

Jan. 20, 1948.

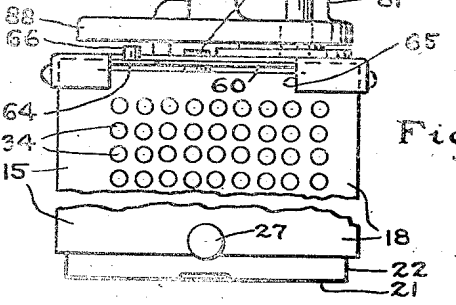
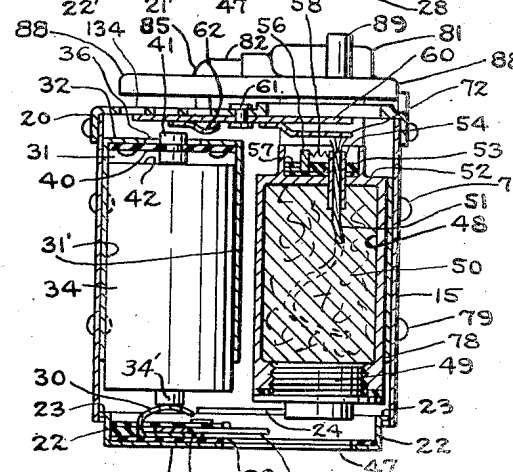
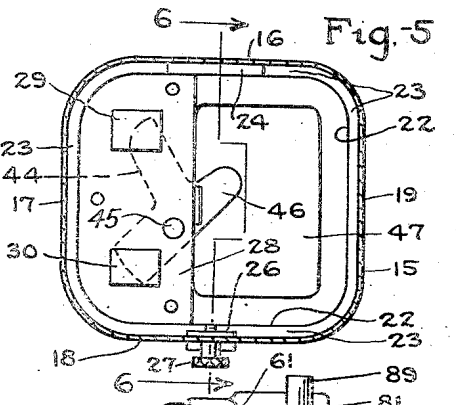
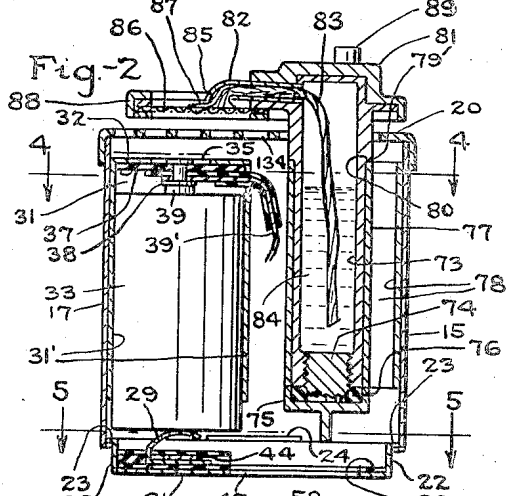
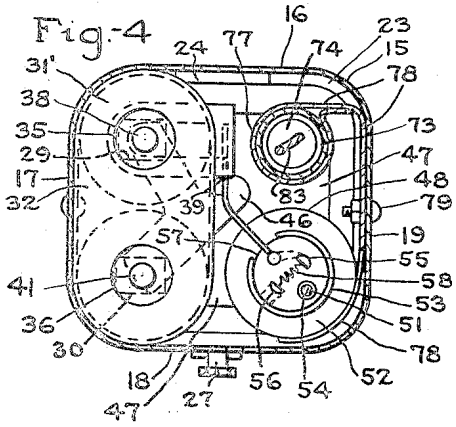
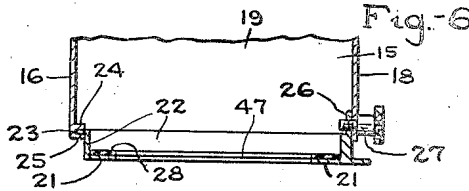
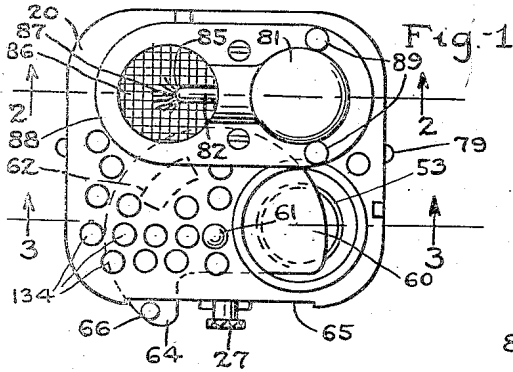
J. T. WILLIAMS ET AL

