

Nov. 24, 1964

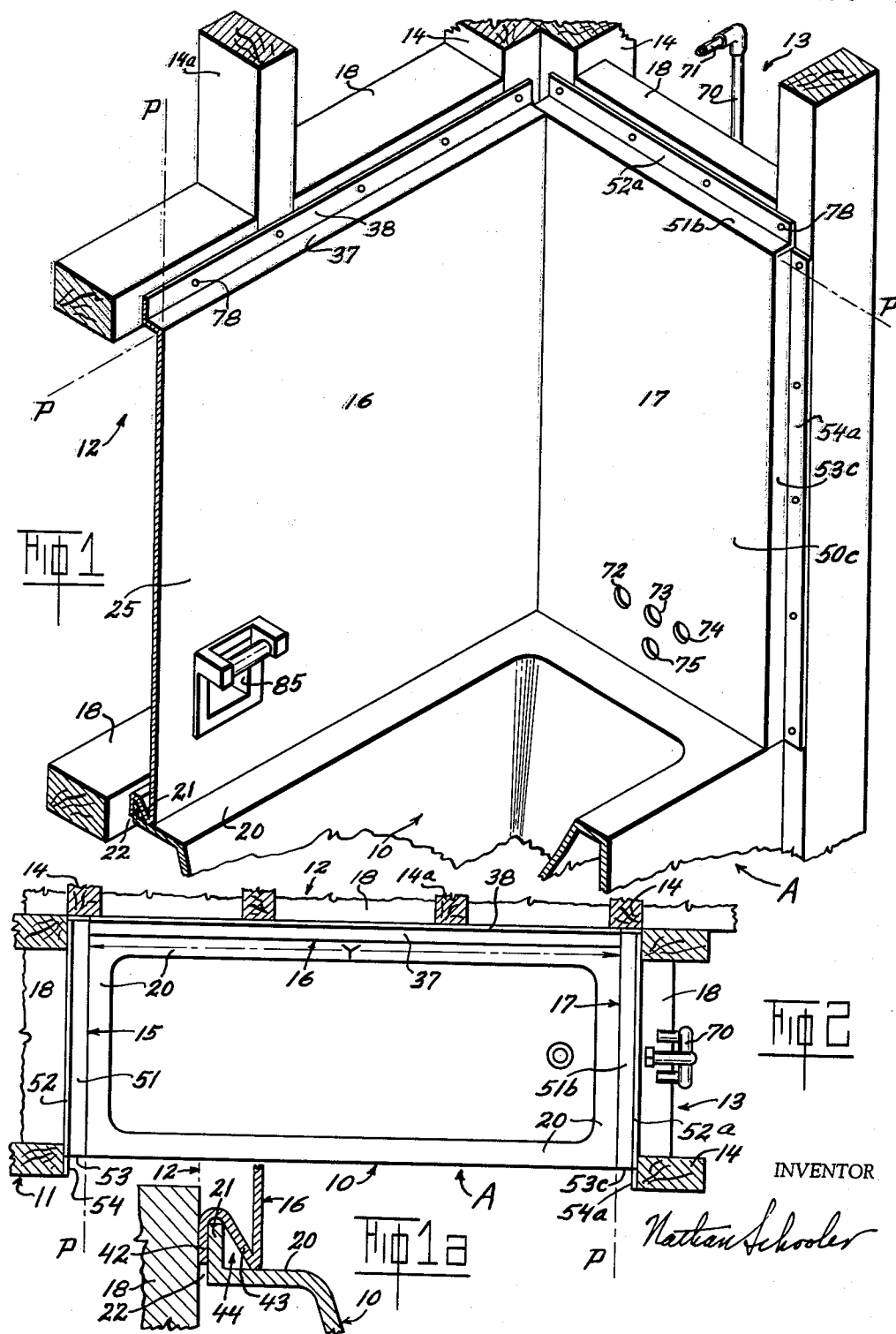
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METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

Filed Feb. 26, 1962

5 Sheets-Sheet 1



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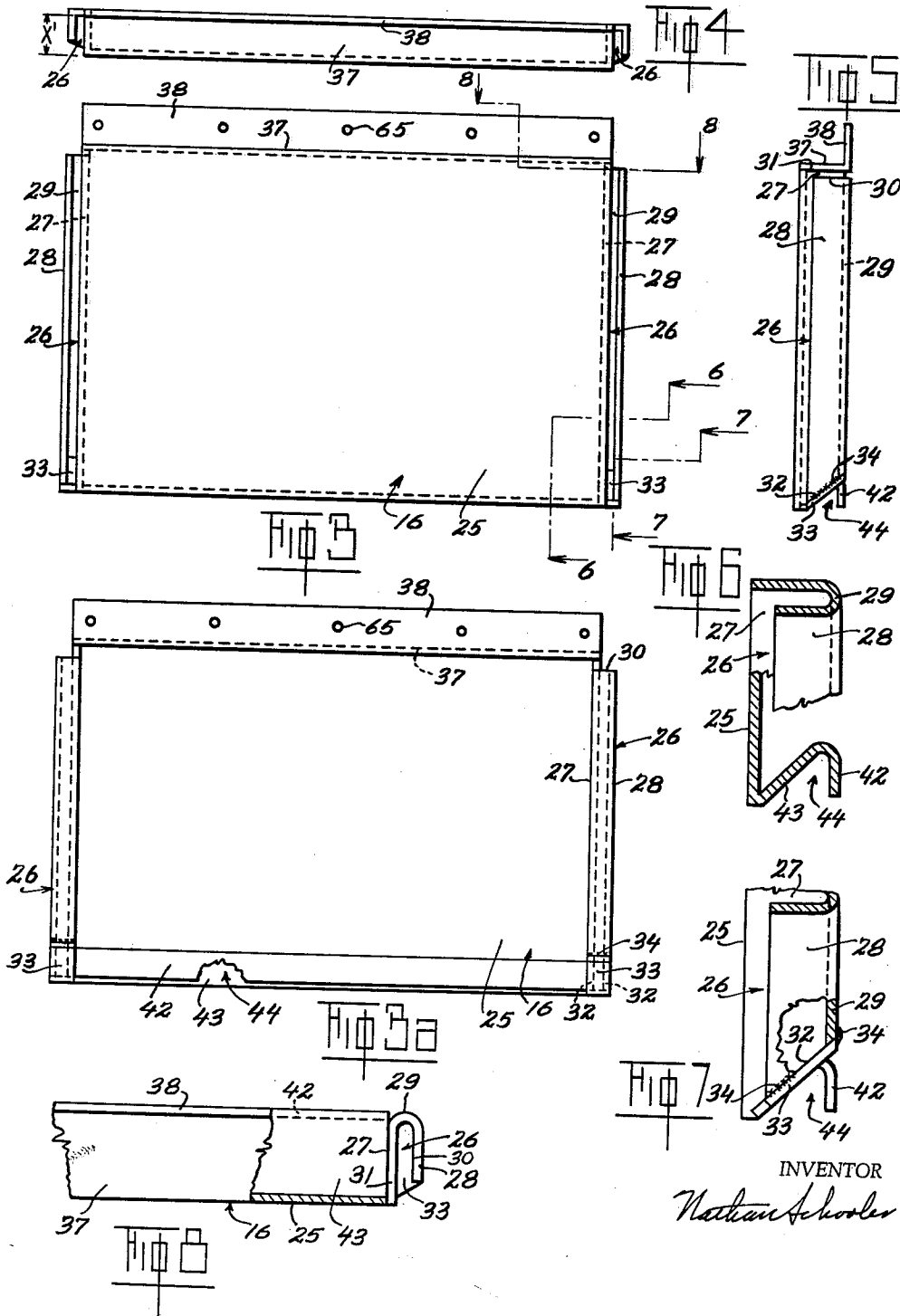
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METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

