Title: BIDET AND METHOD OF USING THE SAME

Abstract: The invention relates to a device for anal cleansing comprising a mixing valve attached to a hot water inlet, a cold water inlet and an outlet for the mixed water; and a hose having a proximal end connected to the mixed water outlet and having a distal end connected to a spray head assembly, said spray head assembly being operable for spraying water to the anus and having an absorbent spray head cover provided thereupon.
BIDET AND METHOD OF USING THE SAME

[0001] This application claims priority from US Application Serial No. 60/677,694 filed May 4, 2005 and is a continuation-in-part application of US Application Serial No. 11/215,919 filed August 25, 2005, both of which are incorporated by reference herein in their entireties.

FIELD OF THE INVENTION

[0002] The present invention is an apparatus for cleaning human waste by flushing water to the anus after rest room visits and method of using the same.

BACKGROUND OF THE INVENTION

[0003] In many places, cultural and religious beliefs require cleaning the anus with water after rest room visits. Additionally, many whose religious and cultural beliefs do not require such cleaning nevertheless find it desirable to perform such cleaning. Containers are conventionally used to transport water to the anus and the hand is directly involved in the cleaning process. Many bidets are available that provide directed water flow to the anus to assist in the manual cleaning. When such bidets are used, typically only cold water is used. Also, the bidet requires use of a hand directly or indirectly to complete cleansing. Also, sometimes water hoses are used. Even where water hoses are used to provide water, it had been customary to use only cold water. Usually the user holds the hose with one hand and uses the other hand to remove waste from the anus.

[0004] It is desirable to find a manner of cleaning human waste from the anus that does not require that the hands be directly involved. Such a device would provide improved standards of cleanliness. Clearly, the need to find a better way of cleaning human waste has become an issue in some parts of the world, such as in many Muslim regions, where anal cleaning is required by religious and cultural standards. Furthermore, it is desirable to improve the comfort of such cleaning by
allowing for temperature control of the cleaning water. Also, it is desirable to find a cleaner alternative to using toilet paper. It is preferred that the improved method can be fitted into existing plumbing and plumbing designs.

[0005] The present invention solves the problem of contact with waste material by using a bidet device that has a spray head having an absorbent and preferably disposable spray head cover at the end of a hose. The incoming water is directly applied to the anus to clean the same with water pressure without direct hand contact with the waste.

SUMMARY OF THE INVENTION

[0006] The invention is directed to a device for anal cleansing with water pressure without direct hand contact with the anus, comprising a mixing valve attached to and regulating hot water provided through a hot water inlet, cold water provided through a cold water inlet and a mixed water outlet, and a hose having a proximal end connected to the mixed water outlet and having a distal end connected to a spray head assembly, said spray head assembly being operable for spraying water to the anus and having an absorbent spray head cover provided thereupon. The invention is also directed to methods for anal cleansing without direct hand contact with the anus using the device or devices of the invention.

[0007] In another embodiment, the invention is directed to a bidet for anal cleansing without direct hand contact with the anus, comprising:

(a) a hot water source, comprising a hot water source pipe connected to a hot water connector for allowing water to flow to the hot water inlet of the mixing valve described above and to a hot water inlet of a separate bathroom fixture; and

(b) a cold water source, comprising a cold water source pipe connected to a cold water connector for allowing water to flow to the cold water inlet of the mixing valve described above and to a cold water inlet of a separate bathroom fixture; and is also directed to use of such a bidet.
BRIEF DESCRIPTION OF THE FIGURES

[0008] Novel features and advantages of the present invention in addition to those noted above will be become apparent to persons of ordinary skill in the art from a reading of the following detailed description in conjunction with the accompanying drawings wherein similar reference characters refer to similar parts and in which:

[0009] FIG. 1 shows a known cleaning system that provides only cold water for cleaning;

[0010] FIG. 2 shows an embodiment of the invention in which a first pipe has a switch, a mixed water outlet and cold and hot water inlets;

[0011] FIG. 3 shows a front elevational view of an embodiment of the invention showing a bidet attached to a mixing valve, and the mixing valve attached to a sink, in which the mixing valve is also shown connected to a commode via a cold water line shown in phantom outline (the elements are not to scale);

[0012] FIG. 4 shows a left side elevational view of the mixing valve shown in Fig. 3;

[0013] FIG. 5 shows a front elevational view of the spray head shown in Fig. 3;

[0014] FIG. 6 is an exploded view of the spray head shown in Fig. 4; and

[0015] FIG. 7 shows a front elevational view of the spray head shown in Fig. 3 with the retainer nut removed to show how the O-ring secures the spray head cover.

