March 29, 1960 H. S. BOWSER 2,930,047

BATHROOM

Filed Sept. 15, 1958 2 Sheets-Sheet 1

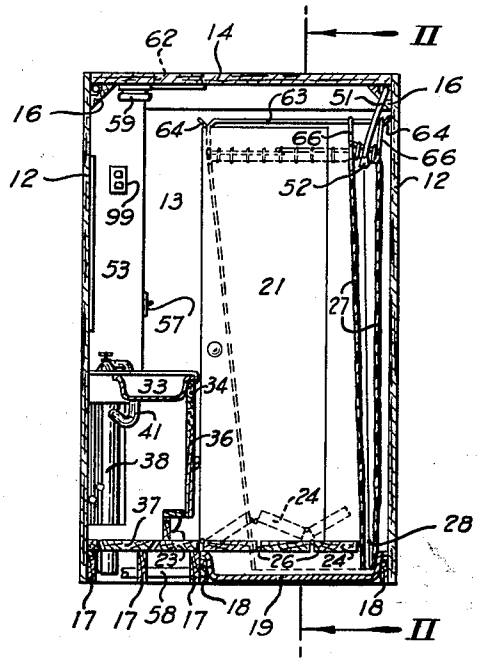


Fig. 1.

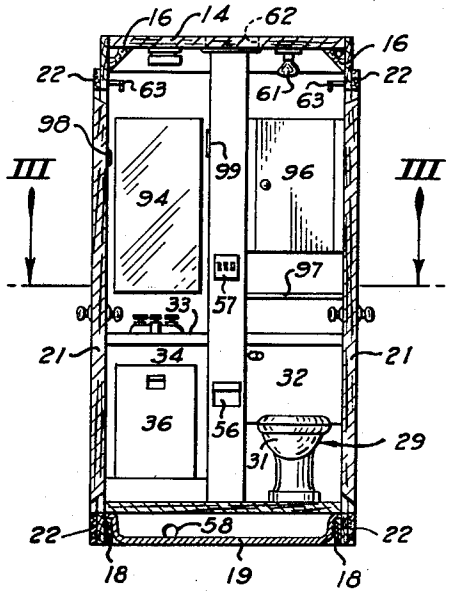


Fig. 2.

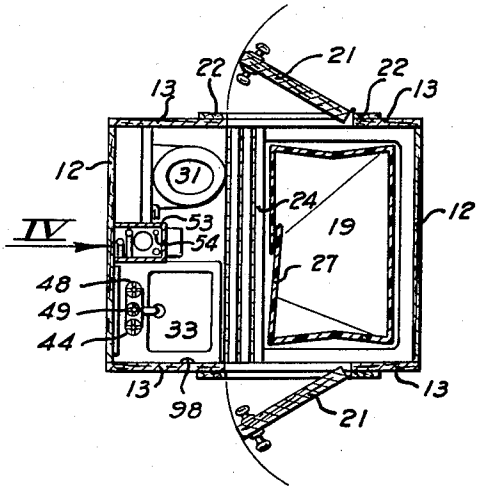


Fig. 3.

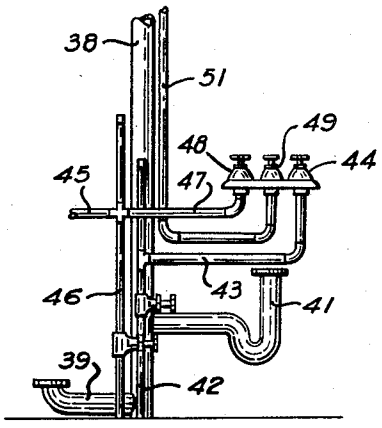


Fig. 4.

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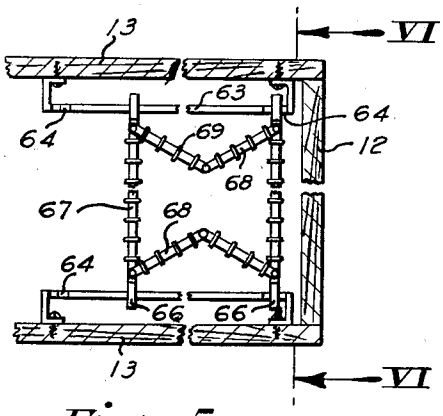


Fig. 5.

