United States Patent [19]

Poister et al.

[11] **3,913,150**

[45] **Oct. 21, 1975**

[54] **TOILET STOOL VENTILATING MEANS**

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[73] Assignee: **P K Products/Inc.**, Wichita, Kans.

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[21] Appl. No.: **449,914**

[52] **U.S. Cl.** **4/213**; 4/72; 4/217

[51] **Int. Cl.²**.. **A47K 3/22**; E03D 9/04; E03D 13/00

[58] **Field of Search** 4/209, 131, 213, 217, 214, 4/215, 72, 211, 216

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Primary Examiner—Henry K. Artis

Attorney, Agent, or Firm—John H. Widdowson

[57] **ABSTRACT**

An improved toilet stool having an annular conduit seat with intake openings in communication with the inside of the toilet bowl. The improvement being a ventilating means which comprises an adapter plate situated underneath a tank. The adapter plate has a structure defining a conduit which is in communication with the toilet bowl through the intake openings of the seat. A means is attached within the tank or underneath a compartment attached to the adapter plate and removes normally contaminated air from the inside of the toilet bowl through the intake openings and the conduit of the adapter plate for passing it either into the outside atmosphere through a means for conducting in communication therewith, or into the surrounding atmosphere after passage through a means for filtering. A switch means is connected within the adapter plate and is electrically operably connected to the means for removing. The toilet seat includes a rear protrusion member extending into the adapter plate, and a linkage member is provided connecting between the switch means and the protrusion member such that pressure exerted on the top of the seat causes the linkage member to operate the switch means to activate the means for removing.

