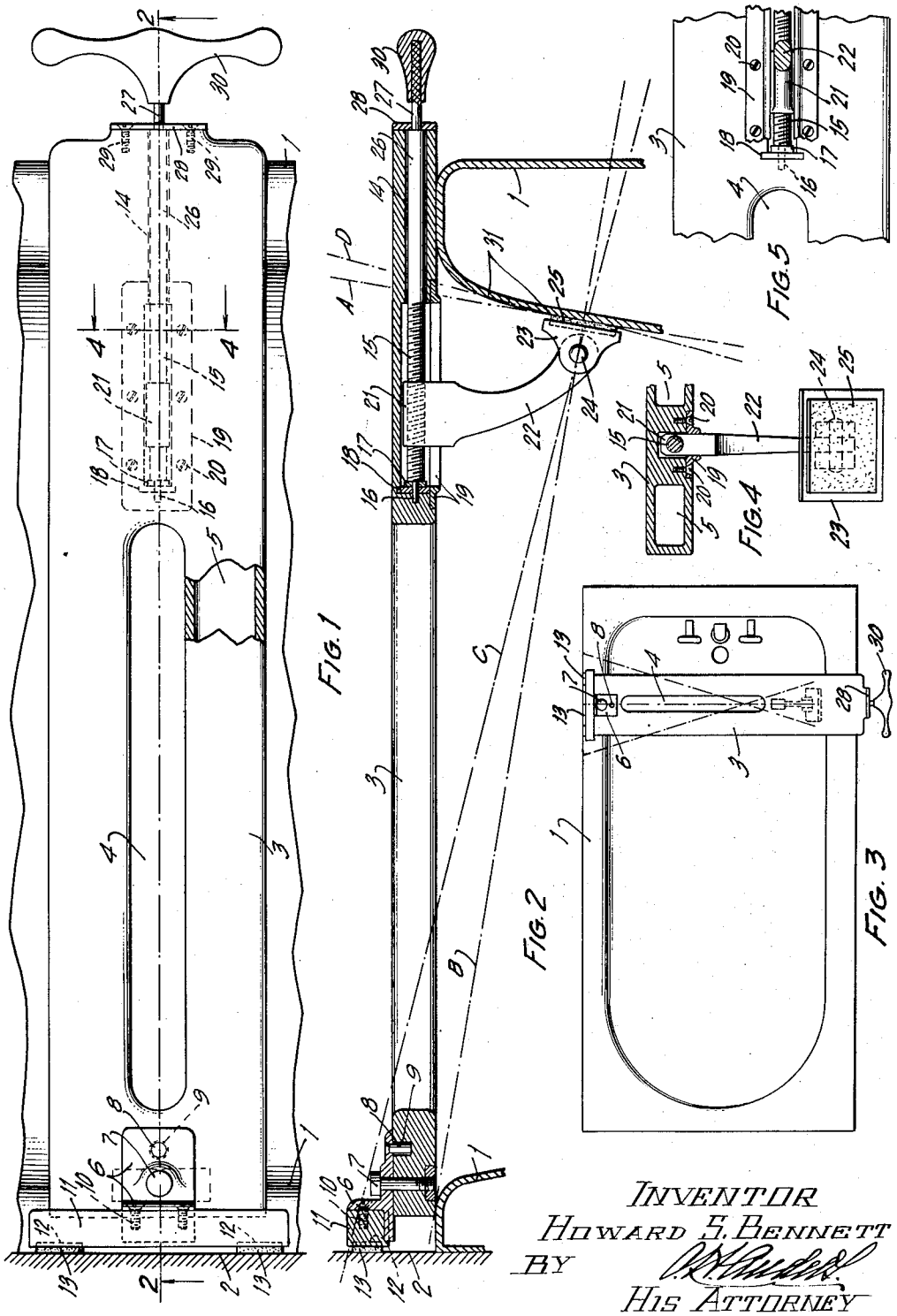
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SAFETY BAR FOR BATHTUBS

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SAFETY BAR FOR BATHTUBS

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My invention relates to safety devices for built-in bathtubs and particularly to a bar of a length adapting it to extend transversely across the top of a built-in bathtub and which is provided with means for detachably securing it to the tub to form a firm, safe hand grip for anyone using the tub so that, by grasping the same, he may safely seat himself in the tub and lift himself therefrom without danger of slipping. Preferably, the device is made of such width that it may be used as a seat.

One of the objects of my invention is to provide a device of the character described which may be readily attached to and detached from a built-in tub, and which is self adjustable so that it may be applied to any width of tub in common use. Another object is to provide a device of such design that, when attached to the tub, it is substantially impossible accidentally to displace it so that any one using it to assist himself in getting into or out of the tub may have entire confidence in its stability. Another object is to provide a device of this character which is light in weight, highly resistant to corrosion, which may be colored or enameled to conform to any color scheme, and which may be constructed and sold at low cost.

