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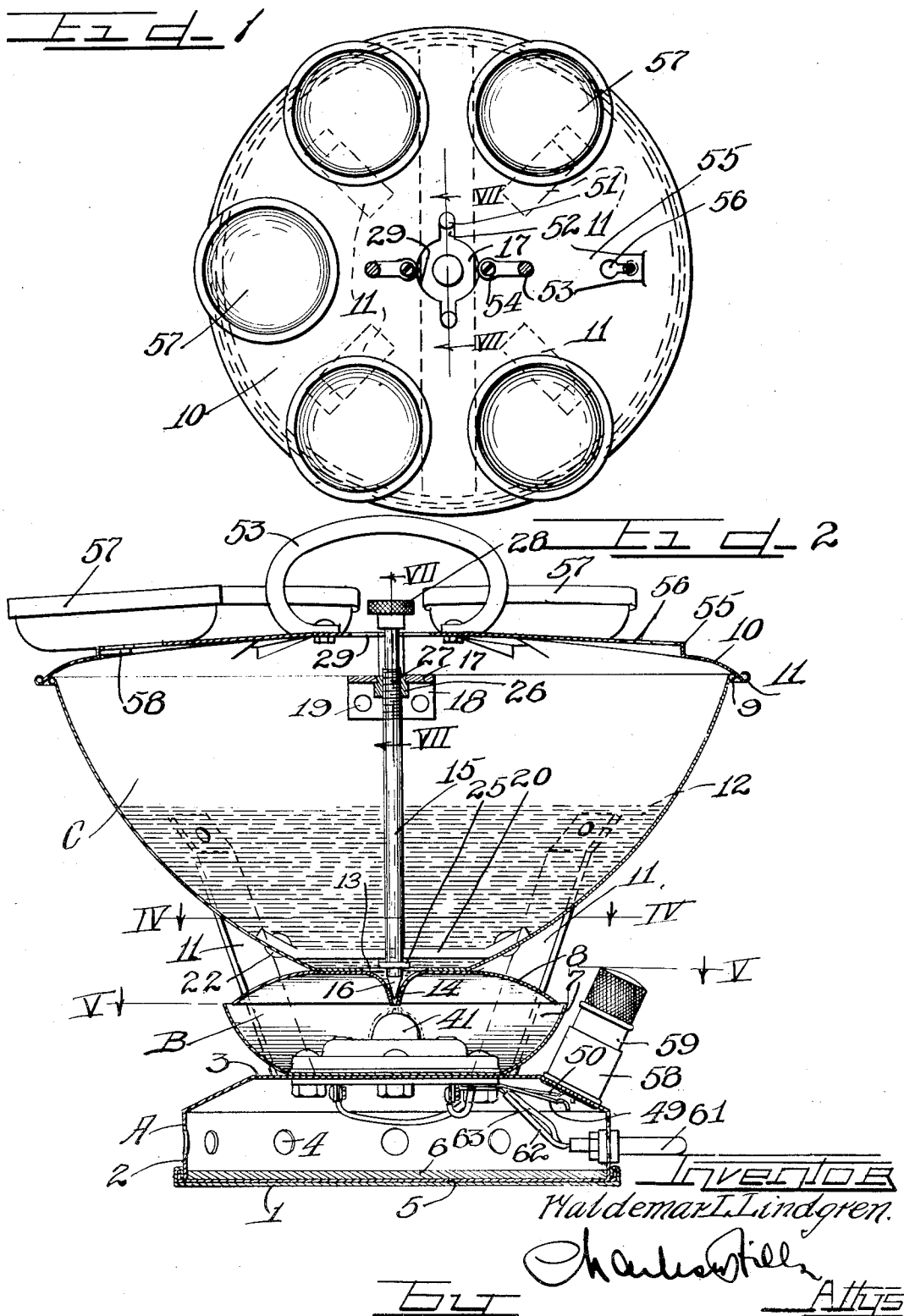
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COMBINATION HUMIDIFIER, CIGAR LIGHTER, AND ASH TRAY ARRANGEMENT

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COMBINATION HUMIDIFIER, CIGAR LIGHTER, AND ASH TRAY ARRANGEMENT

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5 Claims. (Cl. 219—40)

The present invention relates to a combination humidifier, cigar lighter and ash tray arrangement and particularly to one which may be readily used on a table or desk as an ornament.