21 Claims, 13 Drawing Figures

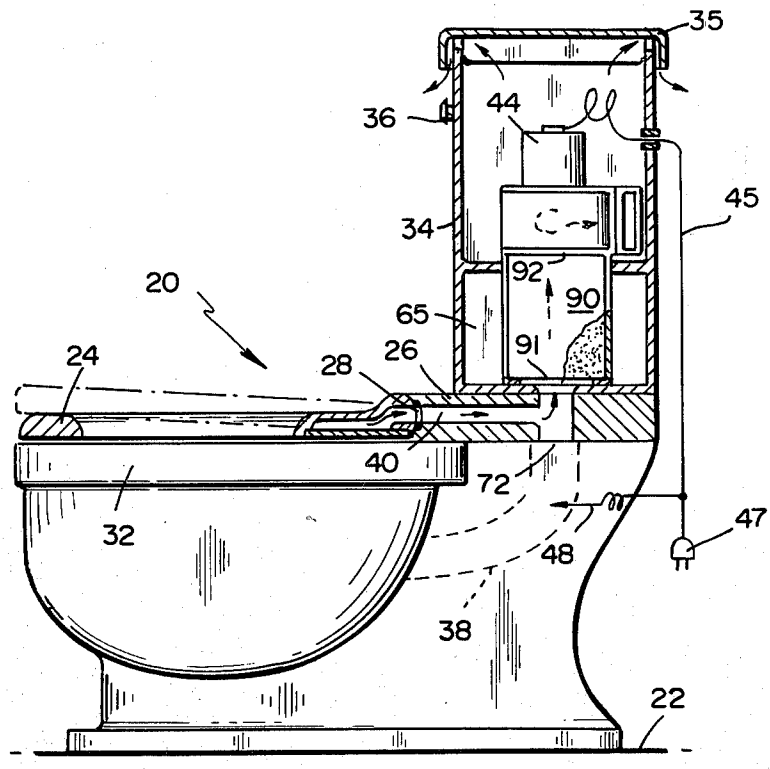


FIG. 1

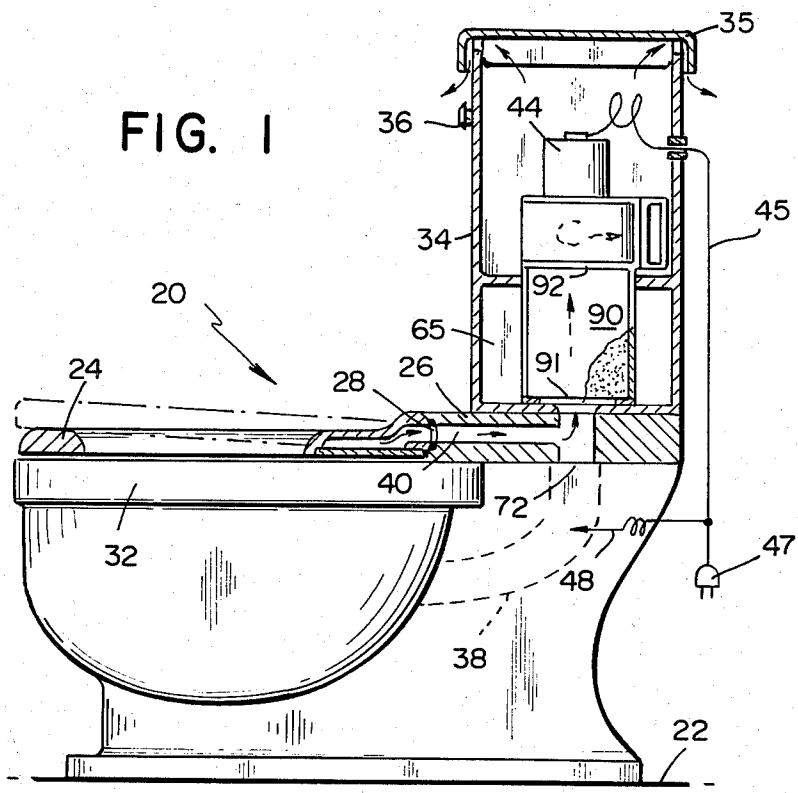


FIG. 6

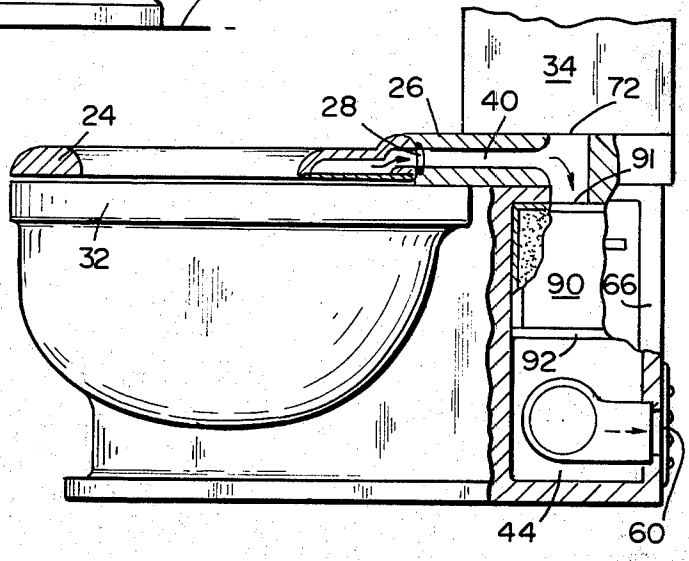


FIG. 2

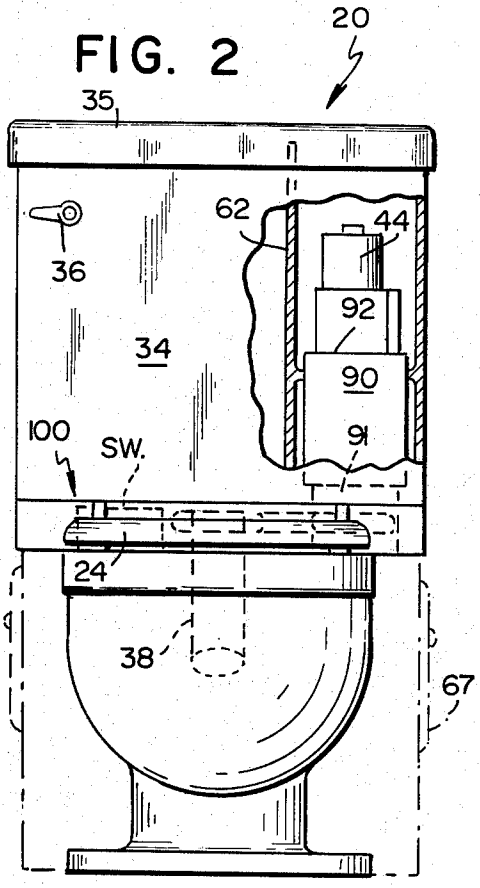


FIG. 5

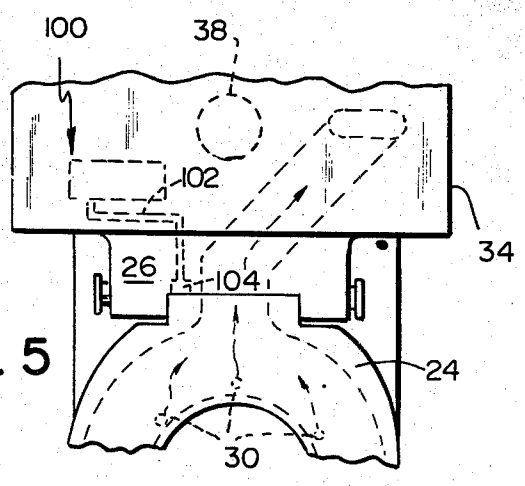
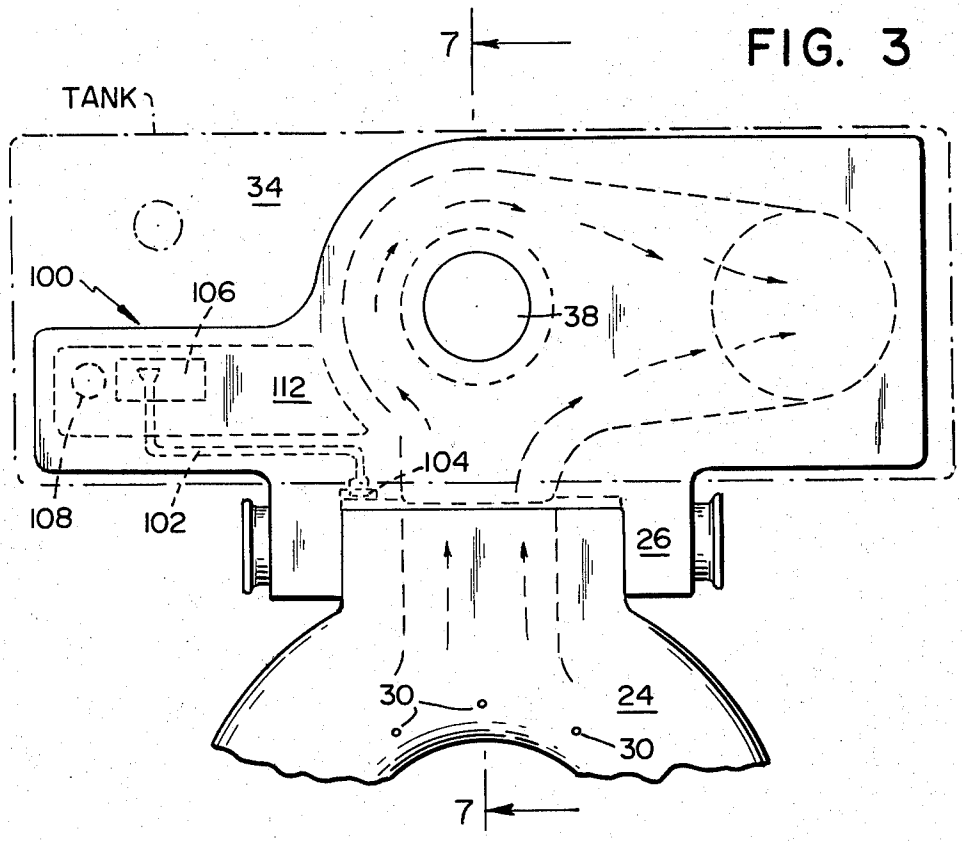


