

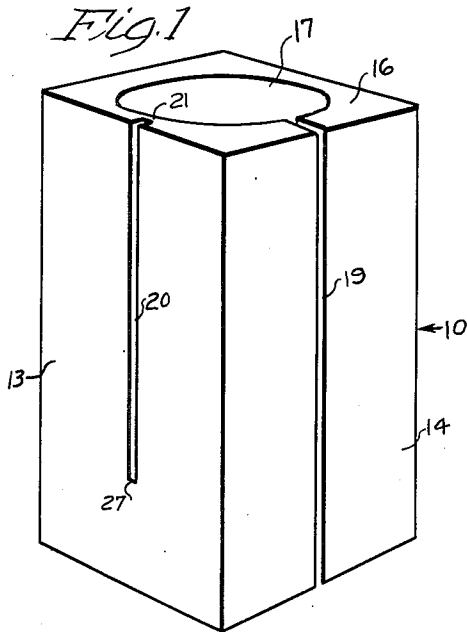
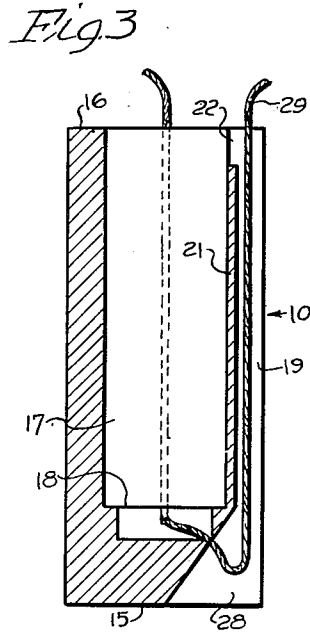
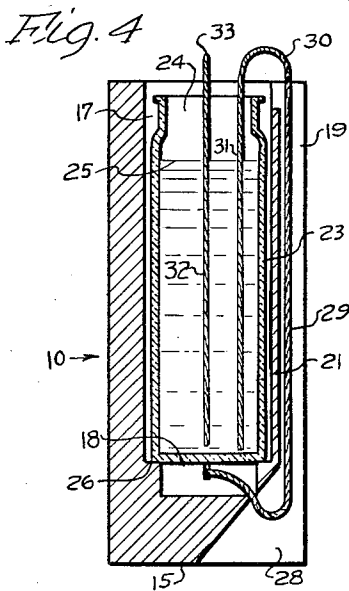
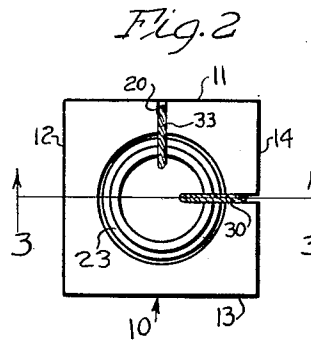
Oct. 14, 1952

H. C. SMITH  
SCENT DISSEMINATOR

2,613,989

Filed Jan. 22, 1948

2 SHEETS—SHEET 1



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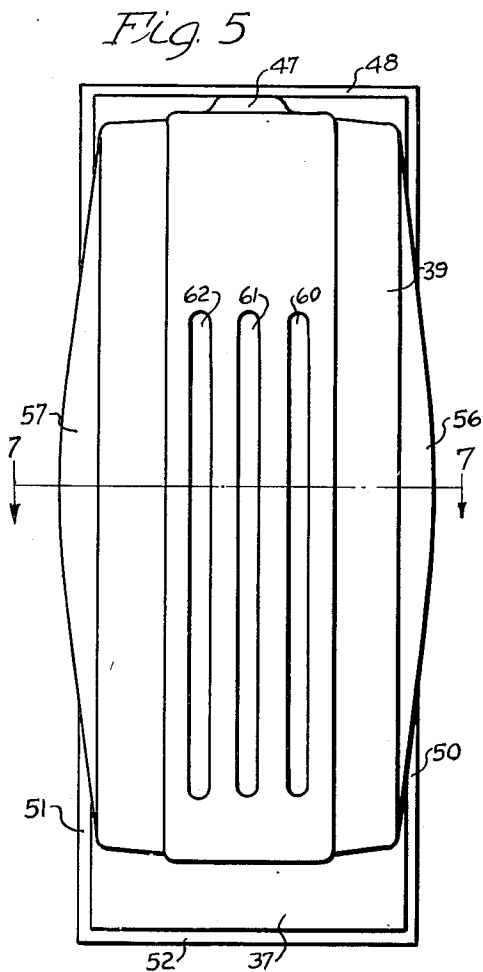
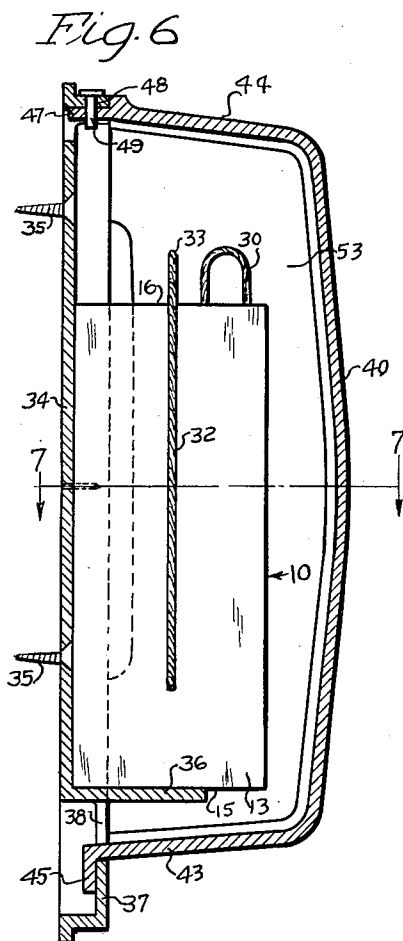
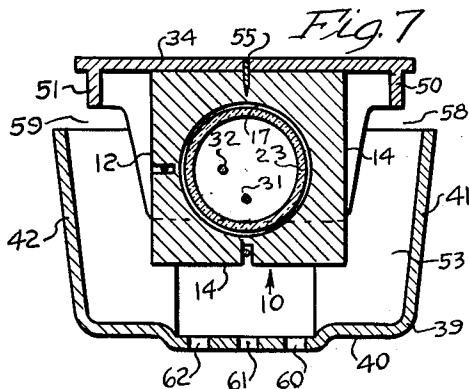
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2 SHEETS—SHEET 2



