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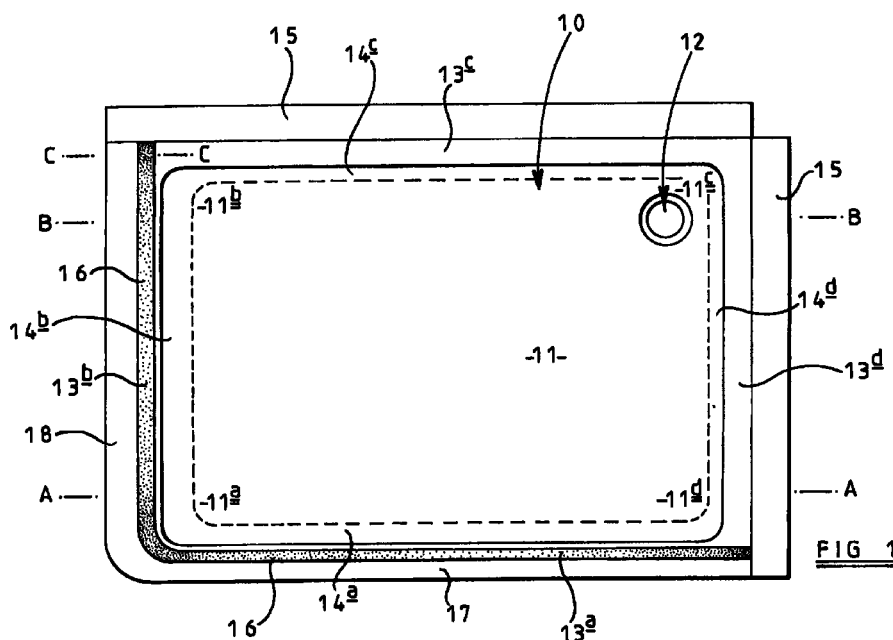
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(54) **Shower trays**

(57) A shower tray comprises a dished portion 10 having a base 11 provided with a waste water outlet 12 and an entry ramp 17, 18 along at least one side of the shower tray. The shower tray, or at least one ply of a

multi-ply shower tray, is formed from pressed metal plate.



EP 0 983 738 A1

Description

[0001] This invention relates to shower trays, and is concerned more particularly, but not exclusively, with shower trays for use by physically handicapped persons.

[0002] Special shower trays are produced enabling a handicapped person to take a shower whilst sitting in a wheelchair. Many known such shower trays have two outer skins of glass fibre reinforced plastics material and an inner core of chipboard. These known shower trays have a thickness of about 20 mm which makes the shower trays relatively bulky. Some known shower trays have only a single glass fibre reinforced outer skin over a chipboard base. These are not as thick as the dual skin shower trays, but are relatively weak.

[0003] According to the present invention there is provided a shower tray comprising a dished portion having a base provided with a waste water outlet and an entry ramp along at least one side of the shower tray, the shower tray, or at least one ply of a multi-ply shower tray, being formed from pressed metal plate.

[0004] Preferably, the shower tray is a single ply structure formed from pressed metal plate. In this case, the thickness of the metal plate is typically about 2 mm.

[0005] In one alternative, the shower tray may have a pressed metal support ply covered with a plastics skin, which may be vacuum formed. In this case, the pressed metal support ply may be corrugated to increase its strength.

[0006] In another alternative, the shower tray may have two outer pressed metal plies and an inner core, which may be of thermally insulating material, and typically of foam plastics material.

[0007] Preferably, the base of the dished portion is gently inclined in two directions towards the waste water outlet.

[0008] The dished portion is, preferably, surrounded by a horizontal or substantially horizontal ledge. The shower tray may be supported from below by support members secured to the ledges adjacent the two uppermost sides of the base of the dished portion. The support members may be in the form of channel shaped sections or angle sections or even "V" sections and may be secured to the underside of the dished portion, such as by spot welding or adhesive. The shower tray, preferably, has an entry ramp along each of two adjoining sides of the shower tray. The other two sides of the shower tray may include upstanding splashguards.

[0009] The shower tray will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a plan view of one embodiment of a shower tray according to the present invention, before raising the splashguards,

Figure 2 is a section taken along the line A-A of the

shower tray shown in Figure 1, on an enlarged scale,

Figure 3 is a section taken along the line B-B of Figure 1, on an enlarged scale,

Figure 4 is a section taken along the line C-C of Figure 1, on an enlarged scale,

Figure 5 is a section, similar to that shown in Figure 3, of another embodiment of a shower tray according to the present invention mounted in a hole in floorboards, and

Figure 6 is a section similar to that shown in Figure 3 of yet another embodiment of a shower tray mounted on floorboards.