FIG. 3


7
TANK
34
100
106
38
112
104
108
102
26
30
24
30
7

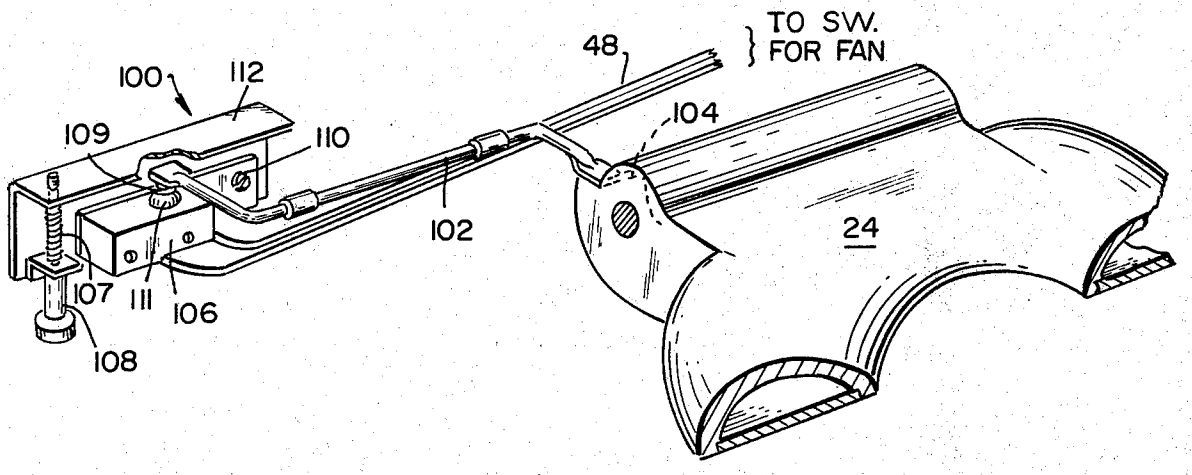

TO SW.
FOR FAN
48
100
112
104
109
110
102
24
107
111
106
108

FIG. 4

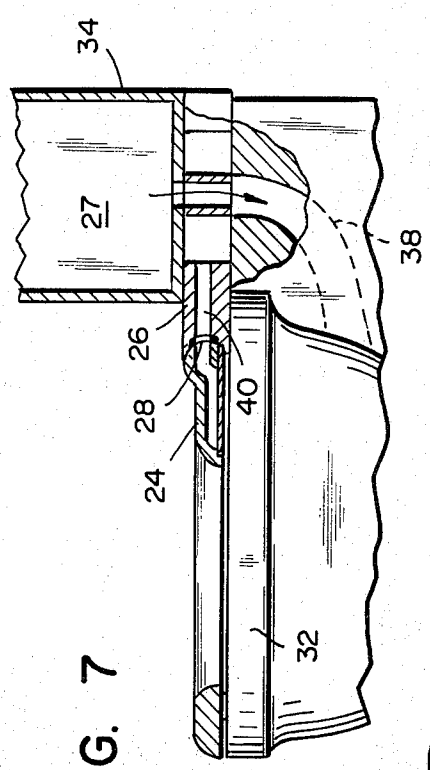


FIG. 7

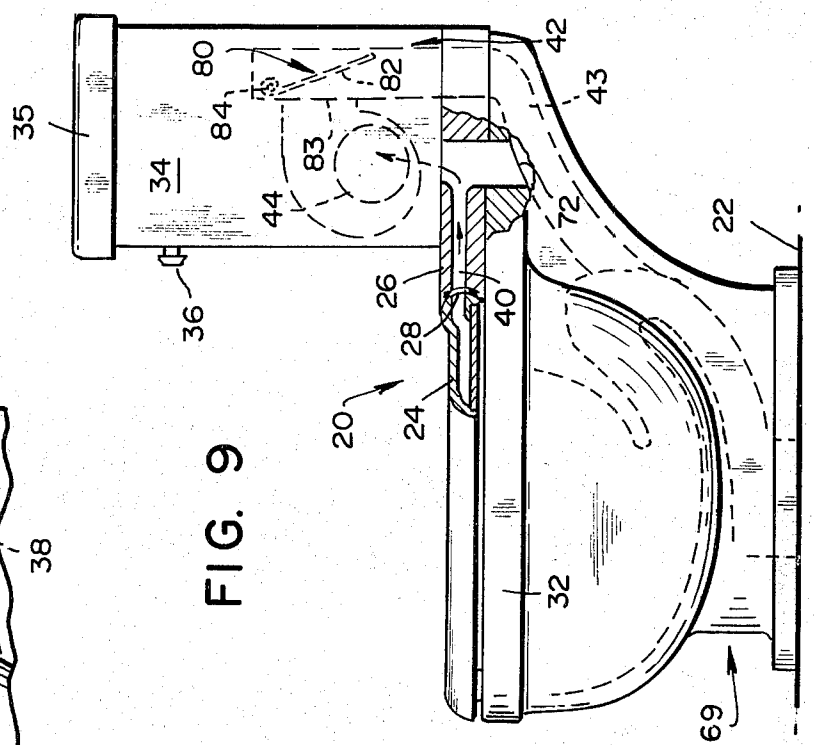


FIG. 9

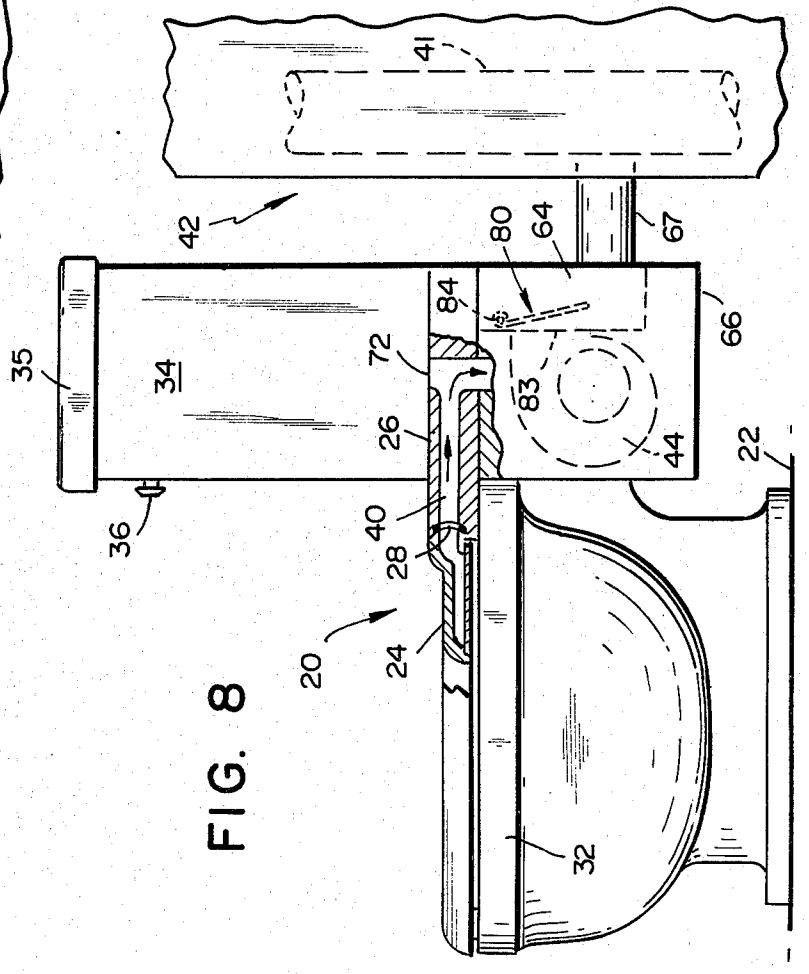


FIG. 8

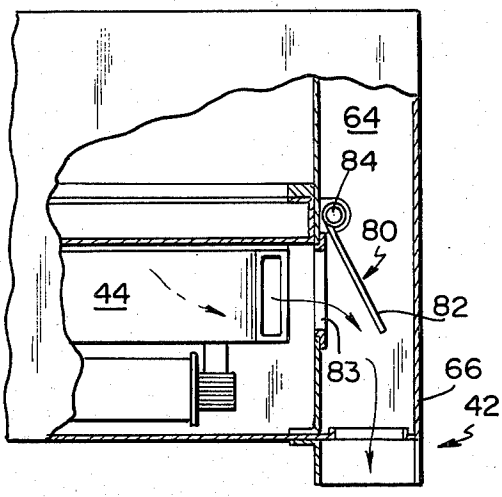


FIG. 10

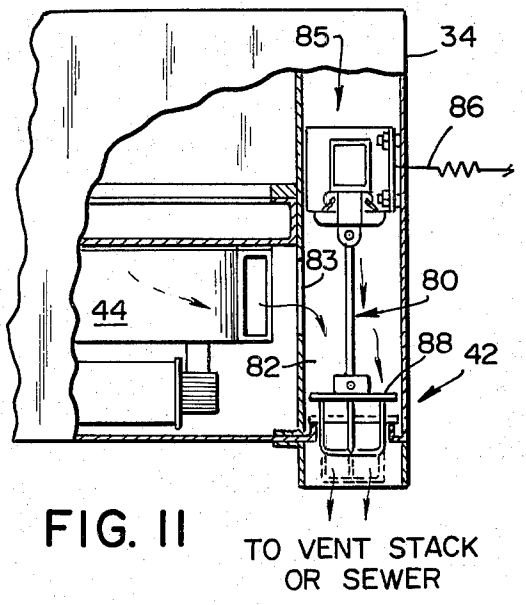


FIG. 11

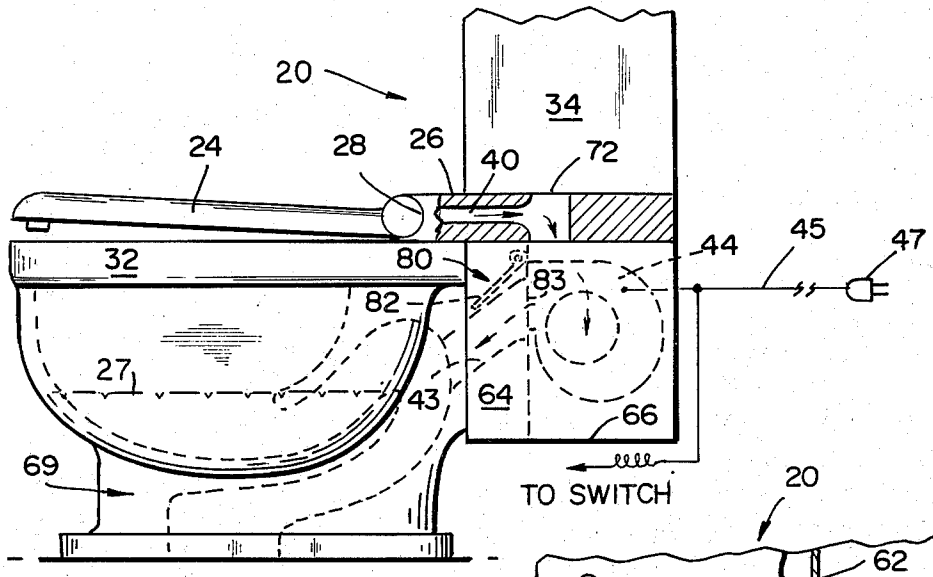


FIG. 13

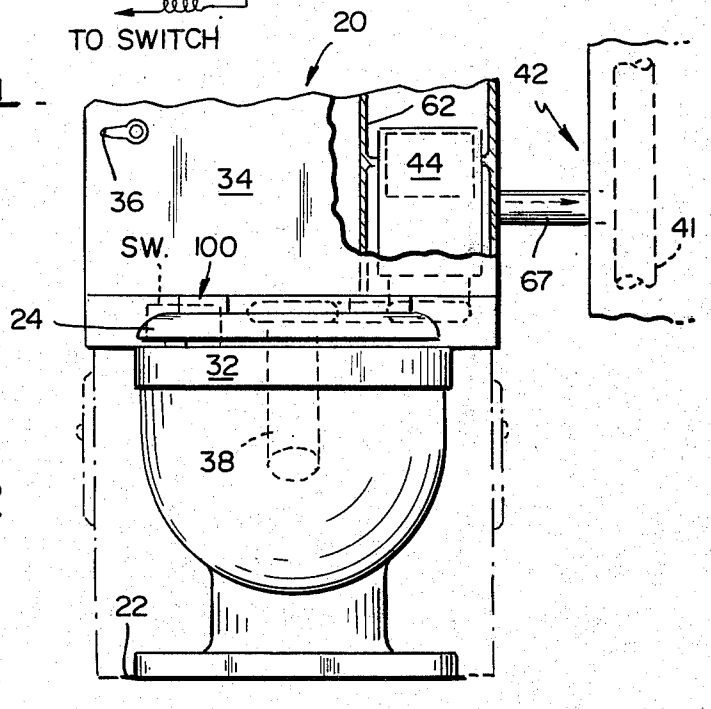


FIG. 12

TOILET STOOL VENTILATING MEANS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a toilet stool ventilating means. More specifically, this invention provides an improved toilet stool ventilating means which utilizes a switch means and a linkage member attached between the switch and a toilet seat such that pressure on top of the seat causes the linkage member to operate the switch.

2. Description of the Prior Art

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 specially 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 to 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. Therefore, what is needed and what has been invented by me is an improved toilet stool ventilating means without the foregoing deficiencies associated with the prior art.

SUMMARY OF THE INVENTION

The present invention accomplishes it desired objects by broadly providing an improved toilet stool mounted on a supporting surface and including a generally annular conduit having an exit aperture and intake openings in communication with the inside of the toilet bowl. The seat circumscribes the upper rim of the toilet bowl when in a lowered position. A tank is mounted on the toilet stool and includes a flushing liquid and means connected therein to supply the flushing liquid to the toilet bowl through a discharge conduit. The improvement is a ventilating means which comprises an adapter plate situated underneath the tank and having the conduit seat pivotally attached thereto. The adapter plate has a structure defining a conduit which is in communication with the toilet bowl through the intake openings of the seat. A means is attached within the tank or underneath a compartment attached to the adapter plate and removes normally