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## UNITED STATES PATENT OFFICE

2,613,989

## SCENT DISSEMINATOR

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Application January 22, 1948, Serial No. 3,672

3 Claims. (Cl. 299—20)

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My invention relates to a scent disseminator employed for deodorant purposes, and has for its object to provide a mechanism which can be secured to a wall portion, door or window molding or the like in bathrooms, kitchens and other places where it is desired to overcome the unpleasant effect of bad odors.

Many devices have been developed to be used for this purpose, but such devices have generally been made to act by means of the application of heat or of mechanical disseminating means.

I have discovered a way of accomplishing the desired result through simple absorption, which is effective for the purpose, will maintain a sufficient degree of dissemination of a selected scent and which requires no application of heat or use of mechanical means.

To accomplish this result I employ an evaporator of highly absorbent material, such as a block of balsa wood, which is first saturated with a liquid scent. Operatively associated therewith I provide means including air-circulating means to convey the scent continually to the body of the block, and from the surface of the block to cause evaporation at a rate which is controlled by the rate of delivery of the liquid scent to the block.

An effective means of accomplishing this consists in forming a chamber down the center of the block, in positioning therein a bottle of scent with an open top, in mounting a cord in close contact with portions of the body of the block inside its outer surfaces and in having said cord dropped into the liquid within the open topped bottle. The cord transfers the liquid scent by capillary action to the body of the block and thence to its outside wall surfaces, where it accumulates as a thin, moist film. Contact of air currents about the block will evaporate the liquid from the surfaces of the block and convey it into the room where the device is positioned.

To provide the means for effecting air currents, I form a casing having a chamber adapted to hold the block in an upright position, there being openings to the chamber along its bottom sides and openings through the top of the casing into the lower part of the chamber. With this arrangement the warmer air of the room will flow into the chamber through the openings along the bottom of the casing or at the bottom of the vertical side walls of the chamber. Evaporation will cool this air, which will tend to sink within the casing and in general will leave the chamber through the lower positioned openings in the outer wall of the casing.

It is a principal object of my invention, there-

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fore, to provide a disseminator of perfume or scent wherein there is an evaporator positioned in a chamber to which evaporator the scent is conveyed.

A further object of my invention is to form the evaporator of some material capable of a high degree of absorption of the liquid scent and to preliminarily saturate it with the liquid scent.

A further object of my invention is to hold the evaporator in a chamber closed except for openings so arranged as to effect a circulation of air over the walls of the evaporator brought about by the cooling effect of evaporation.

It is a further object of my invention to use for the block of absorptive material a block shaped rectangularly in its cross-section dimensions formed of balsa wood, to position within a chamber in said block a bottle of liquid scent or perfume and to provide wicking means imbedded in the body of the block of balsa wood which extends into the liquid scent for transferring the same to the block by capillary action.

It is a further object of my invention to have a plurality of such wicking means imbedded in the block so that one or more of them can be carried into the container of scent and thus the rate of capillary transfer, of evaporation and of dissemination of the scent may be regulated to the requirements of the place where the evaporator is used.

