

Aug. 6, 1957

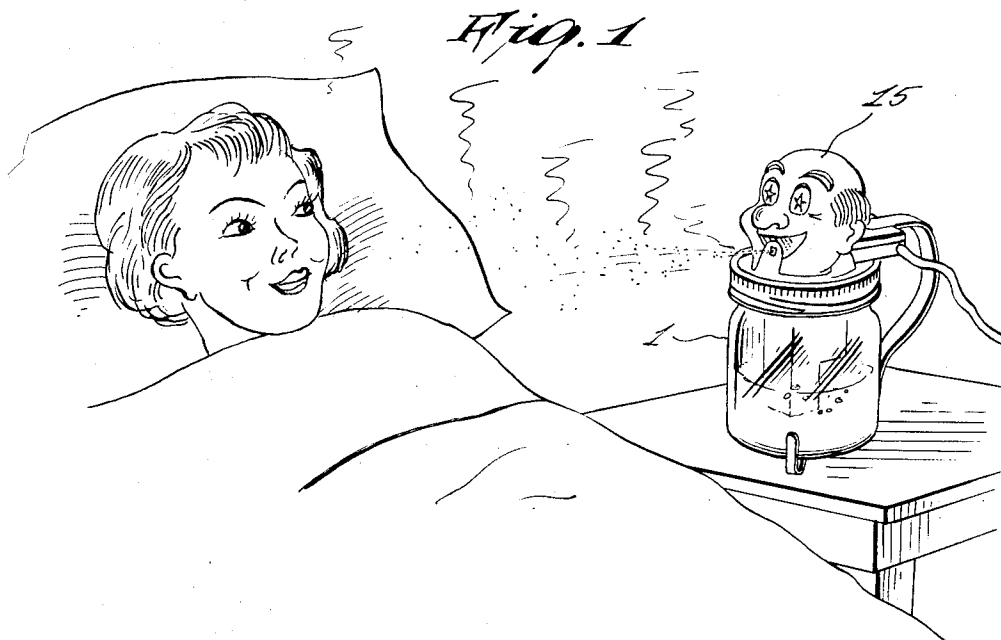
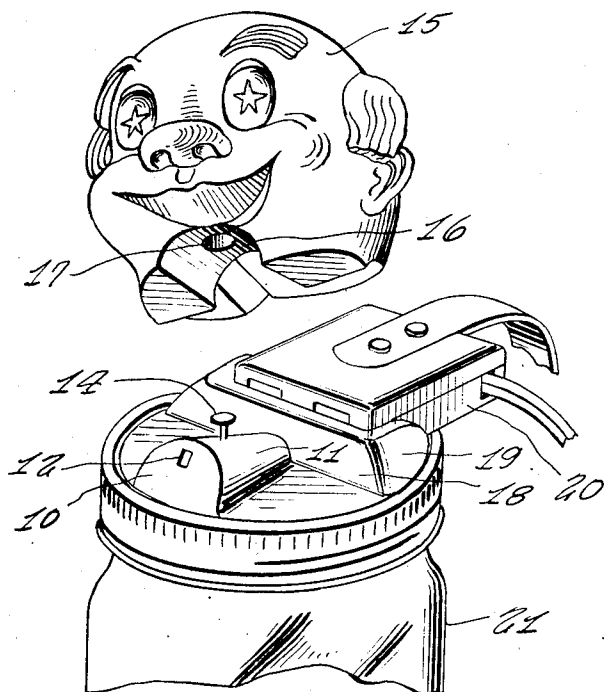
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2,802,090

