

United States Patent

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2,295,416 9/1942 Madison 285/178
2,663,454 12/1953 Olson 285/4
3,263,244 8/1966 Katz 285/178
3,371,679 3/1968 Minella 285/178 X
3,485,933 12/1969 Flachbarth 285/178 X

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[54] BATHTUB RENOVATING ADAPTOR APPARATUS AND METHOD 7 Claims, 5 Drawing Figs.

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4/173, 4/189, 4/288
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E03c 1/28
[50] Field of Search 4/173, 176,
187, 188, 189, 190, 197, 203, 208, 286, 288, 289,
290, 291, 292, 293, 294, 295; 285/56, 58, 59, 60,
174, 176, 178, 3, 4; 137/328

[56] **References Cited**
UNITED STATES PATENTS
2,121,984 6/1938 Rieger et al. 285/58

ABSTRACT: The present invention includes a renovating method and apparatus for accommodating the waste and overflow connections of an inserted bathtub liner assembly and an existing plumbing system to which an existing bathtub was previously connected. A hollow container formed with an outlet port is secured to said plumbing system. A cover member slidable against the hollow container and formed with an inlet port is moved until the distance between said ports corresponds to the distance between said connections and the system. The cover member is then bonded to the hollow container and the waste connection is fitted to said inlet port such that an adapting plumbing trap exists between the liner and said system.