The details of my invention and its full objects and advantages will be more specifically pointed out in the appended specification, and the novel features thereof by which the aforesaid useful and advantageous results are obtained will be particularly pointed out in the claims.

In the drawings,

Fig. 1 is a perspective view of an evaporator block for putting into effect my invention.

Fig. 2 is a top plan view of the block.

Fig. 3 is a longitudinal sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a similar sectional view showing the bottle of incense liquid in position within the block.

Fig. 5 is a top plan view of a container adapted to removably hold the block in a vertical position within the chamber provided by the container.

Fig. 6 is a sectional side elevation view showing the block in position taken from outside the limits of the block.

Fig. 7 is a transverse sectional view taken on line 7—7 of Figs. 5 and 6.

A preferred form of evaporator will comprise

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a block of balsa wood indicated generally by the numeral 10. This block will preferably be rectangular in its different cross sections. As shown in Figs. 2 and 7, it will have side walls 11, 12, 13 and 14, a closed bottom wall 15 and a top wall 16.

Through the top wall 16 and into the body of the block 10 is formed a cylindrical open-topped chamber 17, which has a bottom wall 18 at a point somewhat removed from the bottom wall 15 of the block, as clearly shown in Figs. 3 and 4. The block may have one or more of its side walls, or all of them, formed with a kerf or cut in the form of a slot, such as slot 19 illustrated in Figs. 3 and 4, and other slots such as slots 20, illustrated in Fig. 1. These slots will preferably be cut entirely through into the chamber 17, leaving a small body of wood as indicated at 21 in Figs. 1, 3 and 4, but a portion of the slot at the top may preferably be cut all the way through as indicated at 22 in Fig. 3.

The chamber 17 is of a size to receive a two ounce bottle 23, with an open top 24 which will contain liquid scent or perfume indicated by lining at 25 of sectional Fig. 4. A convenient container for most uses would be a standard two ounce bottle, but other sizes either larger or smaller than a two ounce bottle may be employed. The bottle will rest upon an annular ledge 26 as indicated in Fig. 4. The kerf or the slot 20 differs from that of the slot 19 by terminating short of the bottom, as at 27, whereas the slot 19 may preferably be carried at least partly through to the bottom as indicated at 28 in Figs. 3 and 4.

A cotton cord or string 29 of common construction, preferably made up of a multiplicity of individual longitudinal strands, has a portion imbedded in the kerf 19. This string extends out of the kerf 19 and is curved at 30 down into the chamber 17, and has a portion 31 extending into and to the bottom of the liquid scent 25 in container 23. The string 29, in its loose condition, is of greater diameter than the width of the kerf 19 so it is in intimate contact with the body of the block 10 where it is imbedded in the kerf 19.

The liquid scent travels by capillary action along string 29 and transfers by capillary action to the block 10. The block 10 has been soaked in the liquid scent until it is entirely saturated before being used in the scent dispenser, whence the liquid which travels along the string and to the walls of kerf 19 travels by capillary action throughout the block 10 and appears on the side surfaces 11, 12, 13 and 14 from which it is evaporated.

A second string 32 may be imbedded in kerf 20 and be curved over at 33 and dip into the liquid scent 25 as indicated in Figs. 2 and 4.

Indeed, there may be other slots in the other side walls and still more of strings extending into the liquid container, according to the amount of liquid scent evaporation that is called for in the particular place where the device is used.

In practice, there will be a multiplicity of strings, two, or possibly more, when the device is employed say in large rest-rooms. In residences, however, where the rooms, such as kitchens and bathrooms, are relatively small, experience shows that only one string dipping into the body of perfume will be necessary.

As heretofore pointed out, means are provided to effect a circulation of air over the walls of the evaporator block 10. These means are well shown in Figs. 5, 6 and 7.

A base plate 34 will be secured by screws 35 or

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other suitable fastening means to a room wall or casing member. This base plate is formed with a flange 36 extending at right angles to the main body of the base plate. Extending outwardly from the flange 36 is a part 37 which is provided with a slot member 38.

A cover member 39, of the form in plan shown in Fig. 5, and of longitudinal and transverse rectangular cross section, shown in Figs. 6 and 7, has a top wall portion 40, side wall portions 41 and 42, bottom end portion 43 and top end portion 44. The bottom end portion 43 is provided with a lip 45 which is adapted to be extended through the slot opening 38 and project under the member 37, as shown in Fig. 6.

The upper wall 44 is provided with a small lip extension 47 which takes against and inside of a flange 48 on the base plate 34. A pin 49 extending through openings in the lip member 47 and the flange 48 holds the cover member 39 in position on the plate 34 but is readily removable therefrom, which removably holds the cover on the base plate as clearly shown in Fig. 6.

The flange 48 is an upper part of a continuous flange which has side parts 50 and 51 and a bottom part 52. When the cover 39 is in position on base plate 34, it provides a chamber 53 in which is positioned the block 10, as shown in Figs. 6 and 7.