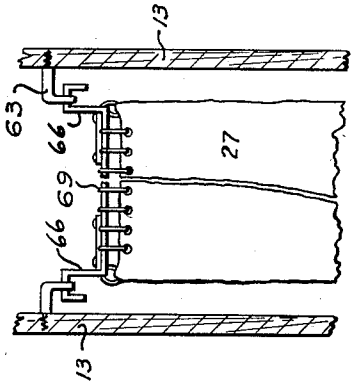


Fig. 6.

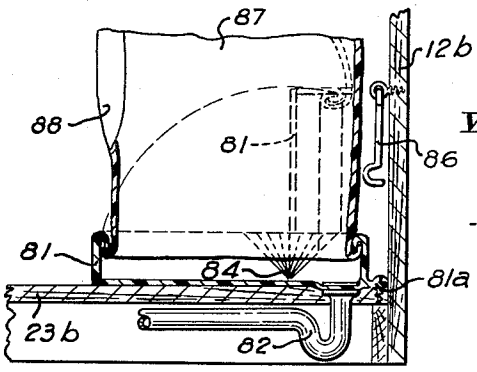


Fig. 9.

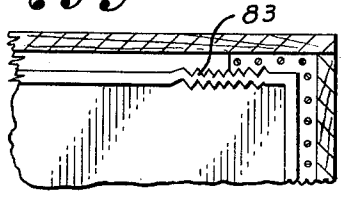


Fig. 10.

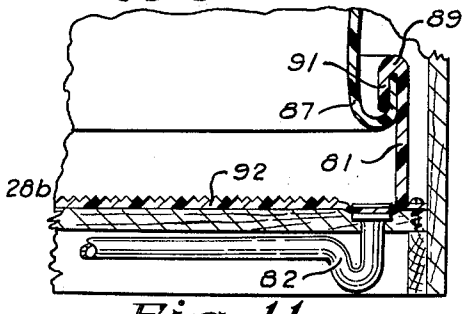


Fig. 11.

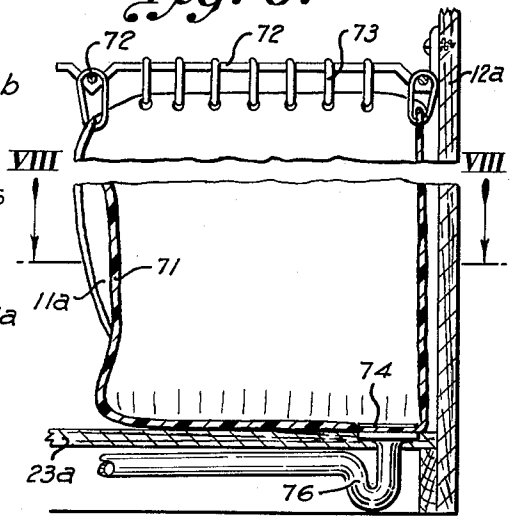


Fig. 7.

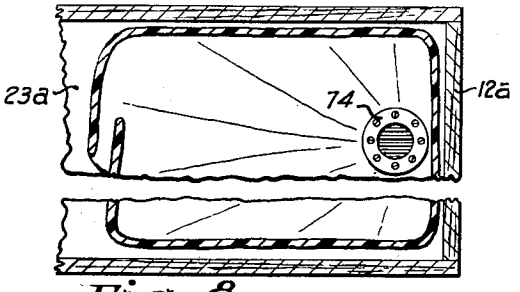


Fig. 8.

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2,930,047

BATHROOM

Howard S. Bowser, Santa Barbara, Calif.

Application September 15, 1958, Serial No. 760,895

7 Claims. (Cl. 4—2)

My invention relates to bathrooms and has particular reference to a prefabricated bathroom, including a toilet closet, a wash basin and a shower which may be used in new or old dwellings. This is a continuation, in part, of my co-pending patent application, Serial Number 626,867, filed December 7, 1956, entitled, "Bathroom," and now abandoned.

