Dec. 20, 1955 L. P. KOCHERT 2,727,249

TOILET VENTILATOR

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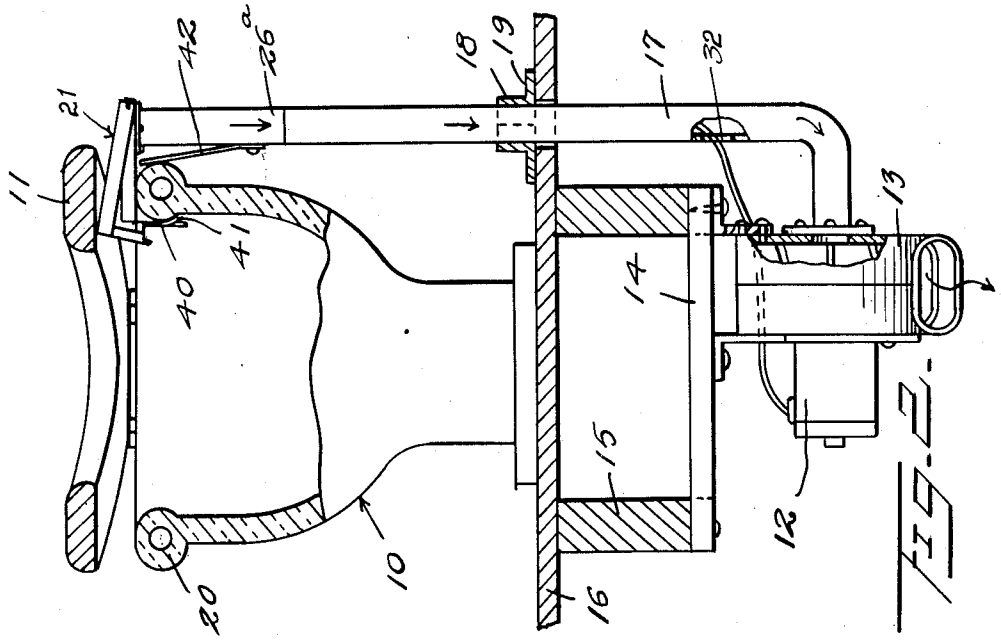


FIG. 2.

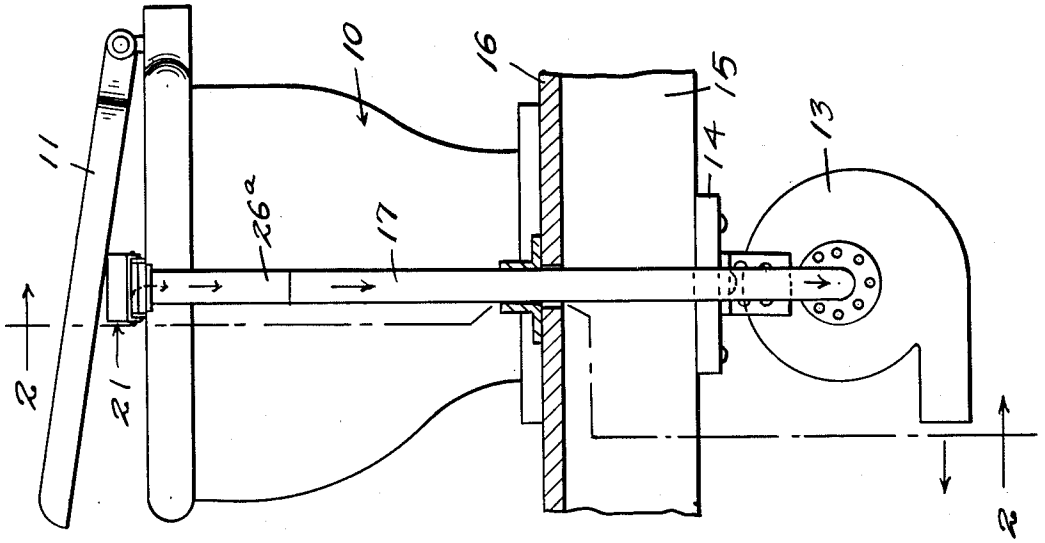


FIG. 1.

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FIG. 3.

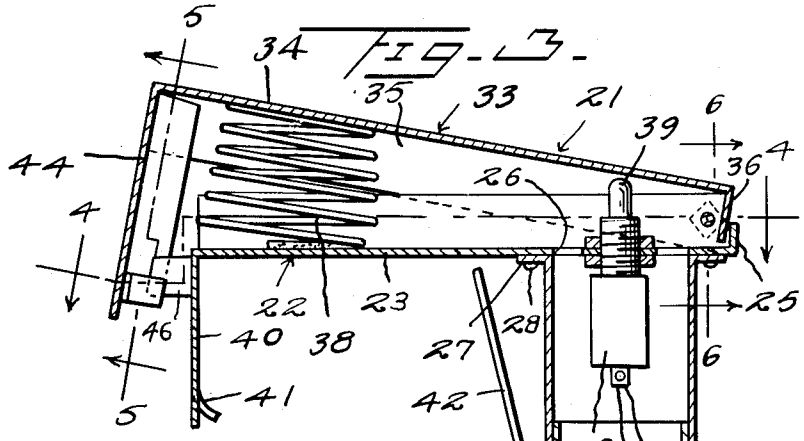


FIG. 7.

