United States Patent

[11] 3,574,869

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[73] Assignee American Standard, Inc.
New York, N.Y.

[54] **SURROUND FOR CAST IRON TUB OR SHOWER BASE**
8 Claims, 6 Drawing Figs.

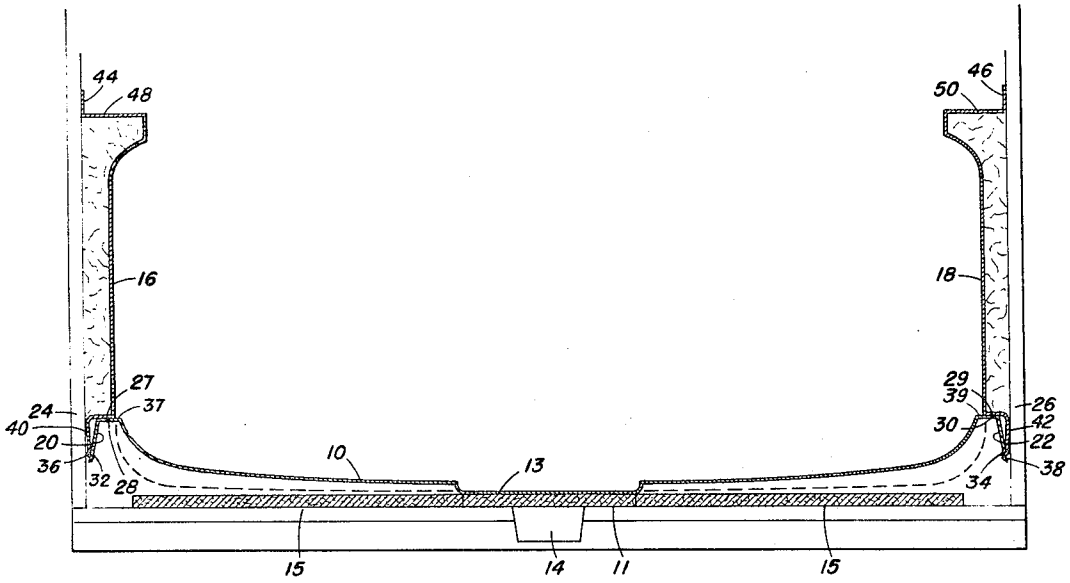
[52] U.S. Cl. 4/148
[51] Int. Cl. A47k 3/22
[50] Field of Search 4/146, 147, 148, 149, 150, 162, 175

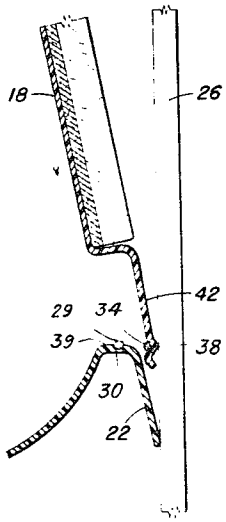
[56] **References Cited**
UNITED STATES PATENTS

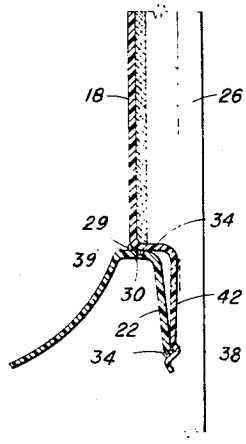
1,633,685	6/1927	Stark	4/146UX
2,677,268	5/1954	Hobbs	4/148X
3,158,237	11/1964	Schooler	4/148X
3,449,770	6/1969	Casebolt	4/146X

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Assistant Examiner—Henry K. Artis
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ABSTRACT: This invention relates to a plastic shower surround forming a watertight shower enclosure around a separate tub or shower base made from cast iron, sheet metal or other material, and to a method of making and shipping the components thereof. This enclosure can be shipped knocked down and when assembled improved watertight self-locking snap joints are locked together into the sections which make the shower and tub or shower base a unitary structure.

