

July 23, 1935.

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2,009,054

VENTILATOR FOR TOILET BOWLS

Filed Nov. 13, 1934

Fig. 1.

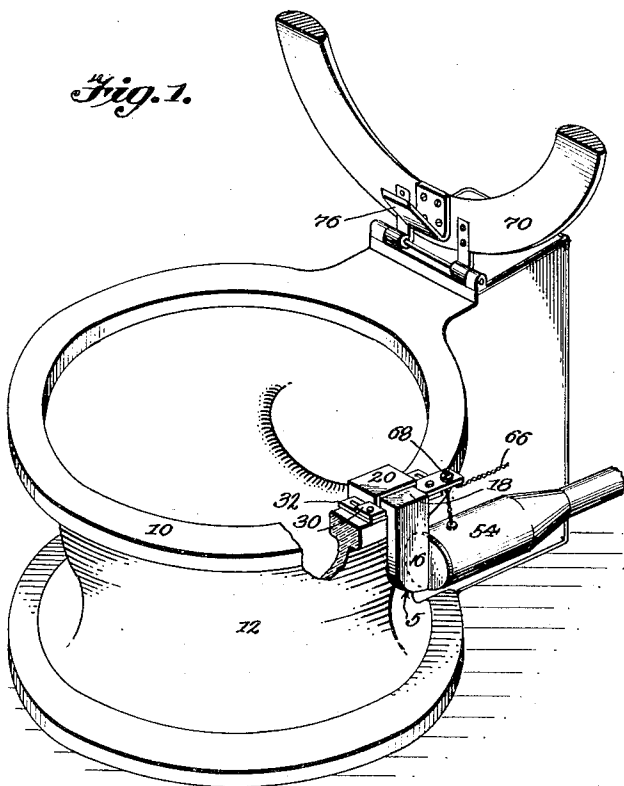


Fig. 3.

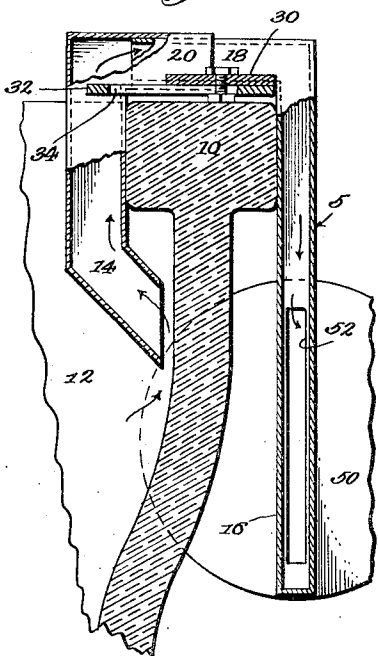
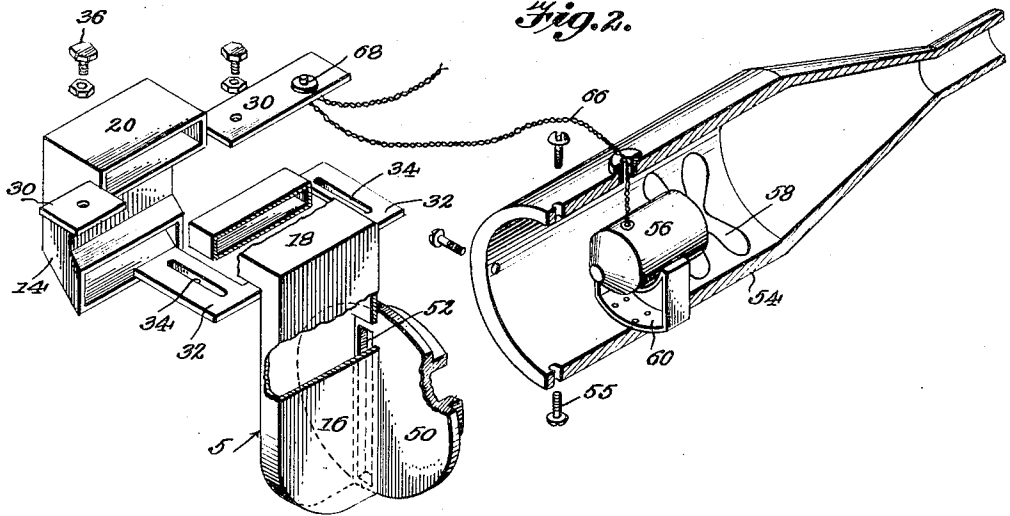


Fig. 2.



