Jan. 27, 1953 J. C. BAKER ET AL 2,626,402

PRESSED STEEL BATHTUB

Filed April 20, 1950 2 SHEETS—SHEET 1

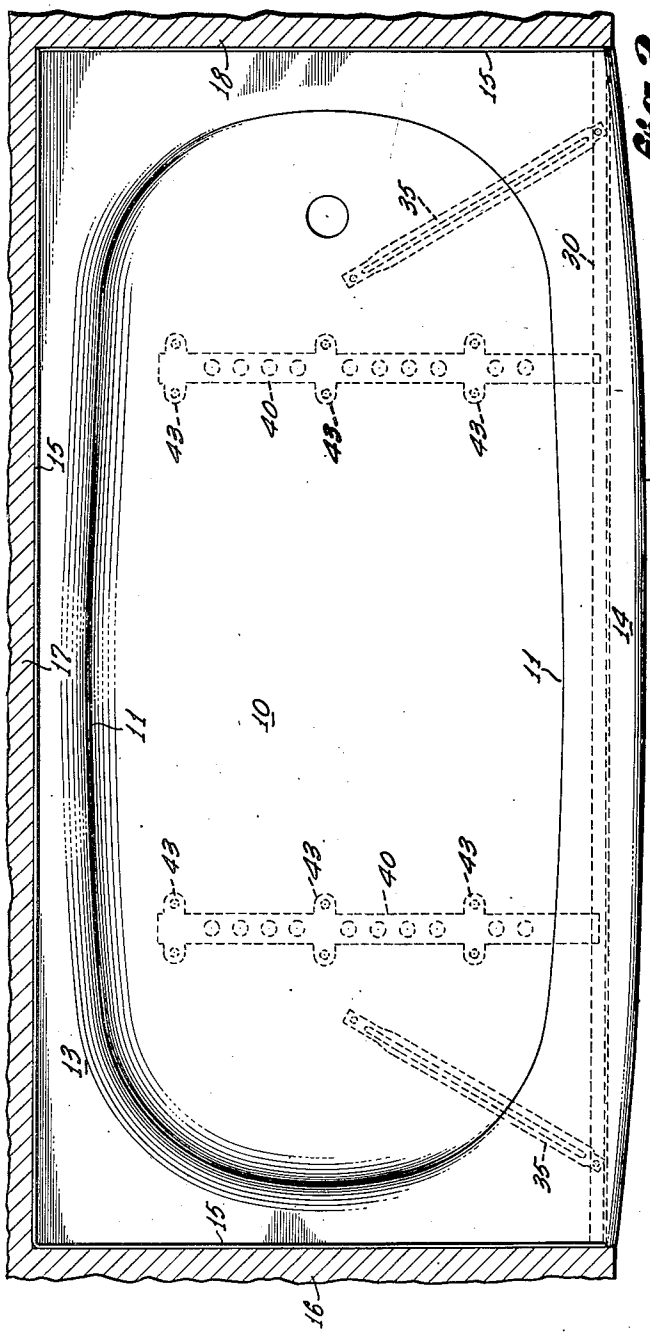

Fig. 1.

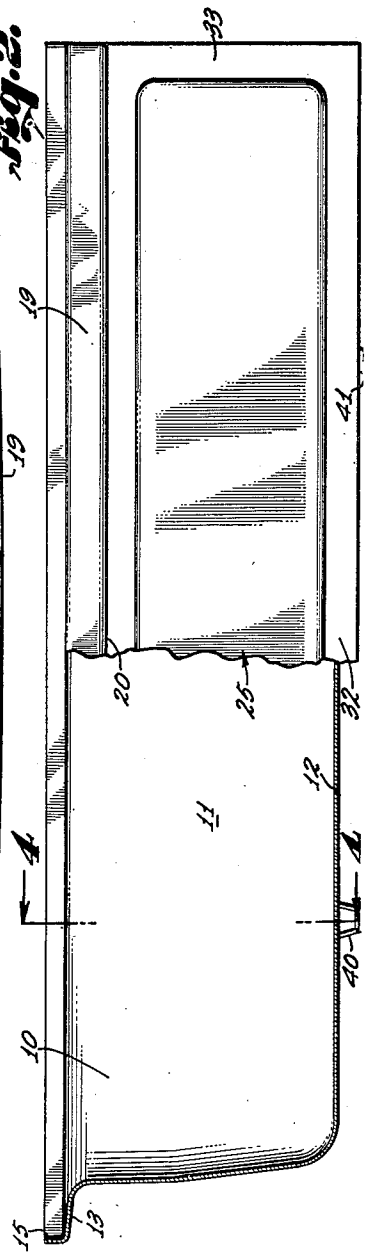

Fig. 2.

