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G. E. HULSE

COOLING APPARATUS

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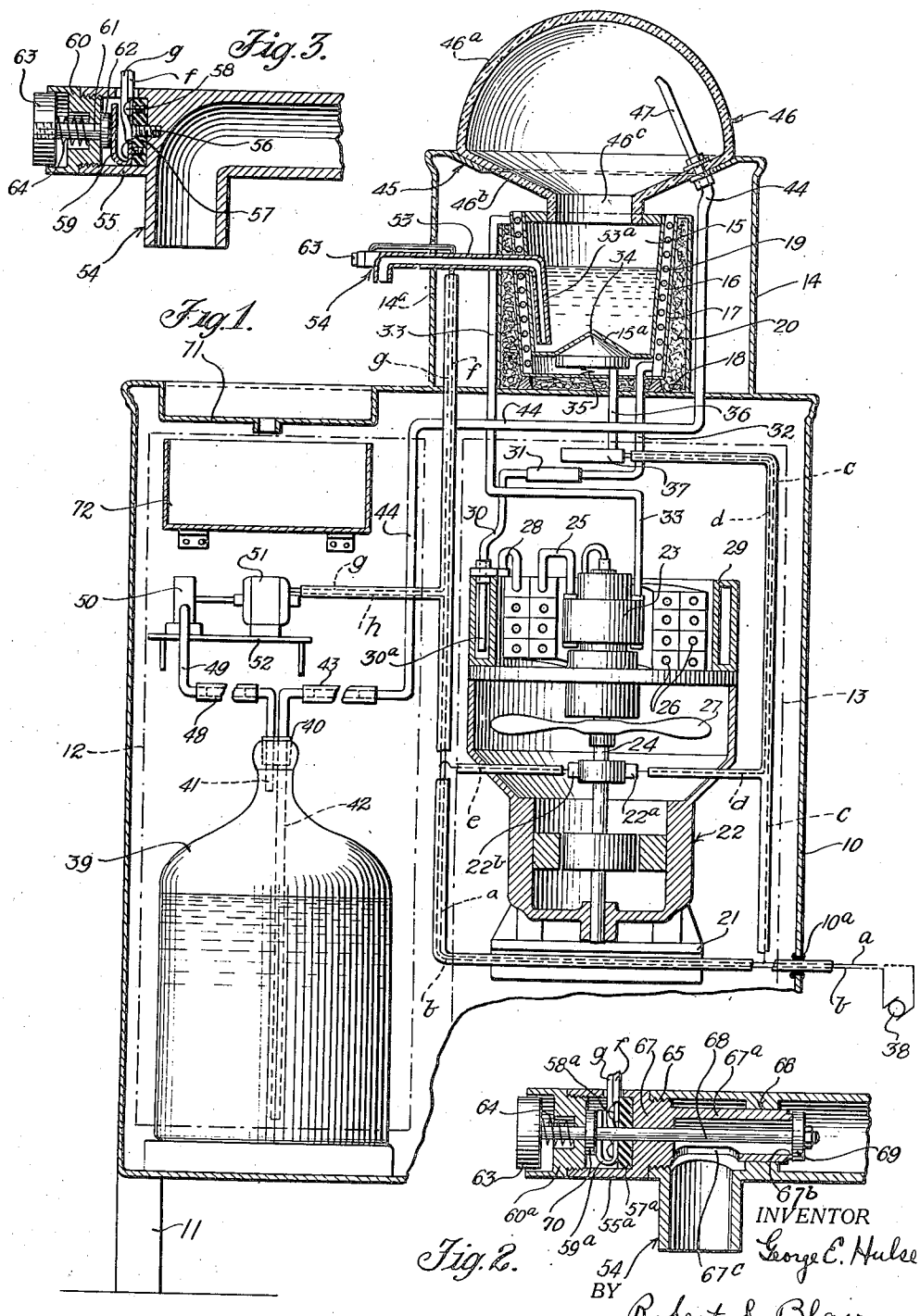


Fig. 1.



Fig. 3.



Fig. 2.

INVENTOR
George E. Hulse
BY
Robert S. Blair
ATTORNEY

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# UNITED STATES PATENT OFFICE.

GEORGE E. HULSE, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE SAFETY CAR HEATING & LIGHTING COMPANY, A CORPORATION OF NEW JERSEY.

