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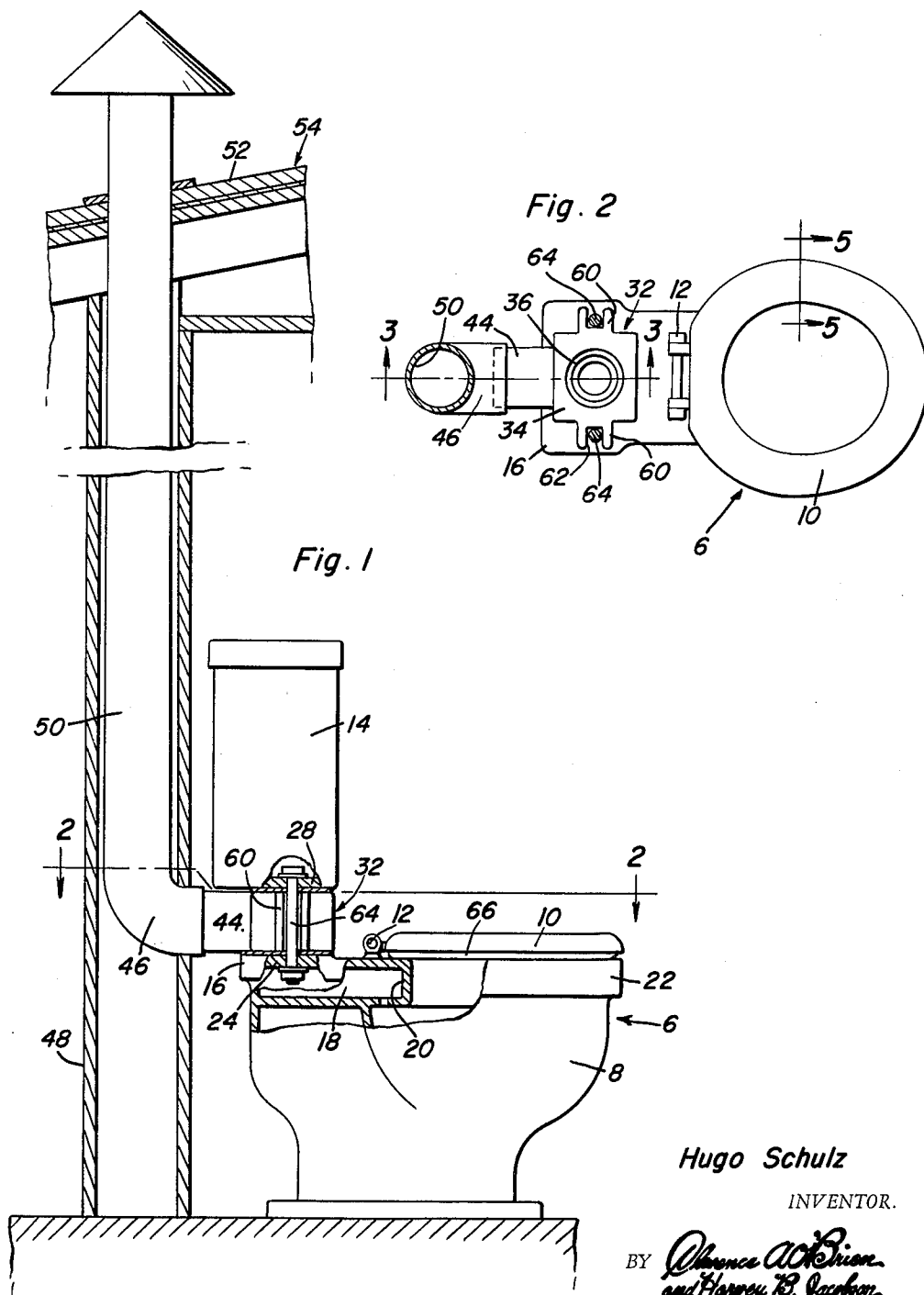
H. SCHULZ