The principal object of my invention is to provide a compact, inexpensive and efficient prefabricated bathroom that is considerably cheaper than the normal bathroom found in dwellings. A further object is to provide a small-size bathroom wherein the floor area used by the shower is also available as a floor area for the wash basin and toilet closet when the shower is not being used.

A further object is to provide a removable floor over a shower pan which is so designed and constructed that the floor remains dry at all times.

A further object is to provide a bathroom having shower space in which the shower curtains may drain while the floor area over the shower pan is being utilized for other purposes.

Another object is to provide a shower curtain suspension means for use in my bathroom wherein floor boards removably cover the shower pan or tray.

A further object is to provide improved movable shower trays wherein the vertical shower curtains are sealed to a shower tray or its equivalent and all drainage of the curtains is caught by the tray portion of the shower.

Other objects and advantages of my invention will be apparent in the following description and claims considered together with the accompanying drawings:

Fig. 1 is an elevation view in full section of a bathroom embodying a preferred form of the invention.

Fig. 2 is an elevation sectional view taken at right angles to Fig. 1 on the line II—II of Fig. 1.

Fig. 3 is a plan view in full section taken along the line III—III of Fig. 2, but showing the floor boards folded and the shower curtains extended for taking a shower.

Fig. 4 is a diagram in elevation of portions of the sewer piping and of the water piping as viewed from the direction of the arrow IV in Fig. 3.

Fig. 5 is an enlarged plan view of the shower curtain structure of the bathroom of Figs. 1 and 2.

Fig. 6 is a sectional view and elevation but turned on its side of the shower curtain structure of Fig. 5 as viewed along the line VI—VI of Fig. 5.

Fig. 7 is a fragmentary elevation view of a modified form of the invention wherein the side walls of the shower curtains extend over the floor of the bathroom to act as a horizontal tray for the shower.

Fig. 8 is a sectional plan view taken along the line VIII—VIII of Fig. 7.

Fig. 9 is an elevation view in full section of another modification showing a pliable shower tray that folds up against the wall.

Fig. 10 is a fragmentary plan view of a portion of the shower tray of Fig. 9 with the curtain removed.

Fig. 11 is an enlarged sectional view through the shower tray of Fig. 9 illustrating the roughened upper surface of the shower tray.

Illustrated in Figs. 1, 2, 3 and 4 is a preferred embodiment of the invention showing the bathroom entirely prefabricated and ready for shipment, either for new construction or installation in old dwellings. A bathroom may have vertical end walls **12** and side walls **13**. These vertical walls are previously constructed of sheet material such as ⅜-inch plywood. Set within the vertical walls **12** and **13** may be a roof structure **14** in sheet form made of suitable material such as ¾-inch plywood. A triangular cove **16** is secured to the vertical side walls to support this ceiling sheet **14** which is preferably set in and not on top of the end walls.

A base construction for the bathroom may include horizontal frame members preferably in the form of 1 x 6 wooden boards. This base may be formed in two sections, a left-hand section is viewed in Fig. 1 consisting of three 1 x 6's **17** having end pieces of 1 x 6 nailed thereon and a structurally separate frame member in rectangular form by 1 x 6's **18**. A right-hand end wall **12** of Fig. 1 and the plywood walls **13** adjacent thereto are nailed or otherwise fastened to these base members **18** and thereafter a shower tray or pan **19** is inserted within this enclosure and its flanged edges rest on the top of the 1 x 6's identified as **18**. Similarly, the left-hand end wall **12** of Fig. 1 is nailed to the frame member formed of 1 x 6's identified as **17**, together with side wall portions **13**.

It will be noted particularly with reference to Fig. 3 that two doors **21** are provided for the bathroom and the left-hand edge of the doorway is viewed in Fig. 1 which coincides with the joint between these two separate frames made of members **17** and **18**. These doorway openings may be stiffened by nailing boards **22** to the exterior thereof to form a door frame. These may be 1 x 6 boards.

