July 4, 1961 A. E. WITHERELL 2,990,557

WATERCLOSET VENTILATOR

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FIG.1

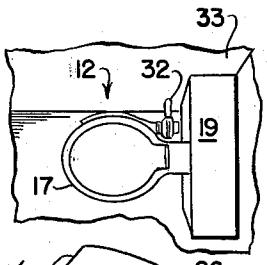


FIG.2

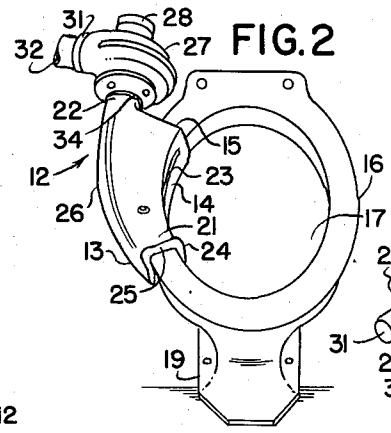
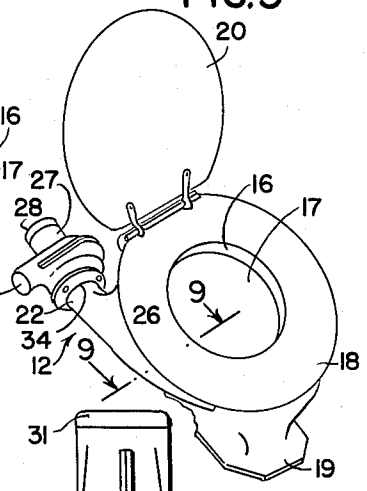


FIG.3



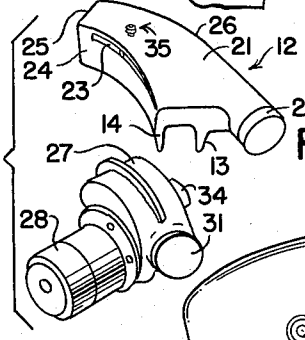


FIG.4

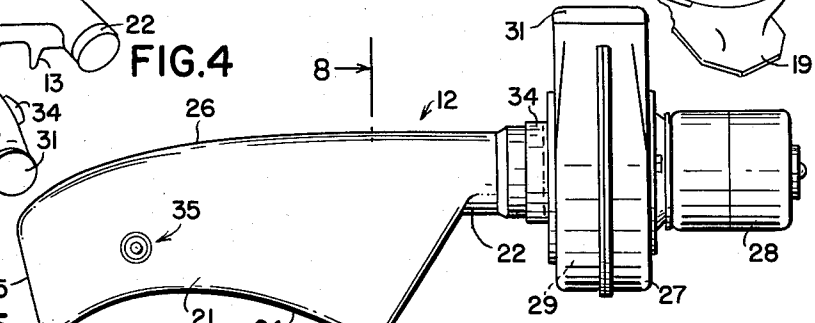


FIG.5

FIG.6

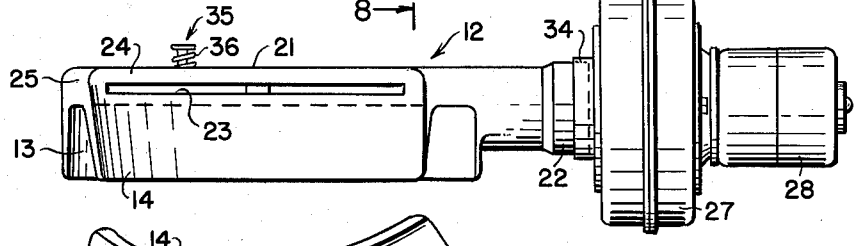
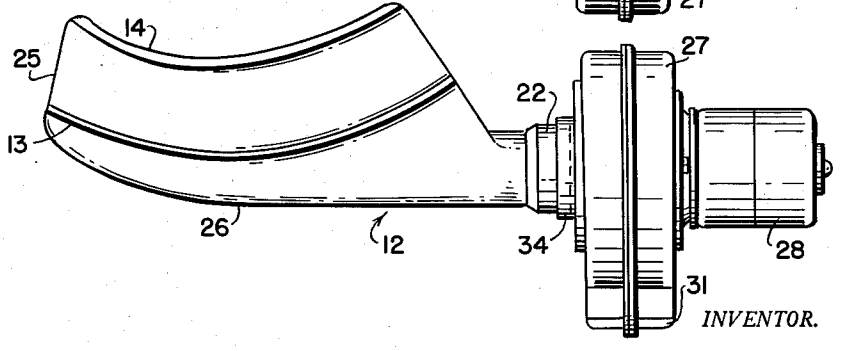


