

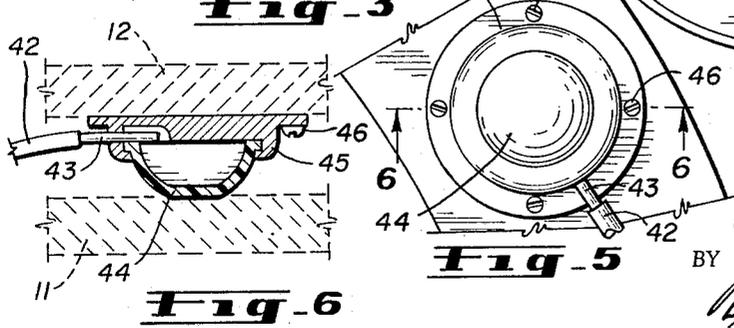
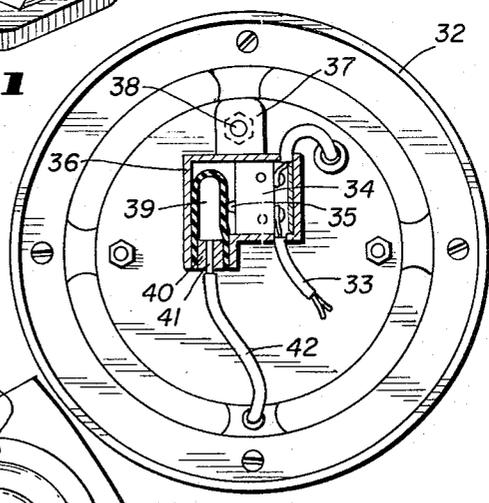
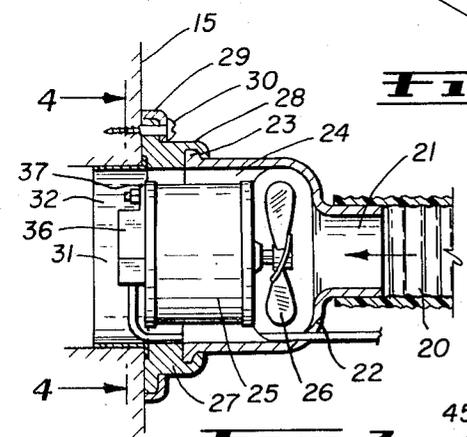
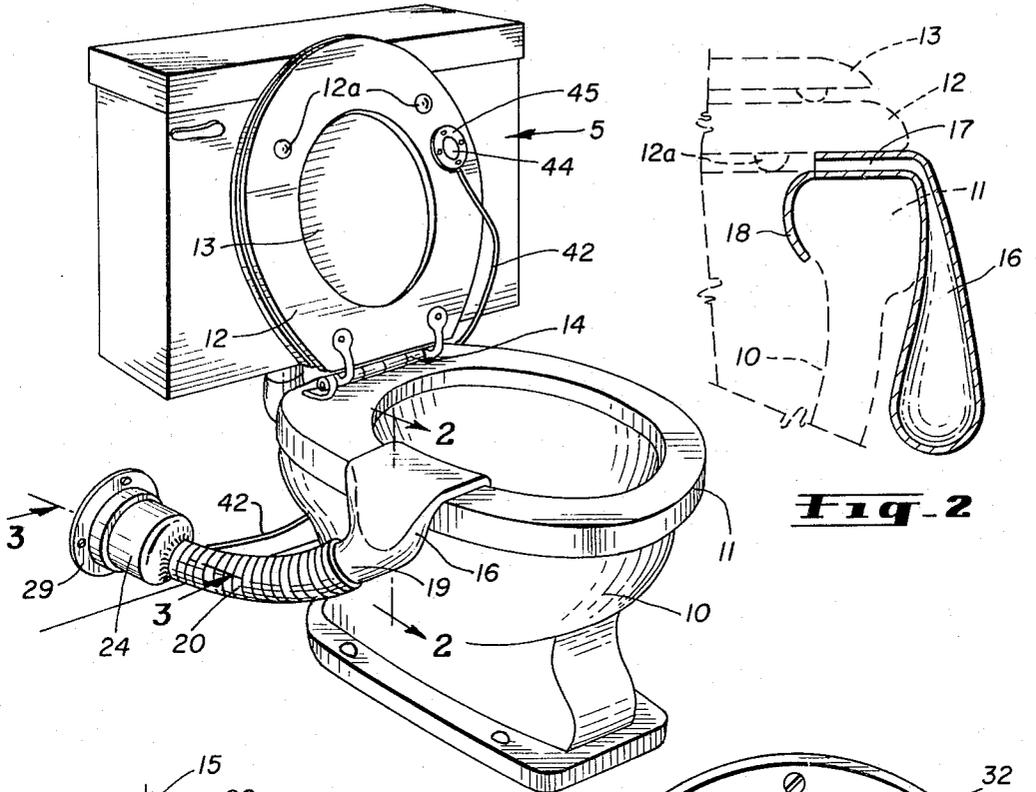
Jan. 3, 1967

