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S. J. DUNAWAY

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LIQUID VAPORIZING AND DIFFUSING DEVICE

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Fig. 1.

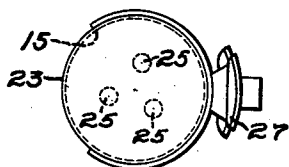


Fig. 2.

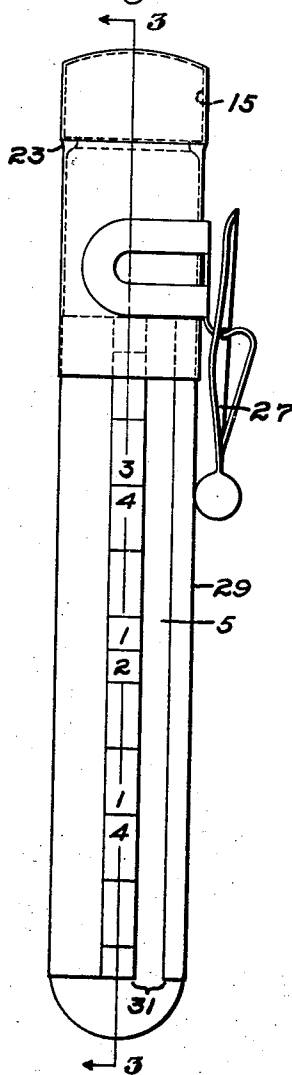
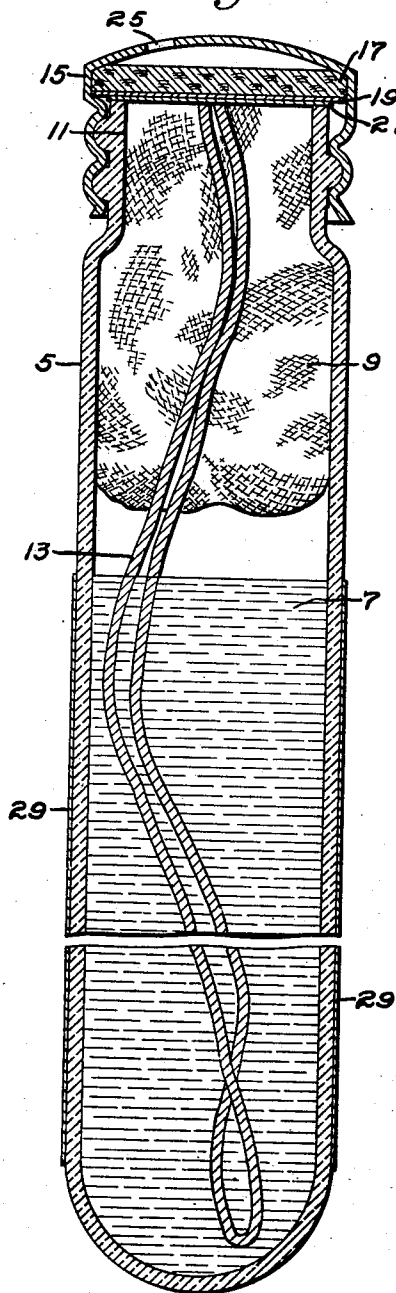


Fig. 3.



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## UNITED STATES PATENT OFFICE

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LIQUID VAPORIZING AND DIFFUSING  
DEVICE

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1 Claim. (Cl. 299—20)

This invention relates to devices for vaporizing more or less volatile liquids such as perfumes and diffusing the vapor slowly within an enclosed space such as a passenger vehicle, thereby to produce a pleasant odor within the passenger compartment of a motor car, for example, in which the device is placed. The invention is more particularly concerned with a vapor disseminating package which can be shipped, stored and furnished to the user as a completely sealed unit, from which there is no danger of leakage, but whose seal or seals can be removed when the device is to be placed in service. And when the device is in service liquid is fed from the supply by capillary action, for example, to the mouth of the container where the liquid evaporates and is diffused slowly.

The invention will best be understood by reference to the following description when taken in connection with the accompanying drawing of one specific embodiment thereof, while its scope will be pointed out more particularly in the appended claim.

In the drawing:

Fig. 1 is a plan of a device embodying the invention;

Fig. 2 is a side elevation of the same; and

Fig. 3 is a sectional view on enlarged scale on line 3—3 of Fig. 2.

Referring to the drawing and to the embodiment of the invention illustrated therein by way of example, there is shown a receptacle such as a vial 5 to contain a body of more or less volatile liquid 7 to be vaporized and disseminated in the outer atmosphere. A plug or pad 9 of absorbent material such as cheesecloth folded and rolled into a compact mass is fitted snugly into the vial adjacent its mouth 11. While the motion of the vehicle might be relied upon to stop the liquid onto the absorbent plug, I prefer to feed the liquid to the plug by capillary action as by a filamentary element such as a length of string 13, contacting with the plug and held by and between the plug and the surrounding wall of the vial. The filamentary element extends thence toward the closed end of the vial and preferably to a point adjacent the bottom of the latter. Thus, the liquid is fed from even the bottom of the vial and regardless of the motion of the vehicle.

To enable the package to be handled, stored and furnished to the user without loss of liquid, the vial is sealed in one or more ways. For example, the vial is provided (see Fig. 3) with an appropriate closure such as a cap 15 threaded onto the vial and having in its upper end suitable sealing means such as a rather thick disk 17 of

resilient and somewhat compressible material such as cork and a disk 19 of material such as tinfoil which provides an excellent seal for volatile liquids. A further disk 21 of material such as Cellophane resting on the lip of the orifice is a further aid in making a tight seal. Finally a sealing jacket 23 (see Fig. 2) is placed about the cap 15 and about the upper portion of the vial below the cap.

To place the device in service, the sealing jacket 23 is stripped off and discarded, the cap 15 is removed and the disks 17, 19 and 21 are removed and discarded. While the cap also might be discarded, I prefer to provide the cap with one or more openings 25 for the escape of vapor, and to restore the cap to its place after the inner sealing disks have been removed and discarded. The device is now ready for use and should preferably be placed in a generally upright position to avoid too rapid loss of contents. To aid in keeping it upright, the vial is equipped with a spring clip 27 to be clipped onto a convenient part of the car. The filamentary element 13 feeds the liquid by capillary action to the porous pad or plug 9 which is composed of filamentary elements to aid in the slow and gradual diffusion of vapor through the openings 25 into the outer atmosphere.

The vial is partially surrounded by a label 29 and this is conveniently made use of as a gauge as by making the label of such size as to leave a gap 31 (see Fig. 2) through which the level of the liquid may be seen. In addition, the label is provided with a set of graduations, as shown, with indicia such as  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , to indicate the amount of liquid and to show when replacement should be made.

Having thus described one embodiment of the invention, what I claim and desire by Letters Patent to secure is:

A device of the class described comprising a vessel having a mouth, a porous pad filling the top of the vessel at the mouth and having associated therewith a feeding extension extending toward the bottom of the vessel, the vessel having an annular shoulder surrounding its mouth and exterior cap-locking means adjacent the same, a sealing disk over said mouth and resting on the shoulder, and a readily removable and replaceable cap cooperating with the cap-locking means having a portion opposing said shoulder to press the disk thereto and being perforate in the area opposing the mouth to permit vaporization from the pad through the cap when the disk is removed.

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