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2,024,249

VAPORIZER

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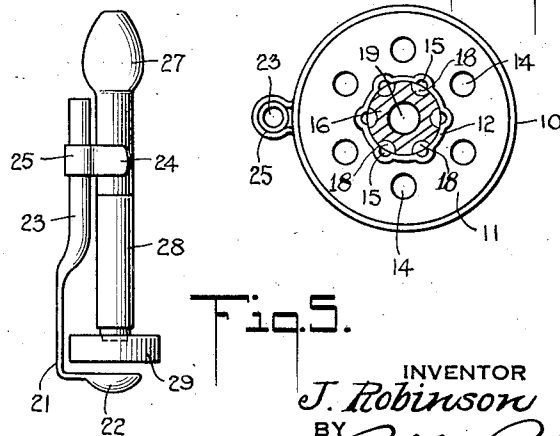
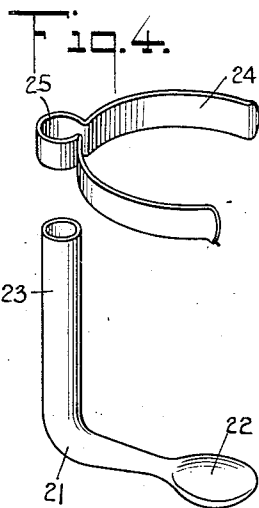
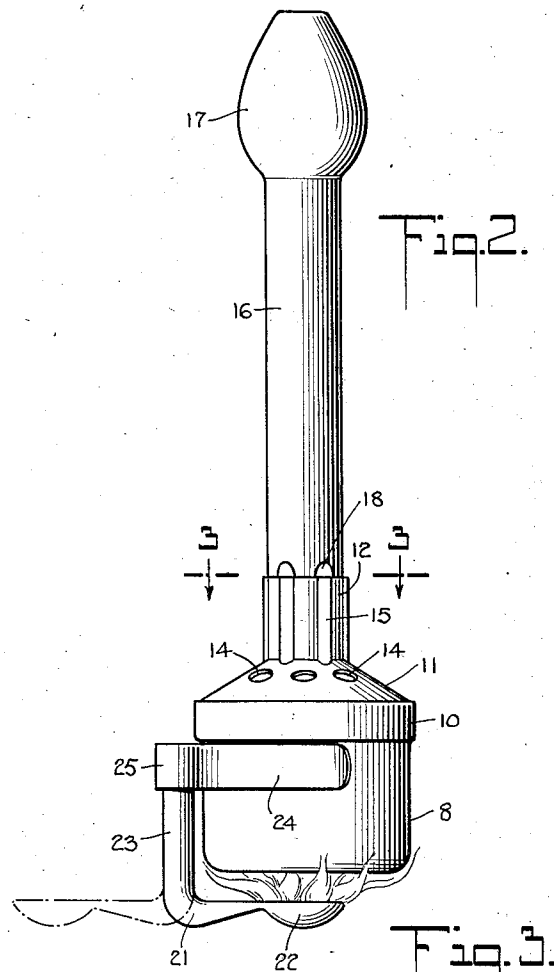
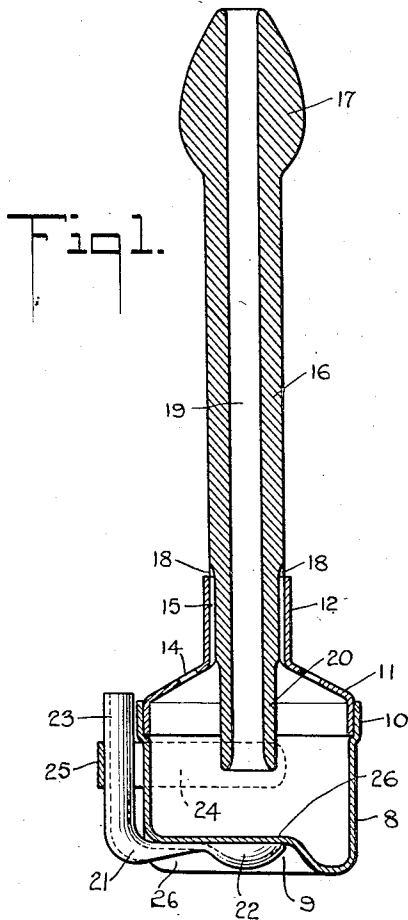


Fig. 5.