VAPORIZER

Filed Jan. 13, 1955

2 Sheets-Sheet 1



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Fig. 3

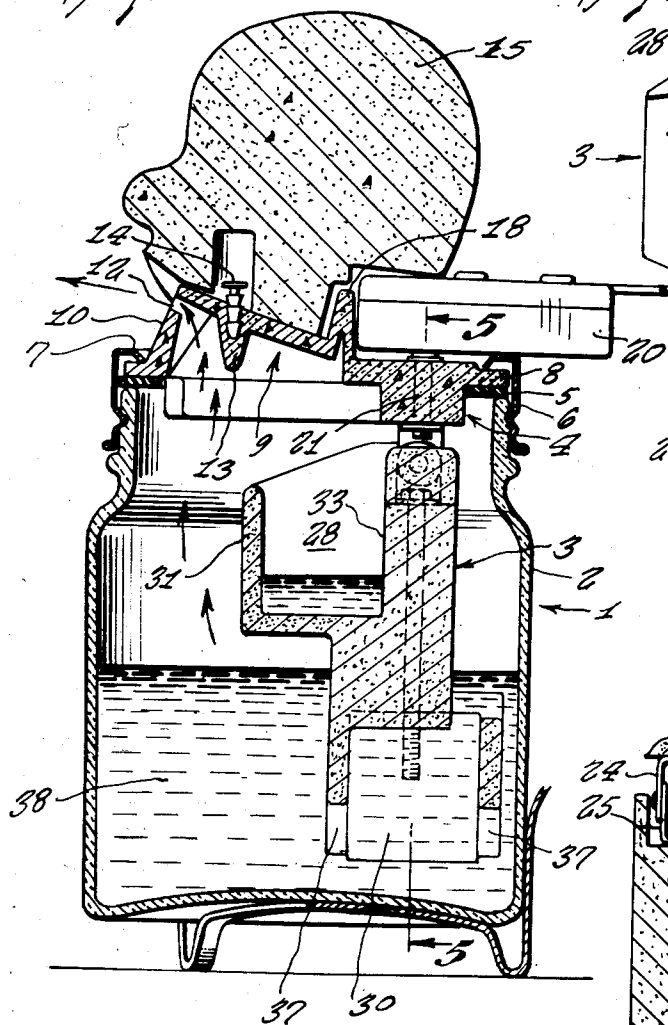


Fig. 4

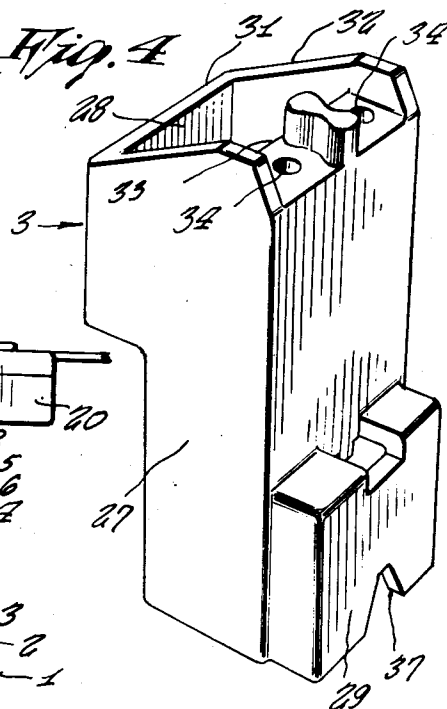
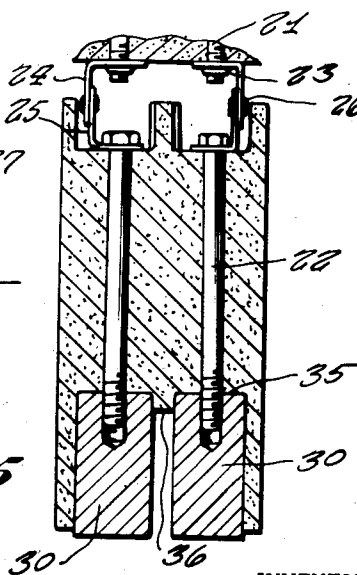


Fig. 5



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2,802,090

VAPORIZER

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6 Claims. (Cl. 219—40)

This invention relates to electric vaporizers and more particularly to electric vaporizers adapted to be used for vaporizing medicated liquids, such as tincture of benzoin, inhaled by patients, as for example in the treatment of respiratory ailments. The vaporizer of this invention is also adapted to be used for vaporizing deodorant or disinfectant liquids and for other purposes which will be hereinafter obvious.

In Patent 2,051,718 there is described an electric vaporizer having a medicament carrier and insulator section, the latter being used to house the electrodes of the vaporizer. Use of this device has exhibited certain disadvantages which the present invention overcomes. Liquids used to generate the vapors, find their way between the medicament carrier and insulator section and attack the conductor causing it to corrode and rust. This unduly limits the life of the vaporizer.

Electric vaporizers of the type herein described are widely used for the administration of medicaments to children. In administering drugs to children it is important that this be done as pleasantly as possible if the treatment is to be at all effective. It is a feature of the present invention to provide an ornamental figure on top of the vaporizer to provide diversion and interest for the child patient under treatment.

It is an object of the present invention to provide an electric vaporizer of the type herein disclosed having a one piece medicament and electrode carrier. It is also an object of the present invention to provide an electric vaporizer of the type herein disclosed having an ornamental figure on the top thereof.

Other objects and advantages of my invention will be more apparent from the following description when taken in connection with the accompanying drawing in which:

Figure 1 is a perspective view of a vaporizer embodied in this invention;

Figure 2 is a partial exploded view of a vaporizer of this invention showing the manner of assembly of the ornamental figure with the vaporizer;

Figure 3 is a medial longitudinal cross section of the vaporizer shown in Figures 1 and 2;

Figure 4 is a perspective view of a one piece medicament and electrode holder embodied in this invention.

