

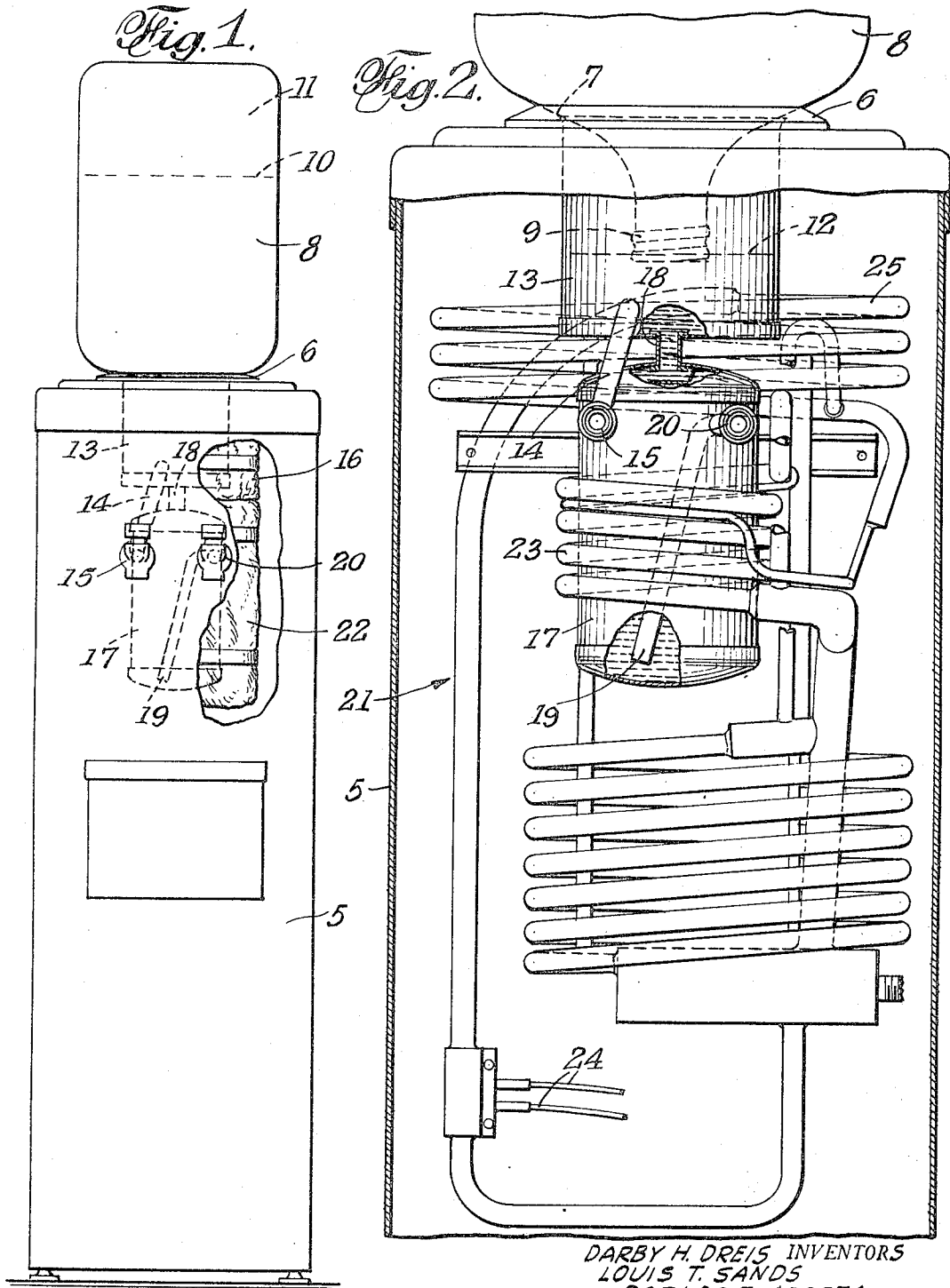
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BOTTLED-WATER COOLER WITH TWO FAUCETS

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1

3,367,133

BOTTLED-WATER COOLER WITH TWO FAUCETS

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3 Claims. (Cl. 62—390)

This invention relates to a cooler for bottled water and has for an object to provide the same with two faucets, one for drawing off water at room temperature and the other for drawing off refrigerated water.

