June 7, 1938. G. L. HECKERT 2,120,179

BATHTUB SAFETY DEVICE

Filed Nov. 6, 1937

Fig. 2.

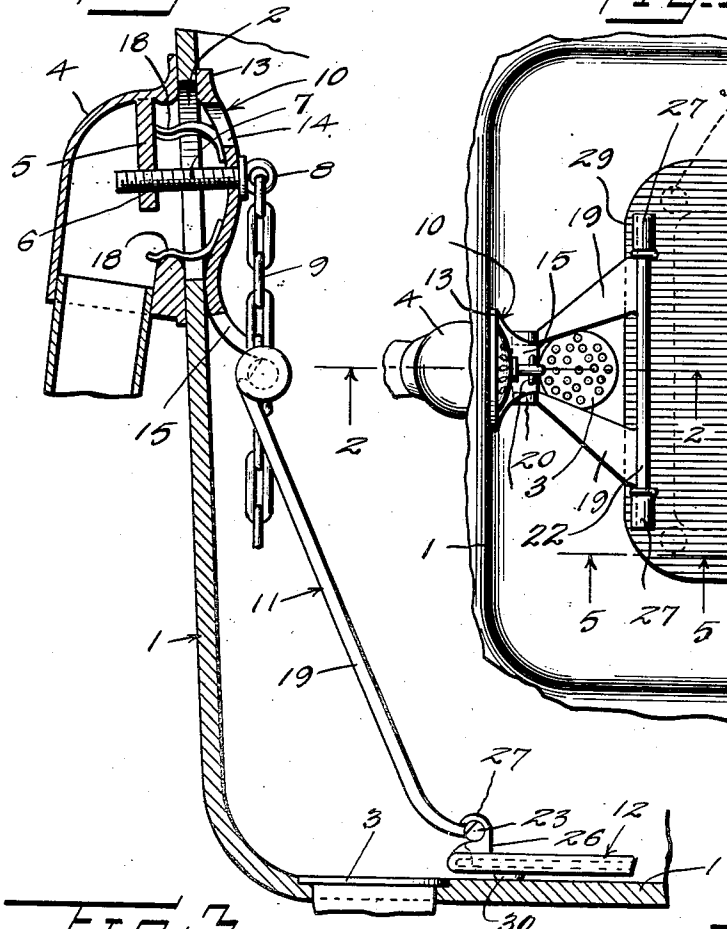
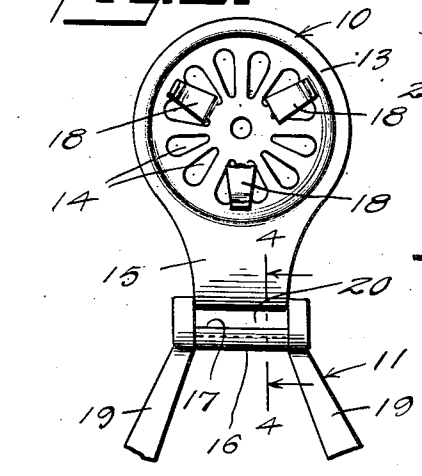


Fig. 1.

Fig. 3.



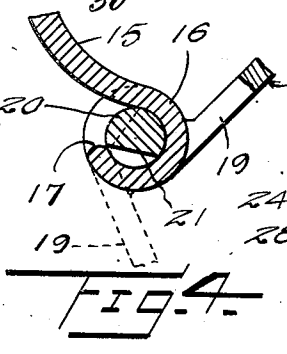
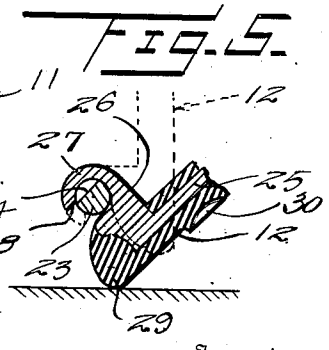


Fig. 4.

Fig. 5.



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BATHTUB SAFETY DEVICE

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8 Claims. (Cl. 4—185)

This invention relates to attachments for bathtubs, and pertains particularly to a safety device for application to such a tub.

In the use of bathtubs particularly where showers are employed, it frequently occurs that the user is injured by slipping upon the bottom of the tub, and no satisfactory means has thus far been devised for preventing such accidents.

The present invention has for its primary object to provide a novel device for use in bathtubs which will prevent accidents occurring as above described and which may be readily shifted from an operative or service position to an inoperative position in the tub or completely removed from the tub when it is desired to take a tub bath.

Another object of the invention is to provide a bathtub safety device in the form of a mat which is designed to be located upon the bottom of the tub beneath a shower and which is coupled in a novel manner to the adjacent end wall of the tub so that it may be easily and quickly raised to an inoperative position or completely removed from the tub as may be desired.

