

A Dual-Mode Toilet System

Field of Invention

The present invention relates to a new development in the field of sanitary wares and sanitary waste disposal. More particularly, it relates to a dual mode toilet system which a user can easily and quickly configure for use in either a squatting or sitting position, facilitating the users with maximise comfort and convenience.

Background

In a multi-cultural society such as Singapore, there is a necessity to provide for the needs of different groups of people with different toilet habits living in the same household or in public spaces. In public places, such as shopping centres, conference / exhibition venues, etc, separate toilet cubicles with sitting pedestal toilets and squatting toilets are usually provided to cater to toilet users with different habits. In residential flats having at least two toilets, one of the toilets may be constructed with a sitting pedestal toilet and the other with a squatting toilet to cater to household members or guests with different toilet habits.

The provision of these separate toilet facilities with different types of toilets is considered economically wasteful, as valuable floor area has to be used to build more toilets than may be necessary in order to satisfy the different toilet habits of different users. In circumstances where floor area is limited, such as in smaller residential flats or when providing temporary toilets in temporary structures such as during renovation or upgrading works or in outdoor functions, only one of either a sitting pedestal toilet or a squatting toilet is possible. As a result, toilet users with a preference for the toilet mode that is not provided are substantially inconvenienced.

A number of solutions to the above problems have been attempted. For example, in toilets where only a squatting toilet has been provided, a portable raised toilet seat is sometimes provided for the toilet user to place over the bowl of the squatting toilet to meet the toilet user's sitting habit. However, this solution is unsafe and is impractical as the portable raised toilet seat must be stored away when not in use, taking up valuable space. Further, it is easily removed by errant users and thus increasing the maintenance efforts and the cost of the provision. Another attempted solution is the provision of a sitting pedestal toilet with enlarged areas at the rims of the toilet bowl for a toilet user to step on in a squatting position. However, this solution is not desirable as the enlarged areas are easily dirtied when a toilet user steps on it, making it undesirable for use by a toilet user in a sitting position. Further, requiring the toilet-user to squat on the sitting pedestal may be dangerous as the toilet user may lose his balance and fall.

The present invention solves the above problems by providing a dual mode toilet system that can be user-configured for use in either a squatting or sitting position.

Summary

A dual mode toilet system comprising a squatting platform, a toilet bowl supported by the squatting platform and a sitting pedestal pivotally connected to the squatting platform at or proximate to the edge of the toilet bowl, whereby the sitting pedestal may be pivoted to a substantially horizontal position supported by the squatting platform in a position in fluid communication and over the toilet bowl in a first position for use as a sitting toilet; or the sitting pedestal may be pivoted away from the squatting platform to expose the squatting platform and the toilet bowl in a second position for use as a squatting toilet.

Preferably the squatting platform and the sitting pedestal of the dual mode toilet system are pivotally connected by a hinge.

More preferably, the sitting pedestal of the dual mode toilet system is pivoted to a substantially vertical position when in the first position.

Preferably, the squatting platform of the dual mode toilet system is either a raised platform above floor level or built into the floor.

More preferably, the sitting pedestal of the dual mode toilet system is formed as a toilet seat or includes a toilet seat cover.

Preferably, the sitting pedestal of the dual mode toilet system further includes a cover.

More preferably, the dual mode toilet system further includes a foot platform positioned below the squatting platform for the user's feet to rest upon when the toilet system is used as a sitting toilet.

Preferably, the foot platform of the dual mode toilet system further includes raised supports where the foot platform is positioned above the floor.

More preferably, the dual mode toilet system includes at least one privacy wall connected to the foot platform to provide a portable and unitary toilet and privacy enclosure.

Brief Description of drawings

Figure 1 is a front elevation view of the preferred embodiment of the invention;

Figure 2 is a side view of the preferred embodiment of the invention in a first operation;

Figure 3 is a side view of the preferred embodiment of the invention in a second operation;
and

Figure 4 is a perspective view of an alternative embodiment of the invention.

