

Aug. 18, 1942.

A. ZAHNER

2,293,235

VAPORIZER

Filed Jan. 15, 1941

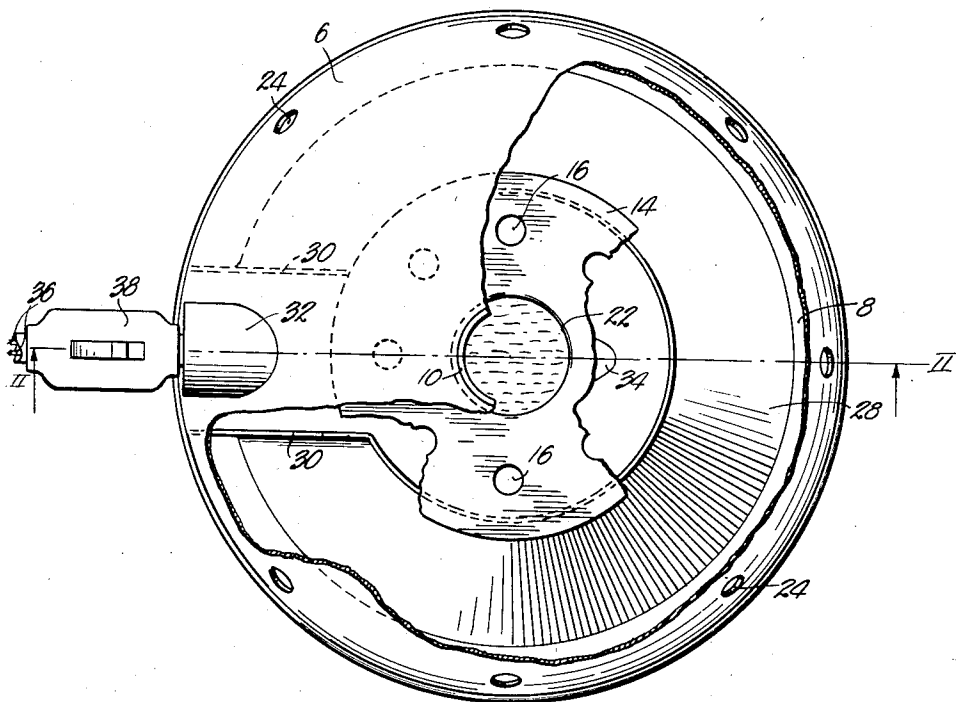


Fig. 1.

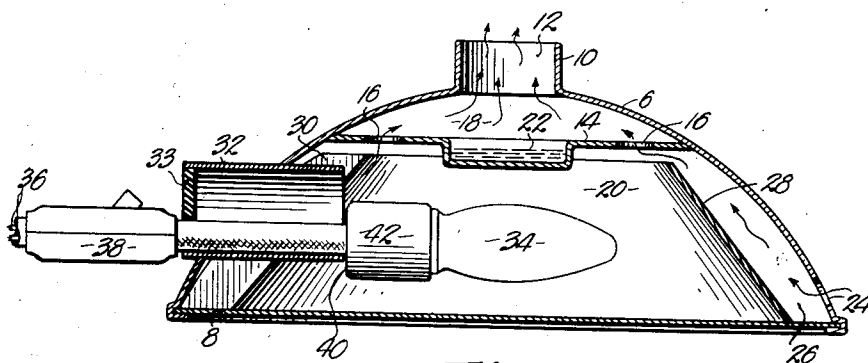


Fig. 2.

INVENTOR.
Andrew Zahner
BY *Paul H. Hovell* Attorney

UNITED STATES PATENT OFFICE

2,293,235

VAPORIZER

Andrew Zahner, Kansas City, Mo.

Application January 15, 1941, Serial No. 374,411

2 Claims. (Cl. 219-45)

This invention relates to portable vaporizers and has for a primary object the provision of a relatively small, inexpensive and effective article of manufacture, the nature of which is to vaporize small quantities of liquids and to dehumidify air which the user thereof employs to relieve distress caused by respiratory ailments.

This invention has for one of its salient objects, the provision of a small, portable vaporizer, the construction of which causes air passing therethrough to be dehumidified and to be supplied with vapors rising from a specially disposed reservoir forming a part of the vaporizer.

Another aim of this invention is to provide an article of the aforementioned character that may be kept close at hand or beneath the pillow if the user so desires, to the end that warm, dry air carrying vapors from a desired medicated fluid might be quickly available for the purpose of overcoming discomforts incident to many lung, bronchial and nasal disorders.

