F. M. DE BEERS.

FOUNTAIN.

APPLICATION FILED MAR. 15, 1919.

1,382,274. Patented June 21, 1921.

Fig. 1.

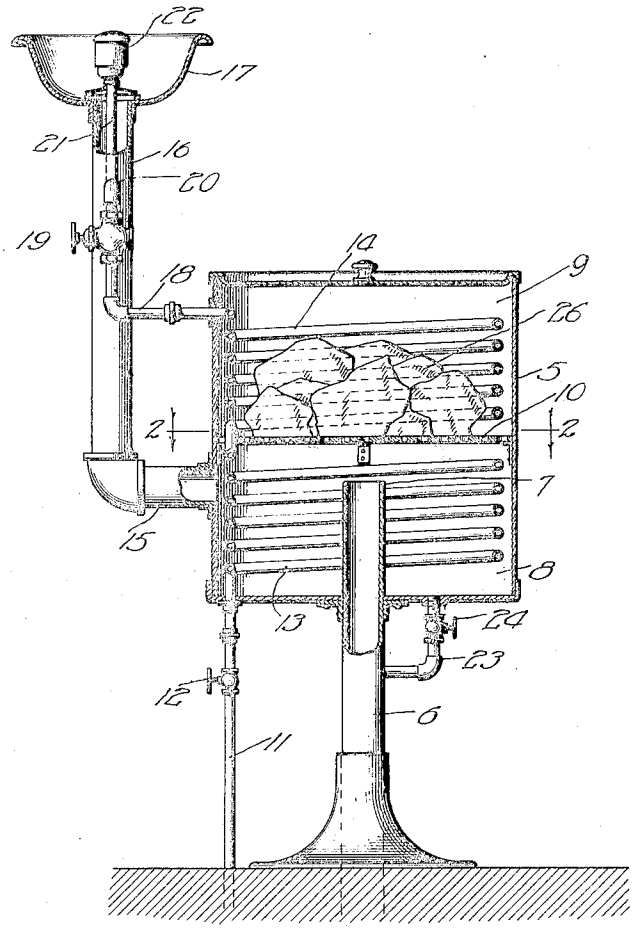
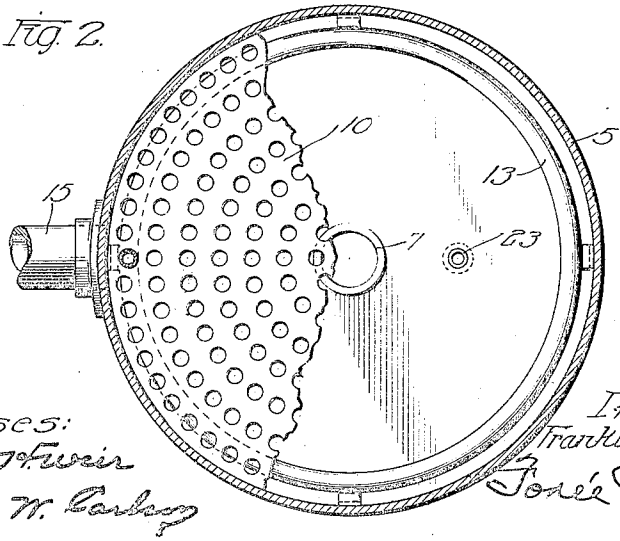


Fig. 2.



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FOUNTAIN.

1,382,274. Specification of Letters Patent. **Patented June 21, 1921.**

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To all whom it may concern:

Be it known that I, FRANKLIN M. DE BEERS, a citizen of the United States, residing at Glencoe, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fountains, of which the following is a specification.

The invention relates to improvements in bubbling fountains.

One of the objects of the invention is to provide a means, in connection with a bubbling fountain, to cool drinking water, and to utilize the waste water therefrom to initially chill the incoming water that is introduced into the cooling coil to replace that which is drawn therefrom.

In devices of this general character, drinking water passes through a coil, contained within a tank, in which a quantity of ice supplies the cooling medium. In such structures the drip from the ice and the waste from the fountain is conducted directly to the sewer.