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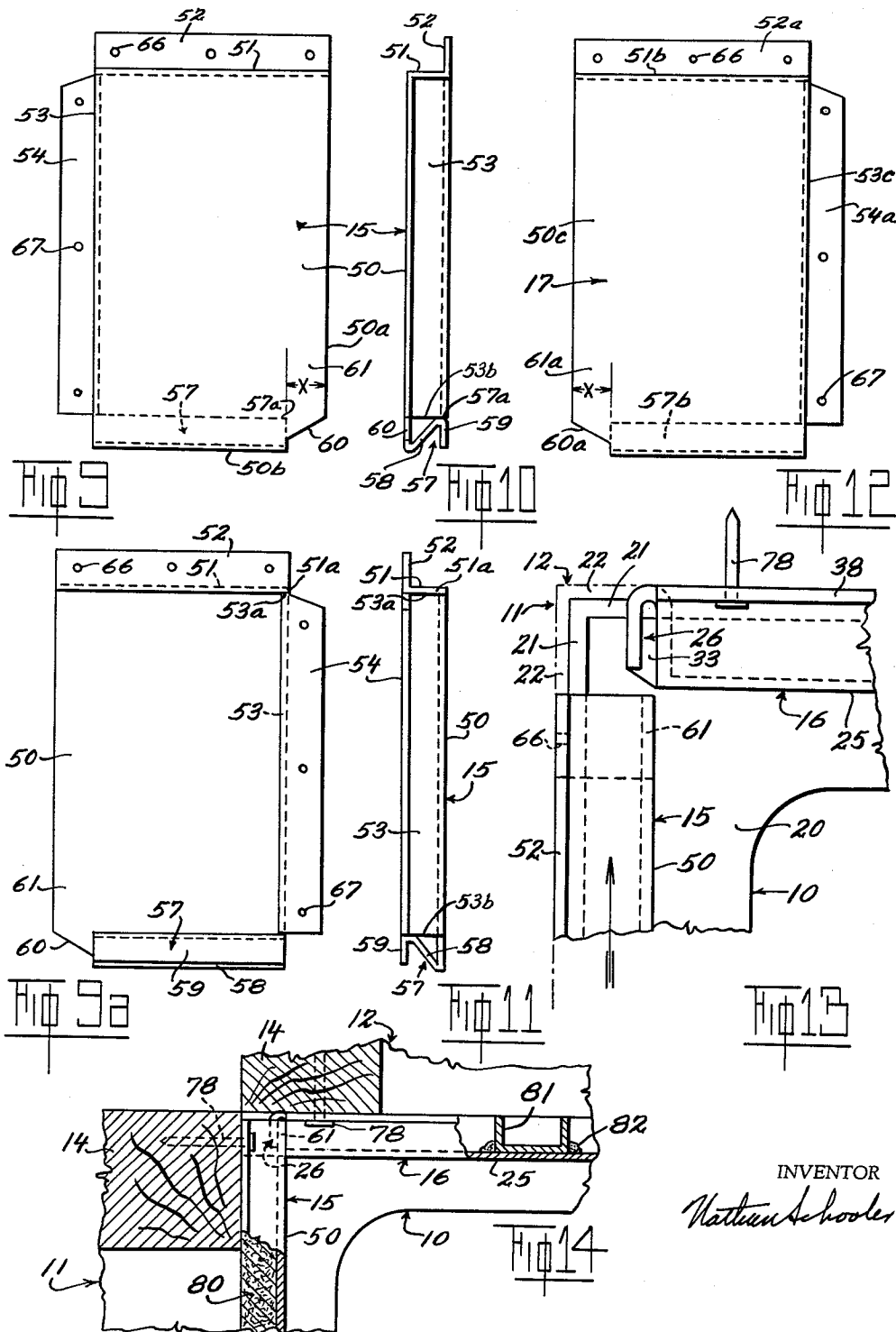
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METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

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5 Sheets-Sheet 3



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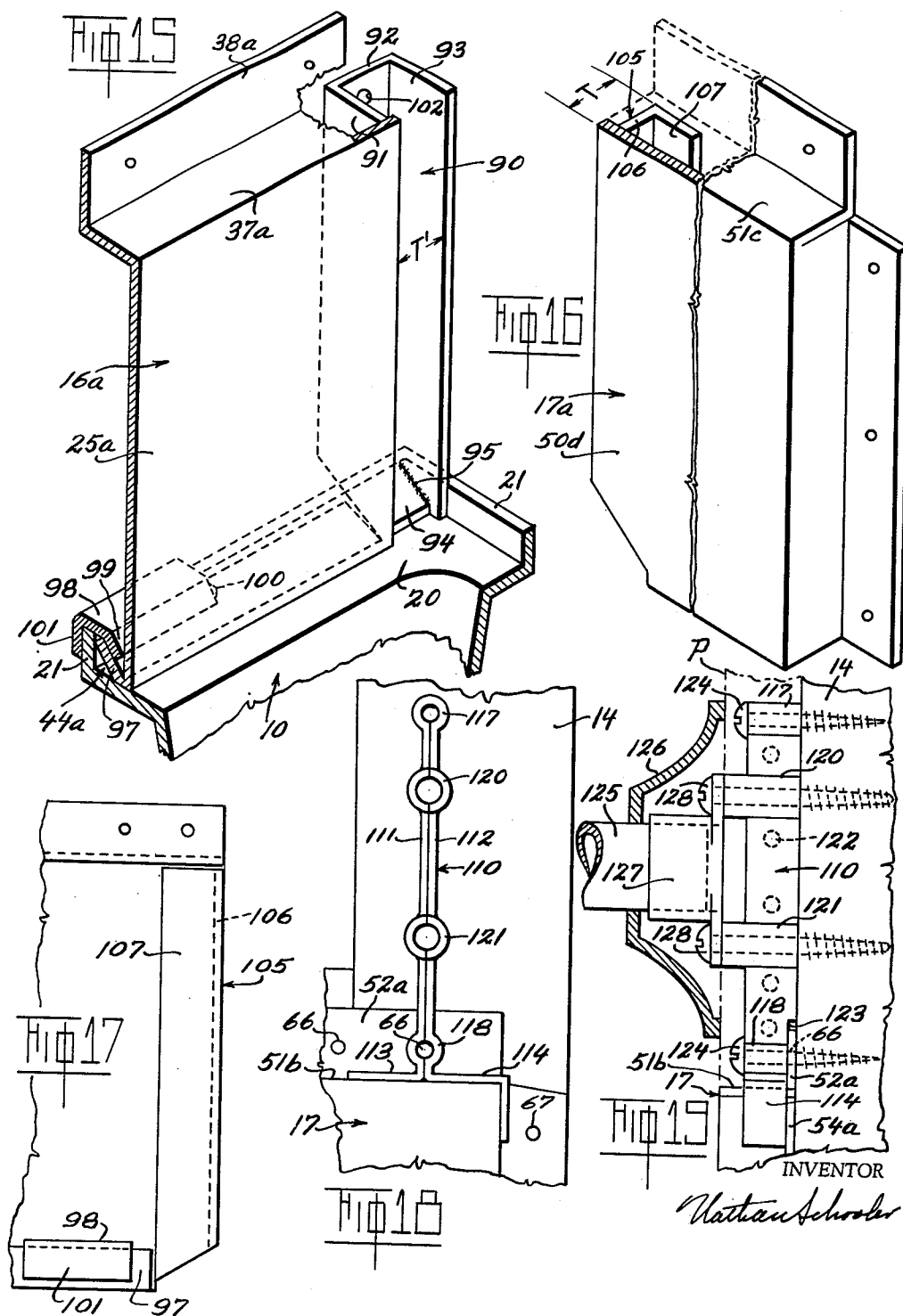
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METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