Another object of the invention is to provide, in a single cooler, and from the same supply bottle, both refrigerated and room-temperature water. The refrigerated water serves for drinking purposes; the room-temperature water for cooking, diluting foods and liquids, cleaning and other purposes not requiring refrigerated water. It being wasteful of energy to use refrigerated water where room-temperature water will serve, and additionally wasteful to raise the temperature of refrigerated water which is thus improperly used, the present cooler effects efficient conservation of energy and conserves the supply of drinking water.

Another object of the invention is to provide a cooler, as characterized, that separates the water that is received by gravity flow from an inverted supply bottle into two connected containers, one receiving water directly from the bottle, holding the water at room temperature, and dispensing water from said one container from a dispensing faucet, and the other container receiving water by gravity flow from the first container, refrigerating the water in the latter container, and dispensing refrigerated water therefrom from a second faucet.

A further object of the invention is to provide a cooler, as above characterized, in which the container or reservoir, from which room temperature water is dispensed, is located above the container or tank in which the water is refrigerated, to minimize heat exchange effects between said two containers.

This invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The above objects are realized in a cooler that is housed in a vertical cabinet open at the top to receive the water-discharging neck of an inverted bottle of water that is placed upon the cabinet top. Said neck extends and discharges into a reservoir that is located in the topmost part of the reservoir. A tank is disposed beneath the reservoir with its top connected by a small short length of pipe to the bottom of the reservoir, and receives water by gravity flow from said reservoir. Refrigerating mechanism is disposed within the cabinet with its evaporator or cooling coil encircling the mentioned tank with the remainder of the refrigerator components disposed rearward of the container and tank. A faucet is connected to the lower part of the reservoir and dispenses water at room temperature from said reservoir, the water dispensed being replenished by gravity flow from the bottle. A second faucet is connected to dispense refrigerated water from the lower part of the tank, the water dispensed being replenished by gravity flow from the mentioned container, the latter, in turn, being replenished from the bottle. The container and tank are connected by a small tube or pipe that enables ample water flow into the tank but minimal exchange of heat between these two containers.

The invention also comprises novel details of construction and novel combinations and arrangements of parts,

2

which will more fully appear in the course of the following description and which is based on the accompanying drawing. However, said drawing merely shows, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or example only.

In the drawing, like reference characters designate similar parts in the several views.

FIG. 1 is a front elevational view of a bottled-water cooler according to the present invention.

FIG. 2 is an enlarged vertical sectional view through the upper part of the cooler cabinet showing the present water supplying, cooling and dispensing means.

The cabinet 5, in a generally conventional manner, is provided with a top 6 that has an opening 7 so that an inverted bottle of water 8 may be placed upon the cabinet top with the neck 9 thereof extending downwardly through the opening so as to enable a gravity feed of water each time that a bubble of air can be forced by atmospheric pressure between said bottle neck 9 and the opening 7 and upwardly through the water 10 in said bottle into the space 11 thereabove. Such a conventional and pressure-balanced feed of water will maintain an approximate level 12 in a container or reservoir 13 within the upper part of the housing and into which the bottle neck 9 extends. A pipe 14 leads from the lower portion of the container 13 to a self-closing faucet 15. The same dispenses water from said container which is neither cooled nor heated but rather is preferably enclosed in heat-insulation 16 so this water will be at or about room temperature, i.e., approximately the temperature of the water in the bottle 8.

