Dec. 12, 1933. J. T. FRITSCHE 1,939,115

WATERTIGHT JOINT

Filed May 5, 1932

Fig. 1.

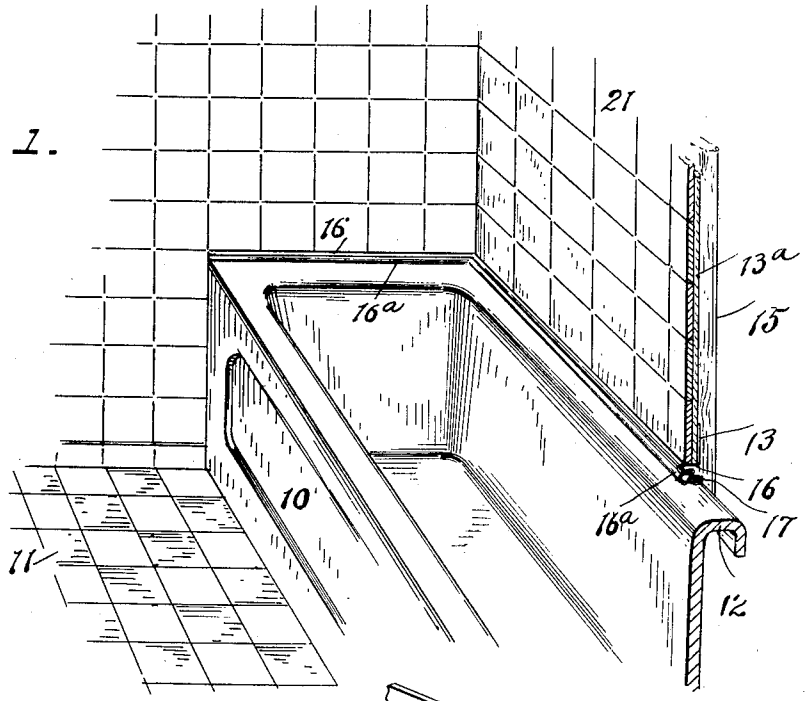


Fig. 2.

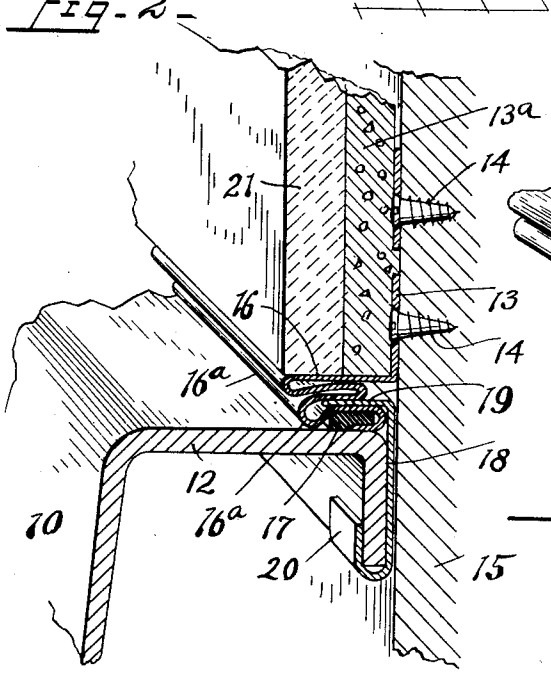
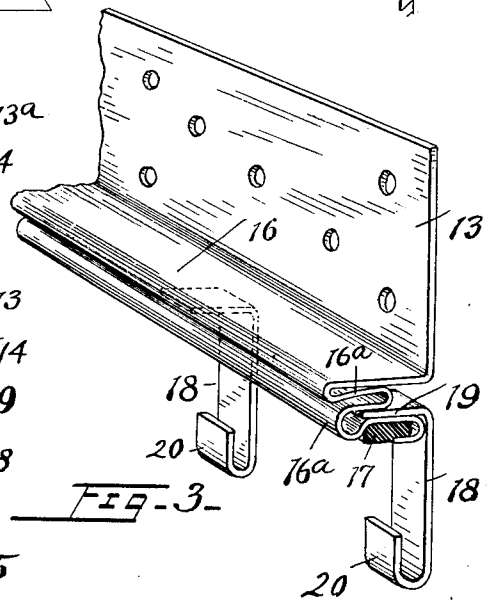


Fig. 3.



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WATERTIGHT JOINT

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9 Claims. (Cl. 72—0.5)

This invention relates to a joint for use in building construction and particularly to the joint between the upper edge of a bath tub or other plumbing fixture and the wall of the room in which it is installed.

