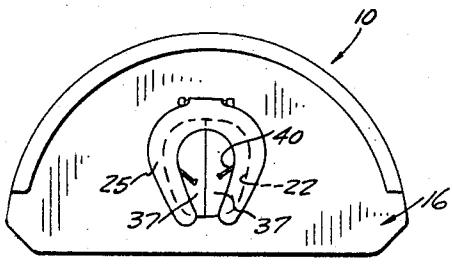
April 1, 1969 D. B. HARDING 3,435,464

PORTABLE TOILET

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FIG.1



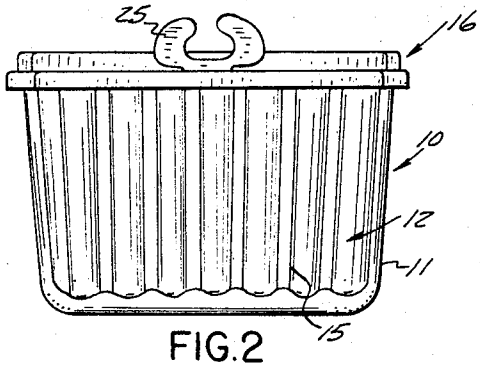
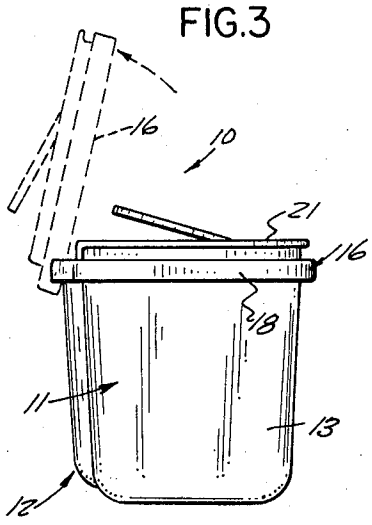


FIG.2

FIG.3



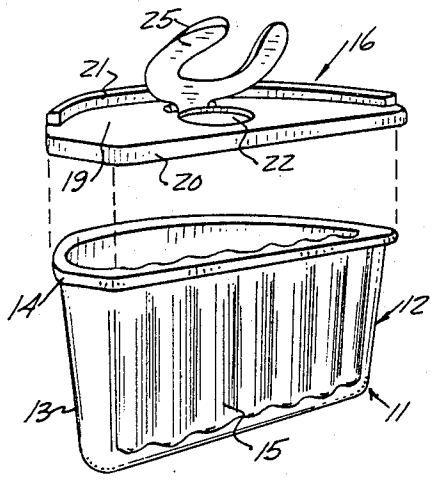
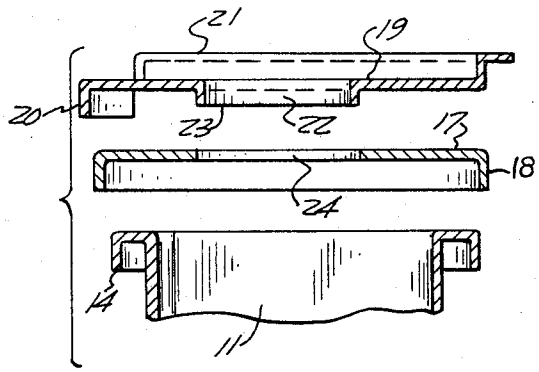


FIG.4

FIG.5



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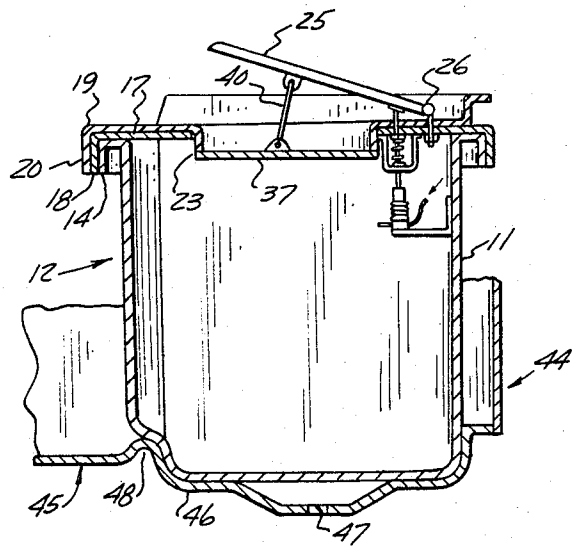
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ATTORNEYS

