

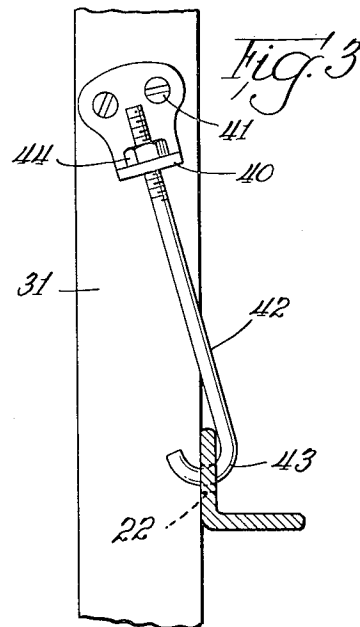
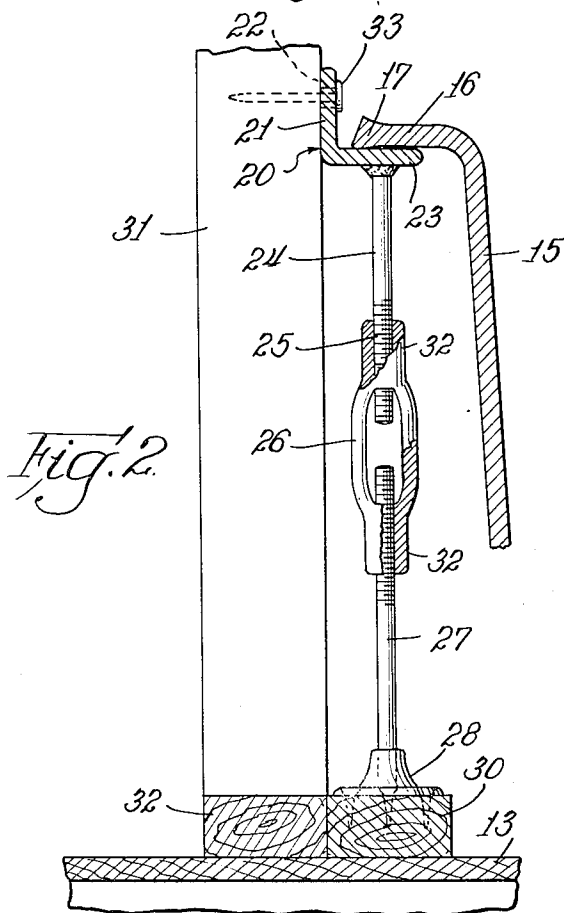
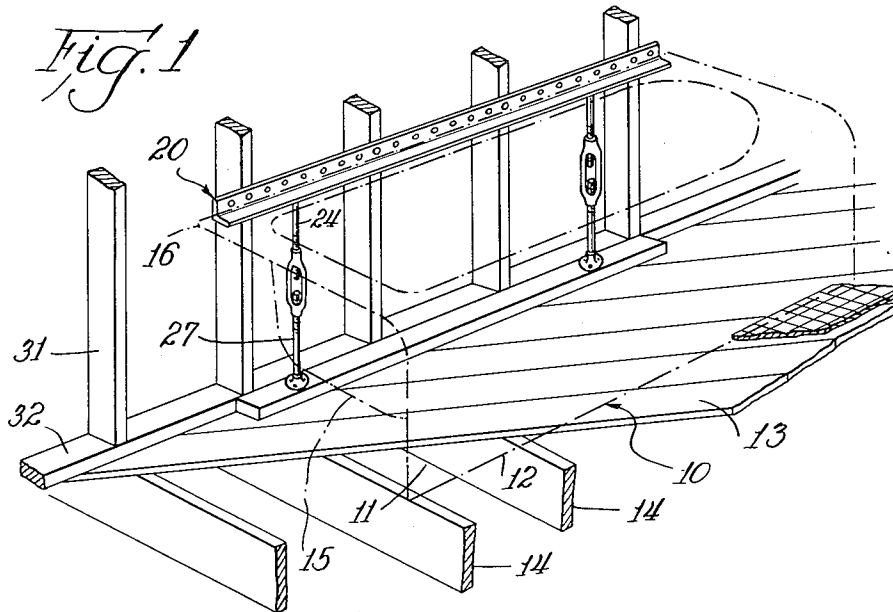
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J. IRONS

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BATHTUB LEVELING SUPPORT

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INVENTOR.

James Irons
BY
Watson D. Harbaugh
Att'y.