2,434,825

INCENSE VAPORIZER ADAPTED FOR USE AS A CIGAR LIGHTER

Filed June 26, 1941

2 Sheets-Sheet 1



Inventors:  
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INCENSE VAPORIZER ADAPTED FOR USE AS A CIGAR LIGHTER

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2 Sheets-Sheet 2

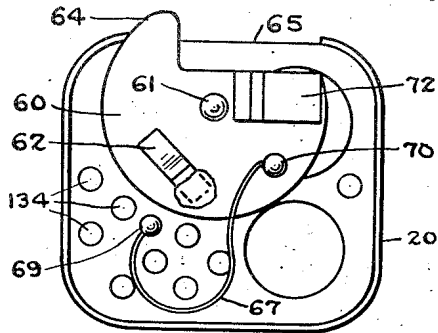


Fig-8

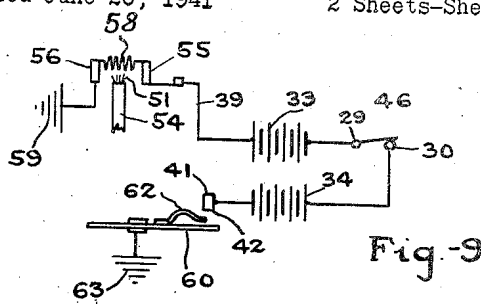


Fig-9

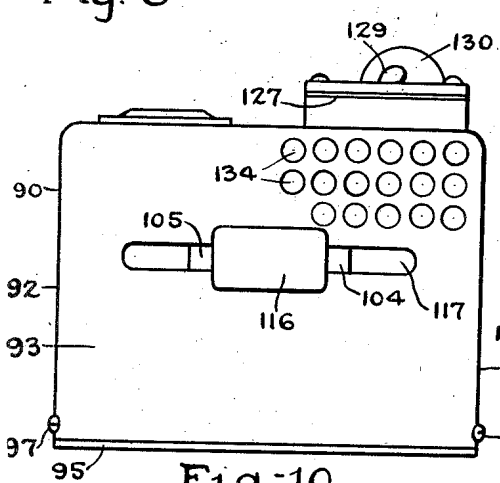


Fig-10

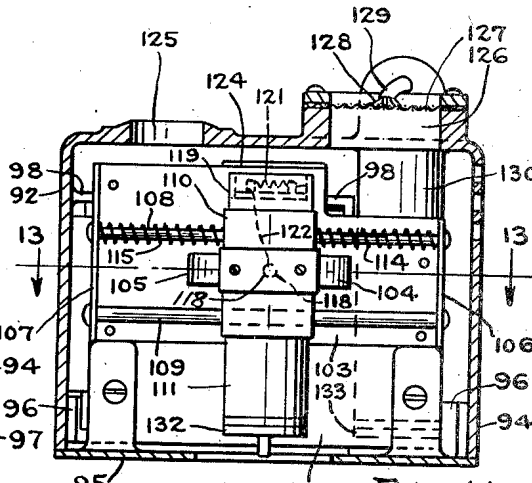


Fig-11

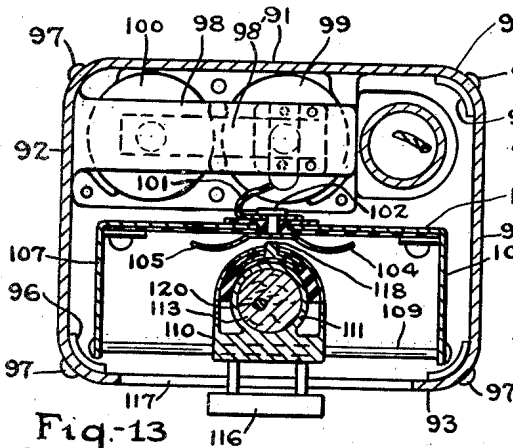


Fig-13

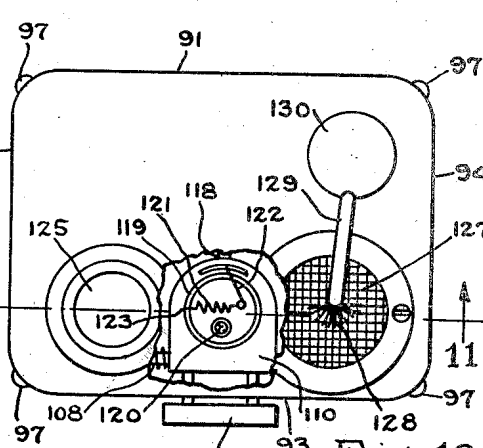


Fig-12

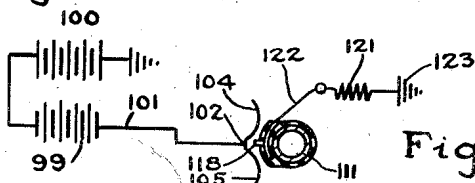


Fig-14

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## UNITED STATES PATENT OFFICE