It is a further object of this invention to provide a vaporizer having as a part thereof, a specially designed body wherein is disposed a heat exchanger positioned with respect to an apertured partition to cause currents of air to be established and directed through paths of travel causing a reduction of humidity because of impingement upon heated surfaces.

Minor objects of the invention will appear during the course of the following specification, referring to the accompanying drawing wherein:

Fig. 1 is a top plan view of a vaporizer made in accordance with the present invention, having parts thereof broken away for clearness of disclosure; and

Fig. 2 is a vertical central sectional view through the vaporizer taken on line II-II of Fig. 1.

In producing the air treating and handling device embodying this invention, materials capable of conducting heat units should be employed for the speed of heat transfer has considerable to do with the success of the vaporizer.

The preferred embodiment illustrated in the drawing herewith, comprises a dome-shaped hollow body 6 closed at its base by plate 8 and provided with a nozzle 10 at the uppermost portion whereby an outlet port 12 is created.

Within body 6 is disposed a transverse horizontal partition 14 having a series of apertures 16 formed therethrough adjacent the annular periphery which directly engages the inner face of dome-shaped body 6 to divide the same into

an upper compartment 18 and a lower compartment 20.

A reservoir 22 at the axis of partition 14 contains fluid or the like, that may be dropped thereinto through port 12. The fluid in reservoir 22 may be made of equal parts olive and mineral oils to which is added a small amount of dissolved camphor gum.

A number of openings 24 formed through the dome-shaped body 6, just above base plate 8, allow air to enter a passage 26 formed by the frusto conical wall 28. This wall is an incomplete annulus and the ends thereof are out-turned as at 30 to provide spacers and means for securing the wall in place. Out-turned ends 30 receive conduit 32 therebetween that forms an inlet port for the introduction of lamp 34 to that part of heating chamber 20 set off from passage 26 by wall 28.

A heat element 34 is herein shown to be an ordinary electric lamp, current to which is supplied through conductors 36 having a conventional switch 38 interposed therein. This switch 38 should be very close to body 6 to be available to the user and to further cooperate with shoulder 40 on socket 42 to maintain lamp 34 in operative position. The diameter of socket 42 and lamp 34 must be maintained less than the diameter of conduit 32 to allow assembly of the parts, and when lamp 34 is in place, longitudinal movement thereof and accidental displacement is precluded because of the structure and arrangement thereof, shown in Fig. 2. Plug 33 closes conduit 32 when lamp 34 is placed.

The position of apertures 16 is such as to permit the upper edge of wall 28 to circumscribe all of these several apertures that are arranged in an annular path in partition 14. When air enters openings 24, it impinges upon the outer surface of wall 28 to be dehumidified as it continues its course toward apertures 16. From these apertures the air is directed across reservoir 22 to be combined with any rising vapors. The user should inhale the air and vapors as they pass from nozzle 10 to port 12 to obtain the most effective results, and when this vaporizer is employed to relieve periodic congestions that occur in the night, for example, the entire assembly may be kept beneath the pillow and controlled without leaving the bed.

A relatively small lamp 34 may be employed to quickly heat wall 28, whereupon circulation will be set up and warm, dry air having medicated vapors therein, will become available.

In practice it has been found desirable to

form port 12 with a cross sectional area appreciably smaller than the combined cross sectional areas of openings 24. The flow of air through the body is therefore retarded a sufficient amount to insure dehumidification.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A vaporizer of the character described comprising a hollow dome-shaped body having an outlet port at the highest portion thereof and a series of openings at its base; a transverse, horizontal partition, provided with apertures therethrough, dividing the interior of the body into an upper and a lower compartment; a frusto conical wall in the lower compartment dividing the same into a heating chamber and an air passage interconnecting the openings at the base of the body and the apertures through the partition; a reservoir for fluid to be vaporized carried by the partition; and a heating element in the heating chamber.

2. A vaporizer of the character described comprising a unitary hollow dome-shaped body hav-

ing an outlet port at the highest portion thereof and a series of openings near its base; a plate for closing the base; a transverse, horizontal partition, provided with apertures therethrough, dividing the interior of the body into an upper and a lower compartment; a frusto conical wall in the lower compartment resting on the base and dividing the said compartments into a heating chamber and an air passage interconnecting the openings at the base of the body and the apertures through the partition, the said wall being an incomplete annulus having the ends thereof outturned toward the dome-shaped body to space the said wall from the body, provide a means for securing the wall in place, and to form therebetween a closed space; a conduit positioned horizontally within the said space; a heating element positioned centrally in the heating chamber having electrical conducting means connected thereto, the said conducting means being projected through the said conduit; and a reservoir for fluid to be vaporized carried by the partition.

ANDREW ZAHNER.