DETAILED DESCRIPTION OF THE INVENTION

[0016] One of the unhealthiest practices in human experience is the process of cleaning the body after restroom use. Hand contact with the waste product has
remained an unavoidable process that could raise health issues because of contamination. The health issues are increased mainly because hands are also utilized for eating. Although excessive washing could alleviate the problem, complete success has so far been questionable.

[0017] Figure 1 shows a known device 10 that may be used for cleaning purposes. Cold water is supplied from a water source through the cold water pipe 12. The water is released or stopped by a mechanical switch 14, which lets water flow through the extended hose 16, which may have a retainer clip 18 for attaching a nozzle 19 to hose 16. The user typically holds the hose 16 and/or the nozzle in one hand and cleans the waste off the anus by the other hand through direct contact with the waste. By "direct contact" is meant that the hand is involved in holding a tissue, cloth, or other item whose surface is directly applied to the body for contact with waste material.

[0018] The present invention advantageously provides an alternate means of cleaning waste matter from a human anus without direct physical contact with the waste.

[0019] As shown in FIG. 2, in one embodiment the invention is directed to a device for anal cleansing with water pressure without direct hand contact with the anus, comprising a mixing valve 20 attached to a cold water line 22 at a cold water inlet 24, and a hot water line 26 at a hot water inlet 27. Mixing valve 20 is also connected to mixed water outlet 28 in which water mixed to a desired temperature exits the mixing valve. A mechanical switch 14 allows for the control of the flow of the hot and cold water from the inlets 24 and 27 to the outlet 28. This embodiment provides improved comfort for the user over the prior systems by allowing for temperature adjustment, rather than only providing cold water. In this embodiment, the mixing valve 20 is capable of regulating water temperature in the mixed water outlet 28 by proportional mixing of hot and cold water from the cold water inlet 24 and the hot water inlet 27. Any known electro-mechanical or mechanical switch 39, including, for example, a circular, vertical, horizontal, bent or straight switch may be
used for modulating hot and cold water entering the mixing valve 20 and exiting outlet 28.

[0020] The mixed water outlet 28 may be attached to a hose 30, as shown in FIG. 2. Hose 30 is preferably flexible, such as can be accomplished with flexible plastic, polyvinyl chloride, rubber, flexible metal, or other suitable material. Also, hose 30 should be capable of extending some distance from the pipe to allow for use of the hose near the body.

[0021] According to one embodiment, spray head assembly 33 is attached directly or indirectly to a distal end of hose 30 using a retainer clip 31. The spray head 33 preferably has a structure such as a mechanical switch that allows water spray to be turned on or off by the same hand that is holding spray head 33 to direct the spray of water to the desired location. For example, as shown in FIG 2, spray head 33 may be controlled by a conventional lever-operated switch 35 on spray head 33 that releases water when depressed.

[0022] Also, the flexible hose may have a second spray head assembly 37 connected to the distal end of the hose 30 and the spray head assembly 33. An O-ring or washer 38 between the two spray heads 33 and 37 and/or between the spray head 37 and distal end of hose 30 has been shown to be desirable to avoid leakage. The spray head 37 may be attached to hose 30 by a retainer clip 31.

[0023] According to an alternative and preferred embodiment, shown in Figs. 3, 5 and 6, hose 30 may have a distal end, including a handle 74, connected directly or indirectly to a spray head assembly 32. The distal end of hose 30 may be provided with a threaded sleeve 34 designed to engage with a threaded portion 36 of spray assembly 32. A washer 38a may be provided between the spray head assembly 32 and the distal end of hose 30 to provide a waterproof connection.

[0024] The exploded view shown in Fig. 6 more particularly shows the configuration of a spray head assembly 32 that comprises a nozzle 42, spray head
cover 44, retainer O-ring 46 and a threaded retainer nut 48. As shown also in Fig. 7, cover 44 may be placed around nozzle 42 and secured by O-ring 46, which may engage a reduced collar 43 extending downward from nozzle 42. The threaded retainer nut 48 has threads 70 that engage with threaded portion 72 of nozzle 42.

[0025] Other methods may be used as means for securing the spray head cover 44 to the nozzle 42. For example, a clip may be used to hold the spray head cover 44 on the nozzle 42 at the reduced collar 43. Suitable clips may be made of a resilient material such as metal or plastic or operate by depression and release of a resilient spring and preferably allow for release of the clip by pinching two clip levers with the fingers of one hand for easy release. In this embodiment, the cover 44 is attached to the nozzle 42 by the clip and thus is released when the clip is released from the nozzle 42 without requiring contact of the hands with the cover 44. Preferably, the means for holding the cover 44 on the nozzle 42 is such that it provides for secure holding under the pressure washing conditions yet allows for easy release, preferably with one hand, after washing and requires no hand contact between the user and the cover 44.

