May 17, 1932. R. C. WOLFE 1,858,758

COMBINATION DRINKING CUP AND WATER VENDING MACHINE

Filed Oct. 30, 1930 2 Sheets-Sheet 1

Fig. 1.

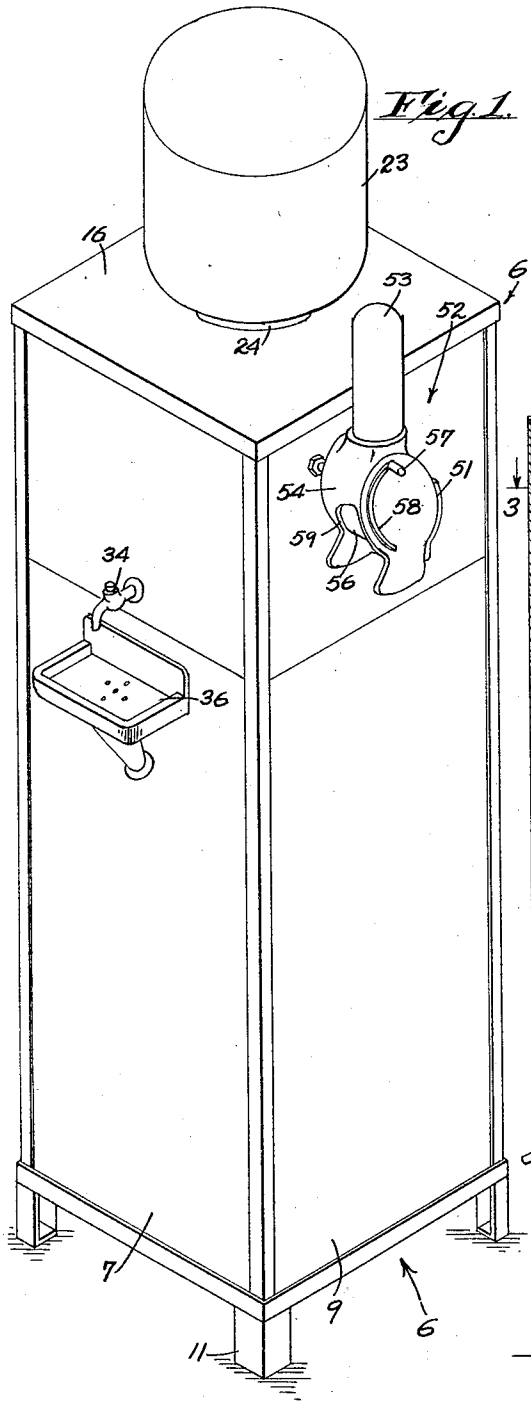
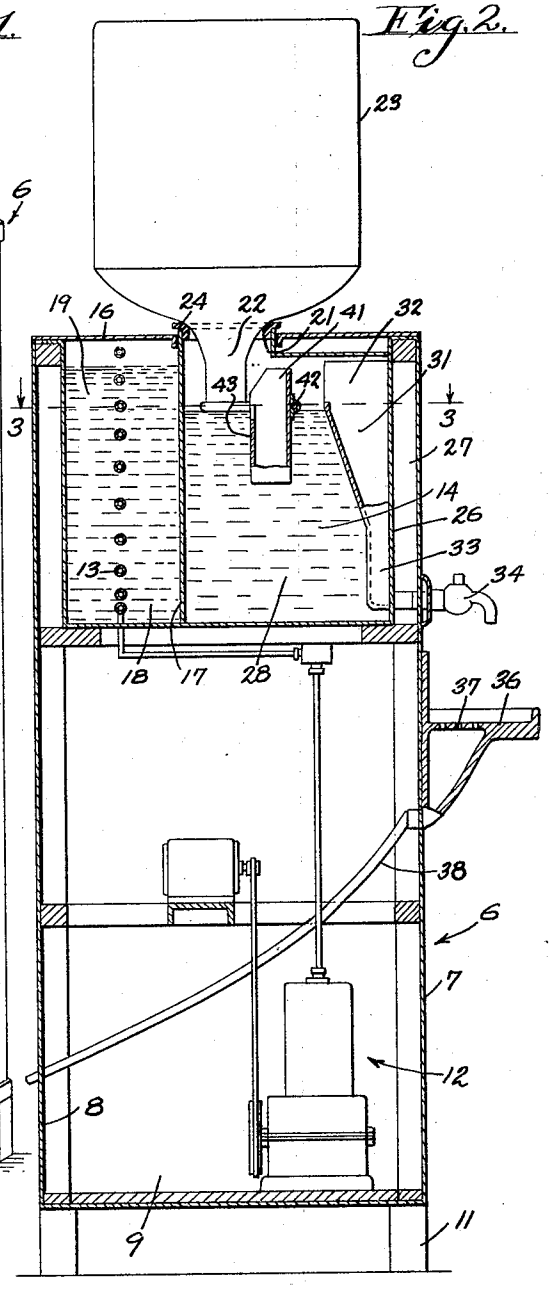


