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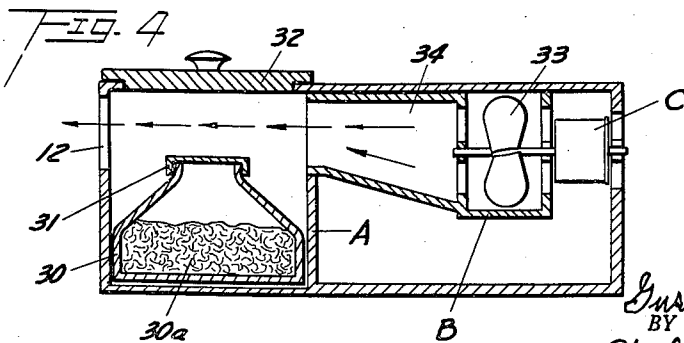
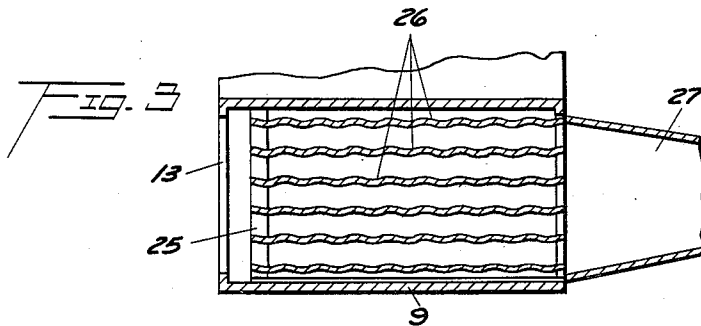
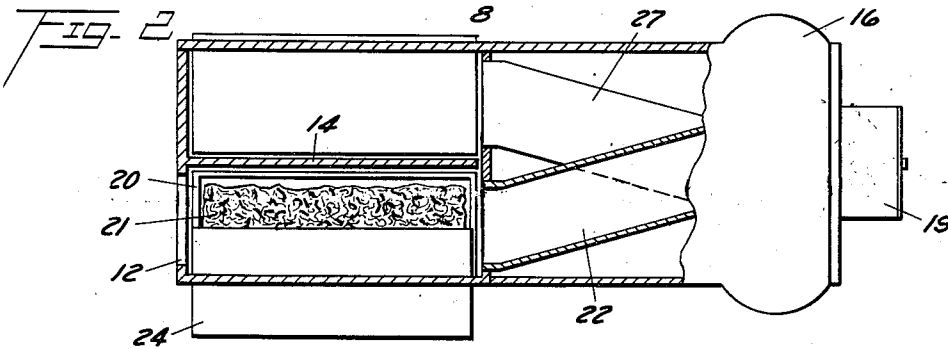
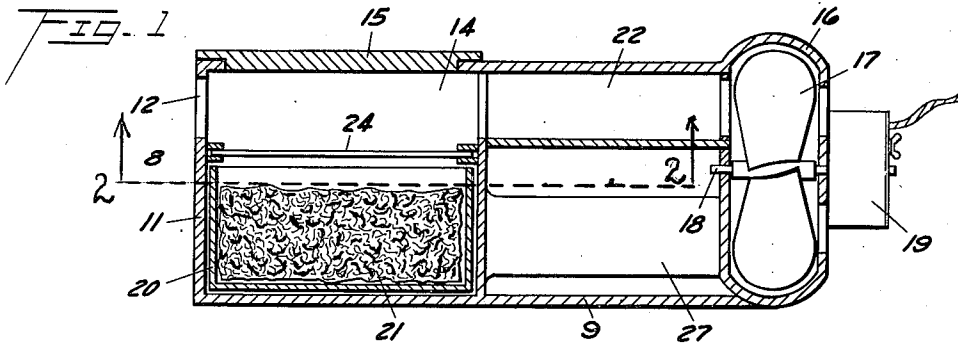
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2,585,339

