Sept. 21, 1926. 1,600,704

J. ALBRECHT

TOILET VENTILATOR

Filed April 25, 1925

Fig. 1.

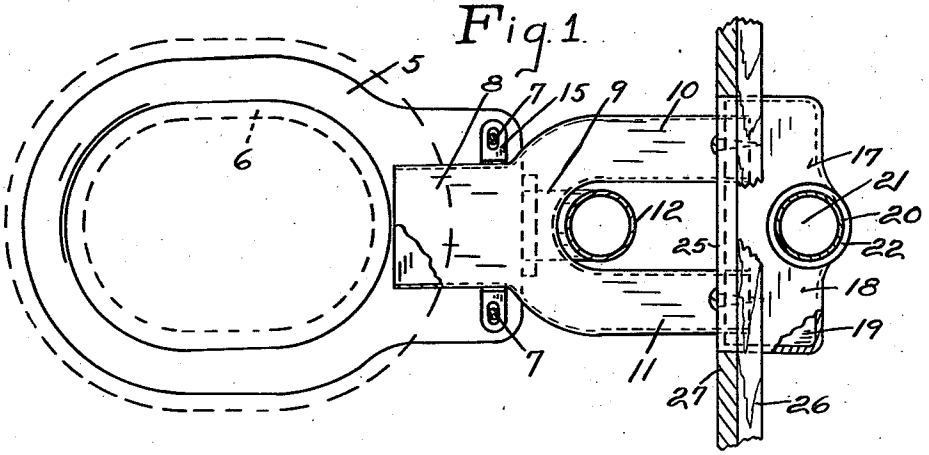


Fig. 2.

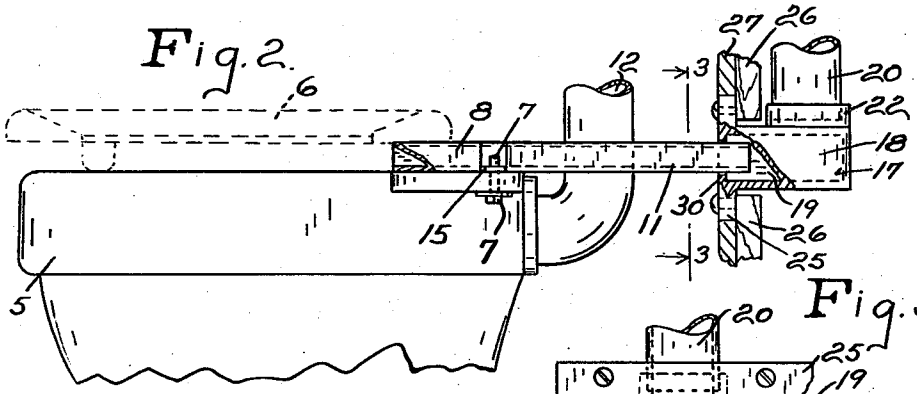


Fig. 3.

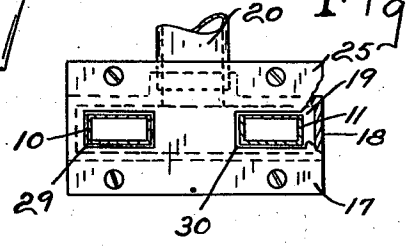
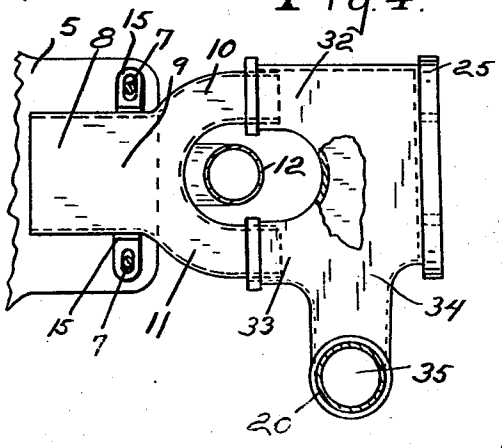


Fig. 4.



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TOILET VENTILATOR.

