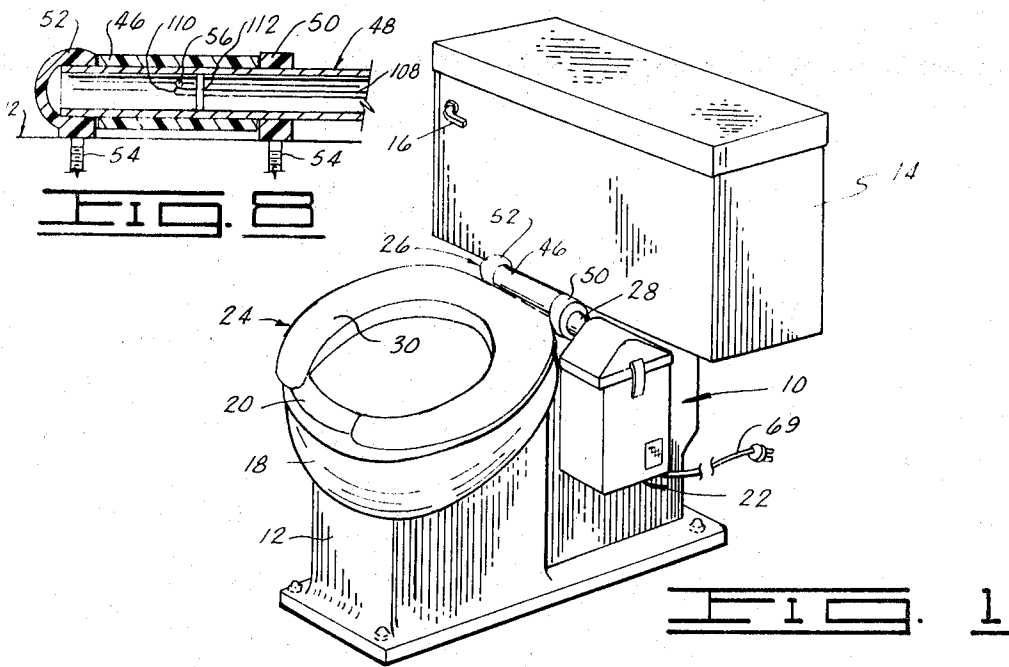
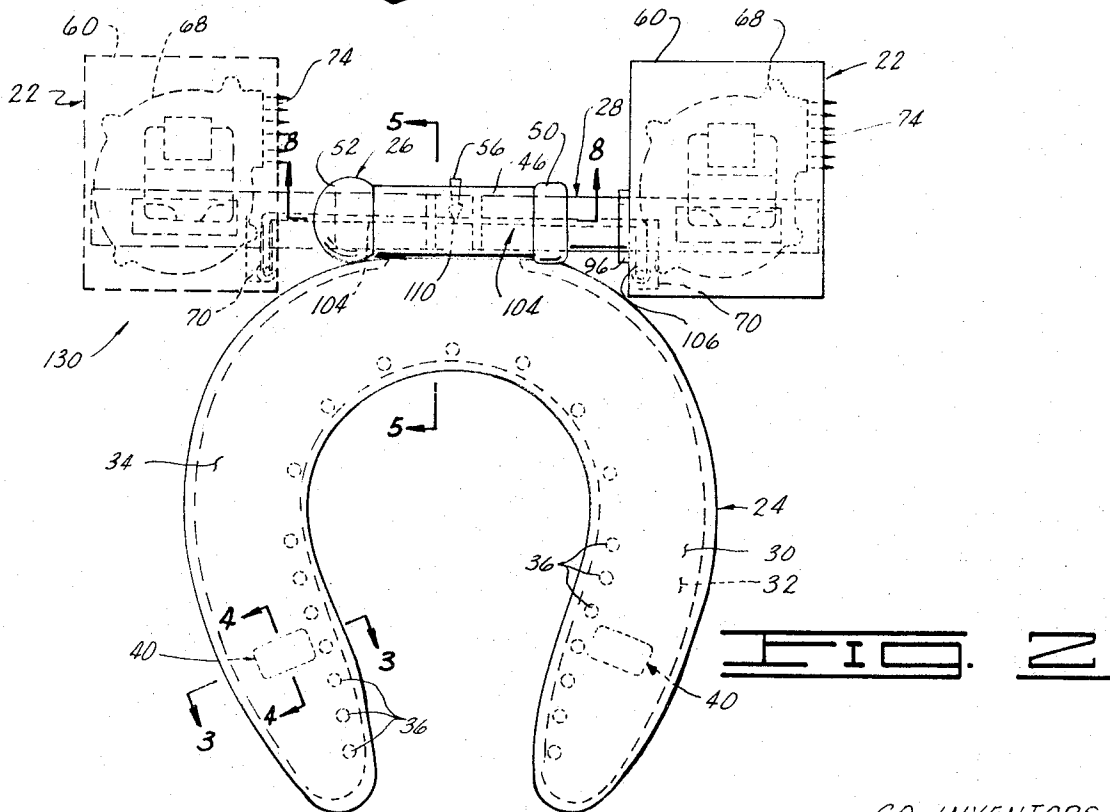