According to the present invention, a second container in the form of an enclosed tank 17 is disposed below the reservoir 13 and has its top connected by a short and relatively small pipe or tube 18 to the bottom of said reservoir so the tank will receive a gravity flow of water from said reservoir, a discharge pipe 19 in said tank leading from the bottom thereof and terminating in a second dispensing faucet 20 preferably placed side-by-side with the faucet 15, and refrigerating mechanism 21 is disposed wholly within the cabinet, for cooling the tank 17 and the water therein. As shown in FIG. 1, heat insulation 22 encloses said tank and the cooling or evaporating coil 23 of said mechanism 21, thereby, effecting not only efficient reduction of exchange of heat with the insulated container 13, but also efficient cooling of the water in tank 17 due to minimum heat gain from ambient air from the bottle and the water therein resulting from use of the insulation 22.

The pipe 18, being small, serves as a restricted flow connection between the containers 13 and 17. Therefore, direct heat conduction between said containers is kept to a minimum.

The particular type of refrigeration mechanism used is not material to the invention. The one that is illustrated is of the absorption type which differs from other systems in that it employs heat energy instead of mechanical energy to make a change in the conditions necessary to complete a refrigeration cycle. This unit uses an electrical heating element 24, as a source of heat, located remote from the tank 17 in the lower part of the cabinet 5 and has a condenser coil 25 that is located at the upper rear behind the containers 13 and 17.

While the foregoing has illustrated and described what is now contemplated to be the best mode of carrying out the invention, the construction is, of course, subject to modification without departing from the spirit and scope of the invention. Therefore, it is not desired to restrict the invention to the particular form of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

3

Having thus described this invention, what is claimed and desired to be secured by Letters Patent is:

1. A bottled-water cooler having a cabinet with an open top and adapted to support an inverted bottle of water with its neck extending through said opening, said cooler comprising:

- (a) a reservoir to receive water from said bottle by gravity flow,
 - (b) a dispensing faucet connected to the lower part of the reservoir for drawing off water therefrom at the temperature of the water in the reservoir,
 - (c) a tank disposed below the reservoir,
 - (d) a restricted flow connection between the reservoir and the tank to minimize heat conduction therebetween,
 - (e) means to refrigerate the water in said tank and including an evaporator or cooling coil around the tank,
 - (f) heat insulation around the reservoir and tank and therebetween, and
 - (g) a second dispensing faucet connected to the tank for drawing off water therefrom at a temperature below the temperature of the water in the reservoir.
2. In a bottled-water cooler:
- (a) a top-open reservoir adapted to receive the neck of an inverted bottle of water and water flowing by gravity from the bottle,
 - (b) an outlet pipe of restricted size at the bottom of the reservoir,
 - (c) a tank spaced from the reservoir and connected to said pipe to receive water from the reservoir by gravity flow,
 - (d) the cooling coil of a refrigerator wrapped around said tank to cool the water therein,

4

(e) heat insulation around said tank and between the tank and the reservoir, and

(f) two separate dispensing faucets, one having a separate connection with the reservoir and the other a separate connection with the tank.

3. In a water cooler:

- (a) a reservoir for receiving water at room temperature,
- (b) a faucet provided with a direct pipe connection with the bottom of said reservoir for dispensing water therefrom,
- (c) a pipe of smaller restricted size than the reservoir and extending downwardly therefrom to gravitationally conduct water from said reservoir,
- (d) a tank below the reservoir, larger than the pipe, spaced from the reservoir and connected to the lower end of said pipe,
- (e) said pipe constituting a restricted connection from the reservoir to the tank to minimize heat conduction therebetween,
- (f) means to cool said tank and the water therein,
- (g) heat insulation around the tank and between the same and the reservoir, and
- (h) a second faucet connected to the tank to dispense water therefrom.

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LLOYD L. KING, *Primary Examiner.*

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,367,133

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Darby H. Dreis et al.

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the heading to the printed specification, lines 4 to 6, for "assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N. C., a corporation of North Carolina" read -- assignors to Arrowhead and Puritas Waters Inc., Los Angeles, Calif., a corporation of California --.

Signed and sealed this 6th day of May 1969.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer


Commissioner of Patents