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Fig. 3.

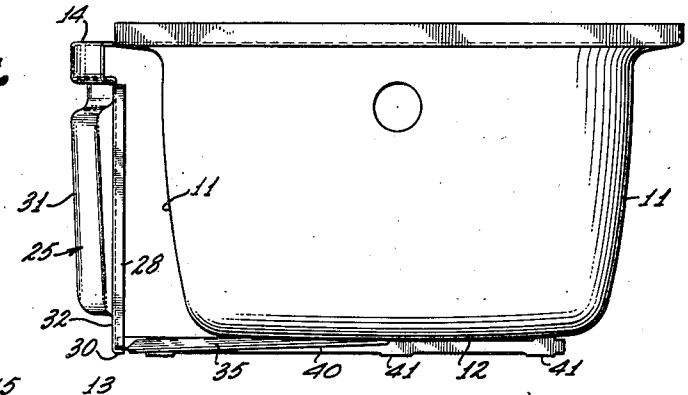


Fig. 4.

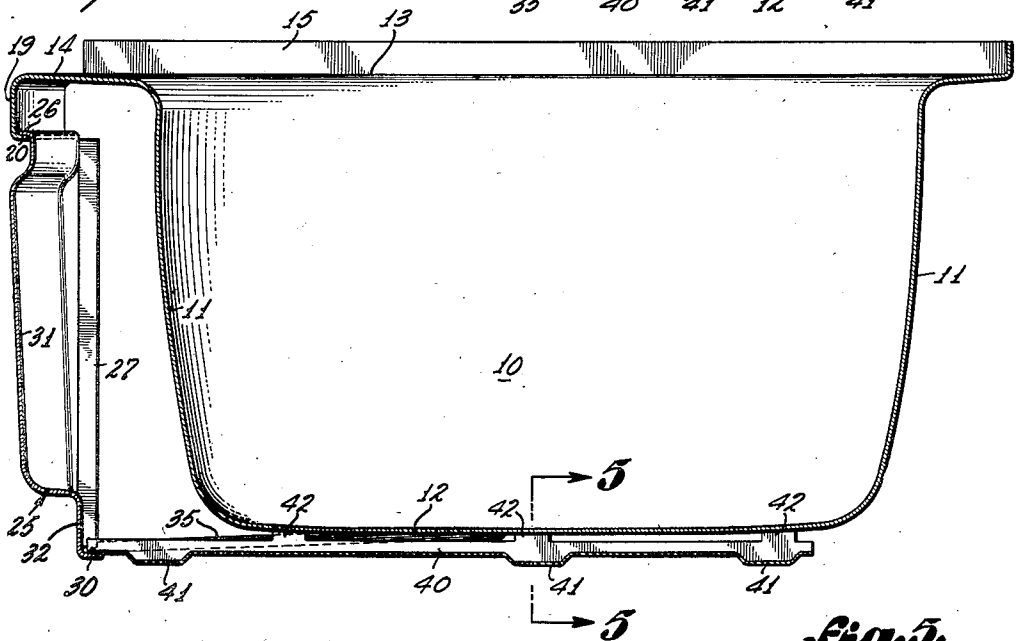


Fig. 5.

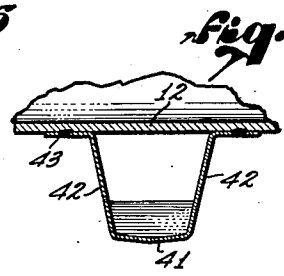


Fig. 6.

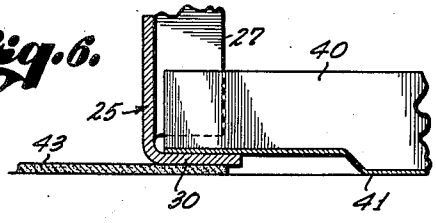
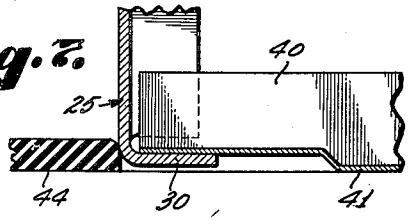


Fig. 7.



