July 15, 1924.

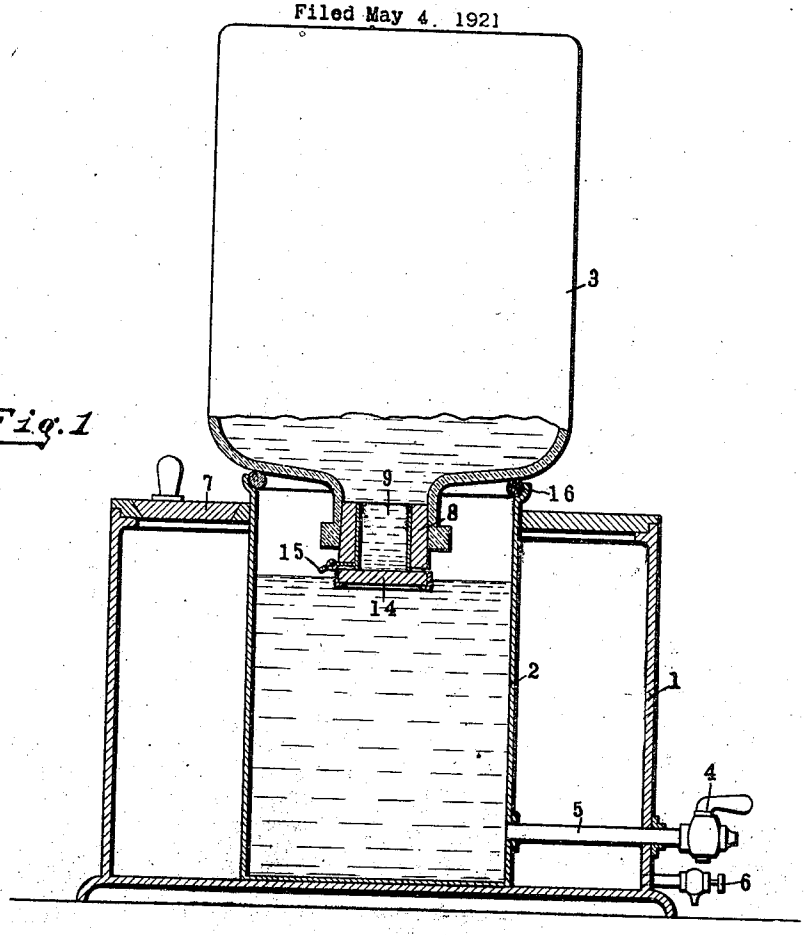
1,501,068

W. A. SCHATZ

LIQUID COOLING AND DISPENSING APPARATUS

Filed May 4, 1921

Fig. 1



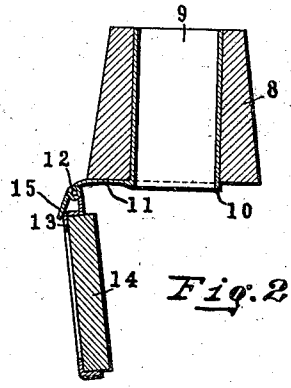


Fig. 2

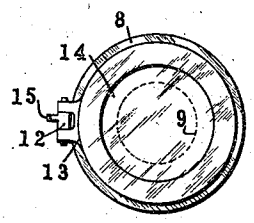


Fig. 3

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UNITED STATES PATENT OFFICE.

WILLIAM A. SCHATZ, OF ASTORIA, NEW YORK, ASSIGNOR TO ROTAX CO., INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LIQUID COOLING AND DISPENSING APPARATUS.

Application filed May 4, 1921. Serial No. 466,784.

To all whom it may concern:

Be it known that I, WILLIAM A. SCHATZ, a citizen of the United States, residing at Astoria, in the county of Queens and State of New York, have invented certain new and useful Improvements in Liquid Cooling and Dispensing Apparatus, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cooling and dispensing apparatus for potable liquids.

It is an object of the invention to provide an improved apparatus of the character mentioned which is relatively inexpensive in manufacturing cost, efficient in operation and durable in service.

Another object is to provide a simple and improved valve device which is reliable in use, self-contained and capable of easy application to receptacles which constitute the original liquid containers and are, by association, convertible into the reservoir portions of the dispensing apparatus.

A further object of the invention is to provide an improved water cooler possessing features of structural superiority and functional advantage.

Other objects and advantages will be in part noted hereinafter in connection with the following description of the accompanying drawing which illustrates a preferred embodiment of the invention and in which—

Figure 1 is a vertical central sectional view of the apparatus as a whole,

Fig. 2 is a central longitudinal section of the valve closure, and

Figure 3 is an end view thereof in the direction of the arrow, Fig. 2.

In general, the apparatus includes an ice box 1, enclosing the body of a liquid cooling vessel 2, which latter is open at the top and adapted for support of a bottle 3, with the neck of the latter projecting down into the cooling vessel. It will be understood that the refrigerating compartment 1, which directly or indirectly carries all parts of the apparatus, may be positioned where convenient on a table or on a stand especially adapted therefor, and that a draw-off faucet 4 is in communication by a conduit 5 with the inner vessel 2 adjacent its lower end. A drain faucet 6 is also provided to carry off the water from the ice which may be conveniently packed in the box 1 through a removable cover 7. The bottle 3, which may be of the common form used as the original container of commercial drinking water, has a closed bottom and an open neck of the usual form.