Figure 5 is a section taken through line 5—5 in Figure 3 of the medicament and electrode holder and partly through the closure member.

Referring to the drawings, the vaporizer unit is generally shown at 1, and is of usual construction, comprising a conventional liquid container 2 which may be a wide mouth glass jar. Jar 2 is provided at its rim with rubber washer 5 on which is supported inner closure member 4. An annular screw cap 6 provided with an inwardly extending flange 7 is screwed into the threads of jar 2. Flange 7 thus engages flange 8 of closure member 4 and holds it securely in place on jar 2. Electrode and medicament holder 3 is pivotally suspended from closure member 4 into jar 2 in a manner which will be described in more detail below.

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Closure member 4 is formed at one end with a hollow chamber 9 extending vertically above the surface thereof and provided with a front wall 10 and roof 11 which may be curved and tapered downwardly and rearwardly.

Front wall 10 is provided with a hole 12 that communicates with chamber 9 and allows vapors generated in the jar to issue therefrom. Roof 11 is provided with a lug 13 that depends therefrom into chamber 9. A hole is provided through roof 11 and into lug 13 to accommodate pin 14 which engages ornamental head 15.

Closure member 4 is also formed toward its rear with vertically extending wall 18 and rearwardly extending walls 19 which together with the portion of closure member 4 enclosed thereby form a seat for female plug 20.

Wall 18 also acts as a stop for female plug 20, said plug being provided with channels in the bottom thereof to allow its insertion against and at right angles to wall 18. Two holes are bored through the bottom of this seat to accommodate two terminal electrodes 21 used to make electrical contact with female plug 20 at the channels thereof.

Terminal electrodes 21 are held in place by tapped hole 23 which also serve to electrically connect terminal electrodes 21 to conductors 22 through conducting brackets 24 and 25. Brackets 24 and 25 are pivotally connected to each other by hinge pins 26.

The one piece medicament and electrode holder is shown in perspective in Figure 4 and is constructed of any suitable non-electrical conducting material which will not be affected by the medicaments that are used therein. Preferably this is made of a ceramic material such as ceramic clays or porcelain. It also may be fashioned from plastics having the above said characteristics.

Holder 3 comprises a central portion 27 which may be a rectangular solid box, an upper laterally extending medicament reservoir 28, and a lower laterally extending portion 29 used to partially house electrodes 30. The medicament reservoir 28 may be rectangular in cross section and is provided with a front wall 31, two side walls 32 and a back wall 33. The upper edges of side walls 32 may be inclined downwardly and laterally with respect to the central portion 27.

Two longitudinally extending holes 34 are bored through the body of central portion 27 which extend into the seat for electrodes 30. This allows for insertion of conductors 22 through the central portion 27 and for electrical connection of conductors 22 with electrodes 30.

A rectangularly shaped recess of sufficient depth to substantially completely insert electrodes 30 is cut into the bottom of holder 3. This recess extends forwardly with respect to vapor outlet 12 into central portion 27 and rearwardly into lateral portion 29 of holder 3. Electrodes 30 abut roof 35 of said seat. A rib 36 is formed depending from roof 35 which acts to provide snug recesses to hold electrodes 30 in place and spaced from each other. Electrodes 30 are made of any suitable electrical conducting material. They may, for example, be steel or carbon electrodes.

Electrodes 30 are entirely surrounded by insulating material except for the bottom portion thereof and the space between them. Triangularly cut out portions 37 are provided at the base of the medicament and electrode holder to allow for lateral circulation of the liquid between the electrodes 30.

The advantages of the single piece construction of the medicament and electrode holder are several. Among these advantages the following may be mentioned. Because of the one piece construction no loosening between the parts can occur. This construction also facilitates the filling of the device with medicaments. No rusting of the connecting bolts occurs by virtue of the present construction. Finally the present construction make pos-

sible the use of a medicament and electrode holder assembly of considerably less bulk than the prior art constructions. This allows for the inclusion of more carrier fluids in the jar and, consequently, the vaporizer can operate for a longer time without refilling.

The ornamental figure placed on top of the vaporizer may be any figure that would interest a child. Preferably it is a comic head with the mouth disposed so that the vapors issuing from the vaporizer appear to evolve from the mouth of the head. The base of ornamental head 15 is provided with a cut out portion 16 which mates with the roof 11 of the vaporizer to provide a snug fit. The rest of the base is so shaped as to conveniently rest on the closure member 4 and female plug 20. Cut-out portion 16 is provided with a recess 17 to mate with pin 14 on roof 11, which holds the ornamental head 15 in place.