Still another object of the invention is to provide a bathtub safety device comprising a mat and novel means for securing the same firmly against movement on the bottom of the tub, which consists of a fitting designed to replace the usual guard fitting covering the overflow opening of the tub which is adapted to be quickly placed in the overflow opening and which is rigidly but detachably coupled with the mat.

Other objects and advantages of the invention will be apparent from the following description and the invention will be best understood from the detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a view in top plan of the safety device embodying the present invention, a portion of the mat being broken away, the device being shown in association with a portion of a tub.

Fig. 2 is a sectional view taken substantially on the line 2—2 of Fig. 1, with parts of the structure shown in side elevation.

Fig. 3 is a view of the rear side of the fitting designed to replace the overflow opening guard.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 1.

Referring now more particularly to the drawing, the numeral 1 generally designates that end of a bathtub in which the overflow opening 2 and regular drain opening 3 are located. Fig. 2 illustrates in section a portion of the waste pipe coupled with the vertical wall of the tub behind the overflow opening 2, this waste pipe being generally designated by the numeral 4 and having a depending bar 5 therein thru which a threaded aperture 6 is formed for the reception of a screw 7, the inner end of which carries an eye 8 to which is attached one end of a chain 9 which carries upon its other end the usual vent plug, not shown. The safety device embodying the present invention consists of the fitting, indicated generally by the numeral 10, a hanger unit 11, and a mat 12 which is adapted to position upon the bottom of the tub when in use. The fitting 10 more specifically consists of a plate 13, having a central aperture thru which the screw 7 passes, when the plate is disposed over the opening 2, as illustrated in Fig. 2, to be retained in position by the engagement of the screw in threaded opening 6 in the bar 5. Surrounding the opening thru which the screw passes is a series of openings 14 for the escape of water to prevent the tub overflowing.

The plate 13 has formed integrally therewith the arm 15 which, when the plate is in position, extends downwardly and curves slightly inwardly so that the hinge sleeve 16 which is formed transversely of its end will be in spaced relation with the adjacent wall of the tub. This sleeve is split or open longitudinally upon its rear side, as indicated at 17 in Figs. 3 and 4.

Secured to or formed integral with the rear face of the plate 13 are the three spring fingers 18 which are designed to frictionally engage over the edge of the opening 2 or the inner face of the adjacent end of the drain pipe 4 so as to assist in maintaining the fitting in working position. By the use of these spring fingers the fitting may be firmly secured in place even tho the screw 7 is not made use of.

The hanger 11 consists of the two side bars 19 which are disposed in convergent relation to extend upwardly from the bottom of the tub when the device is in use and the upper ends of these bars are coupled together by the hinge pin 20 which is adapted to position in the sleeve 16 and which has a flattened area 21 formed longi-

tudinally of one side thereof. By the provision of this flattened area 21 on the pin 20, the latter may be conveniently removed from the sleeve 16 thru the slot 17 when the hanger 11 is raised to an angle of approximately 45 degrees in respect to the bottom of the tub, as illustrated in Fig. 4. From this detailed illustration it will be apparent also that when the hanger is in the down position shown in Fig. 2, the pin 20 will be so disposed in the sleeve that its extreme diameter will be across the opening 17 and since the opening or slot 17 is of a width less than the full diameter of the pin, the pin cannot pass therethru when the hanger is down. Also, when the hanger is raised to a position above the 45 degree angle, the same condition will exist which will prevent its removal.

The lower divergent ends of the arms 19 are coupled together by the bar 22, and this bar extends beyond the outer sides of the bars 19 so as to form trunnions 23. Each of these trunnions constitutes a hinge pin similar to the pin 20 in that it has a flattened side area 24 which extends longitudinally thereof.

The mat 12 consists of a frame, preferably of rectangular outline, which is indicated generally by the numeral 25. This frame is flat and of rigid material and has formed integral therewith the two upstanding ears 26, each of which merges into a hinge sleeve 27 which is longitudinally open or slotted, as indicated at 28. These sleeves 27 are in alinement transversely of the end of the mat which is disposed adjacent to the end wall of the tub thru which the outlet opening 2 is formed, when the mat is in operative position and which sleeve is of a size to receive a hinge pin or trunnion 23.

As illustrated in Fig. 5, the relative positions of the flattened areas 24 and the openings 28 of the sleeves in which the trunnions or pins 23 position, is such that when the mat is lying upon the tub bottom, the extreme or full diameter of each trunnion will extend across the slot or opening 28 so that these parts cannot become disconnected, but when the mat is raised to approximately a 45 degree angle with respect to the bottom of the tub, the trunnions will be so disposed that the lesser diameters will be alined with the slots 28 so that they may pass therethru, thus facilitating the detachment of the mat from the hanger. When the hanger is raised to a vertical position as illustrated in Fig. 5 in dotted lines, the trunnions will be so disposed in the sleeves that they cannot be removed therefrom and thus the mat may be maintained in this inoperative position without danger of it becoming detached from its associated structure.