Detailed Description of the Invention

In a preferred embodiment of the invention as illustrated in Figures 1 and 2, there is a squatting platform 20 with a toilet bowl 22 embedded within the platform 20. The squatting platform 20 may be at the floor level or be above floor level as will hereafter be described with reference to Figure 4. A sitting pedestal 24 is provided and positioned over the toilet bowl 22 support by or within the squatting platform 20. The sitting pedestal 24 is pivotally connected to the squatting platform 20 by pivoting means such as hinges 26. The toilet bowl 22 in the squatting platform 20 may be optionally configured with a splash guard 28 particularly when the toilet users include children. The sitting pedestal may be moulded to form a toilet seat. Optionally, the sitting pedestal may include a pivotable toilet seat cover 42. More optionally, a pivotable lid 30 may be provided over the sitting pedestal 24.

In a first mode of operation of the preferred embodiment of the invention as illustrated in Figure 2, a toilet user desiring to use the toilet in a sitting position pivots the sitting pedestal 24 downwards towards the squatting platform 20 into a resting position over and in fluid communication with the toilet bowl 22 to form a raised toilet for use in the sitting position. The user then sits on the sitting pedestal with his feet resting on the floor to use the toilet in a sitting position.

In the second mode of operation of the preferred embodiment of the invention as illustrated in Figure 3, a user desiring to use the toilet in a squatting position pivots the sitting pedestal 24 upwardly from the squatting platform 20 into a resting position to expose the squatting platform 20 and the toilet bowl 22. The user then squats on the squatting platform 20 straddling both sides of the toilet bowl 22 to use the toilet in a squatting position.

Figure 4 illustrates a second preferred embodiment which includes all of the previous described elements which are indicated by the same reference numerals as in the

embodiment illustrated in Figures 1 to 3. The embodiment of Figure 4 differs in that an additional foot platform 32 is provided for the users feet when the toilet is used for the sitting position. Preferably, platform 32 is connected to, or integral with, squatting platform 20, such as, for example, the parts being moulded and secured together by a bonding agent.

In this embodiment, foot platform 32 rests on the floor, or optionally, may be provided with raised feet 34. In addition, platform 32 may provide a support for a privacy wall or walls 36, whereby the platform and walls provide a portable dual mode toilet and privacy enclosure.

From the foregoing description of the preferred embodiments, it will be apparent that the present invention solves all of the prior art problems of either not being of the type preferred by different cultures, as requiring duplicate toilets with their required plumbing which is costly and wasteful in space.

It is to be understood that the foregoing description of several preferred embodiments is intended to be purely illustrative of the principles of the invention, rather than exhaustive thereof, and that changes and variations will be apparent to those skilled in the art, and that the present invention is not intended to be limited other than as expressly set forth in the following claims.

Claims

1. A dual mode toilet system comprising:
 - (a) a squatting platform;
 - (b) a toilet bowl supported by the squatting platform; and
 - (c) a sitting pedestal pivotally connected to the squatting platform at or proximate to the edge of the toilet bowl;whereby the sitting pedestal may be pivoted to a substantially horizontal position supported by the squatting platform in a position in fluid communication and over the toilet bowl in a first position for use as a sitting toilet; or the sitting pedestal may be pivoted away from the squatting platform to expose the squatting platform and the toilet bowl in a second position for use as a squatting toilet.
2. The dual mode toilet system of claim 1, wherein the squatting platform and the sitting pedestal are pivotally connected by a hinge.
3. The dual mode toilet system of claim 2, wherein the sitting pedestal is pivoted to a substantially vertical position when in the first position.
4. The dual mode toilet system as claimed in any of claims 1 to 3, wherein the squatting platform is a raised platform above floor level.
5. The dual mode toilet system as claimed in any of claims 1 to 3, wherein the squatting platform is built into the floor.
6. The dual mode toilet system as claimed in any of claims 1 to 5, wherein the sitting pedestal is formed as a toilet seat.

7. The dual mode toilet system as claimed in any of claims 1 to 5, wherein the sitting pedestal further includes a toilet seat cover.
8. The dual mode toilet system as claimed in any of claims 1 to 7, wherein the sitting pedestal further includes a lid.
9. A dual mode toilet system as claimed in claim 1, further including a foot platform positioned below the squatting platform for the user's feet to rest upon when the toilet is used as a sitting toilet.
10. The dual mode toilet system of claim 9 wherein the foot platform includes raised supports where the foot platform is positioned above the floor.
11. The dual mode toilet system of claim 9 including at least one privacy wall connected to the foot platform to provide a portable and unitary toilet and privacy enclosure.