

Nov. 26, 1963

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3,111,685

BATHTUB

Filed April 10, 1962

3 Sheets-Sheet 1

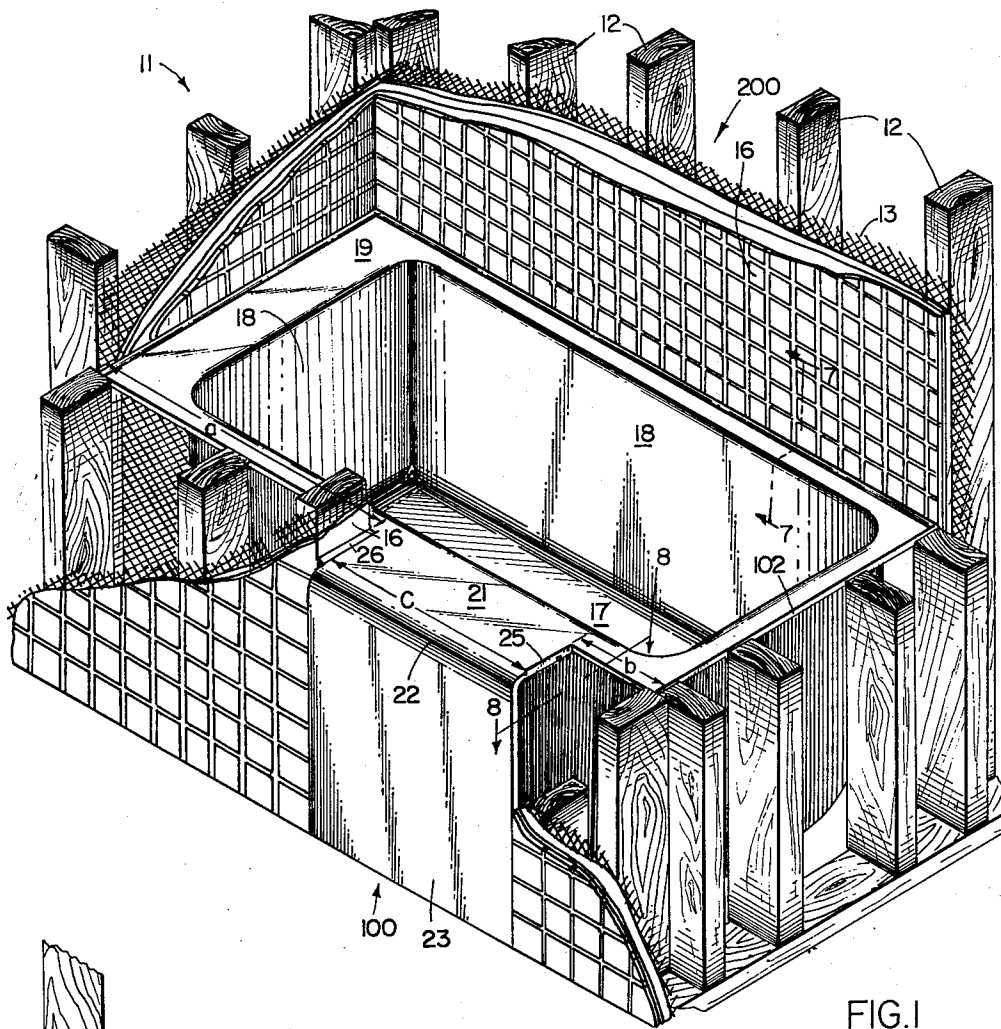


FIG. 1

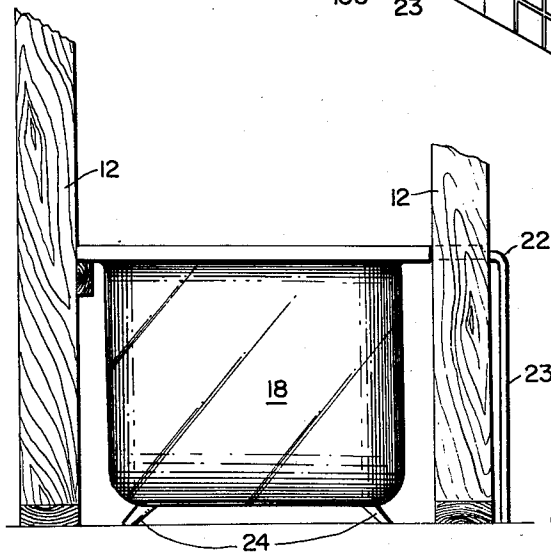


FIG. 2

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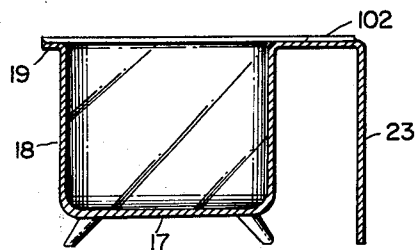
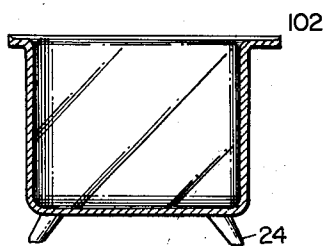
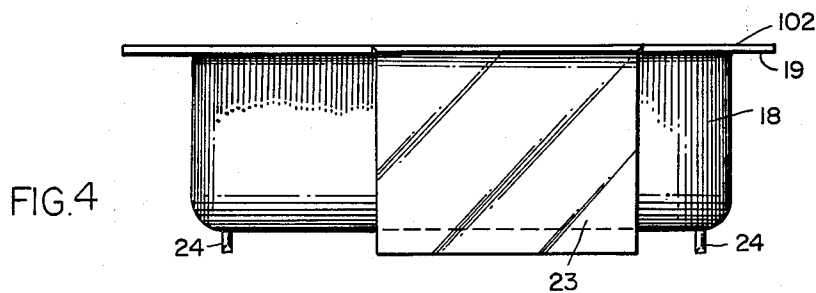
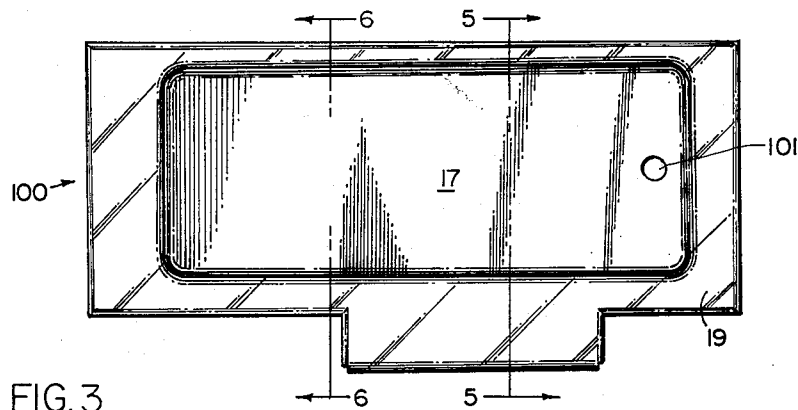
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BATHTUB

