

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012658 A2

(51) International Patent Classification⁷: **E03D**

(21) International Application Number:
PCT/US2003/022456

(22) International Filing Date: 17 July 2003 (17.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/610,670 1 July 2003 (01.07.2003) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, UZ, VC, VN, YU, ZA, ZM, ZW.

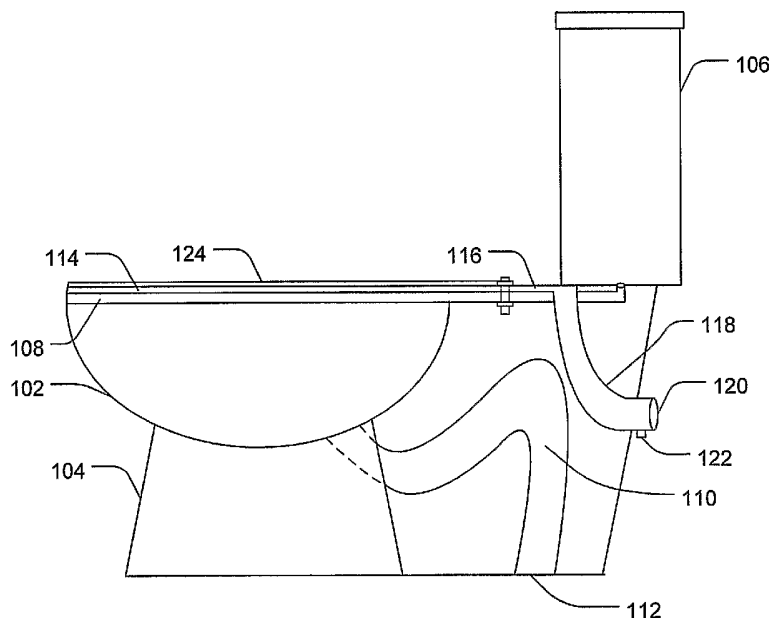
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTEGRATED TOILET AND AIR DEODORIZER



(57) Abstract: In one embodiment, an integrated toilet and air deodorizer (10) comprises a bowl (102) comprising a flush ring (108) and an air passageway (114) located above the flush ring (108). The air passageway (114) is an upward extension of the bowl (102) and extends about a periphery of the bowl (102). The air passageway (114) comprises a continuous orifice facing inwardly into the bowl (102), and the air passageway (114) extends to a neck section (116) at a rear portion of the bowl (102). The integrated toilet and air deodorizer (10) further comprises an exhaust pipe (118) coupled to the air passageway (114) at the neck section (116), the exhaust pipe (118) comprising an aperture (120), wherein the exhaust pipe (118) is operable to be coupled to a conduit suitable for transporting its gaseous contents away from the bowl (102).

INTEGRATED TOILET AND AIR DEODORIZER

BACKGROUND

5 Field

The present invention relates generally to removal of odors from the air and, in particular, to ventilation of toilets to remove unpleasant odors from areas surrounding the toilets.

10 Description of the Related Art

A variety of devices and techniques currently exist and are employed to remove unpleasant odors from toilets and areas surrounding a toilet commonly referred to as water closets. An old but common technique is to locate the water closet along an outer wall of a house or building and provide one or more windows for ventilating the air in the water closet. One drawback to this technique is that the unpleasant odors are allowed to permeate throughout the water closet before exiting through the open window. Another drawback is that space along an outer wall is usually limited and it may not be possible to locate the water closet along an outer wall.

20 A common solution to removing the odors from a water closet without access to an exterior wall is to use a ventilation fan. The ventilation fan can be located in the ceiling of the water closet and ventilation pipes or ducts can vent the air to the exterior of the house or to another area of the house (i.e., typically, the attic). A drawback to this technique is that the unpleasant odors are still allowed to permeate throughout the water closet. Because the odors are permitted to permeate throughout the water closet, the unpleasant odors may linger even after the fan is deactivated, window is closed, or the water closet is vacated.

Another common solution is to provide and use solid and/or aerosol air fresheners. A drawback is that the air fresheners emit a scent to "mask" the unpleasant odor and, typically, the unpleasant odor is only masked for a short period of time. Moreover, the mixture of the emitted scent and the unpleasant odor may

result in yet another undesirable odor. Finally, aerosol spray dispensers have been shown to have undesirable affects.

More recently, various ventilation devices have been developed for removing the odor from in and around toilets. Many of these are portable devices designed to
5 attach to the rear of the toilet seat. These devices typically have several external attachments which makes them unsightly when attached to the toilet seat and hard to keep sanitary. Furthermore, these portable devices may not be suited for use with all toilets. Certain ventilation devices have been built into the seat or otherwise incorporated into the toilet. These devices entail the use of many parts, typically
10 custom manufactured parts, which increases the cost of the toilets, the complexity of the toilets and the workings of the toilets and the ventilation device, and the difficulty in manufacturing and maintaining the toilets. Moreover, many of these devices require the use of electricity near the toilet, which introduces a potential hazard to its user.

15

SUMMARY

In one embodiment, an integrated toilet and air deodorizer comprises a bowl comprising a flush ring and an air passageway located above the flush ring. The air passageway is an upward extension of the bowl and extends about a periphery of the
20 bowl. The air passageway comprises a continuous orifice facing inwardly into the bowl, and the air passageway extends to a neck section at a rear portion of the bowl. The integrated toilet and air deodorizer further comprises an exhaust pipe coupled to the air passageway at the neck section, the exhaust pipe comprising an aperture, wherein the exhaust pipe is operable to be coupled to a conduit suitable for
25 transporting its gaseous contents away from the bowl.

In another embodiment, a method for ventilating unpleasant odors from within a bowl of a toilet comprises providing an air passageway located above a flush ring of a toilet bowl, the air passageway being an upward extension of the toilet bowl and extending about a periphery of the toilet bowl, the air passageway comprising a
30 continuous orifice facing inwardly into the toilet bowl, the air passageway extending to a neck section at a rear portion of the toilet bowl, the method also comprises

providing an exhaust pipe coupled to the air passageway at the neck section, the exhaust pipe comprising an aperture, wherein the exhaust pipe is operable to be coupled to a conduit suitable for transporting its gaseous contents away from the toilet bowl. The method further comprises drawing unpleasant odors from within the toilet
5 bowl, wherein the unpleasant odors are drawn into the air passageway through the continuous orifice from all directions about the periphery of the toilet bowl.

In still another embodiment, an integrated toilet and air deodorizer comprises a means for drawing unpleasant odors from within a toilet bowl from all directions about the periphery of the toilet bowl and a means for venting the unpleasant odors
10 through an exhaust pipe.

