



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
28.04.2004 Bulletin 2004/18

(51) Int Cl.7: **A47K 3/40**

(21) Application number: **03256516.0**

(22) Date of filing: **16.10.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(72) Inventors:
• **McLellan, Cameron Alexander**
Tickhull, Doncaster (GB)
• **Millward, Keith**
Doncaster DN6 9AF (GB)

(30) Priority: **25.10.2002 GB 0224929**
15.11.2002 GB 0226750

(74) Representative: **Evans, Claire**
Edward Evans Barker
Clifford's Inn
Fetter Lane
London EC4A 1BZ (GB)

(71) Applicant: **Polypipe Building Products Ltd.**
Edlington, Doncaster DN12 1ES (GB)

(54) **Sanitary apparatus**

(57) A sanitary article, comprising a skin providing a surface for use in a sanitary application, supported by

a backing formed from a mouldable, settable material, the backing including a moulded recess for receiving a support.

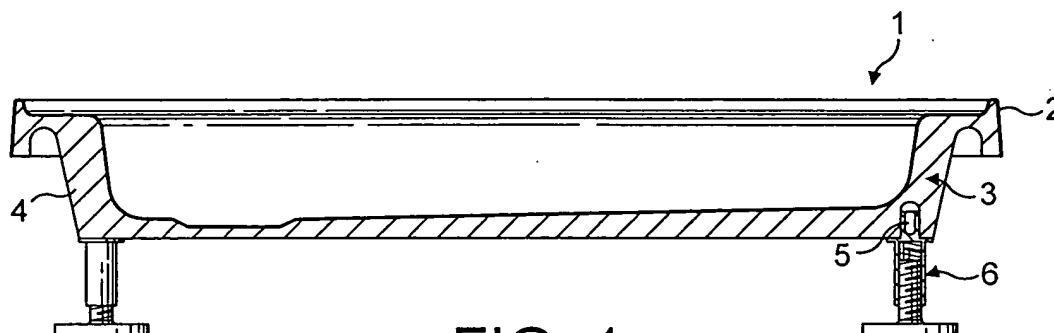


FIG. 1

Description

[0001] The invention relates to sanitary apparatus such as shower trays and baths.

[0002] Sanitary apparatus, such as shower trays are supplied as a basic tray with integral side panels which sit directly on the floor of a room, or raised trays which have additional feet fixed below the tray which raise the tray above the floor to enable waste traps and pipes to be fitted below the bottom of the shower tray and above the floor, which avoids running the waste pipes below the floor which could mean notching or drilling joists, etc, which is necessary when a tray sits directly on the floor. The gap between the side rim of the tray and the floor is taken up by fitting additional side panels, which are typically fixed to the tray with some sort of spring clips or to battens fixed to the floor.

[0003] The types of shower trays produced in the past have typically been vacuum formed or gel coated skins supported by GRP reinforcement or resin concrete backing/reinforcement. For raised trays the supporting feet have typically been "U" section brackets screwed to wooden backing boards bonded to the GRP or resin concrete backing with threaded steel bar/locking nuts fixed through the "U" section bracket, often with a plastic foot fitted to the bottom of the threaded bar. An alternative construction has also been seen where threaded brass bushes are encapsulated into the resin concrete backing and threaded bars/plastic feet are screwed into these bushes.

[0004] In the case of using wooden backing boards, the cost of the wooden boards is additional to the basic shower tray structure and the properties of the wood can be affected by the humid environment in which they are used. In the case of the moulded brass bushes, the bushes are relatively expensive and can result in high-localised stress concentrations because of their relatively small bearing area relative to the plan area of the shower tray and the load to be supported. They also complicate the moulding operation for the resin backing as the brass bushes have to be precisely located.

[0005] It is the object of the invention to mitigate problems such as these.