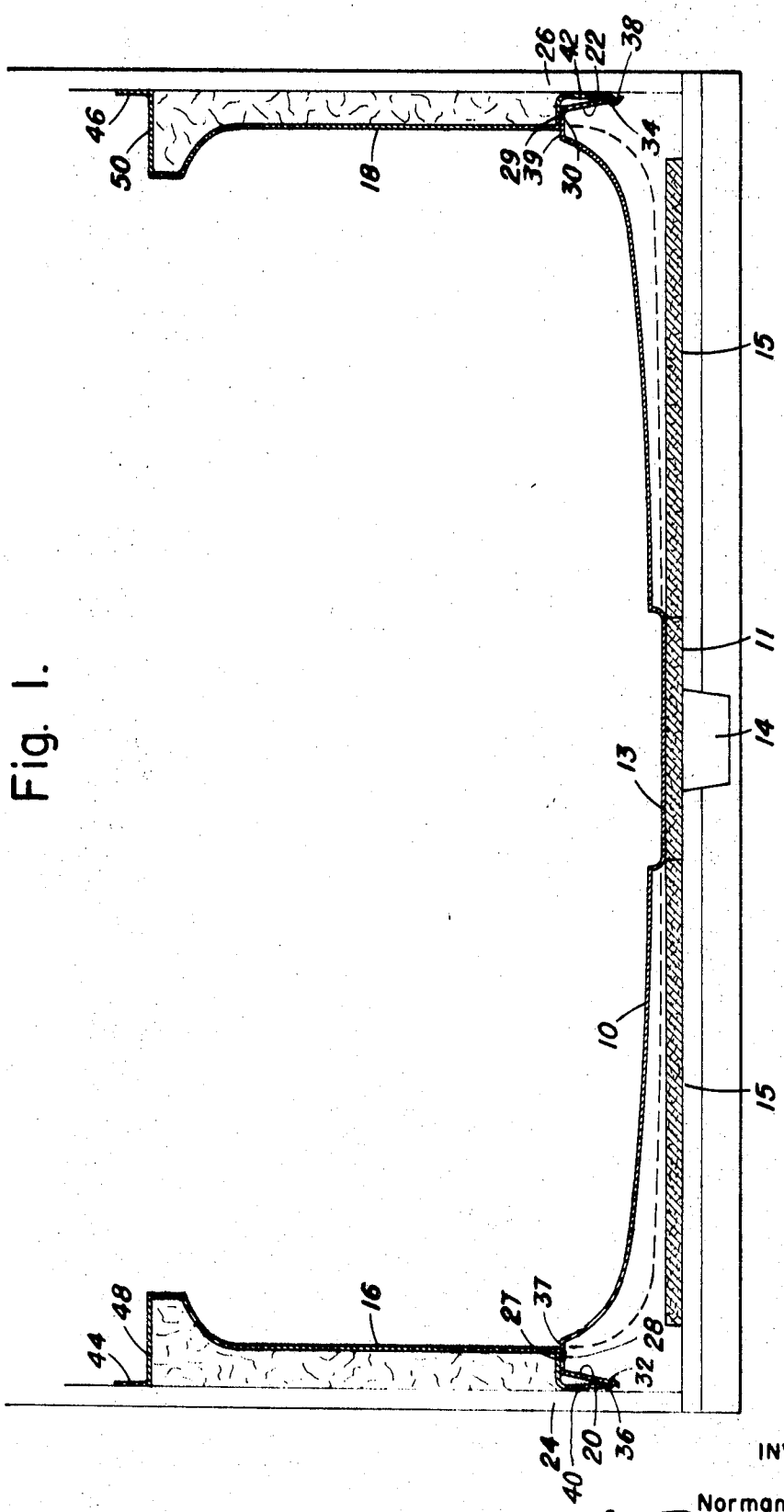






3 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

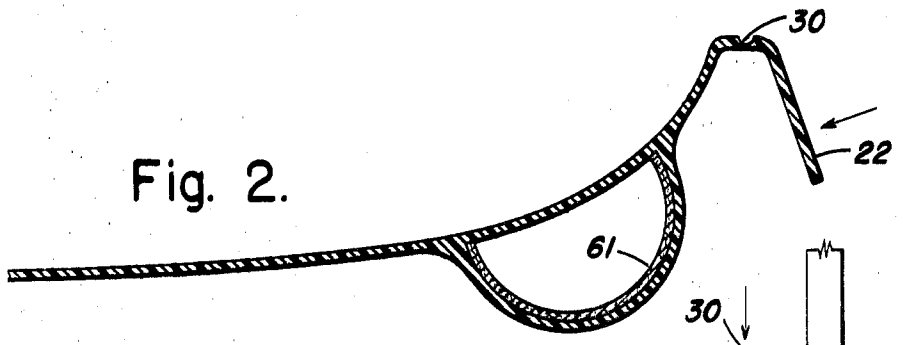


