

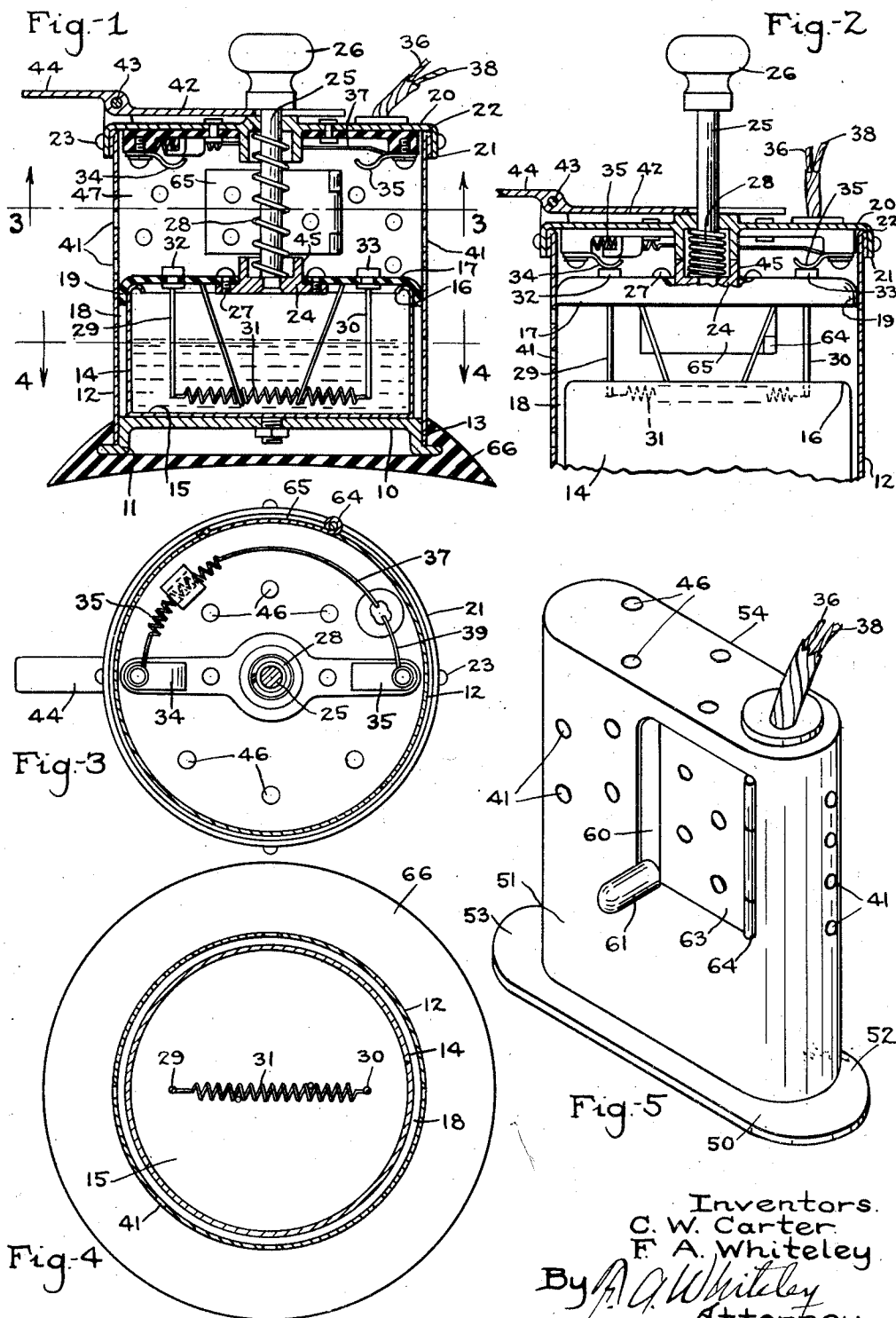
Jan. 14, 1941.