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3 Sheets-Sheet 3

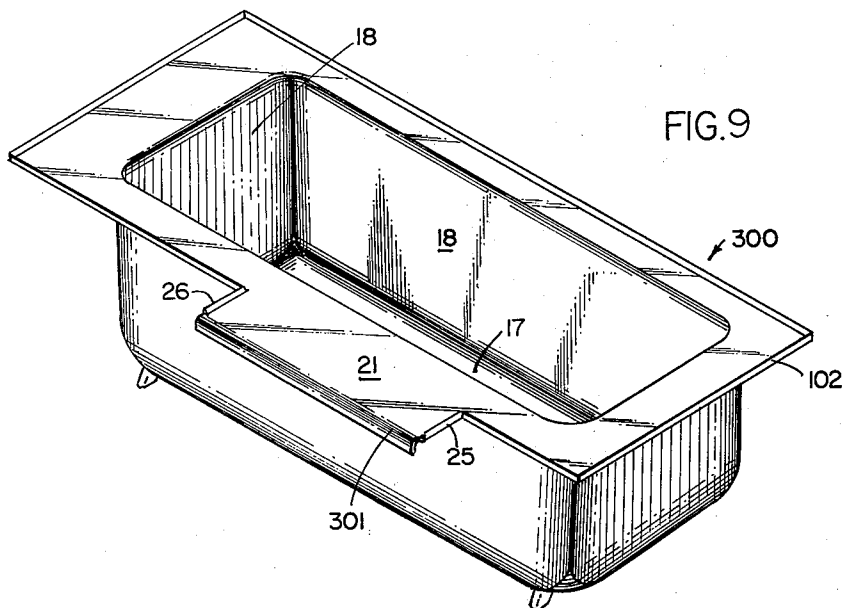


FIG. 9

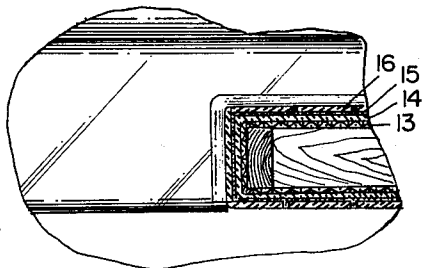


FIG. 8

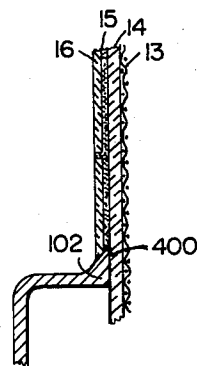


FIG. 7

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BATHTUB

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4 Claims. (Cl. 4-173)

This invention relates generally to the art of bathtubs and more particularly, to a novel bathtub particularly useful in a combination of the bathtub with an enclosure for a bath stall or shower stall arrangement.

