E. F. KLEMME.

WATER CLOSET VENTILATOR.

APPLICATION FILED APR. 24, 1918.

1,351,854. Patented Sept. 7, 1920.

FIG. 5.

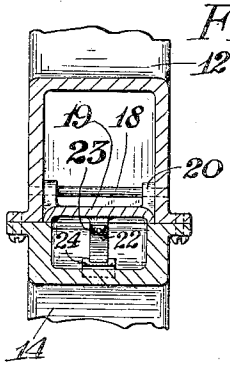


FIG. 1.

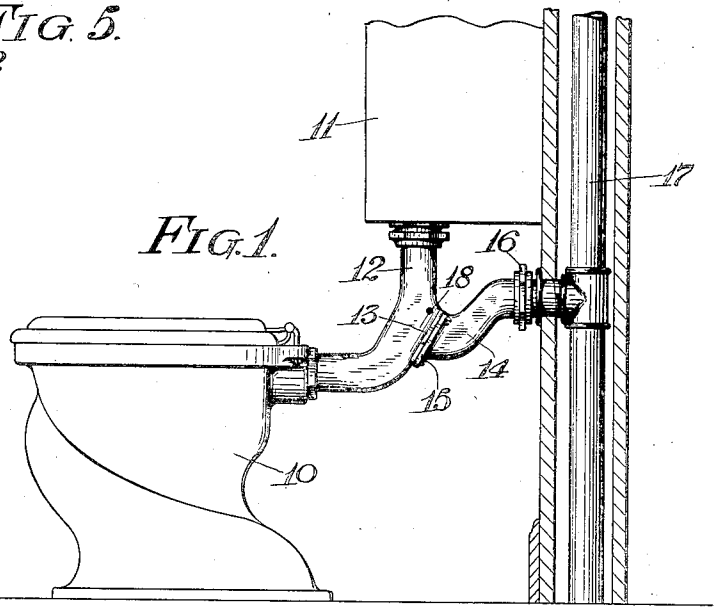


FIG. 3.

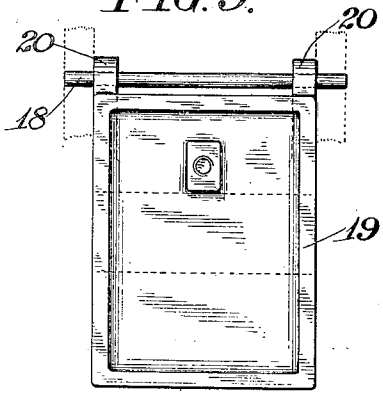


FIG. 2.

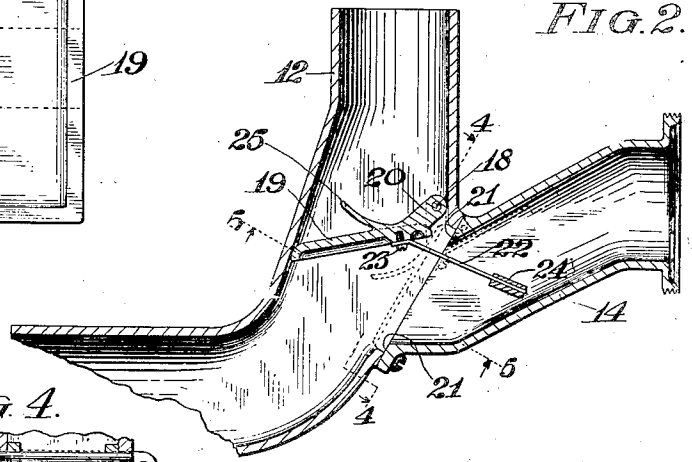
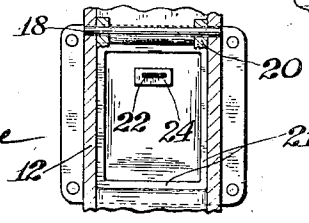


FIG. 4.



WITNESSES.
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WATER-CLOSET VENTILATOR.

1,351,854. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed April 24, 1918. Serial No. 230,561.