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PRESSED STEEL BATHTUB

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6 Claims. (Cl. 4—173)

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Our invention relates to a pressed steel porcelain coated bathtub and has particular reference to the type known as a recess tub, that is, a tub which is adapted to fit into an alcove space having three walls and an open side, the alcove being substantially coextensive with the tub in plan view so that three sides thereof are in abutment against said walls.

Recess type tubs are usually formed with a depending apron or skirt which is designed to cover and conceal the exterior surface of the sump of the tub and any bracing which may be attached thereto.

It is impractical to form the entire tub including the sump, the top flanges and the decorative apron in one piece. Therefore, pressed steel tubs are usually formed by stamping the sump from one sheet of metal resulting in a flat outwardly directed peripheral flange; deforming the outer edge of the top flange resulting from the stamping operation downwardly along the said fourth or exposed side and then securing the skirt thereto, which said skirt is formed of a separate piece of sheet metal.

It has always been a serious problem to make a satisfactory connection between the apron and the sump, because of the peculiar nature of porcelain which is usually used to cover the entire surface of the tub. Porcelain tends to leave cracks which are not waterproof between joined pieces of metal. It is therefore a problem to prevent water, which may be splashed over the edge of the tub, from running inwardly through such joints to the interior of the tub construction, thereby causing rust or rotting of the floor upon which the tub rests.

One of the objects of our invention is to provide a pressed steel tub construction having a joint structure between the decorative skirt and the sump section through which it is substantially impossible for water to enter.

Most modern bathrooms of the type wherein the recess type tub is installed, are furnished with linoleum, asphalt tile, or ceramic tile as a floor covering means. The tub should therefore be so constructed that it is possible to install either linoleum or tile with a minimum of cutting and fitting.

Tubs of the instant type are usually formed with a decorative skirt which is deformed either in a curved surface or other decorative appearance, resulting in a line of contact between the floor and the tub and between the two end walls and the tub, which is not a straight line. It is therefore exceedingly difficult for tile setters to

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obtain a proper fit of the floor tile against a tub apron which contains offsets and curved lines.

It is a further object of our invention to design a pressed steel bathtub having a decorative front panel which presents a straight line for setting floor tile and a substantially straight line up the side wall of the recess in the event that the tile is carried up said side wall to thereby minimize the labor cost involved in constructing a suitable bathroom.

So far as is known, pressed steel bathtubs of the recess type having a decorative front panel, are constructed so that the front panel rests on the floor supporting the bathtub so that in the event linoleum is laid, there is a considerable danger that the linoleum fitter will not have a perfect fit against the bottom edge of the apron. Water can therefore run down between the linoleum and the apron to thereby loosen cement holding the linoleum to the floor.

It is also among the objects of our invention to provide a recess type bathtub construction having a decorative front panel which is formed with a bottom edge spaced above the surface of the floor to permit the insertion of one edge of the linoleum or other floor covering thereunder so that the linoleum need not be accurately cut around the edges of the bathtub.

It is to be understood that the spacing between the lower edge of the apron and the floor will be greater than the thickness of standard heavy duty linoleum, that is in excess of $\frac{1}{16}$ of an inch, but will be less than the thickness of standard floor tile which is approximately one-quarter of an inch. Such construction permits the insertion of linoleum under the edges of the apron but permits hiding the spacing crack in the event tile is used, which said tile will be abutted against the outer surface of the apron and any discrepancy in the fitting can readily be filled with grouting.

Other and further objects and advantages will become apparent from the drawings and the specifications relative thereto.

In the drawings:

Figure 1 is a top plan view of our tub installed in a recess.

Figure 2 is a front elevation having its front skirt partly broken away.

Figure 3 is an end elevation of the tub shown in Figure 1.

Figure 4 is an enlarged sectional view taken on line 4—4 of Figure 2.

Figure 5 is an enlarged detail taken on line 5—5 of Figure 4.

Figures 6 and 7 are enlarged detail sectional elevations showing the alternate use of linoleum or floor tile.