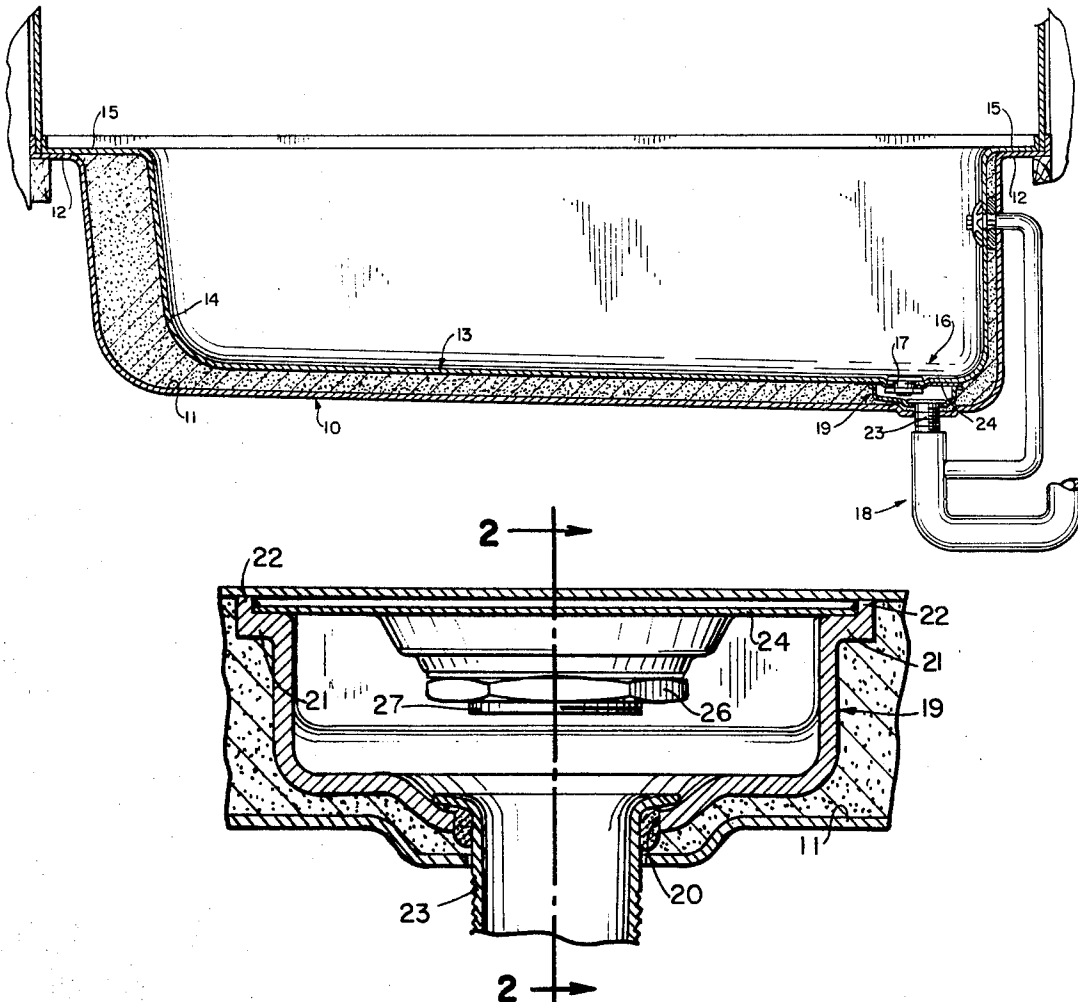
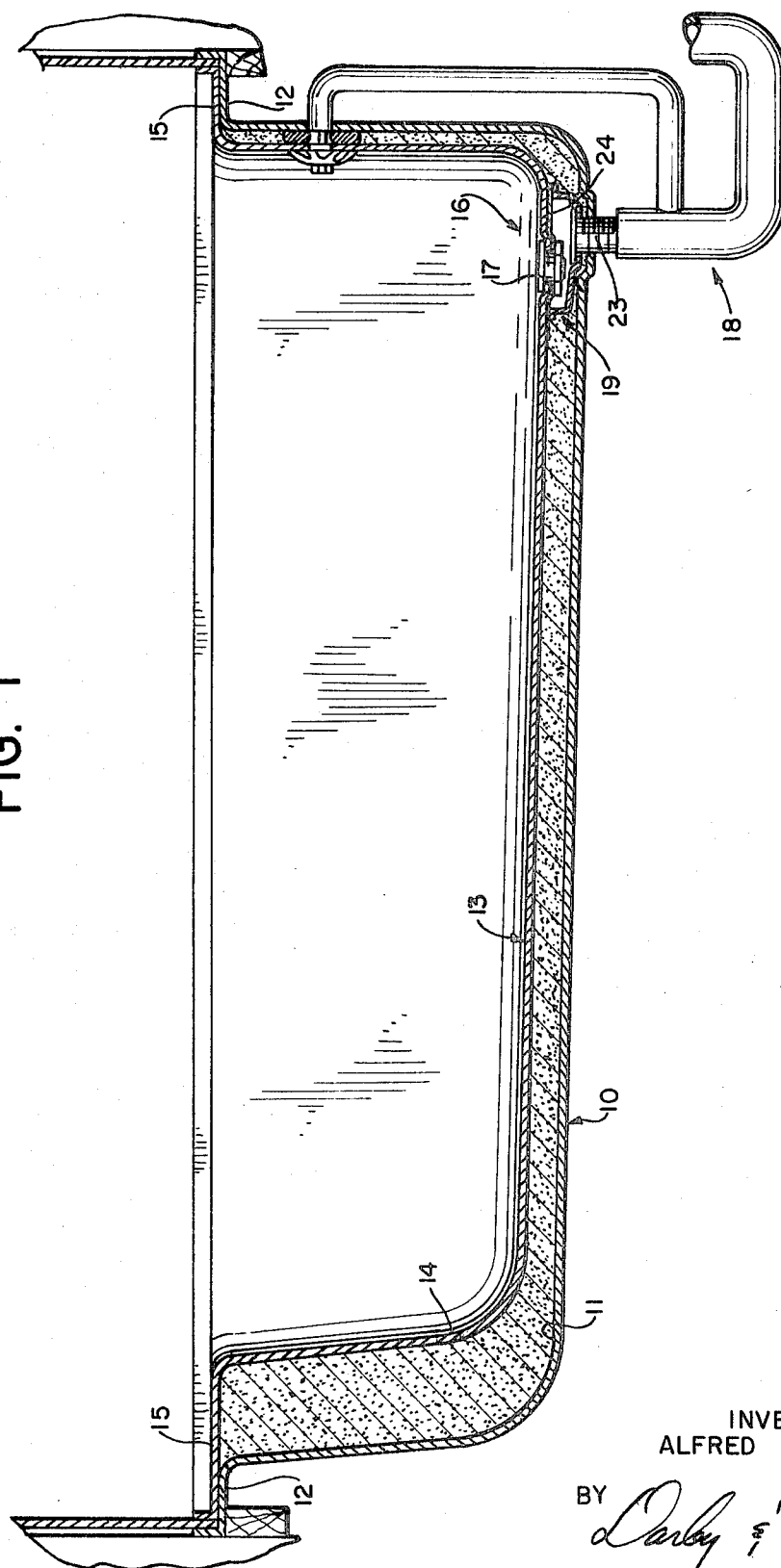