2,434,825

INCENSE VAPORIZER ADAPTED FOR USE  
AS A CIGAR LIGHTERJames T. Williams and Karl F. Riese, Minne-  
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Williams

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8 Claims. (Cl. 21-116)

1

Our invention relates to an incense vaporizer adapted for use as a cigar lighter and has for its object to provide a device embodying means for generating a flame which flame may be used as a cigar lighter, in combination with means for projecting a pan over the flame and causing incense liquid to come onto the pan and be vaporized by the flame.

It is a principal object of our invention to provide such an incense vaporizer and cigar lighter in a small casing, adapted to be set upon any surface such as the top of a table or stand, wherein removable dry cell batteries are adapted to be placed, and wherein in the act of placing them, they will form contacts with a circuit to instrumentalities for effecting the ignition and lighting of the flame, together with means for closing said circuit as desired.

It is a further object of our invention to provide within the casing a source of inflammable liquid and means to convey it to a point near a resistance wire in said circuit whereby when said resistance wire is heated by closing of the circuit the liquid will be ignited and a flame caused to burn.

It is a further object of our invention to provide a member adapted to be oscillated within the casing and having thereon means for closing and breaking the aforesaid circuit to cause such flame, and means for conveying of a film of liquid incense over said flame.

The full objects and advantages of our invention will appear in the detailed description hereinafter given, and the structure producing the numerous advantages attained by the use of the device is particularly pointed out in the claims.

In the drawings illustrating an application of our invention in some of its forms:

Fig. 1 is a top plan view of our invention.

Fig. 2 is a sectional elevation view taken on line 2-2 of Fig. 1.

Fig. 3 is a sectional elevation view taken on line 3-3 of Fig. 1.

Fig. 4 is a sectional plan view taken on line 4-4 of Fig. 2.

Fig. 5 is a sectional plan view taken on line 5-5 of Fig. 2.

Fig. 6 is a fragmentary sectional plan view taken on line 6-6 of Fig. 5.

Fig. 7 is a condensed side elevation view of the casing viewed from the side at the bottom of Fig. 1.

Fig. 8 is a plan view of the cover and attached parts in an inverted position.

2

Fig. 9 is a wiring diagram showing the circuits of the device of Figs. 1 to 8 inclusive.

Fig. 10 is a side elevation view of a modification.

Fig. 11 is a sectional elevation view taken on line 11-11 of Fig. 12.

Fig. 12 is a top plan view of the device of Fig. 10.

Fig. 13 is a sectional plan view taken on line 13-13 of Fig. 11.

Fig. 14 is a wiring diagram for the form of the invention shown in Figs. 10 to 13 inclusive.

A casing 15 is provided with side walls 16, 17, 18 and 19, a top wall 20 and a removable bottom wall 21. This bottom wall, as indicated in Figs. 2, 3 and 6, is provided with a flange 22 having a laterally projected lip member 23 which extends nearly around the flange, Fig. 5. This lip member at the back (see Fig. 6) goes into the space between inwardly turned extensions 24 and 25. Also a plate 26 extends upwardly from flange 22 (see Figs. 5 and 6) and is adapted to be held by means of the finger screw 27, thus holding the bottom member 21 removably positioned upon the casing 15.

Mounted within bottom member 21 is an insulating plate 28 which carries a pair of spring contact pieces 29 and 30 (see Figs. 2 and 3). These contact pieces are thus insulated from one another and from the frame.

