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ODOR ESCAPING MEANS FOR TOILETS

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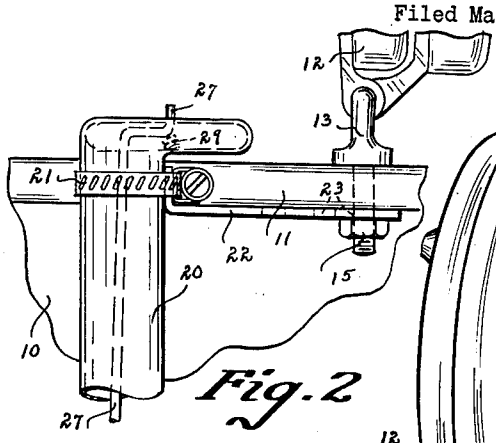


Fig. 2

Fig. 1

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ODOR ESCAPING MEANS FOR TOILETS

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This invention relates to a device for eliminating offensive odors from toilets and more particularly to an odor removing means that is automatically placed into functioning operation by weight pressure on the toilet seat.

The removal of unpleasant odors created by the normal use of a toilet is obviously very desirable and this is especially true when the toilet or the room where it is situated is frequently used by different persons. There are various chemical compounds made in different shapes, sizes and scents which are placed inside the bowl for the purpose of making such odors less offensive, but these dissolve or evaporate and must be replaced from time to time. I have, however, invented a device, the principal object of which is to provide a vent means communicating at one end with the area directly below the toilet seat of a toilet and communicating at its other end with the atmosphere through which the unpleasant and offensive odors from use of a toilet are force directed by a motorized fan unit.

More specifically the object of my invention is to provide an odor eliminator for toilets that has an exit conduit in which is imposed an electric motorized exhaust fan with the electric motor automatically connected to a source of electric energy by a switch associated with the toilet seat.

A still further object of this invention is to provide an odor eliminating device for toilets that may be easily and quickly installed by the use of one of the hinge bolts of the toilet seat.

A further object of this device is to provide an odor escaping means for toilets that can be easily installed without requiring any re-arrangement of the standard type toilets.

A still further object of this device is to provide a means for permitting the escape of unpleasant odors occasioned by the use of toilets, which is of a permanent nature and will not require the periodic replacement or replenishment of any chemical compounds or the like.

These and other objects will be apparent to those skilled in the art.

My invention consists of the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

FIG. 1 is a side view of my device installed and ready for use; and

FIG. 2 is an enlarged side view of the supporting means for the device.

In these drawings I have used the numeral 10 to designate the bowl portion of a toilet having the usual top horizontal flange rim or ledge 11. The numeral 12 designates the toilet seat hinged to the bowl top flange by the usual bolted hinge means 13. The bolts 15 of the hinge means extend through the rim flange 11 as shown in the drawings. I utilize one of these bolts 15 to install and support my device and which I will now describe in detail. The numeral 17 designates an ordinary air exhaust pump fan powered by an electric motor 19 and which is affixed on and supported by the housing of the air pump. The numeral 20 designates a pipe conduit having one end secured to and communicating with the intake opening of the pump housing. This pipe conduit extends upwardly at the side of the toilet bowl and then extends laterally and horizontally to terminate between

the bowl and seat, when the seat is in lowered position. This upper open horizontal end portion of the conduit is flattened to conserve space. The numeral 21 designates a clamp embracing the vertical portion of the pipe conduit capable of being tightened or locked on the pipe conduit or loosened for permitting the relative rotation of the pipe conduit for the purpose of adjustment. Extending from this clamp is a horizontal supporting arm 22 having a plurality of holes 23. To install my device I remove the nut of the bolt 15, select the proper hole 23 of the bolt shaft, extend the bolt shaft through the selected hole, and then replace the nut. By this construction my device is not only quickly and easily installed, but is supported by the arm 22, which in turn is supported by the toilet bowl. The numeral 25 designates an electrical circuit adapted to be in communication with a source of electrical energy, and in communication with the electric motor 19. Imposed in this circuit is an ordinary spring loaded push and pull switch 26 having the actuating rod 27. This rod 27 extends first through a vertical slot 28 in the pipe 20, thence upwardly inside the pipe 20, thence horizontally in the upper horizontal end portion of the pipe 20, thence vertically upwardly through a hole 18 in the top of the horizontal portion of the pipe 20, as shown in FIG. 1. The top end of the rod 27 terminates just above the top surface of the upper horizontal portion of the pipe 20. To further yieldingly urge the rod 27 (besides the spring loaded switch) to its maximum upper reciprocating position, a coil spring 29 in the upper end portion of the pipe may be used, as shown in FIG. 2. The numeral 30 designates a vent pipe communicating with the outside atmosphere. A conduit 31 connects the outlet side of the pump to this vent pipe. A plastic or like insulating shield 32 embraces the switch.

The practical operation of my device is as follows:

When the lid 12 is lowered and pressure is placed on the same, it will depress the upper end of the rod 27 thereby causing the switch 26 to close. With the switch closed, the motor 19 will actuate the pump thereby drawing offensive odors into the upper end of the conduit 20, thence through the pump, thence through the conduit 31, thence into and through the vent pipe 30 to the outside atmosphere. By the elimination of pressure on the seat 12 the spring loaded switch 26 and/or coil spring 29 will raise the rod 27 thereby breaking the switch contact and automatically shutting off the electric motor 19.

By the clamp collar 21 being both vertically and rotatably adjustable the device may be easily and quickly adjusted to fit substantially all types of toilet bowls. As before noted, the entire device except the outlet conduit 31 is secured to and installed on a toilet bowl by the use of the single bolt 15 of the toilet seat hinge. A plate 32 may be placed on the rod 27 for slidably enclosing the slot 28.

Some changes may be made in the construction and arrangement of my odor escaping means for toilets without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

In combination, a toilet having a bowl portion, a toilet seat, a hinge means secured to the toilet seat and having at least one bolt means extending through the upper flange of the bowl portion, an air exhaust pump having an intake and an outlet, a conduit communicating with the intake of said exhaust pump; said conduit extending first vertically upwardly and then laterally horizontally to terminate between the bowl and seat of said toilet when said seat is in a lowered position, a supporting bar having

one end secured to said conduit and its other end detachably secured to the bolt means of said toilet, an electric motor operatively connected to said air exhaust pump, an electric circuit connected to said electric motor and adapted to be in communication with a source of electricity, a switch imposed in said electric circuit, a switch actuating arm having one end operatively secured to said switch and its other end depressibly engageable by the seat of said toilet; said electric switch being spring loaded for yieldingly holding said arm toward said seat and said switch in open condition, and an exit conduit communicating with the outlet of said exhaust pump; said arm having its length extending first through a slot opening in said first conduit, thence upwardly inside said conduit,

then horizontally in that part of the conduit that extends horizontally, and then directly upwardly and through a hole in that part of the conduit that extends horizontally.

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