An object of the present invention is to provide a humidifier which is small and compact and which may be placed on a table or desk for use.

Another object of the invention is to provide a small, compact humidifier having as a part thereof a cigar lighter and which also supports ash trays or like receptacles.

A further object of the invention is to provide a humidifier in which vaporization is accomplished by electrical means and wherein the fluid forms a part of the vaporizing circuit.

A still further object of the invention is to provide a novel vaporizing member for a humidifier and the like.

The above, other and further objects of the invention will be apparent from the following description, accompanying drawings and appended claims.

The accompanying drawings illustrate an embodiment of the present invention and the views thereof are as follows:

Figure 1 is a top plan view, partially in section, of a humidifier arrangement constructed in accordance with principles of the present invention.

Figure 2 is a transverse vertical sectional view through the humidifier illustrated in Figure 1.

Figure 3 is an enlarged transverse vertical section through the vaporizing unit or member showing details of construction of the same.

Figure 4 is a top plan view of one means for guiding the needle valve which figure is taken substantially in the plane of the line IV—IV of Figure 2.

Figure 5 is a top plan view of the bowl of the vaporizing part of the humidifier showing some parts in section and taken substantially in the plane of line V—V of Figure 2.

Figure 6 is a bottom plan view of the electrical connections to the vaporizer.

Figure 7 is a fragmentary view of the needle valve and adjusting means therefor.

The drawings will now be explained.

The form of apparatus chosen to exemplify the present invention is illustrated as comprising a base A, a vaporizer B, and a reservoir C.

The base A is made preferably of stamped metal and is provided with a bottom 1, a side wall 2 and a top 3. The side wall 2 is provided at intervals with openings 4 for ventilating purposes.

The outside of the bottom 1 is covered with a felt pad 5 while on the inside of the bottom 1 is provided an asbestos pad 6 to prevent the escape of heat through the bottom 1 and thus prevent damage to the humidifier support.

The vaporizer B comprises a bowl 7 and a cover 8. The bowl 7 rests on the top 3 of the base A, whereas the cover 8, which is dished in inverted position, is secured to the bottom of the reservoir C. The cover 8 is illustrated as circular and having its circumference slightly less in diameter than the circumference of the upper margin of the bowl 7. The cover 8 is so disposed with respect to the bowl 7 as to have its circumferential margin thereof substantially coincident with or lying slightly below the upper margin of the bowl 7 and spaced inwardly therefrom to provide escape for the vapor created within the vaporizer B.

The reservoir C is formed of sheet metal and is fastened at its bottom to the cover 8 in any suitable manner such as by spot welding or the like. The upper portion of the reservoir C has a bead 9 formed thereabout for strengthening purposes.

A lid 10 is provided for the reservoir which is in dished form and which has a marginal bead 11 for strengthening and finishing purposes.

The reservoir C is supported on the base A by legs 11 the lower ends of which are suitably attached to the base A and the upper ends of which are riveted or welded to the reservoir as indicated at 12. It must be observed that the vaporizer B and the reservoir C are supported and carried by the base A.

The bottom of the reservoir C is provided with a centrally disposed opening 13 and the cover 8 is provided with a funnel-shaped opening or passage 14 communicating with the opening 13 in the reservoir for fluid passage from the reservoir into the vaporizer B.

For controlling fluid passage from the reservoir C to the vaporizer B a needle valve 15 is disposed within the reservoir and has its pointed end 16 disposed to enter the funnel-shaped opening 14 in the cover 8. The upper end of the needle valve 15 is supported by a strap 17 fastened across the top of the reservoir inwardly of the sides thereof which strap has end flanges 18 riveted or welded at 19 to the reservoir. The lower end of the needle valve 15 is guided by two braces 20 and 21 which are illustrated as riveted at 22 and 23 to the interior of the reservoir C adjacent the opening 13. Each of the braces 20 is provided with a semi-circular recess 24 which recess

surrounds the needle valve 15 when the parts are assembled and serves as a guide for the lower end of the valve. The needle valve 15 is provided with a collar or other shoulder 25 disposed below the braces 20 and 21 for limiting the upward movement of the needle valve in service.

A threaded bushing 26 is secured in the strap 17 which cooperates with the threaded portion 27 of the needle valve which valve is provided at its outer end with a knurled end 28 whereby the valve may be rotated for opening or closing passage thru the funnel 14 of the cover 8.

