March 28, 1939. J. B. CLYNE 2,152,466

VAPORIZER

Filed June 3, 1936

Fig. 1

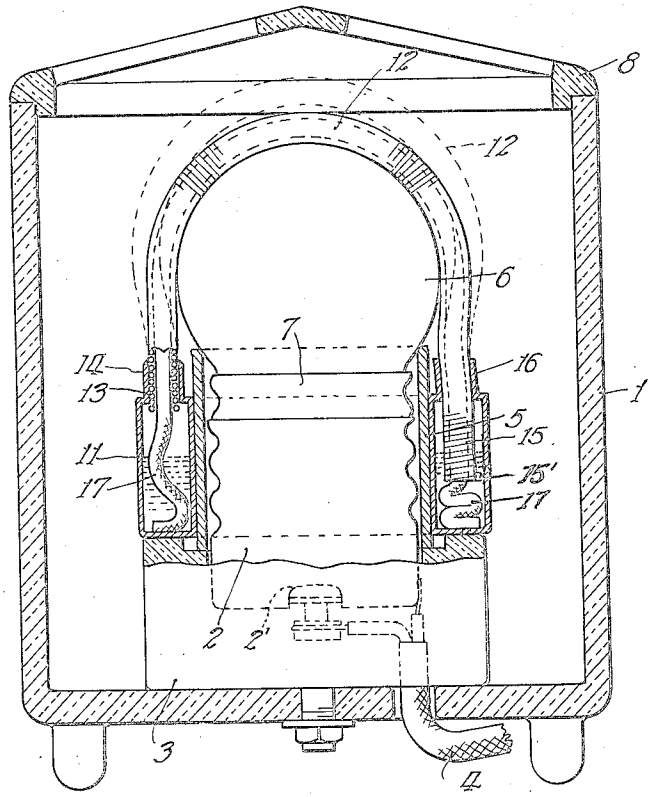


Fig. 3.

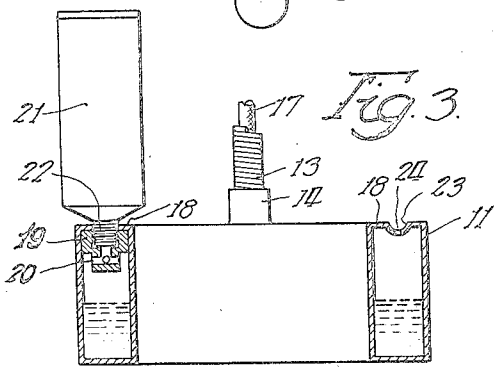
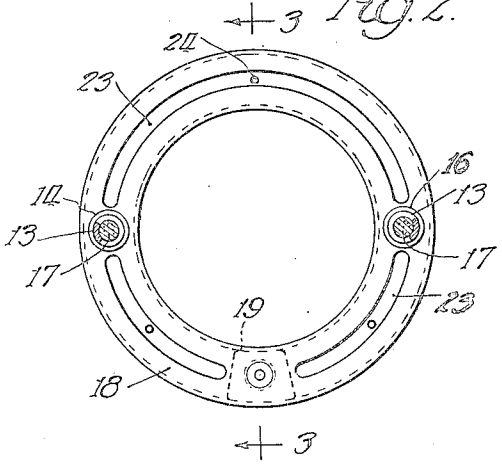


Fig. 2.



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VAPORIZER

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3 Claims. (Cl. 219—45)

My invention belongs to that general class of devices known as vaporizers and more particularly to a device for vaporizing and dispensing medicaments, perfumes and disinfectants as well as vapors which will repel or be distasteful or fatal to moths, flies, mosquitos or other pests or destructive insects.

The invention has among its objects the production of a simple and novel device of the kind described that is efficient, compact, attractive, inexpensive and easily controllable.

The same has particularly as an object the production of a device that is adapted to vaporize suitable materials either rapidly or slowly, depending upon the deside of the user and which may be readily adjustable or controlled to maintain a predetermined rate of vaporization.

It has as a further object the production of a device which is readily adaptable for use with a desired medicament, perfume or the like, which material may be in liquid or oil form or in the form of a jelly or semi-solid made up of a suitable base and having the desired medicament or the like incorporated with the base.