These and other embodiments of the present invention will also become readily apparent to those skilled in the art from the following detailed description of the embodiments having reference to the attached figures, the invention not being limited to any particular embodiment(s) disclosed.

15

BRIEF DESCRIPTION OF THE DRAWINGS

The following drawings incorporated in and forming a part of the specification illustrate, and together with the detailed description serve to explain the various aspects of the implementation(s) and/or embodiments of the invention and not of the
20 invention itself.

Figure 1 illustrates a side elevation of one embodiment of an integrated toilet and air deodorizer, according to the present invention.

Figure 2 illustrates a side elevation of one embodiment of an integrated toilet and air deodorizer coupled to a conduit being within an adjacent wall, according to the
25 present invention.

Figure 3 illustrates a rear elevation of one embodiment of an integrated toilet and air deodorizer, according to the present invention.

Figure 4 illustrates a partial cross-section of a front elevation of one embodiment of a toilet bowl and pedestal, according to the present invention.

Figure 5 illustrates a partial cross-sectional view of one embodiment of an arcuate air passageway of an integrated toilet and air deodorizer, according to the present invention.

Figure 6 illustrates a partial cross-sectional view of another embodiment of an arcuate air passageway of an integrated toilet and air deodorizer, according to the present invention.

Figure 7 illustrates a side elevation of another embodiment of an integrated toilet and air deodorizer, according to the present invention.

Figure 8 illustrates a side elevation of still another embodiment of an integrated toilet and air deodorizer, according to the present invention.

DETAILED DESCRIPTION

The various embodiments of the present invention and their advantages are best understood by referring to Figures 1 through 8 of the drawings. The elements of the drawings are not necessarily to scale, emphasis instead being placed upon clearly illustrating the principles of the invention. Throughout the drawings, like numerals are used for like and corresponding parts of the various drawings.

The drawings represent and illustrate examples of the various embodiments of the invention, and not a limitation thereof. It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope and spirit of the invention as described herein. For instance, features illustrated or described as part of one embodiment can be included in another embodiment to yield a still further embodiment. Moreover, variations in selection of materials and/or characteristics may be practiced to satisfy particular desired user criteria. Thus, it is intended that the present invention cover such modifications as come within the scope of the present features and their equivalents.

Furthermore, reference in the specification to "an embodiment," "one embodiment," or "various embodiments" means that a particular feature or aspect of the invention described in conjunction with the particular embodiment is included in at least one embodiment of the present invention. Thus, the appearance of the phrases "in one embodiment," "in another embodiment," or variations thereof in various

places throughout the specification are not necessarily all referring to its respective embodiment.

Figure 1 illustrates a side elevation of one embodiment of an integrated toilet and air deodorizer 10, according to the present invention. As depicted, integrated
5 toilet and air deodorizer 10 comprises a bowl 102 mounted on and coupled to a supporting pedestal 104, which generally extends downwardly from bowl 102. A water tank 106 is also mounted to pedestal 104 beyond the rear portion of bowl 102. Bowl 102 includes a flush ring 108 near its rim and flush ring 108 comprises a plurality of water discharge openings facing inwardly into bowl 102. Flush ring 108 is
10 coupled to water tank 106 and operates to discharge water from water tank 106 into bowl 102 via the plurality of water discharge openings. Stated another way, the water from tank 106 travels or passes through flush ring 108 and into bowl 102.

Bowl 102 is coupled to a discharge passage 110 at a discharge opening located toward the bottom section of bowl 102, and discharge passage 110 leads to a
15 discharge outlet 112 to which is connected a sewer waste drain. Bowl 102, pedestal 104, water tank 106, flush ring 108, discharge passage 110, and discharge outlet 112 are basically standard and operate in a manner substantially similar to comparable components found in conventional toilets and, as such, will not be further discussed herein.

20 As illustrated in Figure 1, the present invention provides for the ventilation and removal of foul and unpleasant odors through an air passageway 114. Air passageway 114 is generally located above flush ring 108 at the rim of bowl 102 and extends about the periphery of bowl 102. Air passageway 114 is an upward extension of the rim of bowl 102 and, thus, is integrated into and forms an integral part of
25 integrated toilet and air deodorizer 10. Air passageway 114 comprises a continuous orifice facing inwardly into bowl 102 and also extending about the periphery of bowl 102.

Air passageway 114 extends to a neck 116 at substantially the rear portion of bowl 102 between bowl 102 and water tank 106. Neck 116 is coupled to a curvilinear
30 exhaust pipe 118, which extends downwardly and rearwardly from neck 116 to an aperture 120, thus, forming a passage from air passageway 114 to aperture 120 via

neck 116 and exhaust pipe 118. Much like air passageway 114, exhaust pipe 118 is integrated into and forms an integral part of integrated toilet and air deodorizer 10.

Exhaust pipe 118 comprises a drain hole 122 positioned between the rear of pedestal 104 and aperture 120. Drain hole 122 may be used for draining the contents of exhaust pipe 118 and, in normal operation, is maintained in a closed position by the use of a screw-like drain plug that fits into and seals drain hole 122. For example, if and when integrated toilet and air deodorizer 10 overflows, thus causing water to enter air exhaust pipe 118 via air passageway 114, drain hole 122 may be opened to drain the trapped water.

A seat 124 and an optional bowl cover (not shown) are pivotally mounted to integrated toilet and air deodorizer 10 between bowl 102 and water tank 106. In a lowered position, seat 124 rests upon air passageway 114 and functions to provide a surface upon which a human user can position him or herself while utilizing integrated toilet and air deodorizer 10.

Figure 2 illustrates a side elevation of one embodiment of integrated toilet and air deodorizer 10 coupled to a conduit 202 being within an adjacent wall 204, according to the present invention. As depicted, integrated toilet and air deodorizer 10 is positioned near and in front of wall 204. Exhaust pipe 118 is coupled to a distal end of conduit 202 at aperture 120. Conduit 202 extends away from its coupling to exhaust pipe 118 into and upwardly within wall 204. Conduit 120 is suitable for transporting the gaseous contents contained within conduit 120, for example, from the distal end coupled to exhaust pipe 118 to the distal end opposite exhaust pipe 118.