As is clearly illustrated in Figs. 1 and 5, the ears 26 extend thru the top surface of the mat a substantial distance rearwardly of the adjacent mat edge, thus providing a relatively thick body of mat material, as indicated at 29, which projects beyond the hinge sleeves 27. With this construction it will be readily seen that when the mat is in the vertical position indicated in dotted outline in Fig. 5, the edge portion 29 thereof will rest upon the tub bottom and prevent any of the metallic parts, such as the sleeves 27, from contacting the tub.

From the foregoing it will be readily apparent that the safety device herein described will operate efficiently to support a person in a tub while he is taking a shower and is so attached to the tub structure that it cannot become accidentally displaced. At the same time if the bather wishes to take a tub bath the mat can be oscillated to an inoperative position or it may be completely removed from the tub as may be desired.

While the fitting 10 has been described and illustrated as being of a character to be substituted for the standard fitting which covers the overflow opening of a tub, it will be readily apparent that it may be made as a standard part of the tub structure, in which case the resilient fingers 18 may be discarded.

While the mat as illustrated and described will normally maintain its position on the bottom of the tub, there are shown formed integrally with the underside a series of suction cups 30 which when weight is applied to the mat will be pressed against the bottom surface of the tub and will tightly secure the mat thereto. Thus if the fitting 10 may not have been tightly secured in place so that it would have a tendency to shift slightly, such shifting would be prevented by the sucking action of the cups 30 with the bottom of the bathtub.

What is claimed is:

1. A bathtub safety device, comprising a flat mat adapted to lie upon the bottom of a tub, a unit fixed to a wall of the tub and having a portion adapted to extend down thereinto, and a pivotal coupling between the mat and said extended portion of the unit facilitating the disposition of the mat in lowered service position on the tub bottom or vertical out of service position.

2. A device as set forth in claim 1, in which said pivotal coupling means constitutes interlocking units so constructed and arranged that detachment of the mat from the unit is made possible only when the mat is positioned between the said lowered and vertical positions.

3. A bathtub safety device, comprising a mat adapted to be disposed upon the bottom of a tub, a fitting adapted to be secured to an upright wall of the tub, said fitting including a hinge element, a hanger having a hinge element connected with said fitting element, the hanger when in working position extending to the bottom of the tub, and a hinge coupling between the mat and the part of the hanger adjacent the tub bottom.

4. A bathtub safety device, comprising a mat adapted to be disposed upon the bottom of a tub, a fitting adapted to be secured to an upright wall of the tub, said fitting including a hinge element, a hanger having a hinge element connected with said fitting element, the hanger when in working position extending to the bottom of the tub, and a hinge coupling between the mat and the part of the hanger adjacent the tub bottom, said last coupling being so constructed and arranged as to permit the mat to be stood on edge in the tub without bringing the coupling into contact with the tub bottom.

5. A bathtub safety device, comprising a fitting adapted to replace an overflow opening guard, an arm depending from the fitting, a hanger having a detachable coupling with said arm and adapted to extend downwardly therefrom to the bottom of the tub, a mat adapted to lie upon the bottom of the tub, and a separable coupling between the mat and the part of the hanger adjacent the tub bottom.

6. A device according to claim 5 in which said separable coupling comprises a longitudinally split sleeve and a pin member adapted to fit and oscillate in said sleeve and having a longitudinal flat area facilitating removal of the pin from the

sleeve thru the split when the pin is oscillated to one position in the sleeve.

7. A safety device for a bathtub having an overflow opening in a wall thereof, comprising an apertured guard for said opening, a plurality of resilient spring fingers carried by the guard for engagement in and with the sides of said opening, a depending arm carried by the guard, a hanger, a pivotal coupling between the hanger and arm which facilitates separation of the hanger and arm only when the hanger is oscillated to a predetermined position, a mat adapted to lie upon the bottom of the tub, and a pivotal coupling between the mat and the hanger which is so constructed and arranged as to permit ready separation of the mat and hanger when the mat is raised to a predetermined position with respect to the tub bottom.

8. A safety device for a bathtub, comprising a mat adapted to lie upon the bottom of the tub and consisting of a frame having a flat rubber body mounted thereon, means forming a pair of spaced hinge sleeves integral with the frame and projecting above the upper side of the mat, a hanger attached to a vertical wall of the tub and extending down to the bottom thereof, a pair of hinge pins carried by said hanger and adapted to oscillate in said sleeves, and said mat body having the material thereof extended beyond said ears as a supporting means to prevent contact of the ears with the tub bottom when the mat is oscillated on said pins to a vertical position.

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