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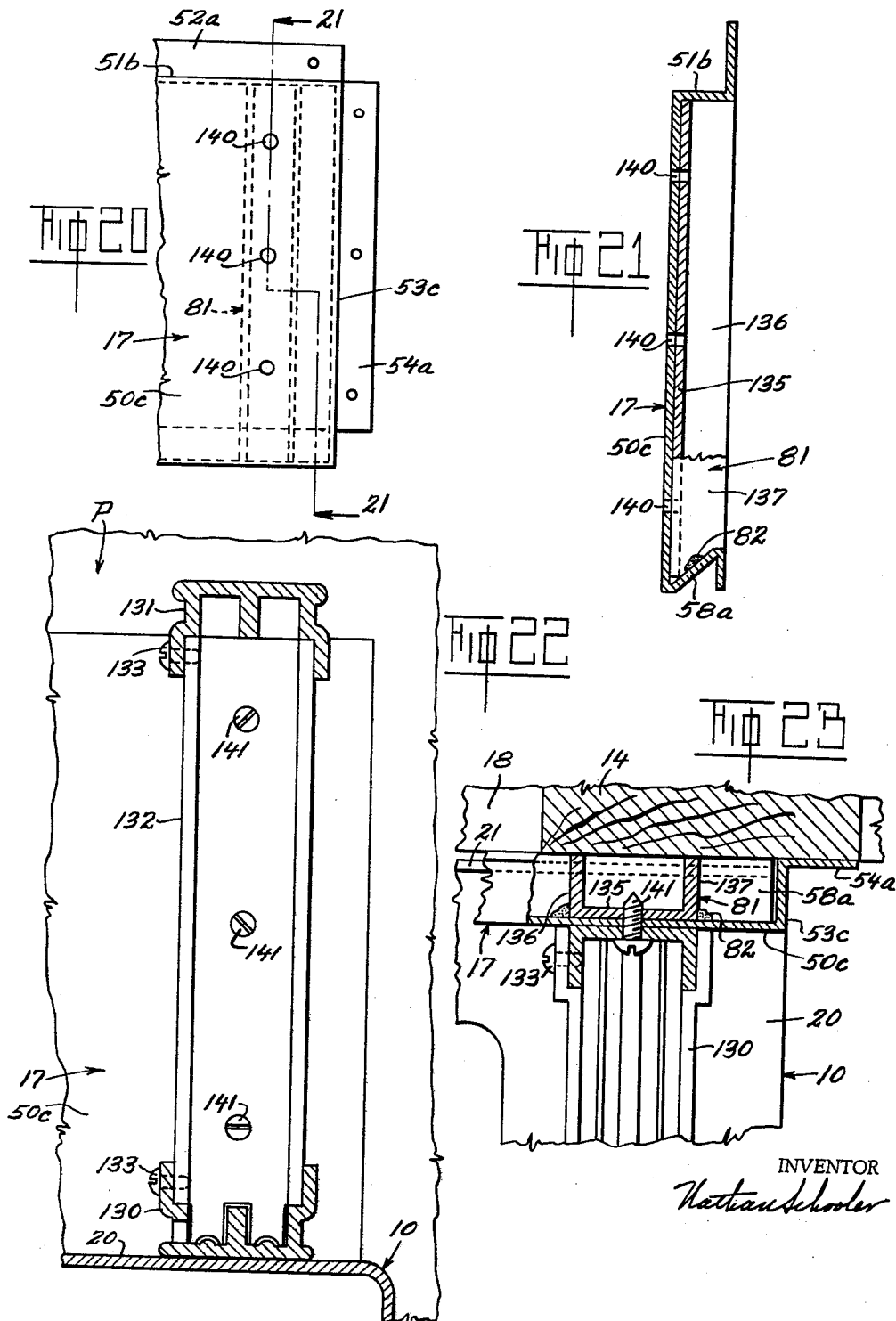
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METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

Filed Feb. 26, 1962

5 Sheets-Sheet 5



METAL PANEL WALL CONSTRUCTION FOR A BATHTUB COMPARTMENT

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19 Claims. (Cl. 189-85)

This invention relates to a metal panel wall construction for a bathtub compartment of the well known type commonly provided in the bath rooms of homes, hotels and motels.

Heretofore in the conventional bath room construction such as in homes it has been the customary practice to tile the walls of the bathtub compartment in order to provide a permanent waterproof and washable wall surface. These characteristics are in fact necessary requisites for the enclosing walls of the bathtub compartment and therefore these walls have been tiled as standard practice irrespective of whether or not the walls of the bath room proper exterior of the bathtub compartment are tiled. It is also well established that to cover the walls of a bathtub compartment with tile involves considerable expense, both in labor and material charges, and requires the services of a tile setter who is a highly skilled artisan. This is a factor of considerable significance in the cost of constructing a house and of prime concern to both the builder and the purchaser.

It is accordingly the primary object of this invention to reduce the cost of construction of a bath room by providing in lieu of the standard tiled wall surface of a bathtub compartment, a metal panel wall construction designed to be applied directly to the roughed-in wall structure prior to plastering, which can be done by any workman and requiring no special skill nor tools.

To this end it is a further object of this invention to provide a prefabricated metal panel wall construction formed in three separate wall sections designed to provide the finished opposite end wall surfaces and the back side wall surface of a bathtub compartment, and so constructed as to interlock with each other and with the rim of the bathtub to provide a connection therebetween that will not permit water to pass therethrough into the interior of the compartment walls.

Another object of this invention contemplates that the three separate panel wall sections are to be structurally dimensioned and formed for specific use with a bathtub of the well known type commonly provided in home construction which is provided with an upstanding lip formed on the edge of the rim of the bathtub along the three wall enclosing sides thereof. As this type of bathtub is exceedingly well known and is generally used in low and medium priced home construction the metal panel wall sections can be mass produced, thereby effecting economy in manufacture and further by virtue of its ease and simplicity of attachment will together contribute greatly to the reduction in the cost of construction of the bathtub compartment.

It is an additional object of this invention to provide each of the opposite vertical ends of the back side wall panel wall section with a groove or channel formation closed at its lowermost end with an inclined drain plate, and the inside vertical end of each of the panel end wall sections with a tongue formation designed to snugly fit within an adjacent groove or channel formation of the back wall section in the assembled relation of the panel sections so as to form a connected interlocking corner construction that will hold the panels together as well as prevent the passage of water into the interior of the bathtub compartment walls and which will drain any water entering the groove or channel formation back into the bathtub.