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BATHTUB LEVELING SUPPORT

James Irons, Lake Forest, Ill.

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1 Claim. (Cl. 4—173)

The present invention relates to support devices and more particularly to an anti-sag bath tub leveling support for built-in bath tubs.

Heretofore a great deal of difficulty has been experienced with bath tubs dropping or settling away from facing tile on the wall and leaving a crack which is not only unsightly but permits water to pass through and drain down the wall to ceilings below. Many devices have been designed to meet this problem but they either support the bath tube at several isolated points and later slip or become dislodged or they are secured to a wall before the bath tube is set and thereafter are not adjustable to be brought into leveling of engagement to assure permanency of the support.

More often than not warping and shifting of floor joists and wall studding causes a dislocation of bath tubs which results in cracks and strains that ultimately require extensive repair to correct. Conventional jacks for bath tubs which extend from the floor seldom coincide with wall studs and slip out of initial engagement with the tub edge which is being supported. Brackets secured to the wall stud do not engage the tub at advantageous points in every case and also slip or cause localized strains which damage the tub or tiling.

One of the objects of the present invention is to obviate these difficulties and provide an improved support which will not permit the bath tub to settle nor slip from its supported position.

A further object of the present invention is to provide an improved adjustable support which supports the bath tub over a substantial length of a free edge thereof with the weight of the bath tub carried by the supports transmitted over a substantial length and area on the floor.

A further object of the invention is to provide an improved support for a bath tub or the like which carries directly to the floor the bulk of the weight of a built-in bath tub present at the concealed edge thereof.

Another object of the invention is to provide an improved permanent support jack for the built-in edge of a bath tub which takes a full weight strain all along the edge without tilting, slipping or sagging either before or after the wall is tiled around the tub.

The invention is further characterized by a multiple jack bath tub support arrangement which is simple and inexpensive to manufacture, quickly and easily installed and adjusted, and maintains the bath tub in supported position without developing localized strains upon any particular point of the bath tub or the building.

These being among the objects of the invention, other and further objects will become apparent to those skilled in the art from the following description, the drawings related thereto and the appended claim.

In the drawings:

Fig. 1 is a perspective view partly in section and partly in broken lines illustrating the structural arrangement of the preferred form of the invention.

Fig. 2 is an enlarged section taken vertically at one of the turnbuckle jacks shown in Fig. 1.

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Fig. 3 is an enlarged view of an element employed to hold the angle iron member against the wall studding in the embodiment illustrated in Fig. 1.

Considering the drawings in further detail, a conventional bath tub of the built-in type is shown at 10 having an apron 11 along one side thereof with a weight bearing bottom edge at 12 which rests on the sub flooring 13 that is nailed to joist 14. The tub portion is indicated at 15 and along the side thereof opposite to the apron the tub has a horizontally disposed flange 16 provided with a beaded edge 17. The entire weight of the tub and its contents when in use is carried at the bottom edge 12 and the beaded edge 17, the bath tub being open at one or both of its ends for plumbing attachments.

An L-shaped angle iron 20 having the vertical flange 21 thereof perforated as at 22 at intervals spaced approximately one inch throughout its length engages the beaded tub edge 17 on the upper face of the lower flange 23 in supporting relationship. The lower flange 23 has rigidly secured thereto preferably as by welding, downwardly extending thrust elements or rods 24 threaded at their lower end as indicated by the numeral 25. Turnbuckle numbers 26 are received on the threaded portions 25 and in turn receive in their lower ends the upper ends of a second set of thrust rods 27. Rods 27 are supported rigidly and held upright in flanged feet or bases 28 fastened to a 2 x 4 footing 30 that rests on the floor 13.

The angle iron 20 and footing 30 rest against the wall studding 31 and the wall plate or sole 32, respectively, and the turnbuckles have long shanks which telescope over the body of the thrust rods to maintain them in axial alignment against buckling under the end thrust weight bearing strains to which they are subjected.

Although it is preferred to hold the angle iron against the studding 31 by nails 33 driven loosely in place through the perforations 22, a device shown in Fig. 3 may be used for the same purpose which comprises a bracket 40 secured to the side of the stud 31 by screws 41 and carries a rod 42 hooked as at 43 through one of the perforations 22. In this relationship the rod 42 is drawn into position by a nut 44 threaded on the top end of the rod 42 above the bracket 40. This device enables the making of last minute adjustments quite easily after the angle iron is leveled at the right height by the turnbuckles 26 after the tub has been slipped into place, and again just prior to the installation of the tile.