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CO-INVENTORS
CLARENCE E. POISTER
DAVID BENDERSKY

BY

John H. Widdowson
ATTORNEY

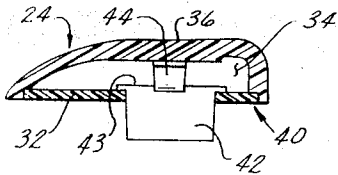


FIG. 3

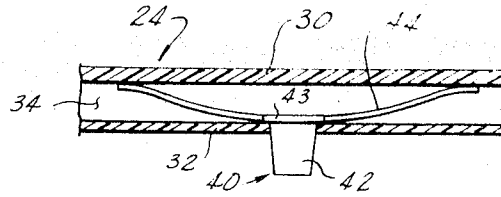


FIG. 4

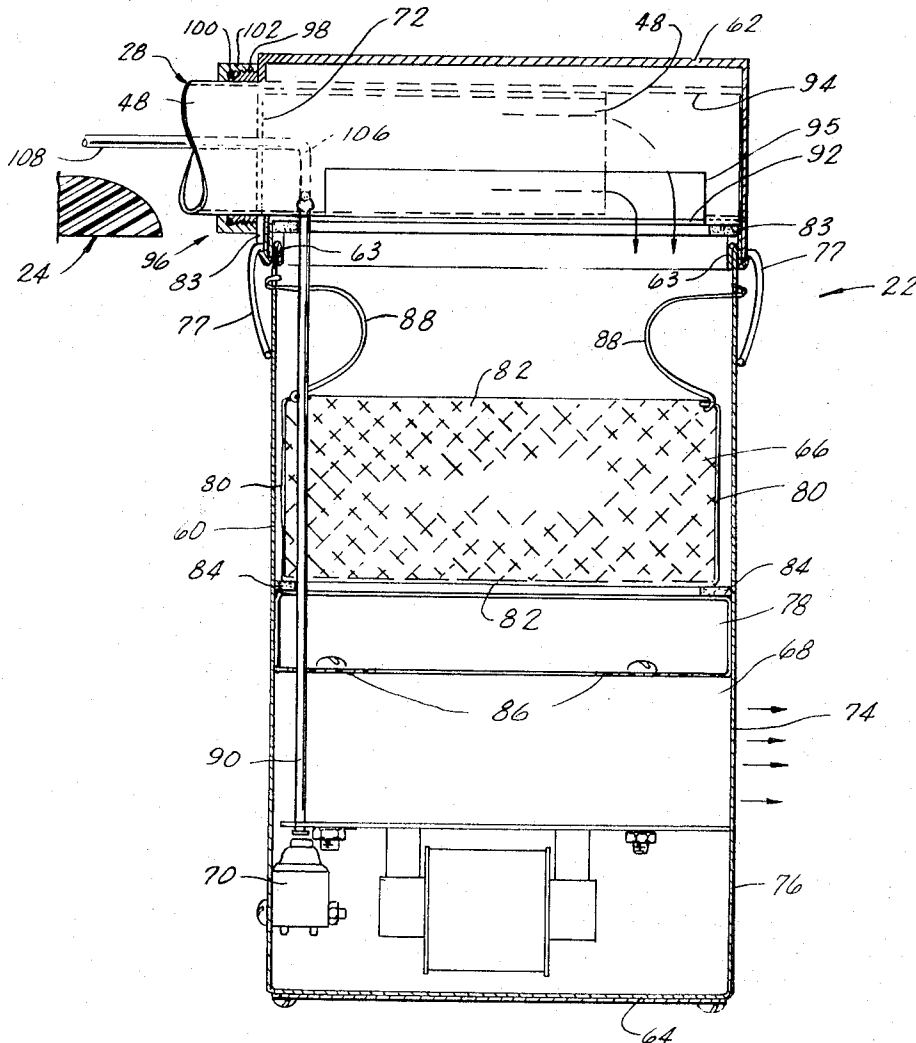


FIG. 5

CO-INVENTORS
CLARENCE E POISTER
DAVID BENDERSKY

BY

John H. Williamson
ATTORNEY

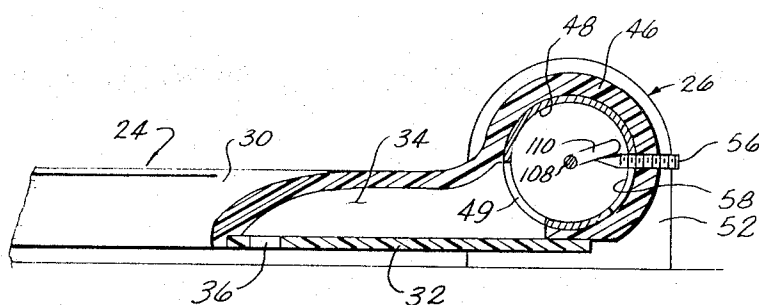


Fig. 5

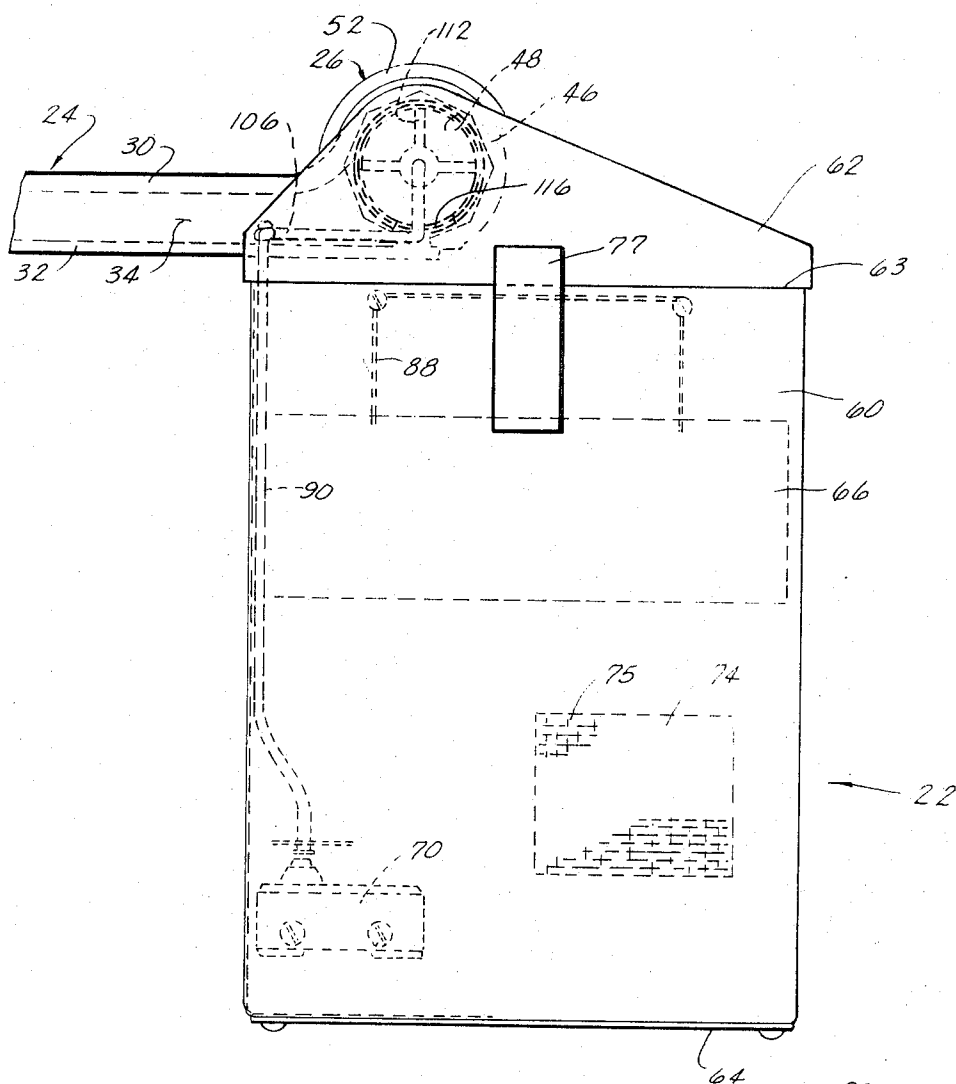
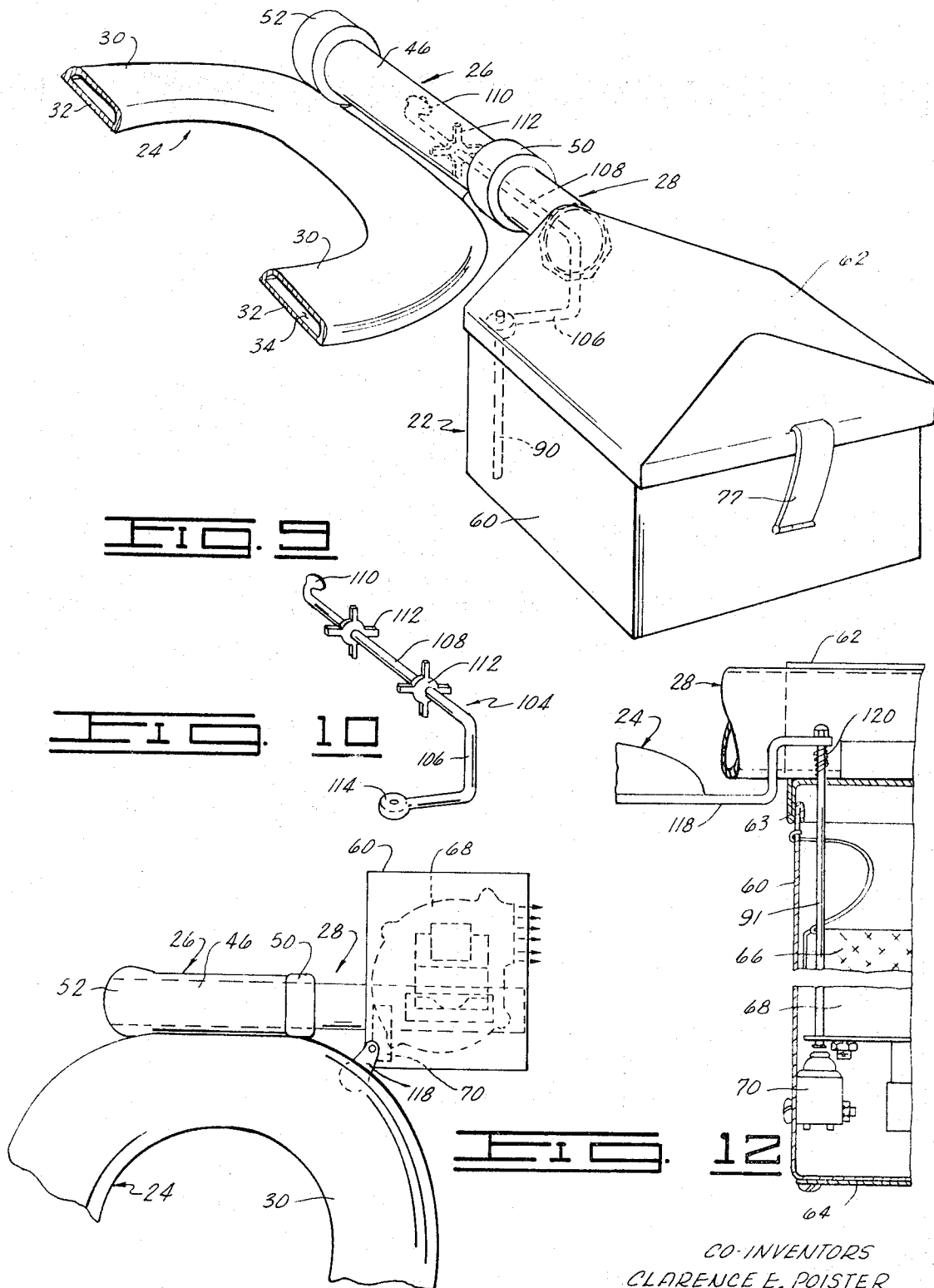


