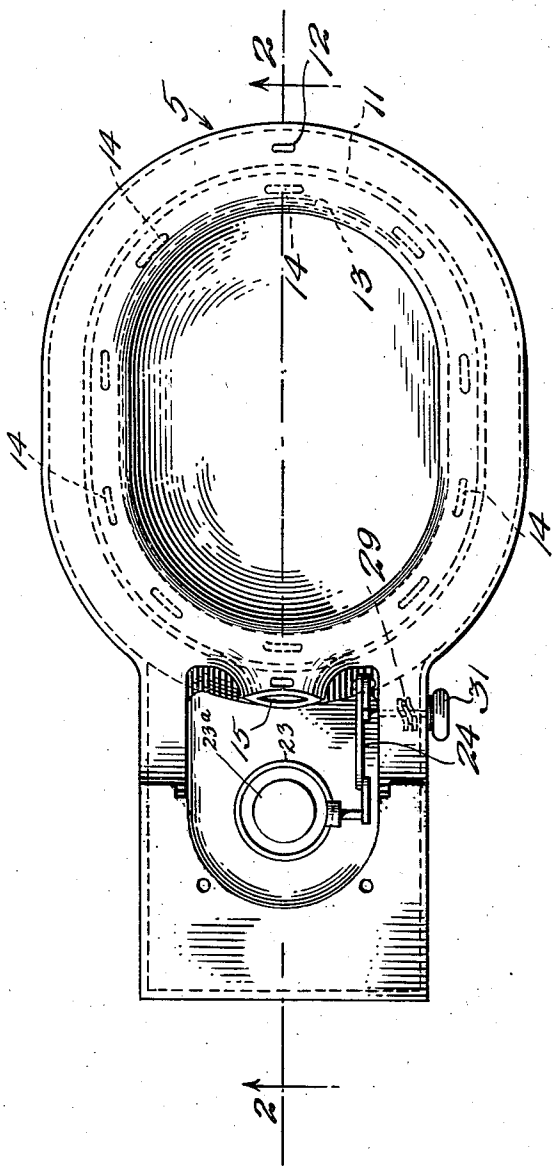
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VENTILATED TOILET

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FIG. 1.



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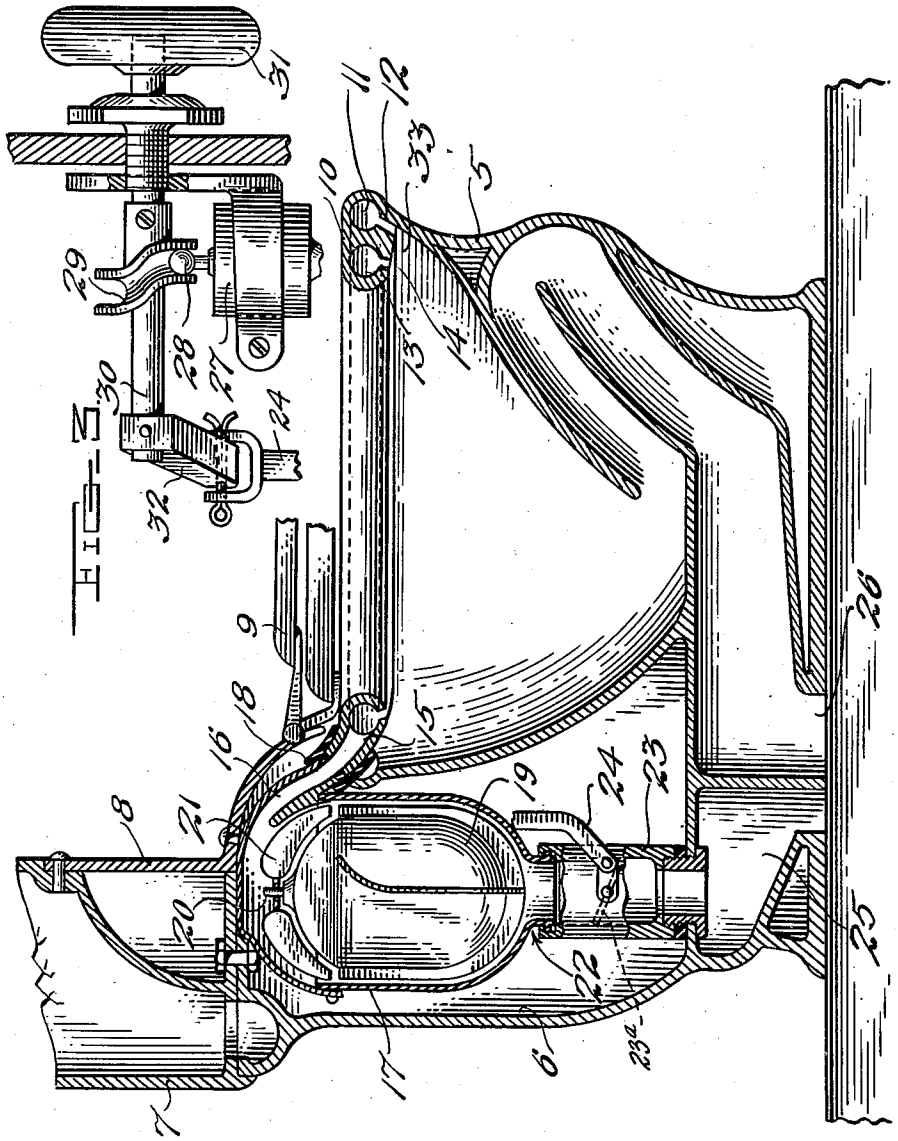


