K. S. BLANCHARD.

WATER CLOSET.

APPLICATION FILED MAY 13, 1913.

1,165,836.

Patented Dec. 28, 1915.

FIG. 1.

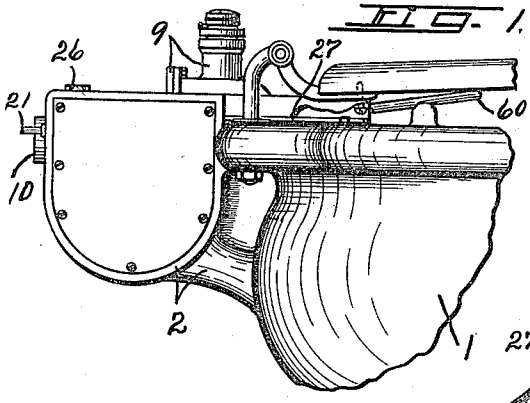


FIG. 2.

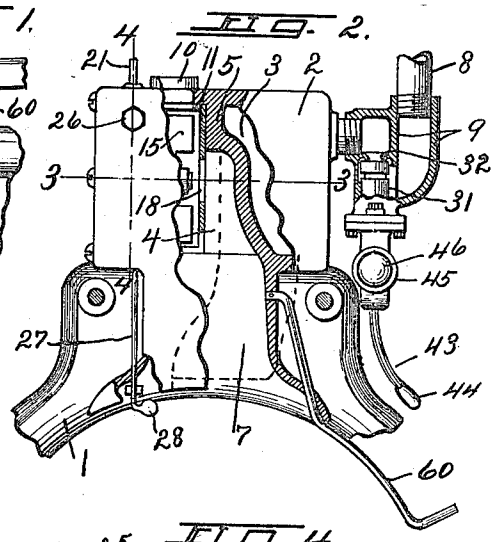


FIG. 3.

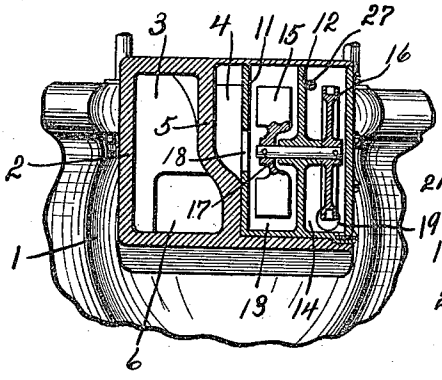
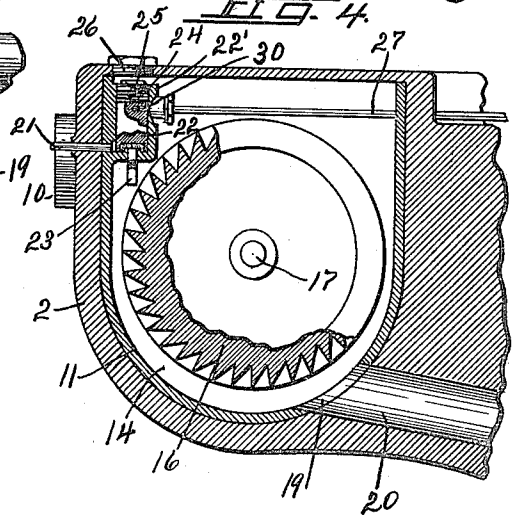


FIG. 4.



WITNESSES:

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WATER-CLOSET.

1,165,836. Specification of Letters Patent. Patented Dec. 28, 1915.

Application filed May 13, 1913. Serial No. 767,249.

To all whom it may concern:

Be it known that I, KIRK S. BLANCHARD, of Brooklyn, in the county of Kings, in the State of New York, have invented new and useful Improvements in Water-Closets, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in water closets involving the use of a motor-driven ventilator and flushing mechanism for a purpose somewhat similar to that set forth in my Patents Nos. 996,606, July 4, 1911, 1,025,364, May 7, 1912, and Patents Nos. 1,114,575 and 1,114,576, both issued Oct. 20, 1914.

Another object is to mount the ventilating fan and its water motor within the extension of the bowl and preferably in a separate case or support so that the entire ventilating apparatus including the motor may be easily and quickly removed or replaced at will.

Other objects and uses relating to specific parts of the ventilating mechanism will be brought out in the following description.

In the drawings Figure 1 is a side elevation of the rear upper portion of my improved closet and seat therefor showing the extension for receiving and supporting the various parts of the ventilating and flushing mechanism. Fig. 2 is a top plan partly in section of the same mechanism exclusive of the seat. Fig. 3 is a transverse vertical sectional view through the extension taken on line 3—3, Fig. 2. Fig. 4 is an enlarged longitudinal vertical sectional view through the extension taken on line 4—4, Fig. 2.