FIG.7



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WATERCLOSET VENTILATOR

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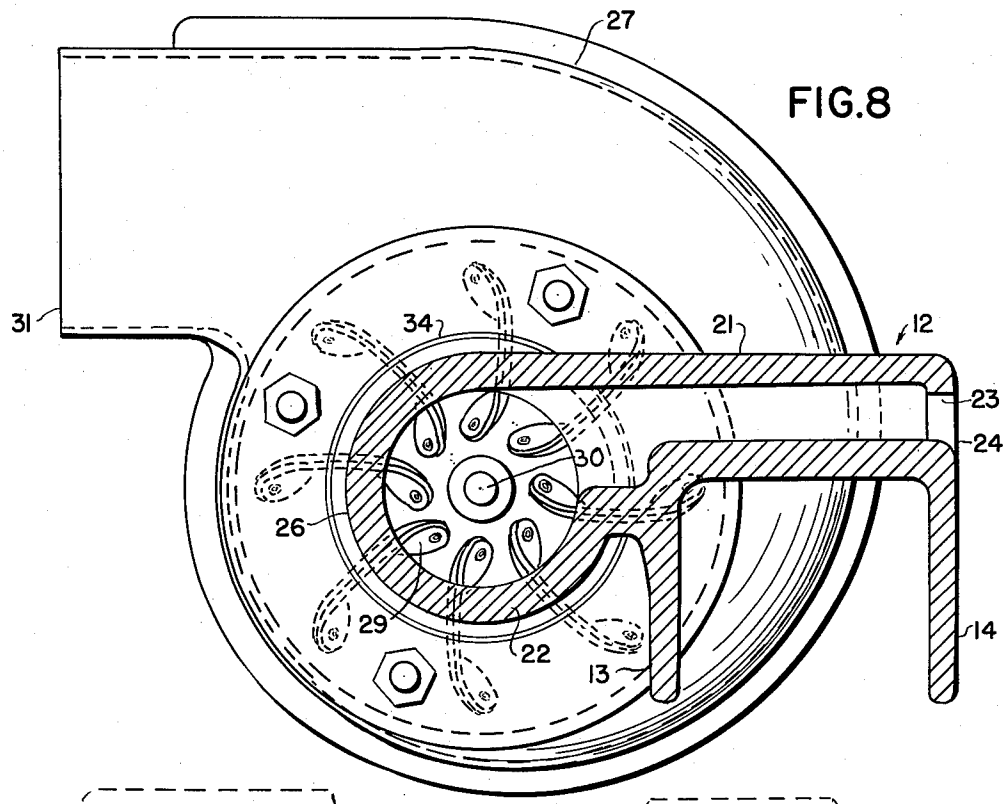