At the present time bath tubs that are installed in dwellings and other buildings are of the "built in" type, that is, the tubs are either set into a nook in the bath room and contact with the wall of the room on three sides or they are located in a corner of the room and contact with the wall thereof on two sides. The wall of the room is usually tiled down to the top lip of the bath tub and it is necessary that a tight joint be provided between the lower edge of the tiled wall and the top lip of the tub. When a tub is installed in a new house a water-tight joint can be formed between the top lip of the tub and the lower edge of the tiled wall by means of plaster or other commonly used material. However, as the structural members of the house or building expand or contract, or when the house settles the top lip of the tub generally moves away from the lower edge of the tiled wall and opens a considerable crack between the top lip of the tub and the edge of the wall, which allows splashed water to seep in between the bath tub and the wall. Of course, fresh plaster may be applied, but since the expansion and contraction of the structural members and the settling of the house continues from time to time, plaster must be constantly applied to the crack in order to seal the same.

The principal object of the present invention is to provide a construction such that a water-tight joint will be provided between the top edge of a bath tub or other fixture and the wall of the room, notwithstanding the expansion and contraction of the structural members of the house or building or the fact that the house or building is undergoing a settling process.

A more specific object is to provide a joint between the top edge of a bath tub or other fixture and the wall of the room which is expansible and contractible, so as to compensate for changes occasioned by the settling of the house or building, or the expansion and contraction of the structural members thereof.

A further object is to provide a joint construction between the top lip of a "built in" bath tub or other plumbing fixture and the lower edge of a tile wall which is always effective as a water-tight seal and which forms the lower edge of the tiled or plastered wall.

Additional and further objects of the invention will become apparent hereinafter during the detailed description of an embodiment thereof, which is illustrated in the accompanying drawing, wherein

Fig. 1 is a fragmentary perspective view of a room having a tiled wall and in which is installed a "built in" bath tub, portions of the wall and tub being shown in section;

Fig. 2 is a fragmentary view, on an enlarged scale, similar to Fig. 1, but showing more in detail a construction of the joint between the top edge of the tub and the wall of the room, and

Fig. 3 is a fragmentary perspective detail of the joint, the wall and tub being omitted in this view.

Referring to the drawing a portion of a tub 10 of the "built in" type is shown as installed in the corner of a room 11 with two walls of the room engaging the top edge or lip of the tub, it being understood, of course, that the tub could be installed in a nook with three of the walls of the room engaging the top lip of the tub on three sides. As is customary in the "built in" type of bath tub the tub is provided at the upper edge of its wall engaging sides with a laterally and downwardly extending flange forming a top lip 12. A water-tight seal or joint must be provided between the top lip 12 and the wall of the room in order to prevent splashing water seeping in between the tub and the wall.

In accordance with the present invention it is proposed to employ a metal strip 13 extending the full length of the wall engaging side of the tub and secured by means of screws 14, or other suitable securing means, to the vertical uprights 15 of the building or to the lathing or other suitable members. Preferably, this strip is constructed similarly to metal lathing, that is, it is provided with openings or other means that will support plaster. The strip forms a continuation of the lathing, either wood or metal, and the plaster and cement are applied thereto, as indicated at 13*a*. The metal strip 13 is provided with a laterally extending flange 16 projecting over and above the top lip 12 of the tub and having at its free edge two or more reverse folds 16*a*, as clearly illustrated in the drawing. The bottom turn of the lowermost reverse fold 16*a* rests upon the top lip 12 of the bath tub and there is arranged within this lowermost fold 16*a* a suitable packing 17, which for a portion of its width engages the top lip of the tub beyond the end of the bottom turn of the lowermost reverse fold 16*a* and forms a water-tight seal along the top lip of the tub.

A plurality of clips 18 are inserted between the downwardly extending part of the flange of the tub forming the top lip thereof and have a laterally extending arm 19 projecting between the fold 16*a* which contains the packing 17 and the fold 16*a* that is immediately above the same. The lower edges of the clips 18 are provided with upwardly turned portions forming hooks 20 engaging the lower edge of the downwardly extending flange portion of the top lip 12 of the tub. The clips 18 are of such length that when positioned, as illustrated in the drawing, the packing 17 will be held in tight engagement with the top lip of the tub. Any number of the clips 18 may be employed, as desirable, it being noted that these clips are spaced longitudinally of the wall engaging sides of the tub. The tiles 21 are secured to the wall in the usual maner by means of the cement and plaster, with the tiles of the lowermost row engaging the flange 16 of the strip 13.