A conventional exhaust fan (not shown) is built into wall 204 and, at one side, is coupled to the distal end of conduit 204 opposite the connection to exhaust pipe 118. The other side of the exhaust fan is coupled to another conduit (not shown) that provides access to an area outside and away from a water closet housing integrated toilet and air deodorizer 10 and, preferably, outside of the building or structure in which integrated toilet and air deodorizer 10 is located. A switch (not shown) is coupled to a power supply and the exhaust fan and operates to activate the exhaust fan. When activated, the exhaust fan operates to draw the foul and unpleasant odors from within and around bowl 102 through air passageway 114, neck 116, aperture

118, and conduit 202 through the exhaust fan and out into the atmosphere, away from integrated toilet and air deodorizer 10 and its user.

One technical advantage of integrated toilet and air deodorizer 10 is provided by the placement of air passageway 114 above flush ring 108. Because air
5 passageway 114 is located above flush ring 108, air passageway 114 does not interfere with the standard toilet functions of integrated toilet and air deodorizer 10. In particular, air passageway 114 does not interfere with the flushing of the contents of bowl 102 through discharge passage 110 and out discharge outlet 112 as a result of the delivery of water from water tank 106 to bowl 102 through flush ring 108.

10 Another technical advantage of integrated toilet and air deodorizer 10 is provided by air passageway 114 being an upward extension of bowl 102. This provides for an aesthetic integrated toilet and air deodorizer 10 in that there are no bulky or numerous attachments that need to be fitted to the toilet and which makes the toilet unsightly. Furthermore, air passageway 114 is a clean and simple design and
15 extension of the rim of bowl 102, and does not increase the complexity and workings of integrated toilet and air deodorizer 10 beyond that of conventional toilets.

Yet another technical advantage of integrated toilet and air deodorizer 10 is provided by the continuous orifice of air passageway 114 that faces inwardly into bowl 102 and extends about the periphery of bowl 102. This feature permits air
20 passageway 114 to draw the unpleasant odors from within bowl 102 from all directions (i.e., front, sides, and rear of bowl 102) about the periphery of bowl 102. This significantly increases the drawing capability of air passageway 114, and enables integrated toilet and air deodorizer 10 to remove the foul and unpleasant odors before these odors escape from within bowl 102 and permeate the surrounding atmosphere.
25 Furthermore, when a user is seated upon seat 124, the drawing (i.e., suction) capability of air passageway 114 is further enhanced due the vacuum-like effect caused by the blockage of the top of bowl 102 cause by the presence of the user seated upon seat 124.

Figure 3 illustrates a rear elevation of one embodiment of integrated toilet and
30 air deodorizer 10, according to the present invention. As depicted, integrated toilet and air deodorizer 10 comprises two exhaust pipes 118a and 118b that converge at

aperture 120. Exhaust pipe 118a extends from neck 116 down one side of integrated toilet and air deodorizer 10 below water tank 106 and behind bowl 102 to aperture 120. Exhaust pipe 118b extends from neck 116 down the other side (opposite the side on which exhaust pipe 118a extends) of integrated toilet and air deodorizer 10 below water tank 106 and behind bowl 102 to aperture 120. In another embodiment, integrated toilet and air deodorizer 10 can be composed of a exhaust pipe 118 that extends from neck 116 down one of the sides of integrated toilet and air deodorizer 10 to aperture 120.

Figure 4 illustrates a partial cross-section of a front elevation of one embodiment of toilet bowl 102 and pedestal 104, according to the present invention. As depicted, bowl 102 extends upwardly at its rim beyond flush ring 108 to form an exterior side of air passageway 114. The upper section of flush ring 108 forms the lower section of air passageway 114 and the upper section of air passageway 114 forms the ledge of bowl 102. The upper section of air passageway 114 forms a suitable surface for receiving and supporting seat 124 when seat 124 is in a lowered position.

The upper section of air passageway 114 extends away from the exterior side of air passageway 114 and inwardly into bowl 102 in a generally horizontal direction before folding over and extending in a generally downward direction into bowl 102 to form an inner side section of the rim of bowl 102 (i.e., the inner side of air passageway 114). In this manner, a continuous orifice between the inner side of flush ring 108 and the inner side of air passageway 114. This is better illustrated by Figure 5, which illustrates a partial cross-sectional view of one embodiment of an arcuate air passageway 114 of integrated toilet and air deodorizer 10, according to the present invention. As is depicted in Figure 5, the orifice leads to a generally L-shaped cavity that is formed by the four sides of air passageway 114 and the inner side of flush ring 108.

It is appreciated that the thickness of the sides of air passageway 114 and, in particular, the thickness of the exterior side of air passageway 114 needs to be sufficient to provide stability for air passageway 114 to support seat 124 in a lowered position atop air passageway 114 and a user situated upon seat 124. The thickness

depends on factors such as, by way of example and without limitation, the length of the exterior side of air passageway 114, the shape of the sides of air passageway 114, the structural characteristics of the material used in making integrated toilet and air deodorizer 10, and the like.

5 It is also appreciated that the lengths of the sides of air passageway 114 determine the size of the cavity composed by the sides of air passageway 114. Moreover, the size of the orifice of air passageway 114 is determined by the difference between the length of the upper section of air passageway 114 and the sum of the length of the lower section of air passageway 114 and the thickness of the inner side
10 of air passageway 114. The size of the cavity and the orifice work in conjunction to create the drawing or suction capability of integrated toilet and air deodorizer 10.

 With this in mind, in one embodiment, the upper section of air passageway 114 is approximately between one and one-half (1.5) to two (2) inches in length and the inner side section of air passageway 114 is approximately between one and three-
15 quarter (1.75) to two (2) inches in length. The exterior side of air passageway 114 is approximately between one-half (1/2) to three-quarter (3/4) inch in thickness and each of the upper section and inner side section of air passageway 114 is approximately between one-half (1/2) and three-eighth (3/8) inch in thickness. The cavity formed by the four sides of air passageway 114 is approximately between three-quarter (3/4) to
20 seven-eighth (7/8) inch in length and the orifice is approximately between one-eighth (1/8) to one-quarter (1/4) inch in width.

 The aforementioned thickness of the sides of air passageway 114 have been found to provide sufficient stability when integrated toilet and air deodorizer 10 was made of ceramic or porcelain as is typical of conventional toilets. Moreover, the
25 aforementioned width of the orifice was sufficient to not produce an audible suction noise when air is drawn through the orifice and into air passageway 114 and yet provide adequate drawing capability. Stated another way, an audible suction noise was detected when the width of the orifice was smaller than approximately one-eighth (1/8) inch. It was also realized that the suction capability was significantly reduced
30 when the width of the orifice was greater than one-quarter (1/4) inch in width.