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FIG. 6



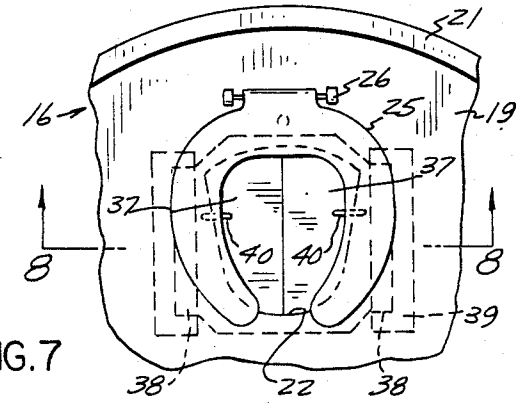


FIG. 7

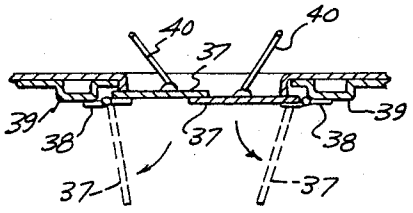
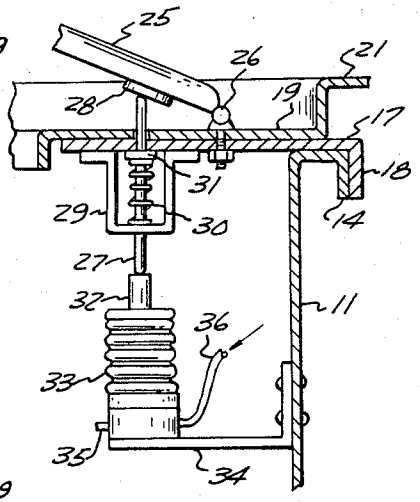


FIG. 8

FIG. 9



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United States Patent Office 3,435,464
Patented Apr. 1, 1969

3,435,464

PORTABLE TOILET

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Filed Apr. 19, 1967, Ser. No. 631,958
Int. Cl. A47k 11/02
U.S. Cl. 4—111 5 Claims

ABSTRACT OF THE DISCLOSURE

A portable, chemical type toilet, formed of a large plastic container shaped approximately as a semi-circle in cross-section, with a vertically corrugated, flat front wall, and a removable cover formed of a pair of semi-circular shaped plastic sheets fastened together to cover the open top of the container, with a toilet opening formed in the center of the cover and closed by doors connected to a toilet seat fastened to the cover, so that depressing the seat opens the doors, thereby forming a light-weight, rigid unit, with a large storage capacity.

Portable toilets of the "out-house" type used, for example, in recreation areas and on construction jobs, normally are fabricated of wood or metal so that they are heavy and, therefore, difficult to move about. More importantly, because of the nature of their materials, they are difficult, if not impossible, to maintain in a sanitary, clean condition, including sealing against insects and the like. In addition, such toilets have usually been made either integral with their cabanas or alternatively as a separate small size unit, having a small storage capacity, in order to permit lifting and moving it.

Thus, it is an object of this invention to provide a portable toilet unit, of the chemical type, useful for "out-house" types of toilets, but wherein the unit itself is unusually large in size and unusually light in weight, utilizing rigid, sheet plastic material for its construction and forming the container or tank in a semi-circular configuration to thereby increase the storage capacity thereof while permitting it to be easily handled and kept within a cabana and further forming a cover for the container which may be easily removed for cleaning the container while at the same time utilizing a seat construction which normally seals the container when the toilet is not in use.

A further object of this invention is to form a portable chemical toilet out of a sealed container having a co-operating cover for frictionally locking to and sealing the container, while at the same time being easily removable for cleaning and servicing the container.

These and other objects and advantages of this invention will become apparent upon reading the following description, of which the attached drawings form a part.

In these drawings:

FIG. 1 is a top, plan view of the toilet unit, and

FIG. 2 is a front, elevational view thereof.

FIG. 3 is a side elevational view.

FIG. 4 is a perspective view with the cover raised for illustration purposes.

FIG. 5 is an enlarged, cross-sectional view of the cover disassembled, and raised above the upper edge of the container.

FIG. 6 is an enlarged, cross-sectional, elevational view of the toilet.

FIG. 7 is a fragmentary, top plan view of the seat arrangement, and

FIG. 8 is a cross-sectional view taken in the direction of arrows 8—8 of FIG. 7.

FIG. 9 is an enlarged, cross-sectional, fragmentary view of a portion of the seat raising mechanism.

The toilet unit **10** comprises a container **11** having a substantially flat, front wall **12**, and a curved rear wall **13** which together define an approximate semi-circle in cross-section. The upper edge of the container is formed as an outwardly and downwardly extending peripheral flange **14** (see FIG. 5). The front wall **12** is corrugated, with corrugations **15** extending from the top to a point spaced slightly above the bottom of the front wall.

Preferably, the container is made of a suitable, thin, rigid, plastic sheet material of sufficient thickness to maintain the rigidity and strength required, but light-weight so that the container may be easily picked up and carried about by a single workman.

The open top of the container is provided with a cover **16** formed of a lower flat sheet **17** having a downwardly extending peripheral edge lip **18** (see FIG. 5), and a flat upper sheet **19** having a front, downward lip **20**, and a rear, upwardly and outwardly extending, lip **21**. Both sheets are approximately semi-circular in shape and are arranged in face to face contact and secured together by a suitable securing means so that they are in effect, laminated to form a unitary cover. The edge lip **18** snugly overlaps and frictionally seals the cover to the container flange **14**.

