The present invention is a bidet conversion kit to convert a toilet into a bidet that includes a 4 way connector with a built-in stud to reduce water leakage and a washer that is set around the built-in stud, a cap with a built-in stud and a place holder to accommodate a washer to help prevent and block water leakage and an elongated handle with a T-shaped bracket that is removably integral to a pressure control valve of the toilet. There is also a primary water jet with a seamless tube and an angled flange that is integral to the flexible tube from the pressure control valve and an end jet that includes tubing, a strengthening support wedge, an aperture disposed on the distal end and a high pressure nozzle that disperses the water to wash a user.
BIDET CONVERSION KIT

[0001] This application claims priority to U.S. Provisional Application 61/307,923 filed on Feb. 25, 2010, the entire disclosure of which is incorporated by reference.

TECHNICAL FIELD & BACKGROUND

[0002] The present invention generally relates to a conversion kit. More specifically, the invention is a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet.

[0003] It is an object of the invention to provide a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet that can be easily assembled without a plumber and that does not utilize any electricity.

[0004] It is an object of the invention to provide a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet that is inexpensive and affordable.

[0005] It is an object of the invention to provide a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet that does not prevent toilet usage and cleaning while installed.

[0006] It is an object of the invention to provide a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet that can be easily used by multiple users with simple replacement parts to ensure proper hygiene.

[0007] What is really needed is a bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet that can be easily assembled without a plumber and that does not utilize any electricity, that is inexpensive and affordable, that does not prevent toilet usage and cleaning while installed and that can be easily used by multiple users with simple replacement parts to ensure proper hygiene.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The present invention will be described by way of exemplary embodiments, but not limitations, illustrated in the accompanying drawings in which like references denote similar elements, and in which:

[0009] FIG. 1 illustrates an environmental side perspective view of a bidet conversion kit in accordance with one embodiment of the present invention.

[0010] FIG. 2 illustrates an overhead front perspective view of a 4 way connector with a built-in stud of a bidet conversion kit, in accordance with one embodiment of the present invention.

[0011] FIG. 3 illustrates an overhead perspective view of a cap with a washer for a 4 way connector of a bidet conversion kit, in accordance with one embodiment of the present invention.

[0012] FIG. 4 illustrates an environmental side perspective view of an elongated handle on a control valve of a toilet of a bidet conversion kit, in accordance with one embodiment of the present invention.

[0013] FIG. 5 illustrates an overhead perspective view of a primary water jet of a bidet conversion kit, in accordance with one embodiment of the present invention.

[0014] FIG. 6 illustrates a side perspective view of an end jet of a bidet conversion kit, in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0015] Various aspects of the illustrative embodiments will be described using terms commonly employed by those skilled in the art to convey the substance of their work to others skilled in the art. However, it will be apparent to those skilled in the art that the present invention may be practiced with only some of the described aspects. For purposes of explanation, specific numbers, materials and configurations are set forth in order to provide a thorough understanding of the illustrative embodiments. However, it will be apparent to one skilled in the art that the present invention may be practiced without the specific details. In other instances, well-known features are omitted or simplified in order not to obscure the illustrative embodiments.

[0016] Various operations will be described as multiple discrete operations, in turn, in a manner that is most helpful in understanding the present invention, however, the order of description should not be construed as to imply that these operations are necessarily order dependent. In particular, these operations need not be performed in the order of presentation.

[0017] The phrase “in one embodiment” is used repeatedly. The phrase generally does not refer to the same embodiment, however, it may. The terms “comprising”, “having” and “including” are synonymous, unless the context dictates otherwise.

[0018] FIG. 1 illustrates an environmental side perspective view of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The bidet conversion kit 100 is used in combination with a toilet T that is typically a one piece toilet or a two piece toilet and is retrofit onto the one piece or two piece toilet T and water source a WS. The one or two piece toilet T can be any suitable two piece toilet T. The bidet conversion kit 100 includes a 4 way connector 110, a cap 120 for the 4 way connector 110, an elongated handle 130 that is integral to a control valve 132 of the toilet T, a primary water jet 140 and an end jet 150. The 4 way connector 110, the cap 120, the elongated handle 130, the primary water jet 140 and the end jet 150 are assembled together to form a bidet 160 that is attached to a toilet T and its water source WS.

[0019] Greater details regarding the 4 way connector 110 are provided in FIG. 2 and its description, greater details regarding the cap 120 and washer 122 are provided in FIG. 3 and its description, greater details regarding the elongated handle 130 are provided in FIG. 4 and its description, greater details regarding the primary water jet 140 are provided in FIG. 5 and its description and greater details regarding the end jet 150 are provided in FIG. 6 and its description.