In another embodiment, a plurality of brace-like mechanisms may be placed in between the inner side of flush ring 108 and the inner side of air passageway 114 to provide support during the manufacturing (i.e., baking) of integrated toilet and air deodorizer 10. The brace-like mechanisms function to brace the inner side of air passageway 114 and prevent the inner side of air passageway 114 from possibly collapsing toward the inner side of flush ring 108 and, thus, reducing the size of the orifice leading to air passageway 114.

For example, four equidistantly positioned brace-like mechanisms may be placed in between the inner side of flush ring 108 and the inner side of air passageway 114 prior to the baking of integrated toilet and air deodorizer 10. The brace-like mechanisms can then be removed upon successfully baking integrated toilet and air deodorizer 10. The brace-like mechanisms can be of a material that enables it to remain in position during the baking process and be removed after the baking process. It is appreciated that the dimensions of the brace-like mechanism depend on factors such as, by way of example and not limitation, the size of the orifice, the actual number of brace-like mechanisms employed, and the positioning of the brace-like mechanisms.

In still another embodiment, the brace-like mechanisms can permanently form and become an integral part of integrated toilet and air deodorizer 10. In this embodiment, the brace-like mechanisms can be of the same material as integrated toilet and air deodorizer 10.

Figure 6 illustrates a partial cross-sectional view of another embodiment of an arcuate air passageway 114 of integrated toilet and air deodorizer 10, according to the present invention. In this embodiment, the upper surface of the lower section of air passageway 114 is sloped downward at an angle from the exterior side of air passageway 114 toward the orifice of air passageway 114. A technical advantage provided by this sloping feature is that air passageway 114 and, in particular, the inside or cavity of air passageway 114 is easier to clean. For example, a user can use a cleaning utensil and readily reach and clean the inner surfaces of air passageway 114.

Another technical advantage provided by this sloping feature is that the slope of the upper surface of the lower section of air passageway 114 prevents water and

other substances which may enter air passageway 114 from remaining in air passageway 114. Rather, in the event that water or other substances may enter air passageway 114, these substances are likely to exit air passageway 114 through the orifice and into bowl 102.

5 For example, similar to conventional toilets, integrated toilet and air deodorizer 10 may clog and overflow. In this instance, matter and other substances that are in bowl 102 may enter air passageway 114 through its orifice. The slope of the upper surface of the lower section of air passageway 114 facilitates the emptying of the water and other substances inside air passageway 114 into bowl 102 upon the
10 removal of the clog. The slope prevents "standing water" and other undesirable substances from remaining or forming inside air passageway 114. This greatly enhances the cleanliness and desirability of integrated toilet and air deodorizer 10.

Figure 7 illustrates a side elevation of another embodiment of integrated toilet and air deodorizer 10, according to the present invention. In this embodiment, neck
15 116 comprises an inverted u-shaped section in between the rear of bowl 102 and water tank 106. One end of the inverted u-shaped section of neck 116 is coupled to a curvilinear exhaust pipe 118, which extends downwardly and forwardly from neck 116 to a hollow section of pedestal 104. Inside the hollow section of pedestal 104, exhaust pipe 118 extends downwardly to aperture 120, thus, forming a passage from
20 air passageway 114 to aperture 120 via neck 116, including the inverted u-shaped section, and exhaust pipe 118. In this location, exhaust pipe 118 is suitable for coupling to a suitable air duct located, for example, underneath the floor upon which integrated toilet and air deodorizer 10 is situated.

A technical advantage is that the inverted u-shaped section of neck 116
25 functions as a dam-like device in blocking the water from entering exhaust pipe 118. The height of the forward prong of the inverted u-shape section of neck 116 makes it more difficult for water from within bowl 102 from accidentally entering exhaust pipe 118 through air passageway 114 and neck 116. For example, in an instance where integrated toilet and air deodorizer 10 overflows, the water is more likely to spill out
30 over the rim of bowl 102 than enter exhaust pipe 118 through the inverted u-shaped section of neck 116.

Another technical advantage is provided by the placement of aperture 120 inside the hollow section of pedestal 104. Because at least a section of exhaust pipe 118 extends into the hollow section of pedestal 104, integrated toilet and air deodorizer 10 is more aesthetically pleasing to a user. Moreover, the coupling
5 between exhaust pipe 118 and an air duct (not shown) that directs the foul and unpleasant odors away from integrated toilet and air deodorizer 10 is within the hollow section of pedestal 104 and concealed from sight. Stated another way, no section of the air duct that connects to exhaust pipe 118 at aperture 120 protrudes out from an adjoining wall or floor near integrated toilet and air deodorizer 10. This
10 reduces the amount of clutter around integrated toilet and air deodorizer 10.

It is appreciated that the inverted u-shape feature of neck 116 can readily be incorporated into the other various embodiments of integrated toilet and air deodorizer 10, as well as the various modifications of these embodiments, as disclosed herein.

Figure 8 illustrates a side elevation of still another embodiment of integrated
15 toilet and air deodorizer 10, according to the present invention. In this embodiment, air passageway 114 extends to a neck 116, which extends rearward and opens up into a chamber 126. Water tank 106 is mounted to integrated toilet and air deodorizer 10 above chamber 126, thus, chamber 126 is of sufficient strength and design (i.e., chamber 126 is designed to provide the necessary fastening devices needed to fasten
20 water tank 106) to support water tank 106. Moreover, a water pipe that is suitable to deliver water from water tank 106 to flush ring 108 extends through chamber 126.

Chamber 126 extends to a tail pipe 128, which extends to aperture 120. An air duct (not shown) can be coupled to tail pipe 128 at aperture 120 to direct the foul and unpleasant odors away from integrated toilet and air deodorizer 10. Drain hole 122 is
25 located at the bottom of chamber 126.

This invention may be provided in other specific forms and embodiments without departing from the essential characteristics as described herein. The embodiments described above are to be considered in all aspects as illustrative only and not restrictive in any manner. The following claims rather than the foregoing
30 description indicate the scope of the invention.

