

Sept. 16, 1947.

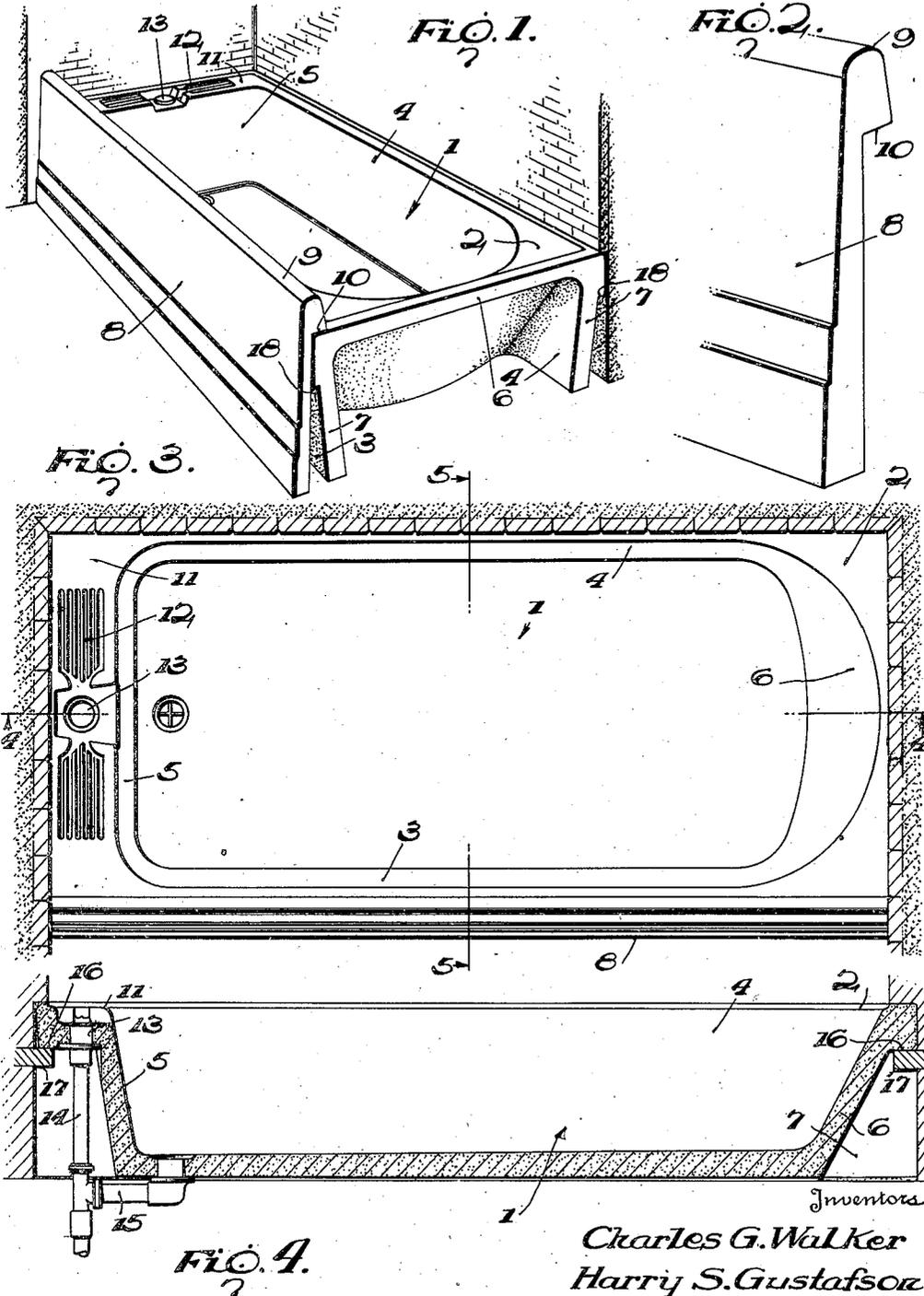
C. G. WALKER ET AL

2,427,375

BATHTUB CONSTRUCTION

Filed April 26, 1944

2 Sheets-Sheet 1



Inventors
Charles G. Walker
Harry S. Gustafson

By Albert H. Kichner
Attorney

Sept. 16, 1947.

