Jan. 22, 1963 D. J. KERSTEN 3,074,076

CHEMICAL TOILET STRUCTURE

Filed May 16, 1961

2 Sheets-Sheet 1

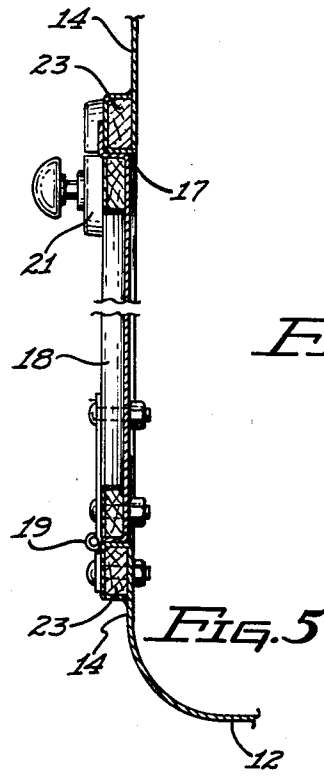


FIG. 5

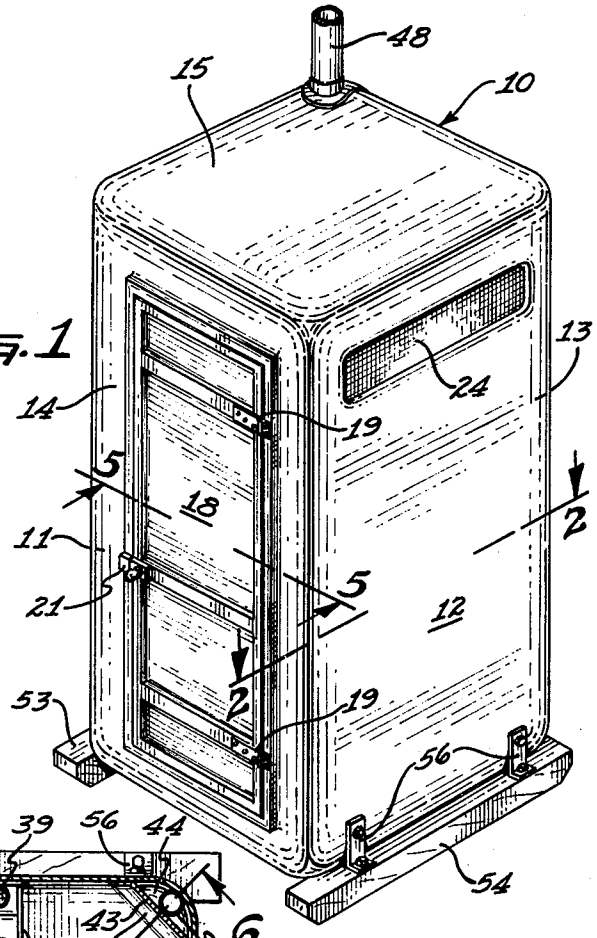


FIG. 1

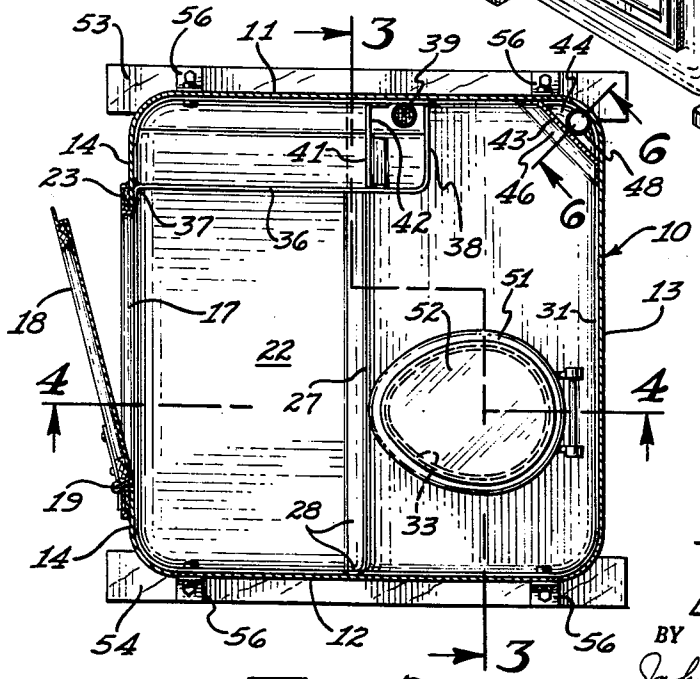


FIG. 2

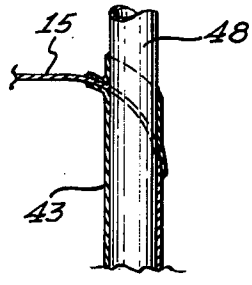


FIG. 6

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Jan. 22, 1963 D. J. KERSTEN 3,074,076