In the improved structure there is provided a coil, within a suitable tank, to receive the drinking water, and a chamber within the tank divided into two compartments, by a perforate partition or diaphragm, leaving a section of the coil in each compartment. The ice is placed in the upper compartment, so that it may drain into the lower compartment and the cold waste water from the fountain is led into the lower compartment. The drain from the lower compartment opens near its top end, so that the lower compartment is normally full of cold water.

As the temperature of the water in the lower compartment increases in degree, it rises to the top of the water therein, usually by displacement of other water coming into said lower compartment and flows out through the drain opening. The cold waste water from the fountain and the drip from the ice surrounds the lower section of the coil, which contains the water last received from the source of supply, and initially chills it before it is received into the upper section of the coil within the ice cooled chamber, and thus, higher efficiency is effected in cooling the drinking water, by utilizing the cooling effect of the otherwise waste water.

In the drawings:—

Figure 1 shows a central vertical section through a device embodying the invention.

Fig. 2 shows an enlarged, transverse section, taken on line 2—2 of Fig. 1.

In both views the same reference characters are employed to indicate similar parts.

5 is a tank, supported upon a standard, providing a drain pipe 6, which extends to the point 7, near the top of the lower chamber 8. The chambers 8 and 9 are separated by a perforate diaphragm or partition 10. The drinking water is received through a pipe 11, which is controlled by a valve 12, and which extends into a lower coil 13, in the chamber 8 and to the upper coil 14, in the chamber 9. A waste pipe 15 is connected to discharge into the chamber 8, and extends vertically, as at 16, and contains on its upper end, a waste bowl 17. The pipe 11 extends beyond the coil 14, into a pipe 18 that is controlled by a valve 19. The pipe 18, after passing the valve 19, enters the waste pipe 16, as at 20, and extends vertically, as at 21, to contain on its upper end a bubbling fountain 22 of the usual type. A drain pipe 23 connects the lower chamber 8 with the down tube 6, and is controlled by a globe valve 24. When it is desirable to drain the tank the globe valve is opened.

Ice 26, is placed in the upper chamber 9, on top of the perforated diaghragm or partition 10, above the water that is to be contained in the lower chamber 8. The outlet 7, for the overflow pipe 6, determines the height of the water in the chamber 8. The drip from the ice will pass into the chamber 8 and the overflow from the bubbling fountain 22, being caught in the bowl 17, passes down the pipe 16 into the lower chamber 8. The cold water will, of course, remain at the bottom of the chamber 8 and the warmer water will rise to the top level and pass out or overflow through the end 7, of the drain pipe 6, and thus the coil section 13, which contains the water that comes last from the water supply pipe 11, into this coil becomes chilled by the waste water therein, by the time it passes into the upper coil 14, and it is further cooled by the ice contained in the upper chamber 9.

It will be manifest to persons skilled in the

art that the tank 5 may be covered with a non-heat conducting material to more completely conserve the cooling effect of the ice and the waste water, within the contemplation of the invention.

Having described the invention, the claims herewith are appended.

1. A device of the character described having in combination a tank; a perforate partition dividing the tank into an upper compartment to contain ice and a lower compartment to receive waste liquid from the upper compartment; a coil in each compartment, said coils connected together, the liquid inlet of the lower coil passing through a wall of the lower compartment and the discharge terminal of the upper coil passing through a wall of the upper compartment and a waste pipe connected to the lower compartment to return the waste cold liquid from the discharge terminal of the upper coil to said lower compartment to chill the liquid in the lower coil.

2. A structure of the character described having in combination a tank; a perforated partition in the tank dividing it into two compartments, the upper compartment to contain ice and the lower compartment to contain waste water; a coil in each of the compartments, said coils being connected and through which drinking water is to flow; a discharge nozzle on the free upper end of said coils; a receptacle surrounding said nozzle; a waste pipe connected to the receptacle and to the lower compartment; a hollow stand supporting the tank and having a portion forming a waste pipe extending into the lower compartment to a point near the partition whereby to maintain the lower compartment substantially filled with relatively cool water returned from the coils and the ice in the upper compartment, in contact with the lower coil therein.

In testimony whereof I hereunto subscribed my name.

FRANKLIN M. DE BEERS.