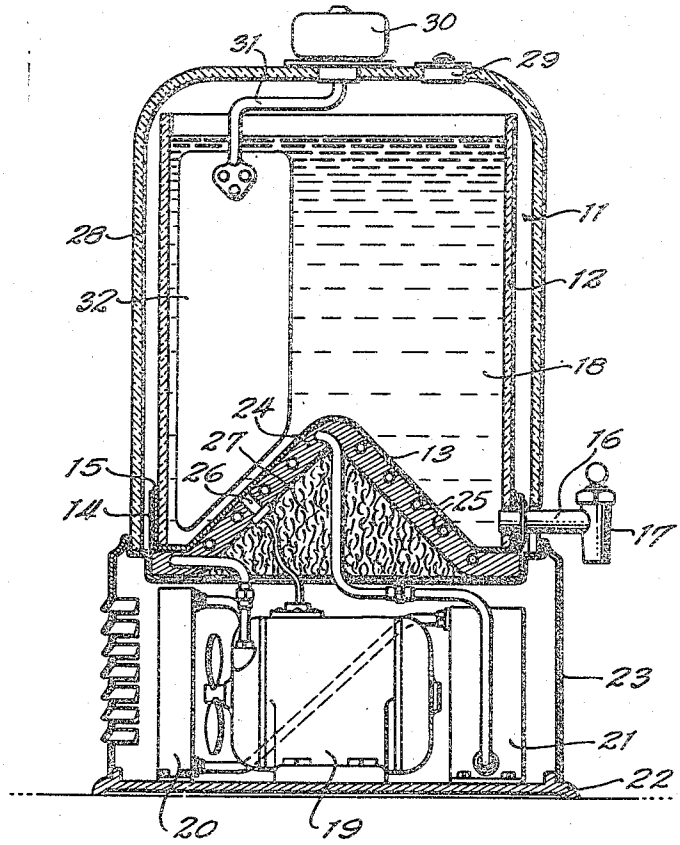
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BEVERAGE CONTAINER AND CONDITIONER

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BEVERAGE CONTAINER AND CONDITIONER

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3 Claims. (Cl. 222—146)

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My present invention relates to storage containers from which may be dispensed chilled beverages such as fruit-juices or milk, or hot beverages such as chocolate or soup. It is well known that the attractiveness of most beverages is enhanced if they made visible to the prospective consumer, and it is therefore desirable to construct the container of glass or other plastic material. However, due to the poor thermal-conductivity of such materials the difficulty of maintaining the beverage at the desired low or high temperature is then greatly increased; this being especially true in regard to citrus-fruit juices which spoil rapidly if their temperature is permitted to rise more than one or two degrees above the freezing point. It is therefore a main object of this invention to provide means for facilitating transfer of heat to or from the liquid contents of a display container constructed mainly of glass or plastic; this object being accomplished by forming a portion of the container-wall of metal.

For full understanding of the invention, and further appreciation of its objects and advantages, reference is to be had to the following detailed description and accompanying drawing, and to the appended claims.

The single figure of the drawing is a sectional view of a container embodying the invention and shown associated with refrigerating means of preferred construction.

In the drawing, the numeral 11 generally indicates a container comprising a hollow cylinder 12, of glass or other transparent material, having a conical bottom wall 13 of metal which may be stainless steel or other corrosion-resistant alloy, but is preferably of the highly thermal-conductive type consisting of copper with a thin inner facing of stainless steel. The metal wall 13 is formed at its margin to provide a band 14 which encircles the lower portion of the glass cylinder; a filler 15, of rubber or thermo-setting plastic material, sealing the space between these parts. Welded to the band 14 is the stem 16 of a faucet 17 for dispensing the beverage, indicated at 18, with which the container is filled. The opening for the faucet-stem in the glass cylinder is made sufficiently large that the stem does not engage the glass, so that the faucet is supported solely by the metal band and the possibility of breakage of the glass (as, if the faucet is jarred) is minimized.

The container 11 is intended to be associated with apparatus for maintaining its contents at the desired temperature; such apparatus being here

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represented, by way of example, by a conventional refrigerating system comprising an electrically-operated compressor 19, a receiver 21 and condenser 20; these parts being mounted on a base 22 and surrounded by a ventilated housing 23. Mounted on the top of this housing is the cooling unit which comprises a heat-exchanger 24, conveniently of cast aluminum, which serves to support the beverage container and is shaped to conform to the concave metallic wall 13 thereof for optimum thermal transfer and good support of the container. Embedded in this heat-exchanger is the cooling-coil 25 of the refrigerating system, as well as the bulb 26 of a thermostat for controlling the operation of the system in response to variations of the temperature of the beverage transmitted to the heat-exchanger through the bottom wall of the container. For insulating the cooling unit from the heat produced by the compressor, the concavity of the heat-exchanger may be packed with suitable flocculent material, as indicated at 27.

Surrounding the container 11, so as to provide an insulating dead-air space around it, is a cylindrical cover 28, of transparent material such as plastic, which rests on the top of the refrigerator housing. This cover has in its top wall an opening, normally closed by a plug 29, whereby the contents of the container may be replenished without removing the cover. Mounted on top of cover 28 is a small electric motor 30 which is connected by a crank 31 to a vane 32 so as to rotate the same at slow speed and thereby effect the stirring action required in connection with beverages such as citrus-fruit juices.

Because of the conical shape of the heat-exchanger 24 and of the cooperating bottom-wall 13 of the container, not only is transfer of heat to or from the beverage increased due to the increased area of these parts, but also better support of the container is achieved; however, the invention is not limited to such construction since in its broader aspects it comprehends the use in a container, of the character described, of a metallic wall of any kind which does not unduly obscure view of the beverage on display.

The specific embodiment of my invention herein shown and described is obviously susceptible of further modification without departing from the spirit of the invention, and I intend therefore to be limited only by the scope of the appended claims.

I claim as my invention:

1. In combination: a container for storing and displaying beverages and having a cylindrical side

wall of transparent material, the bottom of said container being conical in an upward direction and constructed of metal of substantially uniform thickness so that there is a corresponding conical recess at the underside of said bottom; and apparatus for changing the temperature of said beverage and including a heat-exchanger on whose top surface the bottom of the container normally rests, said top surface being shaped to conform to said conical recess and serving as substantially the sole support for the container, said heat exchanger and said container bottom being in heat exchange contact throughout substantially the full area of said container bottom.

2. In combination, a container for holding beverages for conditioning having a continuous side wall of transparent material and a conically reentrant bottom of high heat transfer characteristics providing a conical recess at the underside of said bottom, and apparatus for changing the temperature of beverage in the container including a heat exchanger on whose top surface the bottom of the container normally rests, said top surface being shaped to conform to said conical recess and serving as substantially the sole support for the container, said heat exchanger and said container bottom being in heat exchange contact throughout substantially the full area of said container bottom.

3. In combination, a container for holding beverages for conditioning having a continuous side

wall and a conically reentrant bottom of high heat transfer characteristics providing a conical recess at the underside of said bottom, and apparatus for changing the temperature of beverage in the container including a heat exchanger on whose top surface the bottom of the container normally rests, said top surface being shaped to conform to said conical recess and serving as substantially the sole support for the container, said heat exchanger and said container bottom being in heat exchange contact throughout substantially the full area of said container bottom.

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