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(56) Documents Cited
GB 1304222 A EP 0261521 A

(58) Field of Search
UK CL (Edition L) A4N
INT CL⁵ A47K

(54) Bathtub mounting

(57) A bathtub mounting comprises a body 2 having recesses 21 for receiving the feet of the bath and a further recess for receiving the overflow outlet 15 which communicates with the drainage outlet 12. The body is suitably formed from a plurality of longitudinally and transversely extending rib members which interface with the lower surface of the bathtub and are optionally fixed thereto by means of an adhesive.

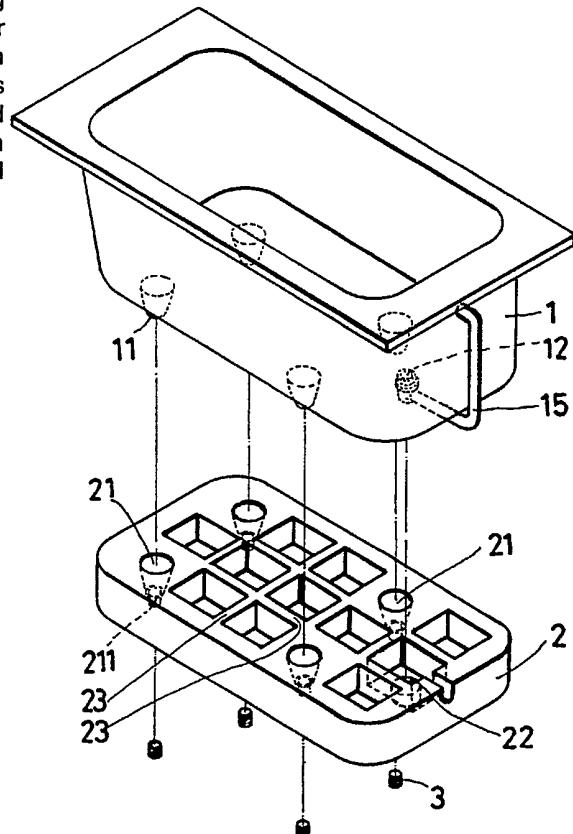


FIG.2

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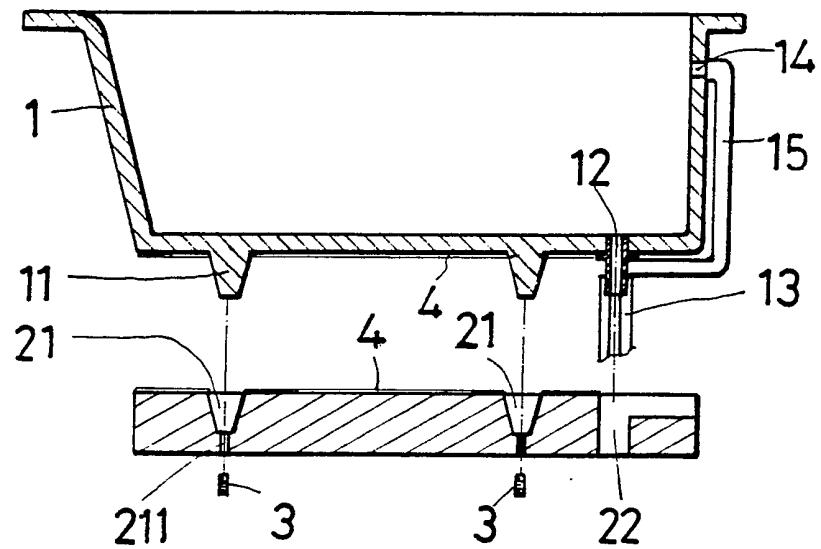