A still further object of this invention is to provide on the lower horizontal end of each of the three panel wall sections a connection that serves to seat the lower edge of each panel wall section directly on its corresponding bathtub rim surface, which will hold the same immovably with respect thereto by engagement with the terminal lip that is formed on the bathtub rim and which will prevent the seepage of water therethrough.

Another object of this invention relates to the utilization of either stainless steel or other metal or metal alloy for the panel sections which in themselves provide the finished exterior surface or the same may be formed of sheet metal provided on its exterior faces with any desired surface coating and/or design and of any desired color and/or color arrangement.

It is also an object of this invention to selectively provide each of the panel end wall sections adjacent each of the outer vertical ends thereof with a support construction that will permit the mounting of a sliding shower door installation between said panel end walls or with a support bracket to mount the ends of a shower curtain rod.

Still another object of this invention relates to a method of mounting a finished wall surface to the roughed-in wall structure of a three walled bathtub compartment by the utilization of three metal panel wall sections that interlock with each other and with the rim of a bathtub provided in said compartment.

These and other objects, features and advantages will be apparent from the annexed specification considered in the light of the drawings forming a part of this application and in which:

FIG. 1 is a perspective view of a portion of a bathtub compartment showing details of the metal panels mounted on the bathtub and the roughed-in wall structure.

FIG. 1a is a detail sectional view of the locking and seating engagement of a metal panel on the bathtub rim.

FIG. 2 is a plan view of the entire bathtub compartment showing the metal panels in relation to the bathtub and roughed-in wall structure.

FIG. 3 is a front elevational view of the longitudinal side panel.

FIG. 3a is a rear elevational view of part of the longitudinal side panel.

FIG. 4 is a plan view of the top of the longitudinal side panel.

FIG. 5 is an elevational view of an end of the longitudinal side panel.

FIGS. 6, 7 and 8 are detail sectional views of the longitudinal side panel taken respectively on lines 6-6, 7-7 and 8-8 of FIG. 3.

FIG. 9 is a front elevational view of the left end panel.

FIG. 9a is a rear elevational view of the left end panel.

FIG. 10 is an elevational view of the right side of the left end panel of FIG. 9.

FIG. 11 is an elevational view of the left side of the left end panel of FIG. 9.

FIG. 12 is a front elevational view of the right end panel.

FIG. 13 is a detail plan view illustrating the manner of assembly of the left end panel with the longitudinal side panel in position on the bathtub and the roughed-in wall structure.

FIG. 14 is a detail plan view illustrating the assembled interconnection of the left end panel with the longitudinal side panel.

FIG. 15 is a perspective view of a modified form of longitudinal side panel positioned on a bathtub.

FIG. 16 is a perspective view of a modified form of right end panel for mating with the longitudinal side panel of FIG. 15.

FIG. 17 is a rear elevational view of the right end panel of FIG. 16.

FIG. 18 is a front elevational view of a shower curtain rod support illustrated in attached relation to a right end panel and the roughed-in wall structure.

FIG. 19 is a side elevational view of the curtain rod support of FIG. 18, showing the attachment of the curtain rod thereto.

FIG. 20 is an elevational view of a right end panel provided with structure for mounting a shower sliding door installation thereon.

FIG. 21 is a sectional view taken on line 21—21 of FIG. 20.

FIG. 22 is a detail plan view partly in section showing portions of a shower sliding door installation attached to the right end panel and to the bathtub.

FIG. 23 is a detail elevational view partly in section showing portions of a shower sliding door installation attached to the right end panel and to the bathtub.

Similar numerals refer to similar parts throughout the several views in the drawings.

The bathtub compartment to which the invention pertains is of the usual construction found in bath rooms of conventional design wherein, see FIGS. 1 and 2, a bathtub 10, of rectangular shape is positioned in fitted relation to surrounding roughed-in walls 11, 12 and 13 to define the compartment A. The roughed-in walls are constructed in the normal manner, as for example, of 2 x 4 vertical studs 14 and horizontal cross braces 18. It is the usual practice after the bathtub has been set and secured in place that the surrounding walls are tiled and plastered to provide a finished wall surface. In lieu of the tiled walls it is the purpose of this invention to provide metal panel walls 15, 16 and 17.

Viewing FIGS. 1 and 2, the metal panel walls of the compartment A are designated as follows: the panel 15 is the left end panel, the panel 16 is the longitudinal side panel and the panel 17 is the right end panel.

Further viewing FIGS. 1, 13 and 15, it is seen that the bathtub 10 is of well known design, rectangular in shape and having a continuous top flat rim 20 which is provided along its terminal edge with a continuous upstanding lip 21 that extends the full length of each of the opposed transverse ends and the rear longitudinal side of the bathtub.

In setting and securing the bathtub 10 in place and in the construction of the roughed-in wall there is provided a slight clearance or space 22, see FIG. 1, between the lip 21 and the elements of the roughed-in wall, the purpose of which will be hereinafter explained.

The three metal panel walls 15, 16 and 17 are shaped and dimensioned for use with the particular bathtub 10 and the roughed-in compartment walls 11, 12 and 13 which surround the bathtub, the studs 14 and cross braces 18 being positioned relative to the bathtub 10 and to each other to accommodate the metal panels as will be hereinafter described.

Longitudinal Side Panel

The longitudinal side panel 16 is formed in one piece from sheet metal of a suitable gauge to provide a flat exterior wall 25 rectangular in shape. Along each vertical edge of the longitudinal side panel 16 there is formed a locking and drain groove 26 consisting of an inside wall 27 bent rearwardly from the panel wall 25, see FIG. 8, and an outside wall 28 bent forwardly and in parallel spaced relation to the inside wall 27 to form a channel that opens to the front and is closed at the rear by the web 29. The length of the groove from top to bottom is made slightly less than the height of the panel wall 25. The upper edge 30 of the outside wall is slightly below the upper edge 31 of the inside wall, see FIG. 5, and the lower edges of both walls incline upwardly and rearwardly as at 32. A drain plate 33 is fitted to span the lower

edges 32 and is welded to the groove walls 27, 28 as at 34 throughout their entire extent of contact with the drain plate 33 to provide a positive water tight connection. Preferably the width of the outside wall 28 is made less than the width of the inside wall 27 for a purpose to be hereinafter described.

Along the upper horizontal edge of the longitudinal side panel 16 there is provided a bent over shelf 37 extending normal to the plane of the panel wall 25 and rearwardly therefrom, the shelf 37 terminating in an upstanding attaching flange 38 and both extending the full length of the panel wall 25, see FIG. 3. Viewing FIGS. 4 and 5 it will be seen that the transverse edge portions of the shelf 37 engage the edges 31 of the inside walls 27 of the groove.

At the lower horizontal edge of the longitudinal side panel 16 there is provided a positioning flange 42 that extends downwardly from the outermost terminal end of a seat 43 bent inwardly from the panel wall 25 and inclined upwardly at an angle corresponding to the inclination of the inclined lower edges 32 of the locking groove walls 27, 28, see FIGS. 6 and 7. Both the flange 42 and seat 43 extend the full length of the panel wall 25 and together define a pocket 44 that is adapted to fit over and receive the lip 21 on the bathtub rim 20, as shown in FIG. 1.