contaminated air from the inside of the toilet bowl through the intake openings and the conduit of the adapter plate for passing the air either into the outside atmosphere through a means for conducting in communication therewith, or into the surrounding atmosphere after passage through a means for filtering. A switch means is connected within the adapter plate and is electrically operably connected to the means for removing. The toilet seat includes a rear protrusion member extending into the adapter plate and a linkage member is included within the switch means and connects with the protrusion member such that pressure exerted on the top of the seat causes the linkage member to operate the switch means to activate the means for removing.

It is therefore an object of this invention to provide an improved toilet stool ventilating means which overcomes the aforementioned disadvantages associated with prior art devices.

It is another object of this invention to provide an improved toilet stool ventilating means which can be used within a conventional toilet stool structure without substantially altering its appearance.

It is yet another object of this invention to provide an improved toilet stool ventilating means which may or may not utilize a filter, is easy to clean, and is also efficient and relatively economical to manufacture and operate.

These, together with various ancillary objects and features which will become apparent as the following description proceeds are obtained by this novel ventilating means for a toilet stool, a preferred embodiment being shown in the accompanying drawings, by way of example only, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a partial vertical sectional view of a toilet stool disclosing the filter element and the blower housed within the tank behind a watertight partition and in communication with a conduit in the adapter plate;

FIG. **2** is a front elevational view of the toilet stool of FIG. **1** having a cut away portion showing the watertight partition separating the filter element and the blower from the flushing liquid;

FIG. **3** is a partial top plan view of the toilet stool and tank disclosing in dashed lines the switch means, the linkage member and an embodiment of the adapter plate conduit being pieced by a flushing liquid discharge conduit;