Fig. 3.

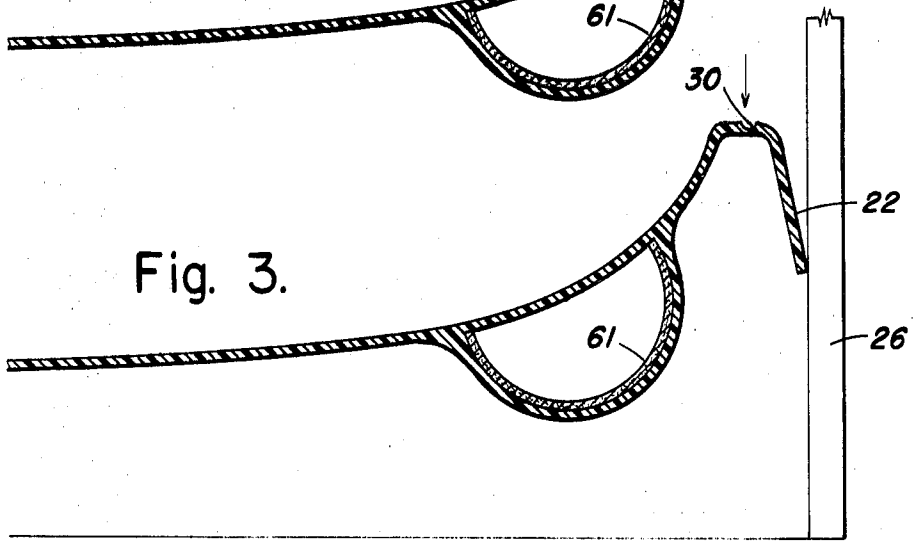


Fig. 4.

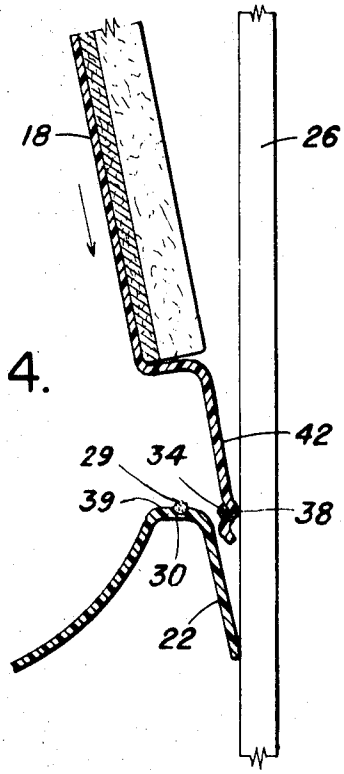
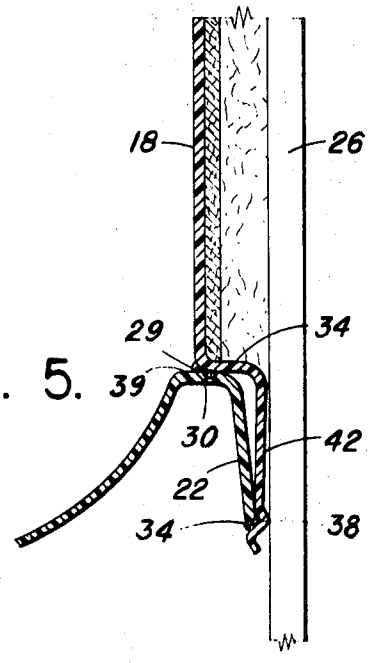


Fig. 5.