[0010] Referring firstly to Figures 1 and 4 of the drawings, the shower tray shown therein is formed of pressed metal plate, typically stainless steel, having a thickness of about 2 mm.

[0011] The shower tray is generally rectangular and comprises a dished portion 10 having a flat base 11 provided with a waste water outlet 12. The base 11 of the dished portion 10 is gently inclined in two directions towards the waste water outlet 12 so as to conduct water falling on the dished portion towards the outlet 12.

[0012] The base 11 has four corners 11a, 11b, 11c, and 11d. Corner 11a is the most elevated and the waste water outlet 12 is adjacent to corner 11c. Typically, the fall from corner 11a to corner 11c is 15 mm, from corner 11a to corner 11b is 6 mm and from corner 11a to corner 11d is 9 mm.

[0013] The dished portion 10 is surrounded by horizontal ledges 13a - 13d and has wall portions 14a to 14d connecting respective ledges 13a to 13d to the base 11. The wall portions 14c and 14d are steeply inclined adjacent to corner 11c and gradually less steeply inclined as one moves towards corners 11b and 11d. The wall portions 14a and 14b have a shallow radiused, inclination adjacent to corner 11a and are gradually more steeply inclined as one moves towards corners 11b and 11d.

[0014] The two sides of the shower tray adjacent to the waste water outlet 12 have flanges 15 upstanding from the outer edge of respective ledges 13c and 13d to serve as splashguards. The ledges 13a and 13b on the other two sides of the shower tray are raised above the ledges 13c and 13d and receive door seals 16. However, the outer edge portions of the ledges 13c and 13d may be raised as shown by broken lines in Figure 2 to the level of the ledges 13a and 13b. Outwardly of the two ledges 13a and 13b are upwardly inclined radiused ramp portions 17 and 18 for ease of entry of a wheelchair.

[0015] The shower tray is supported on floorboards by the lower ends of ramp portions 17 and 18 and by the

ledges 13c and 13d with the dished portion 10 extending into a hole 19 in floorboards 20.

[0016] The shower tray described above is a single ply structure. As an alternative to this single ply structure, the shower tray may have a pressed metal support ply similar to the tray described above but covered with a plastics skin, which is typically vacuum formed. In this case, the pressed metal support ply may be corrugated to increase its strength.

[0017] In another alternative, the shower tray may have two outer pressed metal plies and an inner core, which may be of thermally insulating material, and typically a foam plastics material.

[0018] Referring now to Figure 5 of the drawings, the shower tray shown therein is similar to that shown in Figures 1 - 4 but in this case the tray is supported from below by channel shaped support members 21. These support members 21 are secured to the undersides of the two ledges 13a' and 13b' by spot welding or adhesive. The support members 21 are supported on noggins and joists within hole 19' in floorboards 20'. The support members 21 need not be of channel shaped section, but could be of angle section or even "V" section.

