July 15, 1952 W. H. WHEELER ET AL 2,603,532

COMBINED VAPOR DIFFUSER AND ASH TRAY

Filed March 22, 1950

Fig. 1.

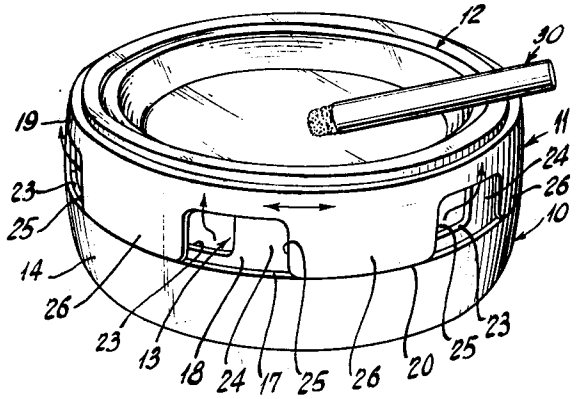


Fig. 2.

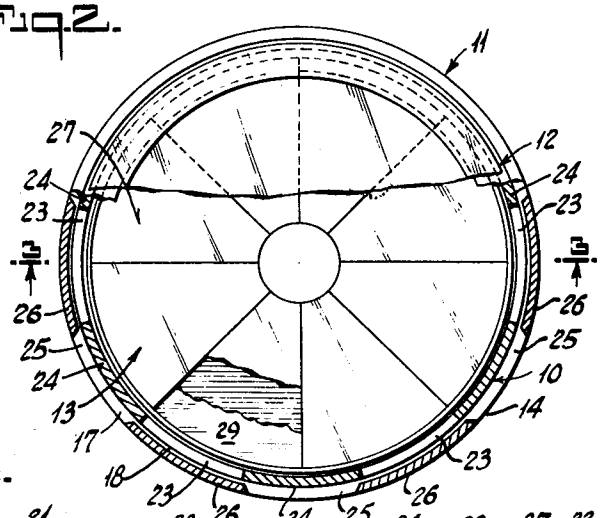


Fig. 3.

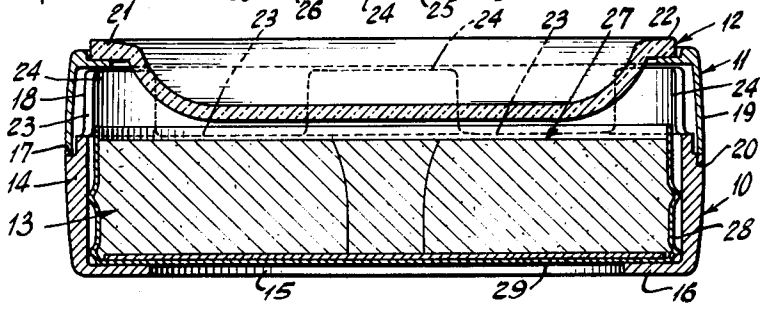
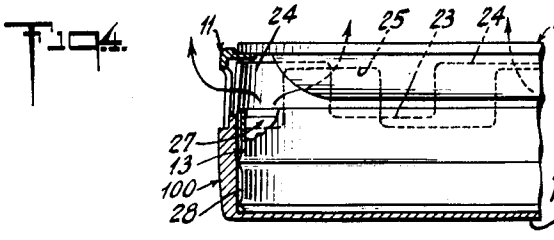


Fig. 4.



INVENTORS:
WILLIAM H. WHEELER
and JOHN MAX VON BERGEN
and GEORGE W. MEEK.
BY Watson, Bristol, Johnson & Leavenworth
ATTORNEYS:

Patented July 15, 1952 2,603,532

UNITED STATES PATENT OFFICE

2,603,532

COMBINED VAPOR DIFFUSER AND ASH TRAY

William H. Wheeler, New York, N. Y., John Max von Bergen, Scotch Plains, N. J., and George W. Meek, Pelham, N. Y., assignors to Airkem, Inc., New York, N. Y., a corporation of New York

Application March 22, 1950, Serial No. 151,211

6 Claims. (Cl. 299—24)

1

The present invention relates to an apparatus adapted to perform dual functions of diffusing air tempering vapors into the surrounding atmosphere and serving as an ash tray in the normal manner for receiving refuse from cigarettes, cigars, pipes and the like.