DEODORIZER APPARATUS AND GERM DESTROYER

Filed March 31, 1947

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

Fig. 5

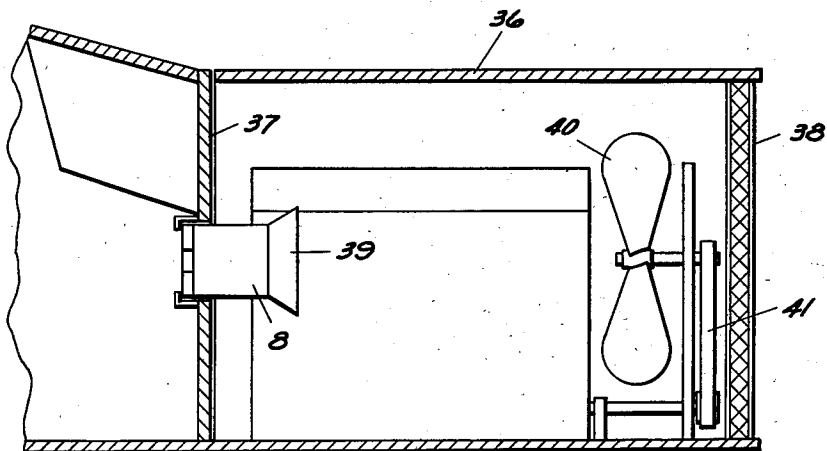


Fig. 6

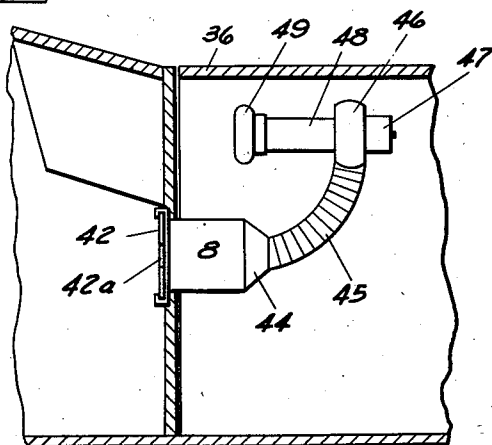
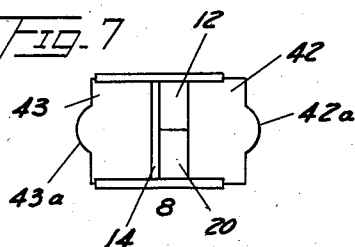


Fig. 7



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UNITED STATES PATENT OFFICE

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DEODORIZER APPARATUS AND GERM DESTROYER

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Application March 31, 1947, Serial No. 738,477

1 Claim. (Cl. 21-74)

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My invention has reference to a deodorizer apparatus and germ destroyer, and has for its chief purpose to counteract the unsavory odors in a room, and destroy any elements that tend to affect the health of human beings unfavorably.

For a number of years it has been the practice to burn a piece of incense in a room to get rid of undesirable odors, the fumes from the incense being supposed to be more desirable than other nostril assailing odors. A forerunner of this was the burning of a piece of cloth or cord in a room, for a similar purpose. A more recent plan is the use of a slowly evaporating liquid, placed at one or more points in a room, and containing chemicals of a character that will overcome smoke fumes and other odorants of the air, some of which devices are known as "air-wicks." The operation of these is slow, and of a local character, so that in a room of any size it would be necessary to position several receptacles containing the liquid at different points. To be more effective it is necessary that the liquid be vaporized so as to act promptly, and one of the objects of the present invention is to combine with the deodorant a means for the more rapid vaporization thereof, and dispersal of the vapors to all parts of a room.

The invention is of a duplex character, embracing the means above referred to for rapid vaporization of the liquid and diffusion of the fumes, and a means for carrying a current of air through a confined space fitted with means for destroying any bacteria or germs passing there-through, by the use of a deadly insecticide, such as DDT.

One place in which a deodorizing apparatus is in demand is in the body of an automobile, especially during the closed season, when the vehicle is likely to be filled with the fumes of tobacco being used by one or more occupants of the car, either in the form of cigarette, cigar, or pipe. An adaptation is shown and set forth herein whereby these unpleasant and at times unbearable conditions can be relieved or entirely dispelled.

The above named, and other features and advantages of the invention, will more fully appear from the following specification, reference being had to the accompanying drawing, in which,

Fig. 1 shows the invention in side elevation, with the nearest side plate broken away, and parts in vertical section.

Fig. 2 is a plan view thereof, also partly in section, as on broken lines 2-2 of Fig. 1.

Fig. 3 is a detached view of the germ killing device, in vertical longitudinal section.

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Fig. 4 shows a modified form of the device, as in Fig. 1.

Fig. 5 shows a fragmentary part of a motor vehicle, with the invention applied thereto.

Fig. 6 is a similar view with a modified arrangement of the invention.

Fig. 7 is a front view of the casing shown in the last two figures.

In Figures 1 and 2 of the drawing is shown a box-like casing 8, having a bottom 9, sides 10, and front piece 11, having openings 12 and 13, on opposite sides of a partition 14. The casing also has a removable top-plate or cover 15, and is projected rearwardly into a cylindrical housing 16, in which is rotatably mounted a fan 17, by means of a shaft 18 supported at its ends in bearings in the sides of the housing. Said shaft is driven from a small electric motor 19 attached to the end of the casing.