In order that my invention may be clearly understood, I have shown a closet bowl —1— as provided with a rearwardly projecting chambered extension —2— having a flushing chamber —3— and a ventilating chamber —4— separated from each other by a partition —5—, said chambers communicating with the interior of the bowl through separate passages —6— and —7—, the flush chamber —3— being connected directly to the pressure line or supply pipe —8— through the medium of a controlling valve —9— while the ventilating chamber —3— is provided with an outlet —10— adapted to be connected to a vent pipe (not shown) leading to the exterior of the building in which the closet is located.

The flush passage —6— preferably communicates with the bowl in a plane below the ventilating passage —7—, which latter is located in the rear upper portion of the bowl just beneath the seat and is provided with an inwardly flaring mouth of considerable width but relatively shallow vertically so as to readily receive and convey the vitiated air from the interior of the bowl when the fan is in operation or rather when the bowl is in use as will be hereinafter more fully explained.

The ventilating chamber —4— is provided with an opening in its outer side of sufficient size to receive a separate metal case —11—, the interior of which is divided by a partition —12— into separate compartments —13— and —14— for receiving a ventilating fan —15— and a water motor —16—, said motor and fan being mounted coaxially upon the same shaft —17— which is journaled in a suitable bearing in the partition 12.

The fan compartment —13— is provided with a vent opening —18— in its inner side communicating with the ventilating chamber —4— as shown more clearly in Figs. 2 and 3, and is also provided with a similar opening communicating with the vent pipe —10— as shown in Fig. 2.

The motor compartment —14— is provided with an outlet —19— registering with a similar outlet —20— leading directly into the interior of the bowl. The motor is driven by water under pressure directly from the main line through a branch pipe —21— which is connected to a controlling valve —22— within and forming a part of the motor case —11—, the valve chamber being provided with a nozzle —23— discharging tangentially against the peripheral teeth or buckets of the motor as shown more clearly in Fig. 4. The inlet pipe —21— enters a valve chamber —22′— close to the end in which the discharge nozzle —23— is secured so that the valve —22— which seats against the inner end of the discharge nozzle also covers the adjacent portion to which the inlet pipe is connected, thereby constituting a double closure.

The valve —22— is normally closed by a coil spring —24— which is interposed between the upper end of the valve and a suitable adjusting plug or screw —25— directly under and registered with a superposed but larger screw plug —26— in the top of the

bowl extension so as to permit access to the spring adjusting screw —25— and also to the valve when necessary for adjustment or repairs. This valve is adapted to be opened by downward pressure upon a seat, as for example when the latter is occupied, for the purpose of operating the ventilating fan during such occupancy and to this end I have provided a valve-operating rod or rock shaft —27— which is journaled in suitable bearings in the upper rear part of the bowl or extension so as to extend forwardly and rearwardly thereof with its front end directly under the rear portion of the seat and provided with a lateral offset —28— adapted to be engaged by said seat when the latter is depressed for locking the shaft —27— whereby the valve —22— will be raised from its seat, to admit the pressure fluid to the motor through the discharge nozzle —23— but, as soon as the pressure upon the closet seat is relieved and the seat returned to its normal position, the valve —22— will be automatically closed by its spring —24— to permit the stoppage of the motor and ventilating fan.

The main supply and flush valve —9— is shown more clearly in Fig. 2 and comprises a plunger valve —31— interposed between the inlet and outlet of the valve case and normally seated at one end against a suitable valve seat —32— facing the outlet of the valve case, and adapted to be opened by a hand-lever —43— having handle —44—.

What I claim is:

1. A water closet comprising a bowl having an integral rearward extension provided with non-communicating chambers which communicate with the interior of the bowl through separate outlet passages, means for supplying a flushing fluid to one of said chambers, the other chamber having a ventilating outlet, a ventilator case removably mounted in the last named chamber and having non-communicating compartments, a water motor in one of said compartments, a fan in the other compartment driven by said motor, and means for supplying a motive fluid to the motor chamber for driving the motor, the fan compartment having communication with the chamber in which the ventilator case is located and also with the ventilating outlet.

2. A water closet bowl having an integral rearward extension provided with non-communicating chambers opening into the interior of the bowl through separate passages, a flush pipe leading to one of said chambers, a ventilator case removably mounted in the other chamber and provided with non-communicating compartments, a water motor in one of said compartments, a fan in the other compartment driven by said motor, and means for supplying a motive fluid to the water motor, said case having an outlet connecting the motor compartment with the passage leading from the corresponding chamber of the bowl extension to the interior of the bowl, the fan chamber having an inlet communicating with the interior of such chamber and also provided with an outlet.

In witness whereof I have hereunto set my hand this 8th day of May, 1913.

KIRK S. BLANCHARD.

Witnesses:

JOHN B. SEAVER,

HARRY T. PERFIELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."