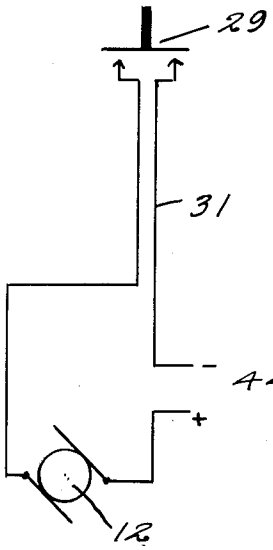


FIG. 4.

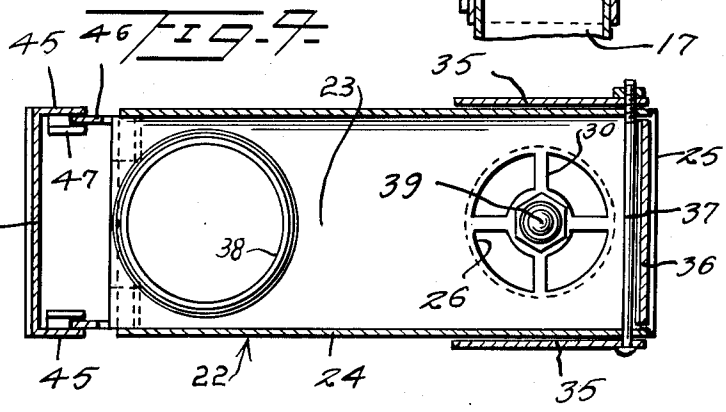


FIG. 5.

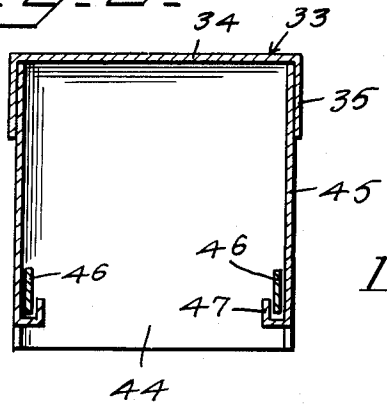
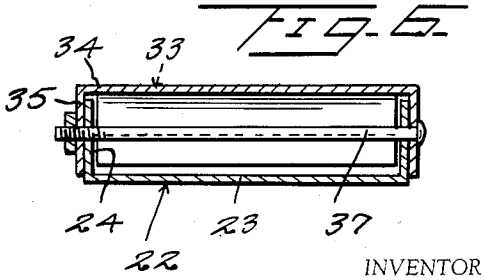


FIG. 6.



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TOILET VENTILATOR

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Application October 31, 1952, Serial No. 317,949
2 Claims. (Cl. 4—213)

This invention relates to a toilet ventilating means.

An object of this invention is to provide a ventilating means for mounting on a toilet bowl which is normally inactive and is set in operation by depressing of the toilet seat.

Another object of this invention is to provide a suction nozzle which is formed with a spring-pressed cap which is adapted upon downward movement thereof to close a normally open switch for withdrawing foul air during the time that the seat is depressed.

A further object of this invention is to provide a ventilating means of this kind which can be easily attached to any toilet bowl and can be easily removed for cleaning.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings—

Figure 1 is a detailed side elevation, partly in section, of a toilet bowl having a ventilator constructed according to an embodiment of this invention mounted thereon,

Figure 2 is a sectional view taken on the line 2—2 of Figure 1,

Figure 3 is a fragmentary vertical section of the intake nozzle of the device,

Figure 4 is a sectional view taken on the line 4—4 of Figure 3,

Figure 5 is a sectional view taken on the line 5—5 of Figure 3,

Figure 6 is a sectional view taken on the line 6—6 of Figure 3,

Figure 7 is a diagrammatic view showing the electric circuit embodied in this invention.

Referring to the drawings, the numeral 10 designates generally a toilet bowl having a hinged seat 11 mounted thereon.

In order to provide a means whereby the interior of the bowl 10 may be ventilated, I have provided a suction means, including an electric motor 12 having a blower 13 connected therewith. The motor 12 and blower 13 are secured to a supporting member 14 extending between floor beams 15 which support a floor 16 on which the bowl 10 is mounted.

The suction side of the blower 13 has a suction pipe 17 extending upwardly therefrom, and pipe 17 extends through a bushing 18 having a flange 19 secured to the upper side of the floor 16. The upper end of the pipe 17 terminates at substantially the upper edge of the rim 20 of the bowl 10 and a suction nozzle generally designated as 21 is mounted on the upper end of the suction pipe 17.

The suction nozzle 21 is formed of a substantially U-shaped housing 22 having a bottom wall 23 and vertical side walls 24, with an outer end wall 25. The housing 22 is formed with an opening 26, and a nipple 26*a* depends from bottom wall 23 and telescopes over the upper end of the suction pipe 17, the nipple 26*a* being formed with

an upper annular flange 27 which is secured by any suitable means 28 to the bottom wall 23 of the housing 22.