[0006] According to the invention there is provided sanitary apparatus, comprising a skin, providing a surface for use in a sanitary application, supported by a backing formed by a mouldable, settable material, the backing including a moulded recess for receiving a support. This apparatus overcomes the limitations of the prior art as described above and provides a cost effective means of providing adjustable feet which provides substantial and stable support and also a means of affixing side panels which other methods do not accommodate.

[0007] It is preferred that the skin is a vacuum formed or gel coat skin and that the settable material comprises concrete or resin.

[0008] The support may comprise a flange having a surface adapted to contact an area of the backing sur-

rounding the recess in use.

[0009] The support may comprise inter-engageable male and female parts, moveable relative to one another to provide for adjustment.

[0010] The apparatus may further include one or more panel for placement in the gap between the surface and a substrate upon which the article rests in use, and an adjustable fixing for attachment of the panel to a support received in the recess. The fixing may comprise two or more inter-engageable pieces, moveable relative to one another to provide for adjustment.

[0011] The backing and/or surface may include a circumferential rebate for receiving the upper, in use, edge of the or each panel for providing continuous support thereto.

[0012] It is preferred that the support has a spigot for insertion into the recess of the backing, the spigot including means to accommodate variations in the shape and/or size of the recess. The accommodating means may comprise axial ribs or cutaway sections.

[0013] The invention will further be described by way of example and with reference to the accompanying drawings in which,

Figure 1 is a transverse sectional view of apparatus according to the invention;

Figure 2 is a plan view of the apparatus of Figure 1;

Figure 3 is a sectional part view of apparatus according to the invention;

Figures 4 to 10 are sectional illustrations of alternative embodiments of fixings for use with the invention; and

Figures 11 and 12 are part sectional views of side panel arrangements.

[0014] Referring now to Figures 1 to 3, there is illustrated sanitary apparatus 1 comprising a skin 2 providing surface for use in a sanitary application, supported by a backing 3 formed from a mouldable, settable material 4, the backing 3 including a moulded recess 5 for receiving a support 6.

[0015] As illustrated in Figures 1 and 2, this embodiment illustrating the invention is a shower tray although, as will be appreciated, the invention can equally be applied to other sanitary apparatus such as bath tubs, etc, which are formed having a skin providing a surface and a reinforcing backing. In this embodiment the shower tray 1 is formed from a vacuum formed skin which provides the surface on which the user will stand, the skin being provided with a polymer concrete backing for support. This construction is well known in the art.

[0016] As shown in detail in Figure 3 a recess 5 is moulded into the polymer concrete backing. The recess 5 can be any desired shape, such as round or square,

and can be provided using any known moulding technique. A recess 5 is conveniently formed at each corner of the shower tray and can be formed in any desired and convenient place in the backing.

[0017] As mentioned previously, with this type of shower tray which is designed to be raised above the level of the floor to prevent the need for modification of the flooring, the tray is raised above the level of the floor on feet, the gap between the edge of the tray and the floor being taken up by a side panel or panels 7.

[0018] In order to provide for adjustability, the apparatus 1 includes supports 6. In this embodiment each support 6 consists of a disc 80 with a central threaded upstand 9. The upstand 9 is received in a blind cylindrical sleeve 10 which is correspondingly threaded to allow the upstand 90 to be screwed in and out to provide for height adjustment. The sleeve 10 is provided at its upper, in use, end with a spigot 11 and circumferential flange 12.

[0019] The means for fixing the side panel 7 in place is provided in the form of a bracket 13, which is designed to snap fit around the sleeve 10, the bracket having an enlarged head part 14 which fits into an extension strut 15 to which a side panel can be fixed, as for example by double sided tape 16. This method of fixing the side panel is not adjustable, and Figures 4 to 10 illustrate an alternative form of fixing which is adjustable. Referring to Figure 4, an adjustable fixing is illustrated which comprises first and second mutually inter-engageable parts 17, 18 which can be connected together via a screw thread to give an adjustment to line up the outer surface of the shower tray panel with the top vertical edge of the raised shower tray. The outer flange of the strut can be fixed to the inside of the panel with a self adhesive pad and the inner edge of the strut fixes in a dovetail or T-slot arrangement to the bracket 13 illustrated in the previous embodiment.