Fig. 2

CO-INVENTORS
CLARENCE E POISTER
DAVID BENDERSKY

BY

John H. Widdnison
ATTORNEY



CO-INVENTORS
CLARENCE E. POISTER
DAVID BENDERSKY

BY *John A. Wisniewski*
ATTORNEY

TOILET STOOL VENTILATING MEANS

Various other types of toilet stool ventilating devices are known in the prior art as operable for removing contaminated air and odors from within a toilet bowl. However, these devices are generally costly to manufacture and unsightly in appearance as well as requiring especially designed toilet bowls and additional air receiving rings or the like attached to the seats or the toilet bowl structure. Additionally, some of these prior art devices require mounting of the filter unit in a remote location not immediately adjacent to the toilet stool which often times then makes it not easily accessible for filter replacement. One known means of ventilating a toilet stool is to attach an inlet conduit to the seat or the bowl area and connect the conduit to a filtering unit placed elsewhere; this is not generally satisfactory because of the general unsightly appearance of the additional structure needed to be added to the toilet stool and the remotely placed filtering unit. Another common means of ventilating a bathroom is by using ceiling or wall vents to carry contaminated air from the room; this is generally not satisfactory because of removal of a large quantity of heated or air-conditioned air which must be replaced.

In a preferred specific embodiment of this invention, an additionally improved toilet stool ventilating means is provided operable with a conventional toilet stool. The additionally improved toilet stool ventilating means includes a seat, having an annular air chamber therein to receive air from the toilet bowl area, a passageway in the seat into a supporting hinge, a filter element, connected to the seat supporting hinge and operable to remove air therefrom, deodorize and pass same into the immediate atmosphere; and a switch means located within the filtering element to operate it upon occupation of the seat. The annular air chamber in the seat has openings on the underside thereof to receive normally contaminated air from the toilet bowl to be conveyed to the filter element. The filter element includes a rectangular housing having an easily removable top closure member extending over the upper edge of its sidewall, having the inlet into the top closure member, the outlet on one of the sidewalls and containing an air moving means to move the air through the filter. The filter element means also has a cartridge filter member containing an activated filtering material to purify the air before its discharge into the surrounding atmosphere. A mesh screen covers the cartridge filter inlet and outlet section for retaining the activated material and passing air in an unrestricted flow. The filtering element means is positioned alongside the toilet bowl generally in line with the seat hinge and depending by the top closure member from the air passageway conduit attached to the hinge. The improved filtering element means of this invention can be positioned on either side of the toilet bowl and spaced from the toilet bowl a short distance.

One object of this invention is to provide an additionally improved toilet stool ventilating means overcoming the above-mentioned disadvantages of the prior art devices.

Another object of this invention is to provide an additionally improved toilet stool ventilating means which can be used on a conventional toilet stool structure by easily replacing the seat and hinge on the toilet bowl

member and installing the seat and hinge of this invention along with the filter element.

One other object of this invention is to provide an additionally improved toilet stool ventilating means which can be used on any conventional toilet stool structure without substantially altering the structure, and to provide a ventilating means which is efficient and economical in operation.

One further object of this invention is to provide an additionally improved toilet stool ventilating means including a seat having an annular air chamber therein with openings to receive air from a toilet bowl and an outlet through the seat attaching hinge whereby air can be directed to the filtering element for deodorizing.

Still one further object of this invention is to provide an additionally improved toilet stool ventilating means which may be attached directly to the toilet stool having a filtering element positionable adjacent to the toilet stool which functions only when weight is placed on the seat, thereby providing a compact and neat appearing structure which is easily accessible and moves only a minimum amount of air.

Various other objects, advantages, and features of the invention will become apparent to those skilled in the art from the following discussion, taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of a conventional toilet stool with the seat and filter of this invention mounted thereon;

FIG. 2 is a top plan view of the seat, hinge and filter element assembly only with the seat vent passageways, holes, and air blower shown in dashed lines, and having the filter element shown in all dashed lines in an alternate position on the opposite side of the stool;

FIG. 3 is a cross-sectional view of the seat support block taken on line 3—3 of FIG. 2;

FIG. 4 is a cross-sectional view of the seat support block taken on line 4—4 of FIG. 2;

FIG. 5 is a cross-sectional view of the hinge portion of the seat with the centrally supported switch actuator lever shown therein taken on line 5—5 of FIG. 2;

FIG. 6 is a side elevation view of the filter element, seat, and inlet conduit to the filter element, with the filter element having the sidewall removed to expose the interior thereof;

FIG. 7 is an elevational view of the outer side of the filter element with the filter cartridge and switch shown in dashed lines;

FIG. 8 is a cross-sectional view of the seat hinge and conduit taken on line 8—8 of FIG. 2;

FIG. 9 is an enlarged perspective view of the seat, hinge, and upper portion of the filter element housing with the centrally supported switch actuator lever shown therein in dashed lines;

FIG. 10 is a perspective view from above of the centrally supported switch actuator lever;

FIG. 11 is a top plan view of a portion of the seat, the hinge, and the filter element having an alternate exterior switch actuator lever; and

FIG. 12 is an enlarged cut away view of the filter element having the external switch actuator lever as shown in FIG. 11.

The following is a discussion and description of preferred specific embodiments of the additionally improved toilet stool ventilating means of this invention, such being made with reference to the drawings, whereupon the same reference numerals are used to

indicate the same of similar parts and/or structure. It is to be understood that the discussion and description is not to unduly limit the scope of the invention.