FIG. 1



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FIG. 2

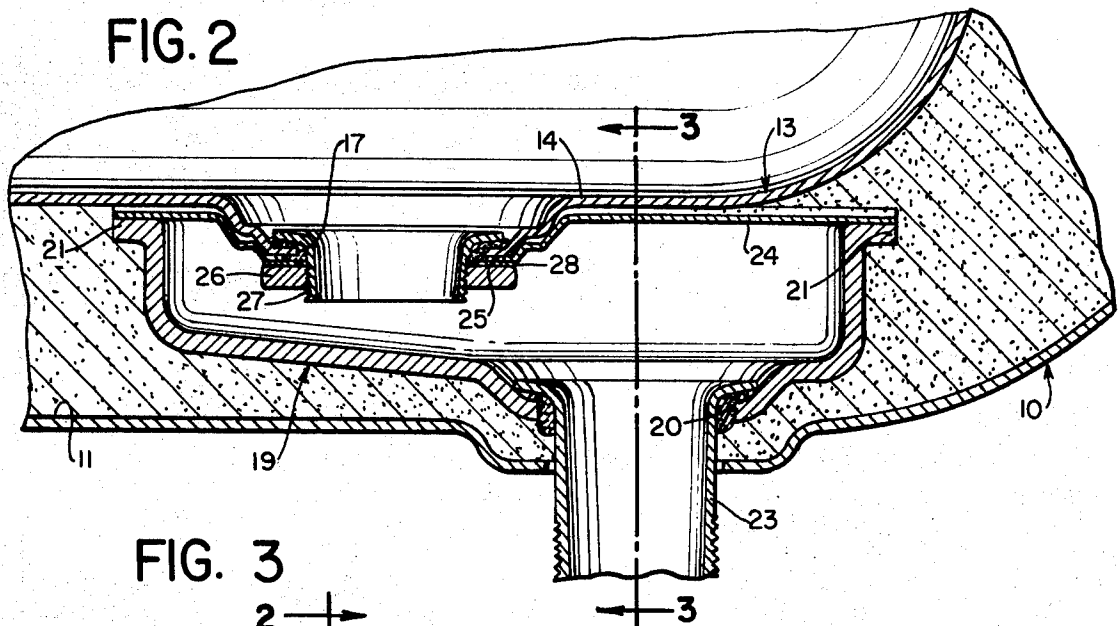


FIG. 3

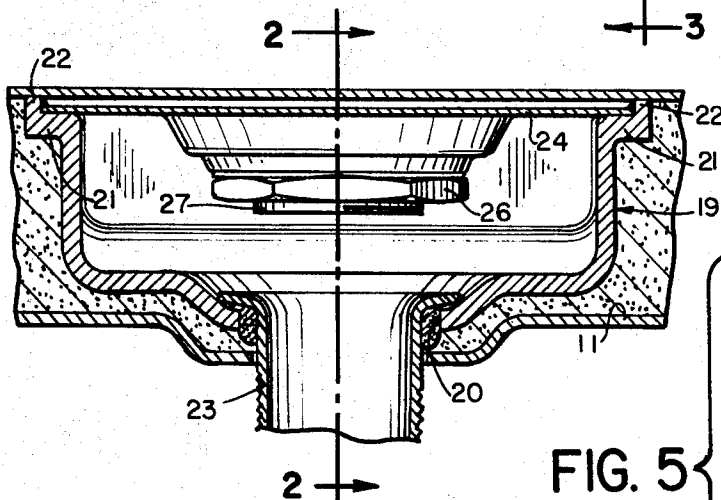


FIG. 5

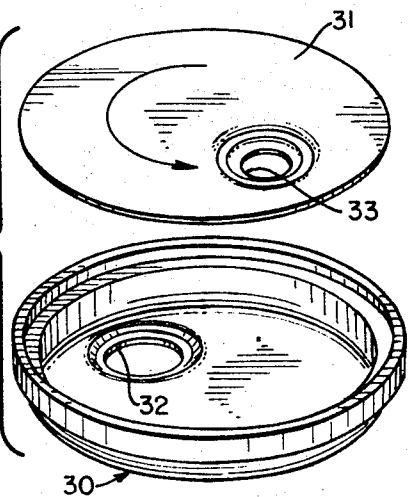
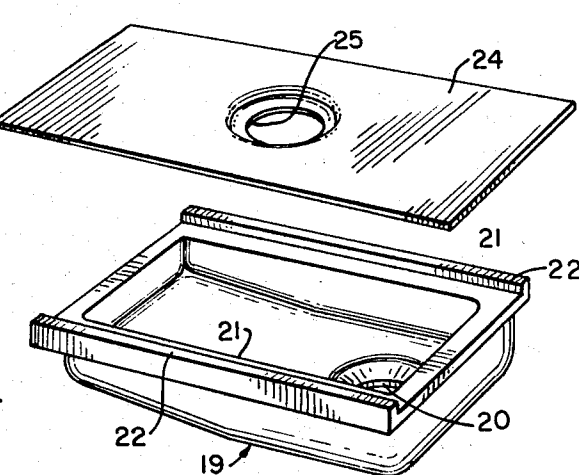


FIG. 4

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BATHTUB RENOVATING ADAPTOR APPARATUS AND METHOD

With recent interest in decorating and redecorating bathroom fixtures on the increase as a result of the fact that damage and wear have rendered many bathtubs and fixtures unsightly and in need of replacement, the homeowner is faced with rather expensive replacement, demolition and reconstruction work. Furthermore, the selection of possible color schemes for a bathroom has always been limited by the color of porcelain fixtures such as the bathtub.

Apart from problems facing the homeowner, present methods of renovating and refurbishing multiple unit housing, for example, include the removal and disposal of the previously existing bathtubs. A great majority of such bathtubs have been built into and are partially supported by the bathroom walls and are of a size which prevents their removal through doorways. Quite often such bathtubs and their associated plumbing have been installed during the construction of the housing prior to the erection of surrounding walls and framework. Thus a great deal of demolition work must be performed in order to effect their removal, together with timely and costly reconstruction. During the time of such demolition and reconstruction, the bathroom is rendered unavailable to a family occupying the unit.

My method and apparatus for overcoming these existing difficulties are set forth in an application for U.S. Letters Patent filed Sept. 4, 1968 and bearing Ser. No. 759,261.