[0020] FIG. 2 illustrates an overhead front perspective view of a 4 way connector 200 with a built-in stud 210 of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The 4 way connector 200 includes a top female outlet 220 which has internal threading 222 and can accommodate a built-in stud 210 with a centered aperture 212, while the 2 side male outlets 224 are externally threaded. The top outlet 220 has a small aperture 226 inside to reduce pressure and has a washer 230 in addition to the built-in stud 210. The 2 side male outlets 224 make it easy to fix a desired position and have the control valve 132 (FIG. 1) fixed without need for flexible tubes or faucets.

[0021] The 4 way connector 200 makes it easy to connect to an existing water tank inlet to get water for the bidet 160 and is relatively easy to repair if needed. The bottom outlet 228
can be used in combination with an elongated clamp 240 to connect to a hot water line HW to get warm water. The small aperture 226 helps to control transitioning from high pressure to low pressure to enable smooth water flow. The 4 way connector 200 is made out of NYLON™ and the control valve can be fixed directly to the 4 way connector 200, which is tightened under the toilet T and can be operated directly without any tubing. There is also an additional aperture 214 disposed on each side of the 4 way connector 200 as well to further reduce water pressure. The 4 way connector 200 is orientated to direct the control valve 320 in the right direction to the 4 way connector 200 directly without any tubing.

Dimensions for the 4 way connector 200 include an inner thread diameter of the top outlet 220 of 21.55 mms., 14 threads per inch suitable to North American standard toilets. The bottom outlet 228 thread diameter is 23.33 mms., 14 threads per inch suitable to North American standard faucets and toilets. The side outlet 224 thread diameter is 20.6 mms. / ¼ inch. standard thread with a cone shaped opening at the end suitable to accommodate a washer 230, which helps the washer 230 to fit tightly to make the side outlet 224 leak proof. Inside the top outlet 220 below the inner thread is a 16 mm. inner diameter with a depth of 15.6 mms. The inner diameter of the built-in stud 210 is 8.77 mm, the length is 14.85 mms., one side is 11.82 mms. and the other side is 15 mms. to hold the washer 230 securely in one position. Other suitable dimensions can also be utilized for the 4 way connector 200, the bottom outlet 228, the side outlets 224, the built-in stud 210 and the top outlet 220.

Fig. 3 illustrates an overhead perspective view of a cap 300 with a washer 310 for a 4 way connector 200 of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The cap 300 has a built in stud 320 and place holder for a washer 310, which helps prevents and blocks water leakage from the 4 way connector 200. The cap 300 has a collar 330 disposed on the perimeter 302 of the cap to further help prevent any leakage of water. There is also a plurality of wings 340 disposed on the exterior to assist in tightening or loosening the cap 300.

The cap 300 has a generally round shape with 3 wings 330 to tighten or loosen the cap 300 relatively easier by hand, although any suitable number of wings can be used. The height of the wings 330 is 6.67 mms., the thickness is 3.1 mms., the length of the wings is 14.8 mms. The outer diameter of the cap 300 is 25.3 mms., the height is 16.8 mms., thread ¼th standard thread and the inner thread diameter is 19.3 mms. There is an outer diameter of 10 mms., an inner diameter of 7.7 mms. and a height of 7.8 mms to accommodate the washer 310. The cap 300 and wings 330 can be other suitable dimensions as well.

Fig. 4 illustrates an environmental side perspective view of an elongated handle 400 on a pressure control valve 410 of a toilet of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The elongated handle 400 is easy to operate and reach while sitting on the toilet T and gives relatively smooth water control from the pressure control valve 410. The pressure control valve 410 is removable integral to the elongated handle 400 which makes the elongated handle 400 easy to reach and operate and gives smooth water control with relatively little effort to operate. The pressure control valve 410 is integral to a relatively small flexible tube 430 that is made of PVC or rubber, which is easy to attach onto many brands of toilets T, is easy to replace, is relatively small and does not hang making the toilet T area look clumsy.

The elongated handle 400 design and shape makes it easy to operate for heavy and obese people who have difficulty in operating other bidet controls which are disposed along the toilet seat making it hard to reach for them.

The elongated handle 400 also has a T shaped bracket 420 that is 43.3 mms. in length, 11 mms. in width at edge, 18.5 mms. at center and 54.3 mms. in height. The elongated handle 400 is 150 mms. in length, 12 mms. in width and is 6.8 mms. thick with a height of 4.37 mms. A plurality of ridges 402 are disposed on the elongated handle 400 3.3 mms. from the outer edge of the entire length of the elongated handle 400 for added strength. The elongated handle 400, ridges 402 and T-shaped bracket 420 can also be in other suitable dimensions as well.