3,230,552

VENT ADAPTER FOR VENTILATED COMMODE

Filed May 10, 1963

2 Sheets-Sheet 1



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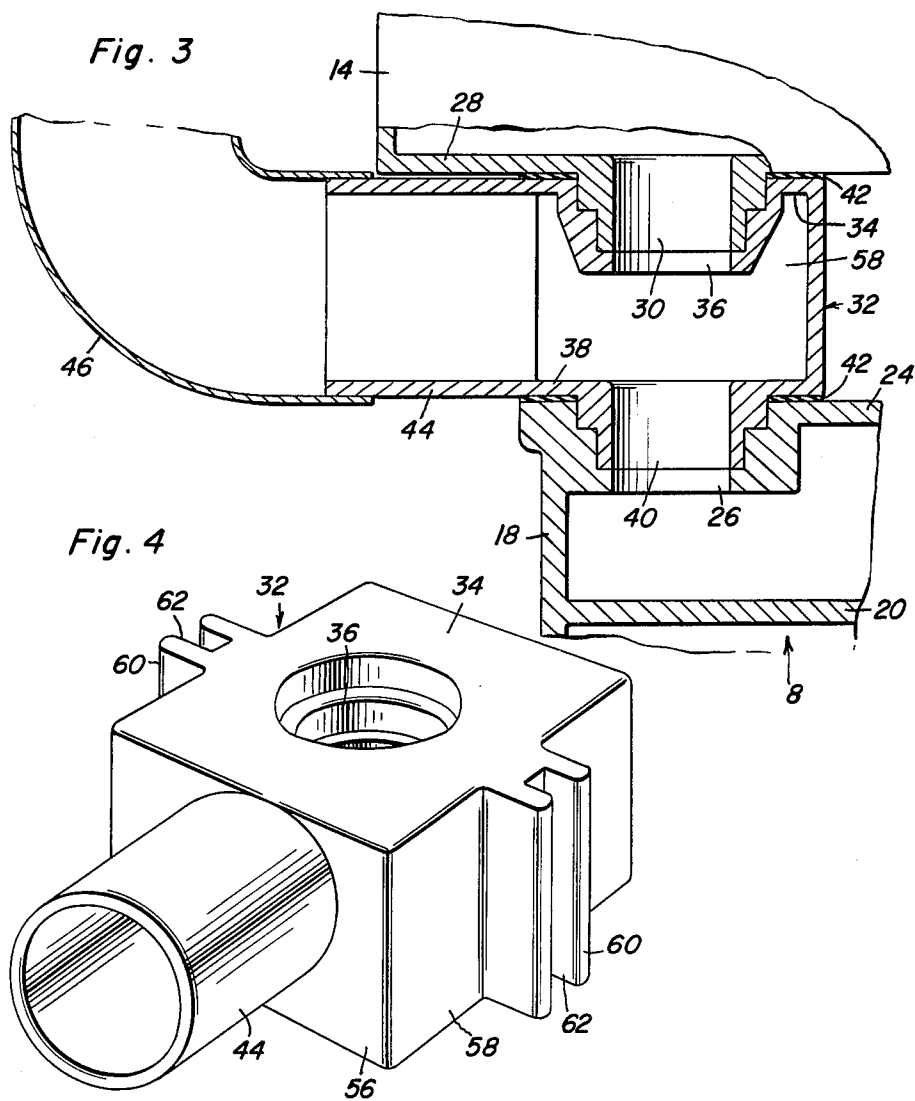
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VENT ADAPTER FOR VENTILATED COMMODE

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2 Sheets-Sheet 2



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VENT ADAPTER FOR VENTILATED COMMODE

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4 Claims. (Cl. 4-218)

This invention relates to commodes of the type comprising a bowl and a flush tank mounted on the rear portion thereof and has for its primary object to provide, in a manner as hereinafter set forth, novel means for operatively connecting a vent pipe to the bowl whereby objectionable odors will be prevented from escaping into the room.

Another very important object of the present invention is to provide an adapter of the character described which may be expeditiously installed for operation in a closet combination, that is, between the bowl and the bottom of the flush tank without the necessity of making material structural alterations therein, it being only necessary to provide longer bolts for securing the tank on the bowl with the adapter interposed therebetween.

Still another highly important object of the invention is to provide a readily installed commode ventilating means of the character set forth which relies wholly on natural draft for its successful operation. This is to say, the size, shape and location of the adapter produces a sufficient variation in atmospheric pressure so that no artificially induced pressure draft system is needed or necessary. It follows too that in this adapter there are no moving parts.

Other objects are to provide an adapter of the character set forth which is comparatively simple in construction, strong, durable, compact, of light weight, attractive in appearance and which may be manufactured at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in side elevation with portions in section, showing an adapter embodying the present invention installed for operation in a commode;

FIGURE 2 is a view in horizontal section, taken substantially on the line 2-2 of FIGURE 1 with the wall structure omitted;

FIGURE 3 is a vertical sectional view on an enlarged scale, taken substantially on the line 3-3 of FIGURE 2;

FIGURE 4 is a perspective view of the adapter per se; and

FIGURE 5 is a fragmentary view on an enlarged scale through the upper portion of the bowl and the seat, taken substantially on the line 5-5 of FIGURE 2.

Referring now to the drawing in detail, it will be seen that the reference numeral 6 designates generally a commode of the type comprising a stool or bowl 8, a seat 10 hingedly mounted at 12 for vertical swinging movement on said bowl, a flush tank 14, etc. The bowl 8 comprises the usual back portion 16 formed to provide a water chamber 18 which communicates with the flushing channel 20 in the rim 22 of said bowl.

