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P. H. WALLER

2,788,085

ASH TRAY WITH FILTER

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FIG. 1--

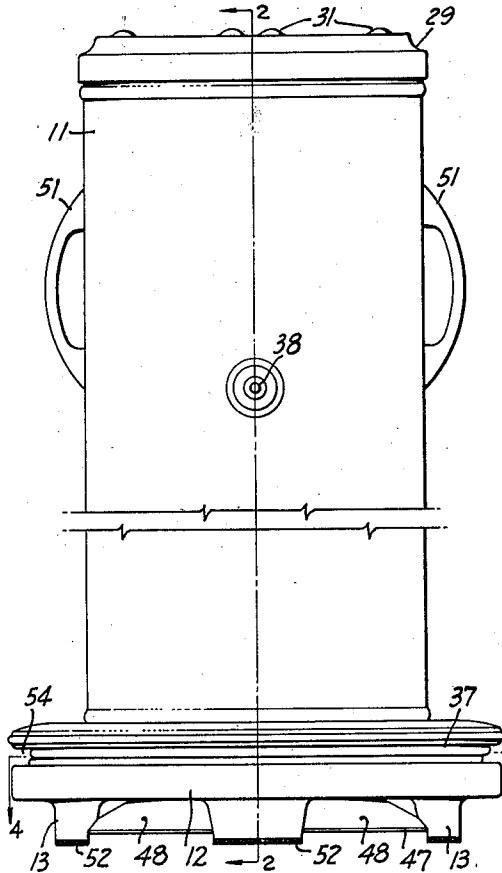


FIG. 2--

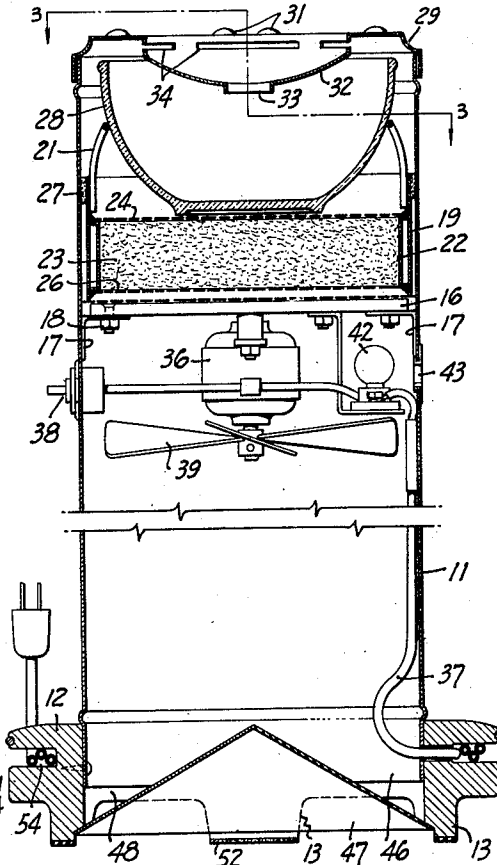


FIG. 4--

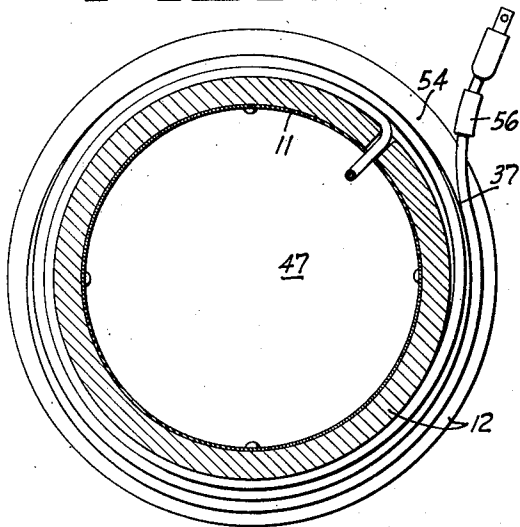
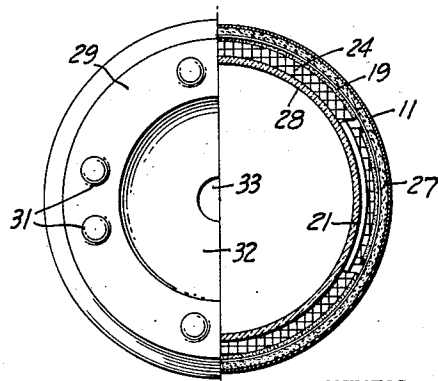


FIG. 3--



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1

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ASH TRAY WITH FILTER

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3 Claims. (Cl. 183—37)

This invention relates generally to ash trays and more particularly to ash trays with a filter incorporated therein.

Conventional ash trays have been found to be objectionable in that when cigarettes are placed upon them, the cigarettes continue to burn and the smoke rises into the room and into the faces of people nearby. For instance, if a person is sitting in an arm chair, the smoke often rises into his face.