The floor of the bathroom of Figs. 1 through 4 is provided particularly in accordance with my invention and consists of two portions, a stationary portion **23** and a movable portion **24**. The movable portion **24** is preferably in the form of floor boards extending between the doors and these are preferably connected together with continuous hinges such as piano hinges **26**. As illustrated in Fig. 1, the floor boards **24** are in place for use of the toilet closet and wash basin and they are shown in broken outline in Fig. 1 to show their method of fold against each other in accordion fashion. They are shown in Fig. 3 as fully folded so that the shower may be used.

It will be noted with reference to Figs. 1 and 3 that the folded floor boards **24** form a partition at the left side of the shower tray **19** as viewed in Fig. 1 against which a shower curtain **27** may lie. Again referring to Fig. 1 wherein the floor boards **24** are fully extended, it will be noted that there is a space between the end thereof and the right-hand end wall **12** which forms a drip space **28** permitting the wet curtains **27** to drip into the shower tray or pan **19** while the floor is being used for normal purposes.

Illustrated in Figs. 1, 2 and 3 are the other bathroom facilities, including a water closet **29** having bowl **31** and a flush tank **32** as well as a wash basin **33**. The wash basin may be mounted on top of a clothes hamper cabinet **34** having a hinged front door **36**. A trap door **37** may be provided inside of the cabinet **34** for ready access to the plumbing. It will be noted that the water closet **29** and the lavatory cabinet **34** and basin **33** are mounted on top of the stationary floor **23** and face outwardly toward the movable floor boards **24**. Accordingly, in nor-

mal use a person stands on the floor boards 24 when using the water closet or wash basin.

Illustrated in Figs. 1 through 4 and especially in Fig. 4 is the plumbing layout for the bathroom. These structures are all prefabricated and built into the bathroom as it is assembled. The plumbing accordingly may include a soil pipe and vent pipe 38 having a branch 39 for the water closet and having a trap branch 41 draining the wash basin 33. The water supply conduits may include a hot water pipe 42 having a branch 43 leading to the wash basin where it is controlled by a valve 44. A cold water supply pipe 46 may have a branch 47 leading to the wash basin where it is controlled by a valve 48. Valves 44 and 48 are inter-connected so that a third valve 49 may control a cold and hot water mixture leading through a pipe 51 upwardly to the coving 16 and through the coving 16 to the opposite side of the bathroom to a shower head 52 illustrated best in Fig. 1. Also branching from the cold water pipe 46 may be a conduit 45 leading to the flush tank 32. Suitable control valves may be disposed in the hot water and cold water supply pipes. The upright plumbing pipes of Fig. 4 may be encased in a removable cowling 53 which also encloses an electrical conduit 54. This cowling may support various fixtures such as a toilet paper holder 56 and a light switch 57.

The shower tray 19 may be drained at one side by a pipe 58 which is not connected to the soil pipe 38 ahead of time because of the fact that a trap may be inserted between the pipe 58 and the soil line 38. This is done on the job after installation by working through the trap door 37.

Various fixtures may be attached to the ceiling 14 of the bathroom, including an electric light 59 and a heat lamp 61. An aperture 62 is cut through the ceiling 14 so that an exhaust fan may be mounted on top of the board 14. All three electrical fixtures may be operated from the switch 57.

The details of mounting the shower curtains 27 are shown in Figs. 1, 2, 5 and 6. Mounted on each side wall 13 above the doorway is a horizontal rack 63 having a downwardly extending portion 64 adjacent each end. Depending downwardly from these may be curtain hangers 66 which are four in number so that each one is located in one of the notch-like portions 64. An articulated frame is supported at the bottom end of each hanger 66 which includes solid cross bars 67 parallel to the end walls 12 and there is hinged thereto at the hangers 66 two horizontal jointed members 68 which are parallel to the side walls 13 when the curtain is fully extended as in broken outline in Fig. 1. Suitable curtain hooks 69 ride upon the bars 67 and 68 to support the curtain 27. It will be appreciated that when the curtain 27 is collapsed as shown in solid outline in Fig. 1, the jointed bars 68 will be folded tight against the solid bars 67 to give the compact folding illustrated in Fig. 1.

