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E. F. HAWKINS

1,981,730

WATER COOLER

Filed June 12, 1933

Fig. 1.

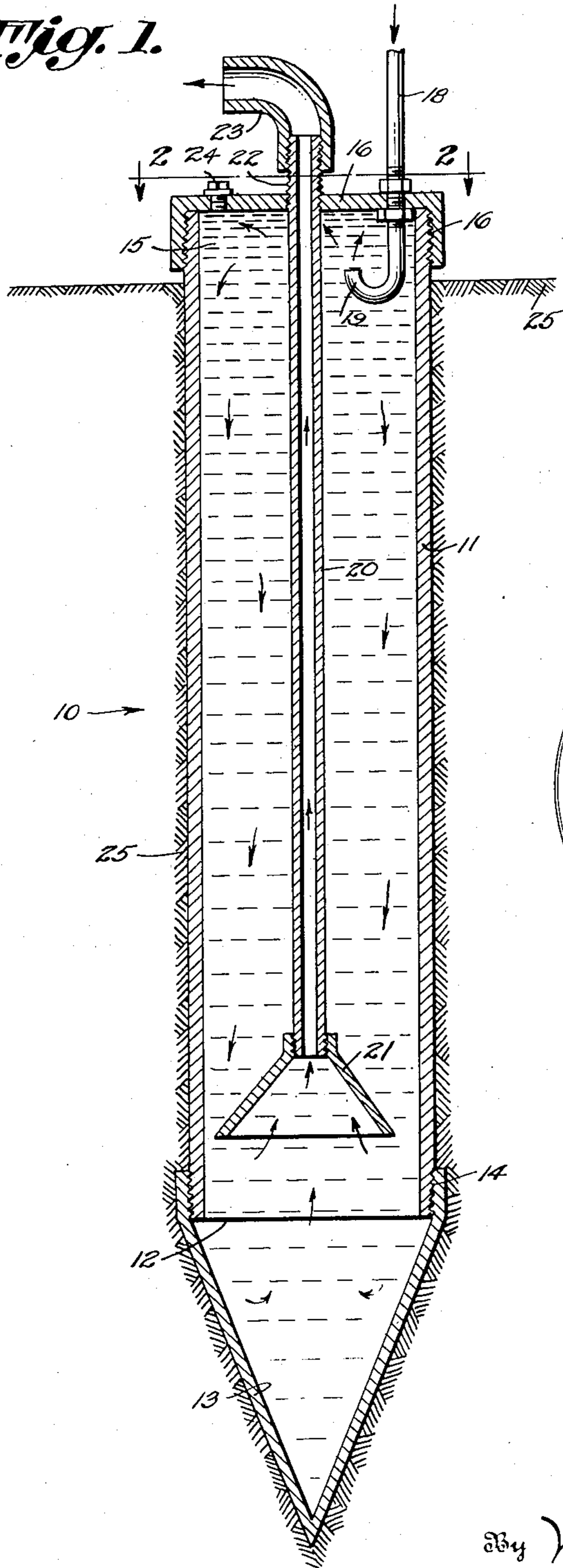
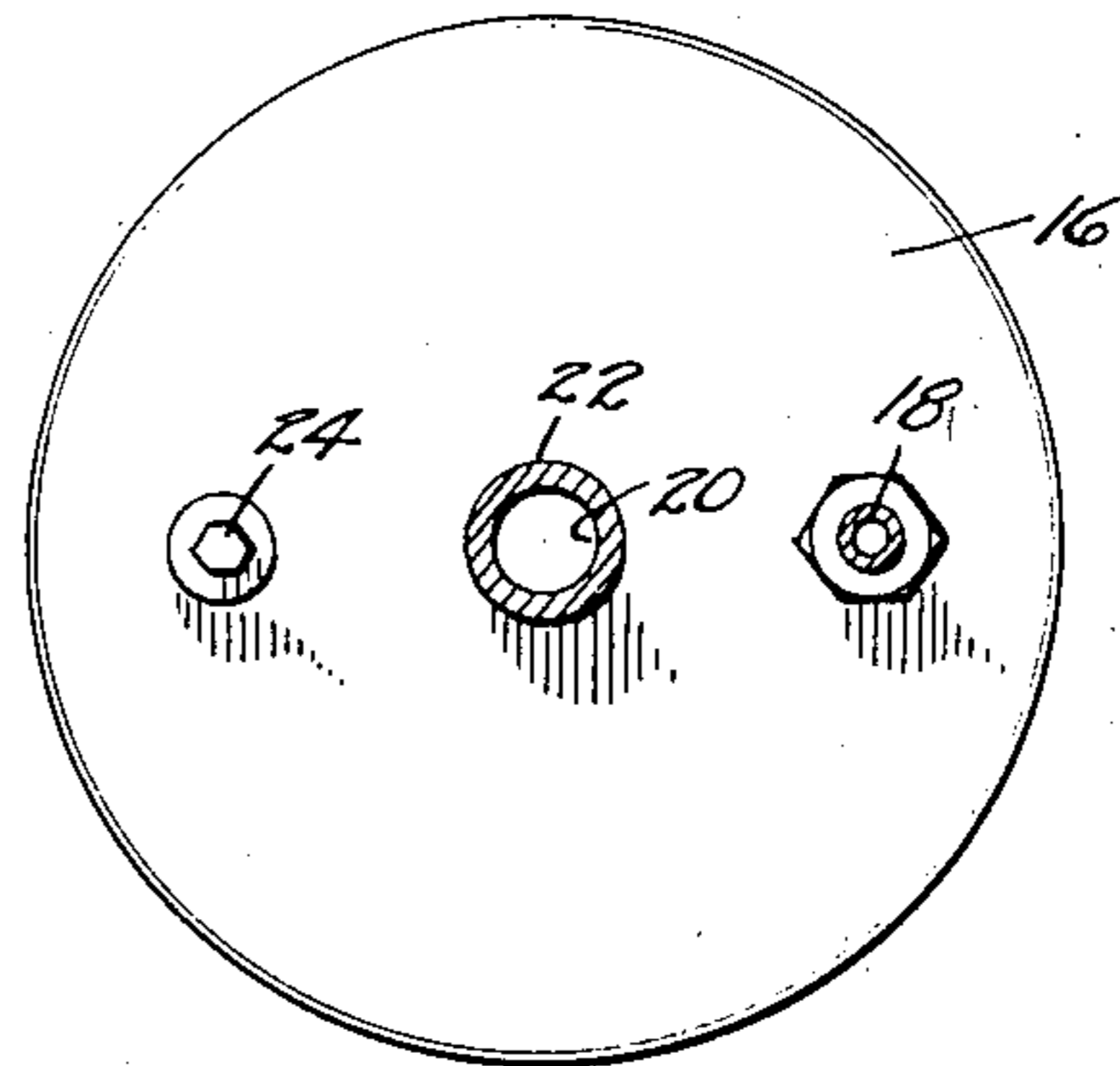