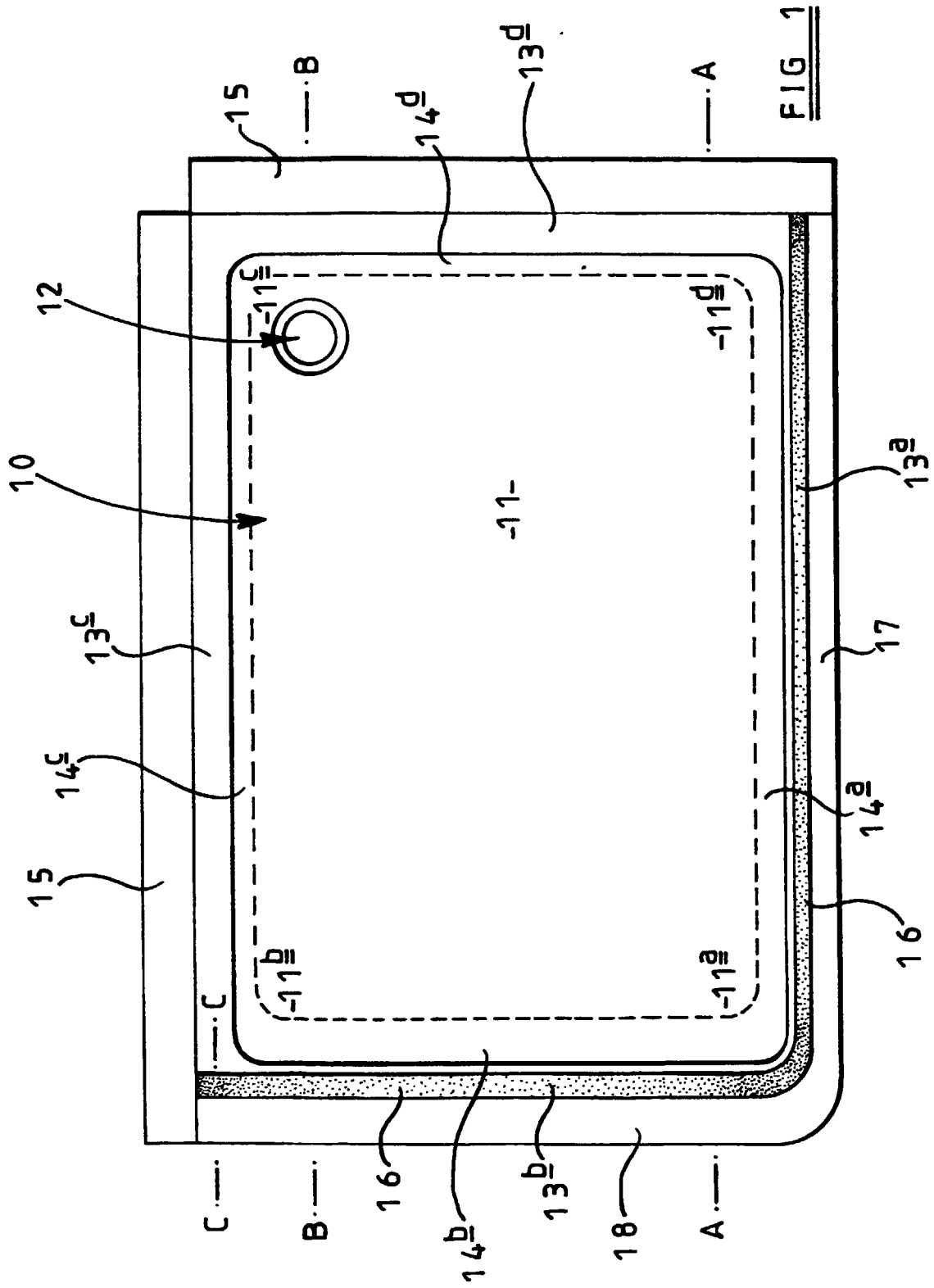
[0019] Referring to Figure 6 of the drawings, the shower tray shown therein is similar to that shown in Figure 5 except in this case the shower tray is mounted on floorboards 20" and only the waste water outlet 12" is disposed within hole 19" in the floorboards. In this case, the ramp portions 17", 18" are inclined upwardly at a steeper angle than the ramp portions of the shower trays shown in Figures 1 - 5.