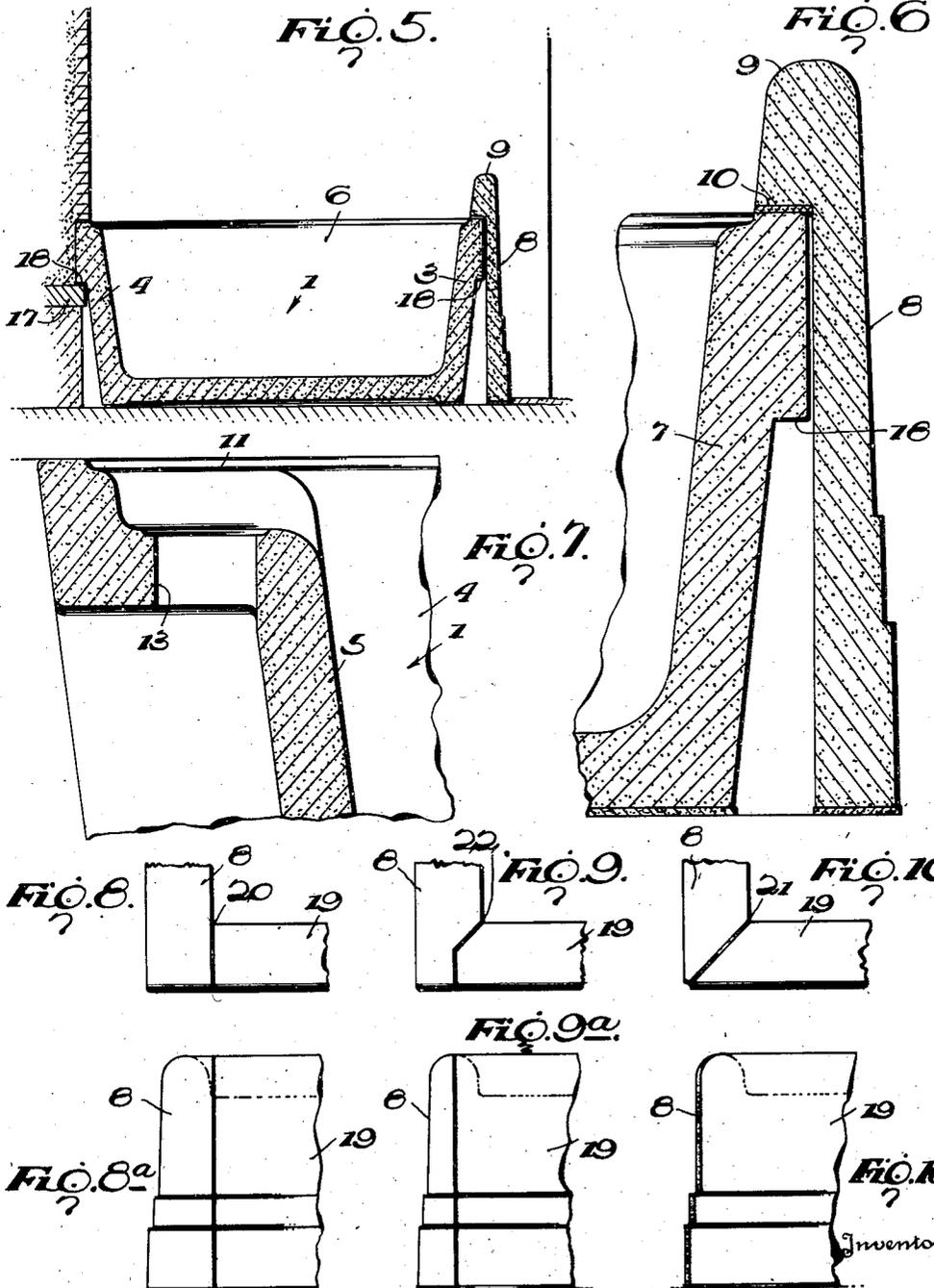
C. G. WALKER ET AL

2,427,375

BATHTUB CONSTRUCTION

Filed April 26, 1944

2 Sheets-Sheet 2



Charles G. Walker

Harry S. Gustafson

Albert H. Kirchner Attorney

UNITED STATES PATENT OFFICE

2,427,375

BATHTUB CONSTRUCTION

Charles G. Walker, College Park, Md., and Harry S. Gustafson, Chicago, Ill., assignors to Otto Buehner, Salt Lake City, Utah

Application April 26, 1944, Serial No. 532,806

6 Claims. (Cl. 4—173)

1

Our invention relates to the construction and installation of bathtubs.

