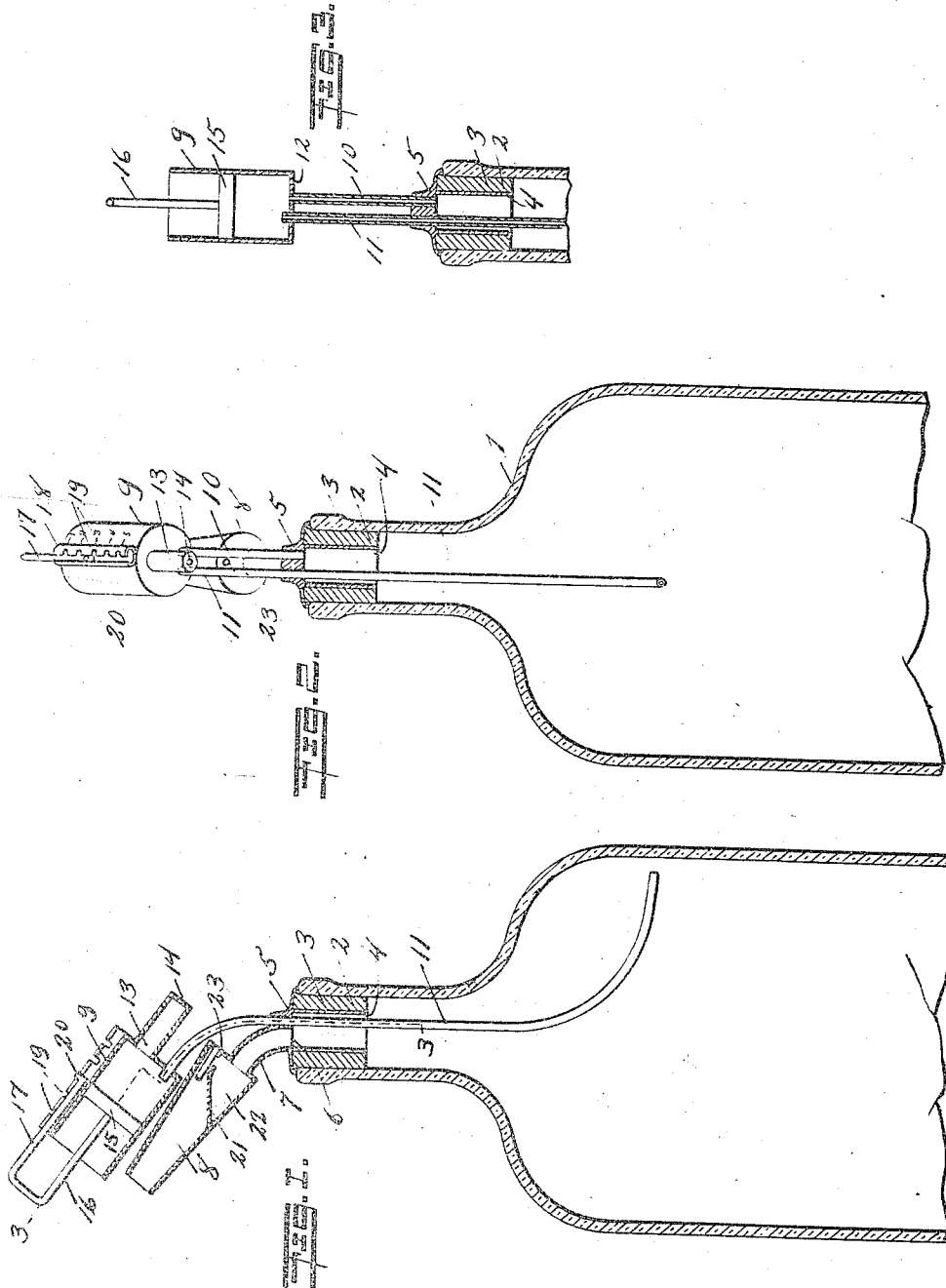


J. J. MEGIRIAN.
DISPENSING DEVICE.
APPLICATION FILED APR. 11, 1912.

1,054,705.

Patented Mar. 4, 1913.



Witnesses:
M. M. Dunnet.
E. Greenberger.

Joseph J. Megirian, Inventor
By *his* Attorney
J. E. Henderson.

UNITED STATES PATENT OFFICE.

JOSEPH J. MEGIRIAN, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO HARRY R. BENDA, OF CLIFFSIDE PARK, NEW JERSEY

DISPENSING DEVICE.