A general object of the present invention is to provide such a combined vapor diffuser and ash tray apparatus for a tobacco smoker's use, which includes an ash-receiving bowl structure for burning cigarettes, cigars and pipes, or refuse therefrom, and associated means effectively to deliver into the atmosphere around and about the ash-receiving bowl structure air freshening and odor neutralizing vapors from a body of suitable evaporable material contained in the device whereby such vapors may, when desired, combat stale or unpleasant odors in the room in which the diffuser is located and especially to combat tobacco smoke and ash or refuse odors and render them inoffensive or unnoticeable, the device being capable of manipulation for control and adjustment of the rate of diffusion of such air tempering vapors.

A more specific object of the invention is to provide such apparatus whereby, when desired, an ash-receiving bowl may have rising about the sides thereof vapors of air freshening and odor neutralizing qualities emanating circumambiently from bowl sub-structure which contains a supply of evaporable material of air tempering or odor neutralizing and freshening quality to assure effective counteraction of offensive odors at their source.

A further object of the invention is to provide in such apparatus means whereby a plurality of vapor outlets arranged circumambiently of an ash-receiving bowl structure may be adjusted in size from the closed to fully opened positions by simple manipulation of the bowl structure for desired control of the rate of flow of the vapors emanating from the device into the surrounding atmosphere.

Still another object of the invention is to provide such apparatus in the form of a diffuser superimposed by a rotatable ash tray which may serve as an effective closure for the diffuser and which may be rotated at will to adjust the size of louver vapor outlets arranged about the tray.

A still further object of the invention is to provide a structural embodiment of the apparatus which is readily and economically constructed and well adapted to commercial mass production while permitting efficient use and operation thereof.

2

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements and arrangement of parts, which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of an embodiment of the apparatus of the present invention showing it in use with louver outlets thereof adjusted to a desired rate of emanation of air freshening and odor neutralizing or tempering vapors automatically to combat offensive odors either from a burning cigarette supported in the ash tray portion thereof or in the room air from whatever source;

Fig. 2 is a top plan view, with parts broken away and in section, of the apparatus shown in Fig. 1, indicating the relative position of parts when the diffuser is closed;

Fig. 3 is an elevational section taken substantially on line 3—3 of Fig. 2; and

Fig. 4 is a side elevational view, with parts broken away and in section, of the structure shown in Figs. 1, 2 and 3, but proposing a modification of the bottom of the base structure.

Referring to the drawing, in which like numerals identify similar parts throughout, it will be seen that the embodiment of the apparatus shown by way of example in Figs. 1, 2 and 3 comprises a base member 10, a cover member 11 including an ash tray element 12, and a source 13 of air tempering or freshening vapors. In the embodiment shown in Figs. 1, 2 and 3, the base 10 consists of a substantially cylindrical or circular wall 14 having an open bottom 15 and a lateral internal bottom flange 16 preferably made integral with the cylindrical wall and adapted to form a supporting ledge. The cylindrical wall 14 of the base 10 is offset at 17 to provide a circular supporting shoulder and a circular rim flange 18 thereabove. That base structure is preferably formed of cast plastic material, but obviously can be formed of any other suitable material, such as metal, etc.