FIG.8

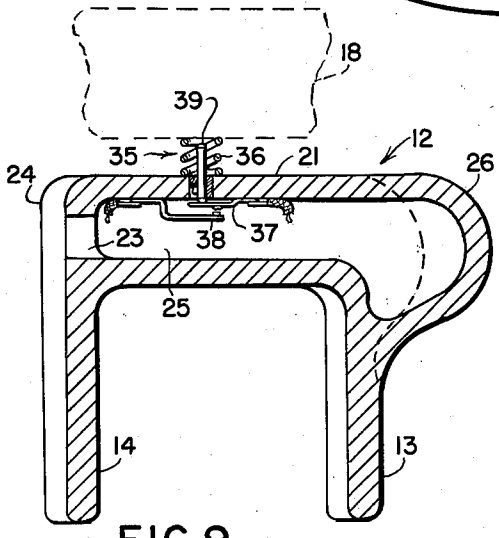


FIG.9

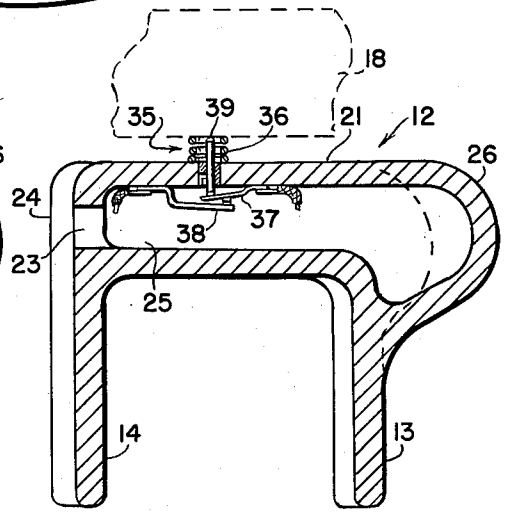


FIG.10

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WATERCLOSET VENTILATOR

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1 Claim. (Cl. 4—213)

This invention relates to improvements in de-odorizing devices for watercloset bowls and more particularly relates to a novel and improved watercloset ventilating attachment.

An object of the invention is to provide a small, compact attachment which will hang self-supportingly without other fasteners on one side of a watercloset bowl rim and quietly and efficiently remove bowl odors automatically.

Another object of the invention is to provide an improved, simple to attach, ventilating device with a motor, exhaust fan and air passage as a single unit mountable on any watercloset bowl rim and blending with modern bathroom fixtures.

Still another object of the invention is to provide an improved watercloset ventilating attachment having a seat operated motor switch mounted in the center of the attachment to be disposed between the seat and bowl rim of a watercloset when the attachment is mounted on the bowl rim and operating the motor only while the seat is occupied.

Other objects, features and advantages of the present invention will become apparent from the drawings and the following description and claim.

In the drawings:

FIG. 1 is a top plan view of a watercloset and of the watercloset ventilating device of the present invention attached thereto.

FIG. 2 is a perspective view of the watercloset bowl with lid and cover removed as well as the seat and of the watercloset ventilating attachment.

FIG. 3 is a view similar to FIG. 2 but with the lid up and seat of the watercloset lowered and in place.

FIG. 4 is a perspective view of the watercloset ventilating device with the body separated from the motor, fan and housing.

FIG. 5 is a top plan view of the watercloset ventilating device.

FIG. 6 is a side view of the structure shown in FIG. 5.

FIG. 7 is a bottom plan view of the watercloset ventilating device.

FIG. 8 is a sectional view taken on line 8—8 of FIG. 5.

FIG. 9 is a full scale sectional view taken on line 9—9 of FIG. 3 with the seat fragment shown in dotted outline.

FIG. 10 is a view similar to FIG. 9 but showing the seat and switch in the seat occupied position.

The watercloset ventilating attachment has a short, hollow, partly flattened, segmental body 12 preferably made of cast aluminium, magnesium, plastic or coated with non-rusting or non-tarnishing material.

Body 12 has two spaced, downwardly extending arms 13 and 14 adapted frictionally to fit over and mount the body entirely on a segment 15 of the rim 16 of a watercloset bowl 17 at one side and substantially in one quadrant of the bowl 17 beneath, but independent of, the seat 18 of a watercloset 19. The usual cover 20 fits over the seat 18, the cover and seat being mounted on the watercloset in the usual manner and the watercloset being any standard watercloset.