The upper sheet is provided with a central toilet opening **22** which is defined by a continuous downwardly extending peripheral flange **23** which fits through a similar opening **24** formed in the lower sheet.

A conventional toilet seat **25** is secured to the cover **16** by means of conventional toilet hinge fittings **26**. This seat is normally biased in an upward position, as indicated in FIG. 4, by means of a pin **27**, whose upper end pushes upwardly against a metal wear plate **28** secured to the bottom surface of the seat.

The pin extends downwardly through the cover and through a bracket **29** where it is surrounded by a coil spring **30** whose upper end engages a washer **31** fastened to the pin. Thus, the lower end of the spring bears against the lower end of the bracket **29** to urge the pin upwardly and thereby raise and maintain the seat in its raised position. Meanwhile, the lower end of the pin contacts the piston **32** of a mechanical, bellows-type pump **33** which is mounted upon a bracket **34** within the container. The pump is provided with a spray opening **35** and an inlet tube **36** connected to a chemical supply container (not shown) so that upon depression of the piston **32**, the pump functions to spray a predetermined quantity of suitable toilet chemicals into the container.

The toilet opening **22** is normally closed by a pair of flat doors **37**, secured by hinges **38** to bosses **39** formed integrally with the lower sheet **17** (see FIG. 8). The doors are connected by metal links **40** to the toilet seat so that upon depression of the seat, not only does the pump operate momentarily, but also the doors are opened and are closed again only when the seat is released and returned to its raised position.

Preferably, the toilet unit herein is mounted within a suitable cabana or out-house **44**, fragmentarily shown in FIG. 6, having a floor **45** formed with a depression or socket **46** to receive the lower end of the container. The depression is formed with a central drain **47** to carry off moisture which might collect between the container and the floor. In addition, the floor is provided with a forward support ridge **48** which fits under and supports the lower ends of the corrugations **15**, thereby assisting in supporting and rigidifying the container while it is in use.

The toilet unit here is so designed that for cleaning purposes, as well as for emptying the contents, the cover may be easily removed by simply pulling it forwardly as shown in dotted lines in FIG. 3 to thereby expose the

entire tank for immediate servicing and cleaning. To avoid unauthorized removal of the cover, a suitable lock (not shown) may be provided to lock the cover upon the container.

Despite the large size of the unit, and its correspondingly large storage capacity, it is extremely light-weight. For example, a unit formed of sheet plastic of less than ¼ inch in thickness, may be easily picked up by one workman and easily carried about, provided it is empty.

The unit is extremely simple in construction and virtually indestructable as compared to prior units made of wood and metal.

This invention may be further developed within the scope of the following claims. Accordingly, it is desired that the foregoing description be read as being merely illustrative of an operative embodiment of this invention, and not in a strictly limited sense.

Having fully described an operative embodiment of this invention, I now claim:

1. A portable toilet unit comprising a container formed of a substantially flat front wall and a curved rear wall forming an approximate semi-circle in horizontal cross-section, with the top of the container being open;

a flat cover removably covering the top of the container with a toilet opening formed centrally of the cover and the cover being substantially larger than the width of the opening;

said cover being formed of two flat, approximately semi-circular shaped sheets fastened in face-to-face contact to form an upper sheet and a lower sheet;

a downwardly extending lip formed on the peripheral edge of the lower sheet to overlap and cover the upper edge of the container;

an upwardly extending lip formed on the circular peripheral edge of the upper sheet;

and openable cover means for normally closing said opening for thereby normally sealing the container.

2. A construction as defined in claim **1**, and the upper edge of said container being formed with a continuous, outwardly and downwardly bent peripheral flange, with said lower sheet lip snugly overlapping said flange for frictionally sealing the cover upon the container.

3. A construction as defined in claim **1**, and said front wall being vertically corrugated from its top to just above its bottom, and a container support floor having a depression formed to snugly receive the bottom portion of the container and having an upwardly directed ridge for fitting beneath and supporting the lower ends of said corrugations.

4. A construction as defined in claim **1**, and including a toilet seat hingedly connected to said cover to overlay said opening, the edge of said opening defined by a continuous, downwardly directed flange;

said openable cover means comprising a pair of doors hingedly connected to the lower sheet to seal against said opening flange for closing said opening;

said seat being normally held in an angularly upwardly directed position by a spring loaded pin having an upper end contacting the bottom of the seat and a lower end connected to a mechanical pump for pumping toilet chemicals into the container when the seat is depressed;

links connecting the doors to the seat so that depressing the seat into a horizontal position simultaneously opens the doors and moves the pin downwardly to actuate the pump.

5. A construction as defined in claim **1**, and said container and cover sheets being formed of thin, light-weight sheet plastic material.

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U.S. Cl. X.R.

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