POTTY TRAINING SYSTEM

Inventors: Venessa Ukaegbu, Houston, TX (US); Ephraim Ukaegbu, Houston, TX (US); Gloria Ukaegbu, Houston, TX (US)

Applied No.: 13/542,667
Filed: Jul. 6, 2012

Publication Classification

Int. Cl.
E03D 5/00 (2006.01)

ABSTRACT

An improved potty-training system is described herein. The potty-training system can comprise a potty bowl comprising a concave portion, wherein said concave portion comprises an opening at top surface of the concave portion, a discharging port attached at the bottom of the concave portion and one or more crevices placed axially around the concave portion, the discharging port capable of discharging into a bin. The potty-training system can further comprise a seat lid mounted to the opening, a bottom compartment comprising a body, wherein the body capable of enclosing the bin, a flush system, and a hose system that can comprise an intake hose connected to the flush system, and one or more discharge hoses, each of the discharge hoses connected a nozzle head, each of the nozzle heads positioned at one or more crevices.
Fig. 7A
POTTY TRAINING SYSTEM

BACKGROUND

[0001] This disclosure relates to an improved potty training system. Potty training can help a young child understand the use of toilet for urination and defecation. In one method of potty training, a child can be trained to seat in a regular toilet bowl as the guardian waits and holds the child in a seated position. This method eliminates manual removal or disposal of waste. However, a small child will have a hard time sitting in a high toilet seat. Additionally, a child can feel uncomfortable since his feet are unable to touch the ground. Moreover, using this method requires the guardian to hold and wait for a long period before a child finishes. Thus, potty chairs are designed to give a toddler more independence and encourages them to practice proper toilet habits. Potty chairs of different designs and sizes have developed over the years. Some conventional potty chairs are designed to use a reusable container where wastes are deposited. This design can provide a clean and sanitary facility for a child but requires a guardian to manually dump and clean the container after use.

[0003] As such, it would be useful to have an improved potty training system.

SUMMARY

[0004] An improved potty-training system is described herein. The potty-training system can comprise a potty bowl comprising a concave portion, wherein said concave portion comprises an opening at top surface of the concave portion, a discharging port attached at the bottom of the concave portion and one or more crevices placed axially around the concave portion, the discharging port capable of discharging into a bin. The potty-training system can further comprise a seat lid mounted to the opening, a bottom compartment comprising a body, wherein the body capable of enclosing the bin, a flush system, and a hose system that can comprise an intake hose connected to the flush system, and one or more discharge hoses, each of the discharge hoses connected with a nozzle head, each of the nozzle heads positioned at one or more crevices.

[0006] Additionally, the potty-training system can also comprise a door mounted to the bottom compartment, wherein the door can be configured to open and close the bottom compartment. Lastly, the potty-training system can comprise a flush lever mateable to a protruding portion, and a flush handle mounted to the flush lever.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 illustrates a bin on a base stand.

[0008] FIG. 2 illustrates a disposable container, which can mount inside a bin.

[0009] FIG. 3 illustrates a potty bowl enclosed in a body.

[0010] FIG. 4 illustrates a seat lid attached to a potty bowl.

[0011] FIG. 5 illustrates a top compartment comprising a flush system.

[0012] FIG. 6A illustrates a refill bottle comprising a bottle nozzle.

[0013] FIG. 6B illustrates a bottle nozzle in a release state.

[0014] FIG. 6C illustrates a bottle nozzle in a closed state.

[0015] FIG. 7A illustrates a casing, which can comprise a base, a first cylinder, a second cylinder, and a pin.

[0016] FIG. 7B illustrates a refill bottle mated with a first cylinder.

[0017] FIG. 7C illustrates a valve comprising a first valve, a second valve and a spring.

[0018] FIG. 7D illustrates a valve mounted to a second cylinder.

[0019] FIG. 8 illustrates a flush handle, and a flush lever connected to a valve.

[0020] FIG. 9 illustrates a u-shaped pipe attached to a pipe, and a first valve orifice.

[0021] FIG. 10 illustrates a splinter, and a plurality of hoses connected to a second valve orifice.

[0022] FIG. 11 illustrates a bottom compartment comprising a door.

[0023] FIG. 12 illustrates how an assembled flush system 502 can operate.

[0024] FIG. 13A illustrates a front view of a potty system.

[0025] FIG. 13B illustrates how to remove a disposable container from a bottom compartment.