It has heretofore been common to associate an ice box, a cooling vessel and a liquid container in the general relationship of the corresponding elements as above described. By the present improvement, however, there is provided a valve closure to be carried by the bottle 3, and operative to seal the liquid in the vessel 2 from the liquid in the container 3 between the intervals when the faucet 4 is open. As illustrated, the closure referred to comprises a cork or other slightly compressible stopper 8, having an axial opening 9 therethrough with a metal tube 10 closely interfitted through the opening and having an off-set part 11 pivotally supporting at 12 a cupped metal annulus 13 which in turn holds a flap valve 14, also of cork or equivalent material. The metal of the tube 10, off-set 11 and annulus 13 is preferably of an acid-resistant and rust-proof character such as Monel metal. The closure, it will be noted, is of unitary construction in that the parts thereof, when assembled, constitute a self-contained and portable unit.

In operation the valve closure is inserted in the neck of the bottle 3, and, by reason of the tapered fit therebetween, the cork 8 compressed to effect a liquid-and-air-tight joint between the bottle and the cork, and the cork and the tube 10. In use the bottle 3 is mounted on the dispenser in the position shown in Figure 1, and in such mounting the operator may conveniently hold the valve 14 closed against the opening of the tube 10 so that there is no likelihood of spilling any of the contents of the bottle with attendant loss or annoyance. When the operator's finger is removed from the valve, that is, when the bottle neck is over or slightly within the vessel 2, the liquid is free to open the valve and flow to the vessel 2 until the liquid level in the latter rises, and, due to the buoyancy of the cork flap valve 14, the latter also rises and seats snugly against the end of the tube 10, thereby effectually sealing the bottle and preventing further flow of the water therefrom. As shown in Figure 2 further, the off-set or right-angular portion 11 of the tube 10 is provided at the hinge 12

with a projecting part 15 inclined at an angle to limit the downward movement of the flap 14 through an arc of somewhat less than 90°. By this means it is insured that the flap valve will necessarily be buoyed up in a direction to close the tube 10 as the liquid in the vessel 2 rises.

Particular advantages of the present improvement as described reside in the ease of application of the closure to the bottle, its effectiveness to guard against spilling of the liquid contents when the container 3 is inverted to position, and the prevention in operation of the liquid in the vessel from contamination by contact with the neck or other parts of the bottle.

A rubber ring 16 is fitted at the slightly flanged upper end of the vessel 2 and acts as a cushioned support to the bottle, as well as forming a liquid-and-air-tight joint between the vessel and the bottle, whereby the liquid is sealed against contamination by dust or other foreign matter. It will be understood, of course, that as the faucet 4 is opened the liquid flows from vessel 2, the flap valve 14 consequently lowers and liquid flows from the bottle 3, being replaced in the latter by air contemporaneously admitted in a reverse direction through the faucet and the pipe 5. When the faucet is closed the valve 14 operates as above described to effectively shut off the water in the vessel 2 from the water in the bottle 3. When the supply from the bottle is exhausted, it will be evident that the valve closure is capable of easy removal and re-insertion in the new container to be utilized.

Having described my invention, what I claim is new and desire to secure by Letters Patent is:

1. In a cooling and dispensing apparatus, in combination, a liquid vessel open at the top and having a draw-off at the bottom, a bottle for the liquid supported in inverted position on said vessel, a stopper for the neck opening of said bottle having hinged connection with the latter and including a buoyant valve member without the bottle neck for automatically sealing the liquid in said vessel from the liquid in said bottle when the liquid in said vessel rises to said valve, and an air-tight joint between said bottle and said vessel at the supporting connection therebetween.

2. In a valved closure for liquid dispensers, in combination, a stopper having an opening therethrough, a member hinged to said stopper and a float valve carried by said member to close said opening.

3. In a valved closure for liquid dispensers, in combination, a cork stopper having an opening therethrough, a member having a tubular portion snugly fitting within said opening, and a cork valve pivotally carried by said member to close said opening, the pivotal connection of said valve to said member including means to limit the opening movement of said valve.

4. In a valved closure for liquid dispensers, in combination, a stopper having an opening therethrough, a member having a tubular portion snugly fitting within said opening and a buoyant valve pivotally carried by said member to close said opening.

5. A valved closure for liquid dispensers, comprising a stopper having an opening and a buoyant valve hinged to the stopper.

6. In a cooling and dispensing apparatus for liquids, in combination, a liquid vessel open at the top and having a draw-off, a bottle for the liquid invertible for support on the open top of the liquid vessel, a stopper for partially closing the neck opening of the bottle, and a buoyant valve hinged to the stopper for the purpose specified.

In testimony whereof I affix my signature, in the presence of two witnesses.

WILLIAM A. SCHATZ.

Witnesses:
L. A. WATSON.
M. A. CASLIN.