I accomplish these objects by means of the novel elements and the combinations and arrangements thereof described below and illustrated in the accompanying drawings in which—

Fig. 1 is a plan view of my device with portions broken away, and showing a fragmentary portion of a built-in tub to which the device is attached;

Fig. 2 is a section of Fig. 1 in the plane 2—2;

Fig. 3 is a small scale view of the tub showing my device attached thereto;

Fig. 4 is a fragmentary section of Fig. 1 in the plane 4—4; and

Fig. 5 is a fragmentary bottom view of the device.

Referring to the drawings—

1 indicates the tub and 2 indicates the side wall of the bathroom against which the tub is built. 3 indicates the bar which is adapted to extend transversely across and rest upon the tops of the opposite sides of the tub. The bar 3 may be formed of any material, such as wood, plastic, or light metal and is provided with a longitudinally extending slot 4 in the center. When cast or molded, the portions of the bar on each side of the slot 4 are preferably hollow, or cored, as shown at 5 in Figs. 1 and 4, to reduce the weight thereof. While the width of the bar is preferably sufficient to form a comfortable seat, the portions of the bar at each side of the slot 4 should not be so wide that they cannot be readily grasped by the hand.

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Adjacent one end of the bar and projecting somewhat beyond the end thereof, is an angle bracket 6 which is pivotally secured to the top of the bar by means of the bolt 7. In order to limit the extent of the relative pivotal movement of the bar 3 and the bracket 6, a pin 8 is secured to the bracket 6 and depends therefrom into a hole 9 in the bar 3 which is of somewhat larger diameter than the pin 8 so that some slight relative pivotal movement of the bracket 6 and the bar 3 is provided about the axis of the bolt 7. This slight movement closely adjacent the pivotal bolt 7, allows sufficient lateral swinging movement of the other end of the bar to take care of any difference in horizontal alignment between the wall 2 and the inside of the opposite wall of the tub.

Integral with the angle bracket 6, or secured thereto by means of screws 10, or otherwise, is a bar 11 of somewhat greater length than the width of the bar 3. Adjacent each end, and on that face thereof adjacent the wall 2, the bar 11 is recessed, as shown at 12, and blocks or pads 13 of rubber or other suitable material adapted to engage the wall 2 in non-slipping relation are secured therein.

At the other end, the bar 3 is provided with a central, longitudinal bore 14 to receive the shaft 26, a portion of which is threaded to form the worm 15. A pin 16 is secured to or formed integral with the worm 15 and projects into the bar 3, as best shown in Fig. 2. Since the bar 3 may be of a comparatively soft material, a phosphor-bronze thrust washer 17 surrounds the pin 16 and abuts the end of the worm 15, and, between the thrust washer 17 and the bar 3 is a steel thrust plate 18. The bottom of the bar 3 beneath the worm 15 is cut out, as shown at 18, and a frame 19 is secured to the bar around the cut out portion by means of screws 20.

Cooperating with the worm 15 is a nut 21 having a curved depending arm 22 passing through the frame 19 (see Fig. 4) and having a member 23 pivotally secured at the lower extremity thereof, as shown at 24. The face of the member 23 adjacent the inner face of the tub is preferably rectangular, as best shown in Fig. 4, and is recessed to receive the block 25 of rubber or similar material adapted to engage the adjacent inner side of the tub, as shown in Fig. 2. The shaft 26 upon which the worm 15

is formed, may be reduced in size where it projects beyond the end of the bar 3, as shown at 27, and a plate 28 is secured to the end of the bar 3 by means of screws 29; the shoulder formed by the reduction in diameter of the shaft 26 abutting the inside surface of this plate. In order to turn the worm, a handle 30 is secured to the reduced portion 27 of the shaft 26, as best shown in Figs. 1 and 2.

In order to secure my device to a bathtub, it is only necessary to lay the bar across the top of the tub with the pads 13 positioned against the side wall 2 against which one side of the tub is built. Then, by merely turning the handle 30 in a clockwise direction the nut 21 will be moved to the right until the pad or block 25 is brought into firm contact with the inner surface of the bathtub on the side thereof which is remote from the wall. At the same time, the blocks 13 will be compressed against the wall 2, and the device will be firmly wedged between the wall and the tub.

The dot and dash line A in Fig. 2 is a continuation of the inner side wall of the tub against which the block 25 is pressed, and the dot and dash line B is a line normal to the inner side of the tub against which the block rests or, in other words, a line which is perpendicular to the dot and dash line A. The line B is drawn through the pivot 24 and is substantially tangent to the top of that side of the tub which is adjacent the wall 2.