FIG. 1

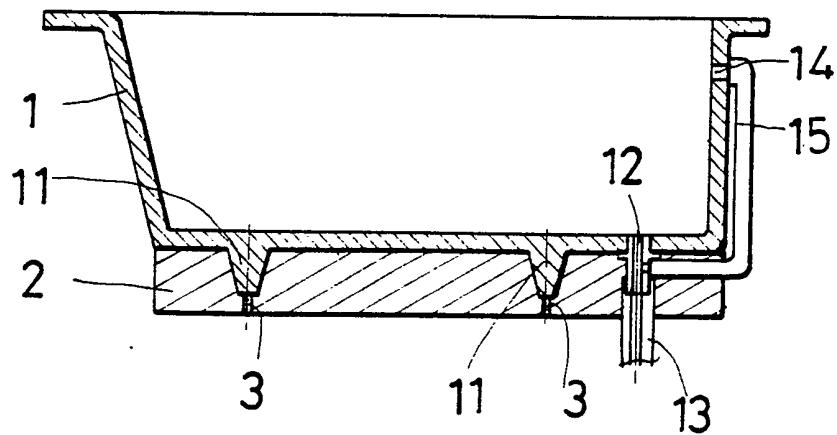


FIG. 3

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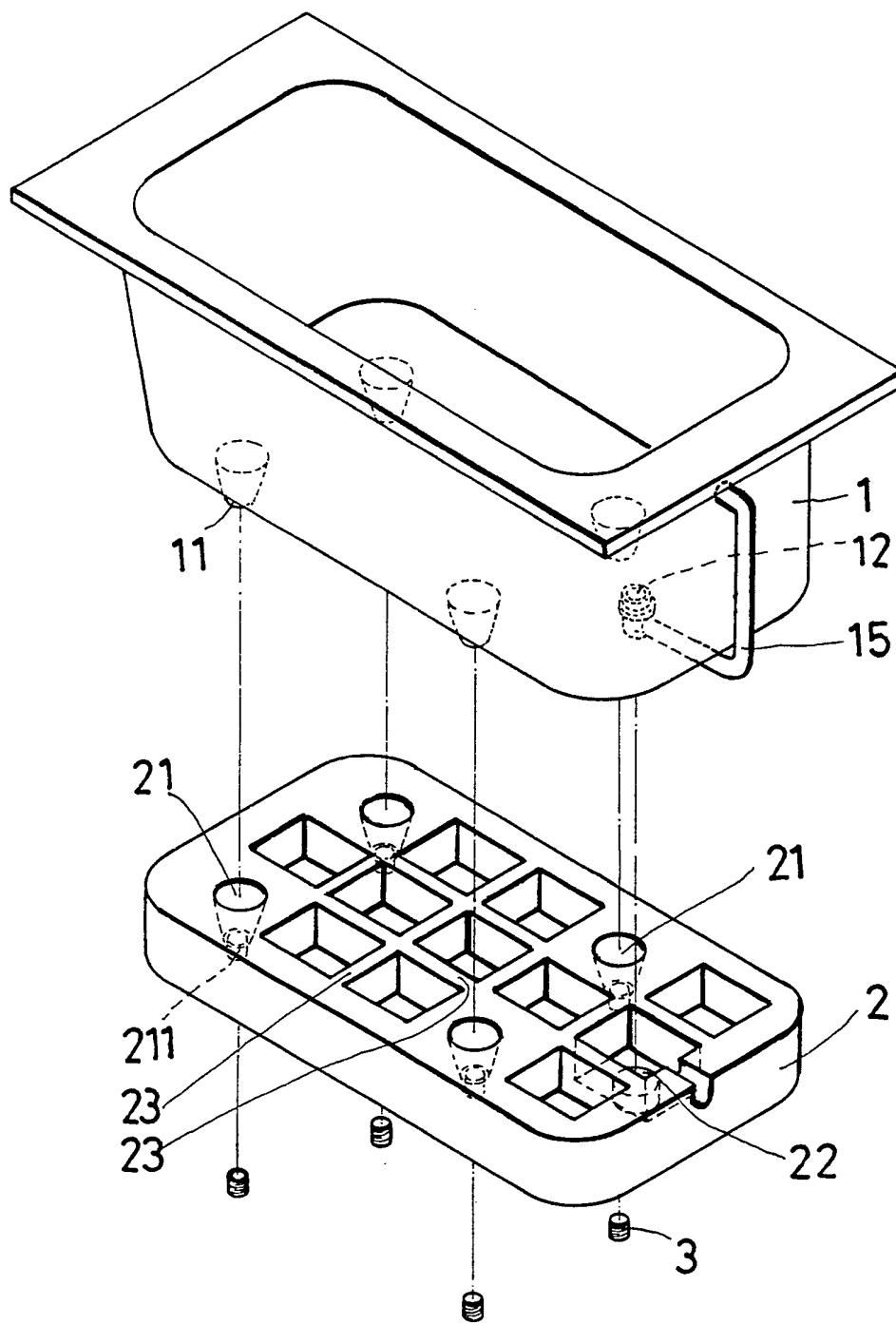


