My invention relates to apparatus for cooling liquids, more particularly to water drinking fountains of the refrigerator type, and the principal object of my invention is to provide new and improved apparatus of this character.

In the drawing accompanying this specification and forming a part of this application, there is shown, for purposes of illustration, an embodiment which my invention may assume, and in this drawing:

Figure 1 is a side elevational view of a water drinking fountain, portions being broken away to disclose detail.

Figure 2 is an enlarged elevational view of the water storage tank, a portion being broken away to better illustrate the invention, and

Figure 3 is a top plan view of the water storage tank shown in Figure 2.

Referring to the drawing, the embodiment of my invention herein disclosed is adopted for use with a refrigerator-type water cooler 10 comprising a casing 11, the lower end of which encloses a motor-compressor-condenser unit 12 which may be of any suitable type and therefore need not be shown or described in detail. A water storage tank 14 is supported in the upper portion of the casing 11 in any desired manner.

Suitably connected to the unit 12, as by means of conduits 15 and 16, is a refrigerant carrying coil 17, and this coil is wound about the tank 14 with its convolutions in close heat-exchange contact with the exterior surface of the tank. In the presently disclosed embodiment the conduit 15 represents the inlet line for the refrigerant while the conduit 16 represents the suction line for return to the unit 12.

A conduit 18 leads from a suitable source of water supply and enters the tank at an upper portion thereof, as best seen in Figure 2. A conduit 19 has communication with the lower end of the tank 14 and leads to the usual hand-operated valve 20 which controls flow of drinking water to a bubbler 21 in the customary manner. Unconsumed portions of drinking water are led to a drain in the usual manner.

The conduit 19 has a portion 22 coiled about at least certain of the convolutions of the coil 17 and in the present embodiment the portion 22 is wound about three and one-half convolutions of the coil 17 and is bonded thereto in heat-exchange relation.

In use, when the valve 20 is opened, cooled water is drawn from the tank 14 and issues from the bubbler 21. Such water, in passing through the coiled portion 22 of the conduit, receives an additional cooling effect by reason of direct heat transfer between the coils 17 and 22 and accordingly maximum cooling of the water is provided.

In view of the foregoing it will be apparent to those skilled in the art that I have accomplished at least the principal object of my invention and it will also be apparent to those skilled in the art that the embodiment herein described may be variously changed and modified, without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described, hence it will be appreciated that the herein disclosed embodiment is illustrative only, and that my invention is not limited thereto.

I claim:

A water cooler, comprising a water storage tank having an upright cylindrical side wall and means for delivering uncooled water from a source of supply into the tank at its upper warmer portion, a refrigerant coil disposed about said side wall for a greater part of its longitudinal length and in contact therewith to cool water in said tank, said refrigerant coil being connected to a refrigerant unit so that cooling refrigerant flows upwardly through the coil, a water pipe for delivering cooled water from the lower cold end of said tank to a dispensing outlet, said pipe having a portion thereof coiled about the lower end of said tank and in thermal contact with a group of lower coldest convolutions of said refrigerant coil, whereby cooled water leaving the lower end of said tank is additionally chilled by passage through the coiled portion of said water pipe enroute to said dispensing outlet.

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