Fig. 5 illustrates an overhead perspective view of a primary water jet 500 of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The primary water jet 500 is fixed to the other end of the flexible tube 430 which is connected to the pressure control valve 410. The angled flange 510 goes under the toilet seat and is slid under the seat fixture with one screw removed (not shown) where it is secured. The primary water jet 500 will not obstruct or prevent regular usage and cleaning of the toilet T. There is also a seamless tube 520 without any parting line that is integral to the flexible tube 430 that reduces the possibility of leakages.

The dimensions of the primary water jet 500 along with the angled flange 510 include an outer diameter of 7.45 mms., an inner diameter of 4.5 mms. and a seamless tube that is 18 mms. in length. The primary water jet 500, the angled flange 510 and the seamless tube 520 can have any suitable dimensions.

Fig. 6 illustrates a side perspective view of an end jet 600 of a bidet conversion kit 100, in accordance with one embodiment of the present invention. The end jet 600 is fixed onto the primary water jet 500 to receive water flow for cleaning a person’s body. The end jet 600 can be adjusted to suit every toilet seat and make the water come up in the center of the toilet if desired. The end jet 600 is replaceable for multiple users’ usage in establishments such as motels and hospitals that utilize the bidet conversion kit 100.

The end jet 600 includes right-angled and L-shaped tubing 620 with an outer diameter of 8 mms., with an inner diameter of 6.15 mms. and with a length of 23 mms. The end jet 600 is extended at a 90 degree angle with a 1 mm. thickness wedge 610 for strength with an outer diameter of 9 mms., a length of 65 mms. and an inner diameter of 5 mms. At the distal end 622 of the tubing 620 is a ¼ inch standard size threaded aperture 624 that can be closed with a screw plug 626. There is a high pressure nozzle 630 with an outer diameter of 4.88 mms., an inner diameter of 2 mms., a length of 12 mms. and is at an upward 50 degree angle that disperses water for washing.

Use of the bidet conversion kit 100 is straightforward. The bidet conversion kit 100 can be fixed on to any 2 piece toilet T in a few minutes and is easy to install. The bidet 160 produces built-in water pressure reducing capability that utilizes the 4 way connector 200 and cap 300 that is also leak proof. The bidet 160 can be operated relatively easily because of its long elongated handle 400. The primary water jet 500 is easy to install under the toilet seat by removing a single screw.
from the toilet seat fixture. The bidet 160 is adjustable and can be used either horizontally or vertically to direct water flow for cleaning with or without an end jet 600. The end jet 600 is easily replaceable for multiple users in places such as motels and hospitals.

While the present invention has been related in terms of the foregoing embodiments, those skilled in the art will recognize that the invention is not limited to the embodiments described. The present invention can be practiced with modification and alteration within the spirit and scope of the appended claims. Thus, the description is to be regarded as illustrative instead of restrictive on the present invention.

What is claimed is:

1. A bidet conversion kit to convert a toilet into a bidet, comprising:
   a 4-way connector with two sides with a top outlet, two side outlets with one side outlet closed and a bottom outlet, said top outlet includes a built-in stud to reduce water leakage to receive and direct water from a water source and a washer set in said top outlet around said built-in stud;
   a cap with a perimeter and an exterior with a built-in stud disposed in said cap with a place holder to accommodate a washer to help prevent and block water leakage to said cap and a collar disposed on said perimeter to help prevent and block water leakage;
   an elongated handle with a length that includes a T-shaped bracket that is removably integral to a pressure control valve of said toilet that controls said water coming into said bidet, wherein said pressure control valve is integral to a flexible tube;
   a primary water jet with a seamless tube and an angled flange that is slid underneath a seat fixture of said toilet to secure said primary water jet that is integral to said flexible tube from said pressure control valve to receive said water from said water source; and
   an end jet with a distal end that includes tubing, a strengthening support wedge, an aperture disposed on said distal end capped with a screw plug and a high pressure nozzle that is attached to said flexible tube to receive and disperse said water to clean a user.

2. The kit according to claim 1, wherein said built-in stud has a centered aperture.

3. The kit according to claim 1, wherein said top outlet has a relatively small aperture and an additional aperture disposed on each said side of said 4-way connector to reduce pressure from said water flowing from said water source to enable relatively smooth water flow.