The flush tank 14 is usually bolted on the rear portion 16 of the bowl 8 in communication with the chamber 18. Toward this end, the top 24 of the water chamber 18 is provided with a stepped depending inlet 26. Depending from the bottom 28 of the flush tank 14 is a stepped outlet or nipple 30 which is adapted to seat in the inlet 26.

The embodiment of the present invention which has been illustrated comprises a polygonal receptacle or casing 32 which is interposed between the flush tank 14 and

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the portion 16 of the bowl 8. The receptacle 32 may be of any desired dimensions and material. Depending from the top 34 of the receptacle 32 is an internally stepped water inlet 36 which seatingly receives the externally stepped discharge nipple 30 of the tank 14. Depending from the bottom 38 of the receptacle 32 is an externally stepped discharge nipple or outlet 40 which is adapted to seat in the internally stepped inlet 26 of the bowl 8. Sealing gaskets 42 of suitable material are provided between the receptacle 32, the flush tank 14 and the top portion 24 of the bowl 8.

Projecting rearwardly from the receptacle 32 is a nipple or the like 44. The nipple 44 is telescopically engageable in an elbow 46 which emerges from a wall structure 48 on the lower end of a vent pipe 50. The vent pipe 50 extends upwardly through the wall structure 48 and passes through the roof 52 of the building, as indicated at 54.

As shown in FIGURE 4 of the drawing, the vent-pipe connecting nipple 44 projects from the rear wall 56 of the receptacle 32. The side walls 58 of the receptacle 32 have formed integrally therewith vertical ribs or the like 60. The ribs 60 have formed therein vertical grooves or channels 62 which accommodate relatively long bolts 64 which secure the tank 14 in position on the bowl 8 with said receptacle 32 therebetween. It will thus be seen that the receptacle 32 is positively secured against rotary movement between the flush tank and the bowl.

A sealing ring or gasket 66 (FIGURE 5) of suitable material is provided between the seat 10 and the top or rim 22 of the bowl 8. The gasket 66 is adhered or otherwise suitably secured beneath the seat 10 in a manner to rest on the bowl 8.

It is thought that the operation of the invention will be readily apparent from a consideration of the foregoing. Briefly, to install the adapter, it is only necessary to detach the tank 14 from the bowl 8, elevate the tank and insert the receptacle 32 therebeneath. With the members 30 and 40 seated in the complementary members 36 and 26, respectively, the tank 14 is again secured in position, utilizing the relatively long bolts 64 for this purpose. With the bolts 64 engaged in the grooves 62 of the ribs 60, rotation of the receptacle 32 is prevented and the nipple 44 is positioned to receive the elbow 46. The construction, combination and arrangement of parts is such that a natural draft is created for drawing odors from the bowl 8 into the receptacle at 32 through the flushing channel 22 and the chamber 18 of said bowl. Of course, from the receptacle 32 the odors pass through the nipple 44 into the vent pipe 50 to be discharged to the atmosphere above the roof 52. As will be readily apparent, the sealing gasket 66 prevents air from being drawn into the bowl between the top thereof and the seat 10. The vent pipe 50 and the elbow 46 are preferably but not necessarily of a suitable plastic.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed. For example, the invention may be incorporated in the flush tank or the bowl by the manufacturer.

What is claimed as new is as follows:

1. An adapter for operatively connecting a vent pipe to a commode of the type including a bowl and a flush tank bolted thereon, said adapter comprising a polygonal receptacle interposed between the bowl and the tank for supporting the former on the latter and communicating

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said tank with said bowl, said receptacle including a flat bottom of substantial dimensions resting on the bowl and a flat top of substantial dimensions receiving the tank thereon, and means on the receptacle for connecting a vent pipe thereto, said means including a nipple on the receptacle telescopically engageable with a vent pipe, said receptacle comprising opposed side walls, and vertical flanges on said side walls providing grooves for the reception of holddown bolts depending from said flush tank and for securing said tank atop said bowl.

2. A ventilated commode comprising, in combination, a bowl, a polygonal receptacle mounted on the rear portion of said bowl and communicating therewith, a flush tank mounted on the receptacle and communicating with said receptacle, said receptacle including a flat bottom and top of substantial dimensions engaged, respectively, with the bowl and tank for supporting the latter on the former, a vent pipe connected to the receptacle, and bolts connecting the flush tank to the bowl and clampingly securing the receptacle therebetween, said receptacle including vertical side flanges having vertical grooves therein receiving the bolts for positively retaining the receptacle against rotation.

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3. The combination of claim 2, said receptacle top comprising a circular, depending internally stepped inlet, said flush tank including a bottom resting on said top and comprising a circular, depending externally stepped outlet engaged in said inlet.

4. The combination of claim 3, said rear portion of said bowl including a top receiving the receptacle thereon and comprising a circular, depending internally stepped inlet, said receptacle bottom comprising a circular, depending externally stepped outlet engaged in the bowl inlet.

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