The lid 10 is provided with a centrally disposed opening 29 through which the needle valve extends and which opening serves also as means for air entrance to the reservoir.

The illustrated form of vaporizing member shows a plate 30 circular in plan and formed of porcelain or other suitable material. The plate 30 is provided with apertured bosses 31 through which pass bolts 32 for securing the plate in position, also for fastening together the bowl 7 and the base A.

The bottom of the bowl 7, as well as the top of the base A, contain apertures 33 through which pass the lugs or bosses 31 on the plate 30. Likewise the bottom of the bowl 7 and the top 3 of the base A are provided with apertures 34 for receiving insulating washers 35 which insulate the electrodes 36 and 37 from the cover and base. An insulating filler 38 is interposed between the bottom of the bowl 7 and the plate 30 and an insulating block 39 is disposed against the underside of the top 3 of the base A. The plate 30, the blocks 38 and 39 are fastened in position by the bolts 32 which bolts also serve to secure the vaporizer B to the base A.

The upper surface of the plate A is illustrated as provided with an annular ridge 40 and a centrally disposed knob 41 there being a groove or gutter 42 thus formed between the knob 41 and the ridge 40. The knob 41 projects above the ridge 40.

The electrodes 36 and 37, as illustrated, each constitute a flat member inserted through suitably disposed openings in block 39, the washers 34, the filler block 38 and the plate 30 and have the upper ends thereof bent over at 43 to bear against a portion of the groove or gutter 42 which ends 43 extend downwardly in said groove or gutter.

The other ends of the electrodes 36 and 37 are provided with binding posts 44 which fasten electrical conductors 45 and 46 to the electrodes 36 and 37.

There are provided main binding posts 47 and 48 similar to the bolts 32. From the binding post 48 the conductor 45 joins the electrode 36 and from the binding post 47 the conductor 46 joins the electrode 37.

Extending from the binding post 47 is a spring contact arm 49, while a similar spring contact arm 50 extends from the binding post 48 for a purpose to be later explained.

The strap 17 is provided with studs 51 arranged one on each side of the needle valve 15 which studs at the upper ends enter a slot 52 in the lid 10 for the purpose of centering the same and retaining the lid in position on the reservoir C.

A handle 53 is fastened by bolts 54 to the lid 10.

The lid 10 is provided at intervals with struck-up ledges 55 which ledges are provided with bayonet slots 56.

A plurality of receptacles 57, such as ash trays, dishes or the like, are provided with studs 58 on

the bottoms of the dishes. Studs 58 enter the bayonet slots 56 and thus removably secure a dish or receptacle 57 to one of the ledges 55, there being as many receptacles 57 secured to the lid 10 as there are ledges 55, there being six (6) illustrated in the accompanying drawings.

Suitably attached to the base A is a socket 58 which carries a cigar or cigarette lighter indicated generally at 59. The lighter is of the axially movable type which is moved inwardly to energize the heating element there present. The inward movement of the lighter 59 will engage the spring contacts 49 and 50, thus placing in circuit with the binding posts 47 and 48 the heating element of the lighter for purposes well understood.

The base A carries line terminals 60 and 61, the former of which is associated with binding post 47 and the latter of which is associated with binding post 48. The terminals 60 and 61 are of well-known type and engage a suitable connector of an electric line.

Figure 2 illustrates the connector 61 as in electrical connection with its binding post 48 by means of a suitable conductor such as 62. There is another conductor 63 provided for connection with the binding post 60.

The device of the present invention is compact and made in such manner as to be readily ornamental and small enough so that it may be easily used on a desk or table without annoyance or inconvenience or without occupying too much space.

When it is desired to use the apparatus as a humidifier, the reservoir C is filled with a fluid such as water as indicated in dotted lines in Figure 2. The needle valve 15 is adjusted so that the water drips through the funnel member 14 onto the knob 41 whereupon the fluid is evenly spread by gravity over this knob falling into the gutter or groove 42 of the plate 30. This groove or gutter gradually fills with the fluid until such time that the same contacts the ends 43 of the electrodes 36 and 37 whereupon the fluid becomes a part of the electrical circuit of the vaporizer so that current passes through the fluid, vaporizing it. The vapor escapes through the space between the margin of the cover 8 and the bowl 7, humidifying the atmosphere. The position of the shoulder or collar 25 on the needle valve 15 is such as to prevent opening of the valve to an extent whereby the fluid within the reservoir C can quickly pass into the vaporizer. It is of course understood a gradual or drip feed of the fluid will be sufficient for maintaining the humidifier in action once the gutter or groove 42 has been filled to a point where the ends 43 of the electrodes 36 and 37 are electrically connected by the fluid.

