

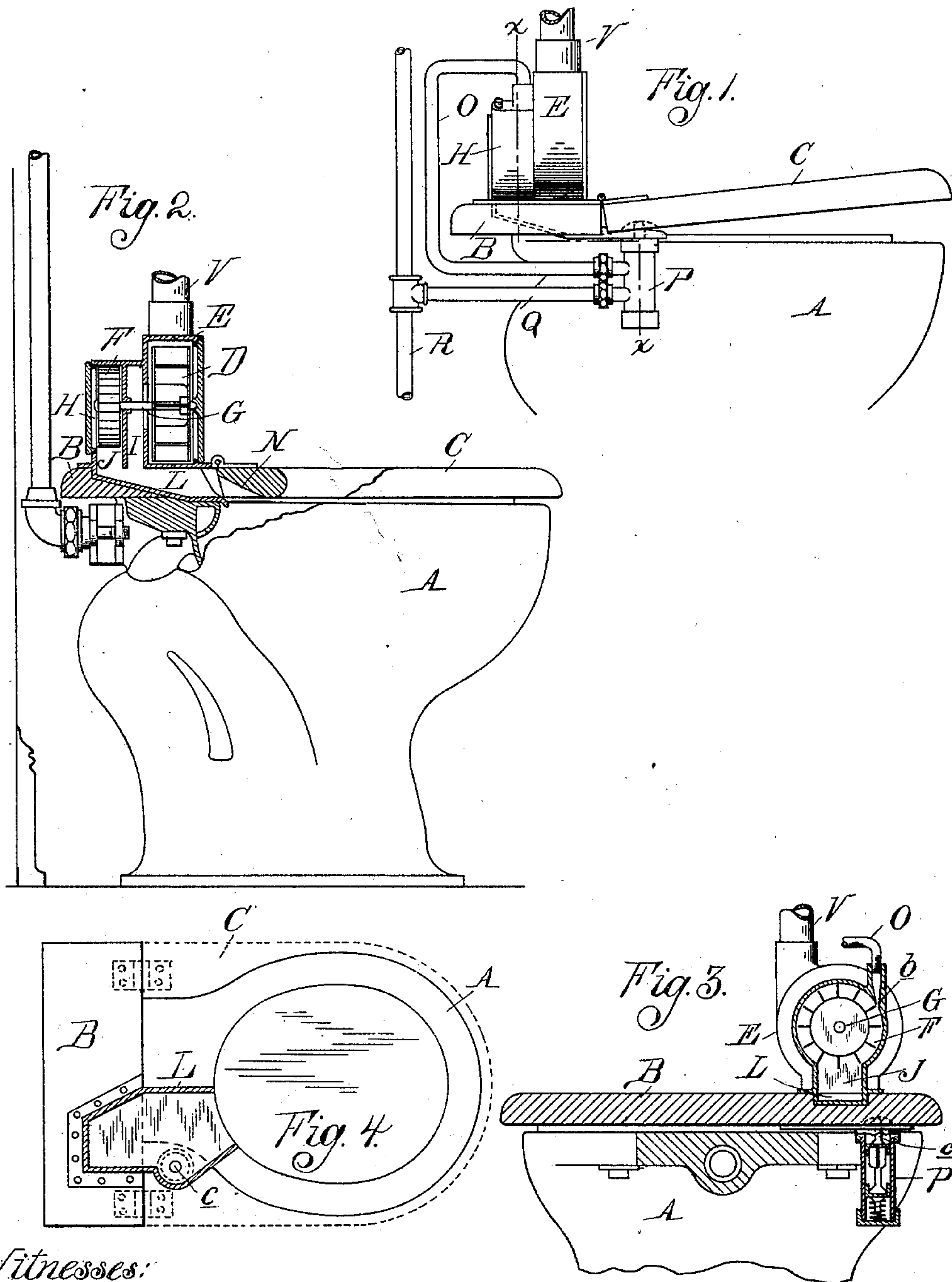
No. 669,062.

Patented Feb. 26, 1901.

A. DROUILLARD.
VENTILATING DEVICE FOR WATER CLOSETS.

(Application filed Sept. 26, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT DROUILLARD, OF WINDSOR, CANADA, ASSIGNOR OF ONE-HALF TO
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VENTILATING DEVICE FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 669,062, dated February 26, 1901.

Application filed September 26, 1900. Serial No. 31,209. (No model.)

To all whom it may concern:

Be it known that I, ALBERT DROUILLARD, a subject of the Queen of Great Britain, residing at Windsor, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in Ventilating Devices for Water-Closets, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention refers more particularly to a sanitary device for removing the foul air and gases from a closet-bowl during use; and it consists in the peculiar construction, arrangement, and combination, with the closet, of a suction-fan communicating with the interior of the bowl and automatically set in motion by a hydraulic motor, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation showing my invention as applied to a closet of known construction. Fig. 2 is another side elevation with the exhaust-fan and its connections shown in vertical section. Fig. 3 is a cross-section on line *xx* in Fig. 1. Fig. 4 is a plan view with the lower portion of the housing in section.

A is the bowl of a water-closet of known construction provided with a seat-frame B, to which the seat C is hinged.