CLAIMS

1. An integrated toilet and air deodorizer comprising:
a bowl comprising a flush ring;
an air passageway located above the flush ring, the air passageway
5 being an upward extension of the bowl and extending about a periphery of the
bowl, the air passageway comprising a continuous orifice facing inwardly into
the bowl, the air passageway extending to a neck section at a rear portion of
the bowl; and
an exhaust pipe coupled to the air passageway at the neck section, the
10 exhaust pipe comprising an aperture, wherein the exhaust pipe is operable to
be coupled to a conduit suitable for transporting its gaseous contents away
from the bowl.
2. The integrated toilet and air deodorizer of Claim 1, wherein the exhaust
pipe extends downwardly and rearwardly from the neck section.
- 15 3. The integrated toilet and air deodorizer of Claim 1, wherein the exhaust
pipe extends rearwardly from the neck section to a chamber, wherein the chamber is
configured to support a water tank above the chamber.
4. The integrated toilet and air deodorizer of Claim 1, wherein the exhaust
pipe extends downwardly and forwardly from the neck section to a hollow section of a
20 pedestal below the bowl.
5. The integrated toilet and air deodorizer of Claim 1, wherein the neck
section comprises a converted u-shaped section.
6. The integrated toilet and air deodorizer of Claim 1, wherein the exhaust
pipe comprises a drain hole.
- 25 7. The integrated toilet and air deodorizer of Claim 1, wherein the air
passageway comprises a lower section having an upper surface that is sloped at an
angle down toward the continuous orifice.
8. A method for ventilating unpleasant odors from within a bowl of a
toilet, the method comprising:
30 providing an air passageway located above a flush ring of a toilet bowl,
the air passageway being an upward extension of the toilet bowl and extending

about a periphery of the toilet bowl, the air passageway comprising a continuous orifice facing inwardly into the toilet bowl, the air passageway extending to a neck section at a rear portion of the toilet bowl;

5 providing an exhaust pipe coupled to the air passageway at the neck section, the exhaust pipe comprising an aperture, wherein the exhaust pipe is operable to be coupled to a conduit suitable for transporting its gaseous contents away from the toilet bowl; and

10 drawing unpleasant odors from within the toilet bowl, wherein the unpleasant odors are drawn into the air passageway through the continuous orifice from all directions about the periphery of the toilet bowl.

9. The method of Claim 8, wherein the exhaust pipe extends downwardly and rearwardly from the neck section.

10. The method of Claim 8, wherein the exhaust pipe extends rearwardly from the neck section to a chamber.

15 11. The method of Claim 8, wherein the exhaust pipe extends downwardly and forwardly from the neck section to a hollow section of a pedestal below the toilet bowl.

12. The method of Claim 8, wherein the exhaust pipe comprises a drain hole.

20 13. The method of Claim 8, wherein the neck section comprises a converted u-shaped section.

14. The method of Claim 8, wherein the exhaust pipe comprises a drain hole.

25 15. The method of Claim 8, wherein the air passageway comprises a lower section having an upper surface that is sloped at an angle down toward the continuous orifice.

30 16. An integrated toilet and air deodorizer comprising:
a means for drawing unpleasant odors from within a toilet bowl from all directions about the periphery of the toilet bowl; and
a means for venting the unpleasant odors through an exhaust pipe.