Above the contact pieces 29 and 30 is a dry cell battery chamber 31 formed of an oval-shaped open-bottomed casing 31' having a top 32. A pair of dry cell batteries 33 and 34 of conventional construction, Figs. 2, 3 and 4, are removably held within the battery chamber 31 in alternately reversed positions so that the zinc surface on the butt end of battery 33 is in engagement with spring contact 29, and the terminal post 34' of battery 34 is in engagement with spring contact 30. The top plate 32 is formed with a pair of circular openings 35 and 36, as best shown in Fig. 4. Riveted to this top plate is an insulating member 37 which carries a contact post 38 adapted to be engaged by the contact member 39 on the upper end of the battery 33. To the post 38 is connected a wire 39'. Similarly an insulating member 40 underlies opening 36 and carries a contact post 41 which is adapted to engage the conductive zinc surface 42 on the upper end of battery 34.

In assembling the batteries within the casing the bottom member 28 is removed, the casing inverted and the dry cell batteries 33 and 34 slipped into place with their contact posts reversed in position so that they will be mounted in series

to carry the cumulative current of both batteries. The bottom member 28 will then be applied bringing spring contact member 29 into engagement with the zinc surface on the lower end of battery 33 and spring contact member 30 into engagement with the terminal post 34' on the lower end of battery 34. The two batteries are electrically independent of each other but are adapted to be joined in a series circuit by a pivotally mounted switching connection to be described hereafter. This switch connection comprises a bridge switch 44, indicated partly in dotted lines in Fig. 5, and having a finger piece 46 positioned opposite an opening 47 in bottom plate 28 in the position of Fig. 5, and is adapted to close the circuit between the two contact pieces 29 and 30 and hence between the two dry cells held in casing 31'. When it is desired to break this circuit the finger piece 46, Figs. 4 and 5, is operated to spring the prongs of the bridging switch 44 out of engagement with the contact pieces 29 and 30.

From the above description it will be apparent that the two dry cell batteries may be conveniently positioned within the casing 15 and the battery casing 31', and are put in circuit with the contact pieces 29 and 30 merely by applying the bottom member 28, and may be put in or out of circuit with one another by convenient manipulation of the bridging switch 44 which is pivotally supported on bottom plate 28 as indicated at 45.

A tank or container 48 for lighting liquid is attached to and supported by bracket member 78 removably held upon wall 19 by screws 79, Figs. 3 and 4, and is provided with a screw cap 49 which is positioned at the bottom of the container 48 as held in the casing and closes the filling opening and the container, and is adapted to be held in an inverted position, as indicated in Fig. 3, the cap 49 being removable through opening 47 in bottom plate 21, or when said bottom plate has itself been removed, so that filling takes place with the casing in inverted position. The container is filled with some porous material as mineral wool, indicated at 50, which has imbedded therein a wick 51. The closure wall 52 of this container is provided with a semi-circular upstanding rib 53 and has a tube 54 extending through it which conveys the wick 51 to a point adjacent the top plane of the member 53. Posts 55 and 56 are held within the space formed by the semi-circular rib 53 and are insulated from rib 53 and container 52, as indicated at 57.

Between these posts extends a resistance wire 58, Figs. 3 and 9. Wire 39' is connected with post 55 and post 56 is grounded as indicated in dotted lines in Fig. 4 and at 59 as indicated in wiring diagram Fig. 9. A semi-circular switch plate 60 is mounted so as to oscillate about a pin mounting 61, Fig. 8, and carries a contact plate 62 adapted to engage the top of contact post 41 when the plate 60 is swung on the pin mounting, 61, thus closing the circuit through the batteries to ground 63, as shown in the wiring diagram Fig. 9, which causes current from the dry cell batteries to go through resistance wire 58. This is heated white hot by the current and ignites the vapor coming from the wick 51 adjacent the resistance wire 58.

The plate 60 is provided with a nose 64 which projects through an opening 65 in the side of casing top 20. Upon the nose 64 is a finger pin 66 which enables the plate 60 to be swung on the pin mounting 61. A spring 67, Fig. 8, connected

with a post 69 on top plate 20 and with a post 70 on plate 60 holds the plate 60 in its retracted position where pin 66 contacts with edge of opening 65. When the plate 60 is swung on the pin mounting 61 it will bring the contact piece 62 over and in engagement with the contact post 41 and close the circuit to ground long enough to cause the flame to be ignited. The plate will be held in this extended position while the flame burns for the lighting of a cigar or cigarette, and when it is retracted be swung to its normal position a snuffer plate 72 comes above the end of wick 51 and extinguishes the flame.

