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R. L. STEVEN

3,187,350

BATHTUB CONSTRUCTION

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2 Sheets-Sheet 2

FIG. 3.

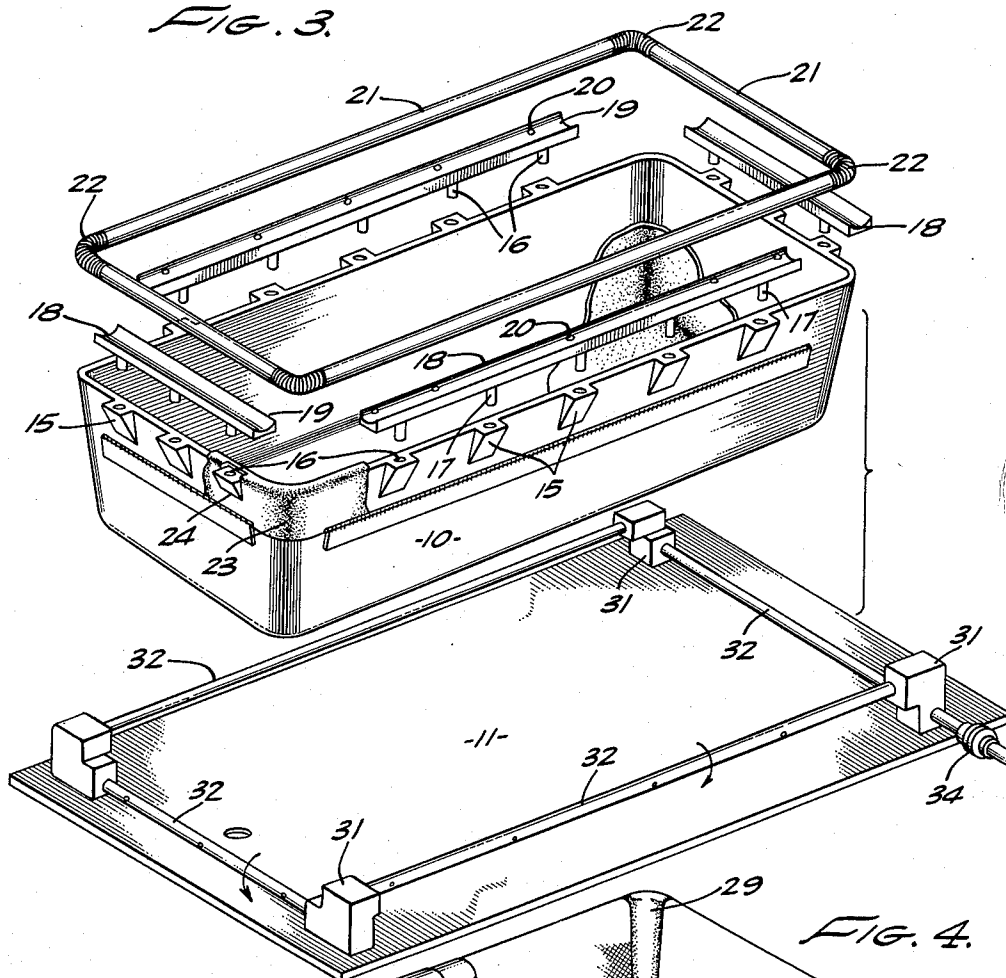
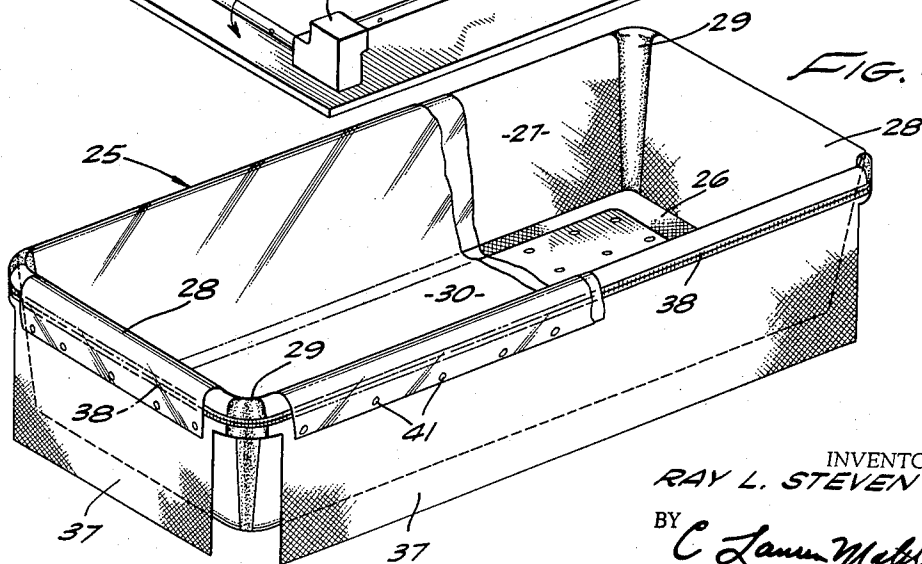


FIG. 4.