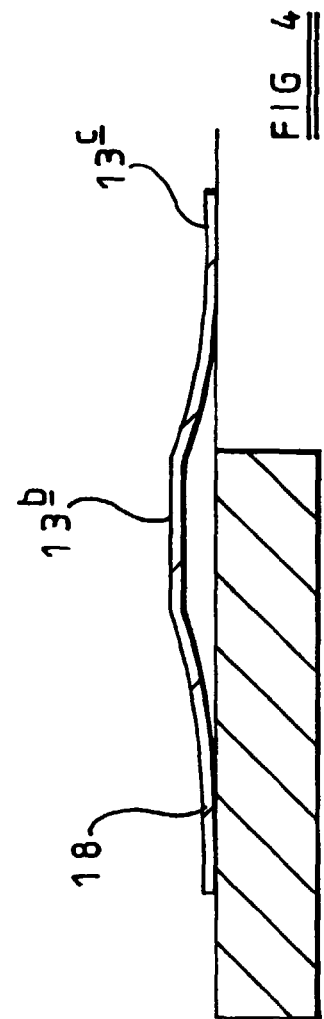
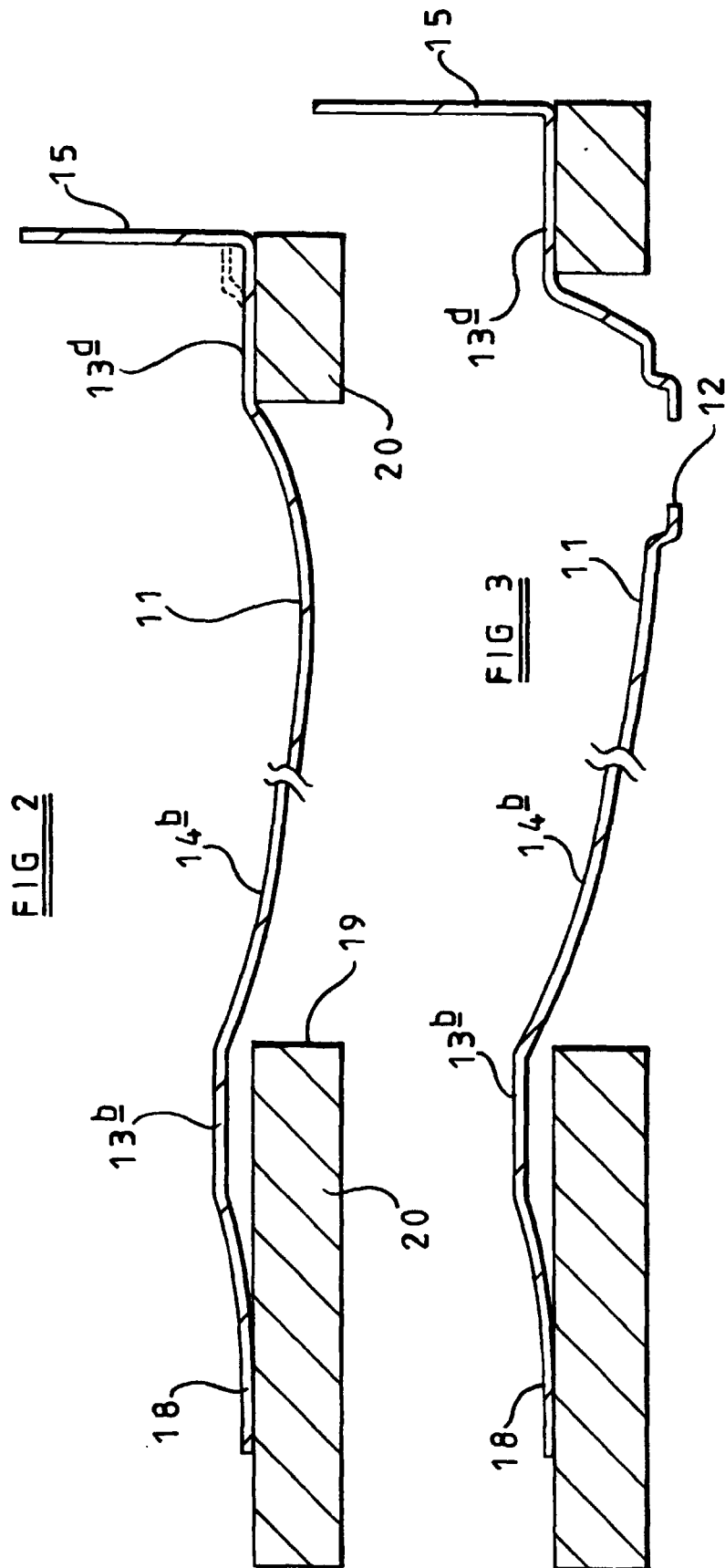
gated to increase its strength.

