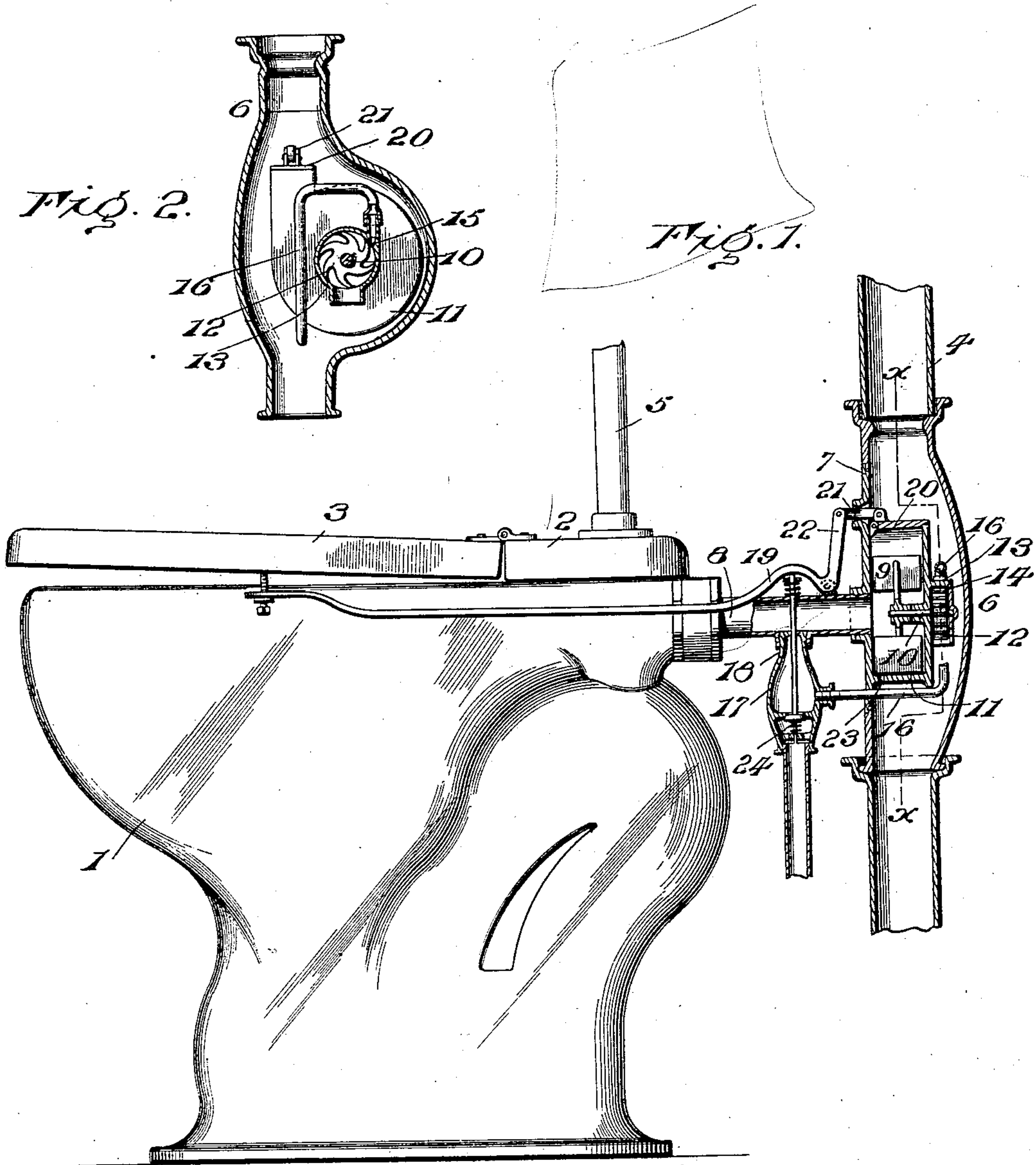


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A. DROUILLARD.
VENTILATING DEVICE FOR WATER CLOSETS, &c.
APPLICATION FILED APR. 12, 1901.

NO MODEL.



Inventor

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Witnesses

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ALBERT DROUILLARD, OF WINDSOR, CANADA.

VENTILATING DEVICE FOR WATER-CLOSETS, &c.

SPECIFICATION forming part of Letters Patent No. 750,952, dated February 2, 1904.

Application filed April 12, 1901. Serial No. 55,559. (No model.)

To all whom it may concern:

Be it known that I, ALBERT DROUILLARD, a subject of the King of Great Britain, residing at Windsor, in the county of Essex, Province of Ontario, Canada, have invented certain new and useful Improvements in Ventilating Devices for Water-Closets, &c., of which the following is a specification.

This invention refers more particularly to a sanitary device for removing the foul air and gases from a closet-bowl while in use.

The object of the invention is to provide a ventilator that can be housed within a section of ventilating-pipe, and thus be carried by the trade as a stock-fitting.

The invention consists in the peculiar construction, arrangement, and combination with the closet of a suction-fan adapted to be automatically set in motion by a hydraulic motor upon the depression of the closet-seat, said motor and fan being housed within the ventilating-pipe and having communication with the interior of the bowl, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a closet, showing my improved ventilating device in vertical central section. Fig. 2 is a section through the fitting on line *x x*, Fig. 1.

As shown in the drawings, 1 is the bowl of a water-closet of known construction provided with a seat-frame 2, to which the seat 3 is hinged.

4 is the ventilating-pipe in rear of the closet-bowl, and 5 is the usual flush-pipe.