FIG. 2

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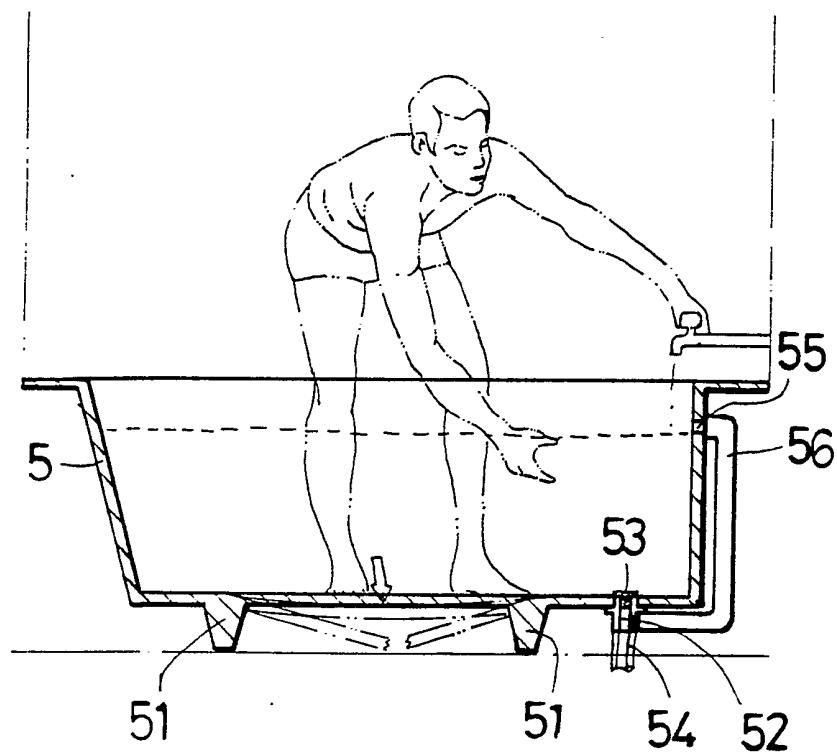


FIG. 4
(PRIOR ART)

REINFORCING DEVICE FOR BATHTUB

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a reinforcing device for
5 a bathtub which consists of a bathtub body and a reinforcing base. The reinforcing base is capable of being attached to the bottom of the bathtub body so as to increase the bearing strength and the durability of the bathtub body.

10 2. Description of the Prior Art

Generally speaking, bathtubs being known and used in general are made of glass fiber or plastic material. As shown in FIG. 4, the known bathtub 5 produced by monoblock casting method includes four feet 51 beneath the bottom of the known bathtub 5, an outlet 52 on the bottom of the known bathtub 5 and an overflow outlet 55 on one side wall of the known bathtub 5. The four feet 51 are, respectively, disposed beneath the four corners of the bottom of the known bathtub 5. A drain tube 54 is connected to the lower end of the outlet 52 and is capable of being stopped by a stopper 53. An overflow drain tube 56 is in open communication with the overflow outlet 55 and is downwardly connected to the drain tube 54.

25 There is a space between the known bathtub 5 and the ground so that the bottom of the known bathtub 5

deflects under a person's loading.

A person lying in the known bathtub 5 may feel unsafe and possibly the bottom of the known bathtub 5 may fracture under the heavy weight of the person after 5 long-term use. Therefore, in order to bear a heavy weight over an extended period of time prior art bathtubs 5 must be produced with an increased wall thickness. However, in the manufacturing process, a thick bottom of the known bathtub 5 is wasteful in both 10 labor time and material expenditures since a vast amount of time is necessary to allow cooling of a thickened structure prior to being packed and sold in the marketplace.

SUMMARY OF THE INVENTION

15 Therefore, the principal object of the present invention is to provide a reinforcing device for a bathtub which consists of a bathtub body and a reinforcing base member. The reinforcing base member is capable of being attached to a base floor member of the 20 bathtub body so as to increase the bearing strength and the durability of the bathtub body and to decrease the producer's cost.

According to the preferred embodiment of the present invention having the object, there are apparent 25 advantages described as follows:

1. The reinforcing base member having a simple

structure is capable of being attaching to the base floor member of the bathtub body in a short time.

2. The reinforcing base member is capable of greatly increasing the bearing strength of the bathtub
5 body.

3. The reinforcing device of the present invention having a thinner base floor member of the bathtub body is capable of decreasing the producer's cost.

BRIEF DESCRIPTION OF THE DRAWINGS

10 The invention will be better understood by reference to the accompanying drawings, wherein:

FIG. 1 is a side view showing a preferred embodiment of the present invention in disassembled condition;

15 FIG. 2 is a perspective view showing the preferred embodiment of the present invention in disassembled condition;

20 FIG. 3 is a side view showing the preferred embodiment of the present invention in assambled condition; and,

FIG. 4 is a side view showing a known bathtub.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIG. 1, the present invention is directed to a reinforcing device for a bathtub
25 including a bathtub body 1 and a reinforcing base

member 2.