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2 Sheets-Sheet 2

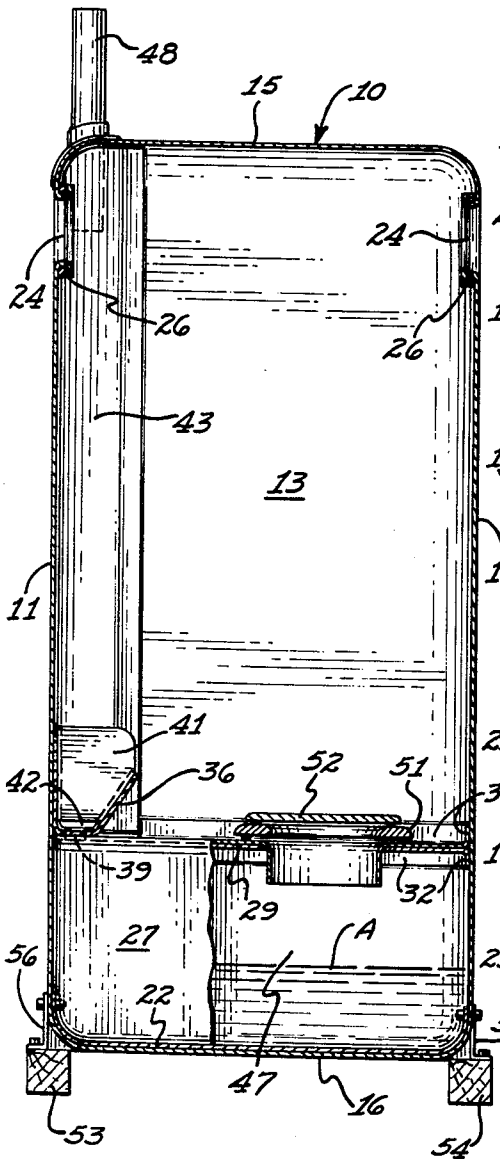


FIG. 3

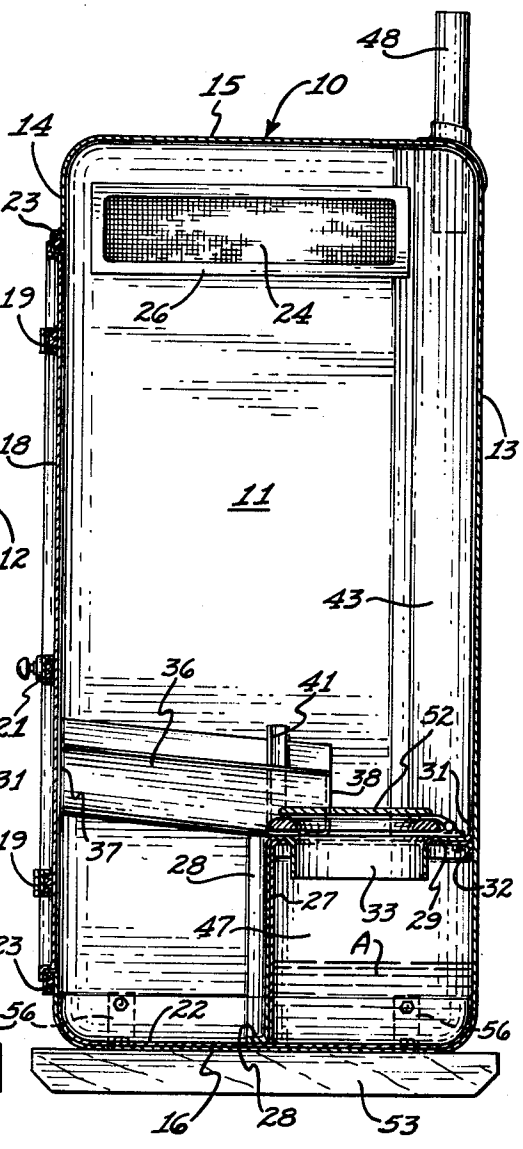


FIG. 4

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CHEMICAL TOILET STRUCTURE

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6 Claims. (Cl. 4—115)

My invention relates to an improved single-piece chemical toilet structure adapted for use on construction jobs and the like.

For a very large number of years it has been a common practice to provide makeshift or temporary toilet facilities at construction sites. In general, these facilities have included some kind of shelter, either a wood structure or a structure framed with wood, and having side walls formed of sheet material such as cloth, metal or the like. Disposal problems have in the past been handled in a makeshift manner, but in accordance with one practice a separate vessel of some kind has been used to contain an aqueous solution of a chemical having the effect of diluting, disinfecting and deodorizing the effluvia. These tanks have usually been separate from the shelter part of the temporary facility and, of course, were serviced by replacement with fresh tanks or handled in some improvised way established by the management. In recent years the furnishing of temporary toilet facilities at building and construction sites has been taken over by separate organizations who contract with construction companies to provide facilities and frequently to service them. In general, however, the facilities provided have continued to be makeshift, and even unsatisfactory and costly to maintain.

The principal object of my invention is the provision of improved temporary toilet facilities at construction sites and the like.

Another object is the provision of a single-piece sanitary, economical and easily maintained unit adapted for use in providing temporary toilet facilities of the type identified.

Other specific objects, and features of the invention will be apparent from the following detailed description taken with the accompanying drawings; wherein

FIG. 1 is a perspective view showing an improved single piece chemical toilet structure produced in accordance with my present invention;