G. MEYER

3,295,147

TOILET STOOL VENTILATING DEVICE

Filed April 24, 1964



INVENTOR.  
GUSTAVE MEYER  
BY *[Signature]*  
ATTORNEY

1

3,295,147

**TOILET STOOL VENTILATING DEVICE**

Gustave Meyer, Fort Morgan, Colo., assignor to Meyer Products, Inc., Fort Morgan, Colo., a corporation of Colorado

Filed Apr. 24, 1964, Ser. No. 362,293

1 Claim. (Cl. 4-213)

This invention relates to a toilet stool ventilating device and has for its principal object the provision of an electrically-operated ventilator which can be quickly and easily applied to a conventional toilet stool without requiring any changes in the latter and which will draw air from the stool and discharge it into any convenient wall stack.

Another object of the invention is to provide an electrically-operated stool ventilating device which will be automatically controlled by weight upon the stool and which will have no electrical connections of any type to the stool which might cause electrical hazard.

A further object is to provide a highly efficient stool ventilating device which will require a minimum of skill and tools for installation and which can be economically manufactured and sold.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is made to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

FIG. 1 is a perspective view of a conventional toilet stool in the open position illustrating the invention in place thereon;

FIG. 2 is an enlarged cross section taken on the line 2-2, FIG. 1;

FIG. 3 is a similarly enlarged cross section taken on the line 3-3, FIG. 1;

FIG. 4 is a still further enlarged cross section taken on the line 4-4, FIG. 3;

FIG. 5 is a similarly enlarged, detail, bottom view of a ventilator actuating button employed with the device as from the indicated arrow at FIG. 1; and

FIG. 6 is a cross section through the button taken on the line 6-6, FIG. 5.

In the drawing, a conventional toilet stool is indicated at 10 with its rim at 11, seat at 12, and lid at 13 hingedly mounted thereon by means of the usual rear hinge 14.

The seat 12 may include two or more conventional spacer buttons 12a, and is preferably of a type which is arranged, by use of the spacer buttons 12a and an offset construction of the hinge 14, to rest a short distance above the rim 11. This construction, conventionally used, provides for a space between rim 11 and seat 12 wherein components of the invention will be placed, as will be hereafter explained.

The room wall at the rear of the stool is indicated at 15. This invention is designed to draw air from between the stool rim 11 and the seat 12 and discharge the air through the wall 15 into any suitable receiving stack within the wall.

The invention comprises an intake nozzle 16 preferably molded from plastic material such as polystyrene. The nozzle is formed with a relatively thin, elongated, upper intake portion 17 having a vertical thickness to fit between the seat 12 and the bowl rim 11. The portion 17 of the nozzle terminates in an inner, downwardly extending tab 18 adapted to be hooked about and fitted against the internal surface of the stool rim 11. The

2

outer portion of the nozzle extends downwardly and is reduced in width as it descends terminating in an angularly positioned hose nipple 19 upon which one extremity of a flexible hose 20 is mounted. The hose is preferably formed from clear plastic in which a metallic reinforcing spring is imbedded.

The other extremity of the hose is slipped over a receiving nipple 21 formed on the forward extremity of a motor housing 22. The motor housing is preferably formed or molded from plastic such as high density polyethylene and terminates in an outwardly extending annular base flange 23 and with internal ribs 24 for slidably engaging and frictionally retaining an electric motor 25 in place in the housing. The motor is provided with a suction fan 26 designed to draw air through the hose 20.