Illustrated in Figs. 7 and 8 is a modification of the invention wherein the shower curtain itself forms the shower tray. Accordingly, a bathroom may have a floor board 23*a* portion to which is disposed a bag-like shower curtain 71 supported at its upper end by sutable shower rods 72 and curtain hooks 73. Starting at a distance at least several inches above the floor 23*a* is a slit 71*a* which permits ingress and egress to the shower bag 71. The bag is permanently drained by an outlet fitting 74 connected to a trap drain pipe 76.

In operating the device of Figs. 7 and 8 the user extends the bag on the rods 72 as illustrated, and then steps into the bag 71 through the slit 71*a* and after securely overlapping the slit 71*a*, he takes a shower. The water drains through the outlet 74 and upon completion of the shower, the user dries himself within the shower bag and steps out through the slit 71*a* onto a dry floor 23*a*. The shower bag 71 is then collapsed against an end wall 12*a* where it continues to drain into the outlet 74.

Illustrated in Figs. 9, 10 and 11 is a modification of the invention wherein a pliable shower tray is employed which can be folded against a side wall to place it out of use. Accordingly, a bathroom may have a floor board 23*b* and an end wall 12*b*. A shower tray or pan 81 is supported on the floor 23*b* and is made of pliable material such as rubber, plastic or similar material. The edge of the tray adjacent the end wall 12*b* is secured to the floor 23*b* in a suitable manner as by fasteners passing through a projecting flange 81*a*. The tray is permanently drained by a trap drain pipe 82.

Illustrated particularly in Fig. 10 is an accordion construction of the edge wall of the shower tray 81 which accordingly takes the form of accordion pleats 83 which radiate from a hinge point 84. These accordion pleats 83 accommodate a folding action about the point 84 permitting the shower tray to be folded against the end wall 12*b* as shown in broken outline in Fig. 9. A suitable hook 86 may be employed to hold the tray 81 in the broken outline position illustrated.

A water tight joint is provided between the pliable tray 81 and a shower curtain 87 which may have an entry slit 88. This joint is in the form of a bead 89 at the top of the tray 81 which is vertically slit from below to create a resilient C-shaped clamp 91 which grips the lower edge of the shower curtain 87. The floor of the pliable tray 81 may have suitable points or ridges 92 molded thereon to create a non-slip surface.

In using the modification of Figs. 9, 10 and 11, the user unhooks the hook 86 allowing the tray to drop to the extended position illustrated in Fig. 9. He thereupon steps through the slit 88, takes his shower, dries and then steps out the slit 88. The shower tray 81 is then folded against the end wall 12*b* and kept in position by the hook 86, where it continues to drain into the drain pipe 82. The space normally occupied by the shower accordingly is then available for other uses such as using a lavatory or a toilet bowl. It will be noted that the floor 23*b* will be a dry floor and hence the use of a shower will not inconvenience use of other bathroom facilities.

The operation of the device of Figs. 1 through 6 is as follows:

The user enters through either door 21 and if it is desired to use the shower the floor boards 24 are folded against the wash basin cabinet 34 as illustrated in Fig. 3. The user then stands upon the shower tray 19 and opens the slit in the forward edge of the shower curtain 27 and then pulls upon the nearest horizontal curtain rod 67 extending the shower curtain 27 about him. He is then ready to take a shower and reaches through the slit in the curtain to turn on the water at the faucets 44, 48 and 49. Alternatively, these shower faucets may be actuated before he opens the slit in the curtains to step inside. Upon completion of the shower, the user reaches through the slit to turn off the water and then dries himself and then collapses the curtain 27 as shown in Fig. 1 by means of the articulated structure shown in Fig. 5. He then pulls the floor boards 24 to him until they are flat as shown in Fig. 1 and he thereupon steps upon them to use the other bathroom facilities, such as the wash basin 33 or the water closet 29. The floor boards 24 upon which he will be standing will always be dry in spite of the fact that they extend over the place where a shower is normally taken. Not only will this condition of dry floor boards make use of the bathroom more comfortable but will also make it more sanitary and will reduce the likelihood of tracking up the rest of the house.