It also has as an object the production of a device which may be so constructed that it can be charged or refilled only with the predetermined kind of intended material so that inferior or harmful materials cannot and will not be ordinarily employed.

The preferred embodiment of the device lends itself to the construction of attractive and ornamental devices of any desired size and shape.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists of the construction and combination of parts herein shown and described and more particularly pointed out in the claims.

In the drawing, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a vertical sectional view through one form of the device;

Fig. 2 is a top elevation of the container or reservoir removed from the receptacle or shell and sectional view through the wick and conduit; and

Fig. 3 is a sectional view taken substantially on the line 3—3 of Fig. 2 and illustrating the preferred method of recharging of the reservoir.

Referring to the drawing in which only one embodiment of the invention is shown, 1 represents the outer shell, enclosure or receptacle made of suitable material of the desired size and shape and as ornamental as may be found desirable, within which is arranged a heating device which, in the embodiment shown, consists of a lamp socket or shell 2 mounted on a suitable support 3 and surrounded by a wall 5 of insulating material. I have also shown the heating element in the shape of an electric incandescent lamp 6 formed with the usual threaded base 7 adapted to threadedly engage with the shell or socket 2, it being understood that any suitable or equivalent heating element or method of mounting the same may be employed. In the socket illustrated, the conductors 4 are electrically connected to the shell 2 and to a contact 2' insulated from the shell in the usual manner, this being a typical lamp socket connection.

Preferably of annular form and surrounding the shell 2 and insulation 5 is a container 11, the same being shown removably carried by the support 3. Mounted on the container 11 is a conduit 12, preferably made of a spirally wound wire having one end 13 connected to a sleeve 14 on the container and the other end 15 adjustably extended through a sleeve 16 on the container, the intermediate portion of the conduit being looped over or about the heating element which, in this instance, is the lamp 6. Arranged within the conduit with the ends projecting into the container is a wick 17 of cotton or other suitable material which will carry the fluid material to be vaporized up into the conduit where it will be vaporized by action of the heat given off by the lamp.

The conduit being of coiled wire, the spaces between the adjacent coils constitute a plurality of vents through which the vapors may readily escape. In the particular device shown, the end 13 of the conduit may be secured in the sleeve 14 but the opposite end is preferably slidably arranged in the sleeve 16 so that the same is adjustable and may be pulled out or positioned so as to vary the relative relation of the lamp and conduit. In full lines (Fig. 1) the conduit is shown contacting with the lamp while in the dotted lines (Fig. 1) the same is shown slightly spaced therefrom so that the rate of vaporization may be varied and controlled, it being obvious that there will be more heat applied to the conduit when the same is in contact with the lamp than when separated therefrom. The conduit being of metal, the same becomes more or less hot, and, in fact, when in contact with the lamp, very rapidly dissipates heat from the lamp. Any equivalent type of vented conduit may be em-

ployed, that shown being substantially an apertured metal tube, which is, however, less expensive than a sheet metal tube with perforations, and which has a maximum venting capacity.

As shown in Fig. 1, the one sleeve 16 may be slightly tilted so as to better frictionally engage and bind on the conduit so as to hold it in an adjusted position. The same result may be secured in any equivalent manner. The end 15 may also be provided with a stop 15' (see Fig. 1) of suitable form or the same result may be secured by merely bending the end of the last coil outwardly so that the conduit is not easily and inadvertently pulled out through the sleeve 16.

The material to be vaporized is placed in the container and this material may be either in the form of a liquid or in jelly form that will tend to liquefy when the device is in operation and the container is warmed by the heat given off from the heating element.

The container 11 is provided with a filler opening which, in the case of a liquid, may be merely an opening having a suitable closure. It is generally preferred, however, to have the material in a jelly form, the composition being made up of a suitable base that will tend to more or less set or jelly when cool but which will more or less liquefy when warm as above mentioned. By using a jelly rather than a liquid, at such times as the device is not in use, the same will not tend to leak out of the container should the same be overturned.