FIG. **4** is an enlarged partial perspective view of the switch means, the toilet seat having a protrusion member, and the linkage member connecting the switch means with the protrusion member;

FIG. **5** is a partial top plan view of the toilet stool having the tank and the seat with the protrusion member and disclosing in dashed lines the switch means, the discharge conduit, and another embodiment of the adapter plate conduit;

FIG. **6** is a fragmentary vertical sectional view disclosing the filter element and blower housed within a compartment connected underneath the adapter plate;

FIG. **7** is a partial vertical sectional view taken along the line **7—7** in FIG. **3**;

FIG. **8** is a partial vertical sectional view disclosing the blower in communication with a conduit in the adapter plate and a vent stack and housed within a compartment attached underneath the adapter plate;

FIG. **9** is a partial vertical sectional view disclosing the blower housed within the tank behind a watertight partition and in communication with the conduit of the adapter plate and with the sewer below the toilet trap through a means for conducting having a means for preventing the backflow of contaminated air pivotally lodged therein;

FIG. **10** is a fragmentary vertical sectional view of the housed blower in communication with a conduit having

a plate member pivotally lodged therein and leading to either the vent stack or to the sewer beneath the toilet trap;

FIG. **11** is an elevational view of the housed blower in communication with a conduit having a solenoid anti-backflow valve lodged therein to prevent the backflow of contaminated air;

FIG. **12** is a front elevational view of the toilet stool of FIG. **9** disclosing the switch means and linkage member in dashed lines, and having a cut away portion showing the watertight partition separating the flushing liquid from the blower which is in communication with the vent stack; and

FIG. **13** is a fragmentary vertical sectional view disclosing the blower in communication with the conduit in the adapter plate and a vent stack and housed within a compartment attached underneath the adapter plate.