Fig. 2.



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UNITED STATES PATENT OFFICE

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WATER COOLER

Edmund Francis Hawkins, Evansville, Ind.

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1 Claim. (Cl. 257—122)

This invention relates to a water cooler and has for an object to provide an improved water cooler which is especially intended to be connected between the city water main and the household water pipe so that the supply of water entering the house may be diverted therethrough so that the water may be sufficiently cooled for drinking purposes or when delivered to refrigerating machines will need less refrigeration in cooling the water to the desired lower temperature.

As is well known, well water is always cool because of the fact that it is drawn from the earth at a fairly great depth where it remains quite cool even though the temperature of the atmosphere may be quite hot. With this invention the city dweller may have his water supply for his house cooled in the same manner, making use of the natural cooling properties of the earth at a considerable depth, say from ten to twenty feet or more below the surface of the earth so as to cool his water supply to a comfortable drinking temperature.

A further object of this invention is to provide a water cooler which will extend a considerable depth, ten, twenty or thirty feet into the earth, and which is so constructed that the water entering the same from the city main will enter near the top thereof while the water being withdrawn for use in the household will be withdrawn from the cooled portion near the bottom of the cooler.

With the foregoing and other objects in view, as will hereinafter become apparent, this invention comprises the constructions, combinations, and arrangements of parts, hereinafter set forth, claimed and illustrated in the accompanying drawing:

In the drawing:

Figure 1 is a sectional view of the cooling device showing the same in the earth.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

The water cooler shown at 10, comprising this invention, consists of a pipe 11 from six to twelve inches in diameter more or less and from ten to thirty feet in length more or less. The lower end 12 of the pipe 11 has a cone shaped cap 13 secured thereto in any suitable manner as for instance by means threaded thereon as at 14. The upper end 15 of the pipe 11 is closed by a cap 16 threaded thereto as at 17. A pipe 18 connected at one end to the city water main is secured through the cap 16 and terminates in a U 19. A discharge pipe 20 threaded to the cap 16 penetrates close to the bottom of the pipe or cylinder 11 where it terminates in an open bell 21 threadedly secured there-

to, while the external end 22 of the pipe 20 has a water discharge line 23 secured thereto which discharge line 23 leads to the household water pipe, or to such other pipe from which it may be desired to draw a supply of cooled water.

A plug 24 is threaded to the cap 16 and may be used for releasing air from the pipe or cylinder 11 when the water cooler is being placed into operation.

In assembling the water cooler 10 the cylinder 11 and the conical cap 13 may be forced into the earth 25 in any suitable manner as by a pile driver, a suitable temporary cap or plug being used to protect the top or an excavation may be made in the earth 25 sufficient to admit the cylinder 11.

The cap 16 with the discharge 20 and bell 21 in place therein as well as the supply line 18 is then threaded onto the cylinder or pipe 11. The line 11 then discharges the water when connected to the city water main through the U 19 upwardly so as to keep the warm water at the top and allow it to sink to the bottom as it is cooled by the surrounding earth 25. When a supply of water is discharged through the discharge line 23 it comes through the discharge pipe 20 and enters the same at the bottom of the bell 21, thus assuring that none of the warmer water above the bottom of the bell 21 can be drawn therein. The pressure in the city water pipe coming through pipe 18 forces the water out through discharge pipe 20 and discharge line 23.

Inasmuch as the cylinder or pipe 11 may be twenty to thirty feet in depth or any desired depth, it will be apparent that the bottom of the cylinder 11 will be below the water line of the surrounding earth 25 thereby assuring that the bottom portion of the cylinder 11 will be kept continuously cool in the same manner that the water in a deep well is kept continuously cool.

It is to be understood from the forms of this invention herewith shown and described that they are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

As an article of manufacture, a water cooler, comprising a cylinder adapted to be forced into the earth, a water supply line leading to the top of said cylinder, and a water discharge line leading from the bottom of said cylinder, said water supply line terminating in an upwardly turned U adjacent the top of the cylinder whereby to direct the incoming water against the top of a

5 cylinder, a cap closing the top of said cylinder, an air-bleeding port in the top of said cap, said water supply line and said water discharge line penetrating through said cap, said water discharge line terminating in an open mouth bell adjacent the bottom of the cylinder, the maximum

diameter of said bell being slightly less than the internal diameter of said cylinder, a conical penetrating cap secured to the bottom of said cylinder, said conical cap permitting said cylinder to be forced into the earth.

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