## COOLING APPARATUS.

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This invention relates to cooling apparatus and more particularly to apparatus for cooling drinking water.

One of the objects of this invention is to provide simple and practical apparatus for cooling water that will be of compact construction and of reliable action. Another object is to provide apparatus of the above nature in which economical use is made of the cooling agency and having high efficiency of cooling action with consequent low cost of up-keep and operation. Another object is to provide apparatus of the above character in which effectiveness of cooling action and sanitation of construction are combined with attractive appearance and action upon use of the apparatus. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts as will be exemplified in the structure hereinafter set forth and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown one of various possible embodiments of this invention,

Figure 1 is a central and transverse vertical section of the apparatus in assembled relation, certain parts being shown in elevation;

Figure 2 is an enlarged, detailed sectional view of a preferred form of manually operated switch and valve control for the apparatus; and

Figure 3 is a view similar to Fig. 2 showing a simpler form of device.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing and more particularly to Fig. 1, there is shown at 10 a cabinet of any desired construction within which the several parts of the apparatus are preferably housed. The cabinet 10 is preferably of rectangular cross section and is provided with legs or standards 11 for supporting the cabinet at any desired height above the floor or other supporting surface. The cabinet 10, moreover, is provided with suitable doors for gaining access to the interior thereof and these doors, which are preferably formed in one of the side walls of the cabinet 10 are indicated in dotted lines at 12 and 13.

At the upper and rearward part of the cabinet 10, that is, at the upper right-hand portion as viewed in Fig. 1, the cabinet 10 is extended upwardly, as at 14, and within this upwardly extending housing 14 is positioned a receptacle 15. The receptacle 15 is adapted to receive the water which is withdrawn for consumption as desired and as hereinafter more clearly set forth, and the water while in the receptacle 15 is cooled, preferably by a mechanically actuated means. Accordingly, the receptacle 15 is preferably of tapered form so as to be snugly received within the tapered lining 16 of a container 17. The container 17 is supported in any suitable manner within the extended portion 14 of the cabinet 10 as, for example, upon the upper end or top wall 18 of the cabinet 10. Within the container 17 and imbedded within the lining 16 thereof is a coil 19 through which may be circulated any suitable cooling medium, as will be more clearly hereinafter described. The lining 16 is preferably composed of a material of high heat conductivity, such as lead, for example, and insures an intimate thermal relation between the receptacle 15 with its contents and the cooling medium circulated through the coil 19. The exterior of the container 17 is preferably surrounded by any suitable heat-insulating material, indicated at 20.

In the right-hand portion of the cabinet 10 there is mounted, as by the brackets 21, an electric motor, generally indicated at 22, upon the upper end of which is supported a compressor 23, preferably of the rotary type and connected to be actuated from the shaft 24 of the motor 22. The compressor 23 is adapted to compress a suitable gas, such as sulphur dioxide, for example, and after the gas is compressed by the compressor 23 it passes, as by the tube 25, through a series of condensing coils 26 which conveniently surround the compressor 23 and are suitably supported on the upper part of the frame of the motor 22. Upon the shaft 24 of the motor is mounted a fan 27 adapted to draw air downwardly past the condensing coils

23 and thus to cool the gas under pressure therein, thus resulting in an eventual and substantial liquefaction or condensation thereof. From the condensing coils 26 the condensed gas passes, as by the tube 28, into a receiver 29 which is preferably of annular form so as to surround the condenser coils 26 and thus also to be positioned within the air current produced my the fan 27. From the receiver 29 a tube or conduit 30, extended downwardly into the receiver 29 as at 30ª, carries the condensed gas through an expansion device, diagrammatically indicated at 31, and from thence, as by the conduit 32, to the lower end of the cooling coil 19.

The expansion device 31 brings about a reduction in the pressure in the condensed gas and thus brings about a material drop in temperature. This drop in temperature is achieved by the vaporization of the condensed gas resulting from the reduction in the pressure brought about by the expansion device 31. The gas thus cooled or reduced in temperature and in passing through the cooling coil 19 surrounding the receptacle 15 withdraws heat from the water contained in the receptacle 15 and thus reduces the water to a relatively low temperature. From the cooling coil 19 a pipe or conduit 33 leads the gas to the intake side of the compressor 23, whence the cycle of operation above described is repeated.