Referring to the drawings in detail and in particular to FIG. 1, the additionally improved toilet stool ventilating means of this invention is shown, as generally indicated at 10, installed on a conventional type toilet stool having a bowl 12 mounted on a supporting surface and a flush tank 14 mounted on the rear portion of the bowl equipped with a handle 16 for control of flushing of the bowl 12. The bowl 12 includes a bowl shaped water containing section 18 having on its upper open periphery a rim section 20 above which a seat is positioned. The additionally improved toilet stool ventilating means of this invention 10 includes a filtering element 22, a seat 24 and hinge 26, and having a conduit 28 connecting the filtering element 22 and the hinge 26.

The toilet seat 24 is preferably constructed having a similar shape to a conventional type toilet seat. As can be seen in FIGS. 2, 5, and 9, the toilet seat 24 has a curved upper portion 30 and a flat underneath portion 32. The toilet seat 24 shown in the drawings is a semi-annular type; however, a similar seat can be constructed in the other conventional completely annular configuration. Between the upper and lower portions of the toilet seat, an air chamber 34 is formed substantially comprising the inner portion of the toilet seat. On the inner annular portion of the toilet seat a plurality of spaced holes 36 are positioned near its inner periphery through the lower portion 32. The holes 36 provide communication between the inside of the water bowl 18 and the air chamber 34 and provide the contaminated air inlet for the filtering element of this invention. The holes 36 pass contaminated air from the toilet bowl area into the system. The seat 24 is supported on the rear portion by the hinge 26 and on the forward portion by seat supports 40 positioned on opposite sides of the front portion of the rim 20. These seat supports 40 are shown in detail in FIGS. 3 and 4. These seat supports 40 are essentially a resting block 42 spring mounted and supported in the seat 24 which allows the seat to pivot about the hinge 26 when weight is applied thereto. Pivoting of the seat actuates the blower in the filter element 22 as will be described hereinafter. As can be seen in FIGS. 3 and 4 the blocks are rectangular in shape and positioned in the transverse center portion of the seat 24 adapted to rest on the rim 20 of the water bowl 18. The blocks 42 have an enlarged portion 43 on the inside of the seat, and the air chamber, and a spring 44 in the chamber 34 adapted to push the enlarged portion 43 into contact with the lower portion of the seat 32. The spring 44 is preferably a simple leaf spring as shown in the drawings; this will provide sufficient strength to maintain the block in the position shown in FIGS. 3 and 4, which is the position in which it normally supports the seat when no weight is on the seat 24. The blocks 42 being rectangular in shape are preferably positioned with a long portion radially oriented relative to the center of the water bowl 18; this gives the blocks 42 better contact with the rim 20 and makes the seat more adaptable to different makes of toilet stools with different sized rim portions. The rear portion of the toilet seat 24 has a hinge connecting portion indicated at 46 which surrounds the hinge inner conduit 48, as can be seen clearly in FIG. 5. The annular air chamber 34 ex-

tends into the hinge connecting tube 46 so that contaminated air will pass into the inner hinge conduit 48 through an aperture in it indicated at 49. The hinge connecting tube 46 on its upper surface is integral with the upper portion of the seat 30 and smoothly contoured therein to provide a pleasing appearance. The lower part of the hinge connecting tube 46 joins the lower portion of the seat 32 and cannot be seen normally from above. The hinge connecting portion 46 rotates on the inner hinge conduit 48 much as an ordinary hinge pivots. The inner hinge conduit 48 is mounted on the toilet bowl 12 by pillow blocks 50 and 52 as can be seen in FIG. 8. The inner hinge conduit 48 is supported on one end by a pillow block 50 which allows the hinge conduit 48 to pass through it, and it is supported on the other end by the other pillow block 52 which is adapted to close the hinge conduit 48 and seal that end. Both of the pillow blocks are mountable on the toilet bowl 12 through apertures in the toilet bowl which are normally used for mounting a conventional toilet seat on the structure. These pillow blocks 50 and 52 are adapted to snugly fit around the hinge conduit 48 in order that when it is installed the conduit is rigidly supported by them, and the hinge connecting portion 46 will not slide or twist the hinge conduit 48 from its normal position as it is moved up and down slightly in normal use and as it is raised occasionally. The pillow blocks 50 and 52 are constructed with bolts 54 extending from their lower portions to connect them with the toilet bowl 12. The lower portion of these pillow blocks 50 and 52 is preferably flat so as to match the flat surface on the upper portion of the toilet bowl 12; this can be seen in FIG. 5. On the rear portion of the hinge 26 a contact screw 56 is inserted through the hinge connecting tube 46 extending into the interior of the hinge conduit 48 passing through a larger aperture 58 in the hinge conduit 48. The screw 56 is utilized to actuate the switching means which will be described hereinafter.

The filter element of this invention 22 includes a box-like housing 60 having upright rectangular sidewalls supported by a removable top 62, and having an attached bottom 64. The housing 60 encloses the filtering cartridge 66, the blower 68, and the switch 70. The housing 60 has an inlet 72 through the top portion 62 and an outlet 74 adjacent to the blower 68 through one of the sidewalls of the housing 60. As can be seen in FIGS. 6 and 7 the blower 68 is mounted in the lower portion of the housing 60 and preferably has the outlet 74 covered with a screen material 75 positioned on a sidewall 76. The outlet 74 is preferably to be arranged opposite of the inlet 72, thereby exhausting the filtered air away from the toilet stool structure generally. The filter element 22 is generally square in cross-section having four upright sidewalls connected to the bottom 64. The housing 60 is supported from the top closure member 62 and is connected to the top at a joint indicated at 63 on the lower edge portion of the top 62. The housing 60 is held in place at the joint by latches indicated at 77 on opposite sides of the housing. The latches 77 are spring type latches pivotally mounted with the sidewalls of the housing 60 and engagable with small, specially formed ridges on the top 62; this provides for easy removal of the housing 60 from the top 62.

The interior of the housing 60 has a plenum chamber 78 secured therein in the lower portion extending to

all the sidewalls and having an inner cavity. The blower 68 is bolted to the lower portion of the plenum chamber 78 and receives air from the plenum chamber. The blower 68 preferably has a 110 volt A.C. motor so as to be usable with normal electric house current. The blower 68 is provided with a cord and plug 69 to connect it for operation. The blower 68 used in this invention is preferably the squirrel cage type because of their general quiet operation as compared with other types of blowers. The filter cartridge 66 is placed above the plenum chamber 78 and receives air passing from the housing inlet 72 and passes it on into the plenum chamber 78. The plenum chamber 78 is provided only as a structural support to mount and connect the blower 68 with the filter cartridge 66 in an appropriate relation; it is not intended to be interpreted as being used for any other purpose. The filter cartridge 66 is preferably enclosed in a wrapper 80 enclosing its outer peripheral portion and serving as a support for its mounting. The filter cartridge wrapper 80 supports mesh material indicated at 82 on the upper and lower surfaces of the filter cartridge 66. The mesh material 82 provides an inlet and outlet to the filtering cartridge 66 without unduly restricting airflow to the cartridge and holds the filter material in place. In order that the interior of the housing be effectively sealed, gaskets are provided throughout it as can be seen in FIG. 6. An upper gasket 83 seals the housing interior between the inlet 72 and the housing; the gasket 83 is a part of the joint 63 connecting the top 62 and the housing 60; another gasket 84 is positioned between the filter cartridge 66 and the plenum chamber 78; a third gasket 86 is positioned between the plenum chamber 78 and the blower 68. It has been found in practice that gaskets 83 and 84 can be sponge like material, while gasket 86 is preferably a paper like material. The filter cartridge 66 is normally held in place inside the housing by a pair of wire like springs indicated at 88 on opposite sides of the filter cartridge 66 connecting the housing sidewalls to the wrapper 80. Inside the housing 60 the filter cartridge 66 does not extend to all of the sidewalls; it is spaced sufficiently from one of the sidewalls so that the switch actuator plunger 90 can freely move up and down to actuate the switch 70. The switch actuator plunger can be seen in FIGS. 6 and 7 clearly in its relation with the filter cartridge 66 and other components of the filtering element 22.

The housing top 62 is the top closure member for the filter element 22. It has a rim on the inner portion adjacent to the joint 63 on which the sponge gasket 83 rests, a top conduit 94 extends transversely through the interior of the top 62 from the inlet 72, and a slip joint 96 at the inlet 72 adapted to position and lock in a fixed position the hinge conduit 48 inside of the top conduit 94. The top conduit 94 is slightly larger than the hinge conduit 48 and extends completely across the interior of the housing top 62 from the inlet 72. The top conduit 94 has a large aperture in the lower portion thereof, indicated at 95, which allows air to pass from the hinge conduit 48 into the housing interior. The slip joint 96 is positioned at the inlet 72; it includes threads 98 around the inlet extending outward from the top 62, a resilient seal 100 and a lock nut 102. The slip joint 96 functions to hold the hinge conduit 48 in a substantially rigid relation to the housing top 62 by compressing the resilient seal 100 against the hinge conduit 48 and the end of the threads 98 when

the lock nut 102 is tightened. The slip joint 96 enables the filtering element 22 to be moved inward and outward along the hinge conduit 48 relative to the toilet bowl 12. This adjustment of the hinge conduit length enables the toilet stool ventilating means 10 of this invention to be fitted on the very wide variety of sizes and shapes of toilet stools which are currently in use and on the market. It has been observed in studying the toilet stool construction that different styles and makes are slightly different in size relative to the hinge and bowl measurements which obviates the use of an adjustable filter mounting.

The moving portions of the toilet stool ventilating means of this invention includes the switch 70 and actuator plunger 90 included in the housing 60 and a centrally supported switch actuator lever mounted inside the toilet seat hinge and extending into the filtering element. The centrally supported switch actuator lever is shown in FIG. 10, generally indicated at 104; it has a switch engaging portion 106 on one end connected by a shank portion 108 to an operating end 110, with a pair of axial supports 112 positioned along the shank portion 108. The switch actuator lever is positioned partially inside the hinge assembly 26 and partially inside the filter element 22 as can be seen in FIG. 9 in the dashed lines. Inside of the hinge 26 the operating end of the switch actuator lever 110 engages with the screw 56 and rotates the switch actuator lever 104 in the guide members 112 upon downward movement of the seat 24 from a position shown in FIG. 5. Upon this downward movement of the seat 24 and rotation of the switch actuator lever 104, the actuator end of the switch actuator lever 106 moves the switch actuator plunger 90 downward thereby engaging the switch 70.

The switch 70 is necessarily a miniature size momentary contact switch so the blower 68 will operate only when the switch 70 is engaged. The outer end of the switch actuator lever 104 having the actuator end has an enlarged end portion 114 which assures that that end of the lever will contact the switch actuator plunger 90 when it is rotated. A relative position of the switch 70, switch actuator plunger 90 and switch actuator lever 104 are shown in the drawings; it is to be noted that none of the drawings show the components in the rotated or operating position since only a slight motion of them is necessary to cause operation of the ventilating means. By necessity, since the switch actuator lever 104 must pass through the top conduit 94 in the housing top 62, an aperture indicated at 116 is necessary through the lower portion of the top conduit 94 and other conduit 48 as can be seen in FIG. 7. The aperture 116 extends through the top conduit member 94 and through the hinge conduit member 48 in order to allow for sufficient movement of the actuator and of the switch actuator lever 104.