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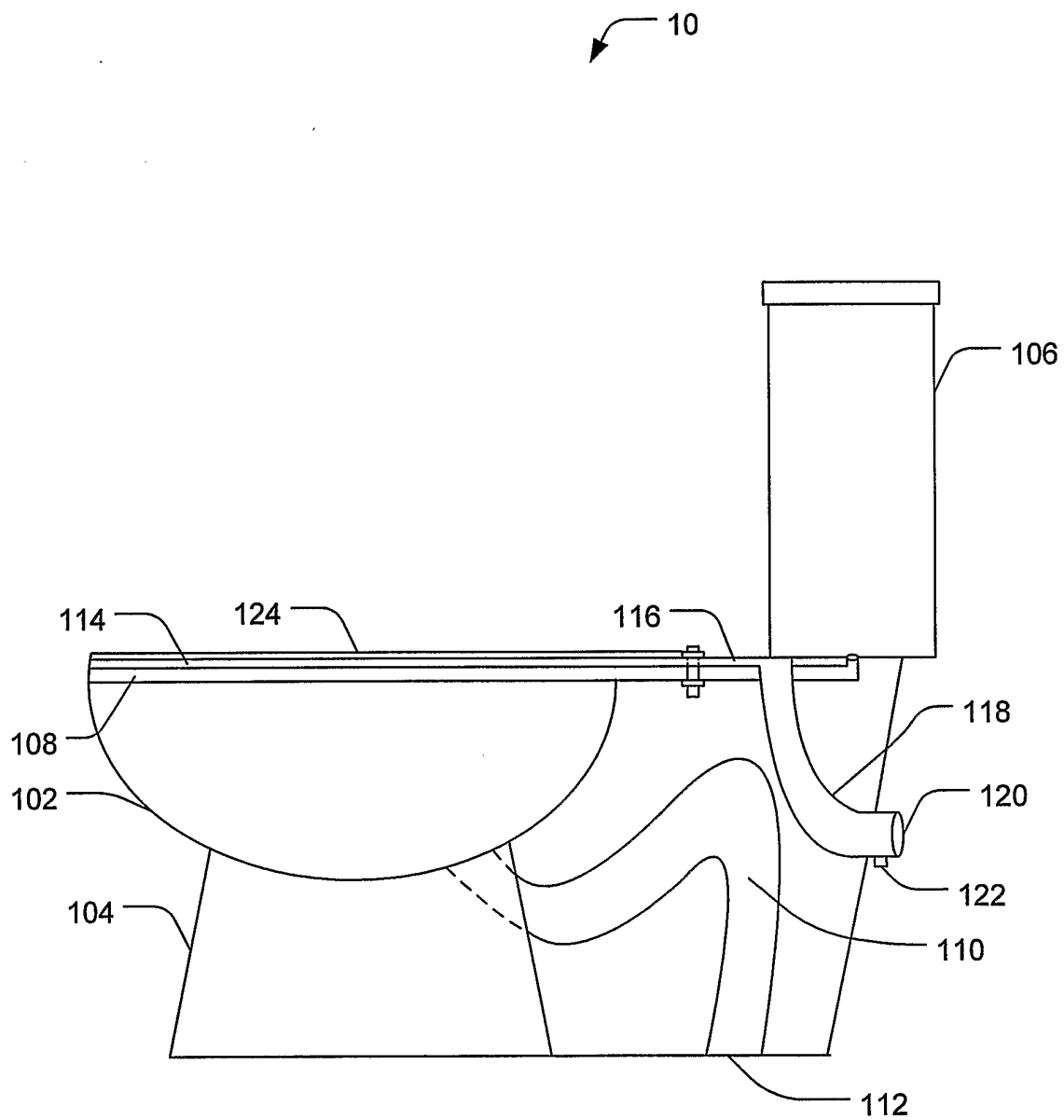
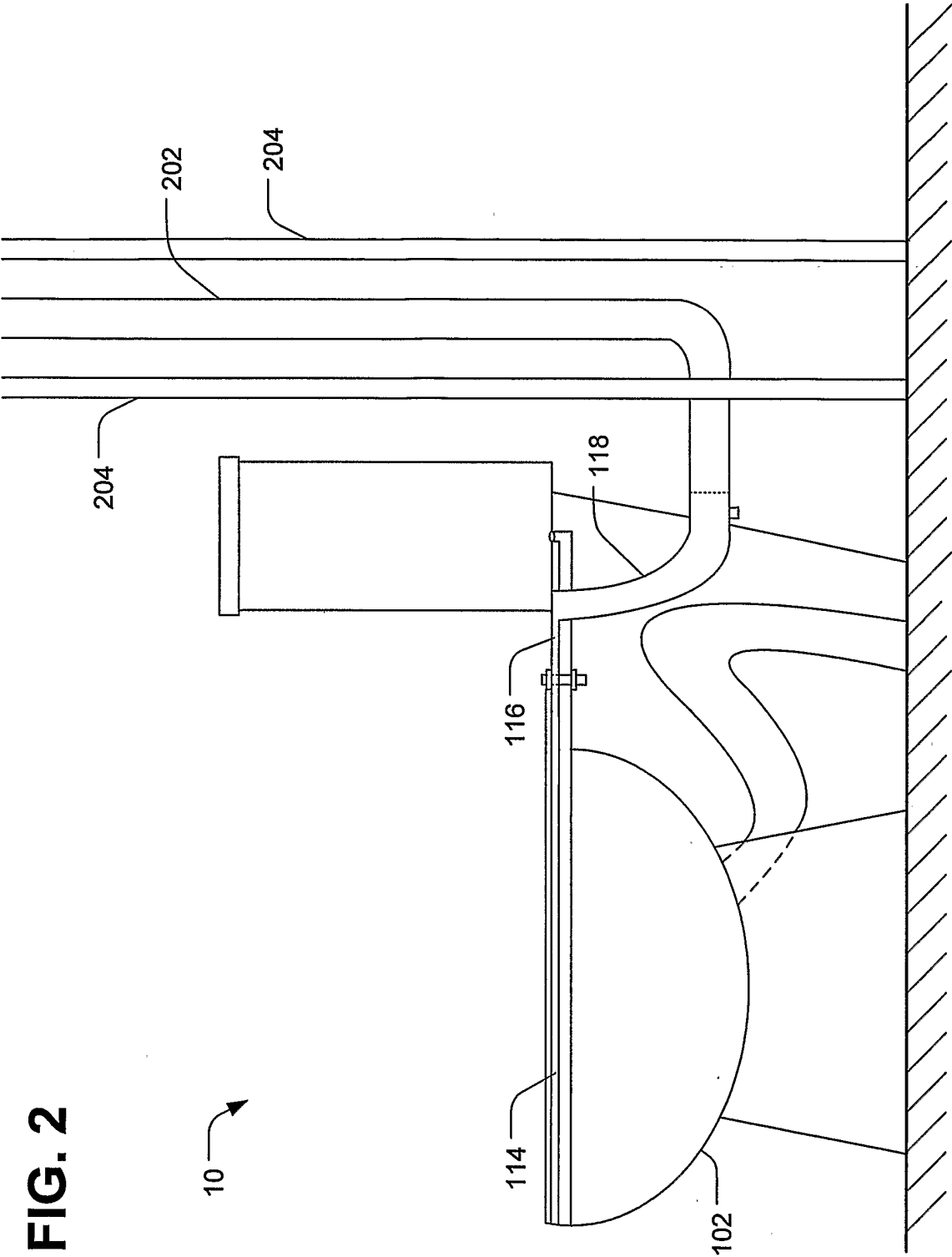
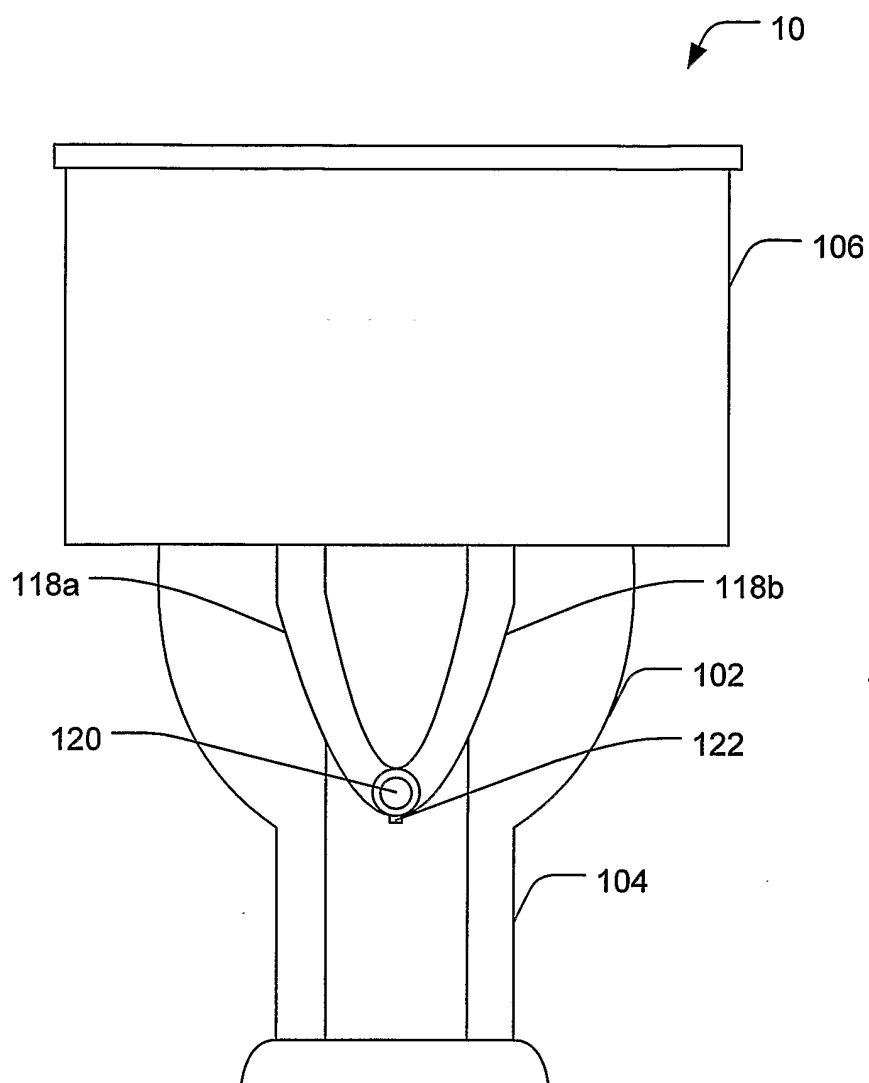


