No. 747,658. PATENTED DEC. 22, 1903.

G. E. STEVENS.

VENTILATOR.

APPLICATION FILED OCT. 5, 1903.

NO MODEL.

Fig. 1.

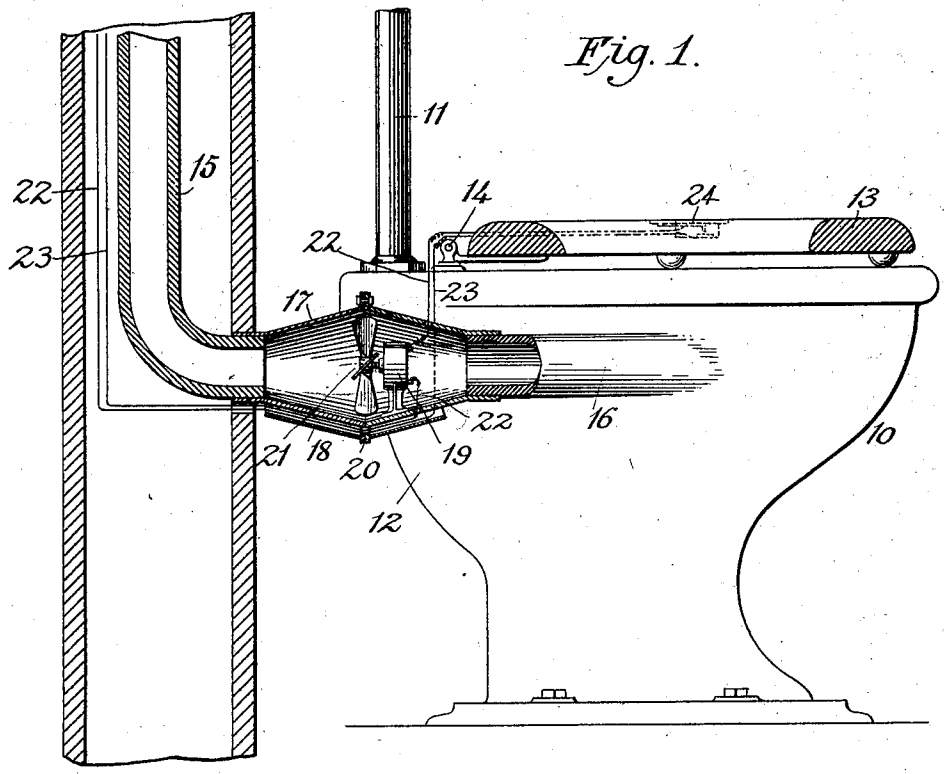


Fig. 2.

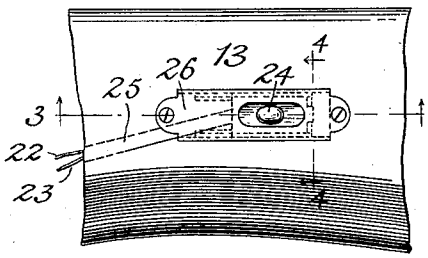


Fig. 3.

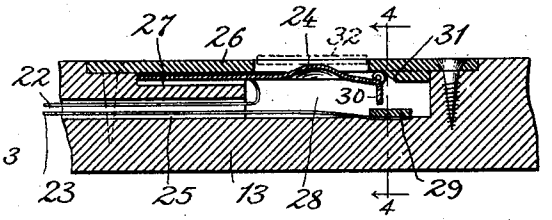
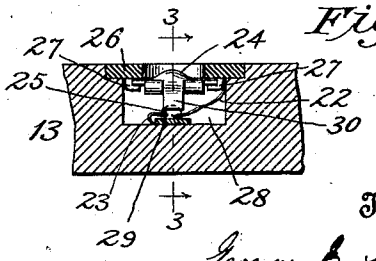


Fig. 4.



Witnesses

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No. 747,658. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

GEORGE E. STEVENS, OF AUBURN, MAINE, ASSIGNOR OF ONE-HALF TO W. R. MILLER, OF AUBURN, MAINE.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 747,658, dated December 22, 1903.

Application filed October 5, 1903. Serial No. 175,798. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. STEVENS, of Auburn, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to means for ventilating water-closet bowls, and has particular reference to the type of ventilating mechanism or apparatus which employs an electric fan the current for which may be obtained from an electric-light circuit or other convenient source of power for the fan-motor.

One of the objects of this invention is to provide means whereby the ventilating-motor may be controlled—that is, started or stopped—whether the seat of the closet is in use or not.

Another object of the invention is to provide for the arrangement of the motor in a casing adapted for connection between a vent-pipe and the bowl of an ordinary type, whereby the fan, its motor, and the casing may be furnished as a complete article of manufacture ready to be interposed between the closet-bowl and a vent-pipe.

Another object of the invention is to provide a structure in which the fan, motor, and casing are located at one side of the water and soil pipe connections, so as not to interfere with the preferred relative arrangement and location of said water and soil pipe connections.

A further object of the invention is to provide a structure of this character in which the circuit-wires may be located where they will not be exposed to serious dampness.

To these ends the invention consists in the construction and combination of parts, substantially as hereinafter described and claimed.