To all whom it may concern:

Be it known that I, ERNST F. KLEMME, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Water-Closet Ventilators, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to water closet ventilators of the type covered by my United States Letters Patent No. 1,228,786, dated June 5, 1917, and has for its object to simplify the construction and to provide a tight sealing closure for the ventilator valve which is automatically closed by the flow of water through the flushing pipe so as to prevent the flow of water from drawing gas from the ventilating pipe by induction.

Another object of the invention is to reduce the cost of manufacture and improve the appearance of the device and at the same time render it more sensitive to the influence of the water and less liable to get out of order.

With the above and other objects in view the invention consists in the ventilator as herein claimed and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in different views:

Figure 1 is a side view of a water closet provided with the ventilator of this invention;

Fig. 2 is a sectional view of the ventilator;

Fig. 3 is a bottom or face view of the valve;

Fig. 4 is a sectional view on the plane of line 4—4 of Fig. 2 with the valve open; and,

Fig. 5 is a sectional view on the plane of line 5—5 of Fig. 2 with the valve closed.

In these drawings 10 indicates a water closet and 11 the flushing tank therefor, while 12 is the elbow forming the flushing pipe connecting them. At its bend the flushing pipe 12 is provided with a flat portion 13 forming projecting flanges on opposite sides and an opening through this portion registers with the somewhat smaller opening through a vent connector 14 which is clamped to the flushing pipe 12 by means of screws 15 passing through connecting flanges formed by a flat portion on its end and threaded into the flanges of portion 13. The vent connector 14 has a suitable airtight coupling connection 16 with a vent pipe 17.

A pivot pin 18 passes through the flushing pipe 12 just above the portion 13 to pivotally support a valve member 19. The valve is suspended on the pin by having lugs or ears 20 projecting upwardly and rearwardly at its upper edge and loosely fitting on the pin while bearing against the side walls of the flushing pipe to prevent lateral movement of the valve. The valve member is slightly concave so that its edge forms a continuous downwardly extending flange for seating against the valve seat 21 formed by the ledge entirely around the opening of the vent connection resulting from the larger size of the opening in the portion 13 of the flushing pipe. The construction of the valve and its seat permits of accurate close fitting without the aid of skilled labor or special tools and machinery. The casting forming the flushing pipe with the valve mounted therein is operated on in the usual manner by a milling cutter, planer or grinder to face the flanged portion 13 and at the same time the edges of the valve member which during the operation is held in suitable position for this purpose by a backing tool forced between it and the opposite wall of the flush pipe. The valve and the portion 13 are thus faced by the same operation in a common plane. The flanged end of the vent connection is similarly faced to a plane so that when it is fitted against the portion 13 of the flushing pipe the common plane of the meeting faces of the connecting flanged portions will accurately position the face of the valve seat 21 for close tight fitting relation with the face of the valve. An airtight fit between the valve and its valve seat is thus readily produced.

The valve member is preferably counterweighted to normally hold it off of its seat for its own weight tends to hold it closed. A bent arm 22 is fastened to the valve by means of a screw 23 and has a weight 24 on its ends, such weight and arm working within the vent connector 14.

Preferably, though not necessarily, the valve is provided on its upper surface with a curved blade 25 against which the water strikes with force to close the valve and hold it tightly closed during flushing.

The operation of the ventilator of this invention is to maintain a ventilating connec-

tion from the water closet bowl to the vent pipe by way of the flushing pipe and the vent connector with the valve normally open under the action of its counterweight, such ventilating connection being automatically sealed, however, during the flushing operation by the rush of water against the valve or its blade 25 causing said valve to be held firmly against its seat and prevent gas being drawn from the vent pipe into the room by induction.

The present ventilating valve construction is automatic in its operation and is efficient for producing airtight closure without being expensive to manufacture and without being liable to get out of order.

What I claim as new and desire to secure by Letters Patent is:

In the water closet ventilator, the combination of a flushing pipe, a vent connector having communication therewith and having a valve seat surrounding it, a valve member normally pivotally mounted in the flushing pipe and fitting on the valve seat and adapted to be closed by the flow of water through the flushing pipe, said valve having a curved blade projecting from the outer face thereof, and a counterweight on the valve member for holding it open.

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

ERNST F. KLEMME.

Witnesses:
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