In the formation of our bathtub we prefer to start with a single sheet of metal and by a stamping operation form it into a sump designated generally 10 on Figure 1, having side walls 11 and a bottom 12. The side walls 11 terminate in outwardly directed flanges 13 and have a front outwardly directed substantially flat flange 14. The outer edge of the flanges 13 are bent upwardly to form peripheral lips 15 which abut against walls 16, 17 and 18 of an alcove or recess. Flanges 15 are adapted to fit under the plaster or other finish surface of the alcove so that water can not run in behind the tub.

The front edge of the flange 14 has a depending apron 19 which is formed with an inwardly directed lip 20 along the lower edge thereof. The flange 14, the apron 19 and the lip 20 cooperate to form a handrail extending from end to end of the tub.

A decorative skirt designated generally 25 on Figure 2, having an outwardly directed flange 26, is secured to the apron 19 by means of the flange 26 which overlaps the lip 20 and is secured thereto by any suitable means such as spot welding or seam welding.

In the event that spot welds are used, it will be almost inevitable that slight open cracks will exist between the flange 26 and the lip 20, even after burning on porcelain, through which water could enter were it not for the fact that the flange 26 overlies the lip 20 and since water can not freely run up hill it can not leak into the space between the skirt 25 and the sump of the tub.

The skirt 25 is formed with inwardly turned end flanges 27 and 28 which abut against the walls 16 and 18, respectively. The flanges 27 and 28 present a straight vertical line at their outer surface.

The bottom edge of the skirt 25 is formed with an inwardly turned flange 30 extending along the entire length of the skirt 25. The outer edges of the flanges 27, 28, and 30 are straight and lie in a common vertical plane, so that straight floor and wall lines are presented, against which tile may be abutted without the necessity of cutting or fitting the tile into curved lines.

The skirt 25 is formed with a centrally disposed outwardly embossed section 31 the periphery of which is spaced from the side and bottom edges, thereby leaving flat marginal areas 32 and 33 which lie in a plane common to the outer-edges of the flanges 27, 28 and 30.

Braces such as 35 are secured to the under surface of the bottom 12 of the sump and extend diagonally outward to and are secured to the flange 30 to thereby hold the skirt 25 in position.

A pair of substantially U-shaped channels 40 are formed with downwardly directed feet 41 and upwardly directed brackets 42. The brackets 42 have outwardly directed flanges 43 which are secured to the under surface of the bottom 12 of the sump and are spot welded thereto. The channel 40 extends outwardly toward the skirt 25 and is spot welded to the flange 30 to thereby secure the flange 30 in spaced relation above the surface upon which the feet 41 rest. It is readily apparent that the height of the feet 41 determines the spacing of the flange 30 above the surface upon which the feet rest.

As will be seen from Figures 6 and 7, the flange 30 is spaced above the surface upon which the feet 41 rest sufficiently so that standard floor covering such as linoleum 43 may be inserted under the flange 30, that is, between the flange 30 and the surface upon which the tub rests, so that accurate cutting and fitting around the edge or against the edge of the tub is not necessary. The spacing should be not less than $\frac{1}{16}$ of an inch which is the standard thickness of linoleum or asphalt tile covering. As will be seen from Figure 7, the spacing should be less than the thickness of standard floor tile such as 44, which is usually approximately one-quarter of an inch.

In view of the fact that the spacing between the flange 30 and the surface upon which the tub rests is less than the thickness of the tile 44, and in view of the fact that the outer edge of the flange 30 presents a straight line, it is a relatively simple matter to abut the tile 44 against the lower edge of the skirt 25 thereby concealing the spacing between the flange 30 and the surface upon which the tub rests. The installation may be easily made waterproof by filling in the cracks with grouting.

What we conceive to be the important features of our invention is a pressed metal porcelain coated bathtub adapted for installation in an alcove or recess and having a depending decorative skirt along the front or exposed side, which said skirt may be formed with any desired decorative configuration but which presents a straight tile line along the floor and up the sides, and which said tub has a handrail along the entire front side, and which said skirt is secured to said handrail in such a manner to prevent water from running into the interior of the tub, and which skirt terminates along a bottom line spaced from the floor a distance greater than the thickness of linoleum and less than the thickness of standard floor tile.