The dot and dash lne C is a line also drawn through the axis of the pivot to intersect the wall 2 just above the top of the blocks or pads 13 and the dot and dash line D is a line perpendicular to the line C and passing through the center of the surface of the pad or block 25 which rests against the inner surface of the tub 2. It will be noted that this line D intersects or passes through a portion of the tub between the points indicated by the lead lines 31 in Fig. 2. Because this line intersects the tub, it will be apparent that it will be impossible to raise the right hand end of the bar and hence the bar cannot accidentally be displaced upwardly at this end.

It will also be apparent that, since the blocks 13 are substantially laterally spaced apart and the block 25 is of substantial width, it will be quite impossible accidentally to dislodge the bar 3 by a lateral thrust. Furthermore, since the blocks 13 are of substantial depth, it will be difficult accidentally to displace upwardly the end of the bar adjacent the wall against which the tub is built.

In order to eliminate all possibility of corrosion of those metal parts, other than the bar 3 which will be substantially non-corrosive if formed of wood, plastic, aluminum or the like, and which said parts are subjected to substantial stress or wear, and yet endow them with adequate strength and resistance to wear, I prefer to form them of a stainless or corrosion resistant alloy, such as stainless steel.

While I have described my invention in its preferred embodiment, it is to be understood that the words which I have used are words of description rather than of limitation and that changes, within the purview of the appended claims, may be made without departing from the true scope and spirit of my invention in its broader aspects.

What I claim is:

1. In a safety device for a built-in bathtub, the combination with a bar adapted to extend transversely across said tub and rest upon the tops of the opposite sides thereof, of means on said bar adapted to cooperate with the bathroom wall against which one side of said tub is built, and in spaced zones thereof adjacent the top of said tub, a longitudinally extending worm rotatably mounted on said bar, an arm including a nut cooperating with said worm and depending therefrom; said arm being provided at the lower end thereof with an element adapted to bear against the inner side of said tub opposite said wall; and a handle for turning said worm to move said element into firm engagement with the inner side of said tub and said means into firm contact with said bathroom wall to secure said bar to said tub.

2. In a safety device for a built-in bathtub, the combination with a bar adapted to extend transversely across said tub and rest upon the tops of the opposite sides thereof, of means on said bar adapted to cooperate with the bathroom wall against which one side of said tub is built, and in spaced zones thereof adjacent the top of said tub, a longitudinally extending worm rotatably mounted on said bar, an arm including a nut cooperating with said worm and depending therefrom, means pivotally connected to the lower end of said arm and provided with a surface of substantial area adapted frictionally to engage the inner side of said tub opposite said wall, and a handle for turning said worm for effecting relative movements of said wall engaging means and said tub-side engaging means towards and away from each other to secure said device to tubs of different width by wedging it between the side of said tub and said wall.

3. In a safety device for a built-in bathtub, the combination with a unitary rigid bar of a length adapting it to extend from a zone closely adjacent the wall against which said tub is built across and be simply supported upon the tops of the opposite sides of said tub, of a worm extending longitudinally of and rotatably mounted on said bar and having a portion thereof projecting beyond that end of said bar which is adapted to rest on top of the outer side of said tub, a nut on said worm having an arm depending a substantial distance therefrom and provided at the lower end with an element adapted to bear against the inner face of said outer side of said tub in a zone substantially below the top of said side, and a handle on the projecting portion of said worm for turning the same to wedge said bar firmly between said outer side of said tub and said wall.

4. In a safety device for a built-in bathtub, the combination with a rigid, flat bar of substantial width provided with a longitudinally-extending slot therein and of a length adapted to extend transversely across said tub and rest flatwise upon the tops of the opposite sides thereof, of means on said bar adapted to cooperate with the bathroom wall against which one side of said tub is built, a longitudinally-extending worm rotatably mounted on said bar, a nut cooperating with said worm and having an arm depending therefrom, said arm being provided at the lower end thereof with an element adapted to bear against the inner side of said tub opposite said wall in a zone below and substantially spaced from the top thereof; and a handle for turning said worm to move said element into firm engagement with said inner side of said tub and said means into firm contact with said bathroom wall to secure said bar to said tub.

5. In a safety device for a built-in bathtub, the combination with a rigid, flat bar of substantial width provided with a longitudinally-extending

slot therein and of a length adapted to extend transversely across said tub and rest flatwise upon the tops of the opposite sides thereof, of means on said bar adapted to cooperate with the bathroom wall against which one side of said tub is built, a longitudinally-extending worm rotatably mounted on said bar, a nut cooperating with said worm and having an arm depending therefrom, said arm being provided at the lower end thereof with an element adapted to bear against the inner side of said tub opposite said wall in a zone below and substantially spaced from the top thereof; and a handle for turning said worm to move said element into firm engagement with said inner side of said tub and said means into firm contact with said bathroom wall to secure said bar to said tub; said wall cooperating means and said element each being provided with means for automatically adjusting itself to move into firm, nonslipping contact with said wall and said inner face of said tub, respectively, as said device is being wedged into place.

HOWARD S. BENNETT.

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