Fig. 2.



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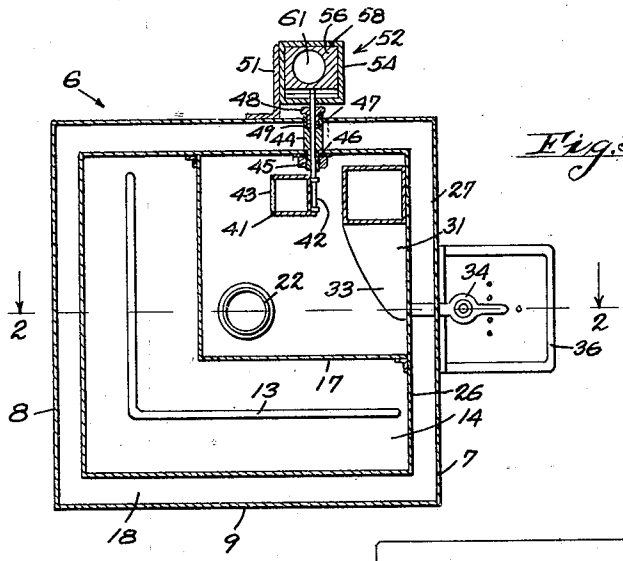


Fig. 3.

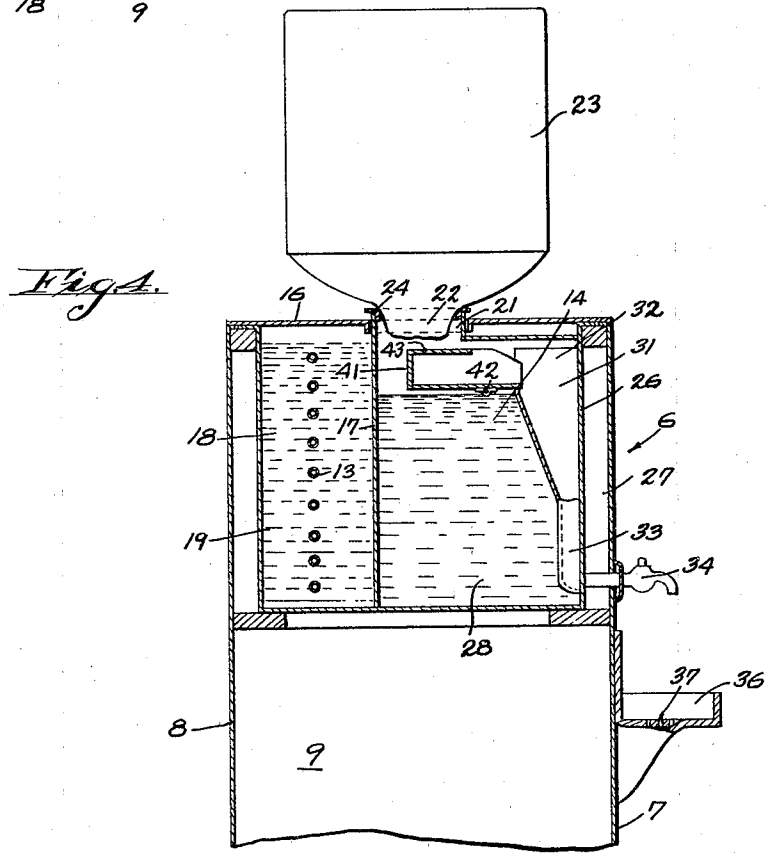


Fig. 1.