The motor housing is held in place on the wall 15 by means of an annular, flexible, mounting ring 27 having an internal annular groove for resiliently receiving the flange 23 of the housing 22. The mounting ring 27 is preferably formed of flexible vinyl plastic and is provided with a wall flange 28 which is clamped to the wall by means of a right high density polyethylene clamp ring 29 through which attachment screws 30 pass for clamping the wall flange of the mounting ring 27 against the wall.

The motor housing 22 can be quickly and easily removed for repairs or inspection by simply flexing the flexible mounting ring 27 away from the flange 23 of the housing. Before installing the device, a vent opening 31 is cut in the wall 15 into which an annular mounting sleeve 32 is inserted. The opening 31 can be connected to any suitable stack or riser within the wall or can pass completely through the latter if desired. It can be seen that when the motor 25 is operated, air will be continuously drawn from the bowl 10 and discharged into the wall 15.

Electricity is fed to the motor 25 through motor leads 33. A micro switch 34 of a type operable through the medium of a press button 35, is placed in series between the leads 33 and the motor. The microswitch 34 is mounted in a switch housing 36 secured on the rear of the motor 25 through the medium of an attachment ear 37 and the conventional motor bolts 38. A flexible, pneumatically-expandable bulb 39 is mounted in the housing 36 in contact with the press button 35 of the switch 34. The bulb is sealed in the housing through the medium of a sealing gasket 40 from which a hose nipple 41 projects to receive a pneumatic hose 42, which leads through a second nipple 43 to the interior of a pneumatic pressure switch which is secured beneath the seat 12 preferably on the side opposite to the nozzle 16. The pressure switch comprises a semi-cylindrical, flexible, vinyl plastic semi-spherical ball 44 mounted in and sealed to an annular base 45 which is secured beneath the seat 12 by means of suitable attachment screws 46. The ball 44 serves as a support for the seat 12 to maintain it in a slightly raised position over the portion 17 of the nozzle 16.

It can be seen that if weight is placed upon the seat 12, the ball 44 will be compressed so as to compress air through the hose 42 to the bulb 39 causing the latter to expand. Expansion of the bulb depresses the press button 35 of the switch 34 starting operation of the motor 25. Relief of pressure on the seat 12 immediately reduces the pneumatic pressure in the bulb 39 allowing the switch 34 to open the circuit to stop operation of the motor.

While a specific form of the invention has been described and illustrated herein, it is to be understood that the same may be varied within the scope of the appended claims, without departing from the spirit of the invention.

3

Having thus described the invention what is claimed and desired to be secured by Letters Patent is:

In the combination with a wall section having a ventilating stack therein and a toilet stool having a seat hingedly mounted above the rim of the stool with a short space between the rim and seat when the seat is upon the rim, an automatic ventilating apparatus operable responsive to the weight of an individual seated upon the stool; and comprising:

- (a) a suction nozzle having a flattened intake with a downturned bottom edge and being adapted to be secured upon the toilet rim with the intake lying between the rim and seat and the downturned edge gripping the stool wall below the rim; 10
- (b) a wall flange mounted to the wall and having a passageway therein to the ventilating stack; 15
- (c) a conduit from the suction nozzle to the wall flange;
- (d) a blower means within the conduit including a normally open switch adapted to create a suction

4

air flow from the nozzle to the stack whenever the switch is closed;

(e) a pressure bulb adjacent to the switch adapted to expand to close the same;

(f) a pressure ball at the underside of the seat lid adapted to be compressed between the lid and the seat rim by the weight of a person thereon; and

(g) a hose connecting the ball and bulb to convey the pressure effect of the ball, when compressed, to the bulb.

#### References Cited by the Examiner

##### UNITED STATES PATENTS

2,309,885	2/1943	Carman	-----	4-213
2,747,201	5/1956	Herriott	-----	4-213
3,120,665	2/1964	Kirkland	-----	4-213

SAMUEL ROTHBERG, *Primary Examiner.*

L. D. GEIGER, H. J. GROSS, *Assistant Examiners.*