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2,515,310

VAPORIZER HUMIDIFIER

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Fig. 1.

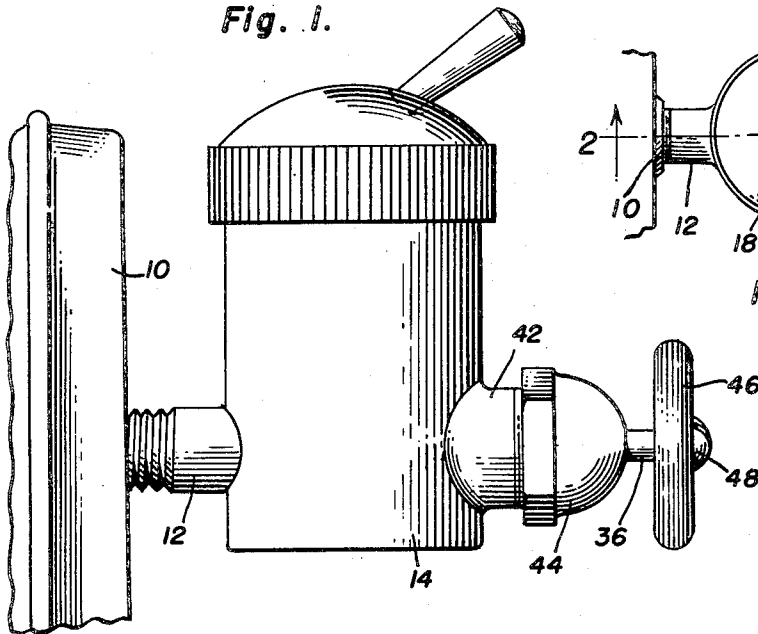
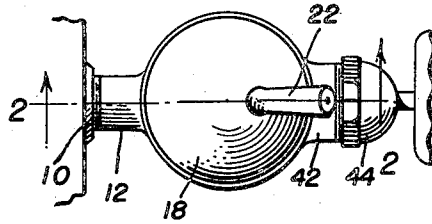


Fig. 3.

Fig. 2.

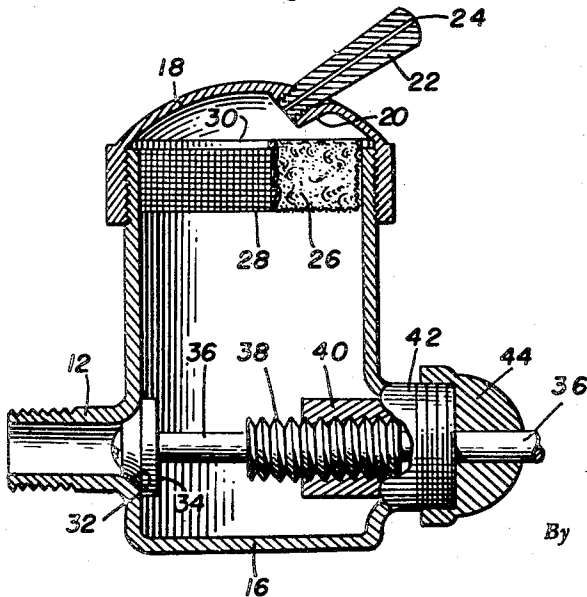
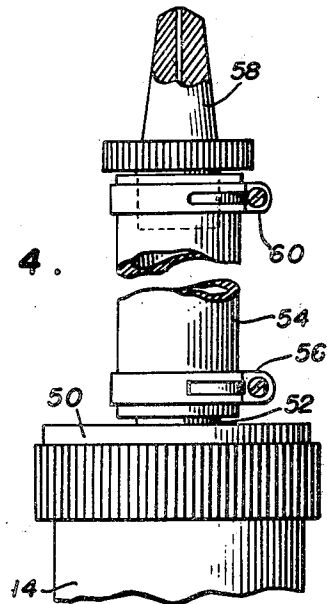


Fig. 4.



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VAPORIZER HUMIDIFIER

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1 Claim. (Cl. 21-118)

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This invention relates generally to vaporizers, the term vaporizer being used herein as including vaporizer-humidifiers, and more particularly to a vaporizer for attachment to hot water and steam heating systems and comprising a hollow casing with a vented cap, an impregnated filter pad and a valve by which the device may be made operative or inoperative.

A primary object of this invention is to provide a vaporizer for attachment to a radiator or to the pipe of hot water and steam heating systems, whereby steam or moisture from said system may be allowed to escape, metering means being provided to control the amount of escaping steam to individual requirements.

Another object of this invention is to provide a device of this character which may be used in conjunction with volatile material, there being a pad insertable in the casing of the device and the said volatile materials when placed on this pad are slowly volatilized and mixed with the escaping steam or vapors.

Another object of this invention is to provide a vaporizer of this general character which may be secured to a heating system at the side of the shut-off valve remote from a radiator, thus allowing for use of the vaporizer without simultaneous heating of the radiator.