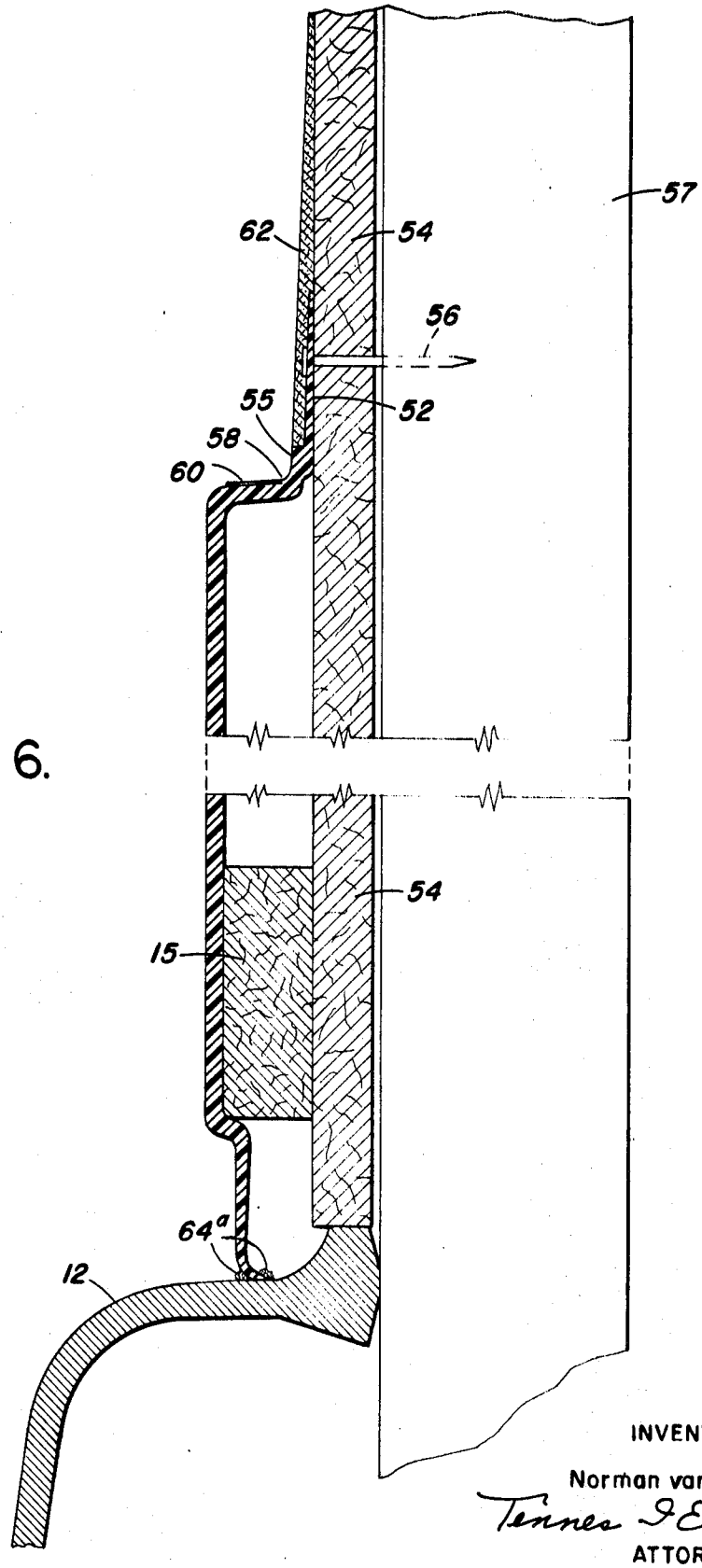
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Fig. 6.