In employing the invention of the foregoing patent application, a difficulty often encountered is the fact that the distance between the waste connection of the bathtub liner insert and the existing bathtub waste connection may vary considerably. Thus it is necessary to have on hand apparatus which will accommodate these differences in distance and which will provide a positive fluid connection from the liner waste port to the plumbing to which the existing bathtub waste port was previously connected.

Accordingly it is an object of the present invention to provide a method of an apparatus for providing a fluidtight trap-type connection between a bathtub liner waste port and existing plumbing.

Another object of the invention is to provide apparatus which includes relatively movable connection ports for accurately aligning fluid ports to be interconnected.

A further object is to provide an adapter for use with bathroom fixtures which includes adjustable components capable of being aligned prior to securement together and which will accommodate a relatively large variance in the distance between points to be interconnected.

The present invention fulfills the aforementioned objects and overcomes limitations and disadvantages of prior art solutions to problems. According to one aspect of the present invention, a hollow container member formed with an outlet opening is fitted to the plumbing system to which an existing bathtub was secured. A cover member slidable in a groove in the container member is moved until the distance between an inlet opening formed in the cover member and the outlet opening corresponds to the distance between the waste connections of the existing bathtub and a bathtub liner to be inserted into the existing bathtub for renovation purposes. The cover member is welded, soldered, brazed, or fastened in place by means of self-tapping screws and a sealant gasket thereby forming a closed container with an inlet opening. A bathtub liner is thereafter inserted into the existing bathtub and its waste connection is fitted to the inlet opening in the cover member. In this way a trap is formed between the liner and the existing tub, which trap has also served as an adapter between the two fixtures.