DETAILED DESCRIPTION OF THE INVENTION

Referring in detail now to the drawings, wherein similar or like parts of the invention are identified by like reference numerals, a toilet stool, generally illustrated as **20,** is mounted on a supporting surface **22** and has an annular conduit seat **24** horizontally and pivotally attached to an adapter plate **26,** and is essentially aligned therewith when the seat **24** is in a lowered position as shown in FIGS. **1, 2, 7, 8, 9,** and **12.** Conduit seat **24** has exit aperture **28** and intake openings **30** which are in communication with the inside of the toilet stool **20.** The seat **24** circumscribes an upper rim **32** of the toilet stool **20.** A tank **34** with lid **35** is mounted on top of adapter plate **26** and has a flushing liquid **27** and means **36** connected therein to supply the flushing liquid **27** from the tank **34** to the toilet stool **20** through a discharge conduit **38.** The adapter plate **26** has a conduit **40** which is in communication with exit aperture **28** and is sealed at **72.** The discharge conduit **38** pierces conduit **40** in FIGS. **4** and **7** such that the contaminated air being removed from the toilet stool **20** generally flows around the conduit **38.** The remaining figures disclose the discharge conduit **38** as being conventional and not piercing conduit **40.**

A means **44** for removing normally contaminated air from the inside of the toilet stool **20** is in communication with conduit **40.** Means **44** may be any suitable means but is preferably a blower and has a conductor **45** with a plug **47** attached thereto for insertion into a source of power (not shown in the drawings). Blower **44** removes the contaminated air from the inside of the toilet stool **20** and discharges it either into the outside atmosphere or into the surrounding atmosphere, depending on whether or not a housed filter element **90** (preferably charcoal) having an inlet **91** and an outlet **92** is utilized. FIGS. **1, 2** and **6** disclose a toilet stool **20** having filter element **90** in communication with conduit **40** and means or blower **44** attached to filter **90** for removing the normally contaminated air from the inside of the toilet stool **20** through the following: intake openings **30,** exit aperture **28,** conduit **40,** inlet **91,** filter **90,** and outlet **92,** in order stated, for deodorizing the air and passing it into the surrounding atmosphere through louvers **60** (see FIG. **6**) or underneath lid **35** (see FIG. **1**). For discharging the contaminated air into the outside atmosphere (as shown in FIGS. **8, 9, 12** and **13**), blower **44** is in communication with conduit **40** and removes the contaminated air from the stool **20** through intake openings **30,** exit aperture **28,** conduit **40,** and through a means for discharging, generally illustrated as **42.** Means **42** may be any suitable means but is preferably either a vent stack **41** or a conduit **43** leading to the sewer beneath a toilet trap, generally illustrated as **69.**

A switch means, generally indicated as **100,** is connected within adapter plate **26** and is electrically operably attached to blower **44** by conductor **48.** Switch means **100** may be any suitable switch (preferably a micro-switch means **106**) which is capable of closing an electrical circuit and additionally comprises a linkage member **102** pivotally lodging within the adapter plate **26.** Member **102** has one end in contact with a snap-action micro-switch means **106** (well known within the art) and the other end removably lodging upon a protrusion member **104** which is integrally bound to seat **24.** Pressure exerted on the top of seat **24** causes the linkage member **102** to operate the switch means **100** to activate the means for removing, blower **44.** Switch means **100** additionally includes (see FIG. **4**) switch bracket assembly **112,** a screw **108** having a spring **107** and a pivot screw **110** for switch adjustment.

Snap-action micro-switch **106,** as aforementioned, is well known within the art, and comprises a plunger **109** slidably lodged within a sleeve **111** and a spring (not shown in the drawings) for upwardly biasing the plunger **109** against the linkage member **102.** A contact bar (not shown in the drawings) is pivotally fastened within the switch means **106** and is pivoted against a micro-switch (not shown in the drawings) by the downward force of the plunger **109** and causes the circuit to be closed activating the blower **44.**

The location of means (or blower) **44,** or the combination of blower **44** and filter **90,** each includes two preferred embodiments. FIGS. **8** and **13** disclose an embodiment showing the blower **44** removably housed in a compartment **66** which is attached underneath the adapter plate **26.** FIGS. **9** and **12** disclose another embodiment showing the blower **44** removably housed in the tank **34.** A watertight partition **62** is attached to the internal sides of the tank **34** to prevent the blower **44** from being inundated with flushing liquid **27.** Both embodiments discharge contaminated air either into a vent stack **41** via a compartment **64** and a conduit **67,** or into the sewer (not shown in the drawings) underneath the toilet trap, generally indicated as **69,** via conduit **43.** FIGS. **1** and **2** disclose an embodiment of the combination of filter element **90** and blower **44** having the filter **90** and blower **44** removably housed in the tank **34.** A watertight partition **62** is also attached in this embodiment to the internal walls of the tank **34** to prevent the filter **90** and the blower **44** from also being inundated with the flushing liquid **27.** Filter **90** is lodged within compartment **65.** FIG. **6** discloses another embodiment of the combination having the filter **90** and the blower **44** removably housed within the compartment **66** which, as was previously mentioned, is attached underneath the adapter plate **26** and has a door **67.** One embodiment of the combination discharges purified air from underneath the lid **35** (see FIG. **1**) while the other embodiment discharges purified air into the surrounding atmosphere through louvers **60** (see FIG. **6**).

Means for conducting **42** additionally includes a means for preventing **80** the backflow of contaminated air which is connected therein in proximity to the means for removing **44.** Means for preventing **80** may

be any suitable means but is preferably a plate member **82** as shown in FIG. **10** which is pivotally connected to the means for conducting **42** and is contiguously situated to a point **83** where the means for removing **44** connects with the means for conducting **42** such as to entirely block the point **83** to prevent the backflow of the contaminated air. The plate member **82** is normally biased in a closed position by a spring **84** loaded at the pivot point. Air pressure caused by blower **44** opens plate **82** to allow the passage of contaminated air. Means for preventing **80,** as shown in FIG. **11,** may also be a solenoid valve, generally indicated as **85,** electrically connected to the switch means **46** via a conductor **86.** Solenoid valve **85** includes a shaft **87** and a stopper **88** and when pressure is exerted on the top of the seat **24** the switch means **100** opens the stopper **88** of solenoid **85** to allow the passage of the normally contaminated air from the means for removing **44** through the means for conducting **42** and into the outside atmosphere. The plate member **82** is the most preferred means because of the cost element and ease of maintenance.