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ELECTRIC INCENSE VAPORIZER

2,228,505

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig-6

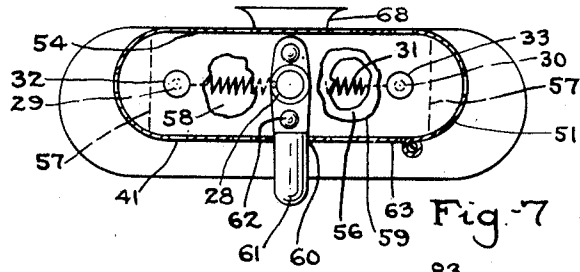
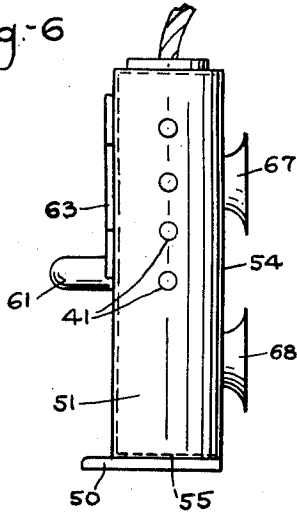


Fig-7

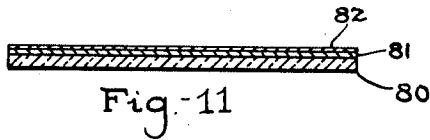


Fig-11

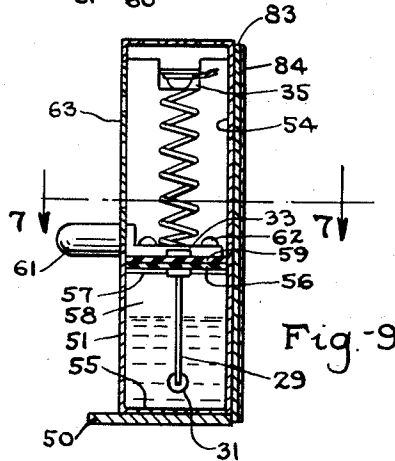


Fig-9

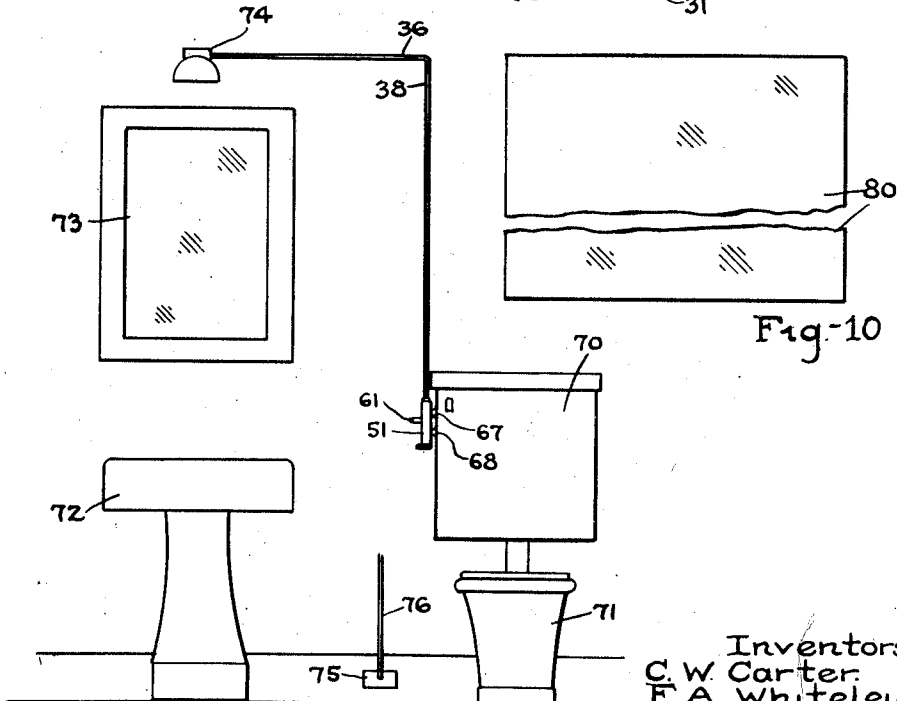


Fig-8

Fig-10

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UNITED STATES PATENT OFFICE

2,228,505

ELECTRIC INCENSE VAPORIZER

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Application September 8, 1939, Serial No. 293,960