The use of bathtubs for both showering and bathing is a common expedient in modern living. Commonly, conventional bathtubs are employed having both bathing faucets for filling the tub and showering fixtures arranged on a wall above the tub. Various enclosure devices for conventional bathtubs have been employed to convert existing installed bathtubs to shower stall arrangements. These enclosing devices are normally permanently affixed to an outer rim of conventional bathtubs and to a side building wall. Such enclosures commonly have presented various problems. For example, they are difficult and relatively expensive to install, difficult to seal properly against both an outer rim of a bathtub and a side building wall and do not provide unitary enclosures.

Accordingly, it is an object of this invention to provide a bathtub suitable for enclosure and use as a bath or shower stall, by conventional building procedures. The bathtub of this invention designed to be simply constructed of conventional bathtub materials employing conventional manufacturing procedures. The bathtub of this invention may be constructed having costs comparable to conventional bathtubs. The bathtub of this invention further provides means for easily forming a durable water-tight seal between an outer edge thereof and an enclosing stall employing conventional building procedures. Also provided is a bathtub which can be employed as a conventional bathtub or enclosed to form a conventional shower stall arrangement.

It is another object of this invention to provide a bathtub for use with an enclosure to form a bath or shower stall which may be inexpensively constructed during original construction of a building in which it is incorporated.

Generally, the bathtub of this invention is adapted for use as a bath or shower stall element and comprises a base, enclosing side walls extending upwardly from and surrounding the base and a flange extending outwardly from and surrounding a top edge formed by the side walls. The flange has an outer perimeter and carries means for enabling entrance to the tub at a substantially restricted area of the perimeter and means for enabling durable watertight sealing of a substantial proportion of the perimeter to conventional building wall construction.

In a preferred embodiment, the bathtub of this invention comprises a unitary one piece bathtub adapted for use as a bath or shower stall element comprising a substantially horizontal base, four rectangularly arranged side walls extending upwardly from and surrounding the base, and a plural side flange extending outwardly from and surrounding upper portions of the side walls. The flange has a plural sided outer perimeter carrying means for enabling entrance to the bathtub along a narrow portion projecting from one side of the flange and in addition an upturned lip or boss for enabling durable watertight sealing of all other portions of the plural sided perimeter to conventional building wall construction.

The bathtub of the invention is for use with a conventional building wall surrounding all but a restricted entrance portion to the bathtub.

Numerous other features, objects and advantages of

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the present invention will become apparent from the following specification when read in connection with the accompanying drawing, in which:

FIG. 1 is a fragmentary perspective view of a preferred embodiment of this invention;

FIG. 2 is a side view thereof;

FIG. 3 is a top view of a preferred embodiment of the bathtub of this invention;

FIG. 4 is a front view thereof;

FIG. 5 is a side sectional view taken through lines 5-5 of FIG. 3;

FIG. 6 is a cross sectional view taken through line 6-6 of FIG. 3;

FIG. 7 is a side cross sectional view taken through line 7-7 of FIG. 1; and

FIG. 8 is a fragmentary view through line 8-8 of FIG. 1 showing a portion along an edge of the bathtub of this invention;

FIG. 9 is a plan view of an alternate embodiment of a bathtub of this invention.

An enclosed bathtub arrangement of this invention is designed generally at 11 in FIG. 1. The bathtub 100 is preferably constructed of conventional materials such as a metal casting having a ceramic surface firmly bonded thereto. Alternatively, other materials such as plastics may be employed if desired in certain applications. The bathtub 100 of the preferred embodiment is a unitary structure having a substantially planar rectangular base 17 with four integral, upstanding side walls, 18 enclosing the base and extending upwardly from the perimeter thereof. Rounded corners are provided at intersections of the walls and base. A conventional drain hole is provided at 101 in the base 17. The side walls 18 and base 17 form a substantially rectangular water trough. A continuous integral flange 19 extends horizontally from and surrounds upper edges of the side walls and has an outer raised lip or boss 102 extending around the major portion of a perimeter thereof. A narrow portion of the flange 19 has an integral continuous projection 21 extending outwardly from the edge thereof and lying in substantially the same plane as the flange. The projection 21 comprises a means for enabling entrance to the tub when the tub is enclosed as will be described hereinafter. Upturned lips or bosses 25 and 26 are provided on sides of projection 21 and form integral extensions of the upturned lip or boss 102. A skirt 23 is integrally attached to projection 21 and extends downwardly therefrom at a right angle. The skirt 23 is positioned in a plane substantially parallel with and spaced from a side wall 18. As best seen in FIGS. 2 and 4 the skirt 23 is a substantially planar member having a lower edge adapted to rest on a building floor at the same level as the lower ends of legs 24 provided on the bottom of the tub 100. The skirt adds a decorative effect to the outside of the tub enclosure.