The bathtub body 1 with predetermined shape includes a plurality of foot members 11 secured to a lower surface beneath of a base floor member of the 5 bathtub body 1, a fluid outlet conduit 12 extending through the base floor member of the bathtub body 1 and an overflow outlet opening 14 formed through a sidewall of the bathtub body 1. A drain tube 13 is coupled to a lower end of the fluid outlet conduit 12. An overflow 10 drain tube 15 is in fluid communication with the overflow outlet opening 14 and is downwardly connected to the drain tube 13, as shown in FIGS. 1 and 3.

The reinforcing base member 2 includes a plurality of foot member recesses and a through aperture 22, as 15 shown in FIGS. 1 and 3. The plurality of foot member recess 21 are aligned with the foot members 11 for receipt therein of the foot members 11 of the bathtub body 1. Each foot member recesses 21 has a through opening 211 in the center of each foot member recess 21. 20 Each of the foot members is aligned with a respective through opening 211 formed through the reinforcing base member 2 for insert of respective screw members 3 for securements of the bathtub body 1 to the reinforcing base member 2. The through aperture 22 disposed 25 correspondingly to the outlet 12 of the bathtub body 1 is capable of being inserted by the drain tube 13 of the bathtub body 1. The fluid outlet conduit extends into

the aperture 22 and is coupled to the drain tube 13 within the aperture 22 formed in the reinforcing base member 2.

Moreover, besides the foot member recesses and the through aperture 22, the reinforcing base member 2 is capable of being designed with a plurality of rib recesses formed therein defining a plurality of longitudinal and transverse strengthening rib members 23, as shown in FIG. 2.

10 In assemblage, insert the foot members 11 of the bathtub body 1 correspondingly into the foot member recesses 21 of the reinforcing base member 2. Use screw members 3, respectively, to insert into the through openings 211 of the foot member recesses 21 of the reinforcing base member 2 and upwardly screws up the screw members 3 respectively into the foot members 11 of the bathtub body 1 so that the bathtub body 1 and the reinforcing base member 2 are capable of being firmly fastened together, as shown in FIG. 3.

20 Moreover, as shown in FIG. 1, the under surface of the base floor member of the bathtub body 1 or the upper surface of the reinforcing base member 2 is capable of having a layer of adhesive 4 so that the base floor member of the bathtub body 1 and the reinforcing base member 2 are capable of being fixed together more tightly.

While the preferred embodiments of the invention

have been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover all such modifications which may fall within the spirit
5 and scope of the invention.

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WHAT IS CLAIMED IS:

1. A reinforcing device for a bathtub comprising:
 - (a) a bathtub body having a base floor member, a fluid outlet conduit extending through said base floor member and a drain tube coupled to a lower end of said fluid outlet conduit, an overflow drain tube in fluid communication with an overflow outlet opening formed through a sidewall of said bathtub body and further in fluid communication with said drain tube;
 - 10 (b) a plurality of foot members secured to a lower surface of said bathtub body; and,
 - (c) a reinforcing base member for contiguously interfacing with a substantial portion of said bathtub body lower surface, said reinforcing base member having a plurality of foot member recesses aligned with said foot members for receipt therein of said foot members, said drain tube and said overflow drain tube insertable within an aperture formed within said reinforcing base member, said fluid outlet conduit extending into said aperture and being coupled to said drain tube within said aperture formed in said reinforcing base member, each of said foot members being aligned with a respective opening formed through said reinforcing base member for insert of respective screw members for 20 securements of said bathtub body to said reinforcing base member.

2. The reinforcing device as recited in claim 4
wherein said reinforcing base member is formed having a
plurality of longitudinally and transversely extending
rib members for interface with said lower surface of
5 said bathtub body.

3. The reinforcing device as recited in claim 4
including an adhesive layer sandwiched between an upper
surface of said reinforcing base member and said lower
surface of said bathtub body for fixedly securing said
10 bathtub body to said reinforcing base member.

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Relevant Technical fields

(i) UK CI (Edition L) A4N

(ii) Int CI (Edition 5) A47K

Search Examiner

D HAWORTH

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

1 SEPTEMBER 1993

Documents considered relevant following a search in respect of claims 1-3

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	EP 0261521 A (CORRECTA)	1-3
X	GB 1304222 A (CORRECTA)	1



Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).