[0020] In use, the spigot 11 of the support 6 is inserted into the recess 5 to a depth sufficient for the flange 12 to contact the underside of the backing 3. The flange 12 contacts the bottom of the outer surface around the recess and provides additional support and stability. Although not illustrated, the spigot 11 can be made with axial ribs or cutaway sections around its circumference to enable variations in the hole shape or diameter to be accommodated without having to produce to very tight tolerances or to machine the hole diameter to a close tolerance after moulding the reinforcement.

[0021] As a further extension of the inventive concept of this apparatus, the invention can provide for an alternative method for fixing side panels to sanitary apparatus, by moulding recesses in the backing material into which supports in the form of short lengths of for example pipe can be inserted to which side panels can be clipped.

[0022] Referring now to Figures 11 and 12, a further alternative embodiment is illustrated in which the apparatus 1 is provided with a circumferential rebate, or

groove 19. The groove 19 can be any shape, such as "V" or "U" shape and will provide continuous support to the edge of each panel 7. A batten 20 could be placed to support the bottom edge of each panel 7, giving a sturdy construction.

Claims

1. A sanitary article, comprising a skin providing a surface for use in a sanitary application, supported by a backing formed from a mouldable, settable material, the backing including a moulded recess for receiving a support.
2. An article according to Claim 1, the skin being a vacuum formed or gel coat skin.
3. An article according to Claim 1 or Claim 2, the settable material comprising polymer concrete or resin.
4. An article according to any preceding claim, the support being adjustable to provide for variation in height of the surface, in use.
5. An article according to any preceding claim, the support comprising a flange having a surface adapted to contact an area of the backing surrounding the recess, in use.
6. An article according to Claim 4 or Claim 5, the support comprising interengageable male and female parts moveable relative to one another to provide for adjustment.
7. An article according to any preceding claim, including one or more panels for placement in a gap between the surface and a substrate upon which the article rests, in use; and an adjustable fixing for attachment of the panel to a support received in the recess.
8. An article according to Claim 7, the fixing comprising two or more, interengageable pieces, moveable relative to one another to provide for adjustment.
9. An article according to claim 7 or claim 8, the backing and/or surface including a circumferential rebate for receiving the upper, in use, edge of the or each panel for providing continuous support thereto.
10. An article according to any preceding claim, the support having a spigot for insertion into the recess of the backing, the spigot including means to accommodate variations in the shape and/or size of the recess.