Still another object of this invention is to provide a device which is useful for the purposes specified above, when the vapor is emitted at a temperature less than the temperature of steam.

And a last object to be specifically mentioned is to provide a device of this character which is relatively inexpensive and practicable to manufacture, simple and convenient to use, adapted for use with many types of radiators and heating systems, and which is generally efficient and will provide durable service.

With these and other objects in view, this invention resides in certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claim, reference being had to the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a side elevational view of this invention, shown operatively combined with a portion of a radiator;

Figure 2 is a vertical sectional view of this vaporizer, the manual control knob of the valve being deleted to conserve space;

Figure 3 is a top plan view of this device, the figure being on a slightly reduced scale; and

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Figure 4 is a view of the upper portion of the casing and a modified form of vent including a flexible tube and a simple nozzle.

Similar characters of reference designate similar or identical parts and portions throughout the different views of the drawings.

Referring now to the drawings in detail, it will be noted that the environment wherein this invention is to be used includes a radiator 10, which is represented here to illustrate any suitable portion of a hot water or steam heating system wherein a port of suitable character is provided or can conveniently be provided for the insertion therein of the screw-threaded steam inlet pipe 12 integrally secured to the casing 14 of the device. In the drawing, the casing is represented as a hollow cylinder which will normally be used in upright position, the lower end of the casing being closed by a wall 16 and the upper end of the casing being exteriorly screw threaded to receive an interiorly screw threaded cap 18. This cap may be provided with a simple vent, but a preferable construction includes an integral interiorly threaded bar 20 and a vent tube 22 having a channel 24 communicating the interior of the cap and casing with the atmosphere.

A filter pad 26 constructed of any suitable fibrous absorbent material is secured within the casing 14, and it is contemplated to impregnate this pad with any desired volatile material, ordinarily of medicinal and/or aromatic character, the aroma or medication being dispensed along with the vapor from the heating system through the channel 24 of the vent tube 22. This pad 26 will preferably be contained in a generally cylindrical screen basket 28, the upper portion of which is peripherally secured to an apertured plate 30 of a diameter slightly greater than the inside diameter of the casing 14 and less than the interior diameter of the cap 18, this apertured plate being thus adapted for removal securement between the upper end of the casing 14 and the said cap.

A valve seat 32 is provided on the inner end of the inlet pipe 12, and a valve 34 mounted on a valve stem 36 is provided to close this inlet pipe. A portion of this valve stem is screw threaded as at 38 to coact with a threaded sleeve portion 40 interiorly secured on the casing 14, this portion of the casing being also provided with an extending portion 42 which is preferably cylindrical and screw-threaded on the outer end thereof to receive a nipple 44. In order that this valve may be conveniently controlled, a manual

control wheel or knob 46 is secured to the other end of the valve stem 36, by any suitable means such as the screw 48.

A modified form of this invention is represented in Figure 4, wherein the cap closing the upper end of the casing 14 is modified to provide a flat top 50 from which top projects a pipe 52. An elongated flexible tube 54 is secured to this pipe 52 by clamp means 56, and a simple nozzle 58 is similarly clamped, as at 60, to the other end of this flexible tube. It will be evident that this modified structure allows the dispensation of the vapor, medicated or otherwise, from the heating system into areas spaced considerably from the heating system, as for example an area at the side of a room remote from a radiator.

The operation of the invention will be clearly understood from the foregoing description of the mechanical details thereof, taken in connection with the above recitation of the objects sought to be achieved by this invention but, in recapitulation, it may be expedient to add that this device is obviously adapted for attachment to either of the vents ordinarily provided on conventional radiators and/or connection of the heating system at a point thereof on the side of the shut-off valve of a radiator remote from said radiator, and/or at any other desired point in the heating system. This invention is obviously not limited to any particular type of aromatic or medicated substance, nor is this invention limited to the exact form and proportionment of the valve and filter basket shown in the drawings, it being well within the scope and spirit of this invention to provide any type of valve and filter basket which will properly perform the functions required thereof.

Accordingly, although there has been shown

one particular embodiment of this invention and one modification thereof, limitation of this invention is sought only in accord with an equitable interpretation of the appended claims.

What is claimed as new and desired to be secured by Letter Patent is:

A vaporizer for attachment to hot water and steam heating systems, comprising a hollow upright casing having an inlet pipe, a valve manually operable to control said inlet, the upper end of said casing being open, a screw cap for said upper end, a wire mesh basket having a centrally apertured attachment plate having a diameter substantially equal to the diameter of said upper end and clamped between said upper end and said cap so that said basket depends into said upper end, a filter pad in said basket and capable of impregnation with material to be disseminated during the use of the vaporizer, and a vent tube having a threaded terminal screwed into said cap and communicating with the interior of said cap and disposed at an angle to the axis of said casing so that burdened water vapor may be dispensed from the vaporizer in a direction determined by the positioning of said screw cap.

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