5 Claims. (Cl. 21-119)

Our invention relates to electric incense vaporizers and has for its object to provide an open-topped container adapted to hold a quantity of incense liquid such as perfumed oils or essences upon which rests a cover member carrying a pair of metallic arms between which is mounted a resistance wire held normally immersed in the incense liquid, and to provide contacts to be put in circuit with said resistance wire when the cover and attached parts is lifted, whereby current will be passed through the wire, heating it and causing incense fumes to be quickly generated and passed out of the container.

It is a particular object of our invention, therefore, to have a resistance wire of elongated nature mounted so as to be normally immersed in the incense liquid held within a container in combination with means for lifting the same from the container, and having means which after it has been lifted therefrom will cause electric current of a suitable intensity to pass through the resistance wire so as to heat it to a dull red and cause the liquid carried out in contact with the wire to be instantly or very quickly vaporized to produce fumes having a pleasant odor.

It is a further object of our invention to provide a container for incense liquid having an open top and of a suitable shape, either cylindrical or oblong, and having a cover member adapted to be lifted therefrom, said cover member being made of Bakelite or other non-conducting material and being adapted when in lowered position to seal the vessel containing the liquid.

It is a further object of our invention to provide a Bakelite cover for a receptacle or reservoir adapted to hold a quantity of incense liquid and to support thereon a resistance wire which when the cover is in position will be within the reservoir and immersed in the incense liquid.

It is a further object of our invention to provide means for lifting the cover and thereby withdrawing the resistance wire from the liquid together with means which will at the end of the lifting movement put said resistance wire in circuit with an electric current, whereby it will be quickly heated and the film of liquid brought up on the resistance wire will be vaporized to produce fumes having a pleasant odor.

It is a further object of our invention to provide in conjunction with the apparatus in its casing pneumatic suction cups adapting the apparatus to be held in position without screws or fastening members, upon, for example, vitreous enamelled surfaces within a bathroom and kitchen

such as the flushing tank of a bathroom or the electric refrigerator of a kitchen.

The full objects and advantages of our invention will appear in connection with the detailed description thereof, and the novel features by which the desirable results of the invention are obtained will be particularly pointed out in the claims.

In the drawings which illustrate an application of our invention in one form—

Fig. 1 is a sectional elevation view of an embodiment of our invention.

Fig. 2 is a view similar to Fig. 1 showing the parts in lifted position when the circuit has been completed and the fumes are being generated.

Fig. 3 is a sectional view taken on line 3-3 of Fig. 1 viewed in the direction of the arrows.

Fig. 4 is a sectional plan view taken on line 4-4 of Fig. 1 viewed in the direction of the arrows.

Fig. 5 is a perspective view of a modified form.

Fig. 6 is an end elevation view of the form shown in Fig. 5.

Fig. 7 is a sectional plan view taken on line 7-7 of Fig. 6.

Fig. 8 shows a portion of a side of a bathroom with our incense vaporizer attached by vacuum cups to the side of the flushing tank.

Fig. 9 is a sectional elevation view taken on line 9-9 of Fig. 5 with means for cementing the construction to a flat surface of a wall not shown in Fig. 5.

Fig. 10 is a plan view and

Fig. 11 is a sectional view of a square of glass adapted to be cemented to a wall to form a support for the appliance.

As shown, a base 10 is provided having either feet or an annular rim 11 adapted to form the supporting margins of the device. This base is fairly heavy in order to keep the device from tipping easily. A casing section 12, which may be cylindrical as in Fig. 1 or oblong as in Fig. 5 is secured to the base as indicated at 13 in Fig. 1. A permanent securing may be effected by any desired means such as soldering, spot welding or by means of screws.