The cover 11 is in the form of a slip top cover structure having a downwardly depending flange 19 adapted to telescope over the rim flange 18 of the base structure 10 and with its lower edge

20 rotatably resting upon the circular shoulder 17 of the latter, as best seen in Figs. 1 and 3. Preferably the cover 11 is made in two parts, with the depending flange portion 19 terminating at the top thereof in a lateral internal flange 21 on which is supported rim 22 of dished tray 12. That portion of cover 11 which forms the depending flange 19 and the lateral supporting flange 21 is preferably made from cast plastic or any other suitable material. The dished tray 12 is made in the commercial embodiment from transparent glass permitting observation of the body of evaporable material therebeneath. This construction permits the use of colored opaque plastic material in the formation of the side portions of the cover and the base for enhancing the appearance of the device while retaining the desired characteristic of permitting observation of the interior from the top through the tray, which may be desirable in order to apprise the user when depletion of the evaporable material has advanced to such a degree as to make replacement advisable. When the tray 12 and the remainder of the cover 11 are made as separate units, as indicated, the tray rim 22 may, if desired, be cemented or otherwise suitably anchored to the supporting flange 21. However, it will be understood that the tray portion 12 could be made as an integral part of the remainder of the cover 11 in the casting operation of the latter.

The base structure 10 and the cover 11 are provided with suitable cooperating cut-outs to serve as vapor outlets, which could be alignable holes in the base rim flange 18 and the cover depending flange 19. However, in the preferred structure, such cut-outs for the base are in the form of spaced notches 23—23 in the rim flange 18 to provide therebetween circumambiently-spaced, upwardly-extending, curved or arcuate projections 24—24. The depending flange 19 of cover 11 is similarly notched at 25—25 to provide therebetween circumambiently-spaced, downwardly-extending, curved or arcuate projections 26—26. As will be seen from Figs. 2 and 3, the depending cover projections 26—26 are at least as wide as, and preferably wider than, the notches 23—23 in the base flange 18 and the upstanding projections 24—24 of the latter are at least as wide as, and preferably wider than, notches 25—25 in the cover flange 19. Thus when the cover 11 is oriented relative to the base structure 10 by rotation of the projections 26—26 of the former on the shoulder 17 of the latter to the relative positions shown in Fig. 2, the outlet louver means provided by the described structure are substantially closed so as to minimize vapor emanation from the interior of the base structure. If the cover 11 then be rotated through a small radial angle relative to the base structure 10, portions of the base structure notches 23—23 will be brought to alignment with the cover notches 25—25 to provide adjusted vapor outlets, as indicated in Fig. 1. Obviously the sizes of such louver vapor outlets may be adjusted at will by the extent to which the cover 11 is rotated relative to the base structure 10 so as to control in a predetermined manner the rate of flow of vapor from the interior of the device.

As indicated in Figs. 2 and 3, the evaporable material may be in the form of a scored body 27 of gel which may be a jelled variant of the air freshening composition described in Paschal Patent No. 2,326,672 of August 10, 1943, for "Method and Composition for the Treatment of Air." It will be obvious, however, that the body 27 of evaporable material may, if desired, be in the form of a liquid or such liquid evaporable material may be held in a sponge. The body of evaporable material 27 or such sponge saturated with liquid evaporable material is suitably housed in a pan 28 having its circular bottom 29 resting upon the supporting base flange 16. In the commercial embodiment, the pan 28 forms the bottom of a slip top can structure in which the evaporable material may be shipped, with the slip top cover thereof suitably removed at the time the unit 13 is loaded into the apparatus of the present invention.

In operation of the embodiment of the apparatus shown in Figs. 1 to 3 incl., a can of evaporable material, such as a container comprising pan 28 having a body of evaporable gel 27 therein, is opened by removal of its slip top cover to provide the unit 13. The latter is then loaded into the base structure 10 with the slip top tray cover 11 removed. Thereafter the cover 11 is replaced on the base structure 10 in the manner indicated in the drawing, and the former is rotated relative to the latter to align portions of the notches 23—23 and 25—25 to form vapor outlets, as indicated in Fig. 1. The structure thus operates as a diffuser with vapors rising circumambiently of the ash tray 12. The latter is used as an ash-receiving bowl in the usual manner, as indicated by the lit cigarette at 30 in Fig. 1. As a consequence, if any odoriferous material from which offensive vapors, fumes or smoke may emanate are disposed in or supported on the tray 12, such as a burning cigarette as depicted at 30, burning cigars, ashes, dead butts, pipe heels, etc., such offensive vapors, fumes or smoke and air freshening and odor neutralizing vapors will be closely associated and diffuse together into room air so that the neutralizing and freshening vapors counteract or render the offensive fumes inoffensive or innocuous at their source.