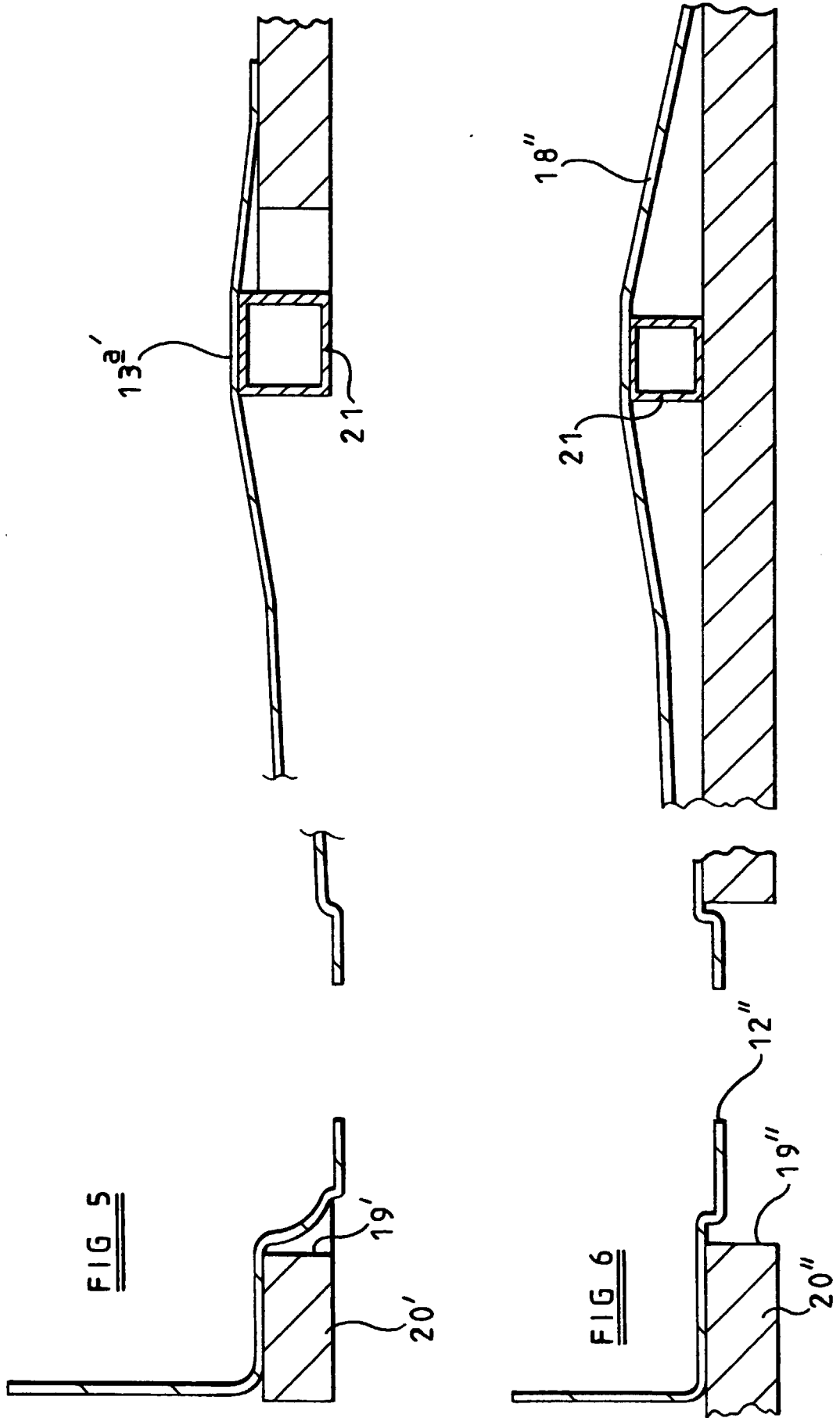
7. A shower tray as claimed in claim 1, comprising two outer pressed metal plies and an inner core.
8. A shower tray as claimed in claim 7, wherein the inner core is of thermally insulating material.
9. A shower tray as claimed in any one of the preceding claims, wherein the base of the dished portion is gently inclined in two directions towards the waste water outlet.
10. A shower tray as claimed in any one of the preceding claims, wherein the dished portion is surrounded by a horizontal or substantially horizontal ledge.
11. A shower tray as claimed in any one of the preceding claims, having an entry ramp along each of two adjoining sides of the shower tray.
12. A shower tray as claimed in claim 11, wherein the other two sides of the shower tray include upstanding splashguards.

Claims

1. A shower tray comprising a dished portion having a base provided with a waste water outlet and an entry ramp along at least one side of the shower tray, the shower tray, or at least one ply of a multiply shower tray, being formed from pressed metal plate.
2. A shower tray as claimed in claim 1, wherein the shower tray is a single ply structure formed from pressed metal plate.
3. A shower tray as claimed in claim 2, wherein the thickness of the metal plate is about 2 mm.
4. A shower tray as claimed in claim 1, comprising a pressed metal support ply covered with a plastics skin.
5. A shower tray as claimed in claim 4, wherein the plastics skin is vacuum formed.
6. A shower tray as claimed in claim 4 or claim 5, wherein the pressed metal support ply is corru-









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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 6934

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 5 299 330 A (MOORE ET AL.) 5 April 1994 * column 3, line 7 - column 4, line 32; figures 1-5 *	1,9-12	A47K3/22
A	GB 2 313 306 A (BELDORE LIMITED) 26 November 1997 * the whole document *	1,4,9,10	
A	GB 2 266 857 A (FIKEIS) 17 November 1993		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47K
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 January 1999	Examiner Clasing, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 30 6934

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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22-01-1999

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5299330	A	05-04-1994	NONE	
GB 2313306	A	26-11-1997	NONE	
GB 2266857	A	17-11-1993	NONE	