top of the valve stem terminates with a base 17, and by inserting a compression spring 18 between base 17 and closure 19, the valve will normally be kept closed. To open the valve I have pivoted one end of lever 16 to a depending lug 15 on the under side of top or cover 13, a spaced distance from the center of said top and have positioned the lever parallel to a radius of the cover so that the free end thereof is adjacent to the center line of the cover. The lever will rotate with the cover, and a portion of the lever between the pivoted and free ends will pass over the tops of the valves in such rotation. A plunger 11 is adapted to cooperate with the free end of lever 16. The position of lever 16 and lead 64 are such that when lead 64 registers with the opening 28 of any valve cage chamber the lever will be positioned over the valve stem cooperating with that one valve cage chamber. When the lever is positioned over a selected valve, by depressing plunger 11, said selected valve will be opened and the other valves will be normally closed by means of spring 18. The plunger stem is easily depressed by pressing on the top of plunger head 10.

For the purpose of returning the plunger and lever to an inoperative position, and for releasing the lever from the base of the valve stem so the cover and rotor can be freely rotated, I have provided an auxiliary compression spring 23 which is depressed when the plunger is depressed and holding the valve open. On the release of pressure from the plunger, lever 16 and plunger 11 is raised. A cap 24 covers the top of spring 23, forming a head for spring 23. Spring 23 and cap 24 are contained in the hollow portion of stem 60. A hole 67 through knob 12 serves as a guide for the plunger. A slot 25 in stem 60 serves as a guide for the free end of lever 16, and also acts as a stop to limit the up and down movement of lever 16 and thereby limit the opening of the valve.

An indicator 9 is attached to a fixed point on block 50. When it is desired to dispense a special brand of oil, as for instance the "A" brand, the cover is rotated so that the "A" design is adjacent to the indicator. The opening 28 in the chamber having direct communication to the tank of oil also designated "A" will then register with conduit 64, and lever 16 will be in operative relation with valve 20 of the same chamber, and that valve only can be opened to function to discharge the oil. It is here noted that the oil can be discharged from the tank by air pressure as shown, but pumping or other well known means can be used to discharge the oil or liquid.

For the purpose of holding the cover in position over the selected valve, I have attached a catch and spring assembly 8 to the under side of the cover, and have formed a notch 14 on the inside wall of cup 61. When the rotor and cover are turned to cooperate with any one selected valve, the catch will engage one of the notches 14. Block 50 has a circular recess 51 formed on the periphery adjacent to the bottom end to receive housing 31 which is intended to cover the pipes 62 and any reservoir or other accessories desired to be placed therein. To this housing I have attached a bracket 34 for convenience in supporting the measure or container into which the liquid is drawn.

I claim as my invention:

1. In a liquid dispensing device the combination of a block having a cylindrical opening therein, a rotor adapted to fit and turn freely within the cylindrical opening, a plurality of valve chambers in said block, each of said chambers having one lead to a source of liquid supply and a second lead to the cylindrical opening, a well in said block having a discharge opening therefrom, a conduit through the rotor positioned within the rotor so one end of said conduit opens into said well and the other end is adapted to selectively register with the lead to either one of said plurality of chambers, separate valve means for normally closing the flow of liquid to each of the valve chambers, means for normally keeping all of said valves in a closed relation and means for opening the valve within either of said valve chambers, when the conduit and lead in said valve chamber registers.

2. In a liquid dispensing device the combination of a block having a cylindrical opening therein, a plurality of valve chambers positioned within said block equi-distant from the wall of the cylindrical opening, each valve chamber having a lead to a source of liquid supply and a separate lead to the cylindrical opening, the leads to the cylindrical opening being all aligned on the wall of a common cross section of the cylindrical opening, a rotor adapted to fit and to rotate within the cylindrical opening, a well formed within the block adjacent to the bottom of cylindrical opening, a discharge opening connected with said well, a conduit through the rotor one end of which communicates constantly with said well in the rotation of the rotor, the other end of said conduit being adapted to register with each of the leads into the cylindrical opening during the rotation of said rotor, and to register with one only at a time, a dial attached to the rotor having designations thereon for each of the plurality of valve chambers, a valve in each valve chamber adapted to cut off the flow of liquid into the valve chamber, separate means for each valve adapted to close said valves, means attached to the dial and rotatable therewith adapted to open

either of said valves, said opening means being positioned on the dial so the opening means will be in operative relation only with the valve within the valve chamber connected with the well through said lead and conduit, hand means for opening said valve when the valve and opening means are in operative relation.

CHARLES ARTHUR PERKINS.