In general, it is an object of the present invention to provide an ash tray in which the above named objections are eliminated and the smoke from the burning cigarettes is carried downwardly and away from the cigarettes and diffused and filtered so that it will not affect people nearby.

Another object of the invention is to provide an ash tray of the above type in which the cigarette will gradually go out if it is left on the ash tray for an extended period of time.

A further object of the invention is to provide an ash tray of this kind in which a filter is used to diffuse the smoke and a fan is used to draw the smoke laden air through the filter.

A further object of the invention is to provide a device of the above character in which the filter and fan can be used for dispensing odorants, deodorants and the like.

A further object of the invention is to provide a device of the above character in which the filter can also be used for dispensing medicinal preparations to alleviate the suffering of catarrhal and asthmatic patients.

A further object of the invention is to provide a device of the above character in which the filter and fan can be used for an air circulator and for removing dust from the air.

A further object of the invention is to provide novel means for retaining excess power cord on the base of the ash tray.

Other objects and advantages of the invention will appear from the following description taken in conjunction with the accompanying drawing.

Referring to the drawing:

Figure 1 is a side elevational view of an ash tray incorporating the present invention.

Figure 2 is a cross-sectional view taken along the line 2—2 of Figure 1.

Figure 3 is a view partly in cross section taken along the line 3—3 of Figure 2.

Figure 4 is a cross-sectional view taken along the line 4—4 of Figure 1.

In general, the present invention consists of an ash tray mounted in the upper portion of a housing with a filter mounted in the housing below the ash tray and a fan for drawing air downwardly from the ash tray and through the filter.

The embodiment of my device as shown in the drawing consists of a circular housing 11 mounted on a base 12 supported by depending legs 13. The housing 11 can be formed of any suitable material such as metal, and the

2

base 12 and legs 13 can be formed of any suitable material such as wood.

A mounting strip 16 is fixed to the housing 11 near the upper portion thereof by suitable means such as the angles 17 welded to the housing and fastened to the mounting strip by bolts 18. A tray-like member 19 is carried by the mounting strip 16 and is provided with handles 21 so that it may be readily removed from the housing. The tray-like member 19 serves to carry a filter 22 which can either be of the cleanable or throw away type. In this instance I have shown a filter of treated spun glass 23 which is held in position by means of an upper screen-like member 24 and a lower screen-like member 26. A filter of this type can be readily cleaned merely by washing the same with water.

To insure that all of the air drawn through the housing 11 will pass through the filter 22, suitable sealing means may be inserted between the tray-like member 19 and the housing 11. In this instance, I have fixed a felt strip 27 to the upper portion of the tray-like member 19.

The handles 21 of the tray-like member 19 form a mounting for an ash receiving receptacle 28 which in this instance I have shown to be a glass bowl.

The upper portion of the housing 11 may be provided with any suitable means for retaining cigarettes, cigars and the like. In this instance, I have shown an ash tray 29 which forms a cover for the housing. It is provided with a raised portion 31 for receiving cigarettes and the like to prevent them from rolling off. To facilitate the collection of ashes, the ash tray 29 has been provided with a concave portion 32 which is provided with a hole 33 to allow ashes to drop into the ash receiving receptacle 28. To facilitate withdrawal of smoke given off by the cigarettes, I have provided a plurality of side vents 34 in the ash tray 29.

Any suitable means may be mounted below the filter 22 to draw air downwardly to the housing 11. In this instance I have mounted a motor 36 on the underside of the mounting strip 16 and have connected it electrically to the power cord 37 through the "on-off" switch 38. A fan 39 is connected to the motor and the motor is driven in such a direction that the fan 39 serves to draw air downwardly through the housing 11.

A lamp 42 has been fixed to the lower portion of the mounting strip 16 and is connected in parallel with the motor circuit so that it will give visual indications through the port 43 in the housing when the motor is running.

As will be noted from Figures 3 and 4, the base 12 is a substantially ring-like member and is provided with a central opening 46. A conical deflecting member 47 is fixed within the central opening 46 and serves to deflect the air passing downwardly through the housing 11 through side vents 48 between the legs 13. The conical member 47 can be fixed within the central opening 46 by any suitable means such as attaching the same to the legs 13.

To enhance the appearance of the device, the housing 11 can be covered by any suitable material such as a plastic. Side handles 51 are provided for carrying the device from one place to another. Rubber pads 52 may be placed on the bottoms of the legs 13 to prevent the same from scraping floors and the like.