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UNITED STATES PATENT OFFICE

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COMBINATION DRINKING CUP AND WATER VENDING MACHINE

Application filed October 30, 1930. Serial No. 492,250.

This invention relates to liquid dispensing devices, and more especially to a device for dispensing drinking water.

An object of the invention is to provide a drinking water dispensing device having in combination therewith a cup dispenser so interconnected to the mechanism of the water dispensing apparatus that both devices may be operated by moving a single actuating element.

Another object is to provide an auxiliary reservoir in a device of the character described, into which a predetermined quantity of drinking water is delivered when the cup and water dispensing apparatus are actuated, the auxiliary reservoir being provided with a manually operable valve which may be released at any time subsequent to the operation of the dispensing apparatus, permitting the operator to place the cup delivered by the cup dispenser below the outlet from the auxiliary reservoir before the water is withdrawn therefrom.

Another object is to provide an improved dispensing apparatus having the above described characteristics, which is of such a nature that it lends itself particularly well for use in conjunction with that type of liquid dispensing device which is provided with an automatic refrigerating unit whereby the temperature of the water is kept below a predetermined maximum.

The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the invention's particular embodiment which is illustrated in the drawings accompanying and forming a part of the specification.

Referring to the drawings:

Fig. 1 is a perspective view of a combination dispensing device embodying the principles of the present invention.

Fig. 2 is a vertical medial sectional view, the plane of which may be considered to have been taken upon the line 2—2 of Fig. 3, with the direction of view as indicated.

Fig. 3 is a horizontal sectional view taken substantially upon the line 3—3 of Fig. 2, with the direction of view as indicated.

Fig. 4 is a view similar to Fig. 2, but showing the dispensing dipper swung to that position in which it is enabled to pour its contents into the auxiliary reservoir. A portion of the figure is broken away to reduce its length.

In terms of broad inclusion, the present invention contemplates the combination with a receptacle dispensing device, preferably of well known design, of a mechanism for dispensing a predetermined quantity of liquid such as drinking water, the parts being so interconnected that they may be operated simultaneously by the actuation of a single operating handle or its equivalent. However, the auxiliary reservoir is provided with a faucet accessible exteriorly of the device and operable manually to control the flow of liquid from the auxiliary reservoir, permitting the operator to remove the receptacle from the receptacle dispenser and place it below the faucet before the liquid is permitted to flow therefrom.

Specifically describing the invention in that embodiment which at present appears to be the most practical, my combination drinking cup and water vending machine comprises a cabinet 6 having front, rear and side walls 7, 8 and 9, respectively, and supported preferably upon suitable supporting legs 11. Within the lower portion of the cabinet 6 is positioned an automatic refrigerating mechanism, indicated in its entirety at 12, the cooling coils 13 of the refrigerating mechanism being positioned within the upper portion of the cabinet 6. A reservoir 14 is also provided in the upper portion of the cabinet 6, closed at its upper end by a top 16, which also serves as the top for the entire cabinet. Preferably, a partition 17 separates the reservoir 14 from the compartment 18 within which the cooling coils 13 are disposed, and which preferably contains brine 19.

The top 16 is provided with an opening 21, through which the neck 22 of a bottle 23, or other suitable supply receptacle, may extend into the reservoir 14, it being understood that this particular modification of the invention is adapted to dispense drinking water which is furnished in bottles of substantially five

gallon capacity. A bushing 24, preferably of resilient material, is interposed between the top 16 and the bottle 23 to assist in supporting the bottle 23 rigidly and in excluding dust and other contaminating agents from the reservoir 14. Preferably, the reservoir 14 is spaced from the walls of the cabinet 6 by a partition 26 extending completely thereabout, so as to provide a dead air space 27, the purpose of which is to increase the efficiency of the entire cooling apparatus.

