

W. F. McNABB.
ELECTRIC FUMIGATOR.
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1,102,424.

Patented July 7, 1914.

FIG. 1

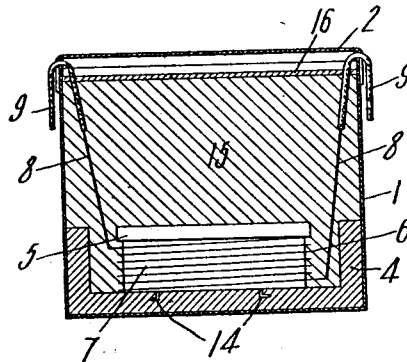
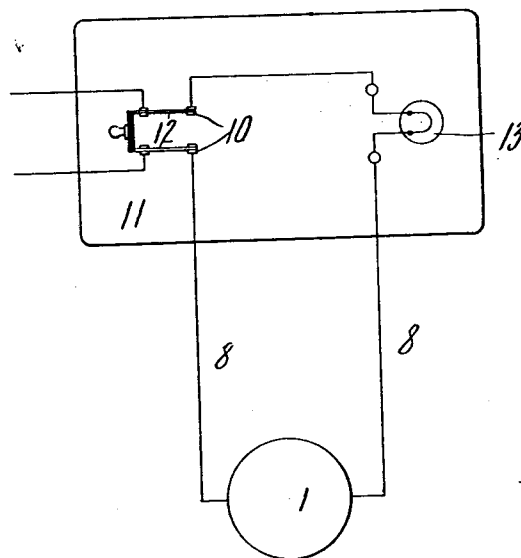


FIG. 2



WITNESSES

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ELECTRIC FUMIGATOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM F. McNABB, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electric Fumigators, of which the following is a specification.

This invention relates to fumigators or disinfectors.

The object of the invention is to provide a simple, safe and convenient device for vaporizing volatile disinfecting or fumigating substances, one which is easy and inexpensive to manufacture, one which will evaporate all of the fumigating substance, thereby giving uniform results and efficiency of fumigation, and one which can be provided with means for indicating the conclusion of the operation so that when used in a closed chamber the operator is advised when the disinfecting or fumigating operation is concluded.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 represents a sectional elevation of one embodiment of the invention, and Fig. 2 is a diagrammatic view showing the circuit arrangement and indicating means.

Referring to the drawings, the device comprises a receptacle 1 which may be of any suitable form and is shown as an ordinary tin can provided with a cap or cover 2. In said receptacle is an electrical heater comprising an outer cup shaped member 4 closely fitting within the receptacle, and an inner cylindrical portion 5, which is separated from the rim of the outer member 4 by an annular space 6 and which forms a support for an electric heating element 7, consisting of a number of coils or turns of fusible wire, such as ordinary German silver wire, which are wound on said support out of contact with each other so that they cannot short circuit. Connected to the opposite ends of the coils 7 are two leads 8, of copper wire, which may pass directly through the walls of the receptacle, but are shown as extending up over the edges thereof, and which are preferably wrapped with suitable insulating material 9, so that the heating element is not short circuited through the metallic receptacle. Said leads are connected by suitable wires to two contacts 10 of a suitable switch board 11, on which is an or-

dinary double pole switch 12 for connecting the device to a suitable outside source of current, such as a battery or an electric light socket. In the circuit is located an indicating device, such as an electric light 13.