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SURROUND FOR CAST IRON TUB OR SHOWER BASE

This invention relates to improved shower enclosures and snap-locking joints for use therewith to use with bathtubs or shower bases.

In conformance with conventional practices heretofore followed bathtubs, shower bases and plumbing are first installed and then walls are put in over and around such structures and then ceramic tile is fitted to the tub or shower base to conform with any variations in the surface configurations and contours of the rim of the tub or shower base. Such tile enclosures sometimes leak especially if the fitting is not done accurately and in any case require the services of skilled craftsmen to specially cut the pieces of tile to fit the tub or shower base.

After tubs have been cast or shaped, the surfaces have to be porcelainized. This is done by subjecting the tubs to high temperatures to melt on the porcelain. These temperatures are so high the tub surfaces warp to varying degrees, and when finally cooled, the tubs have a final rim surface configuration which varies from tub to tub. This may also occur with shower bases.

This warping presents a problem in fitting preformed shower enclosures to such dimensionally varying surfaces. The purpose of the present invention is to provide a preformed fiberglass shower enclosure which will be made up of a back panel extending the width of a tub or shower base and end panels which are connected at one of their vertical edges by means of improved joints which will be watertight.

A further object of this invention is to provide a three-piece shower enclosure which has snap-in joints and wherein the entire shower enclosure sets on top of the rim of the tub or shower base adjacent the surrounding walls of the bathroom.

Another object is to provide an improved shower enclosure made of fiber glass for use with cast iron bathtubs or shower bases, wherein the bottom tub- or shower-base-contacting surface of the shower enclosure will automatically conform and adapt to the variations in the surfaces it contacts.

Another object is to provide spring tension joints which will not move rectilinearly and thereby avoids shearing the calking of the joint after the tub or shower base and shower enclosure has been installed.

Other objects and features of this invention will more fully become apparent in view of the following detailed description taken in conjunction with the accompanying drawings illustrating an embodiment of this invention.

FIG. 1 is a cross-sectional top elevation of my improved installed fiber glass shower surround.

FIG. 2 is a cross-sectional top elevation of the right-hand vertical corner of the back panel before it has been pushed in between the sidewalls.

FIG. 3 is a cross-sectional top elevation of the right-hand vertical corner of the back panel after it has been pushed in between the sidewalls.

FIG. 4 is a cross-sectional top elevation of the end panel showing the corner joint before being snapped into locking position with the right corner of the rear panel.

FIG. 5 is a cross-sectional top elevation of the end panel after it has been snapped into locking position with the right corner of the rear panel.

FIG. 6 shows a cross-sectional side elevation of the rear panel showing how the panel is nailed in position at its top periphery and how a suitable sealant, such as flexible calking, or a silicone is employed to join the lower edge of the shower surround to the cast iron bathtub or to a shower base.

Referring to FIG. 1 in the drawings, the back panel 10 extends across the entire width of the installed tub 12, or the shower base, which may be made of cast iron, sheet metal, fiber glass, or other plastic. The height of the shower surround panel above the edge of the tub or shower base 12 should be sufficient to cover the area where water splashes. This usually is about 5 feet above the upper rim 12 of the tub on which the shower surround is seated as shown in FIG. 6 or about 6 or 7 feet above a shower base or receptor.

Because of the wide span, the backwall, when made from reinforced fiber glass plastics, has suitable reinforcing strips such as fiber boards 15 laminated into the plastic backwall at the time it is being cast on the mold.

For purposes of appearance and utility, there may be cast into the back panel a recess 13 for appearance, and a soap recess 14 for holding soap as shown in FIG. 1. In order to provide rigidity and also to provide a surface for securing grab rails, there is laminated to the backside of the rear panel along the recess 13 a vertical fiberboard panel 11. In addition a horizontal backup strip 15 made from fiberboard, is laminated along the bottom of the backwall panel 10 to assist in maintaining the back panel straight and rigid at the tub or shower base surface. Opposite the vertical panel and near the corners of the back panel, a half-round tube 17 is placed, made of suitable material such as cardboard over which fiber glass is placed as shown in FIGS. 2 and 3 to laminate the tube 17 to this area of the back panel 10. This gives the corners a rigidity and avoids warping.