FIG. 2 is a transverse plan sectional view taken on the line 2—2 of FIG. 1 looking in the direction of the arrows;

FIGS. 3 and 4 are transverse vertical sectional views taken on the lines 3—3 and 4—4 respectively of FIG. 2;

FIG. 5 is an enlarged fragmentary sectional view taken on the line 5—5 of FIG. 1, and

FIG. 6 is an enlarged fragmentary sectional view taken on the line 6—6 of FIG. 2.

Referring to the drawings, the chemical toilet of my present invention comprises a single-piece molded body 10 having integral side walls 11 and 12, rear wall 13, front wall 14, roof 15 and floor 16. The front wall is provided with an opening 17 forming an entrance, and the entrance is closed by a door 18 with hinges 19 and lock 21.

The unitary six-sided molded body comprising the roof, floor, side walls and front and back walls, may be formed of various materials but I have found suitably reinforced plastic very desirable for the purpose, and the most satisfactory of the reinforced plastics is that known in the trade as Fiberglas. I have found that the Fiberglas may be suitably formed so that a wall of about one quarter inch or less in thickness furnishes more than adequate strength when suitably constructed in accordance with the present invention. It will be noted that

the corners are all rounded and at the bottom above the floor 16 there is a separate integral reinforcing strip 22. Other features of construction assist in providing strength and these will become clear as the description progresses.

The door opening 17 is reinforced with a strip 23 which may be wood, metal or another plastic, and this is encapsulated in a piece of plastic which is integral with the front wall 14 so that a firm support is provided for the hinges and lock, and also having the effect of reinforcing the entire frame at the front opening where some loss of strength might otherwise result.

Ventilating means are provided near the top of the enclosure comprising the molded body, and this comprises a pair of elongated openings each with a screen 24 which is secured to a frame 26 (FIG. 3) in such a manner that the entire device is reinforced at this point also.