FIG. 1



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**FIG. 3**

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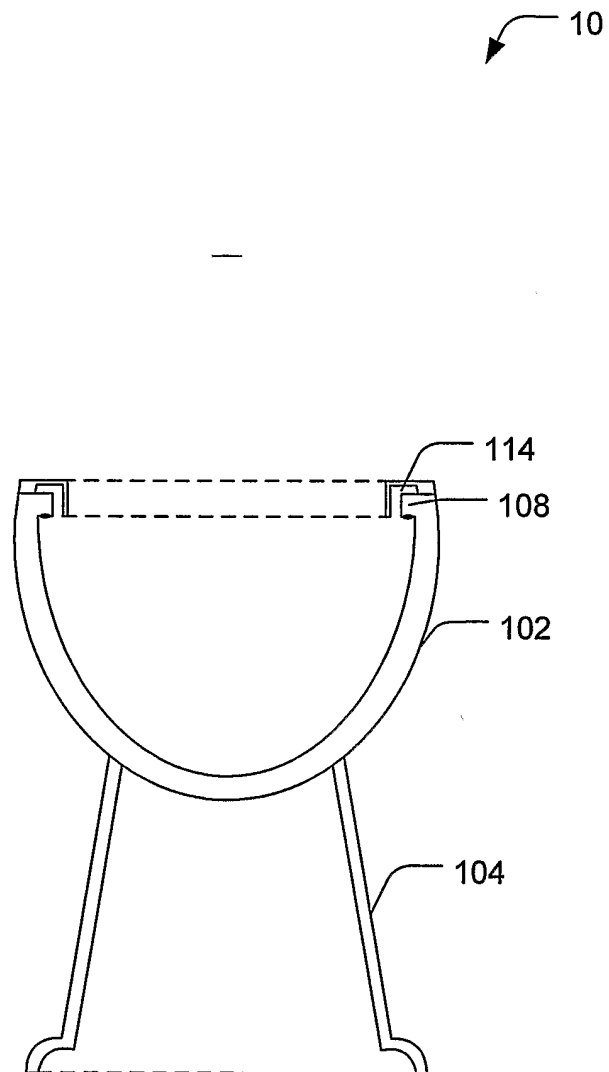


FIG. 4

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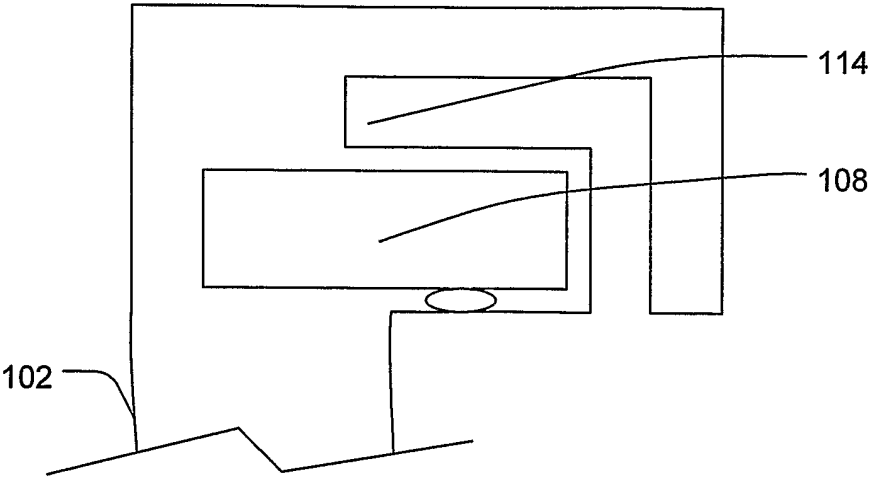


