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SELF-PURGING AND VENTILATING TOILET

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Fig. 2.

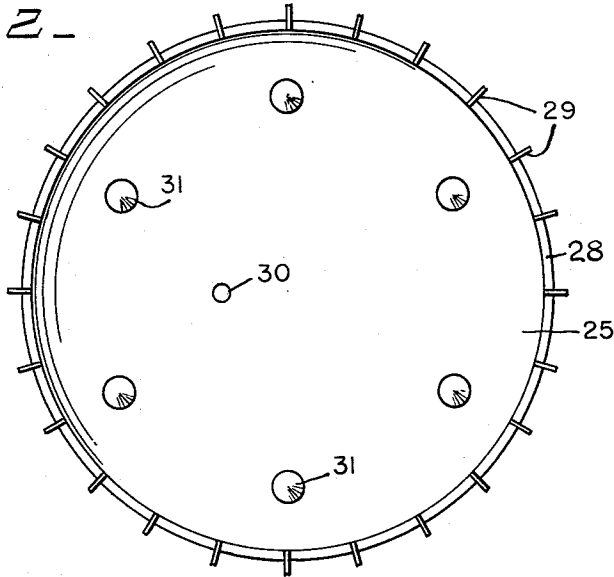
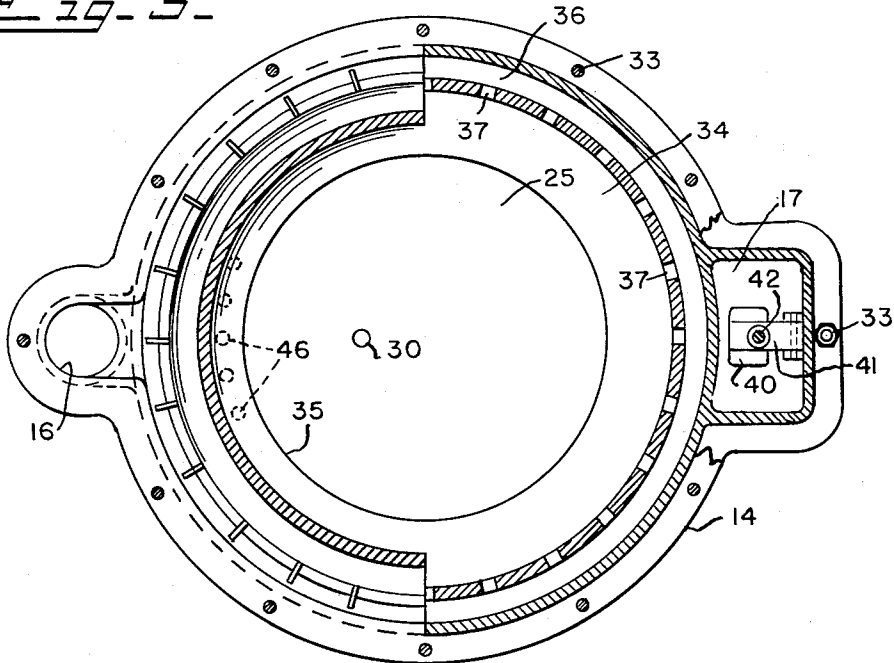


Fig. 3.



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**SELF-PURGING AND VENTILATING TOILET**

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5 Claims. (Cl. 4-10)

This invention relates to a self purging and ventilating toilet, electrically operated, using a minimum of water by relying on the centrifugal force of the impeller to purge and ventilate the toilet.

Many localities suffer from an insufficient water supply and conservation of water requires that a minimum of water be used for flushing toilets. My improved toilet uses very little water in comparison to present toilets due to the impeller action causing all material to be flushed and the toilet purged of all foreign material by shredding undissolvable material.

The object of my invention is to provide a novel toilet having a low water level and electrical means for creating the flushing action and purging of the toilet.

A further object is to provide means or shredding undissolvable material.

A further object is to provide means for maintaining the water level in the toilet.

A further object is to provide means for spraying the toilet bowl.

A further object is to provide means for limiting the water flow into the toilet.

My invention will be further readily understood from the following description and claims, and from the drawings, in which latter:

FIG. 1 is a vertical section of my improved toilet.

FIG. 2 is a plan view of the impeller.

FIG. 3 is a horizontal section, taken in the plane of the irregular line 3-3 of FIG. 1.

