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VENTILATING ATTACHMENT FOR WATER CLOSETS

Filed June 13, 1960

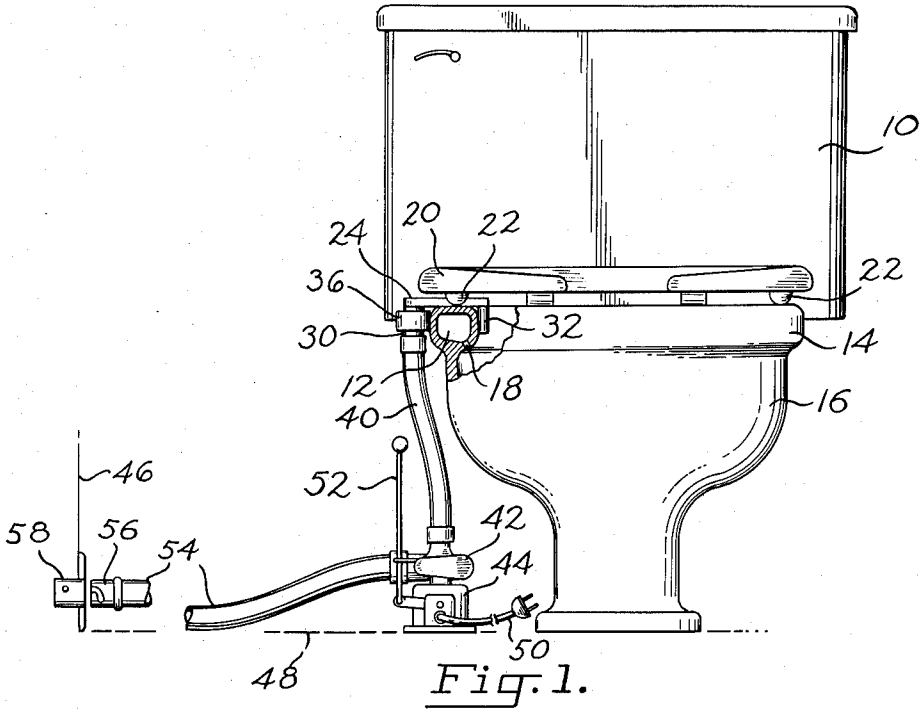


Fig. 1.

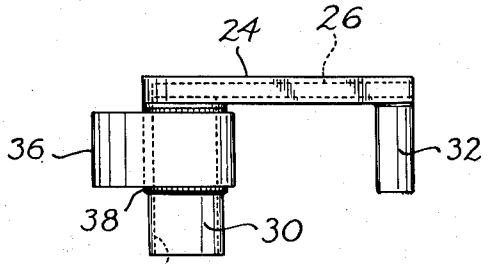


Fig. 2.

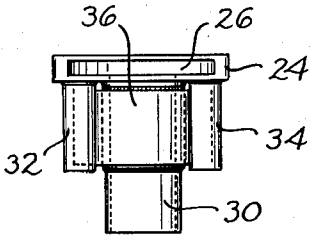


Fig. 3.

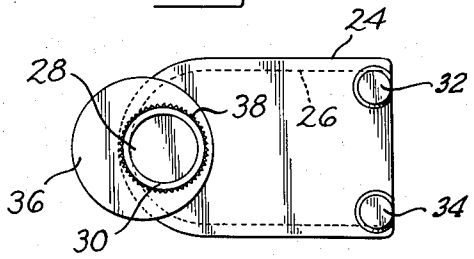


Fig. 4.

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VENTILATING ATTACHMENT FOR WATER CLOSETS

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1 Claim. (Cl. 4—213)

This invention pertains to the ventilation of water closets, and relates particularly to a simplified attachment by which to effect such ventilation.

It is a principal object of the present invention to provide a simplified ventilating attachment for water closets which is capable of installation without modification of the closet.

Another important object of this invention is the provision of a ventilating attachment which is adjustable to accommodate installation on substantially all types and sizes of water closets.

A further important object of the present invention is to provide a water closet ventilating attachment which is readily detachable from an exhaust vent and is portable for convenient removal for cleansing of the area adjacent the water closet.

The foregoing and other objects and advantages of the present invention will appear from the following detailed description, taken in connection with the accompanying drawing in which:

FIGURE 1 is a foreshortened front elevation of a ventilating attachment embodying the features of the present invention, the same being shown in association with a conventional water closet, a portion of which is broken away to disclose details of internal construction;

FIGURE 2 is a side elevation of the ventilating head component of the attachment shown in FIGURE 1;

FIGURE 3 is an end elevation as viewed from the right in FIGURE 2; and

FIGURE 4 is a bottom plan view of the head as viewed from the bottom in FIGURE 2.

The ventilating attachment of this invention is adapted for use with a conventional water closet which, as illustrated in FIGURE 1, includes a water reservoir **10** connected to the water channel **12** formed in the hollow peripheral rim **14** of the bowl **16** for injecting water into the latter through the communicating openings **18**. A hinged seat **20** overlies the rim of the bowl and is spaced above the latter by means of the resilient buttons **22**.