The dimensions of the shelf 31, locking and drainage grooves 26 and pocket 44 are such that the respective attaching flange 38, webs 29 and positioning flange 42 will all lie in a common plane parallel to the plane of the panel wall 25, see FIGS. 1, 2 and 5, with the space therebetween and particularly the depth of shelf 37 being equal to that of the normal thickness of a plastered wall. Other dimensions of the longitudinal side panel 16 will be set forth with relation to the left and right end panels 15 and 17.

Left and Right End Panels

The left end panel 15, see FIG. 9, is formed in one piece from sheet metal of the same suitable gauge as that of the longitudinal side panel 16 to provide a flat exterior wall 50 rectangular in shape. At the top edge of the panel 15 there is formed a rearwardly bent shelf 51 which terminates in an upstanding attaching flange 52. Along the left vertical edge of the panel 15 there is formed a rearwardly bent closure wall 53 terminating in an outwardly extending attaching flange 54. At the lower horizontal edge of the panel 15 there is provided a pocket 57, identical in all respects to shape and dimensions to the pocket 44 of the longitudinal side panel 16, and defined by the seat 58 bent inwardly from the lower edge of the panel wall 50 and inclined upwardly and terminating in a downwardly extending positioning flange 59. The left transverse edge 51a of the shelf 51 engages the top transverse edge 53a of the closure wall 53, see FIGS. 9a and 11, both the shelf 51 and closure wall 53 lying normal to the plane of the panel wall 50. The bottom transverse edge 53b of the closure wall 53 is positioned to engage the juncture of the seat 58 with the positioning flange 59 of the pocket 57, see FIGS. 10 and 11. Viewing FIG. 9 it will be seen that the pocket 57 extends from the left end side of the panel 15 as defined by the closure wall 53 to a point indicated by the distance X from the right end edge 50a of the panel 15, and the lower corner of the right end side of the panel 15 is cut away to define the inclined edge 60 that extends downwardly from the edge 50a at a point in line with the juncture 57a to a point slightly above the bottom edge 50b of the panel wall 50. As with the longitudinal side panel 16, the dimensions of the shelf 51, closure wall 53 and pocket 57 of the left end panel 15 are such that the respective attaching flanges 52, 54 and positioning flange 59 will all lie in a common plane parallel to the panel wall 50, see FIGS. 10 and 11, with the space therebetween and particularly the depth of shelf 51 and closure wall

53 being equal to the depth of shelf 37 as in the longitudinal side panel 16.

The right end panel 17, see FIG. 12, is similar in all respects to the left end panel 15 except that it is allochirally formed with respect thereto, and thus includes a panel wall 50c having a shelf 51b with attaching flange 52a, a closure wall 53c with attaching flange 54a and a pocket 57b with seat and positioning flange (not shown).

The vertical end portions defined by the distance X on the panel walls 50 and 50c constitute in effect tongues 61 and 61a, respectively, which are adapted to project and fit within the grooves 26 of the longitudinal side panel 16 and thus the depth of said grooves 26 is made equal to the distance X' (width of tongues) as shown in FIGS. 4 and 5, while the space between the inner wall 27 and the outer wall 28 of each groove is made substantially equal to the gauge thickness of the panels such that the tongues may be slid thereinto with a snug fit as will be hereinafter described, and with the bottom inclined edge 60, 60a of the respective tongues adapted to seat on the inclined drain plates 33.

The panel walls 25, 50 and 50c are of uniform height corresponding to the normal height of a tiled wall in a bathtub compartment. The width of the left and right end panel walls 50 and 50c is substantially equal to the width of the bathtub 10 such that when the panels 15 and 17 are placed in position and secured to the roughed-in walls, the closure walls 53, 53c will lie in the plane of the front of the bathtub 10 as shown in FIGS. 1 and 2. The longitudinal side panel 16 is made of a length equal to the distance between the lips on opposite ends of the bathtub 10 minus the combined depth of both end panels 15 and 17, as indicated by the distance Y, FIG. 2. Provided in the attaching flange 38 of the longitudinal side panel 16 is a row of openings 65 for the reception of fastener elements such as nails or screws. Similar rows of openings 66 and 67 are provided in the attaching flanges 52, 52a and 54, 54a of the left and right end panels 15 and 17, respectively.

The Bathtub Compartment

In constructing the bathtub compartment A, the roughed-in walls 11, 12 and 13 are made up, as is customary, of vertical studs interconnected by cross-braces. In order to accommodate the use of the metal panel walls 15, 16 and 17 it is necessary that the studs and cross-braces be located to provide attaching surfaces for the attaching flanges of the metal panels. Thus, referring to FIGS. 1 and 2 it will be seen that there are studs 14 disposed at the corners of the bathtub and that the cross-braces 18 bridge the studs at a lower level corresponding to the location of the lip 21 of the bathtub 10 and at a higher level corresponding to the height of the horizontal attaching flanges of said panels. Disposed in the roughed-in wall 12 are intermediate studs 14a. Along the zone of the lip 21 of the bathtub 10 there is provided a slight clearance 22 between the lip 21 and the adjacent surfaces of the cross-braces 18 and studs 14.

Disposed in the roughed-in wall 13 prior to installation of the metal panel walls is the conventional pipe assembly connections 70 for the shower head, valves and bathtub faucet for the supply of hot and cold water. Also included are the requisite drain connections to the bathtub proper (not shown). As will be seen in FIG. 1, the shower head connection 71 extends above the top of the right end panel 17. At the lower portion of the panel wall 50c there are provided openings 72, 73, 74 for the valve handle fittings and the opening 75 for the bathtub faucet, which openings are so located in the manufacture of the panel 17 as to be in registry with the corresponding outlets of the pipe assembly.

Mounting and Assembly of Panels

The metal panel walls 15, 16 and 17 are positioned and

secured to the roughed-in walls 11, 12 and 13 and to the bathtub 10 in the following manner:

First, the longitudinal side panel 16 is placed accurately on the rear longitudinal portion of the rim 20 to position the locking and drain grooves 26 at each vertical end thereof equally spaced from the adjacent transverse lip portion 21, with the positioning flange 42 of the pocket 44 projecting downwardly into the clearance 22 between the longitudinal lip portion 21 and the roughed-in wall 12, see FIGS. 1, 1a and 13, such that the lip portion 21 will completely extend into the pocket 44 and with the front of seat 43 in direct contact with the surface of the rim 20, as clearly shown in FIG. 1a. The clearance 22 is such as to provide a snug fit of the positioning flange 42 therein so as to preclude any fore and aft movement of the panel 16. When so positioned, the longitudinal side panel 16 will have its attaching flange 38 in contact with the studs 14, 14a and the upper level cross-braces 18 and is then secured thereto by fastening elements such as nails or screws 78 inserted through openings 65.