Near the bottom of the enclosure is a double thickness narrow vertical wall 27, one portion being turned over as at 28 (FIG. 4) at its ends and secured as by plastic welding to the floor and side walls to hold it in position.

Integral with the vertical wall 27 is a double thickness horizontal wall 29, one portion of which is turned upwardly at 31 and is secured to the side walls and rear wall. Another portion is also turned over and secured to the rear wall and side walls as at 32 for further attachment and reinforcement. The horizontal wall 29 is apertured and a portion thereof shaped to form a skirt 33 around the opening as shown particularly in FIG. 4. Thus, the short vertical wall 27 and the horizontal wall 29 are integral with each other and also integral with the unitary molded body so that they form with a portion of the two side walls, the rear wall and the floor, a tank for the receipt of an aqueous chemical solution as indicated at A in FIGS. 3 and 4. The vertical wall 27 and horizontal wall 29 may be formed of two layers secured together, or merely formed somewhat thicker than the general construction.

Looking now particularly at FIGS. 2, 3 and 4, a trough 36 is secured to and is integral with the side wall 11. The trough 36 abuts the front wall 14 at 37 so as to close it at its upper end, and it has an end 38 which is secured to the side wall 11 and in part to the horizontal wall 29 so as to form a liquid-tight connection. An aperture 39 covered with a suitable screen permits liquid from the trough to drain into the tank. A cross member 41 has its bottom edge spaced from the bottom of the trough as at 42 to pass liquid. It has a sealing, spacing and reinforcing function.

In the corner between the side wall 11 and the rear wall 13 I provide a vertical strip 43 defining with the walls to which it is attached a space 44 of generally triangular cross-section. The horizontal wall 29 is cut away at this point and a gusset 46 forming a part of the strip 43 is plastic welded to the horizontal wall 29, so that the space 44 connects with the opening comprising the tank 47 and may, therefore, act as a vent to carry fumes from the tank 47 upwardly. At the top of the space 44 a short pipe 48 is sealed in the top wall or roof 15 and connects with the space 44 to carry the fumes above the roof line.

As in permanent toilet installations, a usual type of seat 51 and cover 52 may be provided. Also while with suitable reinforcement the unitary body may be set on the ground, I find it is preferable for many reasons to employ skids 53 and 54 secured as by means of brackets 56 parallel to each other. These skids may be of the type commonly used in wooden structures known in the art.

I have described my invention in detail so that those

skilled in the art may understand the method of practising the same, but the scope of the invention is defined by the claims.

I claim:

1. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat.

2. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat, and means integral with said molded body providing a vent between said closed receptacle and a point above said roof wall.

3. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat, and means integral with said molded body providing a vent between said closed receptacle and a point above said roof wall, said means including a narrow vertical wall integral with a side wall and the rear wall, and forming therewith a closed space of generally triangular cross section forming a part of said vent.

4. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat, and a trough integral with a side wall and sloping toward the rear wall to act as a urinal member adapted to empty with said receptacle, said urinal trough draining into said receptacle through a relatively small hole in said horizontal wall.

5. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat, and a trough integral with a side wall and sloping toward the rear well and draining into said closed receptacle through said horizontal wall to act as a urinal member adapted to empty with said receptacle, and means integral with said molded body providing a vent between said closed receptacle and a point above said roof wall.

6. In a chemical toilet, a unitary six sided relatively thin walled light-weight molded plastic body providing front, rear, side, floor and roof walls, the said front wall having an opening therein, a door hinged in said door opening, a relatively low vertical cross connecting wall between the side walls and an integral horizontal wall connected to both the end walls and rear wall, said vertical and horizontal walls defining with a portion of the floor, back wall and side walls a closed receptacle for an aqueous chemical solution, said horizontal wall being apertured and supporting a toilet seat, and a trough integral with a side wall and sloping toward the rear wall and draining into said closed receptacle through said horizontal wall to act as a urinal member adapted to empty with said receptacle, and means integral with said molded body providing a vent between said closed receptacle and a point above said roof wall, and a pair of skids exterior of and beneath said molded body, said skids being mutually parallel and providing a space between the molded body and a surface on which the said skids rest.

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