In regard to operation of the switch assembly, FIG. 5 shows the operating end 110 of the switch actuator lever in the normal position not in use with the screw 56 in contact with the operating end 110. Upon downward movement of the seat the hinge connecting tube 46 rotates about the hinge conduit 48 thereby moving the contact screw 56 upward which in turn rotates the operating end 110 of the switch actuator lever. When the weight is removed from the seat 24, the springs 44 in the seat supports 40 raise the seat back to the normal position as shown in FIG. 5. As the seat is raised

to the normal unloaded position, the contact screw 56 rotates downward thereby moving the operating hinge 110; this deactivates the switch 70 and the blower 68. When the seat 24 is raised to a vertical position (not shown in the drawings), the screw 56 rotates further downward from the position shown in FIG. 5 while the switch actuator lever 104 remains stationary in the position shown in FIG. 5. It is obvious the only motion of the seat 24 which will operate the switch 70 is the downward movement of the seat from the position shown in FIG. 5. The switching apparatus described here has several distinct advantages; namely, it is hidden from view, therefore, less likely to be tampered with, it is simple in the number of operating elements, and it is enclosed within the housing of the filter element 22 and the hinge assembly 26, thereby being protected from damage due to strong cleaning agents or the like which may be encountered in the vicinity of a toilet stool.

It is to be noted that in the herein described preferred specific embodiments of the toilet stool ventilating means of this invention that the seat and hinge apparatus is constructed with the fixed portions of the hinge secured to the hinge connecting tube 46 or spindle portion on opposite sides of the moving portion of the hinge. It is to be understood that the scope of this disclosure is to restrict the invention to this exact configuration described. The configuration of the specific hinge apparatus can be varied to accomplish the same result by constructing the fixed portion of the hinge in the center section of the hinge and having two movable portions—one attached on either side thereof with the air passageway through either or both of the movable portions communicable with the spindle. Additionally, the configuration of the specific hinge apparatus can be varied to accomplish the same result by constructing the hinge having only two portions, a fixed portion secured to the toilet stool with the spindle extending therefrom and a movable portion with the air passageway attached to the spindle.

An alternate switching apparatus to the one described above is shown in detail in FIGS. 11 and 12. The alternate switching apparatus includes the same basic elements as the one heretofore described; however, the switch actuator plunger here indicated at 91 extends upwardly from the switch 70 exiting the housing top 62 and extending above the housing top 62 a short distance; it is actuated by a curved actuator lever 118 attached to the seat 24. The curved actuator lever 118 is attached to the rear edge portion of the toilet seat 24 as can be seen in FIG. 11; it extends outward and upward over the top of the housing top 62 to contact the switch actuator plunger 91 at that point. The switch actuator plunger 91 is provided with a spring 120 to hold it in upward position in contact with the curved actuator lever 118. FIG. 12 shows the switching apparatus in a normal non-operating position. Downward movement of the curved actuator lever 118 is necessary to actuate the switch 70.

An important and flexible feature of the toilet stool ventilating means of this invention is that the filter element 22 can be mounted on either side of the toilet stool structure as indicated by the one shown in dashed lines in FIG. 2. The filter element 22 is shown in solid lines on the right side of the toilet stool structure, this is the preferred position for the filter element; and it is shown in dotted lines on the left side of the toilet

stool structure, this is the alternate position for the filter element. When the filter element 22 is positioned on the left side of the toilet stool structure as generally indicated at 130, the hinge 26 and conduit 28 must be reversed; this is easily done by switching the pillow blocks 50 and 52 so the conduit 48 extends from the left side of the hinge 26. Also, for this arrangement the housing top 62 is simply constructed with the inlet 72 and slip joint 96 on the side opposite to that described in the foregoing description. The switch actuator lever 104 is constructed with the actuator end 106 bent in the opposite direction thereby being contactable with the switch 70 which must be moved to the opposite corner of the housing. With the filter element 22 positioned as indicated at 130, the filter element exhaust 74 will be directed towards this toilet stool structure as is indicated by the arrows. The alternate positioning of the filter element 22 is a necessary feature of the invention because often time toilet stool structures are placed in restricted areas, and the physical size of the area in which they are placed will not allow placing of the filtering element on the side of the toilet stool structure in the preferred position. With the filtering element in the alternate position 130, it will function exactly like it will in the other and preferred position; the only difference being that the air exhausted from the filtering element 22 will not be directed away from the toilet stool area.

It is obvious from the foregoing that the additionally improved toilet stool ventilating means of this invention provides a coordinated seat and filter structure that is readily usable with conventional type toilet stools to deodorize contaminated air and yet it does not give the toilet stools an unattractive appearance. It has been shown that the additionally improved toilet stool ventilating means of this invention is simple in construction and design and efficiently operable as well as being easily disassemblable for changing the filtering cartridge. Additionally, the improved toilet stool ventilating means of this invention is easily mountable with a variety of different sizes of toilet stools which are currently found on the market as the variation between manufacturers and styles creates.

It will become apparent from the foregoing description of the preferred specific embodiment of this invention that it provides a device for removing contaminated air from the toilet bowl area and deodorizing same then passing the air into the immediate area. The filtering apparatus is easily adapted to conventional toilet stools by having provisions to allow for differences in toilet stool structural design as well as provisions for space and vanity limitations.

In the manufacture of the additionally improved toilet stool ventilating means 10 of this invention, it is obvious that the housing 60 and other parts of the filtering element 22 as well as the hinge 26 and other parts of the device pose no unique problems to the design or manufacture. The seat 24 and its internal components can be easily molded from a plastic material or the like such as commonly used in conventional type toilet seats and which is desirable in achieving the end product.