Operation of the device may be briefly described as follows: Let it be assumed that the fan 39 is operating and that a lighted cigarette has been placed on the ash tray 29. It is apparent that the downward draft created by the fan 39 will cause the smoke from the cigarette to pass through the opening 33 and the side vents 34 and then around the ash receiving receptacle 28 down through the filter 22 where it will be completely diffused and certain of the larger particles filtered out. Thence, the air

3

will continue its downward path until it strikes the conical deflecting plate 47 to cause the air to be discharged radially through the side vents 48. In this manner, the air being discharged from the device will not be continuously directed downwardly at a particular spot which in a period of time might cause soiling of the rug or other floor covering. Thus, the smoke from a lighted cigarette will be continually drawn down through the filter and diffused and then discharged through the side vents 48 where it cannot cause any discomfort to people nearby.

It has been found that when a lighted cigarette is left on the ash tray for a considerable period of time while the fan is operating, the cigarette will go out rather than continue to burn.

Any ashes which fall off of the cigarette will fall through the hole 33 and into the ash receiving receptacle 28. The device may be easily cleaned by merely removing the ash tray 29 and then removing the ash receiving receptacle 28 which may then be emptied. The tray-like member 19 can also be readily removed to facilitate washing of the filter 22 when necessary.

In addition to the foregoing uses, I have found that my device can be used for many other purposes by removing the ash tray 29 and the ash receiving receptacle 28. For example, it can be used as an odorizer merely by sprinkling a drop or two of a desirable odorant, such as perfume or cologne onto the filter and then letting the fan run for a few minutes. It can also be used as a deodorizer and for demoting in a similar manner. Deodorizing or demoting crystals or liquid can be sprinkled on the filter.

My device can also be used for medicinal purposes. It has been found to be particularly satisfactory by catarrhal and asthmatic patients. Crystals of the desired type are merely sprinkled on the filter and then the fan is allowed to run a predetermined amount of time to dispense the vapors throughout the room. The device may also be used as an air circulator and for removing dust and pollen to alleviate the suffering of hay fever patients.

In conjunction with the base 12 of my device, I have provided particularly novel means for storing the excess power cord 37 which is not being used at the time. The base 12 has been provided with a circular groove 54 which is adapted to house several or more loops of the power cord 37. For example, I have shown the power cord 37 looped about the base 12 about 3½ times. A sleeve 56 has been provided on the power cord 37 and is adapted to be slid along the cord. The sleeve 56 is also of a width which will frictionally engage the upper and lower edges of the groove 54.

Operation of the cord housing may be briefly described as follows: Let it be assumed that the power cord 37 has been connected to the nearest outlet and that there is a considerable surpluse of power cord. In this instance, the base 12 and the housing 11 can be rotated to wind the excess cord into the circular groove 54. As soon as the cord 37 is relatively taut, the sleeve 56 is then slid down the cord until it is adjacent the circular groove 54. The sleeve 56 is then pressed into the circular groove 54 to thus hold the cord in place and to prevent it from becoming unwrapped from the base 12.

If desired, instead of rotating the housing 11 to wrap the cord on the base 12, the excess may be first wound around the base 12 before connecting the cord to the power outlet.

4

It will be apparent from the foregoing that I have provided an ash tray with a filter which can be used for preventing the smoke from a lighted cigarette placed thereon from rising up into the faces of people nearby. In addition, I have provided a device which can be used for many other purposes such as dispensing odorants, deodorants and medicaments.

It is also apparent that I have provided novel means for housing excess power cord on the bases of electrical devices such as pedestal lamps and electric heaters.

I claim:

1. In an ash tray assembly, an upstanding housing, a filter upwardly removably mounted in a vertically intermediate portion of said housing and resting on support means therein, upwardly directed handle means connected to said filter for removing the same from the housing, an upwardly open ash receiving receptacle supported by said handles, concave ash tray means removably carried by the upper portion of said housing substantially centrally over and spaced from said receptacle for supporting cigarettes placed thereon, said ash tray means being provided with a plurality of peripheral vents in the upper portions thereof for the discharge of air and with an opening in the lower portion thereof for the discharge of ashes into the ash receiving receptacle, a fan mounted in said housing below said filter, whereby said fan draws air and smoke through said vents and opening, over the upper edge of said receptacle, around said ash receiving receptacle and through said filter to diffuse the smoke into the air, and means to discharge the air into a predetermined zone.

2. An ash tray assembly as in claim 1 wherein said last-named means comprises deflecting means mounted in the lower portion of said housing to cause the air discharged from said housing to be discharged radially therefrom.

3. In an ashtray assembly, an upstanding housing, a filter upwardly removably mounted in a vertically intermediate portion of said housing and resting on support means therein, an upwardly open ash receiving receptacle supported in said housing above said filter, dish-like ashtray means removably carried by the upper portion of said housing substantially centrally over and spaced from said receptacle for supporting cigarettes placed thereon, said ashtray means being provided with a plurality of peripheral vents in the upper portion thereof for the discharge of air and having an opening in the lower portion thereof for the discharge of ashes into the ash receiving receptacle, and a fan mounted in said housing below said filter, said fan serving to draw air and smoke through said vents and opening and through said filter to diffuse the smoke into the air.

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