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2,009,054

VENTILATOR FOR TOILET BOWLS

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Application November 13, 1934, Serial No. 752,865

5 Claims. (Cl. 4-213)

This invention relates to ventilators especially adapted for use in connection with toilet bowls.

The invention contemplates, among other things, the provision of a simple means by which obnoxious odors present in a toilet bowl may be carried off to a suitable point of disposal. In looking to the accomplishment of this end, the invention will be found to be in the nature of an attachment in which the attaching bracket thereof is intended to straddle the rim of a toilet bowl of conventional or other construction and having an opening extending entirely there-through and forming a passage for the discharge of the contaminated air, from which it will be seen that the bracket not only functions as an attaching means for the device but also as a conduit, thereby dispensing with the employment of individual parts for these purposes.

In its more specific aspects, the combined bracket and conduit forming a major part of the improved ventilator will be found to be of U-shaped formation with the bight portion of the structure made up of two adjustably interfitting sections providing a simple means whereby the device may be applied to toilet bowls of various sizes, wall thickness, design, etc.

The invention further looks to the provision of a ventilating attachment of the character specified which when applied to a toilet bowl will be entirely automatic in its operation, inconspicuous, quiet and hence inoffensive.

A further aim is to provide a ventilating attachment of the character specified which is of highly simplified construction, durable in use, and relatively cheap to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing, forming a part of this application and in which like numerals designate like parts throughout the same,

Figure 1 is a fragmentary perspective of the improved toilet bowl ventilating attachment applied,

Figure 2 is a fragmentary group perspective of the attachment, parts being broken away and shown in section,

Figure 3 is a vertical sectional view through the attachment applied, parts being shown in elevation.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 generally designates a bracket adapted for application to the rim 10 of a toilet bowl 12.

More particularly, the bracket 5 is of U-shaped form and is provided with inner and outer legs 14 and 16, respectively, and an intervening bight portion made up of sections 18 and 20. The sections 18 and 20 are proportioned and designed for slidable interfitting association, providing a sim-

ple means by which the legs of the bracket may be brought closely against the sides of the bowl. This looks to the firm mounting of the attachment and holds the same against accidental removal or disconnection from the bowl should it be struck by the foot of a person or by any other means.

It is clearly illustrated in Figure 2 that the section 20 of the bight portion is provided with laterally projecting ears 30 intended for overlapping relation with the laterally projecting ears 32 of the bight portion section 18. The laterally projecting ears 32 are shown to be provided with slots 34 intended for the adjustable reception of fastening elements 36 which fastening elements also extend through apertures in the ears 30.

It is believed to be clear that in applying the bracket 5, the legs are arranged closely against the sides of the bowl, the leg 16, of course, being on the outside of the bowl while the leg 14 is on the inner side of the bowl. With the legs thus closely arranged at the proper sides of the bowl, the sections 18 and 20 will be found to be in telescopic relation with a close fit between these parts.

As shown in Figure 2, the legs 14 and 16 and the sections 18 and 20 are hollow to form a U-shaped passage with such passage having the inlet end thereof at the lower terminal portion of the leg 14.

From the drawing and the previous description, it is clear that the leg 14 is located within the bowl at a point above the water level, of course, and in close proximity to the side wall of the bowl, although spaced therefrom to provide for the admission of contaminated air present within the bowl.

As clearly illustrated in Figure 3, the lower or inlet portion of the leg 14 is directed angularly toward the outer leg 16 of the bracket or, as might be otherwise expressed, toward the adjacent wall of the bowl, with the opening in such portion thus located in one side of the leg. By reason of this arrangement, the inner leg 14 is in effect shortened while maintaining an inlet opening of the maximum size allowed by the dimensions of the leg itself and at the same time this arrangement prevents clogging of the device by paper and other matter.

The outer leg 16 is shown to be provided at one side thereof with a disk-shaped plug or member 50 adapted to be snugly received in the receiving end of a tubular or sleeve-like housing 54. The member 50 is secured in place in the receiving end of the housing 54 by suitable fastening elements 55.

The member 50 is formed integral with or is suitably secured to the rear edge of the outer leg 16 and, as clearly shown in Figures 2 and 3, is provided with a central opening 52 in full and

constant communication with the passage through the bracket so as to allow of the free flow of air through the bracket.

Thus, it is clear that the bracket not only serves as a means to mount the device but the passage therethrough constitutes a conduit establishing constant communication between the interior of the toilet bowl and the outlet member 54.