Many of the advantages and results attained by the invention will be better appreciated from the description of the installation and operation of the device. In this connection it will be understood that the rod and turnbuckle assemblies are of a length necessary to satisfy the normal height of conventional built-in tubs and although the rods are shown of approximately equal length, it will be appreciated that the upper rod can be a bolt whose flat head makes it easy to attach to the lower flange by welding, whereas the lower rod will be rigidly supported in the flange or footing 28 by a suitable silver soldering or brazing.

Installation and operation

The first step is to nail the footing 30 in place on the floor as shown with the flanges 28 located on the footing in approximately the positions illustrated. Thereafter the expected height of the bead edge of the tub is roughly attained by preliminary adjustment of the turnbuckles which also level the angle iron 20 lengthwise. The tub 10 is then lifted and slid into place with the beaded edge 17 resting on the flange 23. Thereafter the turnbuckles are turned in the same direction the same number of turns to pick up the weight of the tub and level it crosswise as well as lengthwise in relationship to the floor 13.

Once leveled, the apron 11 of the tub is cleated in place

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on the outside thereof to hold it in correct position until the floor tile can be laid against it. The angle iron is nailed lightly in place to prevent it from moving away from the wall, yet permitting the weight to remain upon the turnbuckle and thrust rod assemblies. Thereafter the plumbing, the wall tile and the floor tile are installed.

When in use it will be noted that preferably the thrust rods 24 are spaced from the ends of the angle iron about sixteen inches, yet the angle iron runs substantially the full length of the tub. The tub being of cast metal, the beaded edge is not always straight. If one end of the beaded edge is lower it would have a tendency to tilt the leveled angle iron, but since the thrust rods are so constructed that they serve also as tension rods, this cocking or tilting of the angle iron is prevented. One end of the angle iron cannot be forced upwardly by a superior or localized weight at the opposite end beyond the turnbuckle assembly at that end. Moreover, the nails also prevent end-wise movement of the angle iron during the time the tub is slid into place, whereas the length of the angle iron resting against a plurality of studding members on one side and being held against sidewise movement by the heads of the nails on the other side prevents lateral movement of the angle iron.

Due to the weight of the tub and its contents in use and also the generally "green" condition of lumber used in home building, if the weight of a tub is localized in limited areas, the lumber would permit depressions at these points as it seasons over the years, particularly if the support points were irregularities in the lower edge of the beaded edge, and the end result would follow that throughout the years the tub would settle away from the tiling more and more and cause widening cracks and unsightly conditions.

Such things are eliminated in the present invention because the flanges have extensive weight transmitting areas and the 2 x 4 footing distributes the weight it supports widely over the floor so that as an additional result the effect of a weakening or buckling floor at any particular point will not drop the tub support assembly and permit a crack to occur.

Moreover, in view of the fact that the walls are not closed in immediately after the tub is set and there will be some drying of the lumber taking place before tiling is installed, the tub can be given a final adjustment and leveling just prior to tiling, particularly if the device shown in Fig. 3 is used. Also it is to be noted that since the wall sole 32 and footing 30 ride together side by side

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over the same area of the floor, any settling of the floor will not change the relative position of the wall tile and the tub and cracks will be prevented.

It is also to be noted that some deflection is permitted in the angle iron at the time that the tub is originally installed so that there is retained in the present device some of the advantages that have heretofore been claimed for devices that support the tub at predetermined points. This slight deflection does accommodate the deviations from a straight line of a beaded edge which are experienced in cast iron tubs.

Consequently, having thus described the invention and the preferred form thereof with certain results attained thereby along with the advantages thereof, it will be readily apparent to those skilled in the art that various and further modifications can be made without departing from the spirit of the invention, the scope of which is commensurate with the appended claim.

What is claimed is:

The combination of a bath tub having a horizontally disposed flange near its top along one side, an angle iron engaging said flange in supporting relationship, parallel pairs of coaxial vertically disposed thrust rod members and turnbuckle elements interconnecting them welded at one of their ends to the angle iron perpendicular to an outside face of one of the sides thereof and at their other ends welded to a horizontally disposed element that is secured to a supporting floor for transmitting the weight upon the angle iron to the floor, the other side of said angle iron having holes therethrough and means engaging said angle iron for supporting same against lateral movement including a supporting bracket and an elongated tie member interconnecting the angle iron and bracket, said tie member having one end engaging in one of said holes and the other received through said bracket and free to move upwardly with respect to the bracket, and an adjustable element for supporting said other end of the bracket.

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