Secondly, the left end panel 15 is initially positioned on the corresponding transverse portion of the rim 20 with its right end portion including tongue 61 spaced from the adjacent groove 26 of the longitudinal side panel 16 so that the lip 21 will extend into pocket 57 and the positioning flange 59 will project into the clearance 22 between the lip 21 and the roughed-in wall 11 to place the forward portion of seat 58 in direct contact with the surface of rim 20. This may be effected by simply sliding the left end panel 15 over the rim 20 and lip 21 in the direction of the arrow, see FIG. 13. When thus properly related to the rim and lip of the bathtub 10 the left end panel 15 is placed in permanent position by further movement in the direction of the arrow such that the tongue 61 completely enters the locking groove 26 with a friction fit thus providing the completed corner connection as shown in FIG. 14 whereby the panel walls 25 and 50 will tightly abut each other at right angles. The clearance 22, here again, is such as to provide a snug fit of the positioning flange 59 therein so as to preclude fore and aft movement of the panel 15. Lastly the attaching flanges 52 and 54 are permanently secured to the studs 14 and cross-braces 18 of roughed-in wall 11 by nails or screws 78 inserted through openings 66 and 67.

Thirdly, in the same manner as described above with reference to the placement of the left end panel 15, the right end panel 17 is identically connected to the bathtub rim and lip and to the groove 26 on the right side of the longitudinal side panel 16, and the attaching flanges 52a and 54a of the right end panel 17 are similarly secured to the studs 14 and cross-braces 18 of roughed-in wall 13 by fastening elements 78.

As previously pointed out, the closure walls 53 and 53c at the outermost vertical edge of each of the left and right end panels 15 and 17, respectively, will lie in the plane of the front surface of the bathtub 10, as clearly shown in FIG. 2.

It is obvious that this mode of mounting the metal panels 15, 16 and 17 is quick and requires no special skill, and will result in a finished wall surface for the bathtub compartment of great strength, durability, watertightness and beauty. The abutting interlocking connection of the tongues 61, 61a in the grooves 26 is watertight to the extent that any water that may seep into the grooves 26 will flow downwardly in the groove and drain outwardly along the bottom drain plate 33 onto the rim of the bathtub and inwardly of the lip 21. By virtue of the friction fit of the tongues 61, 61a in the grooves 26 and the draining construction thereof as well as the seating construction of the lip 21 in the pockets 44 and 57, a positive watertight connection between the panels and bathtub is thus provided, with the panels immovable with relation to the bathtub. Any water that may seep past the seat and/or bottom edge of the panels will be precluded by the

lip 21 from entry into the surrounding wall structure and will drain back onto the rim.

Other Features of Construction

It is to be understood that the panel walls of the sheet metal panels 15, 16 and 17 may be exteriorly coated with any desired coating medium to provide any desired color effect or design. The panel walls may also be embossed to simulate any tile, mosaic or ornamental effect and appropriately colored. The sheet metal panels 15, 16 and 17 may also be made of stainless steel, aluminum, etc., to provide an uncoated metallic surface. Preferably the interior surfaces of the metal panels are coated with a rust preventative.

If desired the interior space within each of the metal panels 15, 16 and 17, between the panel wall and the opposed roughed-in wall may be filled with any desired form of filler 80, see FIG. 14, of any desired material to buttress the panel walls against deflection as well as for sound deadening purposes and/or insulation. In lieu of a filler the panel walls may be buttressed by vertical reinforcing members 81, see FIG. 14, arranged in spaced relation within the interior space of each panel and permanently secured to the interior surface portions by welding as at 82.

Accessories such as hand holds, towel bars, etc., may be secured to the panel walls, and in FIG. 1 there is shown a soap tray 85 fitted and secured to the longitudinal side panel 16 in any desired manner.

With the panels 15, 16 and 17 secured in place the remaining wall surface of the bathtub compartment A as well as the bath room proper may be plastered in the conventional manner, the plaster extending from the shelf portions 51, 37 and 51b of the panels upwardly as well as from the closure walls 53, 53c, see FIGS. 1 and 2, with the finished surface of the plastered walls being coextensive with the plane of the panel walls, see finished wall line P, FIG. 2.

Modified Panel Groove and Tongue Construction

In FIGS. 15, 16 and 17 there is shown a modified form of locking and drainage groove and tongue connection for the metal panels.

Thus, the longitudinal side panel 16a is shown positioned in place on the rim 20 of a bathtub 10, the rim having the upstanding lip 21. Identical locking grooves 90 are formed at each of the vertical sides of the panel 16a. Each groove 90 is integrally formed of an inner wall 91 right angularly bent from the panel wall 25a, a web or back wall 92 and an outer wall 93 to define a substantially wide channel that opens forwardly. The top edge of the inner wall directly underlies the right edge of shelf 37a and is of a depth corresponding to the depth of shelf 37a such that the back wall 92 will lie in the plane of the attaching flange 38a. The outer wall 93 is parallel to inner wall 91 and of substantially the same depth. The lower ends of both inner and outer walls 91, 93 are inclined upwardly and rearwardly and are bridged by a drain plate 94 which is welded to the channel walls throughout the entire extent of contact therewith as at 95 to form a watertight connection. Openings 102 are provided in the web or back wall 92 to receive fastening elements for securing the locking groove 90 to the roughed-in wall.

The lower edge of the panel 16a is formed with an inturned upwardly inclined seat 97 that extends between the channel inner walls 91. Along the seat 97, at spaced intervals, there are provided clips 98 of inverted U-form having their inner legs 99 welded to the inside of the seat as at 100, and the outer legs 101 formed to lie in a vertical plane parallel to the panel wall 25a; the outer leg 101 and the seat 97 forming a pocket 44a, similar to pocket 44, FIG. 1a, for the reception of the bathtub lip 21. The outer leg 101 constitutes a positioning flange and is adapted to fit in the clearance 22 between the lip

and the roughed-in wall 12, see FIG. 1a, in the same manner as the positioning flange 42 of the longitudinal side panel 16. The entire length of the longitudinal side panel 16a is such that when positioned in place on the lip and rim of the bathtub 10, the outer walls 93 of the locking grooves 90 will engage the inside faces of the transverse lips 21, See FIG. 15.

FIG. 16 shows the right end panel 17a that is similar to the right end panel 17 except as to the pocket, seat and positioning flange construction which is identical with that of the panel 16a, FIGS. 15 and 17, and in the tongue formation. In the modified form of right end panel 17a, the tongue 105 is integrally formed of a leading wall 106 bent inwardly at right angles from the panel wall 50d and a trailing wall 107 parallel to the panel wall 50d. The distance T between the exterior surfaces of the panel wall 50d and the trailing wall 107 is substantially equal to the distance T' between the inside faces of the inner and outer side walls 91, 93 of the locking groove 90. The upper edge of the tongue walls 106, 107 underlie the shelf 51c, and the lower end of the trailing wall 107 and the opposite corresponding portion of the panel wall 50d is inclined upwardly and outwardly, see FIGS. 16 and 17, to be complementary to the inclination of the drain plate 94.

The left end panel (not shown) is allochirally formed with relation to the right end panel 17a and is correspondingly dimensioned.

The manner of assembly of the end panels with the longitudinal side panel 16a is the same as set forth above with reference to the panels 15, 16 and 17, with the tongue 105 of an end panel snugly fitted within the locking groove 90. Any water that may seep into the locking groove 90 will drain down onto the drain plate 94 to be discharged on the rim of the bathtub, the connection being such as to preclude any water from leaking into the roughed-in wall.