From Figure 2, it is plain that the tubular member 54 encloses an electric motor 56 having connection with a fan 58 also enclosed within the member 54. Obviously, the fan induces a circulation of air through the attachment and thus carries off contaminated air within the bowl. Any means 60 may be employed to support the motor 56 in its proper position with the member 54.

The electric motor is, of course, connected with a suitable source of power through an electric cord 66. Such cord has connection with a switch 68, clearly shown in Figure 2 to be mounted upon an extension of one of the ears 30 and located in the path of descent of the toilet bowl seat 70 so that when the toilet seat is lowered to a horizontal position, the switch and, more particularly, the button of the switch will be depressed to allow of the flow of electric current through the motor.

The switch 68 may be of conventional push button type with a spring associated with the button so as to break the flow of current through the switch the moment the seat ceases to have operative contact with the switch.

At this point, attention is invited to Figure 1, in which it is illustrated that the hinged mounted seat 70 of the toilet bowl carries a spring 76 having a power sufficient to hold the seat under its own weight off the switch button and thus prevent accidental or unintentional operation of the ventilator. However, the power of the spring is overcome when the seat is in use so that the seat has effective contact with the switch button.

The outlet member 54 may extend to a remote point and if required by prevailing circumstances may be of lead or other material which may be easily bent or worked to allow one end thereof to be attached to the vent pipe of the plumbing system or extended through a wall to the exterior of the building in which the toilet is located.

As brought out in the opening paragraphs of this specification, the improved attachment is inconspicuous since it underlies the flared upper portion of the bowl. In addition, it is quiet in operation and gives no reason for offense.

With reference to the foregoing taken in connection with the accompanying drawing, it will be clear that the improved ventilator may be quickly and easily attached to a toilet bowl of conventional design without altering the construction of the bowl or marring its appearance.

It is to be understood that the form of invention herewith shown and described is to be taken merely as a preferred example of the same and that such changes in arrangement and construction of parts may be made as will remain within the spirit of the invention and the scope of what is claimed.

Having thus described the invention, what is claimed is:

1. In a ventilating attachment for a toilet bowl having a wall and a rim, a combined attaching

bracket and conduit of U-shaped form having inner and outer legs and an intervening bight portion, the bight portion consisting of separate telescopic sections constituting lateral projections of said legs and forming a means for mounting the inner and outer legs closely at the inner and outer sides, respectively, of the bowl, means securing the said sections adjustably together, the outer leg being provided at the rear side thereof with a connecting member having a passage in full communication with conduit, a housing secured to said connecting member and having full communication with the passage therein, a suction device in said housing, and a control element having connection with said suction device.

2. In a ventilating attachment for a toilet bowl, a bracket of U-shaped form to straddle the rim of a toilet bowl and consisting of inner and outer legs and an intervening bight portion, the bight portion being adapted to rest upon the rim of the bowl and embodying slidably interfitting sections, means to secure the sections of the bight portion in an adjusted position with the inner and outer legs of the bracket in close proximity to the adjacent sides of the bowl, said legs and said bight portion being formed with a U-shaped passage for contaminated air within the bowl, and a suction device having a housing connected to the outer leg of the bracket.

3. In a ventilating attachment for a toilet bowl, a bracket of U-shaped form to straddle the rim of a toilet bowl and consisting of inner and outer legs and an intervening bight portion, the bight portion being adapted to rest upon the rim of the bowl and embodying slidably interfitting sections, means to secure the sections of the bight portion in an adjusted position with the inner and outer legs of the bracket in close proximity to the adjacent sides of the bowl, said legs and said bight portion being formed with a U-shaped passage for contaminated air within the bowl, and a suction device having a housing connected to the outer leg of the bracket, the inner leg of said bracket having an inlet portion extended angularly and formed with an inlet to said passage.

4. In a ventilating attachment for a toilet bowl, a combined bracket and conduit adapted to straddle the rim of a toilet bowl and consisting of two adjustably interfitting sections having constantly communicating passages extending therethrough, means holding the sections adjustably together, one of said sections being provided with an inlet end portion at the side thereof opposed to the adjacent side wall of the bowl, and a suction device connected to the other section of the combined bracket and conduit.

5. In a ventilating attachment for a toilet bowl, a combined bracket and conduit adapted to straddle the rim of a toilet bowl and consisting of two adjustably interfitting sections having constantly communicating passages extending therethrough, means holding the sections adjustably together, one of said sections being provided with an inlet end portion at the side thereof opposed to the adjacent side wall of the bowl, and a suction device connected to the other section of the combined bracket and conduit, and a control member carried by said means and having connection with said suction device.

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