While we have herein shown and described our invention in what we have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of our invention, which is not to be limited to the details disclosed herein, but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A drawn sheet metal bathtub comprising a sump having an outwardly directed horizontal flange along one side thereof, a downwardly directed apron at the periphery of said flange and an inturned lip on the edge of said apron, said flange, apron, and lip defining a handrail extending along said side, a depending skirt having an outwardly directed flange along the upper edge thereof overlapping and secured to said lip to effect a joint preventing water from entering the interior of the tub structure, said skirt having an embossed central section, the marginal edges of said skirt along the bottom edge and the two ends being flat and lying in a common vertical plane, a supporting leg structure secured beneath said sump and having a brace portion secured to said skirt and supporting the lower edge of said skirt above the lower extremity of said leg structure, whereby when the tub is installed, the lower edge of the skirt is spaced from the floor by a distance greater than the thickness of linoleum and less than the thickness of tile.

2. A drawn sheet metal bathtub comprising a sump having a flange along one side formed with a depending apron and inwardly turned lip constituting a handrail along said side, and a skirt having an outwardly directed flange along its

upper edge overlying said lip and welded thereto, said skirt being formed with reinforcing embossing, the marginal portions of said skirt along the bottom edge and the two end edges lying in a common vertical plane, said embossing being spaced inwardly from the bottom and end edges of said skirt, and a leg structure disposed beneath said sump and having a brace portion secured to said skirt near the bottom edge thereof to space said bottom edge above the lower extremity of said leg structure whereby said bottom edge is spaced above the floor on which the tub rests a distance greater than the thickness of linoleum and less than the thickness of ceramic tile.

3. A bathtub comprising in combination: a sump formed with a generally horizontal flange along one side of the bathtub, a generally vertical apron depending from the outer edge of the flange, and an inwardly turned lip formed along the bottom edge of said apron; and a skirt having an unbroken straight upper edge with an outturned flange continuously therealong, the flange of said skirt overlying said lip and being secured thereto to form a joint between sump and skirt, whereby water is prevented from running or splashing into the space between the skirt and the sump.

4. A bathtub adapted to be installed in abutting relation against the three walls of an alcove and to rest on the floor of the alcove, comprising in combination: a sump formed with a peripheral horizontal flange therearound, that portion of the flange on the exposed side of the bathtub having a generally vertical apron depending from its outer edge, and an inwardly turned lip formed along the bottom edge of the apron; and a skirt having an unbroken straight upper edge with an outturned flange continuously therealong, the flange of said skirt overlying said lip and being secured thereto to form a joint between sump and skirt, whereby water is prevented from running or splashing into the space between the skirt and the sump.

5. A bathtub adapted to be installed in abutting relation against the three walls of an alcove and to rest upon the floor of the alcove, comprising in combination: a sump formed with a generally horizontal flange along the exposed side of the bathtub, a generally vertical apron depending from the outer edge of the flange, and an inwardly turned lip formed along the bottom edge of the apron; and a skirt having an unbroken straight upper edge with an outturned

flange continuously therealong, the flange of said skirt overlying said lip and being secured thereto to form a joint between sump and skirt, thereby preventing water from running or splashing into space between the skirt and the sump, the bottom and end marginal portions of the skirt lying in a common vertical plane, the bottom edge of the skirt being on a straight horizontal line, the end edges of the skirt being on straight vertical lines, and a central portion of the skirt being deformed from said plane, whereby tile may be laid on the floor against the bottom margin of the skirt with a straight line edge, and may be laid on the walls against the end margins of the skirt with straight line edges, thereby simplifying and expediting tile installation.

6. A drawn sheet metal bathtub comprising a sump generally rectangular in plan having an outwardly directed horizontal flange around the periphery thereof and being adapted to be installed on the floor of, and with three sides in abutting relation against the three walls of, an alcove, the horizontal flange of the fourth side being formed with a downwardly directed apron and an inturned lip to thereby define a handrail extending along said fourth side, a depending skirt having an outwardly directed flange along the upper edge thereof, said outwardly directed flange overlying and being secured to said lip whereby a joint is effected to prevent water from running into the interior of said tub construction, said skirt also including a central offset section having peripheral edges thereof in spaced relation to the edges of said skirt to thereby define marginal edge portions of said skirt the latter lying in a common vertical plane.

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