In order to maintain the temperature of the water in the receptacle 15 within the desired limits, there is associated with the receptacle 15 and in thermal contact therewith a vessel 34. The vessel 34 is preferably of conical shape and is held in intimate thermal contact with the receptacle 15 by means of a spring 35 which maintains the vessel 34 seated within the cone-shaped bottom 15ª of the receptacle 15. The vessel 34 provides a suitable interior chamber from which a tube 36 leads to a pressure-controlled switch, diagrammatically illustrated at 37 and adapted to control the circuit of the motor 22. The pressure-controlled switch 37 is adapted to be responsive to the changes in tension or pressure of a suitable fluid, such as ethyl chloride, for example, contained with the vessel 34, and upon an increase in temperature of the water within the receptacle 15 the resultant increased vapor tension of the fluid becomes effective to operate the switch 37 to connect the motor 22 to a suitable source of current. Vice versa, a drop in temperature below a given value will bring about a disconnection of the motor from the source of current supply.

In Fig. 1 of the drawing a suitable source of current supply is indicated at 38 and the circuit connections are diagrammatically shown as including the main conductors *a* and *b* brought through the wall of the cabinet 10 in any suitable manner, as through the insulating bushing 10ª. From the main conductor *a*, a conductor *c* leads to the pressure-responsive switch 37, the circuit being completed through a conductor *d*, to one terminal 22ª of the motor 22, and a conductor *e* connecting the other terminal 22ᵇ of the motor to the main conductor *b*. It will thus be seen that the water in the receptacle 15 is preferably automatically maintained at the desired low temperature.

It may further be noted that the capacity of the receptacle 15 is preferably relatively small and that, therefore, economy in the operation of the cooling mechanism is materially enhanced. Considering now the transfer of water in the receptacle 15 to compensate for the water withdrawn therefrom, it may first be noted that the lower left-hand portion of the cabinet 10 is adapted to receive and support a reservoir or a source of supply of water, preferably taking the form of a water bottle 39 of the type in which drinking water is usually distributed. The water bottle 39 upon being positioned within the cabinet 10 has its usual stopper replaced by means of the stopper 40 through which extend two tubes 41 and 42, the former forming a communication with the upper portion of the bottle 39 and the latter extending downwardly to substantially the bottom of the bottle 39. The tube 42 is connected as by means of a flexible conduit 43 of any suitable length to a pipe 44 which leads upwardly to the upper part of the upwardly extending portion 14 of the cabinet 10.

The portion or housing 14, which is preferably of circular cross section, is substantially open at its top wherein it is provided with an inwardly inclined collar or seat 45 adapted to receive a chamber, generally indicated at 46 and composed preferably of glass. The chamber 46 is provided with a dome-shaped top portion 46ª and with a bottom portion 46ᵇ sloping downwardly and toward the central portion thereof where it terminates in an opening 46ᶜ above and substantially registering with the receptacle 15.

In the rearward portion (or right-hand portion as viewed in Fig. 1) of the bottom 46ᵇ of the chamber 46 is supported an upwardly directed nozzle 47 connected to the pipe 44 leading to the source of water supply or bottle 39. Preferably the nozzle 47 is directed forwardly (or to the left, as viewed in Fig. 1) as well as upwardly, for a purpose more clearly hereinafter set forth.

The tube 41 passing through the stopper 40 is connected, as by a flexible conduit 48 of any convenient length, to a pipe 49 which leads to an air pump or compressor of any

suitable form, preferably of the rotary type, however, and indicated diagrammatically at 50. The pump 50 is preferably directly connected to an electric motor 51, thus forming a unit therewith which may be supported upon the bracket or shelf 52 suitably secured to one of the side walls of the cabinet 10. Upon the motor 51 being placed in operation, the air compressed by the pump 50 is passed into the upper part of the bottle 39 and displaces the water therefrom through the tube 42 and the pipe 44 whence the water is discharged through the nozzle 47 and sprayed in a general upward direction against the dome-shaped top 46ª. The force of the water thus moved is thereby broken up and the sprayed particles or streams into which the discharge from the nozzle 47 is broken by the dome-shaped top 46ª are collected by the bottom 46ᵇ of the chamber 46 and allowed to pass through the opening 46ᶜ into the receptacle 15. At this point it may be noted that the water in the receptacle 15, upon being cooled, settles in the receptacle 15 in what may be termed a relatively large number of thermal layers varying in temperature progressively from a relatively low temperature at the extreme bottom to a relatively higher temperature at the extreme top. The opening 46ᶜ, it will be noted, is preferably relatively large so that the water coming from the reservoir 39 and of materially higher temperature is passed into the receptacle 15 in a relatively thin annular sheet or spray with an immaterial force or pressure. Thus turbulency in the water in the receptacle 15 is avoided and a disturbance of the thermal layers prevented, it being noted that the replenishing water of materially higher temperature is thus brought into contact only with the extreme upper and warmer layers within the receptacle 15.

