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WATER COOLER

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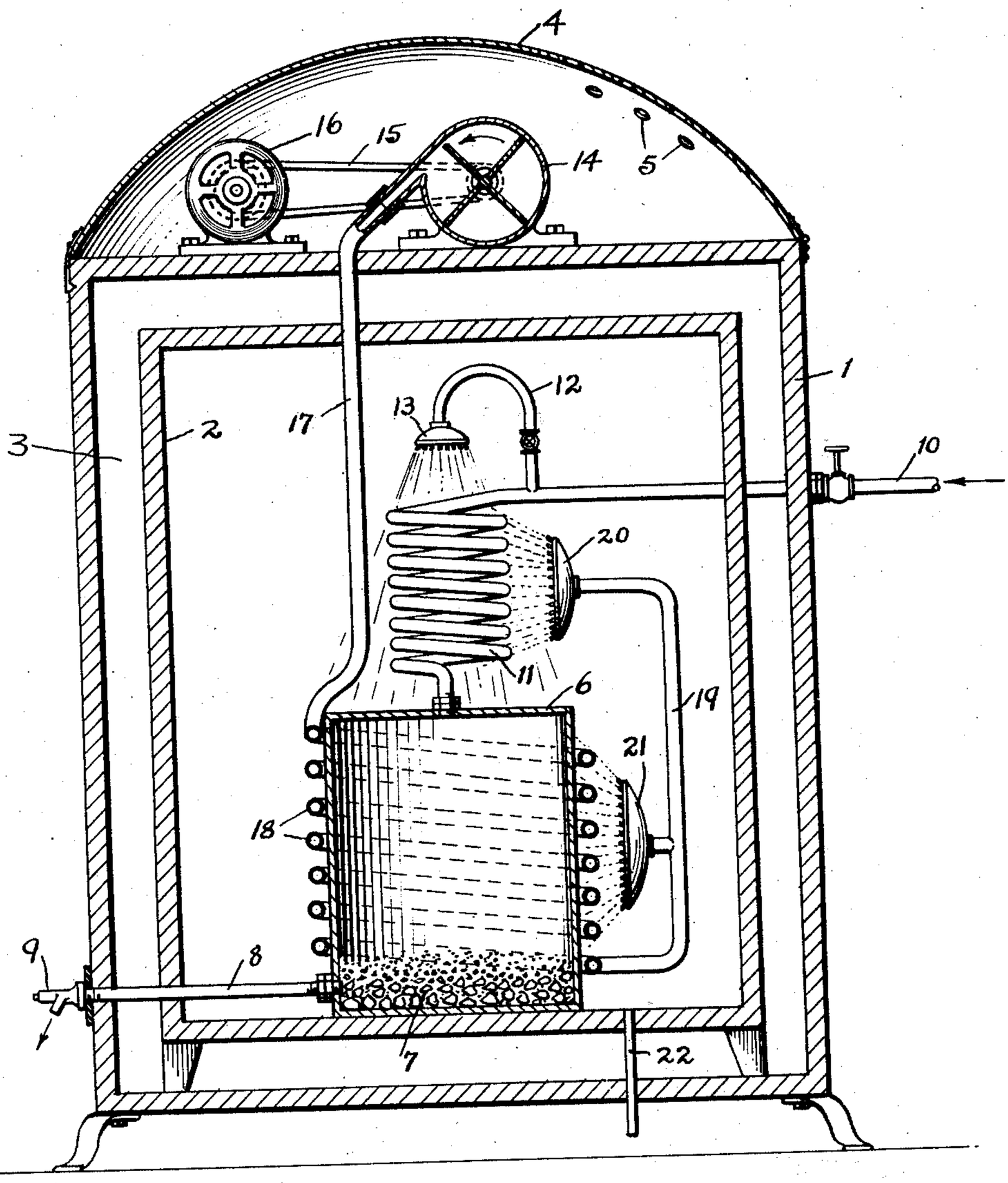

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UNITED STATES PATENT OFFICE

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WATER COOLER

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This invention relates to liquid cooling devices, and more particularly to water coolers.

The objects of the invention are to provide a simple, cheap and effective device for cooling drinking water, the cooling effect being obtained by means of evaporation, without the use of any refrigerant.

In order that the invention may be readily understood, reference is had to the accompanying drawing, forming part of this specification, in which the single figure of the drawing represents a vertical sectional view through one embodiment of the invention.

Referring to the drawing in detail, my improved water cooler comprises an outer casing or cabinet 1 and an inner casing 2, these casings being spaced apart to provide either a dead air space 3, or a space which may be filled with any suitable heat insulating packing material.

Surmounting the top of the cabinet 1 is a dome or cover 4 preferably formed of sheet metal and provided with air holes 5.

Within the inner casing, and at the bottom thereof, is a water tank 6. This may contain filtering material 7 if desired, and is provided with a delivery pipe 8 extending out through the cabinet and terminating in a spigot 9.

Water is supplied to the cooler from any suitable source under pressure through a pipe 10, and this is connected inside the casing with a coil 11, the lower end of which is connected with the tank 6. Thus the water to be cooled flows in from the pipe 10 through the coil 11 and into the tank 6.

A branch pipe 12 taps the pipe 10 and terminates at a point just above the coil 11, in a spray nozzle 13 so disposed as to direct a spray of water downwardly upon the coil 11.

Housed within the dome or cover 4 is a fan blower 14 driven from a suitable motor 16 as by means of a belt 15. This blower delivers air through a downwardly extending pipe 17, which pipe is coiled around the outside of the tank 6 as shown at 18. From the lower end of this coil a pipe 19 extends upwardly and terminates in a laterally directed nozzle 20, so positioned as to deliver an air blast against the coil 11. This air blast serves to evaporate the water which is sprayed from the nozzle 13 and which is distributed over the surface of the coil, and this evaporation tends to cool the water within the coil.

Preferably the water spray from the nozzle 13 covers not only the coil 11 but also serves to wet the coil 18, and in order to produce a still further cooling effect I provide an additional air nozzle 21 connected with the pipe 19 and arranged to direct an air blast against the coil 18 and the tank 6. Since these parts, as above explained, are kept wet by the spray from the nozzle 13, the air blast from the nozzle 21 serves to evaporate the water from the surface thereof and thus produces a cooling both of the air within the coil 18 and of the water in the tank 6.

A drain pipe 22 is provided for carrying off the excess water falling from the spray nozzle 13.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

What I claim is:

1. A water cooler comprising a casing, a tank in said casing, a coil through which water to be cooled flows into said tank, a delivery pipe extending from said tank, means for spraying water onto said coil and means for simultaneously directing an air blast against said coil to evaporate the water on the surface thereof.

2. A water cooler comprising a casing, a tank in said casing, a coil through which water to be cooled flows into said tank, a delivery pipe extending from said tank, means for spraying water onto said coil, a blower, a pipe extending from said blower and wound around said tank, and means for directing air blasts from the blower against said coil

and also against the pipe wound about said tank.

3. A water cooler comprising a casing, a tank in said casing, a water coil above said tank, means for causing the water to be cooled to flow through said coil into said tank, a blower, an air pipe extending from said blower and coiled about said tank, means for spraying water onto both said water coil and air coil, and means for simultaneously directing air blasts against both of said coils.

In testimony whereof, I have affixed my signature to this specification.

VITO GLISCI.