The invention will be more clearly understood from the following description of specific embodiments of the invention, together with the accompanying drawings, wherein similar reference characters denote similar elements throughout the several views, and in which:

FIG. 1 is a fragmentary sectional elevational view of a bathtub liner and existing bathtub fitted with adaptor apparatus according to this invention;

FIG. 2 is an enlarged fragmentary sectional elevational view of a portion of FIG. 1;

FIG. 3 is a fragmentary sectional elevational view looking along the line 3-3 of FIG. 2;

FIG. 4 is an exploded perspective view of a container member and a cover member according to the invention;

FIG. 5 is an exploded perspective view similar to FIG. 4 illustrating an alternate embodiment of container and cover members.

Referring now in more detail to the drawings, in FIG. 1 an existing bathtub 10 is shown installed in the walls of a bathroom. Bathtub 10 includes a hollow tub portion 11 which has been formed in a conventional manner, such as by deep drawing or the like with a ledge portion 12 extending around the cavity of tub portion 11.

A bathtub liner assembly 13 is also shown in FIG. 1 including a tub portion 14 integrally formed with a ledge portion 15. Liner assembly 13 is similar in shape to bathtub 10, tub portion 14 being smaller in size and weight than tub portion 11. Liner assembly 13 is adapted to be quickly and easily inserted into bathtub 10 such that the ordinarily exposed surfaces of tub portion 11 are entirely hidden, these surfaces possibly having been damaged, worn or being of an undesirable color. Ledge portion 15 is simply supported upon ledge portion 12 such that tub portion 14 is suspended within the hollow or cavity of tub portion 11. A liner assembly apron, not shown in the drawings, further serves to obscure the existing tub and its surfaces.

An adapter assembly 16, shown in FIG. 1 interconnecting the waste port 17 of liner assembly 13 with an existing plumbing system 18 to which bathtub 10 was previously connected, is located between tub 10 and liner assembly 13 in an assembled, operating position.

FIG. 2 shows adapter assembly 16 as including a hollow container portion or member 19 which is formed with an outlet opening or port 20. Container member 19 is bounded on its longitudinal ends by upstanding walls which terminate in a shelf or ledge 21 extending around the upper periphery of the opening of the container member. Sidewalls on transversely opposite sides of container member 19 similarly extend upwardly to ledge 21 which, on these sides, includes a further vertical wall 22 forming a corner. The bottom inner surfaces of container member 19 are preferably sloped downwardly toward opening 20 for draining purposes.

A conventional-type sleeve plumbing fitting nests within an annular depression defining opening 20 and extends downwardly through the previously functional waste opening of bathtub 10 into mating engagement with components of existing plumbing system 18. Numeral 23 designates this fitting. Plumbing sealing compound is preferably introduced beneath the nesting flange of fitting 23.

A cover member 24 is shown in FIGS. 2-4 as being formed with an inlet opening or port 25. Cover member 24 is initially longer than the length of container member 19 by a predetermined amount, such that the ends of the cover member will extend beyond the ends of the container member. In its assembled and functional position shown in FIGS. 2 and 3, cover member 19 rests upon shelf 21 with its sides against or next to upstanding walls 22. Walls 22 serve as means for guiding the cover member during alignment with the container member, as described in more detail below.

A locknut formed with internal threads, designated numeral 26, is secured to the underside of the periphery of inlet opening 25 by means of a double-sized adhesive washer 28 shown in FIG. 2 or by tack welding, soldering or brazing the locknut to the cover member. A fitting 27 secured the waste port of liner assembly 13 to cover member 24 by extending with its flange in engagement with tub portion 14 through waste port 17 into engagement with nut 26. Cover member 24 is secured to container member 19 by welding, soldering, brazing or other suitable bonding technique which will produce a fluid-

tight seal between them. FIG. 3 shows a fillet weld interconnecting these members.