A normally open spring-pressed switch 29 is supported centrally of the opening 26 by means of a spider 30, and switch 29 is connected by means of conductors 31 to the motor 12 and to a source of electric current supply. The conductors 31 extend downwardly through the suction pipe 17 and are then passed through an opening 32 formed in the pipe 17 below the floor 16.

A spring-pressed cap generally indicated at 33 is pivotally mounted on the housing 22 and is formed of a top wall 34 with depending longitudinal flanges 35 adapted to telescope over the flanges or side walls 24 of housing 22. The cap 33 is also formed with an outer end wall 36 engaging interiorly of the end wall 25, and a pivot bolt or pin 37 extends through the side walls 24 and the flanges 35.

A spring 38 is interposed between the bottom wall 23 of housing 22 and the top wall 34 of cap 33, and is adapted to normally move cap 33 upwardly to a normally inoperative position, whereby the switch button 39 may be raised to a circuit breaking position. Housing 22 is formed at its inner end with a vertical wall 40, and a pair of downwardly and outwardly extending clamping fingers 41 are struck from the wall 40 and are adapted to engage partly about the inner side of the rim 20 of the bowl 10.

An elongated spring 42 is secured by fastening means 43 to the inner side of nipple 26*a* and is adapted to engage the outer side of the rim 20, as shown in Figure 2, so as to yieldably hold the nozzle 21 on the rim of the bowl. The inner end of the cap 33 is provided with a right angular and depending wall 44, and outwardly projecting flanges 45 extend from the wall 44. A pair of stop lugs 46 extend inwardly of the bowl 10 from the vertical edges of the inner wall 40, and a pair of upwardly directed hooks 47 are carried by the side walls or flanges 45 and are adapted when the cap 33 is raised to engage the stop members 46.

In the use and operation of this device, the nozzle 21 is secured to the rim 20 of the bowl 10 at any selected position, either along the side or rear portion of the bowl 10. Spring 38 which normally urges cap 33 upwardly to a circuit breaking position relative to switch 29 is of sufficient strength to normally elevate the seat 11 in order that the switch 29 will normally be in circuit breaking position. When seat 11 is depressed, cap 33 will swing downwardly and wall 40 will form, with wall 44 and flanges 45, a downwardly directed intake for the nozzle 21. At this time switch button 39 will be moved downwardly so as to close the electric circuit through conductors 31 to the motor 12. The exhaust side of the blower 13 may be connected to a point exteriorly of the building by any suitable pipe.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claims.

What I claim is:

1. In a toilet seat, ventilating means comprising an electrically operated suction fan, a suction pipe having an end thereof extending from said fan, a nipple having an end thereof telescoped over said one end of said pipe, a two piece suction nozzle pivotally connected together, said suction nozzle extending horizontally over the rim of a toilet bowl and having one end thereof extending inwardly and downwardly therein, means connecting the pivoted other end of said nozzle with the other end of said nipple, resilient means disposed between said nozzle pieces and constantly tending to urge apart said one end of said nozzle, one of said pieces having a clamping finger thereon for engagement with the rim of said bowl, a normally open switch controlling the electrical circuit

for said motor, said switch being closed upon downward movement of the other of said pieces, and a second clamping finger hving an end thereof connected with said nipple and the other end thereof engaging against said toilet rim.

2. In a toilet seat, ventilating means comprising an electrically operated suction fan, a suction pipe having an end thereof secured to the suction side of said fan, an elongated cylindrical nipple having an end thereof telescoped over the other end of said pipe, a two piece suction nozzle comprising an elongated substantially U-shaped housing and an elongated inverted substantially U-shaped cap, said housing comprising a bottom wall having a pair of spaced, vertically upwardly extending side walls, a vertically upwardly extending end wall and a downwardly depending wall at the other end thereof, said bottom wall having an opening formed therein adjacent said upwardly extending end wall, said opening being aligned with the other end of said nipple, means connecting said other end of said nipple with said bottom wall, a pair of spaced stops on said depending wall extending forwardly of said other end of said bottom wall, a pair of clamping fingers struck from said depending wall and downwardly toward said nipple, said cap comprising a top wall having a pair of oppositely disposed depending side flanges adapted to telescope over the remote faces of said side walls, said top wall having a wall depending from one end thereof engaging interiorly of said housing

adjacent its said upright end wall, said top wall having a depending wall at the other end thereof in spaced relation relative to said first depending wall, a pair of spaced upwardly facing hooks on said second depending wall, said hooks engaging beneath said stops to limit the upward movement of said other end of said top wall relative to said bottom wall, means pivotally connecting said top and bottom walls adjacent their respective first said depending wall and said first upwardly extending end wall, a normally open button switch supported on said bottom wall and extending through said opening into said other end of said nipple, said switch moving to its closed position as said top wall is pivoted downwardly, resilient means interposed between said top and bottom wall constantly tending to urge said other end of said top wall away from said bottom wall, and an elongated spring member having one end thereof secured to said nipple and having its other end projecting upwardly at an angle relative to said bottom wall.

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