The two preferred aforementioned means for preventing, **80** and **85,** as well as any suitable means for preventing **80,** may be utilized in any of the previously mentioned embodiments. For example, blower **44** is removably situated in compartment **66** having conduit **38** piercing conduit **40** of adapter plate **26** (see FIGS. **3** and **7**), or with conduit **38** not piercing conduit **40** (see FIG. **5**), may have plate **82** or solenoid **85** to prevent the backflow of contaminated air when blower **44** discharges the contaminated air into the outside atmosphere via vent stack **41** (see FIG. **8**) or via conduit **43** to toilet trap **69** (see FIG. **13**). Similarly, blower **44** in tank **34** having conduit **38** piercing conduit **40** (or having the conventional discharge of FIG. **5**) may also have plate **80** or solenoid **85** to prevent the backflow of contaminated air when blower **44** blows the contaminated air through vent stack **41** as shown in FIG. **12** (or through conduit **43** to toilet trap **69** as shown in FIG. **9**) for discharge into the outside atmosphere.

With continual reference to the drawings for operation of the invention, seat **24** (normally biased upward by a spring which is not shown in the drawings) when used is lowered such that protrusion member **104** causes the linkage member **102** to be pivoted against plunger **109** and drive it against the contact bar which further causes the micro-switch to close the electrical circuit on conductors **48** and **45** and activate the blower **44.** When operating, depending on which of the aforementioned embodiments are used, blower **44** creates a vacuum through conduit **40** such that contaminated air is either passed through the filter element **90,** or passed into the outside atmosphere through a discharge means **42.** If the air is passed through the filter element **90** via intake openings **30** and conduit **40,** the purified air egresses through outlet **92** and is blown into the surrounding atmosphere by blower **44** either through louvers **60** (see FIG. **6**) or underneath lid **35** (see FIG. **1**). If the contaminated air is to passed into the outside atmosphere, then the contaminated air within stool **20** is sucked through intake openings **30,** through conduit **40,** and into the blower **44** from where it is discharged either into vent stack **41** via compartment **64** and conduit **67,** or into the sewer situated underneath the toilet trap **69** via conduit **43.** Discharge conduit **38** is contiguously situated with respect to conduit **43.** Blower **44** is positioned either in compartment **66** or tank **34.** The anti-backflow means **80** in preventing the flow back of contaminated air may be either spring biased plate member **82** or solenoid valve **85.** If solenoid valve **85** is utilized, then when pressure is applied on top of seat **24** to cause the linkage member **102** to be pivoted against plunger **109** and drive it against the contact bar to cause the micro-switch to close the circuit on conductors **48** and **45,** the solenoid valve **85** is simultaneously caused to be open by the closing of the electrical circuit on the conductor **86** which is electrically connected to conductors **48** of switch means **100.**

The path which is normally contaminated air takes to the blower **44** depends on whether the embodiment of FIG. **3** or FIG. **5** is used. The embodiment of FIG. **5** discloses the discharge conduit **38** as not piercing the conduit **40.** Discharge conduit **38** pierces conduit **40** in the embodiment of FIG. **3** and contaminated air is swirled around conduit **38.**

After pressure is released from the top of seat **24,** it is upwardly biased by a spring (not shown in the drawings), such that protrusion member **104** and an end of linkage member **102** resting thereon travel downward and cause the opposite end of linkage member **102** to be pivoted off the plunger **109.** This, in turn, causes the spring within switch **106** to upwardly bias the plunger **109** away from the contact bar to open the electrical circuits on conductors **48** and **45** (and **86** if the solenoid **85** is used) and deactivate the blower **44** (and solenoid **85**).

While the present invention has been described herein with reference to particular embodiments thereof, a latitude of modification, various changes and substitutions are intended in the foregoing disclosure, and in some instances some features of the invention will be employed without a corresponding use of other features without departing from the scope of the invention as set forth.

We claim:

1. An improved toilet stool mounted on a supporting surface and including a generally annular conduit seat having an exit aperture and intake openings in communication with the inside of the toilet bowl, said seat circumscribing the upper rim of said toilet bowl when in a lowered position, a tank supported on a rearwardly extending portion of said toilet stool behind said toilet bowl, having a flushing liquid and means connected therein to supply the fluishing liquid to the toilet bowl through a discharge conduit, the improvement being a ventilating means which comprises:

a. an adapter plate situated underneath said tank and having said conduit seat pivotally attached to the rear thereof, being essentially aligned therewith when said seat is in a lowered position, and including a structure defining a conduit which is in fluid communication with said exit aperture of said seat, said seat including a rear protrusion member extending into said adapter plate in proximity to said exit aperture, said conduit of said adapter plate having the outlet thereof substantially spaced from said toilet bowl to one side and opening at a point underneath an end portion of said tank,

b. means for conducting normally contaminated air into the outside atmosphere,

c. means for removing said normally contaminated air from the inside of said toilet bowl through said

intake openings, said exit aperture, said conduit of said adapter plate, in order stated, for passing it through said means for conducting into the outside atmosphere, said means for removing being in fluid communication with said means for conducting, and

d. a switch means electrically operably connected to said means for removing, said switch means having a linkage member pivotally lodging within said adapter plate and having a first end in contact with said switch means and a second end removably lodging upon said protrusion member such that pressure exerted on top of said seat causes said linkage member to operate said switch means to activate said means for removing.

2. The ventilating means of claim **1** wherein said discharge conduit pierces said conduit of said adapter plate such that contaminated air being removed from said toilet bowl generally glows around said discharge conduit.

3. The ventilating means of claim **3** wherein said tank additionally includes a watertight partition uprightly attached to the internal sides of said tank, and said means for removing contaminated air are removably lodged within said tank, said partition separating said flushing liquid from said means for removing.

4. The ventilating means of claim **2** additionally including a compartment attached underneath said adapter plate wherein said means for removing removably lodges.