The components of adapter assembly 16, including the cover member, container member, fittings and the threaded nut may be constructed of plastic material which is light in weight and relatively inexpensive to manufacture. Of course it is within the scope of this invention to construct these components of brass, copper, steel, cast iron or any other suitable material.

In assembling the various elements already described the following preferred procedure will yield favorable functional results. After disconnecting the existing bathtub waste connections from the existing plumbing system 18, container member 19 is introduced into the tub portion 11 of tub 10 such that the axes of outlet opening 20 and the waste port of bathtub 10 are coincidental. Fitting 23, together with optional plumbing compound, is inserted through port 20 and the tub 10 waste connection into threaded engagement with plumbing system 18.

Thereafter, the distance between outlet port 17 and port 20 when liner assembly 13 is inserted into tub 10 is determined. This may be done with ordinary measuring instruments without using the liner assembly or moving same, or, on the other hand, the liner assembly may be positioned within the tub for purposes of taking measurements.

Once the distance between these ports is determined, the cover member, which is preferably oversized in the longitudinal direction, is slid on top of shelf 21 with walls 22 acting as a guide until the position of inlet opening 25 corresponds to the position of opening 17. At this point, excess portions of the cover member may be removed, such as by cutting or burning, or the excess may be left as is. Cover member 24 is then welded or brazed to walls 22 along its sides, and to shelf 21 along its ends. Removing the excess portions of the cover member facilitates welding or brazing. It is important to note that prior to the bonding of the cover member to the container member, nut 26 is preferably secured by means of washer 28 to the underside of the cover member.

Liner assembly 13 is now lowered into bathtub 10 until its waste port 17 overlies and is concentric with port 25. Fitting 27 and optional plumbing compound are now inserted through openings 17 and 25 into threaded engagement with nut 26, and this fitting is tightened.

The result of the above method is the formation of a plumbing trap which serves the additional function of being an adapting fluid conduit. FIG. 5 illustrates an alternative shape assumed by a container member 30 and a cover member 31. By rotating cover member 31 on top of container member 30 until the distance between inlet port 32 and outlet port 33 correspond to the distance already described for ports 20 and 25,

the same function is accomplished. An added advantage realized with the embodiment of FIG. 5 is the elimination of the step of removing excessive portions of the cover member.

As various changes might be made in the embodiments of the invention herein disclosed without departing from the spirit thereof, it is understood that all matter herein shown or described shall be deemed illustrative and not by way of limitation.

What I claim is:

1. Adapter apparatus for use with fluid containers such as bathtubs, comprising a hollow traplike container member formed with an outlet opening therethrough, a cover member movable with respect to said container member prior to attachment to the latter, said cover member being formed with an inlet opening therethrough, the horizontal offset distance between said inlet and outlet openings being variable prior to said attachment, and means for removably securing said inlet and outlet openings in communicative fluidtight relationship to a fluid container and an existing plumbing drain system.

2. Apparatus according to claim 1 wherein said container member is generally rectangular and is formed with upstanding walls, said cover member being secured to said upstanding walls in an assembled condition.

3. Apparatus according to claim 1 wherein said container and cover members are generally circular.

4. A method of interconnecting fluid containers, such as bathtubs with fluid conduits, comprising the steps of determining the horizontal offset distance between an outlet port in a container and an existing plumbing waste port, positioning a movable cover member formed with an inlet opening with respect to a container member formed with an outlet opening, the distance between said inlet and outlet openings being a function of the horizontal offset distance between said port and said existing plumbing waste port, securing said cover member to said container member in fluidtight relationship and moving said container outlet port into fluidtight coaxial relationship with said cover member inlet port.

5. The method of claim 4 wherein an outlet port of a bathtub insert is interconnected to an existing pipeline, further comprising the step of severing a portion of said cover member from itself prior to said step of securing.

6. The method of claim 5 wherein said step of positioning includes sliding said cover member against the container member such that ports formed through said members are a predetermined distance apart.

7. Adapter apparatus as described in claim 2 including a peripheral ledge on said upstanding walls, and a vertical wall projecting from said ledge on transversely opposite sides of said container, said cover member being located on said ledge between said vertical walls in an assembled condition.

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