Body 12 has a substantially flat upper surface 21 adapted to lie between a section only of the seat 18 in its lowered position (shown in FIG. 3 and indicated in FIGS. 9 and 10) and of the bowl rim 16 when the arms 13 and 14 are over the rim.

An outlet exhaust duct portion 22 is provided on the hollow body 12 and a bowl vent inlet opening 23 extends through an inner side or edge portion 24 of the hollow body 12. The exhaust duct 22 is rearwardly of the bowl vent inlet opening 23 and interconnected with it. The front end 25 of body 12 is closed as is the outer side or edge 26. Inlet opening 23 may be a single slot opening or a plurality of openings.

A hollow housing 27 is mounted, on the outlet exhaust duct portion 22 of body 12 and a motor 28 and exhaust fan 29 are mounted in and on the housing. The exhaust fan is mounted on or connected with the motor shaft 30 (FIG. 8) of the motor and is rotated by the motor. Housing 27 has an outlet 31 which can be directed in any direction and to which an exhaust duct or tube 32 can be attached. As shown in FIG. 1, the outlet 31 of the housing may be pointed toward a bathroom wall 33 and the duct or tube 32 can extend through the wall to the outside of the building. However, the outlet 31 may as easily be directed toward the floor for exhaust through a floor opening or rearwardly for a rear wall exhaust.

Housing 27 has a flange 34 into which the annular outlet exhaust duct portion 22 of body 12 frictionally fits to make a single compact unit which can be mounted by the arms 13 and 14 self-supportingly secure on any standard watercloset.

A motor switch 35 is mounted in body 12 and extends through the substantially flat upper surface 21 of body 12. Switch 35 is a press type switch located adjacent to and operated by the weight of the watercloset seat 18 when the seat is occupied (see FIG. 10). A spring 36 normally biases the seat 18 upwardly when the seat is lowered to prevent an unoccupied seat from operating the switch (see FIG. 9).

Operation of the attachment is simple. When the watercloset seat 18 is unoccupied and either raised or lowered, the switch contacts 37 and 38 (FIGS. 9 and 10) are not closed and the motor is not operated. However, when the seat is occupied, the bias of spring 36 is overcome and the contacts 37 and 38 are closed by the push rod 39 and start the motor which in turn drives the exhaust fan drawing air and bowl odors from the watercloset bowl 17 through the hollow body 12 and out the outlet 31 of the housing 27. The contact 37 is a spring contact which restores the push rod to its normal position when the seat 18 becomes unoccupied.

Having fully disclosed my invention, I claim:

A watercloset ventilator attachment comprising a short, hollow, partly flattened motor and fan supporting body with two spaced downwardly extending arcuate arms of a depth and longitudinal length extending substantially the length of the body frictionally to fit over, support and suspend the body and all of the attachment entirely on a segment of the rim of a watercloset bowl at one side and substantially in one quadrant of the bowl immediately beneath but independent of the seat and in a plane substantially parallel to the seat and well above the base of the bowl, said body having a substantially flat upper surface adapted to lie between a section only of the lowered seat and of the bowl rim of a watercloset when said arms are over the rim, an outlet exhaust duct portion and an inner side portion on said body, said inner

side portion having a bowl vent inlet opening leading to and interconnected with the outlet exhaust duct portion, a motor driven exhaust fan connected with the outlet exhaust duct portion, a fan and motor housing mounted on the outlet exhaust duct portion of said body, said housing encasing said fan, a motor in the housing connected with the fan, a switch for said motor mounted centrally in said body and extending through said substantially flat upper surface of the body, said switch being a press type switch adjacent to and operated by the weight of an occupied lowered watercloset seat, and resilient means to

bias a watercloset seat upwardly to keep a lowered unoccupied seat from operating the switch.

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