As illustrated in Fig. 3, the container may be provided with a filler opening in the top wall 18 arranged with the member 19 having a restricted opening 20 therethrough. The material to be put in the container is preferably in jellied form and in a collapsible tube 21 having a threaded nozzle 22 arranged to engage with the threads at the filler opening. To refill the container, the tube 21 is screwed down as shown in Fig. 3 and the tube squeezed thereby forcing the contents of the tube into the container through the restricted opening 20, the opening 20 in the case illustrated being of such size that material, whether jelly or liquid, will not readily flow into the container except when pressure is applied. This method of refilling the container is desirable since to a large extent it insures the proper refilling of the container with material suitable and compounded for use therein and there is less likelihood of inferior or unsuitable materials or materials injurious to health being used to refill the container. In other words, properly prepared or compounded medicaments may be sealed and marketed in the refill tubes 21, and by medicaments I wish to be understood as meaning materials the vapors of which may be used for medical treatment such as pine oil, eucalyptus and the like, as well as perfumes, disinfectants and materials for moth, mosquito or fly, etc., repelling or exterminating. Of course, any similar method of pressure refilling may be employed.

The particular container 11 shown may also be provided with a groove or trough 23 in the top extending from the filler opening and a small vent 24 provided which will prevent the device from becoming air locked during the filling or use of the device, as well as to permit any material that might gather on the top of the container to drain back into the container. It may be mentioned that an additional advantage of using a jellied material is that evaporation or vaporization of the active ingredient is slight when the device is cold or not in use, so that vapors are not given off when the lamp is not in operation.

In using the vaporizer, the desired material is placed in the container, which in the particular type of construction shown, may be readily lifted out of the shell upon removing the lamp 6 so that it may be conveniently filled. Assuming that the same is positioned as in Fig. 1 with the lamp in place, the electric circuit is closed and the lamp is lighted, becoming a source of heat or heating element. The heat given off by the lamp heats the metal conduit 12 and the material in the wick is readily vaporized, the same being discharged from the conduit through the vents. To retard the vaporization, the conduit may be pulled away from the lamp the desired extent so that the rate of vaporization may be regulated. In this case, it may be mentioned that some materials may require less heat to vaporize them than others require so that regulation may be made not only to vary the rate of vaporization but also to make the device adapted for materials of varied degrees of volatility.

Where it may be desired to use different materials at different times in the same device, the container may be cleaned or emptied or a plurality of containers may be provided each for its own particular material.

A removable cover or closure for the receptacle or container 1 may be provided, a simple form of which is shown at 8 in Fig. 1.

It may also be mentioned that the lamp 6 may be a colored lamp as, for example, red, blue, green, amber, etc., so that a soft glow of the desired tint may be secured, adding to the ornamental appearance of the device.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. In a vaporizing device of the kind described and in combination, a support having an enclosure surrounding the same and provided with a heating element, an annular container surrounding said element and carried by said support, a flexible spirally wound wire conduit having its ends projecting into the container, one end being relatively adjustable in the container, a wick arranged within the conduit with its ends extended into the container, said conduit extended into proximity to the heating element and adjustable relative thereto whereby the same may be arranged a predetermined distance from the heating element, the spaces between the coils of the conduit constituting discharge openings for the escape of vapors from the wick.

2. In a vaporizing device of the kind described and in combination, a support having an enclosure surrounding the same and provided with an electrical outlet and a heating element connected therewith, a removable annular container surrounding said outlet and carried by said support, a vented conduit having its ends projecting into the container, the same being relatively adjustable on the container, a wick arranged within and fitting the conduit with its ends extended into the container, said conduit extended into proximity to the heating element and adjustable relative thereto whereby the same may be arranged a predetermined distance from the heat-

ing element, the conduit vents constituting discharge openings for the escape of vapors from the wick.

3. In a vaporizing device of the kind described and in combination, a support having an enclosure surrounding the same and provided with an electrical outlet and a heating element connected therewith, an annular container surrounding said outlet and carried by said support, a flexible spirally wound wire conduit having its ends projecting into the container, a wick arranged within the conduit with its ends extended into the container, said conduit extended into proximity to the heating element and adjustable relative thereto whereby the same may be arranged a predetermined distance from the heating element, the spaces between the coils of the conduit constituting discharge vents for the escape of vapors from the wick, said container provided with a constricted threaded filler opening and means for threadably engaging the container at said filler opening for forcing material to be vaporized through said filler opening into the container.

JAMES B. CLYNE.