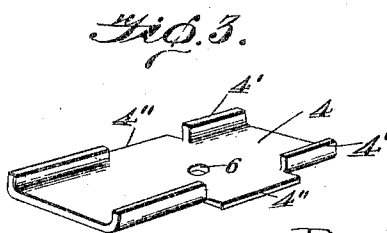
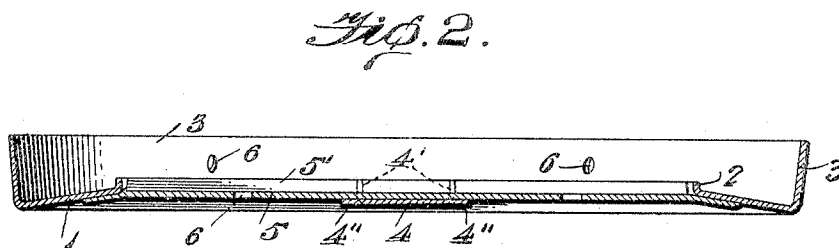
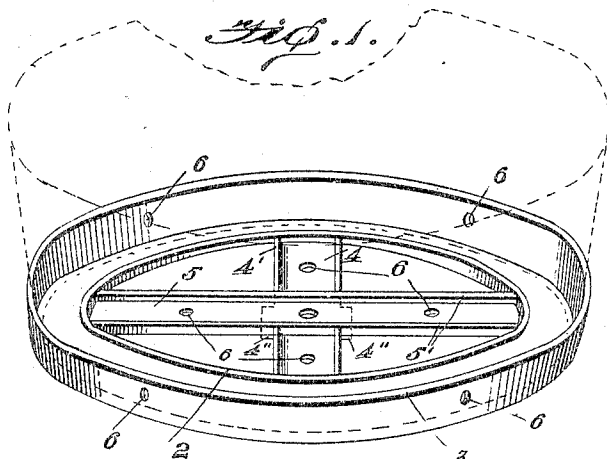


No. 789,619.

PATENTED MAY 9, 1905.

R. T. MALIN.  
TUB BOTTOM PROTECTOR.  
APPLICATION FILED MAY 17, 1904.



Witnesses

E. K. Stewart,  
W. H. Clarke.

Richard T. Malin,  
Inventor

by

C. A. Snow & Co.,  
Attorneys

# UNITED STATES PATENT OFFICE.

RICHARD THOMAS MALIN, OF DENVER, COLORADO.

## TUB-BOTTOM PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 789,619, dated May 9, 1905.

Application filed May 17, 1904. Serial No. 208,487.

*To all whom it may concern:*

Be it known that I, RICHARD THOMAS MALIN, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented a new and useful Tub-Bottom Protector, of which the following is a specification.

This invention relates generally to tubs or pails, and particularly to protectors for the bottom thereof.

The object of the invention is in an inexpensive and practical manner to brace the bottom of a tub, so that hard usage will not cause it to bulge or break at its lower end.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a tub-bottom protector, as will be hereinafter fully described and claimed.

The invention will be more clearly described in detail hereinafter, with reference to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a perspective view of the improved tub-bottom protector, the tub being indicated in dotted lines. Fig. 2 is a vertical section. Fig. 3 is a detail perspective view showing the manner of forming one brace to permit the passage of the other.

The improved tub-bottom protector of this invention may be made from sheet metal or cast from suitable material in one piece, as desired. It comprises a disk 1, which is circularly cut away at its center, as shown. The disk 1 is inclined upwardly toward its center to fit closely the bottom of a tub, and a small inclined flange 2 is formed around the central cut-away portion thereof. Around the outer edge of the disk 1 is formed an annular flange 3, that fits outside the lower end of the tub when the protector is in position. Extending across the central cut-away portion of the disk 1 at right angles to each other are two braces 4 and 5, each of which is formed with two

upwardly-projecting flanges 4' 4' and 5' 5', respectively. At the point where the two braces cross each other the flanges 4' 4' of the brace 4 are slitted, and a portion 4" of each flange is bent outward to permit the brace 5 to lie closely against the brace 4. Suitable nail or screw holes 6 are formed in the flange 3 and in the braces 4 and 5, as shown, to permit the protector to be easily and quickly attached to the bottom of a tub.

If the device of the invention be made of sheet metal, it is preferable that the several parts thereof be soldered to each other, though other suitable attaching means, such as rivets, may be employed, if desired. For the sake of cheapness, however, it may be found well to cast the protector in one piece.

By forming the flanges 2 and 3 on the disk 1 and the upwardly-projecting flanges on the braces 4 and 5 the entire device is greatly strengthened without being heavy or cumbersome. Furthermore, the inner flange 2 of the disk and the flanges on the braces may grip or bite into the bottom of the tub and hold the protector more firmly in position in addition to bracing the tub.

Having thus described the invention, what I claim is—

1. A tub-bottom protector comprising an annulus having inner and outer marginal flanges, and flanged braces bridging the opening of the annulus.

2. A tub-bottom protector comprising an annulus having inner and outer marginal flanges, and flanged braces bridging the opening of the annulus and provided with means for attachment to a tub.

3. A tub-bottom protector comprising a perforated disk having flanged braces extending across its perforated portion.

4. A tub-bottom protector comprising a centrally-perforated disk inclined upwardly toward its center, an upwardly-projecting peripheral flange on the disk, an interior annular flange thereon, braces extending across the

central perforation of the disk and provided with upwardly-extending flanges, the flanges of one brace being slitted and bent outward for the passage of the other brace.

- 5 5. A tub-bottom protector comprising a disk having a cut-away portion, braces extending across the cut-away portion, and upwardly-projecting flanges on the braces.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

RICHARD THOMAS MALIN.

Witnesses:

T. P. STEPHENS,  
J. W. KINZEL.