FIG. 2.

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VENTILATED TOILET

William F. Auer, Menasha, Wis.

Application December 20, 1945, Serial No. 636,186

2 Claims. (Cl. 4—216)

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The present invention relates to new and useful improvements in toilets, and more particularly to ventilating means for the toilet bowl.

An important object of the present invention is to provide a toilet bowl having a built-in ventilating system for withdrawing fumes and odors from the interior of the bowl and including a ventilating passage in the rim of the bowl having a suction fan attached thereto for removing the fumes and odors from the bowl and discharging the same into the waste pipe.

A further object of the invention is to provide manually operated valve means between the waste pipe and the ventilating passage leading from the bowl to prevent fumes from the waste pipe backing up into the bowl when the suction fan is not in use.

A still further object of the invention is to provide a toilet bowl including a water flushing passage around the inside of the rim thereof, together with a ventilating air passage also extending around the rim of the bowl and in which the intake for the air passage is arranged with respect to the water passage to prevent water from entering into the air passage while the bowl is being flushed.

A still further object of the invention is to provide a ventilated toilet bowl of simple and practical construction, which is neat and attractive in appearance, relatively inexpensive to manufacture and maintain in operation, and which otherwise is well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like reference numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view with parts broken away and shown in section, and the flush tank, cover plate, and motor removed,

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

Figure 3 is an enlarged detail in side elevation of the control knob for the switch of the suction fan and for operating the valve of the air passage.

Referring now to the drawings in detail, wherein, for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a toilet bowl having a chamber 6 formed at its rear portion and above which is mounted the flush tank 7. Access to the chamber 6 is afforded by way of a cover plate 8 secured to the lower, front portion of the tank 7

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and extending downwardly behind the seat 9 of the bowl.

The bowl 5 includes a rim 10 extending inwardly around the upper edges of the bowl and in which is formed a water passage 11 having an opening 12 at its lower portion for discharging water along the inner walls of the bowl in the usual manner, the water passage 11 being connected to the tank 7 in the usual manner for receiving water from the tank.

The rim 10 is also formed with an air passage 13 positioned inwardly of the water passage 11, the air passage also being formed at its lower portion with an inlet opening 14.

The air passage 13 at the rear of the bowl is formed with a neck 15 which extends upwardly into the chamber 6 and is connected to the neck 16 of a motor housing 17 positioned in the chamber 6 by means of a flexible coupling 18.