Secured to the base 10 within the chamber formed by the casing 12 is a reservoir 14, as clearly shown in Figs. 4 and 5; the reservoir is of the same cross sectional shape as the casing 12, being shown circular in cross section in Fig. 1 and oblong in cross section in Fig. 7. Obviously the particular cross-sectional shape of the casing 12 and of the reservoir 14 may be varied, as desired. The bottom 15 of the reservoir will

be fixedly secured to the base 10, preferably by spot-welding it thereto. The upper edge 13 of the reservoir 14 is preferably curled inwardly, as clearly shown, which tends to prevent the liquid within the reservoir from creeping up over the edge.

A cover 17 formed of Bakelite or other non-conducting material is shaped to correspond with the cross-sectional shape of the casing 12 and the reservoir 14. As clearly shown, the reservoir 14 whatever its shape may be is somewhat smaller in cross-section than the casing 12, providing an annular space 18 between the outside of reservoir 14 and the inside of casing 12. The cover 17 is provided with an annular flange 19 which is adapted to slip into this space 18 between the walls of casing 12 and reservoir 14. It follows that when the cover is down the contents of the reservoir 14 will be effectively sealed.

I provide a cover member 20 for the casing which will have the same shape in plan of the casing 12 and which is provided with an annular flange 21 adapted to fit tightly over the upper edge 22 of the casing 12. The cover member 20 will be permanently secured to the casing 12 by rivets 23 or any other desirable means of securing it thereon.

Secured to cover member 17 by means of a heavy base 24 is a shank 25 which has threaded to the top thereof a knob 26. The base 24 is preferably secured to the central point of cover 17 by means of screws 27. Surrounding the shank 25 is a spring 28 which is compressed as the cover member 17 is lifted, and tends to force the cover member into the closing position indicated in Fig. 1.

Extending through the non-conducting cover 17 are conducting posts 29 and 30 between which is extended a resistance wire 31. The post 29 is provided with a contact piece 32, and the post 30 is provided with a contact piece 33 on top of cover 17. Carried by cover member 20 and insulated therefrom are contact pieces 34 and 35. A lead-in wire 36 for electric current is secured to the cover 20, as indicated at 37 in Fig. 3, and connects with the contact piece 34. A resistance wire 35 suitably reduces the current which may be transmitted from contact piece 34. The lead-out wire 38 is connected at 39, Fig. 3, with the contact piece 35 on Fig. 3.

In operation incense liquid as indicated is put in reservoir 14 and may have its level as indicated at 40. When the parts are in rest position the elongated resistance wire 31 is immersed in this incense liquid at a point near the bottom 15 of the reservoir. When it is desired to obtain incense vapor the handle is lifted against gravity and the force of spring 28 until contact 32 engages contact 34 and contact 33 engages contact 35, whereupon electric current will pass through resistance wire 31 at such a rate as to heat it to a dull red. This will cause immediate vaporization of the film of incense liquid on the wire which passes out through numerous openings 41 in the casing 25. If a greater volume of incense vapor is desired the resistance wire may be dipped and heated a number of times.

We have shown openings 46 in the top of the cover member 20 which permits the cover member to rise and fall freely. As the cover member 17 is drawn up it will normally force from the chamber 47 above it within casing 12 the air within which may be charged to some extent with incense vapor. When the cover 17 is returned to its normal position it will in turn force out

of the chamber 47 all of the air heavily impregnated with incense vapor from the heat of resistance wire 31. It follows that with the elevation of the cover member 17 to its upper position wherein the circuit contacts are closed and held closed for a period long enough to heat wire 31 and throw off the incense vapor therefrom and with the following return of cover 17 to normal position a considerable puff of incense vapor will be driven out through the several openings and all of the vapor set free will be forced out into the air of the room where the device is being used.