In order to withdraw at will cooled water from the receptacle 15 there is provided a pipe or conduit 53 extending from the interior of the receptacle 15 through the container 17 and its lining, and through the front wall portion 14ª of the housing 14 to the exterior of the cabinet. The conduit 53 is extended downwardly, as at 53ª, within the receptacle 15 to a point adjacent the bottom of the receptacle 15 in order that the water withdrawn through the pipe 53 may be taken from the coolest layers within the receptacle. Upon the outer end of the pipe 53 is mounted a discharge vent or outlet, generally indicated in Fig. 1 at 54, and conveniently taking the form shown in the enlarged sectional view in Fig. 3 of the drawings.

Referring now to Fig. 3, it will be seen that the vent 54 forms with the pipe 53 and its extension 53ª an unrestricted discharge passage leading from the receptacle 15 to the exterior of the cabinet. Thus, as will be readily seen from Fig. 1, the flow of water through this discharge passage will take place when the level of the water within the receptacle 15 is raised substantially above the height of the pipe 53, and normally the level of the water in the receptacle 15 will be as substantially indicated in this figure.

Upon the forward end of the discharge vent 54 (see Fig. 3) there is formed preferably integrally therewith a substantially cylindrical housing 55, in the bottom of which is secured, as by the screw 56, a block 57 of insulating material upon which may be mounted a circuit-controlling device of any suitable form. This device, shown in the drawing in an illustrative and possible form of construction, may include a fixed contact 58 and a spring contact 59 adapted to coact therewith, these contact members being suitably mounted upon and supported by the insulating member 57. The contact 58 is connected as by the conductor *f* to the main conductor *a* leading to the source of electrical energy supply 38 hereinabove mentioned. The spring contact 59 is connected as by the conductor *g* to one terminal of the electric motor 51, the other terminal of the motor being connected as by the conductor *h* to the main conductor *b*.

The housing 55, which may be of circular cross-section, is closed as by a cap member 60 in threaded engagement therewith and slidably mounted with respect to the cap 60 is a plunger 61, the inner end of which is provided with a collar 62 and the outer end of which has threaded thereupon a push button 63. A spring 64 is interposed between the cap 60 and the push button 63 and acts normally, together with the spring contact 59, to hold the several parts in the position indicated in Fig. 3. A suitable insulating member carried by the collar 62 is adapted to make direct contact with the spring contact 59.

When it is desired to withdraw cooled water from the receptacle 15, the push button 63 is manually operated and given a movement in a direction toward the right, as viewed in Fig. 3, thus placing the spring contact 59 in connection with the fixed contact 58 and thereby connecting the motor 51 to the source of energy supply. The motor 51 is thereupon at once made operative to effect a transfer of water from the bottle 39 to the receptacle 15 as hereinbefore described, it being noted that the operation is accompanied by an attractive hydraulic display within the chamber 46 and made visible by the glass construction thereof. The level of the water in the receptacle 15 being thus raised, a flow of water takes place through the discharge passage terminating in the downwardly directed outlet 54, it being noted that the water thus with-

drawn is taken from the bottom portion or relatively cooler parts of the water within the receptacle 15. When the desired quantity of water has been withdrawn a release of the push button 63 halts the transfer of water from the reservoir 39 to the receptable 15, whence the flow of water through the outlet 54 substantially terminates. Moreover, it will be noted that aside from avoiding the detrimental effect of disturbing the thermal layers of the water within the cooling receptacle 15, the water therein is maintained automatically in substantially constant volume.