As indicated in Fig. 4, the apparatus of Figs. 1, 2 and 3 may be modified by closing off the bottom of the base structure 10 with a circular bottom 160 so that the base structure is in the form of a cylindrical pan to receive the unit 13. In other respects the embodiment of Fig. 4 is similar to that shown in Figs. 1, 2 and 3, and operates in a similar manner.

It will thus be seen that objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. An air-freshening ash tray apparatus comprising, in combination, an open-top base means for containing vapor emanating material having a circular, upwardly-extending rim provided with at least one side cut-out to serve as a lateral vapor outlet: and a downwardly-dished, raised-side, substantially imperforate ash tray top of

appreciable smoking debris capacity having a circular, downwardly-projecting flange rotatably to telescope with said rim for rotatable support of said tray top on said base means and closure of the latter, said flange having at least one side cut-out to be brought to a desired angular degree of alignment with respect to the cut-out in said rim with rotation of said top to provide an adjustable lateral louver vapor outlet of desired size.

2. The air-freshening ash tray apparatus as defined in claim 1 characterized by the formation of the tray portion of said top from transparent material to permit observation of the interior of the apparatus.

3. The air-freshening ash tray apparatus as defined in claim 1 characterized by the provision of said base means as a cylindrical wall provided with lateral support means extending inwardly, and a cylindrical open top cup disposed within said wall and resting on said support means.

4. The air-freshening ash tray apparatus as defined in claim 1 characterized by the provision of said tray top as a slip-top cover having its central, laterally extending portion dished downwardly to serve as an ash receiver with its flange being of greater diameter than said rim to telescope down over the latter and with both said flange and rim notched to provide the louver cut-outs therein.

5. An air-freshening ash tray apparatus comprising, in combination, a cylindrical base wall structure having an inwardly-extending, lateral portion at its bottom to serve as a support, an upwardly-extending rim notched at intervals to provide louver outlet notches, and an exterior circular shoulder at the bottom of said rim; an open-top, cylindrical cup for evaporable material disposed in and resting on said lateral portion; and a circular, closing, slip-top cover having its central lateral portion dished to provide an ash receiver and a downwardly-projecting flange circumambient of said dished portion telescoped over said rim and rotatably resting on said shoulder, said flange being notched at similar intervals

to provide louver notches complementary to the louver notches in said rim whereby together they serve to provide a plurality of adjustable louver vapor outlets circumambient of said ash receiver with relative rotation of said cover and base.

6. An air-freshening ash tray apparatus comprising, in combination, an open-top cylindrical base structure having a circular side wall and adapted to contain vapor emanating material, support means on the upper portion of said side wall arranged circumambiently therearound, an ash tray superstructure having a dished depression of appreciable smoking debris capacity circumscribed by an upwardly-extending side wall, said superstructure being rotatably mounted on said support means for turning through at least a limited radial angle substantially about the vertical axis of said base structure and serving as a vapor-confining closing top for the latter when turned to one position of rotary orientation, said superstructure having a plurality of vapor outlets arranged about and laterally outward of the dished debris-receptive depression to deliver air freshening vapors into the atmosphere circumambiently thereof, and means on said base structure fixed relative to said rotatable superstructure providing a closure for each of said vapor outlets when said superstructure is in the vapor-confining position of rotary orientation with the outlets being unblocked by said closure means when said superstructure is turned away from that closed position.

WILLIAM H. WHEELER.
JOHN MAX VON BERGEN.
GEORGE W. MEEK.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,732,028	Reiner	Oct. 15, 1929
2,383,960	Dupuy	Sept. 4, 1945