A principal object of the invention is to effect considerable economies in the cost of production and installation without in any way sacrificing durability, appearance or utility.

A further important object is to provide a bathtub in a single design or model which will interchangeably fit either right-hand or left-hand plumbing connections, whereby the expense of manufacturing and stocking both right-hand and left-hand tubs is eliminated.

More specific objects of the invention are concerned with providing a bathtub construction comprising a tub proper of a single universal design which may be installed equally well in a 3-wall recess so that one side wall only of the tub will be exposed, in a 2-wall corner so that one side and one end wall will be exposed, against a single wall so that three walls of the tub will be exposed, or even against no wall at all so that all four walls of the tub will be exposed.

Further and more specific objects are concerned with the employment of low cost material and the reduction of the quantity of that material to a minimum consistent with the attainment of standard water depth in the tub.

Another object is to provide a tub which will fit interchangeably in any of the wall arrangements above enumerated without having any finished outer surface masked by any of the room walls, whereby the expense of finishing a surface which will not be exposed is eliminated.

A further object is to provide lug surfaces or their equivalent on a tub body so that the tub may be hung from wall cleats or the like regardless of the particular position in which the tub is installed or the specific relationship of room walls against which it may be positioned. A related object is to provide a finishing member or a plurality of finishing members for masking the outer wall or those outer walls and the lugs thereof which are not adjacent to or hung from the room walls, i. e., those walls of the tub which would otherwise be exposed.

Incidental advantages of the construction include the division of a bathtub installation into at least two parts, consisting of a tub proper and one or more finishing apron or skirt members, with the overflow outlet located at substantially the very top level of the tub proper and with the apron member cooperating with any room wall against which the tub may be positioned so as to enable an unprecedentedly low tub body to hold a surprisingly great depth of water. In

2

this way standard water depth is attained although the height of the tub and the quantity and weight of material are kept at a minimum.

Further desirable results from the making of the apron member detached from the tub body are economy of casting, since less complicated molds are required; increased ease of handling in transportation and installation, since the two elements or members of the combination need never be lifted or moved together; and elimination of that high degree of care in installation that would otherwise be necessary to avoid chipping or similar damage to an exposed surface of the tub body.

In general, the foregoing and other useful objects and advantages are attained by making the tub body of concrete or other economical material leaving all the outer surfaces of its walls unfinished, and covering the exposed outer wall or walls with a separate finishing apron. This apron, or a plurality of them if more than one outer wall is exposed, will preferably project somewhat above the level of the tub proper, so as to cooperate with those of the room walls against which other sides or ends of the tub are positioned, to make possible the use of a capacity depth of water in a tub of unusually low depth.

In all preferred embodiments of the invention each apron member is made attachable to either one of a pair of oppositely disposed walls of the tub body, and these two walls are made alike, as are also the other two walls of the generally rectangular tub body, so that a single design of tub may be suited to right hand or left hand plumbing.

These and other objects and advantages of the invention will be more evident as the following explanation of preferred embodiments of the invention proceeds.

In the accompanying drawings which illustrate certain preferred embodiments of the invention,

Figure 1 is a perspective view of a tub installed in a 3-wall recess, with one of the walls indicated as removed in order better to show the tub body end construction,

Fig. 2 is a detail perspective end view of an apron member used in the construction,

Fig. 3 is a cross-sectional view taken through the walls of the recess, showing the tub body and attached apron member in plan,

Fig. 4 is a longitudinal vertical cross-section taken on the line 4—4 of Fig. 3,

Fig. 5 is a transverse vertical cross-section taken on the line 5—5 of Fig. 3,

Fig. 6 is relatively enlarged vertical section taken through the associated apron member and wall of the tub body.

Fig. 7 is a detail vertical section through one end wall of the tub body, showing the overflow outlet,

Fig. 8, 9 and 10 are detail plan views of different types of joint which may be used to connect adjacent apron members in a tub constructed according to the present invention; and

Figs. 8a, 9a and 10a are elevational views, corresponding respectively to Figs. 8, 9 and 10.