As will readily be understood, the fact that the neck 22 of the bottle 23 projects into the reservoir 14 causes the level of the water 28 within the reservoir 14 to be maintained at a predetermined height, inasmuch as whenever sufficient water is withdrawn from the reservoir 14 to lower the level below the mouth of the bottle air will be permitted to enter the bottle and displace sufficient water therefrom to again bring the level of the water within the reservoir 14 up to the mouth of the bottle.

An auxiliary reservoir 31 is provided inside the reservoir 14, preferably upon that portion of the partition 26 which forms the forward wall of the reservoir 14. This auxiliary reservoir 31 is substantially funnel shaped in configuration, being open at the top 32 and tapering downwards to a conduit 33 which extends through the partition 26 and front wall 7 of the cabinet 6. A manually operable faucet 34 is secured to that end of the conduit 33 which is exposed exteriorly of the cabinet; and below the faucet 34 a tray 36 is provided, the parts being so proportioned and arranged that a drinking cup may be supported thereupon below the faucet 34. The bottom of the tray 36 is provided with a plurality of holes 37, whereby waste water may be conveyed to a drain tube 38 which leads to any suitable point of discharge.

The open upper end of the auxiliary reservoir 31 is positioned above the level at which the upper surface of the water 28 within the reservoir 14 is maintained, with the result that water cannot flow directly from the reservoir 14 into the auxiliary reservoir 31. Hence, the only way in which water can be delivered to the auxiliary reservoir is through the expedient of the dipper 41, which is mounted rigidly upon a shaft 42 which extends transversely of the reservoir 14 adjacent the open upper end of the auxiliary reservoir 31. The dipper 41 is of predetermined capacity, preferably approximately one-half (½) pint. The capacity of the dipper 41 is determined by the height to which the side 43 thereof remote from the shaft 42 extends, the other sides of the dipper 41 extending beyond the upper edge of the side 43 to provide guiding walls whereby the contents of the dipper 41 are poured into the auxiliary reservoir 31 through its open end when the dipper 41 is tipped substantially to the position in which it is illustrated upon Fig. 4. I also prefer to construct the auxiliary reservoir 31 in such a manner that all the sides thereof, with the exception of that side which is proximal to the dipper 41, extend upwards beyond the upper edge of that side, the purpose being to prevent splashing of the liquid poured into the auxiliary reservoir, and insure that substantially the entire contents of the dipper 41 will be poured into the auxiliary reservoir 31 when the dipper 41 is actuated.

Movement of the dipper 41 is effected by turning the shaft 42 through a predetermined arc, preferably substantially 90°. For this purpose the shaft 42 is journaled within a side wall 9 of the cabinet 6, and within the partition 26, as best shown upon Fig. 3. I prefer to extend the shaft 42 through a sleeve 44 which is secured at one end to the partition 26 by a nut 45 having a rubber washer 46 thereunder. The other end of the sleeve 44 extends through the wall 9 and is provided with a stuffing box 47 having a gland nut 48 whereby packing 49 may be pressed against the shaft 42 to prevent leakage of water therepast.

The receptacle dispenser which I employ in conjunction with the water vending machine is preferably a coin-controlled cup dispensing device of well known design mounted upon the side 9 of the cabinet 6, through which the shaft 42 extends, a suitable bracket 51 rigid with the side 9 being employed for this purpose. In view of the fact that the details of construction of the cup dispenser 52 form no portion of the present invention, it need not be described in detail herein, beyond explaining that it is provided with a magazine 53 adapted to contain a plurality of paper drinking cups, and leading downwards into a housing 54, within which a rotary element 56 is mounted for reciprocable rotation through a predetermined arc. The arc through which this rotary element turns is usually in the neighborhood of 90°. An operating handle 57 rigid with the rotary element 56 extends through an arcuate slot 58 in the outer wall of the housing 54, whereby the rotary element 56 may be turned through that arc which is necessary to cause the cup dispenser 52 to deliver a cup through an opening 59 in the housing 54. This particular design of cup dispenser 52 is particularly adaptable for use in the present connection, because of the fact that the same type of motion, to-wit, rotary motion, is necessary to actuate both the cup dispenser and the dipper 41 of the water dispenser. Moreover, the arc through which each of these devices turns is substantially the same. Consequently, interconnection of these two portions of the device is very easily accomplished merely by mounting the cup dispenser 52 upon the side 9 of the cabinet 6, with its rotary element 56 disposed coaxially with respect to the shaft