INVENTOR.
RAY L. STEVEN

BY *C. Lamm Mobley*
ATTORNEY

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BATHTUB CONSTRUCTION

Ray L. Steven, 219 N. Patton St., Los Angeles, Calif.

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7 Claims. (Cl. 4-177)

This invention relates to bathing structures and more especially to an improved bathtub construction.

An object of the invention is to provide a simple, practical and inexpensive bathtub structure of the character described.

Another object of the invention is to provide a bathtub construction having flexible supporting features for the user by which the user may be lowered into the tub and raised therefrom.

A further object of the invention is to provide a structure according to the previous objects and incorporating a resilient line of novel type.

Other objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawings.

In the drawings:

FIGURE 1 is a side elevation view of a bathtub incorporating the invention.

FIGURE 2 is a sectional view taken along the line 2-2 of FIGURE 1.

FIGURE 3 is an exploded view of the same showing the several components of the bathtub with the flexible element omitted.

FIGURE 4 is a perspective view showing the flexible element of the invention.

FIGURE 5 is a partial perspective view showing a modified feature of the invention.

Referring more particularly to the drawings, the bathtub construction of this invention comprises a tub 10 of generally conventional form and construction; however, it is shown as being made of a thermoplastic. The tub is supported on a suitable platform 11 which is provided with rollers 12 for mobility in a room. The tub is provided with a drainage outlet connection 13 to which is connected a flexible drainage pipe 14.

A plurality of shoulders 15 are provided along the upper edges of the tub wall and these shoulders are formed with apertures 16 in which are received centering pins 17 of a plurality of roller guide members 18. Members 18 are each formed with a semi-circular longitudinal groove 19 in which are suitably positioned bearing ball rollers 20. Rollers 20 provide bearing support for a plurality of tubular guide rollers 21 which are interconnected at their ends to the adjacent rollers by a plurality of steel spring wire universal joints 22 which permit all four rollers to be simultaneously rolled. A liner 23 is optionally provided for the tub and comprises a sponge rubber sheet suitably formed to fit within the tub and including an apron portion as shown in FIGURE 3. This apron portion is formed with apertures 24 through which shoulders 15 extend.

A flexible supporting element is indicated generally at 25 and is shown separately in FIGURE 4 and has a bottom portion 26, said portions 27, and end portions 28. These portions are made of any suitable material such as mercerized canvas or the equivalent having the desired strength characteristic. The meeting edges of the side and end portions 27 and 28 are interconnected by flexible webs 29. A board-like supporting member 30 is provided for bottom 26 and may be made of a light-weight wood, plastic or the equivalent.

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A plurality of worn gear housings 31 are secured on platform 11 and interconnected a plurality of drive rollers 32. One of the rollers 32 is connected to a power drive shaft 33 through a coupling 34 of an insulated type. Shaft 33 is driven by an electric motor indicated at 35, which is of reverse direction type, and provided with an insulated reversing switch 36. The side and end portions 27 and 28 of the flexible element 25 have extension portions 37 which are wound on rollers 32 and are detachably secured to the sections by hookless fasteners 38, of the type commonly called "zippers." This is for the purpose of permitting the end sections to be removed and replaced when necessary.

FIGURE 5 illustrates a variation comprising plastic sheets 40 which may be laid over and secured to the flexible element 25 as by suitable fasteners 41.

The operation of the invention should be apparent from the foregoing description. The user enters the tub in the usual manner and motor 35 is started by operation of switch 36. Drive rollers 32 will wind the extensions 37 of the side and end edges 27 and 28 of the flexible element and the user will be raised to any desired level such as indicated by the dotted line 26a in FIGURE 2. If desired, the central portion of the flexible element including the stiffener board 30 may be raised to near the top of the tub to facilitate entering or leaving the tub. By reverse operation of the motor 35 the user can be lowered in the tub, as will be clear.

It will be understood that the foregoing description is illustrative rather than restrictive of the invention and that changes and modifications may be made therein without departing from the spirit and scope of the subjoined claims.

Two or more plastic sheets 40 may be used if desired and secured by zippers or snap fasteners. Gears 31 are shown as worn gears, however, bevel gears may be used instead.

What is claimed is:

1. A bathtub structure comprising, a platform; a tub supported on said platform; a drive roller system secured on said platform surrounding said tub; means for turning the rollers of said drive roller system in either direction; a guide roller system extending along the rim of said tub; a flexible sheet element having a central portion and linear side and end edge portions each secured to one of said drive rollers and extending over said guide roller system.
2. Structure according to claim 1 wherein said guide roller system is continuous.
3. Structure according to claim 2 including coil spring universal joints connecting the ends of the guide rollers.
4. Structure according to claim 1 including a resilient pad lining the tub under said flexible element.
5. Structure according to claim 1 wherein said side and end edge portions have detachable sections.
6. Structure according to claim 1 including groove bearing means for said rollers.
7. Structure according to claim 1 including detachable groove bearing means for said rollers.

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EDWARD V. BENHAM, *Primary Examiner.*