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## UNITED STATES PATENT OFFICE

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## VAPORIZER

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Application August 18, 1930, Serial No. 476,112

Renewed October 10, 1933

6 Claims. (Cl. 128—192)

This invention relates to devices of the hand type for vaporizing medicaments for inhalation in the treatment of head colds, sinus, catarrh and other head afflictions. The invention is an improvement on the construction shown in my co-pending application, Serial No. 358,120 filed April 25th, 1929, now Patent No. 1,940,920 and among the objects is to provide a vaporizer of the type described and which may be heated either electrically or by other heating means. A special feature of the invention is the provision of a heat applying member, consisting of a relatively shallow receptacle, shiftably connected with the body of the vaporizer and adapted to receive a suitable form of fuel, such as solidified alcohol or other preferably smokeless fuel.

In the accompanying drawing Figure 1 is a side elevation of my improvement, with the heat applying member in the closed or folded position; some of the parts are in section.

Figure 2 is a side elevation of the construction shown in Figure 1, but with the heat applying member in the heating position. In this view the heat applying member is shown in dotted lines in the position it occupies when being loaded.

Figure 3 is a sectional view on approximately the line 3—3 of Figure 1.

Figure 4 is a perspective view of the clamp which supports the heat applying member in place, and also a view in perspective of the heating member, and

Figure 5 is a side elevation of a vaporizer of the type shown in my co-pending application, Serial No. 304,967, filed September 10th, 1928, as it would be provided with the heat applying member of my present invention.

My improvement includes a container or chamber 8, suitably curved at 9, to be mounted on an electric globe, or other type of heating device, in the manner shown in Figure 1 of my aforesaid co-pending application, Serial No. 358,120. The chamber is off-set at 10 to receive, in a removable manner, the cap or hood 11. The hood is inclined as shown, and is provided with a vertically extending neck or sleeve 12. Near this sleeve the hood is perforated, as at 14 to form air inlets. The sleeve 12 is provided with elongated grooves 15, which also serve as air inlets or vents, the stem 16 of the nasal member 17 being cut away as at 18 to permit the air to enter the sleeve 12 and pass downwardly along the lower end of the stem 16 and then upwardly through the opening 19 formed longitudinally entirely through the nasal member 17 and stem 16. The stem is preferably reduced in

diameter at its lower portion to form a shoulder, against which the sleeve 12 abuts, as shown in Figures 1 and 2. The chamber 8 is of any suitable depth, but preferably quite deep, and the openings or vents 14 aforesaid are located near the sleeve 12 in order to permit of extreme tilting of the vaporizer without spilling the contents. The nasal member and stem, 16 and 17 respectively, are preferably of one piece, though they may, of course be made of separate parts and suitably joined if desired. The material for these parts may be of any that is suitable, preferably hard rubber or a phenol condensation product. The container 8, and its snugly but removably fitting cap 11, may also be made of any suitable material, preferably aluminum or tin or heat-resisting glass. The connection between the stem 16 of the nasal member, and the sleeve 12 is preferably a tight sliding fit, and the shank or lower portion 20 of the stem extends preferably below the horizontal center of the chamber 8, in order to force the air currents down against the hot medicament and thus heat them before they turn upwardly through the opening 19 in the nasal member. This movement of the air current is, of course, produced by act of inhalation, and these air currents lift the vapors of the medicament upwardly through the channel 19 directly to the nasal passages while the vapors are still hot. The resulting treatment is very effective.

To heat my improved vaporizer by means other than electrical, I provide a novel form of heat applying member or stove 21, preferably made of aluminum or tin or very thin sheet steel. It is provided at one end with a cup or receptacle 22 of suitable size, depth and shape, and its other end is turned upwardly to approximately the vertical plane as at 23 and is preferably tubular and hollow. A resilient clamp 24, fits snugly and tightly around the chamber 8 and rests against the lower or bottom portion of the offset 10 of the chamber 8. The clamp is provided with a cylindrically shaped bearing 25, which snugly grips the shank 23 of the heat applying member or stove 21, the shank having sliding engagement with the bearing 25 and also rotatable engagement therewith.

The chamber 8 is provided in its bottom with a vertically offset portion or housing 26, in which the horizontally extending arm 22 of the heat applying member normally rests, when the vaporizer is out of use. In Figure 1 the stove or heating element 21 is shown in this folded position and the vaporizer is illustrated as sitting on a

support of some form. The housing or groove 26 extends transversally of the chamber 8 but not entirely across the bottom thereof, and it leads upwardly away from the curved portion 9 aforesaid.