While the invention has been described in conjunction with the preferred specific embodiments thereof, it will be understood that this description is intended to illustrate and not limit the scope of the invention, which is defined by the following claims.

We claim:

1. In a toilet stool mounted on a supporting surface having a generally annular seat hingedly mounted thereto in a fashion to cover the upper rim portion of the toilet bowl when in lowered position, and a flushing means, the improvement being a ventilating means comprising:

- a. a generally annular air chamber in said seat having openings therein to receive air from said toilet bowl, and an outlet therefrom,
 - b. a mounting means having a hinge to secure said seat to said toilet stool, and a passageway therein to receive air from said air chamber outlet to transmit same to an air outlet in said hinge,
 - c. a housed filter element having an inlet and an outlet, air moving means having powering means mounted in said filter element and adapted, in operation, to pass air through said filter element from said inlet and out said outlet, and filtering material therein between said filter element inlet and outlet and in the airstream produced by said air moving means in operation, with said filtering material in position to receive air from said filter element inlet, said filter element in operation to receive air through said filter element inlet and pass same through said filtering material, deodorize said air and pass said resulting deodorized air out said outlet in said filter element.
 - d. conduit means connectable to said hinge mount means air outlet and said inlet means on said filter element to convey air from said air chamber to said air filter element to filter same,
 - e. switch means operably connected to said powering means and said seat whereby pressure exerted on said seat operates said switch means to activate said air moving means,
 - f. said seat has a connecting portion engaged with said hinge with a passageway therein and an outlet to pass air from said air chamber in said seat to said hinge passageway,
 - g. said hinge has a toilet stool engaging portion to mount same on said toilet stool, a seat engaging portion to connect it to said seat, and a spindle member to join said toilet stool and said seat in a pivotal relation with said hinge passageway therein,
 - h. said conduit means is connectable to said hinge spindle member, and
 - i. said switch means having a linkage means mounted in said spindle member and said hinge passageway, said linkage means extending through said hinge passageway and connecting to said housed filter element to operate said powering means.
2. A toilet stool ventilating means as described in claim 1, wherein:
- a. said seat connecting portion has a portion thereof connectable with said spindle member and having said passageway from said air chamber therein and in fluid communication with said hinge passageway,
 - b. said toilet stool engaging portion has a portion thereof securable to said hinge spindle member and securable to said toilet stool to retain said spindle member in a substantially fixed position relative thereto,

- c. said conduit means has a conduit member secured to and extending from said hinge spindle member,
 - d. said filter housing has a conduit attaching means at said inlet thereof,
 - e. said hinge spindle member has an aperture therein alignable to be in fluid communication with said hinge connecting portion passageway outlet,
 - f. said toilet stool engaging portion has a securable portion thereof encircling said spindle member and secured to said toilet stool,
 - g. said filter housing has two principal compartments, an upper compartment containing said inlet in said filtering material, and a lower compartment containing said air moving means, a portion of said switch means, and said filter element outlet, and said linkage means extending through said seat engaging portion to actuate said powering means on lowering of said seat.
3. The toilet stool ventilating means as described in claim 2 wherein:
- a. said toilet stool engaging portion has a pair of members secured to said spindle member and to said toilet stool positioned on said spindle member in a spaced relation,
 - b. said seat connecting portion has said spindle engaging portion thereof between said toilet stool engaging members to pivot on said spindle member,
 - c. said housing is a box-like structure supported by said conduit means and has a top closure member easily removable therefrom,
 - d. said switch means has said linkage means connected to a switch to actuate said powering means on downward rotational movement of said seat about said hinge mount,
 - e. said switch means linkage means has a first actuator member inside said conduit means extending into said housing and movable by said seat on its downward rotation at said hinge mount, and a second actuator member in said housing movable by said first actuator member to actuate said switch,
 - f. said conduit attaching means is a coupling to engage said conduit means to hold same in a rigid position, and
 - g. said conduit engaging portion encircles said hinge spindle position between said pair of toilet stool engaging members.
4. A ventilating means for a toilet stool having a substantially horizontal rim portion around a bowl portion with an area to receive and hingedly mount a toilet seat comprising:
- a. a seat having a generally annular air chamber therein having a plurality of openings therein to receive air from the toilet bowl area of said toilet stool, and having an outlet therefrom,
 - b. a seat mounting means having a hinge constructed and adapted to secure said seat to said area to mount same on said toilet stool, said hinge having a passageway therein in communication with and adapted to receive air from said air chamber outlet to transmit same to an air outlet in said hinge,
 - c. conduit means connected to said hinge mount means air outlet to pass air from said air chamber to a filtering means or the like,

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d. switch means having a linkage means within said hinge mount means, said linkage means extending through said conduit means and connecting to said filtering means to energize same on downward movement of said toilet seat, and

said ventilating means in operation providing communication between said toilet bowl area, said air chamber in said seat, said passageway in said hinge mount means, and said conduit means.

5. The combination as described in claim 4 wherein:

a. said seat has a connecting portion engaged with said hinge with a passageway therein and an outlet to pass air from said air chamber to said hinge passageway,

b. said hinge mount means has a spindle member with an inlet passageway thereto and with said hinge passageway therein engaged with said seat con-

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necting portion in a pivotal relation,

c. said conduit means is connected to said hinge spindle member in fluid communication with said hinge passageway,

d. said spindle member is constructed to engage in operative relation in said seat connection portion at either end thereof,

e. a cap means closing the end of said spindle member opposite the end thereof mounting said conduit means, and

f. said linkage means having a switch engaging portion integral with a shank portion and an operating end, and

g. said operating end and said shank portion mounted in said spindle member and rotates with said seat whereby said operating end actuates a switch member to energize said filtering means.

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