Jan. 13, 1953 S. DUBERSTEIN 2,624,924

DUAL-PURPOSE VAPORIZER

Filed Aug. 18, 1950

Fig. 4.

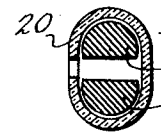


Fig. 1.

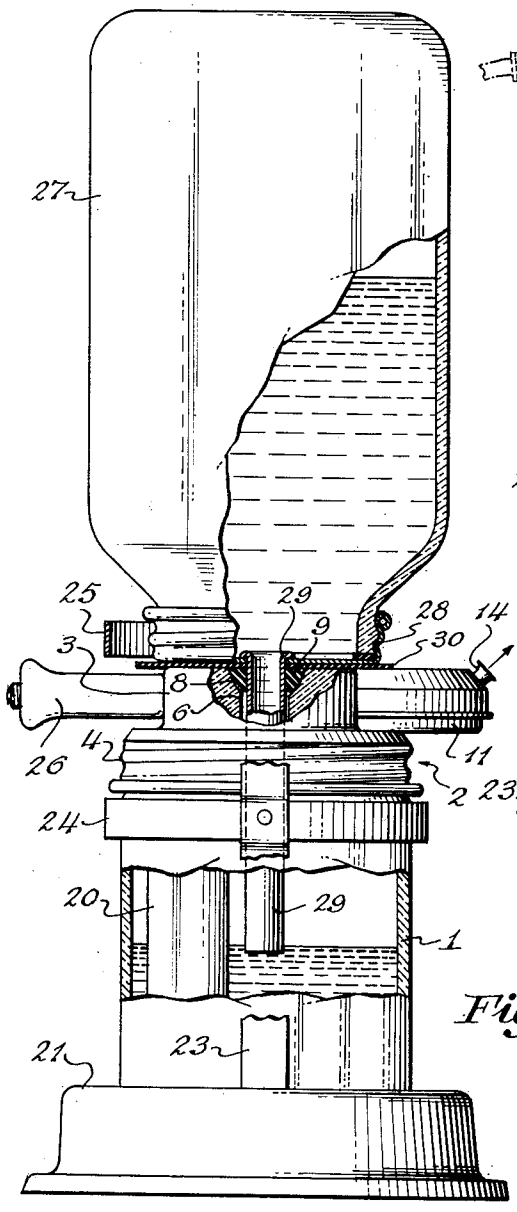


Fig. 2.

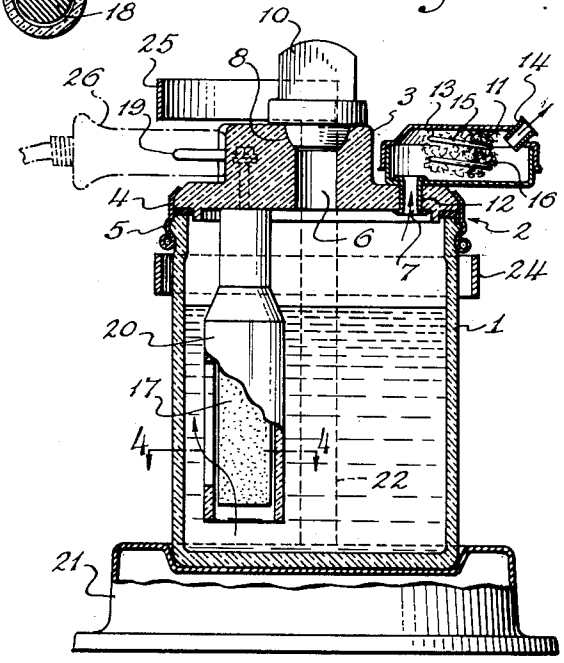
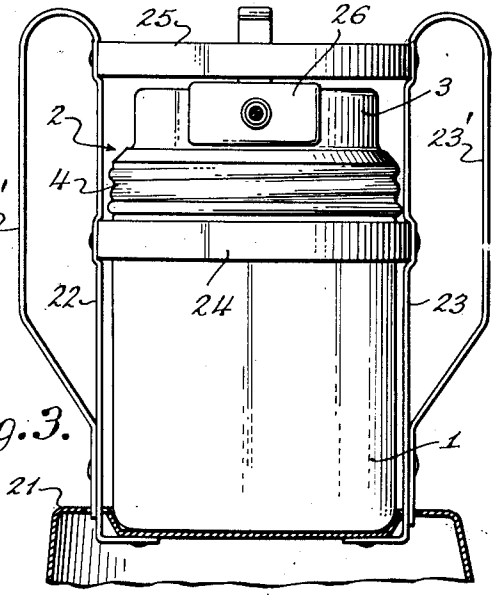


Fig. 3.



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DUAL-PURPOSE VAPORIZER

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4 Claims. (Cl. 21—119)

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This invention relates to steam vaporizers adapted for use in sickrooms for the relief of colds, croup and other respiratory ailments.

At present, the vaporizers on the market for home use are adapted to contain only a limited amount of water or other liquid, so that the liquid becomes exhausted after a couple of hours' use. On the other hand, it is some times desirable that the vaporizer be run all night or even longer without having to replenish the liquid.

According to my invention, I have provided a vaporizer of moderate size and cost adapted either for short or long period runs. For this purpose, I provide an extra container which is not used under normal conditions, but which may be filled and placed on top of the normal container for long runs and which automatically feeds liquid into the lower container as the water in the latter boils away.

Other features and advantages of my invention will be apparent from the following more detailed description.

Referring to the drawings illustrating a preferred embodiment of my invention,

Fig. 1 is a side elevation partly in section of my steam vaporizer with my extra or auxiliary liquid container in use in addition to the normal container;

Fig. 2 is a vertical section through the lower or primary container only and its supporting stand;

Fig. 3 is a front elevation of the lower container and its supporting stand; and

Fig. 4 is a cross section approximately on line 4—4 in Fig. 2 through the heating element.

My primary liquid container is shown in the form of a jar 1 of glass or other suitable insulating material. The jar has an open top for which a screwcap 2 is provided. The body portion 3 of the cap is preferably made of insulating material such as porcelain, the same being clamped to the jar by metallic ring 4, crimped on body 3 and provided with screw threads 5 to engage corresponding threads on the exterior of the top of the jar. The cap 3 is provided with at least two apertures, namely, central aperture 6 and smaller aperture 7. The former is shown as extending through the raised or thickened central portion of the porcelain top to provide a hole of substantial length, for a purpose hereinafter developed. Aperture 6 is also preferably outwardly beveled at the top to form a seat 8 for a rubber washer 9, hereinafter described, or a stopper 10. In normal use the stopper is used to prevent the escape of steam through aperture 6.

Aperture 7 communicates with a small con-

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tainer or cup 11 which is shown riveted to the top 3 by a hollow rivet or short tube 12, which also leads the steam from the jar into the cup 11. A detachable cap 13 is shown on top of the cup which has a small spout 14 through which the steam issues in use. On the underside of the cap is shown a wire holder 15 for absorbent material such as cotton 16, which may be impregnated with a suitable medicament, if desired. As the steam passes through the cup it picks up the vapors from the medicament and carries them into the room with the steam plume.

The heating element shown is of the electrode type consisting of a pair of carbon rods 17, 18 electrically connected at the top to contact prongs 19. The rods are preferably enclosed in an insulating housing 20 preferably made of porcelain. The housing is preferably open at the bottom and at one side to permit circulation of the water past the electrodes as it is heated by passage of the electric current therethrough. Preferably, the open side of the container is faced toward the adjacent wall of the jar, i. e., away from the middle of the jar and away from both the apertures 6 and 7 for reasons hereafter developed.

The metal stand or platform 21 for the jar is shown having a broad base to prevent overturning. The stand has sheet metal uprights 22 and 23 which are secured together at a midpoint by ring 24 adapted to loosely fit the jar near its top. The uprights 22 and 23 are further joined near the top by semicircular ring 25 which does not extend over the cup 11 but does extend over the aforesaid prongs 19. The uprights may be formed into handles 23' as shown for convenience in lifting.