5. The ventilating means of claim **3** wherein said means for conducting comprises a second conduit connecting said means for removing with the sewer below the toilet trap, and wherein said means for conducting additionally includes a means for preventing the backflow of contaminated air, said means for preventing being connected within said second conduit in proximity to said means for removing.

6. The ventilating means of claim **5** wherein said means for preventing comprises a plate member pivotally connected to said conducting and contiguously situated to the point where said means for removing connects with said means for conducting such as to entirely block said point to prevent the backflow of contaminated air, said plate member being normally biased in a closed position by a spring loaded at the pivot point.

7. The ventilating means of claim **5** wherein said means for preventing comprises a solenoid valve electrically connected to said switch means such that pressure exerted on the top of said seat operates said switch means to open said solenoid valve to allow the passage of said normally contaminated air from said means for removing through said means for conducting.

8. The ventilating means of claim **3** wherein said means for conducting comprises a vent stack connected to said means for removing for passing said normally contaminated air into the outside atmosphere, and said means for conducting additionally includes a means for preventing the backflow of contaminated air, said means for preventing being connected within said vent stack in proximity to said means for removing.

9. The ventilating means of claim **8** wherein said means for preventing comprises a plate member pivotally connected to said means for conducting and contiguously situated to the point where said means for removing connects with said means for conducting such as to entirely block said point to prevent the backflow of contaminated air, said plate member being normally biased in a closed position by a spring loaded at the pivot point.

10. The ventilating means of claim **8** wherein said means for preventing comprises a solenoid valve electrically connected to said switch means such that pressure exerted on the top of said seat operates said switch means to open said solenoid valve to allow passage of said normally contaminated air from said means for removing through said means for conducting.

11. The ventilating means of claim **4** wherein said means for conducting comprises a vent stack connected to said means for removing for passing said normally contaminated air into the outside atmosphere, and said means for conducting additionally includes a means for preventing the backflow of contaminated air, said means for preventing being connected within said vent stack in proximity to said means for removing.

12. The ventilating means of claim **11** wherein said means for preventing comprises a plate member pivotally connected to said means for conducting and contiguously situated to the point where said means for removing connects with said means for conducting such as to entirely block said point to prevent the backflow of contaminated air, said plate member being normally biased in a closed position by a spring loaded at the pivot point.

13. The ventilating means of claim **11** wherein said means for preventing comprises a solenoid valve electrically connected to said switch means such that pressure exerted on the top of said seat operates said switch means to open said solenoid valve to allow passage of said normally contaminated air from said means for removing through said means for conducting.

14. The ventilating means of claim **4** wherein said means for conducting comprises a second conduit connecting said means for removing with the sewer below the toilet trap, and said means for conducting additionally includes a means for preventing the backflow of contaminated air, said means for preventing being connected within said second conduit in proximity to said means for removing.

15. The ventilating means of claim **14** wherein said means for preventing comprises a plate member pivotally connected to said means for conducting and contiguously situated to the point where said means for removing connects with said means for conducting such as to entirely block said point to prevent the backflow of contaminated air, said plate member being normally biased in a closed position by a spring loaded at the pivot point.

16. The ventilating means of claim **14** wherein said means for preventing comprises a solenoid valve electrically connected to said switch means such that pressure exerted on the top of said seat operates said switch means to open said solenoid valve to allow the passage of said normally contaminated air from said means for removing through said means for conducting.

17. An improved toilet stool mounted on a supporting surface and including a generally annular conduit seat having an exit aperture and intake openings in communication with the inside of the toilet bowl, said seat circumscribing the upper rim of said toilet bowl when in a lowered position, a tank supported on a rearwardly extending portion of said toilet stool behind said toilet bowl, having a flushing liquid and means connected therein to supply the flushing liquid to the toilet

bowl through a discharge conduit, the improvement being:

a. a ventilating means which comprises an adapter plate situated underneath said tank and having said conduit seat pivotally attached thereto and including a structure defining a conduit which is in communication with said exit aperture of said seat, said conduit of said adapter plate having the outlet thereof substantially spaced from said toilet bowl to one side and opening at a point underneath an end portion of said tank,

b. a housed filter element having an outlet and an inlet, said filter element inlet being in fluid communication with said outlet of said conduit of said adapter plate, and

c. means attached to said filter for removing normally contaminated air from the inside of said toilet bowl through said intake openings, said exit aperture, said conduit of said adapter plate, said inlet and said filter element, in order stated, for deodorizing said normally contaminated air and passing it into the surrounding atmosphere, and

d. switch means connected within said adapter plate and electrically operably connected to said means for removing such that pressure exerted on the top of said seat operates said switch means to activate said means for removing.

18. The ventilating means of claim **17** wherein said adapter plate is horizontally attached to the rear of said seat and is essentially aligned therewith when said seat is in a lowered position, said seat including a rear protrusion member extending into said adapter plate in proximity to said exit aperture, said switch means additionally comprises a linkage member pivotally lodging within said adapter plate and having a first end in contact with said switch means and a second end removably lodging upon said protrusion member such that pressure exerted on the top of said seat causes said linkage member to operate said switch means to activate said means for removing.

19. The ventilating means of claim **18** wherein said discharge conduit pierces said conduit of said adapter plate such that contaminated air being removed from said toilet bowl generally flows around said discharge conduit.

20. The ventilating means of claim **17** wherein:

a. said tank additionally includes a watertight partition uprightly attached to the internal sides of said tank,

b. said filter and said means for removing contaminated air are removably lodged within said tank, said partition separating said flushing liquid from said filter element and said means for removing.

21. The ventilating means of claim **17** additionally including a compartment attached underneath said adapter plate wherein said filter element and said means for removing removably lodge.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 3,913,150

DATED : October 21, 1975

INVENTOR(S) : Clarence E. Poister, Philip A. Tyrrell, Walter D. Hodge

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 39, delete "pieced" and insert therefor ---pierced---.

Column 6, line 14, delete "is" and insert therefor ---the---.

Column 7, line 19, Claim 2, delete "glows" and insert therefor ---flows---;

line 22, Claim 3, delete "3" and insert therefor ---2---.

Signed and Sealed this

twenty-seventh Day of *January 1976*

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks