

[54] **PIPE DRYER AND ODORIZER**
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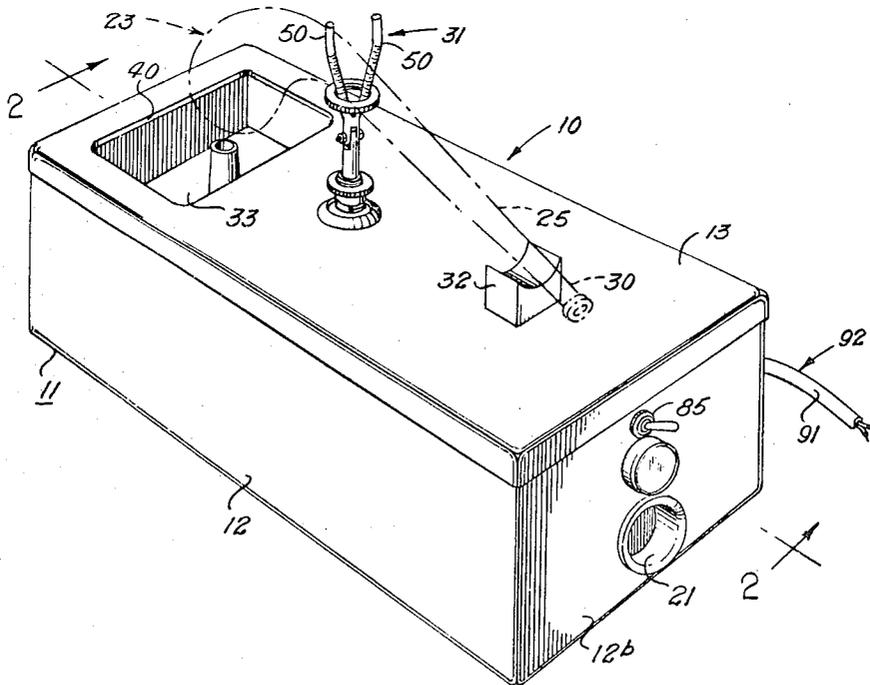
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 131/172, 186, 244, 259; 211/60 M, 60 R

[57] **ABSTRACT**

A device for drying and odorizing smoking pipes including a housing, a pipe support on the housing, an air flow nozzle extending from the housing to direct air into an inverted pipe bowl in the support, a blower in the housing to direct air into the drying nozzle, an electrical resistance heater for heating air directed from the blower to the nozzle, and a wick for odorizing air drawn into the housing by the blower.

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6 Claims, 5 Drawing Figures



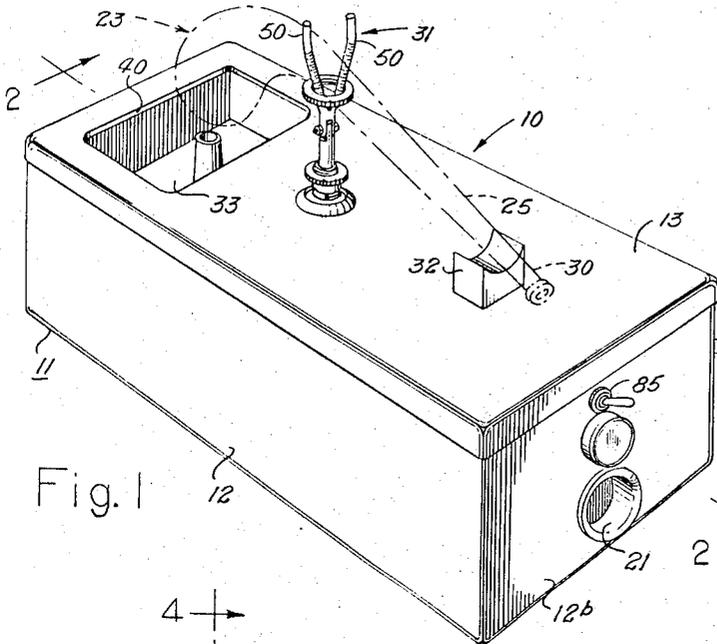


Fig. 1

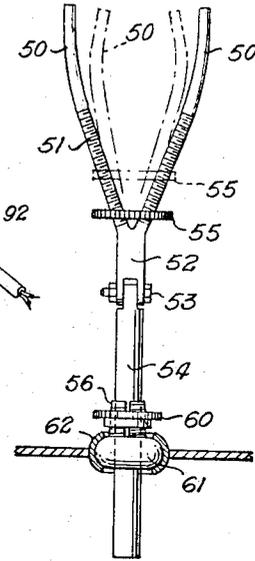


Fig. 4

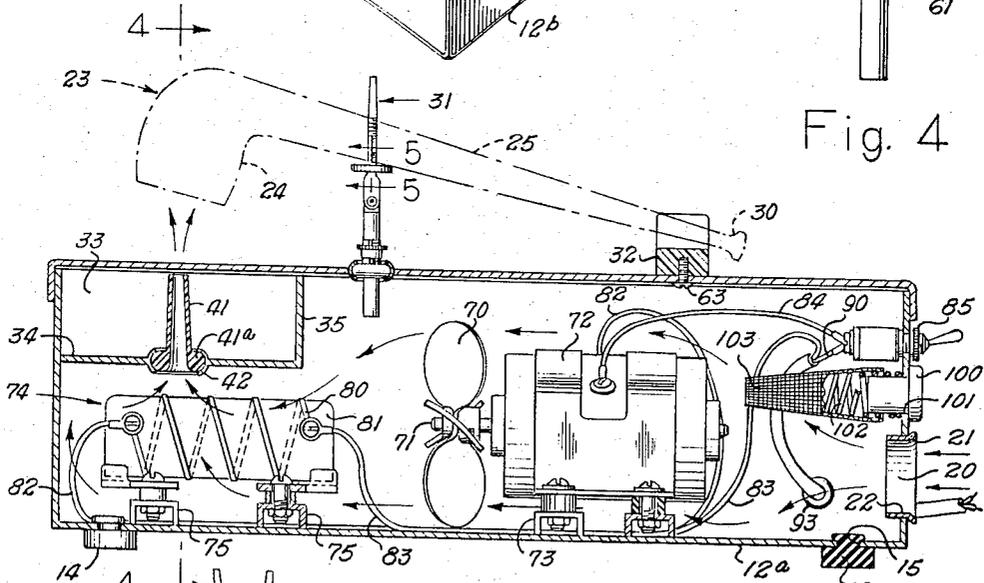


Fig. 2

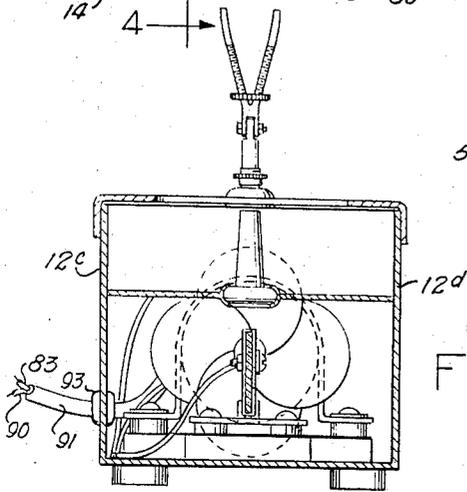


Fig. 3

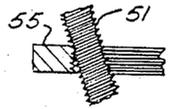


Fig. 5

PIPE DRYER AND ODORIZER

This invention relates to devices for servicing smoking pipes, and, more particularly relates to a pipe drying and odorizing device.

Smoking pipes which consist of a bowl having a tobacco holding chamber and an air conducting stem including a mouthpiece develop objectionable odors and moisture conditions if not cleaned, dried, and odorized at regular intervals depending, of course, upon the extent to which the pipe is smoked. The pipe bowl accumulates layers of burned tobacco which cakes on the inner surfaces of the bowl and will, if not periodically cleaned, interfere with the effective use of the pipe. Various by-products of the smoking process, brought about by the user drawing air through the pipe, the collection of moisture in the pipe bowl and along the stem, both from the atmosphere and from the mouth of the user, produces a damp, paste-like mixture which not only has an objectionable odor and taste, but also, if not periodically removed, will eventually plug the pipe. Also, there is substantial evidence to indicate that possibly the reaction product of the smoking process in a pipe is a basic cause for cancer in the throat and on the lips and tongue of heavy pipe smokers. It is believed that this condition can be minimized by keeping a pipe clean and dry so that the by-products of burning the tobacco in the pipe bowl and the stem will not reach the surface areas of the mouth or throat of the smoker. At least, it is believed that there is less chance of development of cancer on the part of the user with regular maintenance of the pipe to minimize the collection of the semi-fluid or paste-like matter which normally develops in the stem and into the mouthpiece of a heavily used pipe.

While some approaches have been made to solving the problem of effectively drying and odorizing smoking pipes, presently available apparatus is not capable of performing the operation, is not compact, and is generally not sufficiently flexible to accommodate a wide variety of pipe designs and sizes.

In accordance with the invention, there is provided a pipe drying and odorizing device which includes a pipe support mounted on a housing enclosing a blower, an odorizing unit, and a heating element, and having an air nozzle for directing heated, odorized air into the bowl of a pipe in the support on the housing. The support for the pipe is adjustable to accommodate pipes of varying sizes and shapes.

It is, therefore, a principal object of the invention to provide a new and improved device for drying and odorizing smoking pipes. It is another object of the invention to provide a device of the character described which is useful with pipes of varying shapes and sizes. It is a still further object of the invention to provide a pipe drying device which has a simple, compact, and economically constructed housing presenting a pleasing functional appearance. It is a still further object of the invention to provide a device of the character described which includes a pipe drying air nozzle which is adjustable for varying the direction of flow of heated, odorized air into the bowl of the pipe. It is a still further object of the invention to provide a device of the character described which includes an electrical resistance heater for heating air within the housing of the device and an air odorizing unit for providing a pleasant odor in the air directed through the device into a pipe.

The objects and advantages of the invention will be more clearly understood from the following detailed description of a preferred embodiment of a pipe drying and odorizing device constructed in accordance with the invention taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a pipe drying and odorizing device embodying the invention;

FIG. 2 is a view in section along the line 2-2 of FIG. 1 showing particularly the internal structure of the pipe drying and odorizing device;

FIG. 3 is a view in section and elevation taken generally along the line 3-3 of FIG. 2;

FIG. 4 is an enlarged fragmentary view in elevation and section showing the fork part of the pipe support of the pipe drying and odorizing device; and

FIG. 5 is a substantially enlarged fragmentary view taken generally along the line 5-5 of one prong of the pipe support fork of the device.

Referring to the drawings, a pipe drying and odorizing device 10 constructed in accordance with the invention has a housing 11 comprising a base portion 12 of generally rectangular box shaped construction and a removable top 13 which includes downwardly bent end and side flanges which tightly grip the base 12 for holding the top on the base as particularly evident in FIGS. 1 and 2. The base bottom 12a has rubber or plastic removable feet 14 each of which is secured to the bottom through a hole 15 in the bottom. An air intake port 20 is provided in an end panel 12b of the base by a flanged fitting 21 secured through an opening 22 in the end panel.

A smoking pipe 23 having a bowl 24, a stem 25, and a mouthpiece 30, is supported on the top 13 of the housing 11 by an adjustable fork 31 and a cradle shaped fitting 32 which are secured as shown in FIGS. 1 and 2 in spaced relation generally along the longitudinal center line of the housing top 13. A pipe bowl drying well 33 is formed within the base 12 by a plate 34 defining the well bottom and extending across the base between the sides 12c and 12d as particularly evident in FIGS. 2 and 3 and connecting with a vertically disposed cross piece or divider 35 extending between the base sides and downwardly a portion of the depth of the base. A rectangular opening 40 in the top 13 provides access into the well 33. An adjustable air nozzle 41 is fitted around a base end flange 41a of the nozzle 41 in an annular flanged fitting 42 secured through the bottom 34 of the well 33 for directing air from the interior of the housing upwardly into the bowl 24 of the pipe. As seen in FIGS. 2 and 3, the annular shape of the base 41a and the corresponding shape of the fitting 42 provides a universal-joint type coupling of the nozzle 41 with the well bottom 34 so that the nozzle is movable to a limited degree for changing its position relative to a pipe bowl.

The pipe support fork 31 has a pair of upwardly projecting inwardly curved tines 50 which are threaded along lower portions 51 as particularly illustrated in FIG. 5 and connect at base ends with a section 52 which is secured by a bolt and nut assembly 53 to the top end portion of a vertical rod 54. An internally threaded nut 55 provided with an external knurled surface is disposed on the fork tines around the threaded lower end portions of the tines for adjusting the space between the tines as illustrated in FIG. 4 for gripping the stem 25 of the pipe. The nut 55 is rotated upwardly

on the tines for squeezing the tines toward each other as represented by the broken line showing of the nut and tines in FIG. 4. Additionally, of course, the tines and the section 52 of the tines may be adjusted relative to the fork support rod 54. The rod 54 is slideably disposed through a cylindrical split gripping member 55 which is externally threaded and on which is secured a nut 60 which is tightened and loosened for adjusting the grip between the member 55 and the support rod 54 so that the height of the rod relative to the top 13 may be adjusted for different pipes. A universal-joint type connection between the supporting fork rod 54 and the top 13 is provided by an annular ring 61 secured with the gripping member 55 and disposed within a ring fitting 62 secured through the top 13 so that the support rod 54 may be adjusted to a limited degree to angular positions relative to the vertical by virtue of the relationship between the ring 61 and the fitting 62.

The cradle 32 is secured by a nut 63 with the top 13 to support the mouthpiece 30 of a pipe 23. The various adjustments which may be made in the fork 31 by its connection through the top 13 and the joint in the fork at the nut and bolt assembly 53 permits practically infinite adjustment of the fork to varying positions while the fork tines 50 may be adjusted to various spacings for gripping various sized pipe stems. The various positions to which the fork may be moved permit maximum advantage to be taken of the air flow directed through the nozzle 41 into a pipe bowl. The vertical adjustment permitted in the fork allows the pipe to be lowered so that the pipe bowl may be supported at a position at which it may extend into the well 33 if it is desired to insert the nozzle 41 into the bowl chamber of a pipe.

Within the base 12 of the housing, a blower comprising a fan 70 mounted on a shaft 71 of a motor 72 is mounted on spaced feet 73 secured on the bottom panel 12a of the housing base. An electrical resistance heating element 74 is supported on a pair of spaced feet 75 mounted on the bottom panel of the housing base below the air nozzle 41. The heating unit includes electrical resistance wire 80 wound around an insulating heat-resistant plate 81. The heating element resistance wire is suitably connected by leads 82 and 83 in a series arrangement with the motor 72 which is connected through the lead 84 to a toggle switch 85 mounted in the end panel 12b of the housing base. The lead 83 along with a lead 90 from the switch are connected through suitable insulation 91 forming a cord 92 extending through an insulator 93 in a side panel of the base housing. The other end of the cord is provided with a male fitting or plug, not shown, for connection of the unit to a suitable power supply such as a normal convenience outlet. By the series connection between the motor 72 and the heating element 74, the heating element is turned on at all times when the fan 70 is being turned by the motor 72. The unit may, of course, be kept connected with a power supply with control of the motor and heating element being effected by the switch 85.

A removable mounting plug 100 is secured through a hole 101 in the housing end 12a above the air inlet fitting 22. A cone-shaped spring 102 is fitted on the plug 100 within the housing supporting a wick or jacket 103 stretched over the spring and formed of an absorbant material which can be saturated with an odorizing fluid for providing a desired odor in the air moved through the housing for drying the pipe bowl. Access

to the wick 103 is had by removing the housing top 13 so that the wick may be saturated with the odorizer.

The pipe drying and odorizing unit 10 provides a completely self-contained device for thoroughly drying and odorizing a smoking pipe. A pipe, such as the pipe 23, is placed in an inverted position with the stem of the pipe 25 between the tines 50 of the supporting fork 31. Prior to placing the pipe stem in the fork, the nut 55 is rotated downwardly to allow the outwardly sprung fork tines to spread sufficiently to insert the pipe stem fully between the tines. The mouthpiece 30 of the pipe is rested in the cradle 32. The nut 55 is threaded upwardly on the portions 51 of the tines squeezing the tines together to tightly grip the pipe stem. The height of the fork relative to the top 13 of the housing is adjusted by rotation of the nut 60 while the vertical position or alignment of the fork may be adjusted by the nut 53 so that the upper portion of the fork is set relative to the supporting rod 54. The various fork adjustments together with an adjustment in the direction of the air nozzle 41 are made to provide maximum control of the air flow from the nozzle into the pipe bowl. The pipe bowl may be lowered into the well 33 of the housing if desired and necessary to achieve optimum air circulation into the bowl. When the pipe is thus properly adjusted and securely mounted on the drying and odorizing device, the electric cord is plugged into a convenience outlet and the switch 85 is turned to an "on" position. The fan 70 is rotated by the motor 72 as the electrical resistance heater 74 is turned on to heat the air which is forced over the heater by the fan. The air is drawn into the interior of the housing through the fitting 22 generally along the lines indicated by the arrows in FIG. 2. At least a portion of the air passes over the odorizing wick 103 and, due to the relatively small volume of the housing and the use of a readily vaporizable odorizer in the wick, the housing is substantially saturated with odorizing mist so that the air being driven through the housing by the fan will be strongly odorized. The only outlet from the housing is through the nozzle 41, so the heated, odorized air is discharged from the housing through the nozzle 41 into the bowl of the pipe. The air passes through the bowl of the pipe down the stem and out the mouthpiece thoroughly drying and odorizing the pipe bowl and stem interior. Preferably, of course, before the pipe is placed in the drying and odorizing device a great deal of the tobacco crust and fluids and related foreign matter are removed from the bowl, stem and mouthpiece by suitable conventional means such as a scraper and pipe-cleaners. The device then provides a clean, dry, and pleasantly fragrant pipe.

It will thus be seen that a new and improved device for both drying and odorizing smoking pipes has been described and illustrated. It will be readily seen that the device may be applied with various types of odorizing fluid to provide the desired fragrance in the pipe during the drying procedure. It will additionally be seen that the device is compact, attractive, and adjustable to accommodate a wide variety of pipe sizes and shapes.

What is claimed and desired to be secured by Letters Patent is:

1. A device for drying a smoking pipe comprising: a housing including a well formed in an upper portion and near an end thereof opening upwardly toward a bowl of a pipe supported on said device; adjustable pipe support means on said housing to accommodate

varying sizes and shapes of smoking pipes including a forked support member having tines extending upwardly and spaced apart defining a Y-shaped structure for receiving a stem of a smoking pipe, an adjusting nut around said tines for squeezing said tines together to grip said stem of said pipe, and universal connection means between said housing and said forked member for varying the position of said forked member relative to said housing; an air flow nozzle on said housing in said well for directing air from said housing into the bowl of a pipe supported in said well on said support means; air inlet means in said housing; blower means in said housing for drawing air through said inlet means into said housing and discharging said air from said housing through said nozzle; and electrical resistance heating means in said housing between said blower means and said nozzle for heating said air discharged from said housing through said nozzle.

2. A device in accordance with claim 1 including a cradle fitting secured on said housing spaced from said forked member for supporting the mouthpiece end of the stem of said pipe.

3. A device in accordance with claim 2 including an odorizing wick disposed in said housing secured adjacent said inlet of said housing for holding an odorizing fluid to odorize air moving through said housing.

4. A device in accordance with claim 3 including electrical leads connecting said blower and said electrical resistance heater in series and connecting said blower and heater with a switch secured with said housing, and electrical cord means connected with said switch for connecting said device with a suitable power source whereby said heater is actuated responsive to supplying power to said blower.

5. A device in accordance with claim 4 wherein said housing is a substantially rectangular enclosure having a base portion and a removable top portion and said pipe support fork and cradle are secured with said removable top portion.

6. A smoking pipe drying and odorizing device comprising: a substantially rectangular housing having a base portion provided with a bottom panel and side and end panels and a removable top portion having downwardly turned side and end flanges fitting over said side and end panels of said base portion and having an opening near an end thereof; a pipe bowl well defined in said base portion of said housing and opening upwardly therefrom through said opening in said top por-

tion including a bottom panel secured across said housing base portion intermediate the bottom and top thereof between the side panels of said base portion and an end panel of said base portion and a vertical divider extending across said base portion between the sides thereof connected along a lower edge with said well bottom panel; an air nozzle disposed in movable relation through said bottom panel of said well adapted for limited movement from a vertical position and having a flow passage therethrough for directing air from said housing upwardly into the bowl of a pipe supported on said device; a pipe support fork secured on said removable top portion of said housing spaced from said opening in said housing communicating with said well including a vertical support rod movably secured through said top portion having a joint therein above said top portion and spaced apart tines extending upwardly for supporting the stem of a smoking pipe therebetween, a nut rotatable on said tines for squeezing said tines together for gripping said pipe stem; a cradle fitting secured on said top portion spaced from said fork for supporting a mouthpiece of a pipe stem; an electrical resistance heater secured within said base portion on the bottom panel thereof including electrical resistance wire wound on an insulating plate secured within said housing base below said air nozzle; a blower including a motor and a fan supported on a shaft of said motor mounted in said base portion on said bottom panel spaced from said electrical resistance heater for blowing air across said heater to said discharge nozzle; a switch secured in an end panel of said housing base; electrical leads connected between said switch and said blower motor and heater connecting said motor and heater in series whereby said heater is actuated when said motor is turned on; means providing an air inlet into said base of said housing at an end of said housing spaced from said discharge nozzle on the opposite side of said fan from said nozzle for admitting air to said housing base for blowing over said heater to discharge through said nozzle; and an odorizing fluid absorbing wick removably secured in said housing from an end panel thereof adjacent to said air inlet means for holding an air odorizer for odorizing air in said housing as said air is drawn into said housing through said inlet means and discharged across said heater to said discharge nozzle.

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