[0026] One end of the nozzle 42 is provided with one or more holes 50 to allow water to exit. The hole(s) 50 may be of any size, but decreasing the size and number of holes increases the fluid pressure that can be achieved. If multiple holes are used, they can be arranged in any suitable manner to optimize the fluid pressure and the surface area being cleaned. For example, placing multiple holes 50 along the spray head may increase the effective washing area and thereby clean a larger surface in a shorter period of time. In one embodiment, the nozzle is of a spherical shape and has a diameter of 1 1/16 inches. Preferably, the nozzle is spherical and has a diameter between 0.5 and 2.5 inches, more preferably between 1.0 and 2.0 inches, and still more preferably between 1.0 and 1.5 inches, inclusive.

[0027] The spray head 32, 33, and/or 37 may be metal, plastic, or other suitable material. The spray head cover 44 may be comprised of any conventional material that allows for water under pressure to pass through. Preferably, spray
head cover 44 may be made of an absorbent material and be disposable, such as by
being made of cloth, which may have a high cotton content; sponge; foamed polymer
or plastic; threaded fiber; or other suitable material. The term "disposable" is used
herein to describe articles that generally are not intended to be laundered or
otherwise restored or reused (i.e., they are intended to be discarded after a single
use or after a very few uses by only one individual).

[0028] Spray head assemblies 32, 33, and/or 37 may assist in removing waste
through water pressure. Spray head assembly 32 may also remove waste through
scrubbing contact of the cover 44 and the area to be cleansed. In alternative
embodiments, the spray head assemblies 33 and 37 may be altered to cover the
nozzles with an absorbent and preferably disposable cover of the type discussed
herein with regard the spray head assembly 32.

[0029] The embodiment of the cleansing device that utilizes spray head 32 will
now be described in more detail with reference to Fig. 3. Mixing valve 20 is
contained within valve housing 40, which is attached to or integral with a flange 41.
As shown in Fig. 4, the flange 41 may be attached directly to a wall or other
substrate. Furthermore, the mixing valve may be connected to a mechanical switch
or handle 39 for adjusting the flow of hot and cold water. Valve housing 40 may be
sized to fit on a bathroom wall between a commode 62 and a sink 60, under a sink
60, or so that the mixing valve 20 can easily fit near any conventional water source,
such as sink 60, even if there is little available space. Preferably valve housing 40 is
located near a commode, wash basin, shower stall, or other suitable area for ease of
use and to allow the water to drain.

[0030] As shown in Fig. 3, spray head assembly 32 may be placed or hung in a
cradle 42 or other suitable means that may be mounted to a wall or other substrate.
Using this or a similar configuration, the spray head assembly 32 can be releasably
maintained within reach of a user and/or proximate to the valve housing 40. Hanging
the spray head 32 in an upright position, as shown in Fig. 3, may have the additional
benefit of reducing or eliminating any water from exiting the spray head 32 after the mixing valve 20 is closed.

[0031] The cleansing device, which may include the mixing valve 20, hose 30, and spray head 32 as described above, may be connected to existing water lines to retro-fit existing plumbing, such as that which may be found in a typical bathroom. To accomplish this task, a conventional water connector 52 a,b,c may be connected so that a given source of water, such as cold water source pipe 56a or hot water source pipe 56b, can service the original fixture as well as the cleansing device. For example, for a given cold water source pipe 56a, connector 52a may be T-shaped and can be added between water source pipe 56a and the existing fixture inlet pipe 58a so that water also flows to cold water line 22. The hot water source pipe 56b could be similarly attached to the cleansing device's hot water inlet 26 and the fixture inlet pipe 58b. In Fig. 3, the existing fixture is represented as a sink 60. Alternatively or additionally, the fixture could be a shower (not shown).

[0032] The cold water line 22 could also alternatively be connected to the commode water source 56c, rather than to sink water source 56b. As shown in phantom outline, the cold water line, which is designated as 22cc for clarity, of the cleansing device could be connected to water source 56c by a connector 52c. Connector 52c may also allow water to flow to inlet pipe 58c of the commode tank 62.