DETAILED DESCRIPTION

[0026] Described herein is a system and method for incorporating a flush system with a cleaner in a potty chair. The following description is presented to enable any person skilled in the art to make and use the invention as claimed and is provided in the context of the particular examples discussed below, variations of which will be readily apparent to those skilled in the art. In the interest of clarity, not all features of an actual implementation are described in this specification. It will be appreciated that in the development of any such actual implementation (as in any development project), design decisions must be made to achieve the designers’ specific goals (e.g., compliance with system- and business-related constraints), and that these goals will vary from one implementation to another. It will also be appreciated that such development effort might be complex and time-consuming, but would nevertheless be a routine undertaking for those of ordinary skill in the field of the appropriate art having the benefit of this disclosure. Accordingly, the claims appended hereto are not intended to be limited by the disclosed embodiments, but are to be accorded their widest scope consistent with the principles and features disclosed herein.

[0027] FIG. 1 illustrates a bin 101 on a base stand 102. Bin 101 can be a container made of materials such as plastic, wood, and/or metal. Furthermore, bin 101 can have various size and shape. In one embodiment, bin 101 can comprise a handle on its side that can be used to easily move and/or carry bin 101 from one place to another.

[0028] Base stand 102 can be a surface that can serve as a bottom support for bin 101. In one embodiment, base stand 102 can have a depressed portion that can fit bin 101. In such embodiment, bin 101 can slip into the depressed portion and ensures that bin 101 maintains its position. In one embodiment, base stand 102 can be mateable with bin 101. As such, bin 101 can be secured to base 102 and can maintain its position. Further, base stand 102 can resemble the footprint shape of a toilet bowl.

[0029] FIG. 2 illustrates a disposable container 201, which can mount inside bin 101. Disposable container 201 can be a customized synthetic solid material molded, and contoured to fit inside bin 101. Disposable container 201 can comprise a sturdy cavity 202. Cavity 202 can serve as a passage and/or opening in the top surface of disposable container 201. As such, any waste and/or excreted material can be directed...
inside disposable container 201. In one embodiment, disposable container 201 can be made of biodegradable material that can easily decompose when thrown away. In another embodiment, disposable container 201 can be made of durable material such as plastic. The inside cavity of disposable container 201, in one embodiment can comprise an absorbent material. Such absorbent material can help capture waste and any odors.

[0030] FIG. 3 illustrates a potty bowl 301 enclosed in a body 302. Potty bowl 301 can be a vessel of any shape and form that ensures any waste can be directed into bin 101. Potty bowl 301 can be made of a non-stick material, such as synthetic polymer or can have a non-stick coating, which includes but not limited to anodized aluminum and/or ceramics. Potty bowl 301 can comprise an orifice 303, a discharging port 304, and a plurality of crevices 305. Orifice 303 can be a large opening at the top surface of potty bowl 301. Discharging port 304 can be a hollow opening that can be connected to disposable plastic container 201. Crevices 305 can be a small gap or fissures in the surface of potty bowl 301. Body 302 can be an enclosed material that can house and cover bin 101 and potty bowl 301. In one embodiment, body 302 can be permanently attached to base stand 102. In such embodiment, body 302 and base stand 102 can be considered as a single device. In another embodiment, body 302 can be attached to base stand 102 through any fastening device or any adhesive materials.

[0031] FIG. 4 illustrates a seat lid 401 attached to potty bowl 301. Seat lid 401 can be a movable cover for potty bowl 301. Seat lid 401 can be attached to potty bowl 301 through any fastening device, such as a hinge. Seat can also be a fixed portion of or unibody with potty bowl. Seat lid 401 can be made of fabric and/or cushioned material to ensure comfort for the user.

[0032] FIG. 5 illustrates a top compartment 501 comprising a flush system 502. Flush system 502 is exemplary, and not limiting. Top compartment 501 can be an enclosed storage that can be divided in sections, a first section 503 and a second section 504. First section 503 can be an area that houses flush system 502. Flush system 502 can comprise of devices and mechanisms that can provide and release a flow of liquid into hose system and then potty bowl 301. Flush system 502 can comprise a refill bottle 505. In one embodiment, flushing system 502 could be push button actuated by a powered motor. In another embodiment, flush system 502 can comprise a flush handle 506, and a flush lever 507. Refill bottle 505 can be a rigid container, which can store a liquid cleaner 508. Liquid cleaner 508 can be any type of sanitizing solution designed to clean, freshen, remove stains, and/or eliminate odor from any surface and/or materials. Further, second section 504 can comprise a flush orifice 504 wherein flush handle 506 can be mounted. Flush handle 506 can be a device used to operate flush system 502. Flush lever 507 can be a device connecting refill bottle 505 and flush handle 506. Flush lever 507 can be a rigid bar, which can be used to transmit force when raised or moved. Second section 504 can be a storage area where bottle refills of liquid cleaner 508 or any other items can be placed.