Application filed April 25, 1925. Serial No. 25,769.

This invention relates to improvements in water closet ventilators.

It is the object of the invention to provide novel and improved fittings for association with the bowl and with the vent pipe.

Existing ventilators for this purpose have proven very satisfactory in actual service but have been objected to by the plumbing trade and by users because of the fact that they are comparatively difficult of installation and because of the further fact that they are very conspicuous. The difficulty in installation arises when the piping for the plumbing fixtures does not properly align itself with the vent pipe so that the water closet bowl may be displaced a short distance either laterally or vertically from the desired position with reference to a vent pipe opening in the wall. Such fixtures as I am familiar with have not heretofore provided any means for readily compensating for slight inequalities such as those above referred to, and it is one of the specific objects of this invention to provide a ventilating fitting which will have a more or less flexible attachment with a receptacle connected with the vent pipe.

The conspicuousness of the ventilating attachments with which I am familiar arises from the necessity for avoiding the flushing pipe leading from the tank to the bowl while maintaining a sufficient capacity for the efflux of gases from the bowl. This has heretofore been done by enlarging the chamber of the passage vertically and offsetting it laterally to pass on one side of the flush pipe above referred to. The vertical enlargement makes the devices very conspicuous, and it is a further specific object of this invention to provide adequate capacity without suggesting the purposes or functions of the device.

Another difficulty in devices of this sort with which I am familiar arises in the necessity for making occasional repairs to the flushing pipe or its connections. It is sometimes difficult to remove ventilating attachments heretofore known in order to gain access to the flush pipe. The present device is so organized as to make its removal very simple at such times as the removal or repair of the flush pipe is necessary.

In the drawings:

Figure 1 is a plan view of a device embodying this invention.

Figure 2 is a side elevation thereof.

Figure 3 is a section taken on line 3—3 of Figure 2.

Figure 4 illustrates a modified form of the invention adapted for use when the vent pipe is not to be installed in the wall but must be disposed outside of the finish plaster of the partition.

Like parts are identified by the same reference characters throughout the several views.

The bowl is shown at 5, the seat 6, for the sake of clearness, being shown merely in broken lines. At 7 I have illustrated the usual bolts by means of which the hinges for the seat 6 are secured to the porcelain body of the bowl. The device which embodies the present invention comprises a Y-shaped tube, all parts of which are substantially rectangular in cross section. The broad central portion 8 of this tube extends between hinge bolts 7 and the edge of the bowl where it opens beneath the seat 6. At 9 the broad flat tube 8 branches into two arms 10 and 11, the combined capacity of which may be about equal to or greater than the capacity of the pipe section 8. The rectangular cross section of the pipe is preserved in the arms. The space between the arms is entirely adequate to receive the flush pipe 12 which leads to the bowl from a suitable source of water supply. The entire fitting comprising main pipe 8 and branches 10 and 11 is connected with the bowl simply through the medium of a transversely slotted plate 15 connected to the fitting and adapted to receive the hinge bolts 7 through its slots. Obviously, when the hinges are superposed and threaded onto bolts 7 and are tightened against the bowl, the fitting will not only be confined against movement but, due to its symmetrical shape and flat upper surface and due to the fact that all securing means are invisible, the device will be very inconspicuous and in most instances wholly unnoticeable.

Co-operating with the ventilating fitting above described is a receptacle designated in its entirety by reference character 17 and adapted to be placed in the partition or wall immediately at the rear of the bowl and beneath the tank. This receptacle comprises a box 18 providing an interior chamber 19 which communicates with the vent pipe 20 through an aperture 21 defined by a sleeve 22 which is preferably formed integrally

with box 18 and receives the lower end of the vent pipe.

The front of the box preferably comprises a plate 25 which may conveniently be formed integrally therewith and projects therebeyond on at least two of its margins. This plate is intended to overlie the lath 26 of the partition and to be secured thereto. Its front face will be flush with the plaster 27 when so secured. Any other suitable supporting strips may be used at 26 in place of lath if greater strength is desired, but the receptacle is subject to no particular load.