1,054,705.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed April 11, 1912. Serial No. 890,034.

To all whom it may concern:

Be it known that I, JOSEPH J. MEGIRIAN, a citizen of the United States, and a resident of Bay Ridge, Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Dispensing Devices, of which the following is a specification.

This invention relates to means for delivering predetermined quantum of liquid from a receptacle, and more particularly to dispensing attachments for bottles.

The object of the invention is to provide a simple device whereby a predetermined amount of liquid is allowed to flow from the interior of the bottle upon each tilting thereof, the flow being automatically stopped after the passage of this predetermined amount or the lapse of a predetermined interval of time.

The device includes a delivery outlet arranged so that liquid flows through it from the bottle into the glass or other receiver, when the bottle is tilted in the ordinary manner for pouring, and means controlled by the liquid for automatically stopping this flow. Another equal quantity of liquid may be obtained in the same way, by first restoring the bottle to normal or upright position and again tilting it. The means for thus stopping the delivery flow includes a controlling chamber arranged to receive liquid during the act of pouring from the dispensing outlet, and means for admitting air to the bottle to replace the liquid delivered, which air-admission means is cut off by the liquid filling this chamber. The quantity of liquid delivered from the outlet depends upon the rate of flow into this chamber and the capacity of the chamber; consequently, the amount dispensed at each tilting of the bottle may be varied by regulating either or both of these factors. The chamber and its inlet from the bottle are so arranged that when the latter is restored to upright position the liquid in the chamber drains back into the bottle.

In the concrete embodiment of the invention illustrated the device comprises a stopper having a delivery nozzle and a controlling chamber with a separate liquid inlet from the bottle, there being also an air inlet opening to said chamber and an air conduit leading from the chamber into the interior of the bottle. On tilting the bottle part of

its contents is discharged through the dispensing outlet and part enters the controlling chamber. the flow through the nozzle continuing until the liquid fills or rises sufficiently high in the controlling chamber to cut off the air connection to the bottle, when the pouring is automatically stopped. The controlling chamber constitutes a species of trap or cul de sac, from which the liquid cannot escape, but drains back into the bottle when the latter is restored to normal position. Means are provided for varying the quantity delivered, and preferably this adjustment is effected by varying the capacity of the controlling chamber.

The invention includes various other features which will become apparent as the specification proceeds.

In the accompanying drawings illustrating the attachment: Figure 1 is a vertical longitudinal section of the same applied to a bottle; Fig. 2 is a vertical section at right angles to that of Fig. 1, parts being shown in elevation; and Fig. 3 is a section on the line 3—3 of Fig. 1.

The preferred embodiment of the invention illustrated will now be briefly described.

The numeral 1 indicates a bottle, which may obviously be of any character. The device has a stopper portion 2 for insertion in the neck of the bottle. It may be variously constructed, but as shown it comprises a hollow cork or gasket 3, having a metal tube or lining 4 fitted therein and provided with a cap plate 5 overlying the top of the portion 3. This cap plate has an outlet opening 6, which communicates with the interior of the bottle and from which may project a delivery nozzle or pipe. As shown there is a curved or inclined pipe 7 leading from the said opening and delivering into a nozzle 8, which is materially wider at the base than the said pipe and tapers toward its outer end. A controlling chamber 9 of suitable form is mechanically connected with the stopper support by means of two small pipes 10 and 11, which may be bent or curved as shown. The pipe 10 constitutes a passage for permitting the liquid to flow from the bottle into the chamber 9 when the bottle is tilted. At one end it is secured in an opening in the cap plate 5, where it preferably does not project into the interior of the bottle, and at the other end it is secured to the back wall 12 of the said chamber,

where its outlet may be flush with the inner side of said wall. The pipe 11 passes through another opening in the cap plate 5, where it is suitably secured, and is of a length to extend a considerable distance into the bottle. The outer end of this pipe 11 passes through the back wall 12 of the chamber 9, where it is secured in a tight manner, and preferably projects to a greater or less distance into the interior of the said chamber in advance of the said wall. The chamber 9 has an inlet arranged to permit air to enter the chamber and thence to pass by the pipe 11 into the interior of the bottle. The air inlet to the chamber 9 is preferably through the back wall 12, and it preferably has a tubular extension rearward from the said wall. This air inlet may be variously constructed, but as shown it is a short tube 13 open at its forward end to the interior of the chamber and partially closed at its rear end, leaving a small air opening 14.