When it is desired to use the device a detachable electric plug 26 is pushed over the prongs, thus sending current through the connections within the porcelain top 3 to the electrodes 17 and 18. The semicircular ring 25 overlies the plug so that the jar cannot be removed from its stand without first removing the plug and it may also be noted that the top of the jar cannot be unscrewed from the jar without removing the plug, since the plug will engage either upright 22 or 23 if the top is rotated more than 90 degrees in either direction. In this manner, the danger of shock to the user from live, wet electrodes is completely avoided.

My auxiliary liquid container is shown at 27 in the form of a second glass jar or bottle having a detachable screw cap 28. The cap is preferably provided with a central hole from which a relatively long tube 29 projects. The rubber

washer 9 above referred to is placed around the base of the tube. When it is desired to use the auxiliary container, it is first filled or partially filled with water by removing the cap. The cap is then replaced and the jar is turned upside down with the thumb over the bottom of the tube 29 and inserted in the aperture 6 in top 3 on jar 1 with washer 9 seated in aperture 8. Preferably a thin washer 30 is interposed between the cap 26 of jar 27 and the top 3 of jar 1 to insure a firm fit and avoid rattling. Atmospheric pressure will prevent the water from running from the upper jar to the lower jar until the liquid level in the lower jar partially uncovers the open end of the tube, so that the upper jar will keep feeding water into the lower jar to maintain this level. While the water in the upper jar will become somewhat warm, it will not become hot enough to burn the hand because no steam escapes into the upper jar. Furthermore, by placing the opening in the insulator 20 surrounding the electrodes away from the tube 29, the steam bubbles and the circulating hot water are kept away from the tube and also away from the opening 7 through which the steam emerges. In this manner, the danger of drawing drops of hot water out with the steam is avoided and also the water in the top jar is not overheated.

It should be noted that when the auxiliary jar 27 is in place, the tube 29 extends down into the jar 1 through elongated hole 6 with which it forms a snug fit, so that the jar 27 cannot be tipped over or out of the lower jar without tipping over the lower jar and its stand, thus insuring the stability of the device.

From the foregoing, it will be seen that in my invention, I provide really two vaporizers in one, namely, a small vaporizer which is adapted for short inhalation of one to two hours and a much larger capacity vaporizer which will deliver 12–15 hours of continuous steam without replenishing. Yet I have maintained the size of the vaporizer quite small and by my dual arrangement the metallic parts are kept substantially as small as a standard small capacity vaporizer.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense .

What is claimed is:

1. A steam vaporizer for medicinal purposes comprising a primary liquid container open at the top, a detachable cover therefor of substantial thickness and having an elongated downwardly extending opening therethrough, an immersion heating element secured to the underside of said cover and adapted to normally project into said container, an auxiliary liquid container having an opening in the bottom thereof, a detachable cap for said opening adapted to rest on the top of said cover when said auxiliary container is in use, and a tube extending downwardly from said cap and adapted to pass through and snugly fit said elongated opening and be guided thereby whereby said auxiliary container cannot be tipped over on said primary container and water is fed as needed from the auxiliary to the primary container.

2. A vaporizer as claimed in claim 1, having a guard stand for the primary container only, the auxiliary container, when in use, being prevented from tipping over by its tube projecting downwardly into the primary container, through said elongated aperture in said cover.

3. A steam vaporizer as claimed in claim 1, in which said elongated opening is flared at the top, and said tube has a tapered washer thereabout at its juncture with said cap on said auxiliary container adapted to be seated in said flared opening .

4. A steam vaporizer as claimed in claim 1, also having a container for a medicine attached to the top of the cap for the primary container, there being an opening through said cap into said last-named container and a steam emitting exit thereon, said container being located and fitting between said two caps when the auxiliary container is in place.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,292,759	Granger	Jan. 28, 1919
1,659,970	Chouinard	Feb. 21, 1928
1,857,181	Collins	May 10, 1932
1,878,587	Lawner	Sept. 20, 1932
1,981,765	Weiss	Nov. 20, 1934
2,076,709	Deutsch	Apr. 13, 1937
2,535,516	Resek	Dec. 26, 1950
2,542,529	Hunt	Feb. 20, 1951