The metal strips 13 with their flanges 16 and reverse folds 16*a* may be formed of any suitable metallic material, but preferably material that possesses a certain amount of flexibility to allow the same to expand and contract, with particular reference to the reverse folds 16*a*. Wherefore, it will be seen that, as the structural elements of the building expand or contract, or as the building settles and the distance between the top lip 12 of the tub and the lower edge of the tile wall changes, the reverse folds 16*a* may expand or contract to compensate for variations in this distance and that the packing 17 will at all times be held in water sealing engagement with the top lip of the tub. Therefore, having once installed a bath tub with a joint or connection between the top lip thereof and the lower edge of the tiled wall, as explained above, there will be no occasion to repair the joint, even though the structural members expand or contract, or the house or building is undergoing a settling process.

It will be understood that the strips 13 may also be arranged along the vertical sides of the tub that contact with the walls but it was thought unnecessary to illustrate the same herein.

Although a particular embodiment of the invention has been illustrated and described in detail herein, it should be understood that the invention is susceptible of various modifications and adaptations within the scope of the appended claims.

Having thus described my invention, I claim:

1. In combination with a bath tub having a top lip formed of a laterally extending flange and a downwardly extending flange and a tile wall of the room in which said tub is installed, a water-tight joint between said top lip and said wall comprising a member secured to the wall and having a laterally extending flange overlying the top lip of the tub, a plurality of reverse folds connected to the outer edge of said flange with the bottom turn of the lowermost fold engaging the top lip of said tub, a packing arranged in the lowermost fold and engaging the top lip of said tub, and a clip arranged between the tub and said wall and having at one end a hook portion engaging the downwardly extending flange of the lip and at its opposite end a laterally extending arm projecting between said reverse folds.

2. In combination with a bath tub having a top lip formed of a laterally extending flange and a tile wall of the room in which said tub is installed, a water tight joint between said top lip and said wall comprising a member secured to the wall and having a laterally extending flange overlying the top lip of the tub, a plurality of reverse folds connected to the outer edge of said flange with the bottom turn of the lowermost fold engaging the top lip of the tub, a packing arranged in the lowermost fold and also engaging the top lip of said tub, and a clip having a hook engaging beneath said flange of the top lip and a laterally extending arm projecting between said reverse folds.

3. In combination with a bath tub having a laterally extending top lip and the wall of the room in which said tub is installed, means forming a joint between said lip and wall comprising a portion secured to said wall, a portion spaced from said first named portion and engaging the upper side of said lip, an expansible and contractible portion interconnecting said portions, and a clip having a part engaging the upper side of said second named portion and another part engaging the inner side of said lip.

4. In combination with a bath tub having a laterally extending top lip and the wall of the room in which said tub is installed, means forming a joint between said lip and wall comprising a portion secured to said wall and having a laterally extending flange forming a support for the plaster or tiles of the wall, a portion spaced from said first named portion and engaging the upper side of said lip, an expansible and contractible portion interconnecting said above named portions, and a clip having a part engaging the upper side of said second named portion and another part engaging the inner side of said lip.

5. In combination with a bath tub having a laterally extending top lip and the wall of the room in which said tub is installed, means forming a joint between said lip and wall comprising a portion secured to said wall, a portion spaced from said first named portion and engaging the upper side of said lip, an expansible and contractible portion interconnecting said above named portions, and a packing gasket associated with said second named portion and engaging said top lip.

6. In combination with a bath tub having a laterally extending top lip and the wall of the room in which said tub is installed, means forming a joint between said lip and wall comprising a portion secured to said wall and having a laterally extending flange forming a support for the plaster or tiles thereof, a portion spaced from said first named portion and engaging the upper side of said lip, an expansible and contractible portion interconnecting said above named portions, a gasket associated with said second named portion and engaging said lip, and a clip having a part engaging the upper side of said second named portion and another part engaging the inner side of said lip.

7. In combination with a bath tub having a laterally extending top lip and the wall of the room in which said tub is installed, a water-tight joint between said wall and lip comprising means secured to the wall and having a laterally extending flange overlying and spaced above said lip, means engaging the said lip and including a packing member, reversely curved expansible and contractible means connected to both of said above named means, and a clip having a portion engaging the upper side of said second named means and a portion engaging the inner side of said lip.

8. A device of the character described, comprising in combination, a member adapted to be

secured to the wall of a room, a member spaced from said first member and adapted to engage the top lip of a bath tub, expansible and contractible means interconnecting said members, and a clip adapted to engage said second member and the inner side of the top lip of a bath tub.

9. An article of manufacture comprising a metallic strip adapted to be secured to a wall, a metallic strip spaced from said first named strip and adapted to engage the upper side of a laterally extending top lip of a bath tub, and expansible and contractible metallic means connecting said strips and having an inwardly curved portion lying therebetween.

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