The bracket member 78, Figs. 2 and 4, comprises a sheet metal part formed with a tubular portion 77 and removably held to the side wall 19 by screws 79. Within the tubular portion 77 is seated a tubular incense container 73 which is provided with a lip 79' which overlies the upper edge 80 of the tubular support 77. By this means the container 73 and the parts connected with it are mounted for oscillation upon the tubular part 77 of bracket 78. A screw closure member 74 is threaded into the bottom of the incense container 73 which is fast on cap member 75. The cap member 75 engages a gasket 76 between its inner wall and the lower edge of container 73, by means of which the incense container is sealed against leakage. The edges of cap 75 overlie the edges of tube 77, Fig. 2, which prevents the incense container 73 from being withdrawn except when the cap 75 has been removed. Upon the closed upper end of the incense container 73 is mounted a cap member 81 which has a laterally extended portion from which extends a tube 82, Fig. 2. A wick 83 extends from within the incense space in the container 73 indicated at 84 and through the tube 82.

The tube 82 has a downwardly extended mouth 85 which extends close to the bottom wall of a pan 86, said wall being formed of wire gauze or other reticulate metal. The wicking spreads over this pan, as indicated at 87 in Figs. 1 and 2, the pan or mesh bottom 86 is carried by an extension arm 88 of cap 81 and embodies extension pins 89 by which the whole assemblage may be conveniently swung from the position in Fig. 1. By this means the pan or reticulate receiving member 86 will be kept covered with a film of incense liquid brought up by the wick 83 and the pan can be swung over the flame at the top of tube 54 whenever the flame has been ignited by the closing of circuit through the batteries. The incense liquid on the pan is thus heated and vaporized to give a pleasant odor to override unpleasant odors which may on occasion exist in such places as bathrooms, kitchens and the like.

A somewhat different form of our invention is shown in Figs. 10 to 14. Here a casing 90 has side walls 91, 92, 93 and 94 and a removable bottom wall 95 having corner extensions 96, Fig. 13, by means of which the bottom is secured to the casing 90 by screws 97. Within the casing 90 and supported by a transverse bar 98 are dry cell batteries 99 and 100. These batteries are held in reverse position, as is true of batteries 33 and 34, and are connected in series by means of a plate indicated at 98' and resting upon the bar 98 which is formed of insulating material. The current goes from the batteries through wire 101 to a post 102, as shown in Figs. 13 and 14, which post is carried on a vertical frame portion 103 and insulated therefrom but in circuit with contact plates 104 and 105. The frame portion 103

5

is provided with wing plates 106 and 107 which support a pair of pins 108 and 109, Fig. 11. Upon the pins or rods 109 and 109, is slidably mounted a piece 110 which carries a container 111 adapted to hold a supply of inflammable fluid, preferably being filled with a material such as rock wool, indicated at 113, Fig. 13. The slide-piece 110 is held in central balanced position by means of compression springs 114 and 115. The slide-piece 110 is provided with a handle member 116 extending through a slot 117 in the side wall 93 of the casing 90.

A contact post 118 is insulated from container walls 113 and is adapted to be brought into contact with one or the other of the contact plates 104 and 105 as the piece 110 and parts carried thereby is slid to right or to left. The top of container 111 is formed with an annular flange 119. A wicking 120 extends through this top into the space within the annular flange 119 and close to a resistance wire 121 positioned therein. As indicated in dotted lines in Fig. 11 a wire 122 connects the contact post 118 with the resistance wire 121 and this resistance wire, as shown in Fig. 12, grounds on the frame at 123.

Frame portion 103 carries a snuffer plate 124 which overlies the flame from wick 120, when the parts are in normal or inoperative position, as in Fig. 12, and in that position will extinguish the flame. When, however, the piece 110 is moved either to right or left the circuit is closed and the flame is ignited. In the position at the left the flame ascends through the opening 125, where the flame may be used as a cigar lighter. In the position at the right the flame passes through a larger opening 126, which has above it a reticulate or gauze member 127. This gauze receives incense liquid from a wicking which is spread out over it at 128 and which extends through a tube 129 into an incense liquid receptacle 130. The bottom portion of the wick is adapted to be immersed in the incense liquid in container 130. For filling the containers the casing will be inverted and filling caps removed. The filling cap for container 111 is indicated at 132 and a similar filling cap for container 130 is shown in dotted lines at 133 of Fig. 11. Numerous apertures 134 will be formed in either casing 15 or casing 90 to permit free ingress of air to the burner chamber.

