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 DRY COOLER VACUUM JUG
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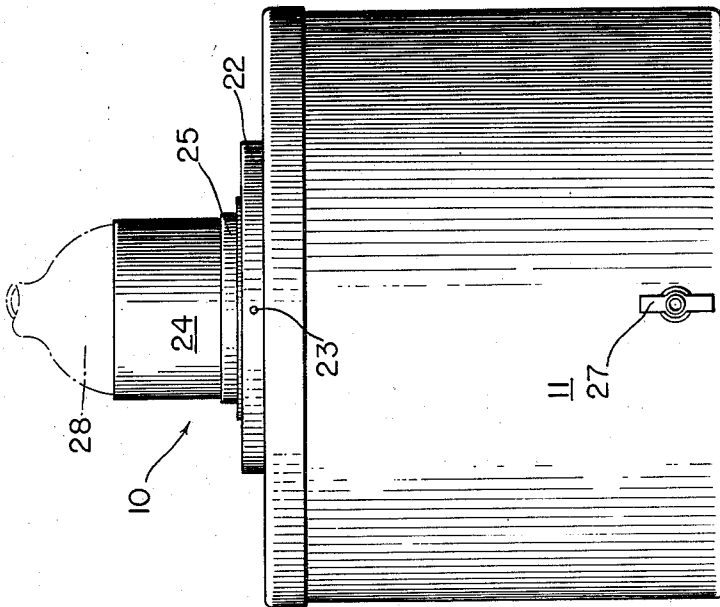
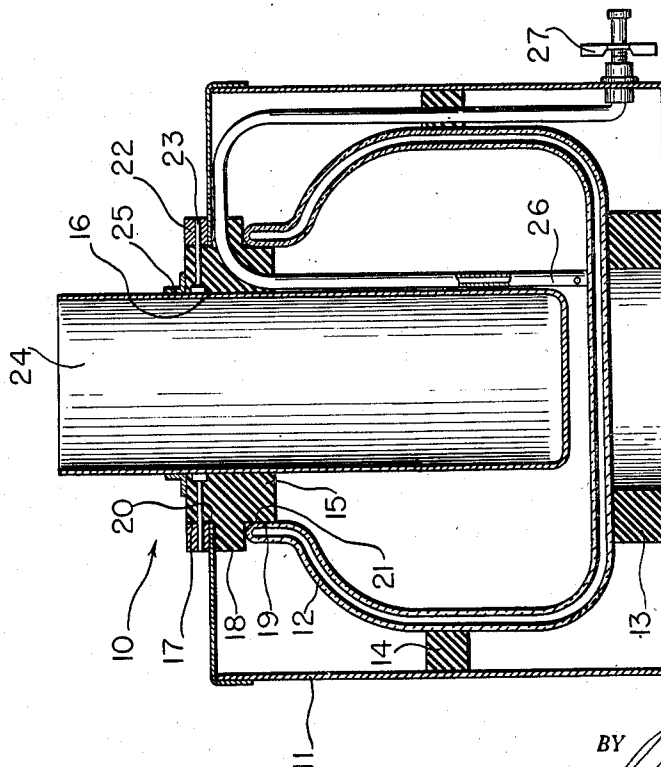


Fig. 2



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DRY COOLER VACUUM JUG

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The present invention relates to a dry cooling device suitable for cooling wine bottles or the like, and which may be alternatively used as a vacuum jug.

An object of the present invention is to provide a cooling device for bottles of wine or other beverage, using ice as a coolant, which will nevertheless keep the bottles dry.

Another object is that the bottle shall be instantly and directly available at all times.

A further object is that the device shall be capable of sustaining comparatively rough usage, to the extent at least that no particular amount of care need be exercised in removing the bottle therefrom and particularly in returning the bottle thereto during use.

Still another object is that the parts of the device shall be jointly self-conforming, so that deformation of a metal part will be compensated by extension or compression of the sealing member which also acts as a shock absorber every time the bottle is replaced during use.

A very important object of the invention is that it may be used as a vacuum jug for containing hot or cold liquids.

A related object is the provision of a vacuum jug having a spigot and free of the difficulties which have heretofore been encountered in manufacturing a vacuum jug provided with a spigot.

In accomplishing the objects of the present invention, a thermally insulating container is enclosed in a casing, and a flexible, resilient sealing member is inserted in the mouth of the container, the casing engaging the sealing member exteriorly of the engagement between member and container. The seal member is annular, and a heat conducting tube is inserted snugly into the mouth of the seal member, extending partially into the container. The tube has an exterior flange which limits its downward motion. A siphon tube extends from a point inside the container and near the bottom thereof, through the seal member and downward between container and casing to a point below the bottom of the container, and thence extends through the casing, having a valve at its outer end.