The foregoing figures and the present explanation thereof are to be understood as disclosing preferred embodiments of the invention. The details of these embodiments may be modified within the broad scope of the invention as limited by the prior art and the express wording of the appended claims.

An important principle of the invention comprises dividing the entire tub construction into what may be called a tub proper or tub body and a separate finishing apron or a plurality of such aprons for the exposed wall or walls of the installation. The tub body is preferably made in a standard design and an apron is arranged to coact with either side of it. Similarly, end aprons may be provided to coact with either of the ends. Hence a single tub body may be arranged as shown in Fig. 1, or it may be turned completely around so as to connect with plumbing located at the opposite end. In that case, of course, the tub body side wall which in Fig. 1 abuts the room wall at the back of the recess would be exposed, in the position of the tub wall shown masked by the apron in Fig. 1, but this rearrangement is perfectly feasible since the two side walls of the tub body are identical and both cooperate interchangeably with the room wall and the apron. Similarly, the end walls are reversible, so to speak, and in those cases where an end apron is used with an end wall of the tub body, such body end walls are made to fit interchangeably a single apron.

The tub proper is a unitary body preferably formed as a single concrete casting of generally tub shape in so far as its cavity is concerned. The interior or cavity surface of the body, along with the exposed upper surfaces around the edges of the cavity, is suitably finished so as to be quite dense, water proof and smooth, but the bottom and outer surfaces of the body, all of which will be masked in installation, may be left quite rough and unfinished. The treatment of these surfaces forms no part of the present invention and may be accomplished by resort to practices and principles well known in the art of casting concrete.

The tub body is made with an upper perimeter that is substantially rectangular; that is to say, the top line of each of the edges is a substantially straight line and these lines meet in right angles at the corners of the body. Thus the body is adapted to fit a 3-wall recess in a room, or a 2-wall corner, or it may be abutted against a single wall with three of its walls exposed.

The cavity may be shaped according to usual practice with inner wall surfaces that slope inwardly and downwardly and with rounded corners merging into each other and with a bottom that merges into the side walls. All of this is shown in Figs. 1, 3, 4 and 5, from which it will be seen that a top ledge or shelf connects the cavity surfaces with the outer perimeter of the body.

Designating the interior cavity 1 and the sur-

rounding shelf or ledge generally 2, it will be observed that the tub body has, as positioned in Fig. 1, a front side wall 3, a rear side wall 4, a plumbing fixture end wall 5 and an opposite end wall 6. End wings 7 may be formed at each end in continuation of the side walls, and the extreme outer edges of these wings may be made more or less accurately vertical so as to fit more or less snugly against the room walls which define the recess, or if desired these wings may be eliminated, but it will be understood that in any case the upper edges of the end walls fit and abut the end recess walls.

The two side walls are made alike, and the two end walls are made alike so that the tub body can be reversed from the position shown in Fig. 1, as has been explained.

The reference numeral 8 designates a side apron member which is a single slab of concrete or the like which is adapted to be mounted on the floor of the room and to fit against and mask the exposed side wall of the tub body. The design of this apron member is such that it substantially engages at its ends, and is there secured to, the recess walls by any suitable type of mortar-filled joint.

According to preferred practice and as illustrated in the several figures, the complete tub is installed before the wall and floor facings, such as tile, are applied, and these facings are thereafter extended over the edges of the apron member and tub body, thereby finishing the joints and aiding in anchoring the parts together and to the walls.

The upper zone of the apron member 8 is provided with a thickened rim 9 which has an offset portion providing a downwardly facing shoulder 10 which overlies the adjacent margin of the upper surface of the tub body and is connected thereto by a caulked or mortar-filled joint. We find it desirable to form the upper surface of the tub body with a raised outer bead or seat contiguous to a slight inwardly and downwardly sloping area, so that the raised head or seat will be overlapped by the apron member and wall facing and the downwardly sloping surface will be continuous with the inwardly and downwardly sloping surface of the thickened upper edge portion 9 of the apron member.

In view of the mutual similarity of the two sides of the tub body and of the two ends thereof, it will be evident that the tub body can be installed for right hand or left hand plumbing connection, and that either of its side walls will fit the wall recess or receive and be masked by an apron member 8 which is attached to the exposed side edge of the tub body and is bonded into the end walls of the recess, with the joint between the tub body and apron tightly caulked.