My improved toilet comprises a housing 11 supported on a base 12. A stanchion 13 supported on the base supports a housing 14 having a dish shaped portion 15 with a drain connection 16 and a float chamber 17. An aperture 18 connects the bottom of the float chamber with the cavity 19 in the dish shaped portion 15. An electric motor 20 is hung below the top bar 21 of the stanchion 13 by means of bolts 22, with the shaft 23 of the motor 20 extending through an opening 24 in the bar 21. A dish shaped impeller 25 is keyed to the motor shaft 23 and rotates in a bearing 26 in the housing 14. The outer face of the impeller is spaced from the housing 14 to provide a space between the members. The lip 28 of the impeller is provided with fan tips 29 to create a suction in the space between the impeller and the housing 14. An aperture 30 in the base of the impeller 25 forms a water connection to the housing 14. Spaced about the upper face of the impeller are tines 31 extending upwardly.

A housing 32 is secured to the housing 14 by means of bolts 33 and supports a toilet bowl 34. The bowl 34 rests on the top of the housing 11 and has a large opening 35 at the bottom thereof above the impeller 25. The bowl 34 is secured to the housing 32 as by welding. The housing 32 is provided with a continuous cavity 36 around the bowl forming a water channel to the spray openings 37 in the bowl 34. This channel 36 connects with the intake port 38 by means of a tubular channel 39. A float 40 is attached to a hinged plate 41 pivoted in the housing 32. A valve 42 controlled by the float opens or closes the intake port. A suitable toilet seat 43 and cover 44 are hinged to the housing as at 45. The bowl 34 has a series of spaced pins 46 extending into the path of the discharge opening 16. A suitable time control is incorporated with the switch (not shown) for operating the motor, whereby the motor will start and run for a predetermined time

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period and then stop after the switch is engaged to flush the toilet.

Operation is accomplished by engaging the switch (not shown) to cause the motor to start and the impeller to rotate. The fan tips on the impeller create a vacuum in the chamber below the impeller to raise the water to flow down the drain. As the water flows out, the level of the water drops in the float chamber causing the valve 42 to open and water is sprayed through the apertures 37 to cleanse the bowl and the tines on the impeller cause any undissolved material to be shredded as it is forced between the tines 31 and pins 46. When the motor stops rotating the water will rise in the float chamber to shut it off and the level of the water in the toilet will seal off any objectionable odors and sewer gas from the room. Thus the toilet will be purged and ventilated with the use of a minimum of water.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A self purging and ventilating toilet comprising:

- (a) a toilet bowl with an open base,
- (b) a housing below said bowl and connected to said bowl a short distance above the opening in the base of the bowl to provide a low level water supply to said bowl,
- (c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl,
- (d) a motor for rotating said impeller,
- (e) a drain connected to said having,
- (f) a float controlled valve for controlling the water supply to said toilet, and
- (g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl.

2. A self purging and ventilating toilet comprising:

- (a) a toilet bowl with an open base,
- (b) a housing below said bowl and connected to said bowl a short distance above the opening in the base of the bowl to provide a low level water supply to said bowl,
- (c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl,
- (d) a motor for rotating said impeller,
- (e) a drain connected to said housing,
- (f) a float controlled valve for controlling the water supply to said toilet,
- (g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl, and
- (h) tines extending upwardly from said impeller for shredding undissolvable material.

3. A self purging and ventilating toilet comprising:

- (a) a toilet bowl with an open base,
- (b) a housing below said bowl and connected to said bowl a short distance above the opening in the base of the bowl to provide a low level water supply to said bowl,
- (c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl,
- (d) a motor for rotating said impeller,
- (e) a drain connected to said housing,
- (f) a float controlled valve for controlling the water supply to said toilet,
- (g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl,
- (h) tines extending upwardly from said impeller, and
- (i) pins extending downwardly from said bowl adjacent to the drain for co-operation with said tines to shred undissolved material.

4. A self purging and ventilating toilet comprising:

- (a) a toilet bowl with an open base,
- (b) a housing below said bowl and connected to said bowl a short distance above the opening in the base

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- of the bowl to provide a low level water supply to said bowl,
- (c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl and provided with fan tips around the edge thereof, 5
- (d) a motor for rotating said impeller,
- (e) a drain connected to said housing,
- (f) a float controlled valve for controlling the water supply to said toilet, and
- (g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl. 10
- 5. A self purging and ventilating toilet comprising:
  - (a) a toilet bowl with an open base,
  - (b) a housing below said bowl and connected to said bowl a short distance above the opening in the base of the bowl to provide a low level water supply to said bowl, 15
  - (c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl and provided with fan tips around the edge thereof,
  - (d) a motor for rotating said impeller,
  - (e) a drain connected to said housing,

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- (f) a float controlled valve for controlling the water supply to said toilet,
- (g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl,
- (h) tines extending upwardly from said impeller, and
- (i) pins extending downwardly from said bowl adjacent to the drain for co-operation with said tines to shred undissolved material as its passes from said impeller to said drain.

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