[0033] FIG. 6A illustrates refill bottle 505 comprising a bottle nozzle 601. Bottle nozzle 601 can be an opening of refill bottle 505, which can be used to regulate the release of fluid. Bottle nozzle 601 can comprise a stopper 602 and a chamber 603. Stopper 602 can be an elongated material placed at the center of chamber 603, which can block and/or allow fluid to flow from refill bottle 505. Chamber 603 can be a tube portion of bottle nozzle 601 where fluid can discharge.

[0034] FIG. 6B illustrates bottle nozzle 601 in a release state. At this state, chamber 603 can be unblocked that can allow fluid to come out of refill bottle 505. In such state, stopper 602 can be in its retracted position that can leave chamber 603 open.

[0035] FIG. 6C illustrates bottle nozzle 601 in a closed state. At this state, stopper 602 can block chamber 603, which prevents fluid to come out of refill bottle 505. In such state, stopper 602 can be in its resting position. For purposes of this disclosure, bottle nozzle 601 can use a spring mechanism, which can help bottle nozzle 601 maintain and regain its retracted and/or resting state.

[0036] FIG. 7A illustrates casing 701, which can comprise a base 701a, a first cylinder 701b, a second cylinder 701c, and a pin 701d. Casing 701 can be a base frame that houses and serves as a connecting device for mechanisms used in flush system 502. Base 701a can be a flat surface wherein the bottom end of first cylinder 701b, second cylinder 701c, and pin 701d can be formed or attached. First cylinder 701a can be a shallow tube portion of casing 701. Second cylinder 701c can be an elongated tube material comprising an opening at its top and bottom end. Pin 701d can be a small rod vertically placed centrally inside first cylinder 701a. Moreover, a pipe 701e can be placed right next to pin 701d and within first cylinder 701a. Pipe 701e can be a small tube device comprising an orifice that can allow fluid to go through.

[0037] FIG. 7B illustrates refill bottle 505 mateable with first cylinder 701a. As such, pin 701d can connect to bottle nozzle 601. Pin 701d can be designed to stick into chamber 603, therefore pin 701d can push and/or force stopper 602 to its retracted form. At such state, fluid can be released from refill bottle 505 and can flow out from pipe 701e.

[0038] FIG. 7C illustrates valve 702 comprising a first valve 702a, second valve 702b and a spring 703. Valve 702 can be a device that controls and directs the flow of fluid when operated. First valve 702a can be a top portion of valve 702 while second valve 702b can be the bottom part of valve 702. Spring 703 can be an elastic material, which can be radially attached to first valve 702a. As such, valve 702 can have a compressed and/or stretched state. Furthermore, first valve 702a can comprise a protruding portion 704 that can be an extended member placed at the top of first valve 702a. Second valve 702b can comprise a first valve orifice 705 and a second valve orifice 706. First valve orifice 705 can be a vertical tube comprising an opening, while second valve orifice 706 can be an inclined tube comprising a small opening capable of dispensing fluid.

[0039] FIG. 7D illustrates valve 702 mounted to second cylinder 701b. Valve 702 can be mounted and installed inside second cylinder 701b. As such, second valve 702b can be enclosed within second cylinder 701b. Concurrently, first valve 702a can be visible and mounted on top of second cylinder 701b.

[0040] FIG. 8 illustrates flush handle 506, and flush lever 507 connected to valve 702. One end of flush lever 507 can connect to protruding portion 704, while the other end can connect to flush handle 506. As such, flush handle 506 can be used to control the movement of flush lever 507.

[0041] FIG. 9A illustrates a u-shaped tube 901 that can mount at the bottom of casing 701. U-shaped tube 901 can be a device comprising a passage that allows the transfer of fluid
from one area to another. U-shaped tube 901 can comprise a first tube 901a and a second tube 901b. First tube 901a can be a small tube while second tube 901b can be a bigger tube that forms a hollow cylinder. FIG. 9B illustrates u-shaped tube 901 mateable to pipe 701e, and first valve orifice 705. First tube 901a can connect to pipe 701e while second tube 901b can connect to first valve orifice 705.

FG. 10 illustrates hose system 1000 comprising a splinter 1001, and a plurality of hoses 1002 connected to second valve orifice 706. Splinter 1001 can be a device that comprises a plurality of small openings. Intake hose 1002a can connect second valve orifice 706 and first opening of splinter 1001. Meanwhile, one end of discharge hoses 1002b can connect to the other three openings of splinter 1001. The other end of discharge hoses 1002b can comprise a plurality of nozzle heads 1003. Nozzle heads 1003 can be a device comprising an opening, which can be used to regulate and direct the flow of liquid. Each nozzle head 1003 can fit in one of crevices 305.