One of the end walls of the body, designated 5 in the illustrated embodiment, is provided on its extreme upper surface with a horizontal shelf portion 11, in which may be formed one or more slight depressions 12 which act as soap trays. The center of the shelf 11 may be depressed slightly and centrally apertured in a vertical direction to provide an overflow outlet 13 to which is connected an overflow pipe 14 which extends down behind the end wall 5 and joins the usual drain pipe 15, under the floor surface.

An important feature of the invention in its preferred forms of embodiment resides in the fact that the level of the overflow opening 13 is practically as high as the level of the top of the tub body, while the upper edge of the apron

5

member 8 projects considerably above this level. Of course the maximum depth of water is determined by the level of the overflow opening 13. In conventional tubs this level is necessarily made considerably lower than the top of the tub, to provide a margin for splashing. In such tubs the safe water level must be made considerably below the top of the tub. In the present construction the safe water level is made substantially as high as the tub, and this is possible because a margin for splashing is provided by the height to which the apron member projects above the tub body. Those sides and/or ends of the tub body which are not provided with an apron member rely on the walls of the room recess to keep splashing water in the tub. We consider this an important feature of our invention.

As clearly appears in Fig. 4, each of the end walls 5, 6 is provided with a downwardly facing shoulder 15, both at the same level. Both are thus adapted to rest on a wall cleat or the like 17 and support the tub body or aid in supporting it, so that its weight is not imposed on the flooring or not entirely imposed on the flooring. These shoulders have exactly corresponding counterparts in the shoulders 18 formed on the outer side walls 3 and 4 of the tub, as best appears in Figs. 1 and 5, so that that one of the two side walls which is positioned adjacent a room wall may be supported by a cleat 17 projecting therefrom.

All of these shoulders, and what may be considered the lugs on which they are formed, are arranged so as not to interfere with the fit of any apron member which may be applied to the corresponding tub wall. Thus the lugs are formed around all sides of the tub body for use whenever a given installation locates the lugs against the wall of a room.

Figs. 1 and 2 show the tub construction as comprising a tub body for a single apron member, all installed in a 3-wall recess. The same tub body may be installed in a two-wall corner. In that case one end wall of the body will be exposed. We provide, for such an installation, an end apron member, designated 19 in Figs. 8, 9 and 10 for fitting against and masking the exposed end wall. This apron member is made exactly like the apron member 8 and abuts it in any suitable form of joint, being mortared or caulked to it in a water proof bond.

In Figs. 8 and 8a the two apron members are shown joined in an ordinary butt joint; in Figs. 10 and 10a a miter joint 21 is shown; while in Figs. 9 and 9a a combined miter and butt joint 22 is shown.

It will be obvious that, for installation against a single wall, two end apron members and one side apron member will be used, or perhaps two side apron members and one end apron member. Conceivably, for an installation completely detached from all the walls of the room, two end apron members and two side apron members would be used.

It is believed that the foregoing brief explanation of some of the principal features of the invention will sufficiently indicate how the main advantages of economy, utility and appearance are attained. We deem it necessary only to add that additional economy may be realized by such expedients as dispensing with or shortening the side wall end wings 7, inasmuch as it is essential only that the outer top perimeter of the tub body contact and be bonded to the recess

6

walls or the apron members. Of course the construction can be made in any height desired, but we have found that standard safe water depth can be had by making the body in an over-all height of twelve inches, with the apron member or members projecting three inches higher. These surprisingly reduced dimensions tend to compensate for the greater weight of thick concrete as compared with relatively thin cast iron, so that our construction is not objectionably heavy. Obviously also any desired kind of surface beading or other ornamentation can be incorporated in the apron members or tub body.

We claim:

1. In a bathtub construction, a trim for a tub of generally rectangular shape in plan comprising a unitary apron member formed as a single slab of cast material adapted to fit interchangeably against and be secured to either one of a pair of oppositely disposed walls of the tub and to constitute the outer wall of the bathtub construction, said apron member being higher than the tub and equal to the length of one of the tub walls and having an integral downwardly facing shoulder overlying and bonded in watertight relation to the top of said tub wall and having at each end a right-angular vertical end edge adapted substantially to engage and be bonded to the adjacent wall of a recess receiving said tub whereby the three walls of the recess and the portion of the apron member which projects above the tub cooperate to increase the safe water depth of the tub.