E is a fan-casing mounted on the seat-frame in rear of the bowl and inclosing a suction-fan D and an actuating water-wheel F, mounted upon a common shaft G and inclosed in a separate compartment H, formed in said casing. The lower portion of the casing is recessed into the seat-frame and forms an inclined discharge-spout L, through which the waste water from the water-wheel is conducted through a vertical trunk J and discharged into the interior of the bowl, while at the same time the interior of the bowl is connected with the fan through a trunk I, leading from the discharge-spout into the eye of the fan, whereby the foul air from the closet is drawn into the fan and discharged into a ventilating-pipe V.

A recess N is formed on the under side of the seat above the discharge-spout to afford

free communication from the interior of the bowl into the spout L.

As shown in the drawings, the water-wheel is placed in rear of the fan; but this is immaterial, as it might be placed, if desired, in front thereof.

For the purpose of readily constructing and mounting the device the casing may be made in parts in any suitable manner, and where the device cannot be placed directly in the center line of the closet on account of the flush-pipe it may be placed to either side thereof. As closets of different makes vary in form, the lower part of the casing below the fan and water-wheel—that is, the pan, which is mortised in the seat-frame—will have to be modified to suit the particular closet, and it is thus preferable to make this a separate part of the casing.

The water-wheel is driven by the impact of water received through a jet-opening *b* in the casing from a pipe O under control of a valve P, which is preferably arranged to operate automatically to admit water from the usual service-pipe R through the branch pipe Q. As shown in the drawings, the valve P is directly connected to the bottom of the pan, with the stem *c* of the valve projecting vertically upwardly through the bottom of the pan against the under side of the seat, which is normally elevated, as shown, by a suitable spring or weight, (not shown,) all so arranged that by sitting on the seat the latter is depressed and water under pressure is admitted to the water-wheel, causing the latter to revolve and draw the foul air from the bowl into the fan and carry it off into the ventilating-pipe.

As automatically-operating closet-valves of the character shown are old and form no part of my invention, they may be of any known construction.

My invention so far as it has any relation to automatic controlling means consists in connecting the valve to the pan, so that any possible leakage which may occur around the stem of the valve will flow into the bowl, together with the waste water from the water-wheel.

My device has the advantage that it is sim-

ple and effective and applicable to most any style of closet in practical use, as the seat and seat-frame are the only parts involved in the construction, and combined with these parts my device is of the nature of an attachment to water-closets as an article of manufacture.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the closet-bowl, seat-frame and seat hinged thereto, of the suction-fan D, and a water-wheel F mounted upon the shaft G, the casing E mounted upon the seat-frame and inclosing said fan and wheel, the discharge-spout L formed at the base of the casing and extending at an incline through a recess in the top of the seat-frame into the bowl over the rear edge thereof, the recess N in the under side of the seat, the trunks I and J connecting said discharge-spout with the fan and the water-wheel, the supply-pipe O for the water-wheel, the valve P in said supply-pipe and the actuating valve-stem c arranged to automatically operate the valve by the movement of the seat.

2. In a ventilating device for water-closets, the combination with the bowl and seat-frame, of a suction-fan having an actuating water-wheel secured upon a common shaft, and a casing mounted upon the seat-frame, and formed with separate compartments inclosing said fan and wheel, said casing having a lower section or base recessed into the seat-frame and communicating through openings and passages in the casing with the said compartments, and through a discharge-spout formed on said lower section and extending into the top of the bowl with the interior of the bowl, to form a common conduit for the discharge of the waste water from the water-wheel into the bowl and for the admission of foul air from the bowl into the suction-fan.

3. In a ventilating device for water-closets, the combination with the bowl, seat-frame and seat hinged thereto, of a suction-fan and actuating water-wheel arranged upon a common shaft, a casing formed with compartments inclosing said fan and water-wheel, a pan recessed into the seat-frame and forming a lower section or base upon which the casing is mounted and with which its compartments are in suitable communication to receive the waste water from the water-wheel and for admitting air to the fan, said fan formed with

an inclined bottom, and a discharge-outlet extending through the seat-frame and projecting over the rim of the closet beneath the rear portion of the seat, said seat formed on its under side with a recess through which said discharge-spout is brought into open communication with the interior of the bowl.

4. In a ventilating device for water-closets, the combination with the bowl, seat-frame and seat hinged thereto, of a suction-fan and actuating water-wheel upon a common shaft, a casing inclosing said fan and wheel and provided with inlet and outlet openings in its bottom for the discharge of the waste water from the wheel and for the admission of air to the fan, a pan recessed into the seat-frame to one side of the center of the closet and forming the base upon which the casing is mounted, a discharge-spout on said pan extending beneath the rear end of the seat and communicating with the interior of the bowl, and a valve for automatically controlling the admission of water to the water-wheel, said valve having its casing secured to the under side of the pan and having its stem projecting through the bottom of said pan into contact with the under side of the hinged seat.

5. 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 pan forming a lower section or base upon which the casing is mounted and with which its compartments are in suitable communication to receive the waste water from the water-wheel and for admitting air to the fan, said lower section or base being connected with a discharge-outlet which may be extended underneath the seat-frame and project over the rim of the closet or connected with the local vent thereof, and a valve for automatically controlling the admission of water to the water-wheel, said valve having its casing secured to the under side of the discharge-outlet and having its stem projecting in such manner as will admit of its being actuated by the movement of the hinged seat.

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

ALBERT DROUILLARD.

Witnesses:

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JOSEPH A. NOELKE.