In manufacturing the fumigator, the inner cylindrical member 5 is molded from plaster of Paris or other suitable insulating material, and has embedded therein a number of hooks or projections 14, and the heating element 7 is wound upon the cylindrical surface of said member. The cup shaped member 4 is then molded from plaster of Paris or other insulating substances, being formed either in the receptacle 1, or outside of said receptacle, and then placed therein, and before it fully hardens the cylindrical member 5 carrying the heating element 7 is pressed down to its seat, so that the hooks or projections 14 are embedded in the soft member 4, so that when the latter solidifies, the heating element is rigidly attached to the receptacle and is maintained in spaced relation from the wall of the container 4. The fumigating or disinfecting material, such as formaldehyde, paraformaldehyde or other volatile liquid, is then poured into the receptacle 1, and flows down into the space 6, around the heating element 7, as indicated at 15, and hardens or crystallizes thereon. The upper surface of the volatile substance is then covered with a thin layer 16 of suitable material, such as paraffin or the like, which hardens and forms a protective covering for the material and prevents it from evaporating. Fumigating devices manufactured in this manner may be sold in the market as articles of manufacture and may be carried in stock for any suitable length of time until used.

For fumigating and disinfecting a room, the receptacle with the heating element and fumigating or disinfecting material therein is placed in the room and the wires 8 are led to the outside of the room and connected up to the switch board 11, which is connected to a suitable source of current. The room is then sealed and the switch 12 closed, it being understood that the cover 2 is either perforated or has been removed from the receptacle. Current flows through the circuit and lights up the lamp 13 indicating that the operation is proceeding. In passing through the resistance coils 7 the current generates heat which is communicated to the volatile material in which the wires are im-

mersed and from said material to the protecting coating 16 which melts and allows the vapors or fumes to be given off into the room. As the operation proceeds and the fumigating material is volatilized the level of liquid lowers until finally the wires 7 are exposed and cannot then give up their heat directly to the liquid. Consequently, said wires become incandescent and when sufficiently exposed, finally fuse. This breaks the circuit and puts out the lamp 13 which indicates to the operator that the fumigating or disinfecting operation is concluded.

The receptacle may be equipped with a new coil 7 and reloaded, but usually it is made of cheap material, so that it can be thrown away.

The device is simple and saves considerable time in fumigation, as it gives a visible indication of the conclusion of the fumigating operation. It also avoids the liability of conflagration as the heat is produced without flame and there is no liability of combustion being communicated to surrounding articles. Furthermore, it will evaporate all of the fumigating material, thus giving uniform results and efficiency.

What I claim is:

1. A fumigator, comprising a receptacle provided with a heating element adapted to be immersed in a fumigating substance contained in said receptacle, said heating element being formed of fusible material and adapted when exposed to fuse and break the circuit.

2. A fumigator, comprising a receptacle containing volatile material, and a heating element immersed in said material and formed of fusible material, said element being adapted to fuse and break the circuit when exposed above the level of said material.

3. A fumigator, comprising a receptacle containing volatile material and provided with a fusible heating element, a circuit leading from said element to a source of current, and an indicating lamp in said circuit.

4. A fumigator, comprising a receptacle provided with a support, a heating element carried by said support, a circuit leading from said heating element to a source of current, and volatile material contained in said receptacle and in which said heating element is immersed, said element being adapted to fuse when the level of the volatile material lowers to expose the same.

5. A fumigator, comprising a receptacle provided with a support, a heating element carried by said support, a circuit leading from said heating element to a source of current, volatile material contained in said receptacle and in which said heating element is immersed, said element being adapted to fuse when the level of the volatile material lowers to expose the same, and an indicating lamp in said circuit.

6. A fumigator, comprising a receptacle, a support therein, a wire heating element coiled around said support and having terminals extending to the outside of said receptacle, and volatile fumigating material in said receptacle and in which said heating element is immersed, said heating element being adapted to fuse when the level of liquid lowers and exposes the same.

7. A fumigator, comprising a receptacle, a support therein, a wire heating element coiled around said support and having terminals extending to the outside of said receptacle, and volatile fumigating material in said receptacle and in which said heating element is immersed, said heating element being adapted to fuse when the level of liquid lowers and exposes the same, and a layer of solid material covering said volatile material and which is adapted to melt when the heating element is acted.

In testimony whereof, I have hereunto set my hand.

WILLIAM F. McNABB.

Witnesses:

ELBERT L. HYDE,

WILLIAM B. WHARTON.