2. In a bathtub construction, a trim for a tub of generally rectangular shape in plan comprising a pair of apron members, each being a single slab of unitary construction, one being adapted to fit interchangeably against and be secured to either one of a pair of oppositely disposed side walls of the tub and to constitute the outer side wall of the bathtub construction, and the other being adapted to fit interchangeably against and be secured to either one of a pair of oppositely disposed end walls of the tub and to constitute the outer end wall of the bathtub construction, said apron members having their upper portions overlapping the tub and bonded thereto and being engaged with each other and bonded together at their adjacent edges and being engaged with and bonded to the walls of a room at their opposite edges.

3. A bathtub construction adapted to be installed against at least one wall of a room and adapted to provide maximum water depth for the height of the tub by employing said wall of the room to aid in retaining water in the tub, said construction comprising a tub body having a plurality of side and end walls all having their top outer edges positioned at the same horizontal level and having in one of said walls a horizontal ledge provided with an overflow outlet and having certain of said walls abutted against and sealed in watertight relation to at least one of the walls of the room, in combination with separate apron means abutted against each of the remaining walls of the tub body, each of said apron means projecting sufficiently above the level of the overflow outlet to provide a margin of safety for splashing water and having an upper portion projecting above the top of the adjacent wall of the tub body and provided with a downwardly facing shoulder directly bonded in waterproof relation to the top of said wall.

4. A bathtub construction adapted to be installed against a wall of a room comprising a body

of tub shape having a top outer edge which is rectangular and positioned in a single plane and having opposite walls each including an outer surface having a substantially vertical plane upper portion extending downwardly from the top outer edge of the tub body and having a downwardly facing shoulder at the bottom of said plane portion so that either of said walls may be engaged with a wall of the room, with the shoulder of said tub body wall resting on and supported by a cleat outstanding from said wall of the room, in combination with a separate apron member for masking the opposite wall of the tub body, said apron member being higher than the tub body and having a downwardly facing shoulder and below it a substantially vertical plane portion engaged respectively over the top outer edge of the tub body and with the vertical plane portion of the adjacent wall of the tub body, and a watertight bond between the top outer edge of the tub body and the downwardly facing shoulder of the apron member.

5. A bathtub construction in which a tub body is provided with a plurality of walls any of which may be installed against a wall of a room, said construction comprising a tub body having a plurality of walls each having at its top an upwardly facing shoulder and having on its exterior surface, spaced below the level of said shoulder, a downwardly facing shoulder, the downwardly facing shoulder of each of said walls being positioned at the same horizontal level, whereby the downwardly facing shoulder of any of said walls may be supported on a cleat outstanding from the wall of the room, and the upwardly facing shoulder of each of said walls being positioned at a common higher horizontal level, in combination with an apron member, separate from the tub body, having a downwardly facing shoulder positioned beneath its top edge, engageable over and adapted to be secured by a watertight bond to the upwardly facing shoulder of any of the tub body walls.

6. A bathtub construction adapted to be installed against a wall of a room comprising a tub body having opposite walls each having at its top an upwardly facing shoulder and having on its exterior surface, spaced below the level of said shoulder, a downwardly facing shoulder, the downwardly facing shoulders of the two walls being positioned at the same horizontal level, whereby the downwardly facing shoulder of either wall may be supported on a cleat outstanding from the wall of the room, and the upwardly facing shoulders of the two walls being positioned at a common higher horizontal level, in combination with an apron member, separate from the tub body, having a downwardly facing shoulder positioned beneath its top edge, engageable over and adapted to be secured by a watertight bond to the upwardly facing shoulder of either of the tub body walls.

CHARLES G. WALKER.
HARRY S. GUSTAFSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
95,633	Barrows	Oct. 12, 1869
2,087,183	Davock	July 13, 1937
2,102,082	Lucke	Dec. 14, 1937
2,094,782	Doherty	Oct. 5, 1937
2,333,491	Plante	Nov. 2, 1943

FOREIGN PATENTS

Number	Country	Date
6,623	Great Britain	June 1, 1885
27,525	Great Britain	Dec. 18, 1908
251,289	Great Britain	July 29, 1926