[0033] The connectors 52 a,b,c may be formed of any conventional shape to accommodate the locations and orientations of the plumbing and may be formed of any conventional materials such as metal or plastic. The connectors 52 a,b,c may have one water inlet, two water outlets, and may comprise a conventional mechanical valve to regulate or restrict water flow to the outlets. Of course, the various water lines could be reversed, such that the hot and cold water flows through the opposite pipes described above, without diverting from the present invention.
[0034] Other variations of the embodiments described above are envisioned. For example, the nozzle 42 or the handle 74 on the hose 30 may include a shut-off valve, which is not shown in the figures. Such a valve may operate by means of a lever or button that is normally biased to the closed position for shutting off the flow through the nozzle. The lever or button can be operated by squeezing the lever or pushing and holding the button with one hand and thereby opening the cut-off valve to allow water to flow through the nozzle. In this manner, on/off control of the water flow can be maintained by the hand holding the handle of the hose. Such a shut-off valve at the nozzle or handle of the hose would be in addition to the mixing valve 20 that also controls flow of water to the nozzle. In this embodiment, a second flow control would be located such that it could be operated by the hand holding the hose and thereby provide for simplified control of the water flow.

[0035] Clearly, the invention is not limited to the examples provided herein, such as the examples embodied in the FIGS. 2-7. In fact, a combination of different pipes as shown in FIG. 3 can also be assembled for the same purpose. The direction of the inlet and outlets on the pipes may be adjusted to fit the architecture. The separation between the two pipes in a given assembly is variable. The hot water source pipe 56a and the cold water source pipe 56a, or 56c, may be between a few inches apart to 3 feet apart depending on the application; the method provides flexibility in installation because these two pipes are not in a fixed relationship to each other. Thus, the bidet embodiments can be retro-fitted into an existing bathroom easily. It is possible for the hot water and cold water mechanical switches to be mounted on the wall, such as in a box.

[0036] The products of the invention allow a user to clean the anus without hand contact. By this is meant that either the water pressure from the spray alone or the water pressure from the spray head in coordination with contact with an absorbent spray head cover is sufficient to remove most or all of the waste without requiring any hand wiping. Such avoidance of hand use allows a user to achieve proper cleansing without risking contamination of the user’s hands.
I claim:

1. A device for anal cleansing with water pressure without direct hand contact with the anus, comprising a mixing valve attached to and regulating hot water provided through a hot water inlet, cold water provided through a cold water inlet and a mixed water outlet, and a hose having a proximal end connected to the mixed water outlet and having a distal end connected to a spray head assembly, said spray head assembly being operable for spraying water to the anus and having an absorbent spray head cover provided thereupon.

2. A method for anal cleansing without direct hand contact with the anus comprising using the device of claim 1 to clean the anus.

3. The method of claim 2 wherein the spray head cover is disposable.

4. The device of claim 1 wherein the absorbent spray head cover is comprised of cloth, sponge, foamed polymer or plastic, and/or a threaded fiber material.

5. The device of claim 1, wherein the spray head assembly further comprises a nozzle, an O-ring for retaining the absorbent spray head cover, and a threaded retainer nut.

6. The device of claim 5, wherein the nozzle comprises one hole.

7. The device of claim 5, wherein the nozzle comprises multiple holes.

8. The device of claim 5, wherein the spray head cover is disposable.

9. The device of claim 5, wherein the spray head cover is comprised of cloth, sponge, foamed polymer or plastic, and/or a threaded fiber material.

10. The device of claim 1 wherein the distal end of the hose has a threaded sleeve that is engaged with a threaded portion of the spray head assembly and a
washer is provided between the spray head assembly and the distal end of the hose to provide a waterproof connection.

12. A bidet for anal cleansing without direct hand contact with the anus using the device of claim 1, comprising:

   (a) a hot water source, comprising a hot water source pipe connected to a hot water connector for allowing water to flow to the hot water inlet of the device of claim 1 and to a hot water inlet of a separate bathroom fixture; and

   (b) a cold water source, comprising a cold water source pipe connected to a cold water connector for allowing water to flow to the cold water inlet of the device of claim 1 and to a cold water inlet of a separate bathroom fixture.

13. The bidet of claim 12, wherein the hot water inlet of the bathroom fixture is a hot water inlet pipe of a sink.

14. The bidet of claim 12, wherein the cold water inlet of the bathroom fixture is a cold water inlet pipe of a sink.

15. The bidet of claim 12, wherein the cold water inlet of the bathroom fixture is a cold water inlet pipe of a toilet.

16. The bidet of claim 12, wherein the spray head cover is disposable.

17. A method for anal cleansing without direct hand contact with the anus comprising using the bidet of claim 12 to clean the anus.

18. The bidet of claim 12, wherein the spray head cover is comprised of cloth, sponge, foamed polymer or plastic, and/or a threaded fiber material.

19. The bidet of claim 16, wherein the spray head cover is comprised of cloth, sponge, foamed polymer or plastic, and/or a threaded fiber material.
20. The bidet of claim 12, wherein the spray head cover is comprised of cotton.