The ventilating attachment includes a ventilating head, the preferred construction of which is best illustrated in FIGURES 2, 3 and 4. This head preferably is molded of plastic material, although it may be of metal if desired. It includes a hollow body **24** defining an internal channel **26** which is open at the front, or inlet end of the body and communicates at its inner, or outlet end with the longitudinal bore **28** of the hollow stem **30**. This stem is molded as an integral part of the body, or is otherwise attached thereto, and preferably is positioned on the longitudinal center line of the body.

Adjacent the front end of the body there is molded or otherwise attached to the underside thereof a pair of laterally spaced projections **32**, **34**. These projections extend in the same direction as the hollow stem **30**, and form with the latter a three element clamp by which to secure the head detachably to the hollow rim **14** of the closet bowl. Thus, the pair of spaced projections **32**, **34** frictionally engage the inner edge of the hollow rim and the hollow stem **30** engages the outer edge of the rim, with the hollow body **24** overlying the rim underneath the seat **20**. Since the hollow rim generally enlarges in lateral dimension toward the rear sides of the bowl, the attachment head may be secured firmly to the rim by initially placing it upon a forward portion of the rim and then sliding it rearward until the rim is wedged firmly between the projections and stem.

Means is provided for accommodating a substantial variation in the lateral dimensions of the hollow rim **14** of various types of sizes of water closet bowls. In the embodiment illustrated in the drawing, such means is provided by the cam member **36**. This cam member is provided with a longitudinal bore positioned eccentrically with respect to the circular perimeter of the cam member. The bore is proportioned to receive the stem **30** therethrough, for mounting the cam member on the stem. By rotating the cam member relative to the stem, the distance between the spaced projections **32**, **34** and the nearest surface of the cam member may be varied over a substantial range, thus accommodating bowl rims of varying dimensions.

In order to insure against rotation of the cam member **36** from its position of adjustment on the stem **30**, the outer circumference of the stem is provided with circumferentially spaced longitudinal ribs **38**, and the bore of the cam member is provided with corresponding circumferentially spaced longitudinal grooves in which to receive the ribs and thus secure the cam member in the desired position of adjustment.

The outlet bore of the stem **30** is connected through the flexible tube **40** to the inlet of an evacuating pump **42**. In the preferred embodiment illustrated, the pump is driven by an electric motor **44** housed integrally therewith. This unit may be installed permanently on a wall **46** with the exhaust outlet of the pump extending through the wall. However, when thus permanently installed, most building codes require that the electric wiring for the motor supply be a permanent internal installation, and prohibit external connection to a wall socket. Accordingly, in the preferred embodiment illustrated, the evacuating pump and motor unit is simply supported freely upon the bathroom floor **48** and the motor provided with an extension cord **50** for attachment to a wall socket. An actuating lever **52** for the control switch of the motor is positioned for convenient access.

A flexible tube **54** is connected at one end to the outlet of the evacuating pump and is provided at its opposite end with a detachable coupling **56** by which to make connection with an outlet coupling **58** mounted in the wall adjacent the floor. In the event this is an external wall, the outlet coupling may communicate with the exterior of the building. In the event it is an interior wall, the outlet coupling may simply communicate with the hollow interior of the wall, for exhausting to the remote attic area. Alternatively, the coupling may be attached to a tube which extends upwardly through the wall and attic area and thence through the roof to the outside atmosphere.

Thus, by the present invention, there is provided extremely simplified and economical means by which to afford efficient ventilation of a water closet. The attachment is readily installed without modification of the closet and is easily removed when desired. The portable assembly illustrated requires only the provision of a single exhaust outlet in an adjacent wall.

It will be apparent to those skilled in the art that various changes in the structural details and arrangement of parts described hereinbefore may be made without departing from the spirit of this invention and the scope of the appended claim.

Having now described my invention and the manner in which it may be used, what I claim as new and desire to secure by Letters Patent is:

A ventilating attachment for water closets having a seat spaced above a peripheral rim of a closet bowl, comprising a hollow body adapted to be seated on the peripheral rim of the closet bowl and having a front opening

directed toward the interior of the closet bowl, a downwardly projecting hollow stem integrally connected to said hollow body for interior communication therewith and adapted to overlie the outer side edge of the peripheral rim of the closet bowl, a pair of downwardly extending projections integrally connected to said body in spaced relation with said hollow stem and adapted for engagement with the inner side edge of the peripheral rim of the closet bowl, eccentric cam means on said hollow stem, said hollow stem having external longitudinal serrations on a portion thereof and said eccentric cam means having a correspondingly serrated aperture releasably engaging the serrated portion of said hollow stem for releasably securing said cam means on said stem in desired positions of rotational adjustment to adjust the spacing between said cam means and said pair of projections, said pair of projections being spaced laterally from each other and providing with said cam means a three point engagement of the rim to accommodate attachment of the head to closet bowl rims of various sizes and curvatures, and evacuating pump means connected to said hollow stem.

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