In the face plate 25 are a pair of laterally spaced openings 29 and 30 adapted to receive the ends of the branch pipes 10 and 11. Openings 29 and 30 are preferably slightly smaller than the interior chamber 19 in order to afford clearance or relief for relative movement of the arms with respect to the receptacle.

There is nothing which secures the arms within the receptacle except the juxta-position of the bowl and partition and the fact that the ventilating fitting is secured to the bowl by the hinge bolts thereon. The arms 10 and 11 are freely adapted for telescopic movement into and out of the receptacle, whereby a given length of arm on the ventilating fitting will be serviceable for a great many different installations regardless of the specific distance between the bowl and the partition. Furthermore, the clearance surrounding the openings 29 and 30 is such as to permit a considerable degree of lateral and vertical oscillation of the ventilating fitting with reference to the receptacle 17. As a result, it will be clear that even if the pipe does not conform accurately to the plans, this device may nevertheless be installed without departing from its standard construction. The connection between the ventilating fitting and the receptacle may be very tight fitting and at the same time, considering the comparatively great volume capacity of the fitting, there will be a very great flexibility between it and the receptacle.

Where the installation is made in an old house, in which the partition is already plastered up and it will be difficult to install the vent pipe 20 in such partition, it becomes desirable to modify the device above described in such a manner that while reserving many of the advantageous features above referred to the device will nevertheless be adapted to communicate with a receptacle placed outside of the partition wall. To this end I have designed the Figure 4 construction, in which the ventilating fitting, including main pipe 8 and branch pipes 10 and 11, is constructed exactly along the lines above indicated with the exception that it may be necessary to cut off the arms 10 and 11 in order to reduce their length. The principal difference between the two devices arises in the receptacle which, in the Figure 4 construction, must be so devised that it can be located beneath the flush tank and outside of the partition.

In this modified construction the design of the receptacle should be such that it will not interfere with the flush pipe 12, and accordingly, the receptacle is provided with diverging arms 32 and 33 which unite at 34 upon one side of the flush pipe and lead to a laterally offset port 35 which may communicate with the vent pipe 20. It will be understood that when the vent pipe is not in the partition it must be laterally offset in order to clear the tank, and this will account for the location of the opening 35 in the receptacle.

Arms 10 and 11 are telescopically receivable in this receptacle just as they were in that previously described, and in fact the construction of the ventilating fitting is standard in both installations. The Figure 4 construction, like that shown in the previous views, provides a comparatively high degree of flexibility between the fitting and receptacle while being as inconspicuous as is possible in a device in which the vent pipe is outside of the partition.

It will be apparent from the foregoing description that the objects of the invention are fully satisfied, and that a novel and simple device has been disclosed for the purposes aforesaid.

I claim:

1. In a device of the character described, the combination with a receptacle having an interior chamber, a vent opening and a pair of spaced apertures; of a ventilating fitting comprising a main conduit and a pair of substantially parallel branch conduit portions complementary to said apertures and telescopically receivable therein, said receptacle being provided with means for securing it to a partition, and said main conduit portion being provided with apertured lugs adapted to be engaged by the hinge fitting of a water closet bowl.

2. In a device of the character described, the combination with a receptacle comprising a horizontally elongated chamber having spaced apertures in its front and having an opening in its top, of a flange on said receptacle at its front and adapted to comprise a face plate for the mounting of said receptacle, and an annular collar formed about said opening on said receptacle and adapted to receive connection with a vent pipe, together with a ventilating fitting comprising spaced conduit portions telescopically receivable into the apertures of said receptacle.

3. In a device of the character described, the combination with a receptacle having

spaced apertures in its front and a vent opening whereby the same may be connected with a vent pipe, of a flange on said receptacle at its front and adapted to comprise a face plate for the mounting of said receptacle upon a wall member, and a ventilating fitting comprising a body portion adapted to be secured to a water closet bowl, and spaced conduit portions telescopically fitting into the apertures of said receptacle whereby the fitting may be adjusted toward and from the receptacle for selectively securing the same at points varying in distance from said receptacle.

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