H. NAGEL.

PORTABLE ELECTRIC VAPORIZER.

APPLICATION FILED APR. 30, 1919.

1,378,266. Patented May 17, 1921.

Fig. 2.

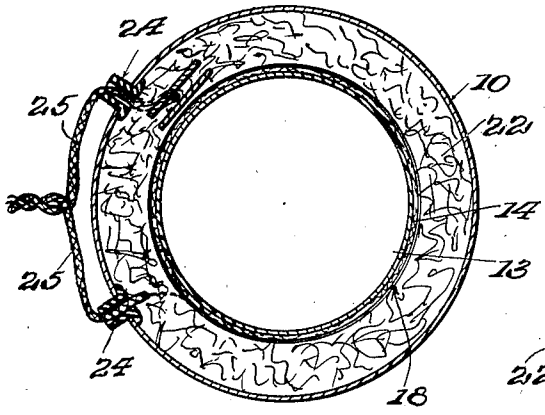


Fig. 3.

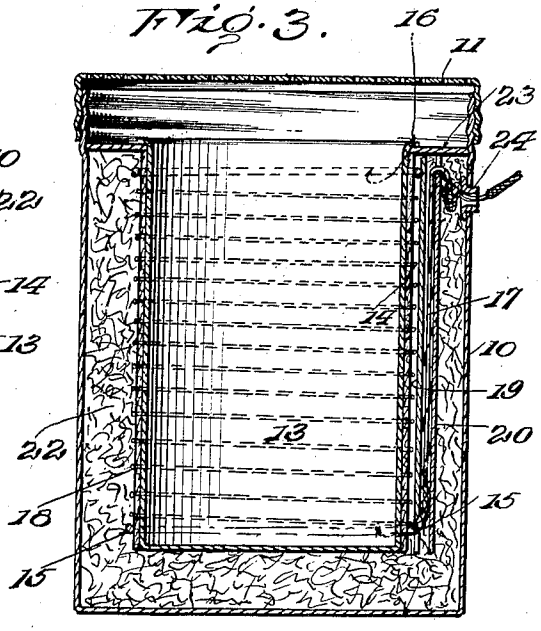


Fig. 1.

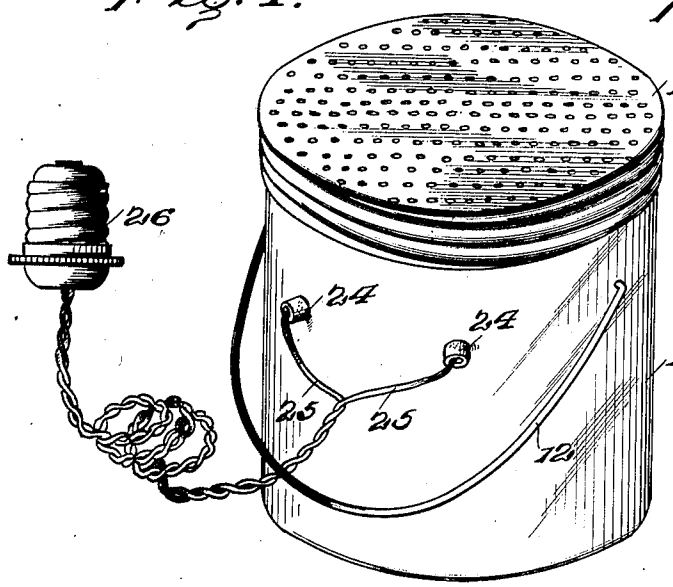
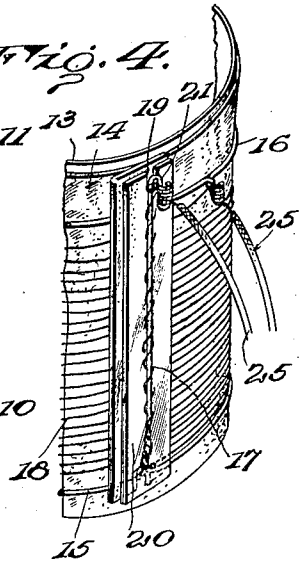


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY NAGEL, OF DAVENPORT, IOWA.

PORTABLE ELECTRIC VAPORIZER.

1,378,266. Specification of Letters Patent. Patented May 17, 1921.

Application filed April 30, 1919. Serial No. 293,689.

To all whom it may concern:

Be it known that I, HENRY NAGEL, citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Portable Electric Vaporizers, of which the following is a specification.

This invention relates to an improved electric vaporizer for disinfectants and has as one of its principal objects to provide a device of this character which may be readily carried from room to room of a building and connected to an ordinary electric light socket in each room for disinfecting the rooms.

The invention has as a further object to provide a device of this character adapted to contain a quantity of disinfectant and wherein a suitable resistance element will be employed for heating the disinfectant and consequently causing vapors to rise therefrom and issue from the device.