Shower Curtain Rod Installation

To provide a quick attachment of a shower curtain rod there is provided a bracket 110, see FIGS. 18 and 19, adapted to be fitted and positioned on the left and right end panels 15 and 17 after their attachment to the bathtub and roughed-in walls and prior to the application of the plaster walls P. The bracket 110 is formed of a metal strap that is symmetrically bent and shaped to provide abutting vertical sections 111, 112 terminating at their lower ends, respectively, in a horizontal leg 113 and a right angular bent leg 114. At its upper end the bracket is formed with an eye 117 and a similar eye 118 is provided at the lower end adjacent the legs 113, 114. Intermediate the eyes 117, 118 there is formed a pair of vertically spaced tubular bosses 120, 121, the overall length of each being equal to the overall depth of the panel 17, as clearly shown in FIG. 19. The abutting vertical sections 111, 112 are spot welded at its lower end is cut the rear face of the bracket 110 at its lower end is cut-away as at 123 so as to provide clearance for the attaching flange 52a.

The bracket 110 shown in FIG. 18 is adapted for use with the right end panel 17, and the corresponding bracket for the left end panel 15 (not shown) is allochirally formed. Both brackets are readily placed in position on the top outermost corner of the panel, as shown by the bracket 110 in FIG. 18 such that the lower eye 118 thereof will register with an opening 66 on the attaching flange 52a, the bracket 110 then being secured by the fastening screw 124 to the stud 14. The entire bracket is embedded in the plastered wall when applied such that only the end faces of the bosses 120, 121 will be exposed and will lie flush with plaster wall surface P, see FIG. 19. Thus, when the shower curtain rod 125 is to be installed all that is necessary is to place a cap 126 and attaching sleeve 127 over each end of the rod and to secure the attaching sleeve to the bosses by the fastening screws 128

which extend therethrough into the stud 14. It will be seen that the initial positioning of the brackets 110 require no measuring and are most simply positioned and applied in place, and that when the plaster walls are applied, the bosses 120, 121 as evidenced by their exposed faces serve without any measuring and drilling to provide means to which the rod fixtures are quickly secured. This combined relationship of the brackets 110 with the end panels 15 and 17 will effect a considerable saving in labor costs, is quick, cheap and effective. The brackets 110 may also be formed as castings.

Sliding Shower Door Installation

The conventional sliding shower door construction comprises a lower channel double track bar 130 adapted to be positioned and secured on the front bathtub rim 20, an upper channel double track bar 131, the corresponding ends of both track bars having interfitting relation with adjacent ends of vertical keeper bars 132 (only one shown attached to right end panel 17, see FIGS. 22 and 23) and secured to said keeper bars by screws 133.

In order to provide a rigid supporting structure for the attachment of the keeper bar 132 to the metal panel 17, use is made of a reinforcing member 81 as previously described, see FIG. 14, and which in FIG. 20 is shown disposed in a selected position inside of the panel 17 in juxtaposition to the closure wall 53c thereof. The reinforcing member 81 is of channel formation having its web 135 abutting the inside face of the panel wall and its legs 136, 137 having their terminal edges lying in the plane of the rear surface of the attaching flanges 52a, 54a such that said terminal edges will abut the stud 14 of the roughed-in wall. The reinforcing member 81 is secured to the panel by welding as at 82. Provided in the panel 17 and reinforcing member 81 are a row of registering openings 140, which receive screw fastener elements 141 for securing the keeper bar 132 to the panel 17. It will be noted that the reinforcing member 81 extends the full height of the panel wall from the seat 58a to the shelf 51b, see FIG. 21, and will thus buttress the sheet metal panel wall against possible deflection by its engagement with the roughed-in wall, due to impact on the keeper bar by the sliding doors (not shown) in the opening and/or closing of the same. Furthermore, the web 135 of the channel reinforcing member provides the requisite thickness of metal for holding and maintaining the fastener screws 141.

It is to be understood that the invention is not limited to a metal panel wall for bathtub compartments, as the metal panels of the invention are as applicable in other building constructions, as for example, the walls of shower stall installations, kitchen sink, counter and stove installations and closets.

It is further to be understood that the invention is not limited to the details of the illustrative construction since these may be variously modified as will be apparent to those skilled in the art without departing from the spirit of the invention, the scope of which should be determined by reference to the following claims.

I claim:

1. In a bathtub compartment including a rectangular bathtub and roughed-in walls surrounding the bathtub on three sides thereof as defined by the transverse end sides of the bathtub and the rear longitudinal side of the bathtub:

- (a) a metal panel wall construction for placement on said roughed-in walls comprising,
- (b) a left end panel,
- (c) a longitudinal side panel,
- (d) a right end panel,
- (e) inverted channel means along the bottom edge of each panel and integral therewith for interlocking with a top rim edge portion of a corresponding side of the bathtub,
- (f) groove means at the vertical sides of the longitudinal panel and integral therewith,

- (g) tongue means at the inner vertical side of each end panel and integral therewith to be fitted within an adjacent groove means of the longitudinal side panel, and
 - (h) attaching means along the top edge of each panel and along the outer vertical side of each end panel for securing the same to an associated roughed-in wall,
 - (i) whereby to provide in the assembly of said panels a finished continuous panel wall along said three sides of the roughed-in wall extending upwardly from the rim of the bathtub.
2. In the bathtub compartment of claim 1; wherein
- (a) the interlocking means, the groove means and the attaching means are each positioned rearwardly from the outer wall surface of their respective panels,
 - (b) each said groove means faces outwardly, and
 - (c) the tongue means on each end panel lies wholly in the plane of its respective panel wall such that the end panels are joined to the longitudinal side panel by a sliding movement normal thereto whereby the tongue means will enter its associated groove means to provide a completely hidden corner joint connection and with the end panel walls disposed normal to the longitudinal side panel wall.
3. In the bathtub compartment of claim 2; wherein
- (a) a closure drain plate is positioned at the bottom of each said groove means, with at least its forward edge lying in the plane of the bottom edge of the longitudinal panel to provide a vertical drain channel,
 - (b) said groove and tongue means being complementally dimensioned such as to provide a sliding friction fit therebetween,
 - (c) both said groove and tongue means extending substantially the full height of said panels and in themselves constituting the sole connection between said panels, and
 - (d) the joint connection being such that any water seeping thereinto will drain down the groove onto the drain plate for discharge directly on the rim of the bathtub at the line of contact of the bottom edge of the panels with said rim.
4. In the bathtub compartment of claim 3; wherein
- (a) the interlocking means, the groove means and the attaching means are all of the same uniform depth,
 - (b) said attaching means at the top edge of each panel including a horizontal shelf extending the full width of its corresponding panel, and
 - (c) said attaching means at the outer vertical sides of the end panels including a closure wall,
 - (d) both said shelf and closure wall defining limits for the application of plaster to said roughed-in walls above and to the side of said panels.
5. In a building structure including vertical supporting wall surrounding at least two angularly related sides of a base structure having an upper rim:
- (a) a metal panel wall covering for placement on said supporting walls one at each of said two sides of the base structure,
 - (b) inverted channel means along the bottom of each panel and integral therewith arranged to interlock with a portion of the rim of a corresponding side of the base structure,
 - (c) a groove means at a vertical side of one panel and integral therewith,
 - (d) tongue means at a vertical side of the other panel and integral therewith,
 - (e) said tongue means of said other panel being formed to have a friction fit with said groove means on said one panel and insertable therein by bodily sliding movement of the interlocking means of said other panel on its associated rim portion,
 - (f) said tongue and groove means constituting the sole connection between said panels,
 - (g) said interlocking means of each panel constituting

- the sole connection thereof with the rim portion of said base structure, and
- (h) attaching means at the top edge of each panel adapted to secure the same to the corresponding supporting wall.
6. In the building structure of claim 5; wherein
- (a) a drain plate is secured in inclined relation to the lower end of said groove means in watertight engagement therewith whereby water seeping into said groove means will drain downwardly therein to said drain plate and outwardly therefrom onto said rim of said base structure.
7. In the building structure of claim 6; wherein
- (a) said attaching means comprises a horizontal shelf extending the full width of the top edge of each panel and defining the limit of a plaster wall to be applied on said supporting walls above said panels, and
- (b) said groove means, tongue means, interlocking means and attaching means of said panels being disposed rearwardly of the exterior wall of said panels whereby to provide a smooth uninterrupted exterior wall surface.
8. In the building structure of claim 7; wherein
- (a) said interlocking means constitutes a pocket structure extending the full width of the bottom edge of each panel and rearwardly of the exterior wall thereof to receive therein said rim portion of said base structure, and
- (b) positioning flange means providing one wall of said pocket structure for engaging said rim portion to hold the bottom of its associated panel against movement.
9. A sheet metal panel comprising;
- (a) a rectangular vertical panel wall,
- (b) a horizontal shelf extending along the top edge of said panel wall and rearwardly therefrom,
- (c) a vertical closure wall extending along one vertical side of said panel wall normal thereto and rearwardly therefrom with its upper edge horizontal and engaging the underside of the adjacent horizontal edge of said shelf,
- (d) an attaching flange upstanding from the free terminal edge of said shelf,
- (e) an attaching flange extending outwardly from the free terminal edge of said closure wall,
- (f) a pocket structure extending along the bottom edge of said panel wall,
- (g) said pocket structure having a seat portion inclined upwardly and rearwardly from said bottom edge with the end thereof adjacent the closure wall engaged by the lower edge of said closure wall,
- (h) depending positioning flange means along the upper edge of said seat,
- (i) said attaching flanges and said positioning flange means all lying in a common plan parallel to the plane of said panel wall, and
- (j) a tongue means formed at the other vertical side of said panel wall extending the full length of said other vertical side with the outermost vertical edge of said tongue means and the other horizontal edge of said shelf lying in the same vertical plane.
10. The sheet metal panel of claim 9; wherein
- (a) said tongue means at the other vertical side of said panel wall extends in the same plane therewith beyond the other end of said pocket structure, and
- (b) the lower end of said tongue means being inclined upwardly and outwardly from said other end of said pocket structure.
11. The sheet metal panel of claim 10;
- (a) including a support member mounted on said panel wall adjacent to the closure wall at said one side of said panel wall for attachment thereto of a fixture of a movable shower closure.
12. The sheet metal panel of claim 9; wherein
- (a) said tongue means is formed as a channel extension of said panel wall with one leg co-planar there-

- with and the other leg parallel thereto and disposed rearwardly of said panel wall,
- (b) the outermost end of said tongue means being closed by a web,
- (c) said channel opening towards the closure wall at said one vertical side of said panel wall, and
- (d) the lower end of the channel legs of said tongue means being inclined upwardly and outwardly towards said web.
13. The sheet metal panel of claim 12;
- (a) including a support member mounted on said panel wall adjacent to the closure wall at said one side of said panel wall for attachment thereto of a fixture of a movable shower closure.
14. A sheet metal panel comprising;
- (a) a rectangular vertical panel wall,
- (b) a horizontal shelf extending along the top edge of said panel wall and rearwardly therefrom,
- (c) an attaching flange upstanding from the free terminal edge of said shelf,
- (d) a pocket structure extending along the bottom edge of said panel wall,
- (e) said pocket structure having a seat portion inclined upwardly and rearwardly from said bottom edge,
- (f) depending positioning flange means along the upper edge of said seat,
- (g) a groove structure at each of the vertical edges of said panel wall,
- (h) each groove structure including uniformly spaced inner and outer walls positioned rearwardly of said panel and joined by a web such that each groove opens in the plane of the panel wall,
- (i) the lower ends of said inner and outer groove walls being inclined upwardly and rearwardly towards said web, and
- (j) a drain plate secured in watertight engagement with said inclined ends and said web.
15. The sheet metal panel of claim 14; wherein
- (a) said attaching flange, positioning flange means and groove webs lie in a plane parallel to said panel wall.
16. The sheet metal panel of claim 15; wherein;
- (a) said horizontal shelf and said pocket structure extend the full length of said panel wall between the inner walls of said groove structures, and
- (b) said groove structures extend along the vertical sides of said panel wall from its bottom edge to said horizontal shelf.
17. In a bathtub compartment including a rectangular bathtub having a rim formed with an upstanding lip extending along both transverse end sides of the bathtub and the rear longitudinal side of the bathtub, and roughed-in walls surrounding the bathtub on said three sides thereof:
- (a) a metal panel wall construction for placement on said roughed-in walls comprising,
- (b) a left end panel,
- (c) a longitudinal side panel,
- (d) a right end panel,
- (e) inverted channel means integral with the bottom edge of each panel having an inclined seat and connected flange means formed to interlock with the upstanding lip of a corresponding side of said bathtub,
- (f) said flange means to be disposed between said upstanding lip and said roughed-in wall for holding the bottom of each panel against movement relative to said roughed-in wall and bathtub,
- (g) the inclined seat being disposed forwardly of said upstanding lip with its lower end portion adapted to seat on said bathtub rim,
- (h) groove means at the vertical sides of the longitudinal panel integral therewith and opening outwardly with respect thereto,
- (i) tongue means at the inner vertical side of each end

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- panel integral therewith and fitted within an adjacent groove means, and
- (j) attaching means along the top edge of each panel and along the outer vertical side of each end panel to secure the same to an associated roughed-in wall, 5
- (k) whereby to provide in the assembly of said panels a finished continuous panel wall along said three side of the roughed-in wall extending upwardly from the rim of the bathtub.
18. In the bathtub compartment of claim 17; wherein 10
- (a) the pocket means, the groove means and the attaching means are each positioned rearwardly from the outer wall surface of their respective panels and are each of the same uniform depth,
- (b) a closure drain plate at the bottom of each said 15 groove means, having an inclination such that its lower forward edge will reset on the bathtub rim and its upper rear edge will overlie the top edge of said upstanding lip,
- (c) said groove and tongue means being complementarily dimensioned such as to provide a sliding friction fit joint connection therebetween, 20
- (d) both said groove and tongue means extending substantially the full height of said panels and in themselves constituting the sole connection between said 25 panels, and

- (e) the joint connection being such that any water seeping thereinto will drain down the groove onto the drain plate for discharge directly on the rim of the bathtub at the line of contact of the bottom edge of the panels with said rim.
19. In the bathtub compartment of claim 18; wherein
- (a) said attaching means at the top edge of each panel includes a horizontal shelf extending the full width of its corresponding panel,
- (b) said attaching means at the outer vertical sides of the end panels including a closure wall, and
- (c) both said shelf and closure walls defining limits for the application of plaster to said roughed-in walls above and to the side of said panels.

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