11. An article according to Claim 10, the accommodating means comprising axial ribs or cut away sections.

12. An article according to any preceding claim, in the form of a shower tray. 5

13. An article according to any of Claims 1 to 11, in the form of a bath tub.

10

15

20

25

30

35

40

45

50

55

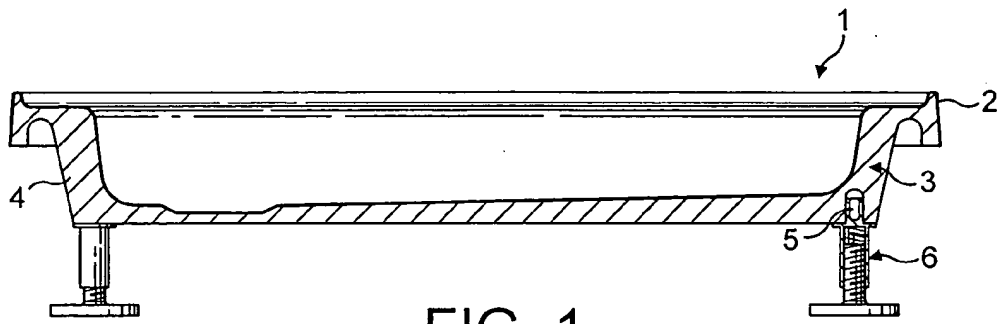


FIG. 1

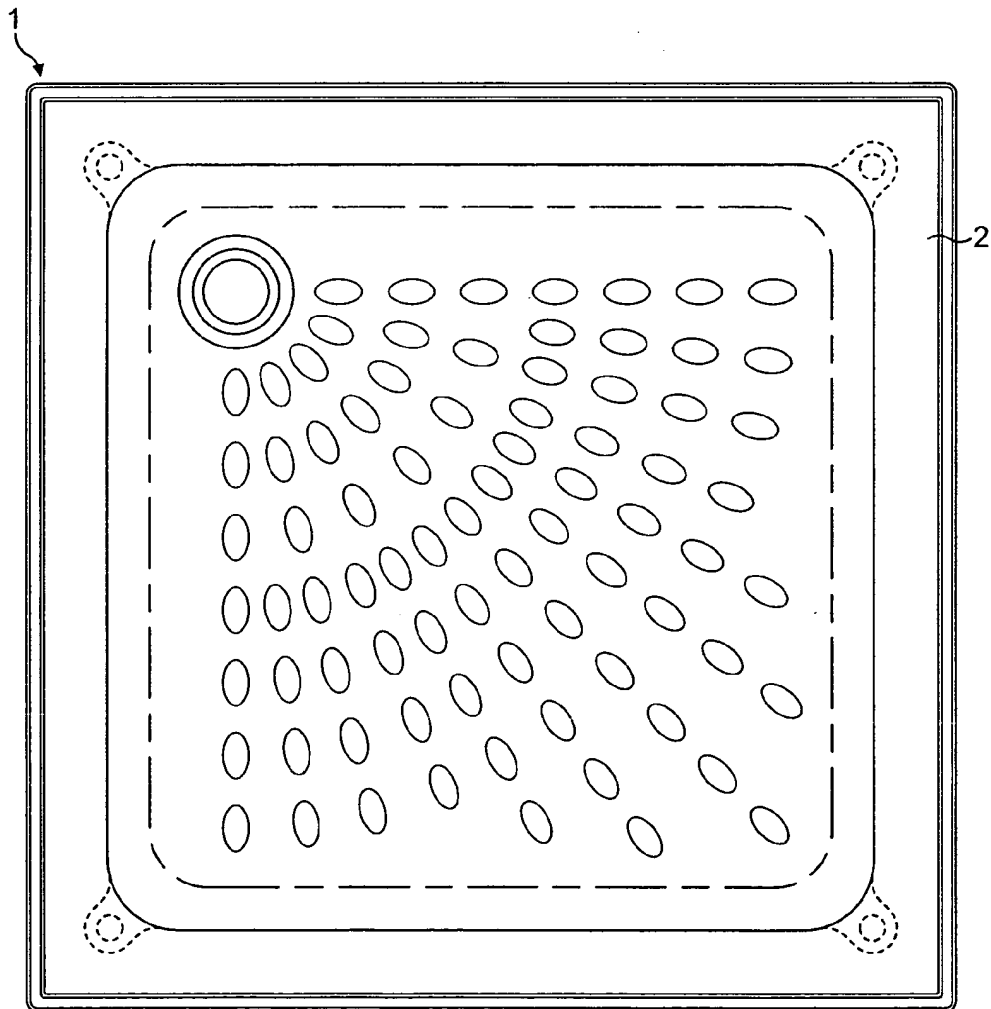


FIG. 2

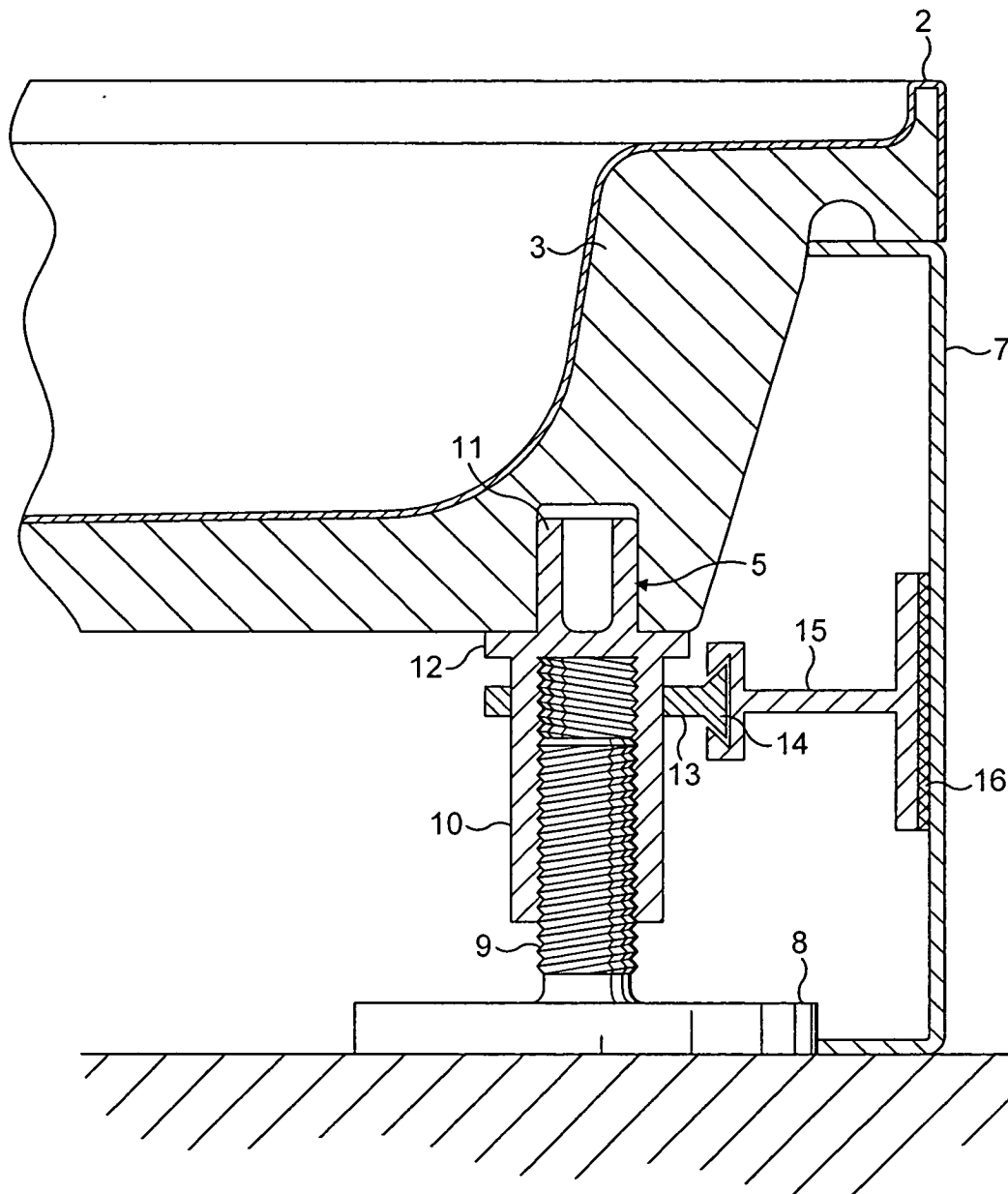


FIG. 3

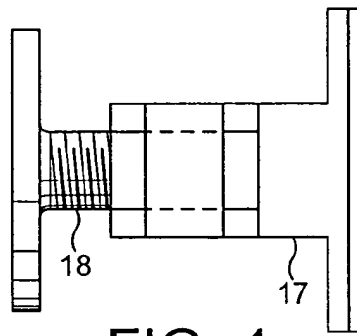


FIG. 4

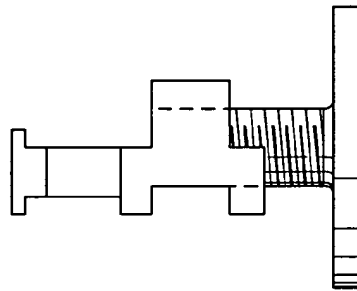


FIG. 5

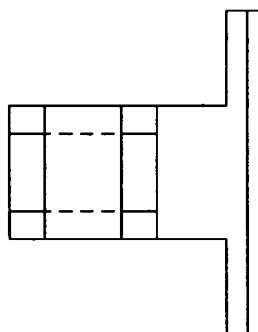


FIG. 6