Of the accompanying drawings, Figure 1 represents a side elevation, partly in section, of a water-closet equipped with my invention in one of its embodiments, a wall and a vent-pipe being also shown in section at the rear of the closet. Figs. 2, 3, and 4 are detail views of one of the many forms of contact or switch devices which may be used to carry out the invention, Fig. 2 being a detail plan view of a portion of the closet-seat, Fig. 3 being an enlarged detail section on line 3 3 of Fig. 2, and Fig. 4 being a section on line 4 4 of Fig. 3.

Similar reference characters indicate the same parts in all of the views.

A closet-bowl is represented at 10, said bowl having a common form of rear enlargement, as at 12, to accommodate the usual siphon arrangement. The flushing-pipe is represented at 11, and a common form of seat 13 is shown as hinged at 14 to ears projecting from the rear of the bowl.

A suitable vent-pipe is represented at 15, and the side of the bowl 10 near its upper portion is provided with a nipple, so as to form a side air-passage, as at 16. The pipes 15 and 16 are connected by a casing 17, preferably of metal and having its ends tapered to form contracted collars adapted for ready connection to said pipes. The lower portion of the casing 17 may be provided with a conduit 18 for the circuit-wires.

Within the casing 17 is an electric motor 19, secured in position by a suitable support or bracket 20, a fan 21 being carried in an ordinary manner by the shaft of the motor.

22 and 23 represent the circuit-wires, here shown as arranged within the wall in which the vent-pipe is located and extending therefrom through the conduit 18 of the casing 17, one of said wires including the motor 19 and both of the wires extending upward to a point adjacent the seat-hinge 14 and from there led through an orifice 25 in the seat. The arrangement of the wires adjacent the hinge 14 is such that they will permit of the ordinary movement of the seat without disengaging the said wires.

A suitable push-piece 24 is located in a recess 28, formed at a convenient location in the seat 13. Above the recess 28 is secured a plate 26, underneath one end of which are guides 27 to receive one end of the strip or plate which comprises the push-piece, the arrangement being such that the said push-piece can be slid lengthwise of said guides.

Located on the bottom of the recess 28 is a contact or terminal 29, with which the wire 23 is connected, and the end of the plate or push-piece 24 carries a pin 30. The end of the plate 26 is shown as formed with a slight cam-shaped surface or incline 31, with which the end of

the push-piece plate is adapted to engage when the latter is moved lengthwise, so that said cam or incline 31 may guide the pin 30 downward to contact with the terminal 29.

When the push-piece plate is in the position shown in Fig. 3, the circuit may be completed at any time and for as long a time as desired by simply depressing said plate, which is resilient, until the circuit is completed by the contact of the pin 30 with the terminal 29, the wire 22 being connected with the straight or rear end of the push-piece plate.

It will now be understood that when the closet is in use a simple pressure upon the push-piece 24 will cause the electric fan to draw the air from the bowl and force it out through the vent-pipe for such length of time as may be desired. If it is desired that the motor shall be kept running for some time without keeping the finger pressed upon the push-piece, a longitudinal movement of the push-piece plate will cause its outer end to ride down the cam or incline 31 and remain there with the pin 30 in contact with the terminal 29. If it be desired that the weight of a person may complete the circuit, a small plate, such as represented by dotted lines at 32, may be placed in the recess or hole in the plate 26, said plate 32 being of a thickness to project somewhat above the plate 26, so that a person on the seat will cause the contact of the pin 30 and terminal 29 through the medium of the push-piece 24 and the plate 32. Such plate 32 may be omitted or may be removed when desired, it being shown as a loose plate. It will also be understood that the motor may be operated for any length of time when the seat is raised either by holding the finger upon the push-piece 24 or by sliding the push-piece lengthwise, as above described, and leaving it in that position for a time.

My invention avoids the objection existing to some ventilating devices of analogous character which necessarily involve the running of the motor all of the time the seat is depressed by the user. I also avoid the objection of such former type consisting in the inability to cause the running of the motor when the seat is raised.

I claim—

1. A closet-bowl having an air-passage, a vent-pipe, an electric ventilating device between said air-passage and vent-pipe, a movable seat for the bowl, circuit-wires leading to a point in said seat, and a switch device both terminals of which are carried by said movable seat, whereby the ventilating device may be operated whether the seat is depressed or not.

2. As an article of manufacture, a tubular casing having tapered ends forming contracted collars adapted to be removably connected with a vent-pipe and with an air-passage of a water-closet bowl, and an electric fan secured inside of said casing.

3. The combination with a water-closet bowl having an outlet air-passage at one side of the water and soil pipe connections, a vent-pipe; and a tubular casing containing an electric fan and connecting at its ends with said vent-pipe and outlet air-passage.

4. The combination with a water-closet bowl having an outlet air-passage at one side of the water and soil pipe connections, a vent-pipe, and a tubular casing containing an electric fan and connecting at its ends with said vent-pipe and outlet air-passage, said casing being provided with a wire-conduit outside of the air-passage through said casing, the circuit-wires being located in said wire-conduit.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE E. STEVENS.

Witnesses:
GEORGE C. WING,
W. H. CARNFORTH.