The advantages of our invention have in general been quite clearly pointed out in the foregoing description. Among these advantages which may be specifically detailed is the fact that the devices are entirely self-contained. Electric energy is obtained from small dry cell batteries which are readily and simply exchanged for others when they become exhausted. No technical skill is required in getting the batteries in place, it only being necessary to reverse the poles of the batteries so that they will be connected together in series. The entire structure is very compact comprising in a practical form a cubical casing which is substantially three inches along each of its dimensions.

The instrumentality so organized has a further advantage of being not only an incense vaporizer wherein the vaporizing of the incense is effected directly by a flame, but of so arranging the parts of it that the identical flame which is used for generating incense vapor also is available as a cigar lighter. This is a feature of very marked advantage, since both the utility as a lighter and as an incense vaporizer is derived from a single flame and is of marked importance and value.

6

The construction is simple, cheap to construct and meets a long existing and heretofore unsatisfied need.

We claim:

1. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein means for igniting and sustaining an open flame, a container in the casing adapted to hold a supply of incense liquid, a pan, means to transfer a portion of said incense liquid to the pan, and means for moving the pan and the flame relatively to bring the pan above the open flame to vaporize said portion of incense liquid.

2. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein means for igniting and sustaining an open flame, a container in the casing adapted to hold a supply of incense liquid, a pan, means to transfer a portion of said incense liquid to the pan, and means for moving the pan and the flame relatively to bring the pan above the open flame to vaporize said portion of incense liquid, said pan having its bottom formed to permit the passage of flame gas therethrough.

3. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein means for igniting and sustaining an open flame, a container in the casing adapted to hold a supply of incense liquid, a receiver for a portion of the liquid consisting of a gauze plate, means to cause a portion of said liquid to be transferred to the gauze plate, and means for moving the gauze plate and the flame relatively to bring the plate above the open flame to vaporize the portion of incense liquid thereon.

4. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein means for igniting and sustaining an open flame, a container in the casing adapted to hold a supply of incense liquid, an arm on said container embodying a laterally positioned pan, means to cause a portion of said liquid to be transferred to the pan, said pan and container being rotatably mounted so that the pan may be moved to be brought above the open flame to vaporize the portion of incense liquid on the pan.

5. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein means for igniting and sustaining an open flame, a container in the casing adapted to hold a supply of incense liquid, an extension arm projecting laterally from the container having an opening therein with a gauze bottom, a tube extending to a point above and close to said gauze bottom, a wicking positioned within the incense liquid receiving space in the container and extending through said tube and into contact with said gauze bottom, said container and the arm carried thereby being rotatably mounted to permit the gauze bottom to be brought above the open flame to vaporize the portion of incense liquid thereon.

6. An incense vaporizer, comprising a casing, a compartment in said casing adapted to receive a pair of dry cells, a removable bottom to the casing for permitting introduction of the cells thereinto, contact pieces on said bottom, corresponding conductive surfaces on the cells, said contact pieces and conductive surfaces automatically acting upon insertion of the dry cells within the casing and upon securing the bottom cover in position on the casing to make an open electric circuit adapted to have series connection with the cells, means for closing the circuit, means whereby closing of the circuit will ignite a flame,

7

and means for bringing incense liquid in position to be acted upon by the flame.

7. An incense vaporizer, comprising a casing, a compartment in said casing adapted to receive a pair of dry cells, a removable bottom to the casing for permitting introduction of the cells thereinto, contact pieces on said bottom, corresponding conductive surfaces on the cells, said contact pieces and conductive surfaces automatically acting upon insertion of the dry cells within the casing and upon securing the bottom cover in position on the casing to make an open electric circuit adapted to have series connection with the cells, means for closing the circuit, means whereby closing of the circuit will ignite a flame, means for bringing incense liquid in position to be acted upon by the flame, and means carried by the bottom operative to close and break said series circuit between the cells.

8. An incense vaporizer adapted for use as a cigar lighter, which comprises a casing having therein an inflammable liquid container and having an enclosing top wall, a wick in the container having a portion extended out of the container, a normally open electric circuit having a resistance wire therein adjacent the extended portion of

8

said wick, a movable member having a part adapted to close said circuit to cause the resistance wire to ignite a flame on the exposed part of said wick, an incense liquid container mounted within the casing at one side thereof, an opening through the top wall through which the flame may extend for lighting a cigar at the other side, a gauze bottomed pan in line with the opening through the top, means for conveying incense liquid from the incense container to and upon the gauze in the pan, and means to move the wick and flame from side to side to position it beneath either the top opening or the gauze pan.

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