In the space on one side of the partition 14 is placed a pan 20, in which is a sponge 21 or other absorbent material, to be saturated by a liquid deodorant, the vapors from which can pass upwardly and out through the opening 12. Connecting the space above the pan 20 with the fan housing 16 is a conduit 22, through which a current of air passes from the fan into the space above the deodorant, carrying along with it vapors therefrom, which are carried out through the opening 12, and diffused throughout a room or other space in which the device is positioned. The pan 20 is normally closed by a shutter 24, slidable in an opening in the side of the casing 8. By opening said shutter and starting the fan 17 the vaporization of the chemicalized liquid in the pan 20 will take place, with the vapors driven into all parts of the confined space containing the apparatus. By opening the shutter 24 to a greater or less extent the amount of vaporization will be proportionately increased or diminished.

On the opposite side of the partition 14 is a smaller casing 25, open at both ends, and provided with a series of horizontal corrugated plates 26, spaced from each other to form shallow passages between the same. The inner end of the casing 25 is connected by a conduit 27 with the fan housing 16, through which a current of air is conveyed into the passages, retarded to some extent by the corrugations, and passing out through the opening 13. The plates 26 are coated with a DDT compound, or other insecticide which is fatal to insects, germs and the like upon contact therewith, and any such germs which may be brought into the apparatus through the blades of the fan will come in contact with the corru-

gations on the plates 26, and be exterminated. The blades of the fan, when in rapid motion, are themselves a menace to the germ life, by grinding them up, and as an additional resource the blades of the fan may be similarly treated with the poisonous compound.

The invention can be stationed at any desired point in a room, and the vapors therefrom, when charged with an effective deodorant, designed for the neutralizing of unpleasant smells in a room, will positively destroy the same, including smoke clouds from burning tobacco.

In Fig. 4 is shown a simple form of the invention, for the use of the deodorizer alone, in which the pan 20 is replaced by a jar or bottle 30, with a wide opening at the top, normally closed by a cap 31. The space above the bottle is closed by a lid 32, which can be removed for placing the bottle in the casing A, or for removing the same, or for removing the cap 31. From a small rotary fan 33 in an extension B of the casing A, a current of air is driven through a passage 34 into and through the space above the bottle, and out through the opening 12. The fan is actuated by an electric motor C in the outer end of the extension. The bottle is necessarily open at such times, and it is provided with an absorbent material 30a, similar to that in the pan 20, which assists in the vaporizing action, and somewhat retards the same. Such absorbent material may be extended outwardly above the neck of the bottle, in form of a wick.

The invention is not limited to use in a home or apartment, but it is of great value for use in office buildings, auditoriums and show houses, farm buildings and chicken houses, railroad and bus stations, and other places where people congregate in numbers.

In Fig. 5 is shown the hood 36 of an automobile, with a partition 37 at the rear end and radiator 38 at the front, in rear of which is supported the usual air-fan 40, driven from the motor shaft by a belt 41. In an opening in the partition is mounted a casing similar to the casing 8 before described, and with a similar duplex arrangement within the casing, not shown in said figure. The casing has a funnel shaped intake at 39, for the entrance of a current of air placed in circulation by the fan 40. The front of the casing is closed by a pair of shutters 42 and 43, provided with fingerholds 42a and 43a, by means of which the shutters may be operated. When it is desired to have a current of air pass over the pan 20 in said casing the fan is started and the shutter 42 opened to any desired extent, as shown in Fig. 7. The movement of the air is as hereinbefore described, except that the fumes from the liquid in the pan will be carried rearwardly into the body of the vehicle, counteract-

ing any odors therein, and largely eliminating the tobacco smoke evil.

If it is desirous to make use of the poisonous elements in the casing the shutter 42 is left closed and the shutter 43 opened, by sliding to the opposite side, permitting a current of air to pass outwardly over and through the corrugated plates, treated with a toxic compound, as before described. This destroys the germ life, and precludes the passage of any such germs or small insects into the vehicle.

In Fig. 6 is shown a form of the invention in which the casing is provided with a special blower apparatus, in a casing 46, driven by a motor 47, with a flexible connection 45 between the fan casing and intake 44 of the casing. Air is supplied to the fan through a tube 48 leading from a source of outside air, such as a ventilator 49 positioned in the side wall of the vehicle hood, omitted in the drawing.

When used in an automobile the invention can be combined with the heating system of the vehicle, as a matter of convenience, but this is not essential, and about the only effect would be to heat the current of air passing through the deodorizer.

What I claim, and desire to secure, is:

In a device of the class described, a casing for positioning in an enclosed room, a pair of adjacent compartments in said casing, with an air passage in each compartment in parallel relation with each other, a deodorant container in one of said compartments opening into one of said passages for outward discharge, a casing in the other compartment embracing one of said passages, with a plurality of corrugated current retarding plates therein, with an outward discharge similar to that of the first-named passage, a fan-casing in said first named casing with means of communication with said passages independently of each other, means for shutting off a current of air from either of said passages independently of the other, a rotary fan in said fan casing, and means for actuating said fan.

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