And the invention has as a still further object to provide a vaporizer so constructed that the device will prove thoroughly safe in use.

Other and incidental objects will appear hereinafter. In the drawings:

Figure 1 is a perspective view of the device,

Fig. 2 is a transverse sectional view more particularly illustrating the manner in which the circuit wires of the extension cord of the device are led into the outer shell of the device,

Fig. 3 is a vertical sectional view taken centrally through the device, and

Fig. 4 is a fragmentary perspective view of the container of the device, this view particularly showing the manner in which the circuit wires are connected to the heating wire employed.

In carrying the invention into effect, I employ an outer shell or receptacle 10 which is preferably cylindrical and may be formed of sheet metal or other approved material. Threaded upon the shell at its upper end is a perforated cap 11. In order that the device may be easily carried from place to place, the shell is preferably equipped with a handle or bail 12 so that the device thus resembles a small bucket.

Positioned centrally within the shell is a container 13 which may also be formed of sheet metal and is open at its upper end. Wrapped about this container is a sheathing of insulating material 14. The sheathing is preferably formed of asbestos paper and is secured upon the container by binding wires 15 and 16 respectively, the wire 15 encircling the container adjacent its lower end and securing the sheathing at its lower margin, while the wire 16 encircles the container adjacent its upper end and secures the sheathing at its upper margin. One end portion of the wire 15 is, as particularly shown in Fig. 4, continued to form an arm 17 extending upwardly to a point adjacent the upper end of the container and lying substantially parallel to the wall thereof. Wound around the sheathing 14 is a heating element or coil 18. This coil may be formed of suitable resistance wire and one end thereof is, as also particularly shown in Fig. 4, electrically connected to the twisted ends of the binding wire 16 while the opposite end portion of the resistance wire is twisted around the arm 17 of the binding wire 15 and is thus brought to the upper end of said arm to be electrically connected at its adjacent end therewith. Lying between the arm and the turns of the coil is a strip of mica 19 insulating the adjacent end portion of the wire with respect to the turns thereof. At its lower end this strip of mica is formed with a notch receiving the arm at its lower end therethrough. Overlying the arm is a similar strip of mica 20. This latter strip of mica is formed at its upper end with a notch and, as will now be observed, the arm 17 is formed adjacent its upper end with a rebent portion or loop 21 which is received through said notch. Filling the space between the container and the shell 10 is a packing 22 of heat insulating material. This packing is preferably formed of asbestos and will firmly support the container within the shell and will also securely hold the asbestos strips 19 and 20 in position at opposite sides of the arm 17. Fitting around the container at its upper end to overlie the packing 22 is a collar 23 abutting the wall of the shell and having the container overturned at its upper margin thereagainst for thus retaining the collar in place. Fitted through the wall of the shell at one side thereof are, as particularly shown in Fig. 2, spaced bushings 24 having heads confronting the inner face of the shell and extending

through these bushings are the circuit wires 25 of an extension cord. One of these wires is connected at its inner end to the rebent portion 21 of the arm 17 while the other wire is connected at its inner end to the twisted ends of the binding wire 16 so that the circuit wires are thus electrically united with the ends of the coil 18. At its outer end the extension cord carries a suitable plug 26 of approved type, this plug being adapted for engagement in an ordinary electric light socket.

In use a suitable disinfectant is placed within the container 13 when the plug 26 may be connected with a conventional light socket so that current may be caused to flow through the heating coil 18. As will be clear, this coil will thus be heated for heating the container and the disinfectant therein, so that the disinfectant will be vaporized, when the vapors therefrom will rise through the cap 11 of the shell and thus be disbursed. It will accordingly be seen that I provide a device which may be easily carried from room to room of a building and operated in each room for thoroughly disinfecting the rooms. Furthermore, the device is of particularly simple construction and owing to the provision of the relatively thick heat insulating packing about the heating coil of the device, the device will prove thoroughly safe in use.

Having thus described the invention, what is claimed as new is:

1. A vaporizer including a shell, a container within the shell, a sheathing surrounding the container, binding members securing the sheathing upon the container, a resistance element wrapped about the sheathing and connected at its ends to said members, and a heat insulating packing surrounding the container within the shell.

2. A vaporizer including a shell, a container within the shell, a sheathing surrounding the container, upper and lower binding members securing the sheathing upon the container, the lower binding member being formed with an arm extending upwardly along the container, a resistance element wrapped about the sheathing, said element being connected at one end to the upper binding member and having its opposite end portion wrapped about said arm and thus carried to the upper end thereof to be electrically connected with the upper end of the arm, circuit wires connected one with the upper binding member and the other to said arm, an insulating strip lying between the arm and the turns of the resistance element about the sheathing, and a heat insulating packing surrounding the container within the shell.

In testimony whereof I affix my signature.

HENRY NAGEL. [L. S.]