The upturned bosses or lips 25, 26 and 102 are adapted to provide a durable watertight seal when the bathtub is employed with conventional building wall structures. In the preferred embodiment of the combined bathtub and enclosure, a supporting layer is provided by conventional wooden building studs 12 forming supporting members for a wall 200 around substantially the entire perimeter of the tub. Wall 200 preferably extends between a ceiling and floor and forms a unitary, simply constructed enclosure. The building wall provides a conventional wire mesh 13 tacked to studs 12, a plaster base 14 adhering to the mesh 13 and ceramic tiles 16 affixed to the plaster base 14 by conventional grouting material 15. It should be noted that a lower row of the tiles 16 is positioned above the flange 19. Lower edges of the lower rows of tiles 16 are located in front

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of and below an upper edge 400 of the upturned lips 102, 25 and 26 as best seen in FIG. 7. This construction is extremely important since the grouting tends to erode and be washed away if water collects directly thereon. However in the present structure, water directed onto the surface of tiles 16 flows down the surface and collects at the rounded portion between the flange 19 and the upturned lips 102, 26 and 25 whereupon water will tend to flow down into the tub itself. Further, even if the grouting between the lower edges of the lower row of tiles is eroded, the upturned lips prevent water leakage therethrough.

When the tub is completely enclosed as shown in FIG. 1, a shower or bath stall is provided which is an integral part of the building itself. The stall is relatively inexpensive to construct, permanent and provides a durable watertight arrangement for preventing water flow other than into the tub itself. As clearly seen in FIG. 1 wall 200 completely encloses the fourth side of the tub except for the narrow portion above projection 21. Entrance and exit for the tub is provided by the space above projection 21. The length (c) of the space and the projection 21 is no more than $\frac{1}{2}$ the length of the fourth side of the tub and preferably $\frac{1}{3}$ the length thereof. In conventional size tubs a length of two feet is employed whereby only a small opening is provided to minimize water egress from the stall. Normally, a showering fixture may be provided in the stall so that water is directed away from the narrow space above projection 21. In some cases a conventional shower curtain may be employed to extend across this space. It is preferred to position the projection as shown in FIG. 1 near one end of the side wall so that the length (a) is greater than the length (b).

In an alternate embodiment of the invention a bathtub 300 is provided constructed in the same manner as the bathtub of the preferred embodiment. However, the skirt 23 is eliminated and a downwardly turned lip 301 is provided on the projection 21. This embodiment of the invention provides substantially all of the advantages of the preferred embodiment, however, the lower edge of lip 301 is adapted to have tiles extending therefrom to the floor of the room in which the tub is used.

The present invention is adapted for usage with varying dimensioned and shaped bathtubs. Thus although I have disclosed only rectangular bathtubs it will be obvious to one skilled in the art that the particular shape of the tub may be modified as desired. For example, any number of side walls may be provided if desired for artistic or other reasons. The depth of the tub will vary depending upon individual preference. The particular building wall construction employed with the tubs of this invention may vary. For example plastic or ceramic tiles may be utilized as well as other water resistant surfacing mate-

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rials. Steel studs or wood and/or wood lathing may be employed in place of the wire mesh 13.

While there have been described what are at present considered to be the preferred embodiments of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the spirit and scope of the invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of this invention.

What is claimed is:

1. An integral bathtub form comprising an elongated metallic casting having a substantially rectangular base and continuous, upwardly extending side walls surrounding and continuous with said base forming a deep bathing trough,
 - a peripheral, horizontal and outwardly extending continuous flange having an inner edge continuous with upper edges of said side walls,
 - means forming a horizontal projection lying substantially in the same plane as and continuous with said continuous flange along one of said side walls,
 - said projection extending intermediate the ends of said one side wall and spaced no less than 8 and $\frac{1}{2}$ inches from each of said ends,
 - said projection having an outer down turned lip adapted to fit over an edge of a building wall located beneath said projection in use of the bathtub and forming an outer projection edge,
 - means forming an upwardly extending lip continuously about said outwardly flared flange and said projection and terminating on an outwardly extending side of said projection short of said outer edge of said projection.
2. An integral bathtub form in accordance with claim 1 wherein a building wall extends above said flange and encircles said flange engaging said upwardly extending lip in watertight relationship.
3. An integral bathtub form in accordance with claim 1 and further comprising a downwardly extending skirt lying in a plane substantially parallel with the plane of said one side wall and spaced therefrom,
 - said skirt having an upper edge common with the outer edge of said projection.
4. A bathtub in accordance with claim 1 and further comprising a drain hole defined by said base located substantially adjacent one end of said elongated base.

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