Sept. 6, 1949. C. F. J. DUPUY 2,481,296

VAPORIZING DEVICE

Filed Oct. 14, 1944

Fig. 1

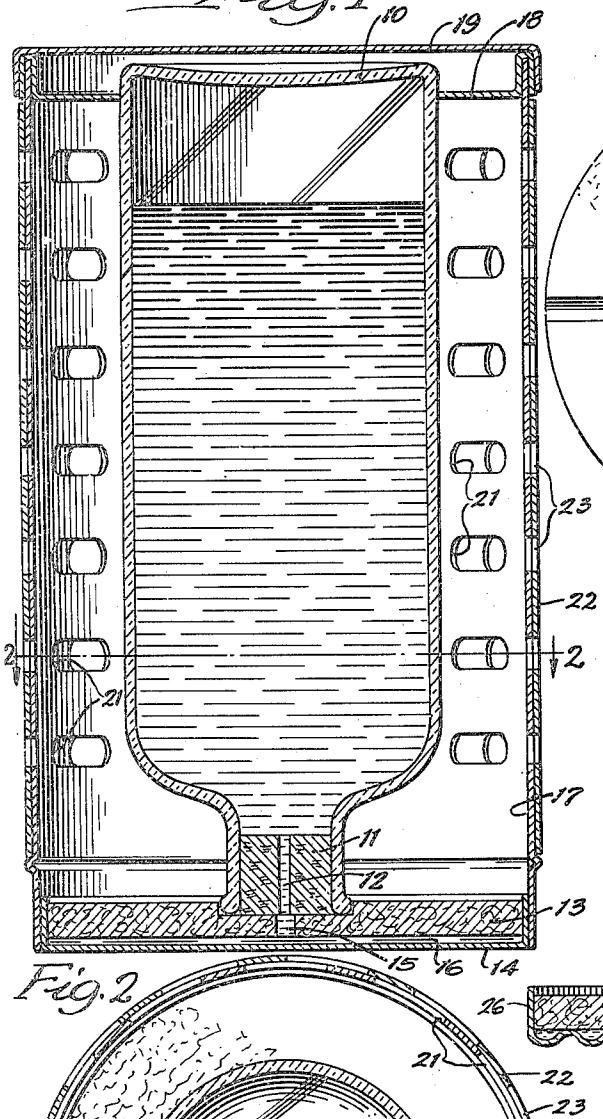


Fig. 3

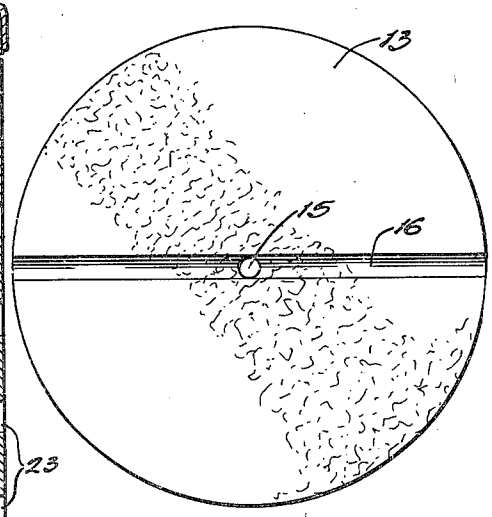


Fig. 4

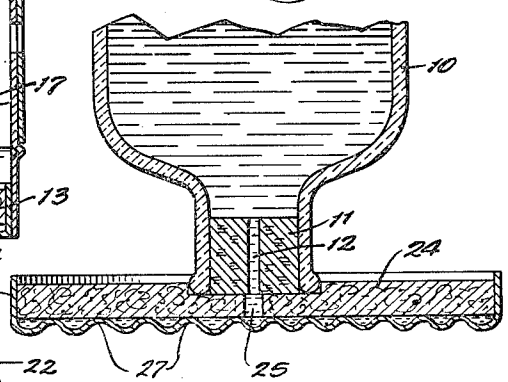
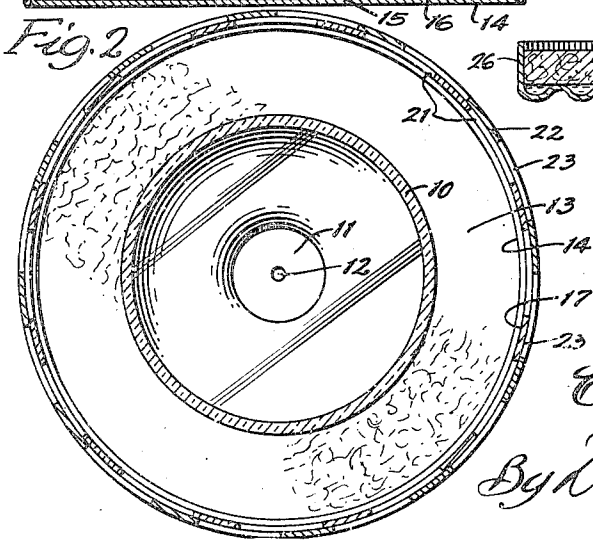


Fig. 2



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UNITED STATES PATENT OFFICE

2,481,296

VAPORIZING DEVICE

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Application October 14, 1944, Serial No. 558,633

5 Claims. (Cl. 299—23)

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This invention relates to vaporizing devices and more particularly to devices for use in domestic living spaces or the like.