FIG. 5

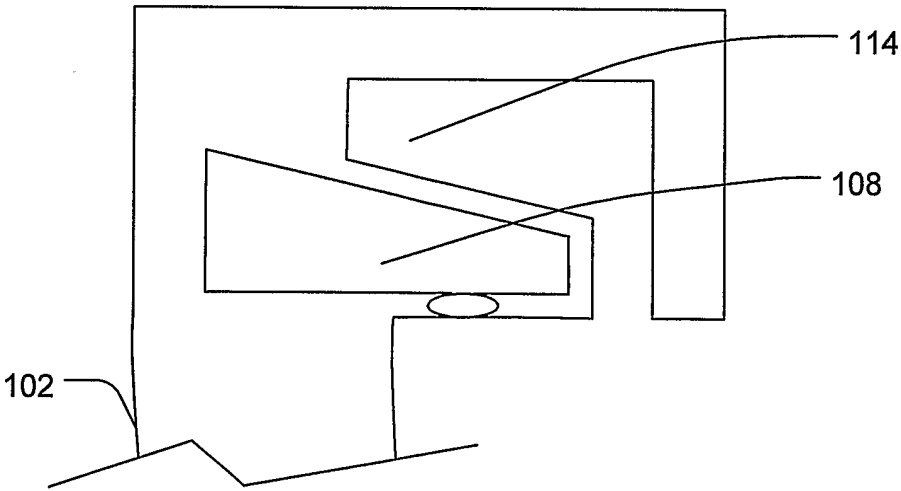


FIG. 6

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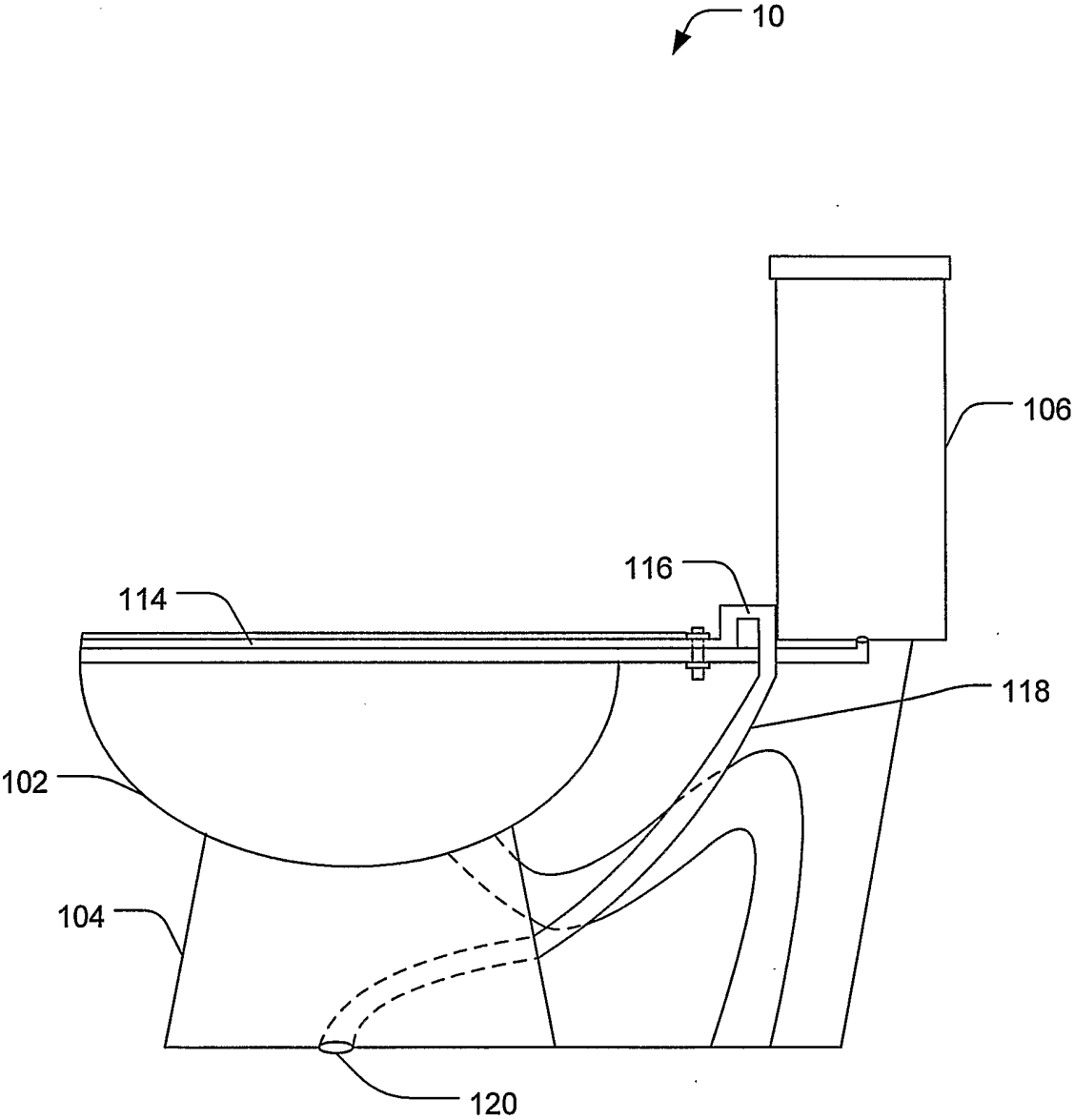


FIG. 7

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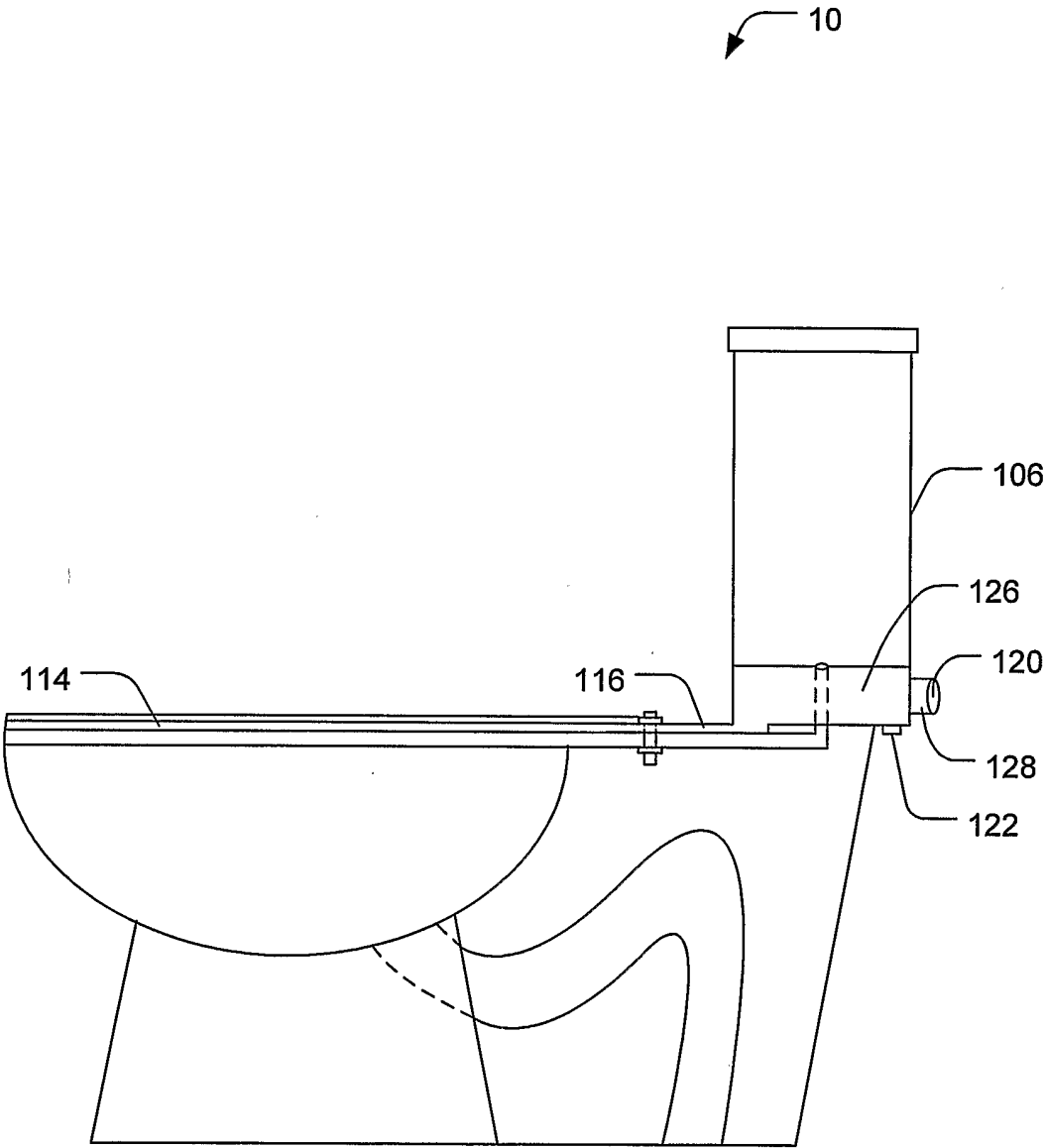


FIG. 8