The block rests with its bottom wall 15 in contact with the upper surface of the right angled extension 36. A pointed pin 55 is forced into the body of the wood of the block as indicated in Figs. 6 and 7.

Referring to Fig. 7, it will be noted that the side walls of the chamber 53 are formed of the side base flanges 50 and 51 and the side walls 41 and 42 of the cover member 39. But the side walls 40 and 41 are made to bulge, as indicated at 56 and 57 in Fig. 5. This bulge carries them outside of the side flanges 50 and 51, Fig. 7. This and the fact that the planes of the facing edges of the base flanges 50 and 51 and of the side walls 41 and 42 are spaced apart, provide side openings 58 and 59 leading into chamber 53.

Along the center of the cover 39 are a series of longitudinal slots 60, 61 and 62. These slots are positioned toward the bottom of the cover member 39 as clearly shown in Fig. 5. From this arrangement it will be seen that a circulation of air will be set up in the chamber 53, the warmer room air entering through openings 58 and 59 and going to the side walls 12, 13 and 14, where evaporation will cool the air, causing it to fall in chamber 53 and to push out through slots 60, 61 and 62.

The capillary cord extending into the container 23 has the effect, of course, or removing the liquid scent therefrom. In practice one cord will ordinarily remove the contents of the container, provided it is a normal two ounce bottle, in about three weeks, at which time the container must be refilled. If more cords are employed, the removal of liquid scent will be correspondingly increased and refilling will have to be done more frequently.

In practice, I have found that balsa wood is a preferred medium for use as an evaporator. It not only will absorb a large content of any liquid such as liquid scent, but it has the characteristic of readily transferring from within its body by capillary action the liquid scent to its outer exposed surfaces. It follows that there is a continual action to produce a very thin film of the liquid scent on the outer surfaces of the block, which film is continuously renewed by capillary

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transfer of the liquid scent from the container in a chamber within the block and which in turn is transferred by capillary action continuously to renew the film of the liquid scent.

This action, taken in conjunction with the gravity-induced currents of air about and over the surfaces carrying this film of liquid scent, produces ready evaporation, which in turn, by cooling the air adjacent these surfaces, produces the necessary circulation to cause the scent to be transmitted into the space which it is desired to have protected from bad odor.

The above constitutes the primary and principal advantages of my invention. Other advantages are the cheapness of construction, the simplicity of operation and the fact that there is nothing which can at any time get out of order, and the further fact that by increasing or decreasing the number of cords in the container of scent the rate of evaporation and the consequent degree of impregnation of the air with the scent may be effectively regulated.

I claim:

1. A scent disseminator, comprising a block of balsa wood having exterior walls which comprise an extended area of evaporation surfaces, an open-topped chamber in the block, an open-topped vial adapted to contain scent, said vial being removably mounted entirely within and below the upper end of said chamber, a wick extending through the liquid scent in said vial and out of the open top thereof and having a part extending downwardly alongside the block of balsa wood and being embedded in the wall of said block at a distance from the surface of said wall, and means for supporting the block upon a room wall, whereby capillary action will carry the liquid scent into the body of the block and the external surface of said body will provide evaporation of the scent.

2. A scent disseminator, comprising a block of balsa wood having exterior walls which comprise an extended area of evaporation surfaces, an open-topped chamber in the block, an open-topped vial adapted to contain scent, said vial being removably mounted entirely within and below the upper end of said chamber, a slot-like longitudinal kerf extending through one of said surfaces into the body of the block to a depth approaching the inner wall of the chamber, a continuous wicking extending through the liquid

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scent in said vial out of the open top thereof and having a part removably held within the kerf, the width of the kerf and the diameter of the wicking being such that the wicking is pinched between to firmly contact the walls of the kerf, whereby capillary action will carry the liquid scent into the body of the block and from there to said surfaces for evaporation of the scent, and means for supporting the block.

3. A scent disseminator, comprising a block of balsa wood having its cross-sectional limits rectangular with a plurality of plane-surfaced exterior walls which comprise extended areas of evaporation surfaces, an open-topped chamber in the block, an open-topped vial adapted to contain scent, said vial being removably mounted entirely within and below the upper end of said chamber, a multiplicity of slot-like longitudinal kerfs each extending through one of said surfaces into the body of the block to a depth approaching the inner wall of the chamber, a continuous wicking for each kerf extending through the liquid scent in said vial out of the open top thereof, each having a part removably held within the kerf, the width of each kerf and the diameter of the wicking for each kerf being such that each wicking is pinched between to firmly contact the walls of its kerf, whereby capillary action will carry the liquid scent through the set of wickings into the body of the block and from there to a plurality of said surfaces for evaporation of the scent, and means for supporting the block upon a room wall.

HAROLD C. SMITH.

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