One of the objects of the invention is to provide a vaporizing device of the type in which liquid is evaporated from a saturated pad in which provisions are made to insure complete wetting of the pad throughout its entire area.

Another object of the invention is to provide a vaporizing device of the type using a pad in which a feeding channel is formed in the pad or a supporting member therefor to insure flow of liquid to all parts of the pad.

Still another object is to provide a vaporizing device in which the rate of vaporization can be controlled. According to one embodiment the device is enclosed in a housing having controllable perforations therein for regulating the rate of vaporization.

The above and other objects and advantages of the invention will be more readily apparent from the following description when read in connection with the accompanying drawing, in which—

Figure 1 is a central axial section thru a vaporizing device embodying the invention;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a plan view of the pad of Figure 1; and

Figure 4 is a partial section of an alternative construction.

The device of Figure 1 comprises a container 10 in the form of a conventional bottle or the like having a stopper 11 in the open neck thereof which is provided with a reduced feeding opening 12. The bottle is adapted to contain any desired liquid to be vaporized and in use rests in an inverted position on a porous pad 13 formed of felt or similar material. The pad 13 is carried in a cup shaped holder 14 which may be of metal or other material impervious to the liquid and which is of a size to hold the pad.

According to the present invention, means are provided to insure flow of liquid from the bottle to the periphery of the pad to insure that the pad will be thoroughly wetted throughout. As shown in Figures 1 to 3, the pad is formed with a central opening 15 registering with the opening 12 in the bottle stopper and with a radially extending channel 16 communicating with the opening 15. With this construction access of air to the opening 12 to satisfy the partial vacuum created in the bottle by flow of liquid therefrom, is insured as long as the channel 16 is not filled with liquid. With this construction, the channel serves to carry the liquid to the periphery of the pad so that adequate liquid to saturate the pad is supplied at all times and the full area of the pad is effective.

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The bottle, pad and holder are preferably enclosed in a housing 17 which may be formed of cardboard or the like and which is larger than the bottle to leave a space therebetween. The housing may be cylindrical, rectangular, or any other desired shape. At its upper end the housing carries a supporting member 18 of cardboard or the like which fits over the top of the housing and which engages and supports the upper end of the bottle 10. Preferably a cover 19 fits over the top of the housing completely to enclose the bottle.

The housing is formed in its side wall with series of perforations 21 which are shown as circumferentially elongated holes. A sleeve 22 having similar perforations 23 therein is slidably supported on the housing for either turning or longitudinal sliding movement or both. As shown in Figure 1, the housing is cylindrical and the sleeve 22 is adapted to be turned thereon to bring its perforations into or out of register with the perforations 21 in the housing. By turning the sleeve the total size of the perforations thru the housing and sleeve is adjusted to vary the effective rate of vaporization.

Figure 4 illustrates an alternative construction in which parts identical with corresponding parts in Figure 1 have been indicated by the same reference numerals. In this construction the pad 24 is formed with a central opening 25 but the channel 16 is omitted. The pad is carried by a holder 26 whose bottom is corrugated as indicated at 27 to provide a series of channels at least one of which communicates directly with the opening 25. The channels serve to carry the liquid from the bottle to the periphery of the pad so that it will be saturated throughout and also conduct air to the opening 25 to satisfy the vacuum in the bottle 10 when the channels are not completely filled.

While two embodiments of the invention have been shown and described herein, it is understood that these are illustrative only and are not intended as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A vaporizing device comprising a container for liquid having a reduced outlet opening in

one end, a pad having a central opening, the container being adapted to be inverted on the pad with its outlet opening registering with the central opening in the pad and with said end of the container resting on the pad, a holder for the pad, at least one of the holder and the pad being formed with a radially extending channel communicating with the opening in the pad.

2. A vaporizing device comprising a container for liquid having a reduced outlet opening in one end, a pad having a central opening, the container being adapted to be inverted on the pad with its outlet opening registering with the central opening in the pad and with said end of the container resting on the pad, and a substantially cup shaped holder for the pad, the pad being formed in its lower surface with a radially extending channel communicating with the opening therein.

3. A vaporizing device comprising a container for liquid having a reduced outlet opening in one end, a pad having a central opening, the container being adapted to be inverted on the pad with its outlet opening registering with the central opening in the pad and with said end of the container resting on the pad, and a substantially cup shaped holder for the pad having its bottom formed to provide an open radially extending channel communicating with the opening in the pad.

4. A vaporizing device comprising a container for liquid having a reduced opening in one end, a housing enclosing the container, means for centrally supporting the upper end of said container comprising a cap engaging said housing and having a central aperture receiving said container, and means locating the lower portion of said container centrally within said housing comprising a vaporizing fibrous pad engaging the side walls of said container and the lower end thereof, said pad supporting the weight of said container and being depressed under the weight thereof, said pad having a central opening registering with the outlet opening in said container, and at least one of the container and the pad being formed with a radially extending channel communicating with the opening in the pad.

5. A vaporizing device comprising a container for liquid having a reduced outlet opening in one end, a housing enclosing the container, a cap having walls engaging the top of said housing and being centrally apertured to receive said container, a cover extending over said cap and enclosing the container which extends therethrough, a fibrous pad in the opposite end of the container and engaging the side walls thereof, said pad receiving and supporting the end of said container having a reduced outlet opening, said pad having a central opening registering with the outlet opening in said container, at least one of the container and pad being formed with a radially-extending channel communicating with the opening in the pad.

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