The end panels 16 and 18 are of the same height as the back panel 10 and the end panels 16 and 18 extend the width of the tub or sides of the shower base. When the rear panel is inserted in place, there is spring tension being exerted by the flanges 20 outwardly against the sidewalls 24 and 26 of the bathroom. This tension is applied when the flanged member 22 shown in FIG. 2 is pressed inwardly when placing the back panel in position as shown in FIG. 3.

A bead 27 and 29 of silicone or flexible calking, is placed in a small groove 28 and 30 formed in the backwall panel a few minutes before the side panels are put into position. When the silicone sets, the backwall and end walls will be integrally joined. Another bead 32 and 34 of suitable sealant, such as silicone or flexible calking may also be added to the furrows 36 and 38 so as to obtain a double seal at each joint which extends vertically and this also acts as a vapor barrier. Due to the spring tension, the opportunity for one wall to slide axially relative to the adjoining wall is eliminated because of the locking effect which the spring tension has on the walls.

Because of the outward tension by the back panel and the latch type of construction of the vertical side edge, when the edge of the side panel is pushed past the edges 20 and 22, the side panel snaps into place and is held in locked position as shown in FIGS. 1 to 5. This locking effect prevents the side panels from moving rectilinearly in a horizontal direction because the forward shoulders 32 and 34 seat up against the abutments 37 and 39 of the rear panels. The side panels are prevented from moving away from the rear panels because of the furrows 36 and 38 formed in the side edges 40 and 42 of the end panels 16 and 18. The panels are also prevented from moving rectilinearly, relative to each other, because of the spring tension exerted on the joint.

The forward vertical edge of the end shower panels are provided with flanges edges 44 and 46 which are adapted to be nailed to the sidewalls of the bathroom. After these flanges are nailed to the sidewalls then a suitable wall and joint covering material such as patching plaster or other suitable material is applied over the walls and the flanges 44 and 46 in abutment with the columns 48 and 50.

The columns 48 and 50 add stability to the end walls 16 and 18 in addition to providing a shield against water spraying out on the floor at the ends of the tub.

Referring to FIGS. 6, it will be noted the upper edge of the wall end panels are also formed with a nailing flange 52. This flange 52 may be secured to the sidewalls of the bathroom such as dry wall 54 and the studs 57 by means of nails 56.

Here again, the wall-covering material 62 comprising spakling or patching plaster or other suitable material and is applied over the nailing, up to and even with the trowel guide surface 55. A painting break 58 is provided so that after installation, if desired, the wall-plaster-patching material 62 can be quickly painted over after installation. To save painting time, masking tape 60 is installed at the factory so that once the wall panel flange 52 is secured in place and the plaster covering 62

has been added, painting can be done immediately without any preparation.

Due to the unpredictable undulations and variations encountered in the rim surfaces of the tub or shower base which may result from the heat the tub is subjected to during manufacture, there has been a problem in the past of fitting the bottom of a shower enclosure wall to the edge of a tub. We have solved this problem by providing a resilient spring-tensioned curved foot-shaped flange **64** at the bottom edge of the shower enclosure walls. Before placing the backwall in place, a suitable calking or plastic adhesive is placed on the underside of the curved foot flange. After the side spring-tensioned flanges **20** and **22** have been pressed inwardly and the shower wall **10** has been pushed up against the rear wall of the bathroom, the entire shower wall **10** is then pushed downwardly, causing the spring-tensioned foot flange **64** to bend and conform and adapt to the various undulations of the rim of the tub or shower base.

By following this practice, a watertight seal is effected, not only because the bottom foot flange adapts itself to the top rim of the tub or shower base **12**, but also because of the silicone **64***a* placed on the underside of the flange **64**.

Similar feet **64** are formed at the bottom of the end wall panels **16** and **18**. Before installation the feet **64** of the end panels **16** and **18** are coated with silicone in a similar manner. In this case, the end panels are pushed downwardly to depress and tension their respective feet **64** against the end rim surfaces of the tub or shower base before the end walls are pushed sidewise and snapped into position behind the vertical flanges **20** and **22**.