An electric motor 19 is mounted in a vertical position in the housing 17 with the shaft 20 of the motor projecting upwardly therefrom and to which is attached a plurality of suction fan blades 21. The motor 19 is spaced from the walls of the housing 17 and the housing terminates at its lower end in a neck 22 detachably connected to the upper end of a conventional form of valve housing 23 having a valve 23a of a butterfly type mounted therein and operated by a rod 24 connected at its lower end to the valve arm and extending upwardly in the chamber 6. The lower end of the valve housing 23 is connected to a passage 25 which leads into a waste pipe (not shown) to which the discharge passage 26 of the toilet is also connected.

The electric motor 19 is controlled by a toggle switch 27 of conventional constructoin mounted in the chamber 6 adjacent one side thereof, the switch handle 28 being moved forwardly and backwardly to turn the switch on and off in the usual manner by means of a channel-shaped cam 29 secured on a shaft 30 journaled in the side of the chamber 6 and having an operating knob 31 secured to its outer end. An arm 32 also connects the inner end of the shaft 30 to the upper end of the arm or rod 24 for simultaneously opening and closing the valve 23a as the motor is turned on and off by the switch 27.

As more clearly illustrated in Figure 2 of the drawing, the lower edge of the rim 10 slopes upwardly toward the center of the bowl, as indicated at 33, by reason of which the inlet opening 14 for the air passage 13 is positioned on a horizontal plane above the discharge opening 12 for the water passage 11. Accordingly, water dis-

charged from the passage 11 will not collect in the air passage 13 and likewise the water will not be drawn into the air passage by the suction fan 21 while the toilet is being flushed.

The valve 23a is arranged for movement into its open position when the switch is turned on for operating the motor 19 and the valve is closed when the switch is closed in order to prevent fumes and odors from the waste pipe returning to the bowl through the air passage.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though I have herein shown and described a preferred embodiment of my invention that the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having thus described the invention, what I claim as new it:

1. A ventilated toilet comprising a bowl having a rim projecting inwardly at its upper edge and with its bottom inclined upwardly, said rim having a water passage and an air passage, the air passage being positioned inwardly of the water passage, and each passage having an opening in the inclined bottom of the rim, with the opening for the air passage positioned above the horizontal plane of the opening for the water passage to prevent entrance of water into the air passage, said bowl also having a chamber at its rear portion and a waste passage at its bottom, a motor housing mounted in the chamber and connected to the air passage and to the waste passage, a motor-operated suction fan in the housing for exhausting fumes from the bowl into the waste passage, a valve between the housing and the waste pipe, a switch for the motor of the fan and including a toggle lever, a manually operated shaft journaled in one side of the chamber, a cam on the shaft operatively engaged with the toggle lever to open and close the switch, and means operatively connecting the shaft to the valve for simultaneous opening and closing of the valve and switch.

2. A ventilated toilet comprising a bowl having a rim projecting inwardly at its upper edge and with its bottom inclined upwardly, said rim having a water passage and an air passage, and each passage having an opening in the inclined bottom of the rim, said bowl also having a chamber at its rear portion and a waste passage at its bottom, a motor housing mounted in the chamber and connected to the air passage and to the waste passage, a motor-operated suction fan in the housing for exhausting fumes from the bowl into the waste passage, a valve between the housing and the waste passage, a switch for the motor of the fan including a toggle lever, a manually operated shaft journaled in one side of the chamber, a cam on the shaft operatively engaged with the toggle lever to open and close the switch, and means operatively connecting the shaft to the valve for simultaneously opening and closing of the valve and switch.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,955,579	DeMalaussene	Apr. 17, 1934
2,058,436	Friel	Oct. 27, 1936
2,134,629	Walsh et al.	Oct. 25, 1938
2,190,068	Henschler	Feb. 13, 1940
2,277,165	Stebbing et al.	Mar. 24, 1942
2,299,273	Hazzard	Oct. 20, 1942