Referring to Fig. 2, a mirror 94 may be provided over the wash basin 33 and a medicine cabinet 96 may be provided over the water closet 29. Also a shelf 97 may be provided below the medicine cabinet 96. Towel racks

or clips may be provided at convenient locations, such as location 98 illustrated in Fig. 2. An electrical outlet 99 may be provided above the switch 57.

It will be obvious from the foregoing description that my bathroom design permits optional left-hand door entry or right-hand door entry, or two-door entry, thus facilitating its use in other structures. Also, my design may be used independently of other structures and may be installed indoors or outdoors requiring only water and sewer connections.

While I have described my invention with respect to specific embodiments, I do not limit myself to these embodiments or otherwise but claim all such modifications as fall within the true spirit and scope of my invention.

I claim:

1. A shower equipped bathroom that provides a dry floor when the shower is not in use comprising: a compartment having vertical sidewalls and a horizontal floor, about one-half of the floor being fixed and the other portion being movable floor boards; a shower tray underneath the floor boards; means permitting at least a part of the floor boards to be opened to a vertical position to fence off the shower tray from said fixed floor portion; a lavatory basin mounted in the compartment over the fixed floor portion and facing toward the movable floor portion; a toilet closet mounted in the compartment over the fixed floor portion and facing toward the movable floor portion; a shower head adapted to overlie the shower tray and means for supporting a movable shower partition along the fence board to divert shower water into the shower tray.

2. A bathroom as set forth in claim 1 wherein another part of the floor boards are spaced from the vertical compartment walls to create a drain space wherein the movable shower partition can drain into the shower tray without wetting the floor boards.

3. A bathroom as set forth in claim 1 wherein the means for supporting a movable shower partition is an articulated curtain rod that folds horizontally against a vertical wall over the drain space, to assist draining of the wet shower partition.

4. In a bathroom, a shower structure that leaves the bathroom floor dry comprising: a drain hole in the bathroom floor, a pliable waterproof bag having an upwardly open mouth and having a drain aperture in its bottom connected to the edges of the drain hole to drain the interior of the bag; and shower head means disposed over the bag mouth, whereby persons taking showers can stand on the bag bottom and the bag can be folded away after use.

5. A shower equipped bathroom that provides a dry floor after the shower has been used comprising: a compartment having vertical sidewalls and a horizontal floor, a substantial portion of the floor being fixed and the other portion being movable floor boards; a shower tray underneath the floor boards; means permitting the floor boards to be opened to expose the shower tray; a lavatory basin mounted in the compartment over the fixed floor portion; a fixed toilet closet mounted in the compartment over the fixed floor portion; a shower head adapted to overlie the shower tray; and a movable shower partition movable to a position around the edges of the shower tray to prevent water from the shower head from striking the fixed floor and the opened floor boards.

6. In a bathroom having a floor, a shower structure that leaves the floor dry comprising; a shower tray having a stationary part secured to the floor and a pivotal part normally resting directly on the floor and movable to a generally vertical position, the bottoms of said parts being substantially co-planar; a waterproof hinge connecting the two tray parts together and about which the pivotal part pivots; a drain secured to stationary part of the tray and having a drain opening at substantially the level of said floor; a shower curtain having its lower end secured to the tray with a water tight joint and secured around the entire perimeter of the tray; and a shower head disposed above the tray, whereby after use the pivotal portion of the shower tray may be pivoted to a vertical position out of the way.

7. In a bathroom having a floor, a shower structure that leaves the floor dry comprising; a generally horizontal shower tray formed as a single mechanical unit and having upstanding rim about its entire perimeter, and having a stationary part and a movable part and a waterproof flexible section connecting the two parts together; means securing the stationary part to the floor; drain means connected to the stationary part of the tray; and a shower curtain having its lower edge disposed within the tray to divert water into the tray, said movable part normally resting directly on the floor and being pivotal about said waterproof flexible connection to a vertical position to provide a dry floor area for other uses while said tray and curtain drain into said drain means.

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