When it is desired to use my improved vaporizer, the cap 11 is lifted from the chamber 8 and the medicament applied in a quantity not sufficient to engage the bottom portion 20 of the nasal or nozzle member 17. The cap is then replaced and the heat applying element 21 is moved to the position shown in dotted lines in Figure 2 by pressing downwardly on the shank 23 of the heating member and by rotating the member to the right or left to bring the receptacle 22 thereof out from under the bottom of the chamber 8. The heating fuel is then put in the stove or receptacle 22 and lighted, whereupon the stove is rotated around under the bottom of the chamber and preferably to the central part thereof—see Figure 2. When the medicament has been heated sufficiently to most comfortably agree with the sensitiveness of the nasal membrane of the user, the vaporizer is pressed downwardly against any suitable object, thus causing the heat applying element 21 to slide upwardly through the bearing 25 of the clamp 24 and into the position shown in Figure 1. This will, of course, immediately extinguish the flame. It will be understood that the bearing 25 may be soldered permanently to the chamber 8 or otherwise made a fixed part thereof if desired.

The fuel for the heat applying member 21 may, as aforesaid, be of any suitable material, preferably smokeless, and may consist of a pinch or pellet of solidified alcohol, or similar substance, suitably formed into pellets or cubes for convenient packaging, and carrying.

In Figure 5 I illustrate a vaporizer of the type shown in my aforesaid co-pending application, Serial No. 304,967, in which the nasal member 27 is provided with a slidable ejector 28 adapted to remove at will capsules 29 loaded with a suitable medicament. These capsules are packaged in quantities of 12 or 15 to the package, and are applied to the vaporizer stem 27 by setting the latter tightly into an opening in the perforated top of the capsule 29. In this construction the heating element or stove 21 of the preferred form of my invention is supported on the nozzle member 27 and operates as in the case of the preferred construction of my improvement.

As will be noted the preferred form of my invention may be readily completely disassembled for the purpose of cleaning. Not only may the cup 8 and the cap 11 be easily separated, and the cap removed from the nozzle member 17, but the heat applying element or stove 21 may be easily removed from its bearing 25 in the clamp 24 and the clamp 24 itself quickly removed from the cup or chamber 8.

What I claim is:

1. A vaporizer of the class described, comprising a nozzle body, having a passage thereto from top to bottom and carrying at its bottom portion a member forming a medicament chamber removably supported with respect to the nozzle body, a heat applying member, and means yieldably gripping said heat applying member for slidably and rotatably supporting the same with respect to the nozzle body, said heat applying member nor-

mally resting beneath said medicament chamber.

2. A vaporizer of the class described, comprising in combination, a container adapted to contain a medicament to be vaporized, said container having a cap fitted thereto, the cap being provided with air vents, a hollow member engaging said cap and extending upwardly therefrom and carrying a nasal piece through which the vapors of said medicament are adapted to be drawn on inhalation, a heat applying member, and means detachably carried by said container and yieldably gripping said heat applying member for slidably and rotatably supporting the same.

3. A vaporizer of the class described, comprising in combination, a container adapted to contain a medicament to be vaporized, said container having a recess on the bottom thereof constituting a housing, a hollow nasal member extending upwardly from said container and suitably connected thereto, said container being provided with vents to admit air currents when the vapors of said medicament are lifted through the nasal member by inhalation, and a heat applying member movably supported on said container and shiftable into the housing in the container when the vaporizer is not in use.

4. A vaporizer of the class described, comprising in combination, a nozzle body having a passage therethrough, a medicament container removably supported on the lower portion of said body, a supporting member yieldably gripping said container, and a fuel receiving heat applying member yieldably gripped by said supporting member and rotatable with respect to said container to receive a heating fuel and thence returnable to the service position, said heat applying member being adjustable vertically with respect to said container to expedite the heating of said medicament or to extinguish the flame of the lighted fuel as desired.

5. A vaporizer of the class described, comprising in combination, a container adapted to contain a medicament to be vaporized, said container having a stop or shoulder thereon, a cap fitted to said container and abutting said shoulder, said cap being provided with air vents and having a vertically extending shank, a hollow stem having at its upper end a nasal piece and at its lower end a portion of reduced diameter which projects downwardly through said shank a substantial distance into said container, said container being adapted to engage said cap in a removable manner, a resilient support mounted on said container and firmly gripping the same, and a stove or heating element slidably and rotatably mounted on said resilient support and adapted to be shifted vertically and laterally into and out of heating relation to said chamber.

6. A vaporizer of the class described, comprising in combination, a container adapted to contain a medicament to be vaporized, said container having a cap fitted thereto, the cap being provided with air vents, a hollow member engaging said cap and extending upwardly therefrom and carrying a nasal piece through which the vapors of said medicament are adapted to be drawn on inhalation, a heat applying member, and means detachably carried by said hollow member and yieldably gripping said heat applying member for slidably and rotatably supporting the same.

JOSEPH ROBINSON.