FG. 11 illustrates a bottom compartment 1101 comprising a door 1102. Bottom compartment 1101 can be a bottom enclosure that covers bin 101 and discharging port 304. Door 1102 can be a movable panel that serves as a barrier device in providing access to bin 101. Door 1102 can attach at the back surface of bottom compartment 1101. Door 1102 can employ any type of lock system. For purpose of this disclosure, lock system mentioned herein can use various mechanisms that can allow door 1102 to close and/or open bottom compartment 1101. In one embodiment, door 1102 can use a hinged door mechanism. In such embodiment, a fastener device such as a hinge can enable door 1102 to swing closed and/or open. In another embodiment, door 1102 can utilize a sliding door mechanism. A track and guide system is utilized to allow door 1102 to slide open. In one embodiment, door 1102 is not connected bottom compartment 1101 by any hinging mechanisms. Instead, door 1102 can connect directly to bin 101, forming a drawer. The drawer can be pulled out to dump contents of bin 101.

FG. 12 illustrates how an assembled flush system 502 can operate. Flush handle 506 can operate by flushing, such action can push flush lever 507 downward that can push first valve 702a in a compressed state. Compressing first valve 702a can trigger and/or push casing 701 downward, which 502 and allow liquid cleaner 508 to flow out from refill bottle 505. Liquid cleaner 508 can flow to pipe 701e and directly flow through u-shaped tube 901. As such, liquid cleanser 508 can continuously flow into first valve orifice 705 then flow out through second valve orifice 706. Hose 1002a can direct the flow of liquid cleaner 508 into splinter 1001. Liquid cleaner 508 can continue to flow through hose 1002b and be finally dispensed out from nozzle heads 1003. Further, nozzle heads 1003 can be in crevices 305 of potty bowl 301. In such scenario, liquid cleaner 508 that flushes out from nozzle heads 1003, can clean and direct any waste from potty bowl 301 into the disposable container 201.

FG. 13A illustrates a front view of potty system 1300. Potty system 1300 can be a portable mechanism used primarily for training a young child to use a toilet for defecation and urination. Potty system 1300 can be small enough enabling a young child to reach and sit at seat lid 401. A flush handle 506 can also be accessible for a toddler, which can help to train a child to flush potty system 1300 after every use.

FIG. 13B illustrates how to remove disposable container 201 from bottom compartment 1101. At the back, of bottom compartment 1101 open door 1102. Once door 1102 is open, slightly raise bin 101 off from the base stand 102 using handle 103. Take out bin 101 from the bottom compartment 1101. Finally, pull out disposable container 201 from bin 101 and put in a new disposable container 201 into bin 101.

Various changes in the details of the illustrated operational methods are possible without departing from the scope of the following claims. Some embodiments may combine the activities described herein as being separate steps. Similarly, one or more of the described steps may be omitted, depending upon the specific operational environment the method is being implemented in. It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-described embodiments may be used in combination with each other. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims, the terms “including” and “in which” are used as the plain-English equivalents of the respective terms “comprising” and “wherein.”

1. A potty-training system comprising a potty bowl comprising a concave portion, wherein said concave portion comprises an opening at top surface of said concave portion, a discharging port attached at the bottom of said concave portion and one or more crevices placed axially around said concave portion, said discharging port capable of discharging into a bin; a seat lid mounted to said opening; a bottom compartment comprising a body, said body capable of enclosing enclosures said bin; a flush system; and a hose system, said hose system comprising an intake hose connected to said flush system, and one or more discharge hoses, each of said discharge hoses connected a nozzle head, each said nozzle heads positioned at one or more said crevices.

2. The potty-training system of claim 1, further comprising a door within said bottom compartment, said door configured to open and close said bottom compartment.

3. The potty training system of claim 2 wherein said door connects to bottom compartment by hinges.

4. The potty training system of claim 2 wherein said door connect to said bin.

5. The potty-training system of claim 1, wherein said flush system comprises a flush lever mateable said protruding portion; a flush handle mounted said flush lever.

6. The potty-training system of claim 1, wherein said flush system comprises a motor.

7. The potty-training system of claim 5, wherein said motor operates through a push button.

8. The potty-training system of claim 1, wherein said seat lid connected to potty bowl, over opening, by a hinge.

9. The potty-training system of claim 1 wherein said seat is unibody with potty bowl.

10. The potty-training system of claim 1 wherein said flush system comprises a refill bottle capable of holding a liquid cleaner.

11. The potty training system of claim 1 wherein said potty bowl comprises a non-stick surface.
12. The potty training system of claim 10 wherein said non-stick surface comprises anodized aluminum.
13. The potty training system of claim 10 wherein said non-stick surface comprises ceramic.