When the device is to be used, the vaporizer jar is filled with water or any other carrier fluid 38 approximately to the liquid level line as shown in Figure 3. The medicament reservoir is filled by revolving closure member 4 about its pivotal connection 26, thus exposing the chamber of the medicament reservoir. This chamber is partially filled with the desired medicament and closure member 4 is again revolved about its pivotal connection until it assumes a position as shown in Fig. 3. The closure and the electrode and medicament holder assembly is then inserted in the jar so that it rests on washer 5. Annular screw cap 6 is then screwed into place as shown in Figure 3 forming a vapor-tight closure. Ornamental head 15 may be permanently attached to closure member 4 or may be made so that it can be readily removed. In the latter case the ornamental head 15 is seated after jar has been closed as described above, and female plug 20 has been placed into engagement with terminal electrodes 21. The ornamental head 15 is so seated with respect to vapor hole 12 that the vapors issuing from the hole appear to be coming from the mouth of the ornamental head. The lead to the female plug 20 is then plugged into an electrical source and the liquid is heated by electrodes 30. The heat generated in the jar causes the medicament and carrier liquid 38 to vaporize and to issue intermixedly through hole 12.

While the invention has been described with particular reference to specific embodiments, it is to be understood that it is not limited thereto but is to be construed broadly and restricted solely by the scope of the appended claims.

1. In an electric vaporizer, a vaporizer jar, a cover in vapor-tight engagement with the jar and a one piece medicinal receptacle and electrode holder pivotally suspended from said cover.

2. In an electric vaporizer, a vaporizer jar, a cover member in vapor-tight engagement with the jar, a one piece medicinal receptacle and electrode holder pivotally suspended from said cover, said one piece medicinal receptacle and electrode holder comprising a body portion and a laterally extending medicinal receptacle portion, said body portion being formed with recesses in the bottom thereof to receive electrodes and with longitudinally extending holes therethrough to accommodate conductors.

3. In an electric vaporizer, a vaporizer jar, a cover member in vapor-tight engagement with the jar, a one piece medicinal receptacle and electrode holder suspended from said cover member, said cover member being formed with an upwardly extending chamber having a front wall and a roof to mate with the underside of an ornamental

figure, said front wall being provided with a hole therethrough to allow escape of vapors generated in said vaporizer, said cover also being provided rearwardly of said chamber with two holes therethrough and two terminal electrodes disposed in said holes, said one piece medicinal receptacle and electrode holder comprising a body portion and an upper laterally extending medicinal receptacle portion, said body portion being provided with two recesses in the bottom thereof and two longitudinally extending holes therethrough, two electrodes disposed within said recesses in spaced apart relationship, two conductors disposed within said longitudinally extending holes and in electrical contact with said terminal electrodes and said electrodes.

4. In an electric vaporizer, a vaporizing jar, a cover in vapor-tight engagement with said jar, said cover being formed with an upwardly extending chamber having a front wall and with a roof to mate with the underside of an ornamental head, said front wall being provided with a hole therethrough to allow for passage of vapors generated in said vaporizer, said roof being provided with means for engaging an ornamental head, an ornamental head formed with recesses in the undersurface thereof to mate with said roof and said engaging means, said ornamental head being disposed on the roof of said chamber so that the vapors issuing from said chamber appear to come from the mouth of said ornamental head.

5. In an electric vaporizer, a vaporizer jar, a cover member in vapor-tight engagement with said jar, a one piece medicinal receptacle and electrode holder suspended from said cover member, said cover member being formed with an upwardly extending chamber having a front wall and a curved roof to mate with the underside of an ornamental head, said front wall being provided with a hole therethrough to allow for passage of vapors generated in said vaporizer, said roof being provided with means for engaging an ornamental head, an ornamental head formed with recesses in the undersurface thereof to mate with said roof and said engaging means, and disposed on said roof so that vapors issuing from said chamber appear to come from the mouth of said ornamental head, said cover member also being provided rearwardly of said chamber with two holes therethrough having two terminal electrodes disposed therein, said one piece medicinal receptacle and electrode holder comprising a body portion and an upper laterally extending medicinal receptacle portion, said body portion being provided with two recesses in the bottom thereof and two longitudinally extending holes therethrough, two electrodes disposed within said recesses in spaced apart relationship, two conductors disposed within said longitudinally extending holes and in electrical contact with said terminal electrodes and said electrodes.

6. In an electric vaporizer, a vaporizer jar having an opening, a cover in vapor-tight engagement with said opening, a one piece element comprising a liquid reservoir portion and an electrode holder portion pivotally suspended by suitable means from said cover, and means for generating vapors within said jar and for passing them outside said jar.

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