Once the inner edges of the end panels have been snapped behind the flanges **20** and **22**, the end panels are then swung up against the side dry walls **59** of the bathroom, and in the process, spring tension causes the bottom feet **64** of the side walls to conform to the undulations at the top of the tub or shower base rim **12**.

As previously mentioned, once the sidewalls of the shower surround are in place and spring tension is being exerted on the feet **64**, the upper flanges **44** of the back and sidewalls of the shower enclosure are nailed to the sidewalls of the bathroom.

From the foregoing, it will be evident that we have provided a three-piece snap-in shower enclosure that can be shipped in knocked-down condition and can be quickly installed around a conventional cast iron tub or shower base by merely pushing the back panel in place, then pushing and snapping the side panels into place and then seating the backwall and end panels on the upper rims of the tub or shower base to effect a watertight seal therewith. This unique adapting foot, and snap-in corner locking arrangement not only permits a rapid installation, but it provides a rigid shower enclosure structure which is watertight as a result of the spring tension exerted by the joints described and by the beads of silicone interposed between the adjacent joint surfaces at the time they are joined together.

When the vertical and horizontal nailing flanges have been secured in place, the recessed abutments for the wall board, paint and prepositioned masking tape permits the tub and shower installation to be completed quickly and simply, in a minimum of time, with first-grade workmanship.

I claim:

1. A shower surround for a tub or shower base having a rim surface, comprising a substantially flat back panel having vertical edges spring-tensioned outwardly, side panels having one vertical edge engageable with the vertical spring-tensioned side edges of said back panel, to form a shower surround having a backwall and two adjoining sidewalls which are supported against movement relative to each other by means of said spring-tensioned side edges.

2. A shower surround having the features provided for in claim **1**, wherein an adhesive-receiving furrow is formed along and adjacent the vertically extending edges of each back panel, the furrows being opposed to the sidewalls to form a watertight seal therewith when the shower enclosure is assembled.

3. A shower surround as provided for in claim **1**, made from fiber glass wherein an inwardly extending foot is formed along the bottom edge of each panel, said foot being resilient and flexible to permit the bottom edge of the panel to deflect into contact with the rim surface of said tub or shower base to form a watertight joint between the tub and shower, and means for supporting the panels against upward movement relative to the tub after the extending feet have been pushed downwardly into contact with the tub.

4. A shower surround for a bathtub as provided for in claim **1**, wherein the upper horizontal edges of the side ends of the shower surround are provided with a nailing flange, having a separate abutment formed thereon against which wall-covering material is placed and a separate paint abutment formed therein having paint masking tape positioned adjacent thereto when installed to facilitate painting the wall surfaces overlapping the horizontal nailing flange.

5. A shower surround having the features provided for in claim **1**, wherein enlarged columns are formed at the outer vertical edges of the shower-surround end walls, the outermost edge terminating in a nailing tab for securing the outer edge of the surround to the walls of the bathroom.

6. A shower surround for a tub, having the features provided for in claim **1**, a waterproof sealant is placed between spring-tensioned edges of the back panel and the sidewalls adjoining the backwall to make a water and shearproof joint.

7. A shower surround having the features provided for in claim **3**, wherein the spring-tensioned edges of the sidewall acts as a latch and the edge of the sidewalls engaging therewith has formed therein latch-receiving indentations to form a locked joint between the end and sidewall panels.

8. A shower surround for a conventional bathtub, comprising a back side shower panel having side edges spring tensioned outwardly, end panels having inwardly spring-tensioned means formed along one edge of each end panel adjacent the vertically extending spring-tensioned side edges of said back panel to interlock with the side edges of said back side panel to form a shower enclosure conforming to the external configuration of the tub, a spring-tensioned foot flange formed at and along the bottom of said back and side panels and positioned to contact and conform with the surfaces of the tub rim when downward pressure is exerted on said back and side panels and means for maintaining said panels against vertical movement while holding said feet under tension.