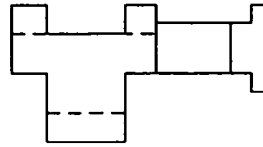


FIG. 7

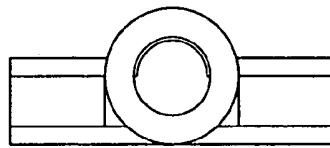


FIG. 8

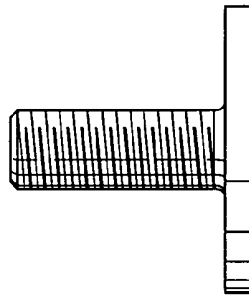


FIG. 9

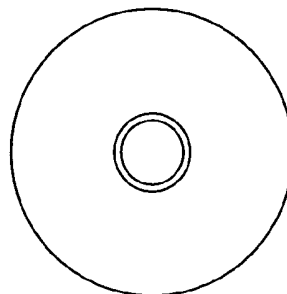


FIG. 10

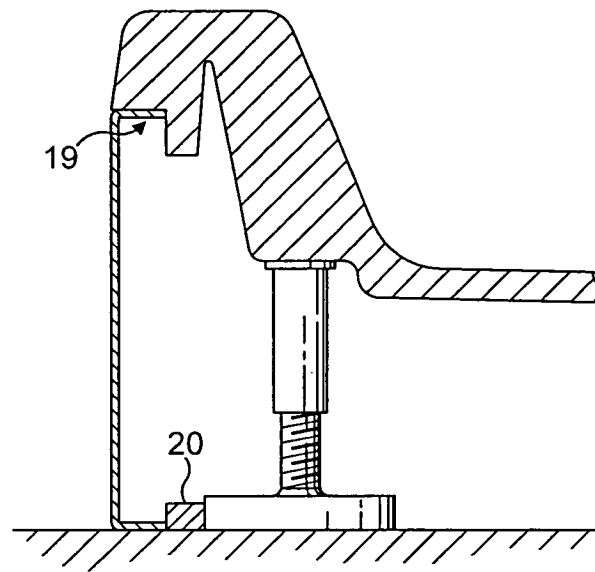


FIG. 11

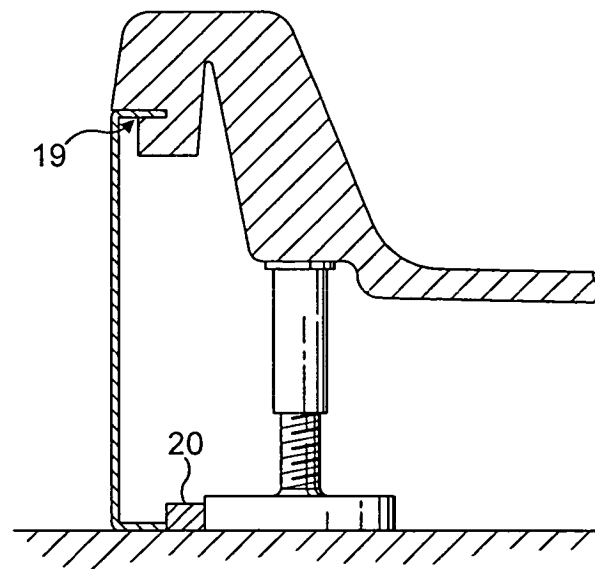


FIG. 12