42, and by fastening the shaft 42 rigidly to the rotary element 56, with the result that when the handle 57 is moved in the manner necessary for actuating the cup dispenser 52 the dipper 41 is simultaneously actuated.

Operation

The action necessary on the part of the operator, after having inserted a suitable coin into a slot provided in the housing 54 of the cup dispenser, is to depress the handle 57. The rotary element 56 has a pocket 61 therein, which, as the handle 57 is depressed, will move from registry with the magazine 53 into registry with the opening 59, carrying with it a cup which it has previously received from the magazine. This movement of the rotary element 56 will turn the shaft in such a manner as to withdraw the dipper 41 from the water within which it was immersed, swinging it to substantially the position indicated upon Fig. 4, this causing the dipper to empty its contents into the auxiliary receptacle 31. However, this predetermined quantity of water cannot flow immediately from the outlet conduit 33 because the faucet 34 is normally closed. This enables the operator to withdraw the dispensed cup from the opening 59 of the cup dispenser 52, and place it below the faucet 34 before withdrawing all or a portion of the water which has been supplied to the auxiliary receptacle. Upon release of the handle 57, the parts will return automatically to initial position, and again immersing the dipper in the water within the reservoir 14, and placing the pocket 61 in registry with the magazine 53 to receive another cup therefrom.

It is to be understood that the details of the invention as herein disclosed, are subject to alteration within the spirit or scope of the appended claims.

I claim:

1. In combination, a reservoir adapted to contain a liquid, an auxiliary reservoir having an outlet, means for controlling flow through said outlet, a receptacle dispensing device mounted upon said reservoir and having a rotary element adapted to dispense a receptacle each time it is rotated through a predetermined arc, a shaft journaled in said reservoir adjacent said auxiliary reservoir and connected to said rotary element to be turned simultaneously therewith, and a dipper of predetermined capacity mounted upon said shaft and adapted to be immersed in the liquid within said reservoir when the shaft is in one extreme position, and adapted to discharge its contents into said auxiliary reservoir when the shaft is turned to its other extreme position.

2. In combination, a main reservoir adapted to contain a liquid, means for supplying said liquid thereto and for maintaining said liquid at a predetermined level therein, an auxiliary reservoir having an opening at the top, said opening being above said level, an outlet conduit leading from said auxiliary reservoir to the exterior of said reservoir, a manually operable valve in said conduit, a shaft extending through a wall of said main reservoir and journalled intermediate its ends in said wall, a dipper of predetermined capacity mounted upon one end of said shaft, a receptacle dispensing device mounted on said reservoir and having a rotary element adapted to dispense a receptacle each time it is turned through a predetermined arc, said shaft at the other end thereof being connected to said rotary element to be turned thereby in one direction to immerse said dipper in the liquid within said reservoir and in the other direction to pour the contents of the dipper through the opening in the top of said auxiliary reservoir.

3. In combination, a main reservoir adapted to contain a liquid, an auxiliary reservoir having a valve outlet, a receptacle dispensing device mounted upon said main reservoir and having a rotary element adapted to dispense a receptacle each time it is rotated through a predetermined arc, a shaft journaled between its ends to said main reservoir adjacent said auxiliary reservoir and connected at one end to said rotary element to be turned simultaneously therewith, and a dipper mounted upon the other end of said shaft and adapted to be immersed in the liquid within said main reservoir when the shaft is in one extreme position and adapted to discharge its contents into said auxiliary reservoir when the shaft is turned to its other extreme position.

In testimony whereof I have signed my name to this specification.

RICHARD C. WOLFE.