6 is a special fitting or section of the ventilating-pipe provided with a screw-cover 7, to which the vent-pipe 8 is detachably secured. This vent-pipe connects the interior of the bowl with the eye of the suction-fan 9, mounted on the shaft 10, journaled in the fan-casing 11. The water-wheel 12 is mounted on the same common shaft and is provided with a suitable housing 13, open at its bottom and provided with a screw-cover 14, in which the end of the shaft is journaled. The water-wheel is driven by the impact of water received through a jet-opening 15 in the casing from a supply-pipe 16 under control of a valve 17,

which is preferably arranged to operate automatically.

The valve 17 is preferably connected directly to the vent-pipe, so that any leakage from it will flow back into the bowl. It has a projecting stem 18 in operative relation to a bell-crank lever 19. The bell-crank lever is preferably pivotally mounted on the vent-pipe and projects with its free end under the seat, so that by the depression of the seat the lever will actuate the valve and admit water to the wheel, causing thereby the fan to revolve and exhaust the air from the bowl. Instead of a bell-crank lever any other style of operating mechanism may be used. The water discharged from the wheel flows into the sewer or other outlet with which the ventilating-pipe is connected. A cover 20 is hinged to the upper side of the fan-casing and is adapted to control communication between the fan and the ventilating-pipe by means of a link 21, connected to the upper end of the arm 22 of the bell-crank lever, so that as the seat is depressed and the motor started the cover 20 will be raised. A small hole 23 may be placed in the bottom of the casing 11 for the escape of any water that may collect therein. The vent-pipe 8 is preferably inclined toward the bowl, so that any water that may collect therein will drain into the bowl.

A spring 24 is sleeved on the stem of the valve 17, so as to hold said valve normally to its seat, except when depressed by the lever 19, as described.

It will thus be seen that by placing the device within the ventilating-pipe the necessity of attaching it to the closet-seat or wall is dispensed with. It is entirely hidden from view and the noise incidental to the operation of the fan is removed. A further advantage is that by making it of a size that can be used in any of the standard closet-pipes it can be carried in stock like any other pipe-fitting for plumbers' use.

While I have shown and described this invention as being applied to a single closet, it is obvious that it may be used in connection with a series of closets.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a closet-bowl, hinged seat and ventilating-pipe, a fitting adapted to form a section of said pipe, a suction-fan and actuating-motor mounted upon a common shaft inclosed within said fitting, a vent-pipe connecting said fan with the interior of the bowl, a water-supply pipe for the motor, a valve in said pipe, and a lever for actuating said valve upon the movement of the seat.

2. The combination with a closet seat and bowl, of a ventilating-pipe adjacent to the bowl, a fitting having a removable cover forming a portion of said pipe, a suction-fan and motor mounted upon a common shaft, a housing for said fan and motor formed on the cover within the pipe, a vent-pipe connecting the eye of the fan with the bowl, a water-supply pipe for the motor, a valve in said pipe, a cover controlling communication between the fan and ventilating-pipe hinged to the fan-casing, and a bell-crank lever pivotally mounted in operative relation to said valve and cover, whereby upon the depression of the seat communication will be established with the ventilating-pipe and with the source of water-supply for the motor.

3. The combination with a closet seat and bowl, of a ventilating-pipe adjacent to the bowl, a suction-fan and motor mounted upon the same common shaft within the pipe and a housing therefor, a vent-pipe connecting the fan with the bowl, a water-supply pipe for the motor, a valve in said pipe and means whereby upon the depression of the seat communication will be established with the source of water-supply and between the ventilating-pipe and bowl respectively.

4. In a ventilating device of the character described, a pipe-fitting adapted to form a section of the ventilating-pipe, a suction-fan and water-motor mounted upon the same common shaft within the fitting, a housing forming a separate chamber for said fan and having an opening therein communicating with the closet-bowl, and a valve adapted to automatically control the source of water-supply.

5. In a ventilating device of the character described, a pipe-fitting adapted to form a section of the ventilating-pipe, a suction-fan and motor mounted upon a common shaft within said fitting, and a housing therefor forming separate compartments for the fan and motor,

the motor-compartment being in constant communication with the ventilating-pipe and provided with a jet connected with the source of water-supply, and the fan-compartment adapted to be normally out of communication with the ventilating-pipe, and means independent of the fitting for setting said motor in operation and establishing communication with the fan and ventilating-pipe.

6. In a ventilating device for water-closets, a suction-fan and actuating water-wheel arranged upon a common shaft, a casing formed with compartments inclosing said fan and water-wheel, a fitting forming a section of the ventilating-pipe inclosing said casing and with which the compartments are in suitable communication to receive the waste water from the wheel and the exhaust-air from the fan, a vent-pipe for admitting air to the fan, and a valve automatically controlling the admission of water to the water-wheel, said valve having its casing secured to the under side of the vent-pipe and having its stem projecting in such manner as will admit of its being actuated by the movement of the hinged seat.

7. In a ventilating device for water-closets, a rotary fan and actuating water-wheel mounted upon a shaft, a casing formed with compartments inclosing said fan and water-wheel, a fitting adapted to form a section of the ventilating-pipe inclosing said casing and with which the compartments are in suitable communication, a vent-pipe for admitting air to the fan, and a water-supply pipe for the water-wheel, a valve in said pipe, and means for actuating said valve to set the motor in operation.

8. In a ventilating device for water-closets, a pipe-fitting adapted to form a section of the ventilating-pipe, a removable cover for said fitting having a casing provided with compartments formed thereon, in suitable communication with the ventilating-pipe, a suction-fan and actuating water-wheel arranged upon a common shaft within said compartments, a vent-pipe for admitting air to the eye of the fan, and a valve for automatically controlling the admission of water to the wheel upon the movement of the seat.

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

ALBERT DROUILLARD.

Witnesses:

OTTO F. BARTHEL,
JOSEPH A. NOELKE.