A lever 42 may be fulcrumed as at 43 on the casing 12 and operate through a finger piece 44 to lift the cover 17 and associated parts and against the force of spring 28, if that is desired. The base 24 is preferably formed with an annular rim 45 which receives the spring 28 and engages the cover 17 when it has been lifted to circuit-closing position.

In the form of the invention shown in Figs. 5, 6 and 7 a base member 50 has secured thereto a casing 51 having the parallel walled elongated cross sectional shape of Fig. 7. The base 50 has its rear portions 52 and 53 extending inside of the plane of the rear wall 54 of the casing 51, as clearly indicated in Figs. 6 and 7. The bottom wall 55 of casing 51 is secured directly upon the top of base 50, see dotted line position in Fig. 6. In this form of the invention there need be no separate tank. A cover member 56, Fig. 7, fits with a reasonable degree of closeness within casing 51 and is restrained in its downward movement by ledges 57 at the ends of chamber 58 within casing 51. If desired a rubber strip 59 may be applied to the top of the cover 56 to effect more complete sealing. The cover member 56 carries the contact posts 29 and 30 (Fig. 7, dotted lines), the elongated resistance wire 31 and the contact pieces 33 and 32 (dotted lines, Fig. 7). Through a slot 60 in the side of the casing 51 extends a handle 61 riveted to the plate 56 as indicated at 62. A door 63 in the wall of casing 51 extends from an edge of slot 60 to a hinge 64 at the side of the casing which opens the casing up to permit the introduction of incense liquid into chamber 58. A similar door 65, similarly hinged, is shown in Fig. 1 for opening into the chamber 47 of casing 12 to permit filling of reservoir tank 14.

In the form of the device shown in Fig. 1 a rubber suction cap 66 is shown applied to the base rim 11 by which the construction may be firmly secured to any horizontal surface. If desired such a suction cap, not shown, may be secured to the side of casing 12 to hold the apparatus on a horizontal surface. In the form of the invention shown in Figs. 5 to 8 inclusive suction caps, preferably two in number, 67 and 68, are applied to the rear side of the casing 51 by which in practice this construction will be immovably held on a horizontal surface, preferably a glass or glass-finished surface such as an end of an enamelled surface of a flushing tank in the bathroom or such as a side of an enamelled refrigerator in the kitchen. In Fig. 8 is shown an assemblage of the electric atomizer within a bathroom wherein the casing 51 is shown secured by suction cups 67 and 68 to the side of the flushing tank 70 above the toilet seat 71. Above the wash bowl 72 is the customary mirror 73 which may be a medicine cabinet door, and above the mirror is a customary electric lamp 74. From an adapter of the socket of the electric lamp 74 run the wires 35, 38, Fig. 1, which are carried into casing 51 and along

the top thereof in the same manner as in the structure of Fig. 1, whereby electricity is supplied to the incense vaporizer in casing 51. Or, if there is an electric floor opening, as at 75, a double cord 76 may be carried to the member 51 as there shown.

While it is convenient to attach the device to the vitreous surface of an article such as a flushing tank or a refrigerator, it is practical and contemplated by us to make an attachment to any wall, as desired. Since normal walls filter too much air to maintain a vacuum cup, we propose to secure to the wall a suitable square of glass to which the device may be attached by means of the suction cups. For the purpose of making such attachment we provide a square of glass 80 having applied thereto a layer of cement 81 with a protective cover strip 82 over the cement, as indicated in Figs. 10 and 11. The glass is thus in condition to be applied to any kind of a wall at any point desired, it being merely necessary to remove the protective cover strip which leaves the cement uncovered so that pressing the glass against the wall surface will cause it to adhere thereto. Then the vacuum cups such as 66, 67 or 68 can be applied to the glass surface and the appliance held positioned in that way.

Or, as shown in Fig. 9, the casing of the electric vaporizer itself, such as casing 51, may have secured to its back a layer of cement 83 with a cover strip 84. With this arrangement it will only be necessary to remove the cover strip and press the back of casing 51 against a wall surface wherever desired and the device will be permanently held by the adhesive to the wall surface.