I prefer, however, to positively control the flow of water in the discharge passage 53, as by means of a valve, in order to maintain within the receptacle 15 a substantial head of water capable of effecting a substantially immediate discharge of water upon operation of the push button 63, and in Fig. 2 of the drawing is illustrated such a construction. Referring now to Fig. 2 it will be seen that the discharge vent, generally indicated at 54, is provided at its left-hand end with a threaded opening 65 in substantial alignment with a cylindrical seating surface 66 formed interiorly of the vent 54. Into the threaded opening 65 is threaded a valve casting 67 formed at its right-hand portion into a substantially cylindrical and hollow extension $67^a$ supported by and seated within the cylindrical seating surface 66 and carrying at its extreme right-hand end an annular valve seat $67^b$. The valve casting 67 supports slidably a valve stem 68 extended toward the right through the hollow extension $67^a$ to support at its extreme end a valve member 69 adapted to coact with the valve seat $67^b$. A suitable opening $67^c$ directed downwardly is adapted to place the discharge spout in communication with the interior of the cylindrical extension $67^a$ and to permit the passage therethrough of the water upon movement of the valve stem 68 to the right to unseat the valve 69.

At its left-hand end the valve casting 67 is extended to provide a substantially cylindrical housing $55^a$ within which is suitably supported or secured a block of insulating material $57^a$ carrying the fixed contact $58^a$ and the spring contact $59^a$ of substantially similar construction as that shown in Fig. 3. It will be noted, however, that these parts are preferably displaced laterally with respect to the valve stem 68 so as to occupy a position on one side thereof. The extreme left-hand end of the valve stem 68 is slidably supported by the cap member $60^a$ threaded into the housing $55^a$, and upon its extreme end is threaded the push button 63. The spring 64 interposed between the push button 63 and the cap $60^a$ acts to hold the parts in substantially the position shown in this figure. A collar 70 carrying a suitable insulating material is mounted upon the valve stem 68 and is adapted upon movement of the valve stem 68 to the right to close the contacts $59^a$ and $58^a$ which are connected similarly as are the contacts 59 and 58 hereinabove described in connection with Fig. 3.

Upon operation of the push button 63 the valve 69 is opened to permit the outflow of water from the receptacle 15 due to the previously acquired head of water therein. Substantially simultaneously the motor 51 is placed in operation by the switch members $59^a$ and $58^a$ to effect a transfer of water from the source of supply 39 to the receptacle 15, thus maintaining a sufficient head of water within the receptacle 15 to permit the continued withdrawal of water therefrom. Upon the release of the push button 63 the spring 64 is effective to move the valve stem 68 to the left, thus re-seating the valve 69 and thus disconnecting the pump operating motor 51 from the source of current supply. The closure of the valve 69 thus prevents the complete dissipation of the head of water within the receptacle 15 and thus maintains within the cooling receptacle 15 a sufficient head of water to initiate the immediate discharge of water therefrom upon a subsequent operation of the push button 63.

Upon the supply of water within the bottle 39 being exhausted, it will be noted that the emptied vessel may be readily replaced, it being only necessary to open the cabinet door and to remove from the emptied bottle the stopper 40 with the tubes associated therewith and insert these parts into the full bottle. The flexible conduits 43 and 48 may be of any convenient length to permit this transfer to be readily made.

The front portion of the top of the cabinet 10 is preferably provided with a tray 71 adapted to intercept waste water and this tray 71 is adapted to drain into a tank 72 suitably supported within the upper portion of the cabinet 10 for accumulation therein and subsequent removal.

It will thus be seen that there has been provided in this invention cooling apparatus in which the several objects hereinabove set forth, as well as many advantages, are successfully achieved. It will be seen that the apparatus is of compact, as well as attractive, construction and that its operation is attendant with high efficiency. Moreover, it will be seen that in the handling of the water the apparatus is of exceedingly high sanitation, and in this connection it may also be noted that the apparatus avoids also contact of the water with any of the exterior parts of the water bottle, and particularly the neck thereof, by which part the bottle is usually handled. Moreover, it will also be

seen that the troublesome lifting and inverting of the water bottle are also effectively avoided.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinabove set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means forming a discharge passage for leading the water out of said receptacle, means for controlling the flow of water through said discharge passage, and means for controlling the transfer of water from said reservoir to said receptacle, one of said controlling means being set into operation upon a manual operation of the other controlling means.

2. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir for containing a supply of water and positioned below said receptacle, means forming a discharge passage associated with said receptacle and adapted to permit outflow of water therefrom upon the latter attaining a predetermined level therein, and manually controlled mechanically actuated means for transferring the water from said reservoir to said receptacle to raise the level therein.

3. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, a discharge passage for leading water out of said receptacle, a valve control for said discharge passage, a pump for effecting a transfer of water from said reservoir to said receptacle, controlling means for determining the operation of said pump, means for manually operating one of said controlling means, and means responsive to the manual operation of said controlling means for initiating the operation of the other controlling means.

4. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means forming a discharge passage for leading water out of said receptacle, controlling means including a valve for determining the flow of water through said discharge passage, electrically operated means for effecting a transfer of water from said reservoir to said receptacle, controlling means including a switch for determining the operation of said electrically operated means, and means for initiating the operation of one of said controlling means upon an actuation of the other controlling means.

5. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir for containing a supply of water, means forming a discharge passage associated with said receptacle and adapted to permit outflow of water therefrom upon the latter attaining a predetermined level therein, manually controlled means for controlling the flow of water from said resorvoir to said receptacle to raise the level therein, and means interposed between said reservoir and said receptacle adapted to diffuse the water passing from the former to the latter into the upper layers of water in said receptacle, thereby to prevent turbulency and disturbance of the thermal layers of water in said receptacle.

6. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle whereby the water therein settles into layers coolest adjacent the bottom of said receptacle, means for withdrawing water from the cooler layers adjacent the bottom of said receptacle, a source of supply of water in connection with said receptacle, manually controlled means for initiating at will a flow of water through said withdrawing means, and means for diffusing water from said source of supply into the upper and relatively warmer layers of water in said receptacle.

7. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means adapted to permit withdrawal of cooled water from said receptacle, a pump adapted to permit transfer of water from said reservoir to said receptacle, means related to said receptacle and adapted to diffuse the water transferred thereto into the upper layers of the water in said receptacle, and means for controlling the operation of said pump.

8. In apparatus of the character described, in combination, a receptacle adapted to receive water, mechanically actuated means for cooling the contents of said receptacle, a reservoir for containing a supply of water, mechanically actuated means for effecting a transfer of water from said reservoir to said receptacle, a switch operative automatically in response to the temperature of the water in said receptacle for controlling the operation of said cooling means, and means for withdrawing water from said receptacle and arranged to maintain a level of water therein above a predetermined

minimum, said last-mentioned means including a switch for controlling the operation of said water-transferring means.

9. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means forming a discharge passage associated with said receptacle adapted to permit outflow of water therefrom upon the latter attaining a predetermined level therein, a pump adapted to transfer water from said reservoir to said receptacle to raise the water therein above said predetermined level, and manually operated means mounted exteriorly of said receptacle and upon said means forming a discharge passage for controlling the operation of said pump.

10. In apparatus of the character described, in combination, a receptacle adapted to receive water, mechanically actuated means for cooling the contents of said receptacle, a reservoir for containing a supply of water, a pump for effecting a transfer of water from said reservoir to said receptacle, automatic means responsive to the temperature of the water in said receptacle for controlling the operation of said cooling means, and means for withdrawing water from said receptacle and arranged to maintain a level of water therein above a predetermined minimum, said last-mentioned means including means for controlling the operation of said water-transferring means.

11. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a closed reservoir for containing a supply of water having a connection from the bottom portion thereof to said receptacle, means forming an outlet passage associated with said receptacle adapted to permit outflow of water therefrom upon the water attaining a predetermined level therein, an electrically operated air pump connected to said reservoir and adapted to pass air therein to displace the water therefrom and into said receptacle, and a switch for controlling the operation of said pump.

12. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a closed reservoir for containing a supply of water having a connection from the bottom portion thereof to said receptacle, means forming an outlet passage associated with said receptacle adapted to permit outflow of water therefrom upon the water attaining a predetermined level therein, an electrically operated air pump connected to said reservoir and adapted to pass air therein to displace the water therefrom and into said receptacle, and a manually operated switch mounted upon said outlet passage for controlling the operation of said pump.

13. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, means for withdrawing cooled water from said receptacle, means forming a source of supply of water, a dome-shaped chamber positioned above said receptacle and connected through its lower portion thereto, and means for transferring water from said source of supply to said receptacle including a nozzle for spraying said water in a substantially upward direction into said dome.

14. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, means for withdrawing cooled water from said receptacle, means forming a source of supply of water, a dome-shaped chamber of glass positioned above said receptacle and connected through its lower portion thereto, and means for transferring water from said source of supply to said receptacle including a nozzle for spraying said water in a substantially upward direction into said dome.

15. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, means forming a discharge passage associated with said reptacle and adapted to permit outflow of water therefrom upon the water attaining a predetermined level therein, means adapted to form a source of supply of water under pressure, a chamber having a substantially dome-shaped top and an opening in the bottom portion thereof positioned substantially above said receptacle and communicating therewith through said opening, a nozzle connected to said source of water supply and adapted to discharge said water in a substantially upward direction against said dome-shaped top, and means for controlling the flow of water from said source to said nozzle.

16. In apparatus of the character described, in combination, a receptacle for receiving water, means for cooling the contents of said receptacle, means forming a discharge passage adapted to permit outflow of water therefrom upon the water attaining a predetermined level therein, means forming a source of supply of water under pressure, a chamber positioned above said receptacle having a substantially dome-shaped top and a substantially funnel-shaped bottom provided with an opening for communication with said receptacle, a nozzle connected to said source of water supply and adapted to discharge water in a substantially upward di-

rection against said dome-shaped top, and means for controlling the flow of water to said nozzle.

17. In apparatus of the character described, in combination, a cabinet having a receptacle for receiving water supported in the upper portion thereof, means for cooling the contents of said receptacle, means forming a discharge passage leading from said receptacle to the exterior of said cabinet and adapted to permit outflow of water from said receptacle upon the water attaining a predetermined level therein, a reservoir positioned in the lower portion of said cabinet and forming a source of supply of water, a chamber associated with said receptacle and having a transparent dome-shaped top extending exteriorly of said cabinet and having a bottom-forming portion provided with an opening for communication with said receptacle, a nozzle associated with said chamber and adapted to discharge water in a substantially upward direction against said transparent dome-shaped top, and means for controlling the flow of water from said reservoir to said nozzle.

18. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir for containing a supply of water, means forming a discharge passage associated with said receptacle and adapted to permit outflow of water therefrom, and manually controlled means for substantially simultaneously controlling the opening of said discharge passage and the flow of water from said reservoir to said receptacle.

19. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir for containing a supply of water, means forming a discharge passage for leading water out of said receptacle, a pump for transferring water from said reservoir to said receptacle, and manually operated means adapted substantially simultaneously to control the opening of said discharge passage and the operation of said pump.

20. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means forming a discharge passage for leading water out of said receptacle, a manually operated valve for controlling the flow of water through said discharge passage, and means controlled by the operation of said valve for effecting a transfer of water from said reservoir to said receptacle.

21. In apparatus of the character described, in combination, a receptacle adapted to receive water, means for cooling the contents of said receptacle, a reservoir forming a source of supply of water, means forming a discharge passage for leading water out of said receptacle, a manually operated valve for controlling the flow of water through said discharge passage, an electrically operated pump for effecting a transfer of water from said reservoir to said receptacle, and a switch associated with said valve and operated thereby for controlling the operation of said pump.

22. In apparatus of the character described, in combination, a receptacle adapted to receive water, electrically operated mechanical means for cooling the contents of said receptacle, means adapted to permit withdrawal of cooled water from said receptacle, a reservoir for containing a supply of water, an electrically operated pump for effecting a transfer of water from said reservoir to said receptacle, a source of supply of electrical energy, automatic temperature-responsive means for controlling the connection of said cooling mechanism to said source of electrical energy supply, and manually operated means for controlling the connection of said electrically operated pump to said source of supply.

23. In apparatus of the character described, in combination, a receptacle adapted to receive water, electrically operated mechanical means for cooling the contents of said receptacle, a discharge passage having a manually controlled valve and adapted to permit the withdrawal of water from said receptacle, a reservoir for containing a supply of water, an electrically operated pump for effecting a transfer of water from said reservoir to said receptacle, a source of electrical energy supply, a switch operated automatically in response to the temperature of the water in said receptacle for controlling the connection of said cooling means to said source of supply, and a switch operated by said valve for controlling the connection of said electrically operated pump to said source of supply.

In testimony whereof, I have signed my name to this specification this 28th day of February, 1923.

GEORGE E. HULSE.