4. The kit according to claim 1, wherein said bottom outlet can be used to connect to a hot or warm water line with an elongated clamp.

5. The kit according to claim 1, wherein said cap includes a plurality of wings disposed on said exterior to assist in tightening or loosening said cap.

6. The kit according to claim 1, wherein said elongated handle includes a plurality of strengthening ridges disposed along said length.

7. The kit according to claim 1, wherein said flexible tube is made of PVC or rubber.

8. The kit according to claim 1, wherein said primary water jet does not obstruct or prevent regular usage and cleaning of said toilet.

9. The kit according to claim 1, wherein said high pressure nozzle is at an upward 50 degree angle.

10. The kit according to claim 1, wherein said toilet is a one piece toilet or a two piece toilet.

11. The kit according to claim 1, wherein said 4-way connector, said cap, said elongated handle, said primary water jet and said end jet are made of nylon.

12. A bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet, comprising:
   a 4-way connector with two sides with a top outlet that includes a built-in stud with a centered aperture and a washer that is set in said top outlet around said built-in stud to reduce water leakage, two side outlets with one said side outlet closed and a bottom outlet with an elongated clamp that can be used to connect to a hot or warm water line to receive and direct water from a water source;
   a cap with a perimeter, an exterior and a built-in stud and a place holder to accommodate a washer to help prevent and block water leakage and a collar disposed on said perimeter to help prevent and block water leakage;
   an elongated handle with a length that includes a T-shaped bracket that is removably integral to a pressure control valve of said toilet that controls said water coming into said bidet, wherein said pressure control valve is integral to a flexible tube and a plurality of strengthening ridges disposed along said length;
   a primary water jet with a seamless tube and an angled flange that is slid underneath a seat fixture of said toilet to secure said primary water jet that is integral to said flexible tube from said pressure control valve to receive said water from said water source, where said primary water jet does not obstruct or prevent regular usage and cleaning of said toilet; and
   an end jet with a distal end that includes tubing, a strengthening support wedge, an aperture capped with a screw plug disposed on said distal end and a high pressure nozzle that is attached to said primary water jet to receive and disperse said water to clean a user.

13. The kit according to claim 12, wherein said top outlet has a relatively small aperture and an additional aperture disposed on each said side of said 4-way connector to reduce pressure from said water flowing from said water source to enable relatively smooth water flow.

14. The kit according to claim 12, wherein said cap includes a plurality of wings disposed on said exterior to assist in tightening or loosening said cap.

15. The kit according to claim 12, wherein said flexible tube is made of PVC or rubber.

16. The kit according to claim 12, wherein said high pressure nozzle is at an upward 50 degree angle.

17. The kit according to claim 12, wherein said 4-way connector, said cap, said elongated handle, said primary water jet and said end jet are made of nylon.

18. A bidet conversion kit to convert a one piece toilet or a two piece toilet into a bidet, comprising:
   a 4-way connector with two sides with a top outlet that includes a built-in stud with a centered aperture, an additional aperture disposed on each said side and a washer that is set in said top outlet around said built-in stud to reduce water leakage with a relatively small aperture to reduce pressure from a water flowing from a water source and to enable relatively smooth water flow, two side outlets with one said side outlet closed and a bottom outlet with an elongated clamp that can be used
to connect to a hot or warm water line to receive and
direct water from a water source;
a cap with a perimeter, an exterior and a built-in stud and a
place holder to accommodate a washer to help prevent
and block water leakage, a collar disposed on said
perimeter to help prevent and block water leakage and a
plurality of wings disposed on said exterior to assist in
tightening or loosening said cap;
an elongated handle with a length that includes a T-shaped
bracket that is removably integral to a pressure control
valve of said toilet that controls said water coming into
said bidet, wherein said pressure control valve is integral
to a flexible tube and a plurality of strengthening ridges
disposed along said length;
a primary water jet with a seamless tube and an angled
flange that is slid underneath a seat fixture of said toilet
to secure said primary water jet that is integral to said
flexible tube from said pressure control valve to receive
said water from said water source, where said primary
water jet does not obstruct or prevent regular usage and
cleaning of said toilet; and
an end jet with a distal end that includes tubing, a strengthen-
ing support wedge, an aperture capped with a screw
plug disposed on said distal end and a high pressure
nozzle that is at an upward 50 degree angle that is
attached to said primary water jet to receive and disperse
said water to clean a user.

19. The kit according to claim 18, wherein said flexible
tube is made of PVC or rubber.

20. The kit according to claim 18, wherein said 4 way
connector, said cap, said elongated handle, said primary water
jet and said end jet are made of nylon.

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