The advantages of our invention will appear quite clearly from the foregoing description. It will be clear that the construction is very simple and economical to build, yet is in a high degree efficient for the purpose, which is primarily to obtain a quick release of a considerable amount of incense vapor to cover unpleasant odors, as in a bathroom or in a kitchen. The electric circuit can only be closed when the resistance wire 31 has been withdrawn from the incense liquid. It will be obvious that at that time a considerable amount of the liquid will adhere to the elongated resistance wire in a position such that all of it is quickly heated, thus releasing a large volume of vapor of the incense liquid within the casing 12. The heating of the air there, along with the freeing of this liquid, will cause this vapor to pass out the holes 41, and when the cover 17 is returned upon release of either the handle 26 or the hand piece 44 the vapor within the chamber, by return of that cover will be forced through holes 41 to the atmosphere outside. Obviously the electric current never can be left on, since the moment the operator releases either handle 26 or finger piece 44 the parts will be restored to normal and the circuit be broken. The cover member 32 can be additionally forced into closing position where the flange 19 enters the space 18 between casing wires 14 and 12 by direct thrust downward on the knob 26. It will, therefore, be obvious that the method of securing the device in any desired position by vacuum cups applied to a vitreous surface of an article such as a bathroom flushing tank or a kitchen refrigerator or by cementing a square of glass to a wall surface and applying the suction cups to that glass surface, or by applying a cement to a back

of the device with a protective strip to be removed and pressing the device itself against the wall, are all features of advantage adding to the effectiveness of use of the device.

We claim:

1. An incense vaporizer comprising a casing, an open-topped tank within said casing adapted to contain a liquid, an elongated resistance wire held normally immersed in the liquid, means for lifting the wire to bring it out of the liquid, a normally broken electric circuit, and means contacted at the end of the lifting movement to close said circuit through the resistance wire when the same is lifted.

2. An incense vaporizer comprising a casing, an open-topped tank within the casing adapted to contain a liquid, a pair of contact posts held spaced and adapted to enter said tank near the margins thereof, a coiled resistance wire carried by said posts and held thereby immersed in the liquid, a pair of contacts in alinement with the first-named contacts and located near the top of the casing, an electric circuit connected with said last-named contacts and broken by the space between them, and means to lift the first-named contacts and wire to bring them in engagement with the second set of contacts whereby the resistance wire is withdrawn from the liquid and the circuit closed through it and the heat generated therein vaporizes the liquid held in a film on said wire.

3. An incense vaporizer comprising a casing, an open-topped tank within said casing adapted to contain a liquid, a cover adapted to close said tank, a resistance wire carried by the cover to be immersed in the liquid, means for lifting the cover, an electric circuit embodying spaced contacts which normally break said circuit, said contacts located a predetermined distance above the closing position of the cover, and contacts on the cover in circuit with the resistance wire, whereby when the cover is raised said distance it will withdraw the resistance wire from the liquid and the cover contacts will engage the first-named contacts and close the circuit through the resistance wire.

4. An incense vaporizer comprising a casing, an open-topped tank within said casing adapted to contain a liquid, a cover normally sealing said tank, an elongated resistance wire held by the cover to be normally immersed in the liquid, means for lifting the cover to bring the wire out of the liquid, a normally broken electric circuit, and means contacted at the end of the lifting movement of the cover to close said circuit through the resistance wire when the same is lifted.

5. An incense vaporizer comprising a casing, an open-topped receptacle in the casing adapted to hold a supply of incense liquid, a normally-broken electric circuit including a resistance wire normally held immersed in said liquid, a cover normally closing said receptacle, means to move the cover and the resistance wire relatively to the receptacle, and means contacted at the end of said relative movement to close said circuit through the resistance wire, whereby the resistance wire is brought out of the liquid and into the free space in the casing and at the same time the circuit is closed to generate incense vapor in the casing and said incense vapor is forced from the casing when the parts are restored to normal position.

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