In operation, when the bottle is tilted in the ordinary manner to pour, liquid passes through the pipe 7 and the nozzle 8 into the glass or other recipient, and simultaneously liquid passes from the bottle by the pipe 10 into the interior of the chamber 9. The bore of the pipe 10 is small, so that a sufficient time period elapses before the filling of this chamber, and during the filling thereof liquid continues to flow from the nozzle. When the liquid rises to the back wall 12, which in this position is the top wall, the admission of air to the bottle to take the place of the liquid flowing out is cut off, and consequently the delivery of liquid from the nozzle ceases. When the bottle is returned to upright position the liquid trapped in the chamber 9 drains back into the bottle through the pipe 10. Means are provided for varying the quantity of liquid thus delivered, and the said means preferably comprises a movable piston or wall 15 for the chamber 9. As shown this chamber is cylindrical, and the piston 15 is mounted slidably therein. It will be understood that the piston will be suitably formed and arranged to insure a tight joint. It has a stem 16 projecting forward from the chamber and bent back over the side thereof, where it coöperates with suitable means for retaining the piston in any one of a number of graduated positions, which correspond to different quantities of liquid that may be delivered from the nozzle. In the particular construction shown the retroverted portion 17 of the stem 16 moves in a longitudinal guide 18 on the side wall of the chamber, there being any suitable number of transverse grooves 19 for receiving the upturned end 20 of the stem, to hold the piston against longitudinal movement after a desired adjustment

has been effected. Thus, the piston can be slid in and out, and turned to engage and disengage its stem with respect to the graduated holding means.

The operation of the device may be improved by providing an inclined baffle or trap 21 in the nozzle 8, this baffle being disposed in front of the open end of the pipe 7, so that a trap chamber 22 is afforded in the rear part of the nozzle, from which liquid escapes by passing through the restricted space between the free edge of this baffle and the back wall of the nozzle. It will be understood that the baffle extends from side wall to side wall of the nozzle. With this baffle is associated a small air admission tube 23, which opens at its rear end through the back wall of the nozzle and at its forward end opens at or slightly in front of the space between the free end of the baffle 21 and the opposite side of the nozzle. This arrangement produces a gentle flow from the nozzle and contributes to the exactness of the stoppage thereof.

While I have shown and described a form of my apparatus for dispensing predetermined quantum of liquid, in which the amounts discharged may be varied by adjusting the capacity of the controlling chamber, I wish it to be understood that the device may be made adjustable in other ways, or that it may be constructed as a fixed measure. Thus, if all of the walls of the controlling chamber are immovable, instead of having one of them movable, that is to say the piston 15, the device can deliver only a fixed amount of liquid. The amount of liquid that will be discharged from the apparatus at any one time may be predetermined by the extent to which the pipe or tube 11 projects into the controlling chamber, as well as by the actual capacity of that chamber, because the further the said tube projects into the chamber the sooner its end will be covered by the liquid entering the chamber during the pouring operation, and the sooner, therefore, will the admission of air to the bottle be cut off, so as to stop the flow through the delivery spout.

What is claimed as new is:

1. An attachment for dispensing the contents of a bottle in predetermined quantum, comprising two separate and independent outlets from the bottle, a delivery nozzle communicating with one of them, a controlling chamber communicating with the other, and means for supplying the bottle with air by way of said chamber until cut off by the liquid admitted thereto.

2. An attachment for dispensing the contents of a bottle in predetermined quantum, comprising a holder to be inserted in the neck of a bottle, two small tubes to receive liquid from the bottle projecting forward

from said holder, an enlarged delivery nozzle on the end of one of said small tubes, a trap in said nozzle, a controlling chamber into which the other tube delivers, said
5 chamber having an air inlet, and an air tube leading from said chamber through said holder into the interior of the bottle.

3. An attachment for dispensing the contents of a bottle in predetermined quantums,
10 comprising a delivery nozzle, a controlling chamber arranged to receive liquid from the bottle simultaneously with the discharge of liquid from said nozzle, separate outlets

from the bottle connected with said delivery nozzle and controlling chamber, means 15 for supplying the nozzle with air by way of said chamber until cut off by the liquid admitted thereto, and a piston in said chamber to regulate the capacity thereof.

In witness whereof I have signed my name 20 in the presence of two subscribing witnesses.

JOSEPH J. MEGIRIAN.

Witnesses:

JOHN MEGIRIAN,
HARRY R. BENDA.