In use, the container is partially filled with ice, salt, and water, and the tube is then inserted into the seal member and pressed down until the flange engages the seal. A bottle may now be cooled without being wet by being inserted into the tube. It is in this position readily available and may be removed instantly. A great advantage of the construction is that the bottle may be replaced without great care, for instance it

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may hit the bottom of the tube rather violently without damaging the device, as the shock is transferred by the flange to the resilient seal member. The cooling solution may be drained by means of the valve.

By removing the tube, the device may be used as a Thermos jug for hot or cold liquids. The opening in the seal member is in this event closed by a cork.

Other objects of this invention will in part be obvious and in part hereinafter pointed out. The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts which will be exemplified in the constructions hereinafter described. In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention:

Figure 1 is an axial sectional view of the device.

Figure 2 is a front elevational view thereof.

Referring now in detail to the drawings, the dry cooler vacuum jug 10 comprises the casing 11 surrounding the vacuum container 12 which is of conventional double-walled construction, the air being exhausted from the space between the walls. It is understood that any other thermally insulating construction may be used. The container 12 is supported by the ring 13 and concentrically positioned within the casing 11 by the ring 14, the rings 13, 14, and seal ring 15 being of rubber or other flexible material.

The annular seal member 15 has a substantially uniform inner cylindrical surface 16 and three outer circumferential surfaces 17, 18, 19. Surface 17 engages the opening 20 of casing 11; surface 18 extends between casing and container 12, and surface 19 engages the opening 21 of container 12.

Seal member 15 further comprises the rigid metallic portion 22, extending annularly around the outside top circumference of the member, and firmly connected thereto by the pins 23 extending radially inward to the inner circumference of member 15.

A cylindrical tube 24, open at the top and closed at the bottom, fits snugly into member 15 and extends partially into container 12. A flanged ring 25 is firmly connected to tube 24 and in operative position of tube 24 and seal member 15 engages seal member 15 so as to transfer thrust pressure thereto. Tube 24 is of heat conductive material.

A siphon tube 26 extends from a point near the bottom of container 12 and interior thereof through seal member 15 and downward between

container 12 and casing 11 to a point below container 12, extending thence through casing 11 and terminating in a valve 27.

In the operation of my device as a dry cooler, container 12 is partially filled with water, ice and salt, and tube 24 is then placed in the illustrated position in seal member 15. A bottle 28 may now be placed within tube 24 and is instantly available and will soon become chilled. It is evident that bottle 28 will not become wet by the solution in container 12 and that therefore the serving of chilled beverages will be much simplified and expedited.

An important feature of my invention is that when bottle 28 is replaced in tube 24, it may be dropped and allowed to hit the bottom of tube 24 with the force of gravity, the shock being absorbed by seal member 15 to which it has been transferred by flanged ring 25.

Another feature of my invention is that the cooling solution may be conveniently drained from container 12 by means of valve 27 of siphon tube 26. It is understood that siphon tube 26 must be completely filled with liquid before it can operate, and this can be accomplished by opening valve 27, while the jug 10 is tipped steeply upwardly therefrom and before tube 24 is inserted. Once tube 26 is filled it will operate according to familiar siphon principles.

The apparatus of the invention has an equally important use as a vacuum jug for the storage and transportation of hot or cold liquids. When the device is so used, tube 24 is removed and the opening of seal member 15 is closed by an ordinary cork, not illustrated. Heretofore manufacture of a vacuum jug with a spigot for evacuation of the contents of the container has not been practical, due to the difficulty of leading a pipe through the double glass walls of the conventional vacuum container without destroying the vacuum between the walls. The present construction provides a simple, efficient and cheap solution to this difficulty.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use. As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In a jug, the combination with a container and a casing surrounding said container, said container and casing being formed with substantially central openings in their top portions, of an annular flexible seal member located in said openings and substantially concentrically positioning said container in said casing, and a pipe extending from a point substantially at the bottom of said container and interior thereof, through said seal member, thence between said container and said casing to a point below said first mentioned point, and thence through said casing.

2. In a jug according to claim 1, said seal member comprising three outer circumferential surfaces, one of said surfaces engaging the opening of said container, another of said surfaces engaging the opening of said casing, and another of said surfaces extending between said container and said casing.

3. In a jug according to claim 1, said seal member comprising a rigid portion extending around the outside top circumference thereof, and means connecting said rigid portion to the body thereof.

4. In a jug according to claim 3, said means comprising pins extending from said rigid portion substantially radially inwardly to the inner circumference of said seal member.

5. In a bottle cooler, the combination of a jug according to claim 1, said container being constructed of thermal insulating material, and a tube of heat conductive material, said tube being closed at the bottom, open at the top, and fitting snugly into said seal member and partially extending into said container.

6. In a bottle cooler according to claim 5, said tube comprising means for transferring thrust pressure to said seal member.

7. In a bottle cooler according to claim 6, said means comprising a flanged ring firmly connected to said tube and engaging said seal member in the operative position of tube and seal member.

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