Should, perchance, the fluid overflow the gutter or groove 42 it would then pass down over the ridge 40 and against the binding posts 47 and 48 thus creating a "short" which would have the effect of increasing the vaporizing effect in vaporizing the overflow liquid or fluid.

The lid 10 may be readily removed by means of the handle 53 and the receptacles or trays 57 removed from the lid for individual use as desired. The removal of the lid 10 may be accomplished without interfering with the setting of the needle valve 15 because of the provision of the central opening 29 in the lid which is large enough to freely pass over the knurled end 28 of the needle valve.

The provision of the bayonet slot 56 in the ledges 55 and of the stud 58 on the undersides of

receptacles 57 enable ready application to or removal from these ledges of these receptacles.

The cigar lighter 59 is handily disposed on the base A and may be actuated by pressure against the same in the usual manner.

The humidifier may also be placed on a shelf, ledge or counter for convenient use as a cigar lighter, while at the same time functioning to humidify the atmosphere.

The invention has been described herein more or less precisely as to details, yet it is to be understood that the invention is not limited thereby, as changes may be made in the arrangement and proportion of parts and equivalents may be substituted without departing from the spirit and scope of the invention.

The invention is claimed as follows:

1. A humidifier including in combination, a fluid reservoir, a bowl thereunder, a cover for said bowl providing a restricted vapor outlet, a grooved member within said bowl, said member having a knob thereon, there being an outlet from said reservoir opening over said knob, a needle valve for controlling passage through said outlet, and electrodes in said grooved member which are put in circuit relationship by fluid within said groove, and the extremities of said electrodes lying the same distance above the bottom of the grooves in said grooved member.

2. A humidifier including in combination, a fluid reservoir, a vaporizer, said reservoir having an outlet therefrom leading to said vaporizer, a valve in said outlet, a strap across the top of said reservoir for guiding said valve, and other guides within said reservoir for said valve disposed adjacent the outlet.

3. A humidifier, including in combination, a fluid reservoir having an opening in its bottom, a vaporizer disposed beneath said reservoir, said vaporizer having a cover secured against the reservoir, said cover having a funnel-shaped opening in it as a valve seat in register with the opening in said reservoir bottom, a needle valve member within said reservoir and having a pointed end for entering said funnel-shaped opening to control liquid passage between said reservoir and said vaporizer, and means within said vaporizer for vaporizing liquid received from said reservoir.

4. A humidifier, including in combination, a

fluid reservoir having an opening in its bottom, a vaporizer disposed beneath said reservoir, said vaporizer having a cover secured against the reservoir, said cover having a funnel-shaped opening in it as a valve seat in register with the opening in said reservoir bottom, a removable cover for said reservoir, said cover having an opening in it, a needle valve member within said reservoir and having a pointed end for entering said funnel-shaped opening to control liquid passage between said reservoir and said vaporizer, said needle valve member projecting through the opening in said cover whereby said valve may be adjusted externally of said reservoir for varying liquid passage through said vaporizer and whereby said reservoir cover may be applied to and removed from said reservoir without disturbing the relationship between said needle valve and its seat, and means within said vaporizer for vaporizing liquid received from said reservoir.

5. A humidifier, including in combination, a reservoir having an opening in its bottom, a vaporizer disposed beneath said reservoir, said vaporizer having a cover secured against the reservoir, said cover having a funnel-shaped opening in it as a valve seat in register with the opening in said reservoir, a needle valve member within said reservoir and having a pointed end for entering said funnel-shaped opening to control liquid passage between said reservoir and said vaporizer, a vaporizing member within said vaporizer, said vaporizing member consisting of a liquid conductor heater comprising a member of insulating material formed to provide an upstanding dome and having a ridge about and spaced from said dome to provide a liquid receiving groove at the base of said dome, said member being disposed within said vaporizer with the dome underlying the funnel-shaped opening in the vaporizer cover, and spaced electrodes extending into the groove of said vaporizing member and having the extremities of said electrodes terminating in the same horizontal plane, said electrodes being put in circuit by the liquid in said groove and the vaporization of liquid to a level below said electrodes opening the circuit between the electrodes.

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