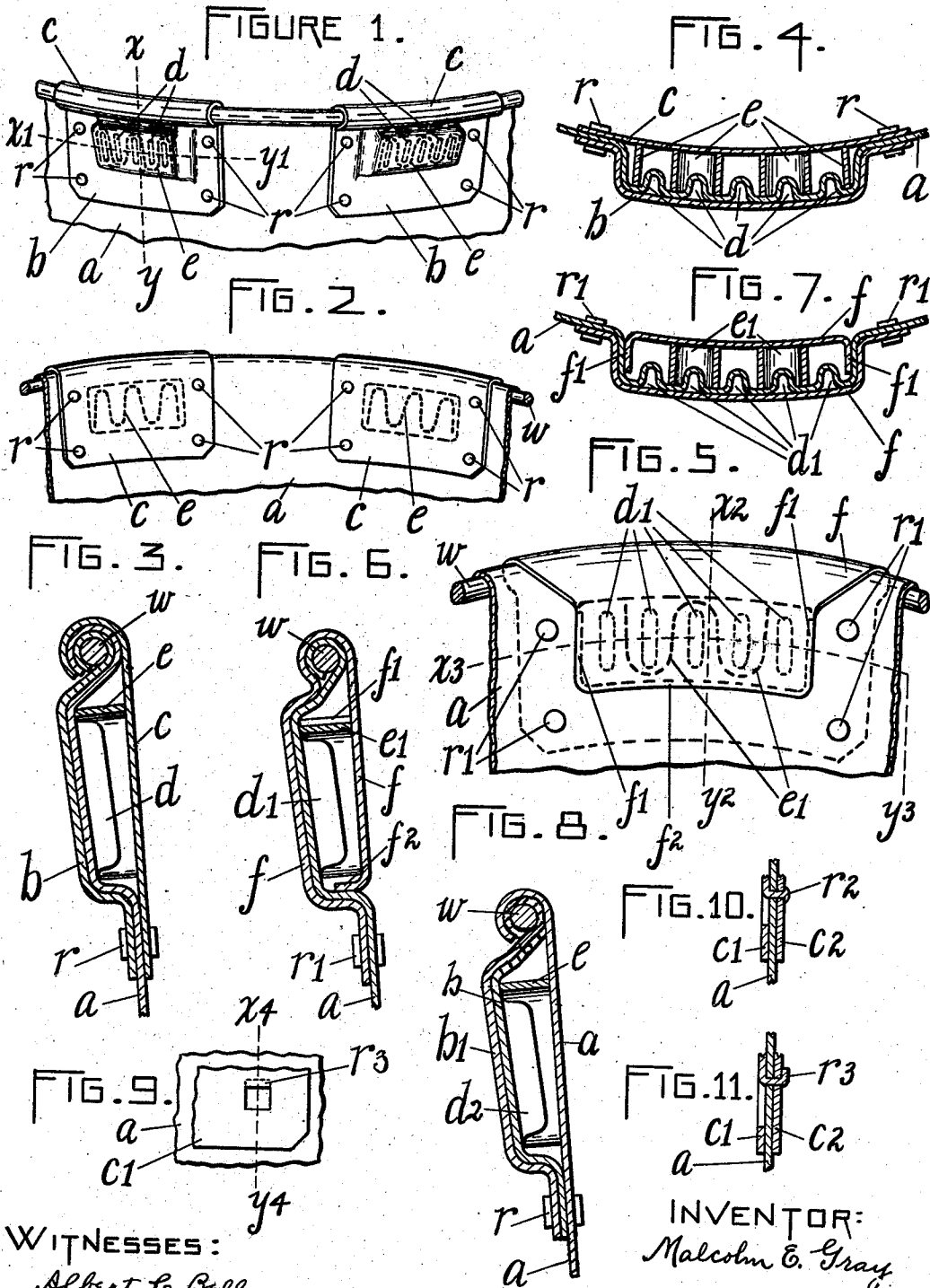


No. 893,321.

PATENTED JULY 14, 1908.

M. E. GRAY.  
METALLIC WASHTUB.  
APPLICATION FILED NOV. 7, 1906.



# UNITED STATES PATENT OFFICE.

MALCOLM E. GRAY, OF ROCHESTER, NEW YORK.

## METALLIC WASHTUB.

No. 893,321.

Specification of Letters Patent.

Patented July 14, 1908.

Application filed November 7, 1906. Serial No. 342,434.

*To all whom it may concern:*

Be it known that I, MALCOLM E. GRAY, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Metallic Washtubs and other Like Articles, of which the following is a specification.

This invention relates to metallic wash tubs and other like receptacles arranged to receive in clamping engagement a foreign body such as a wringer or other like articles to be applied to the side of the tub or receptacle in such a way as to clamp the side of the tub or receptacle firmly between engaging members carried by the wringer.

In metal wash tubs and like articles the side walls are not of sufficient thickness to properly engage the clamping members of the wringer, and again the side walls need reinforcing to stand up under the strain exerted in operating the wringer. It is therefore the purpose of my present invention to provide both a reinforcement for strengthening the side wall of the tub or like receptacle and at the same time also a thickening of the wall where it is to be engaged by the wringer.

One feature of my present invention consists in forming a pocket or depression in a sheet of metal and in inclosing such pocket with a second sheet and in forming a depression in a third sheet of metal adapted to fit over and inclose the depression in such second sheet. I prefer to corrugate the bottom surface of the first above named sheet and between such first sheet and the second sheet I prefer to insert a spacing medium comprising a strip of metal bent to and fro. Such spacing medium may be located between the corrugations in the second sheet when such corrugations are made use of. Such spacing strip is of course cut to a width practically equaling the depth of the depression formed in the first above mentioned sheet and is bent to and fro, back and forth, to the desired conformation and then laid edgewise in the pocket formed in the first mentioned sheet to sustain the thrust of the wringer tending to force the first two above mentioned sheets together. Two or more of such above mentioned sheets may be formed into the roll at the top or upper edge of the tub or receptacle, of which one sheet is the side wall.

In the accompanying drawings I have shown my invention as applied to a wash tub

and so conformed and arranged in connection therewith as to adapt such tub to receive the ordinary wringer, which may be clamped thereon in the usual way.

Such drawings are as follows:—Figures 1 and 2 show a portion of the side wall of a tub embodying my invention and as seen from the outside and inside respectively of the tub. Figs. 3 and 4 show in enlarged vertical and horizontal sections the parts seen in Figs. 1 and 2, such sections taken along the dotted lines  $x-y$  and  $x^1-y^1$  respectively of Fig. 1. Fig. 5 is a view of a modified form of my improvement as seen from the inside of the tub. Figs. 6 and 7 show vertical and horizontal sections of the parts seen in Fig. 5. Fig. 8 shows in vertical section a modified arrangement and relation of the parts comprising my invention. Figs. 9, 10 and 11 show modified details of the means that may be used for securing the parts together as will be explained.

Similar characters refer to similar parts throughout the several views.

Referring to Figs. 1, 2, 3 and 4, in that form of my invention illustrated therein,  $a$  represents a portion of the side wall of the tub in which there are formed depressions or pockets having the bottom or outer walls thereof corrugated, as seen at  $d$ , for the purpose of stiffening the wall at the bottom of these depressions or pockets. These pockets are so located in the side wall of the tub and near the upper edge as to be properly engaged by the clamping members of the wringer.  $w$  represents the usual reinforcing wire around which the bead or roll at the upper edge of the tub is formed.  $c$  represents a plate, preferably of the same material as the side wall of the tub, extending over the depression or pocket and closing the same from the inside of the tub.  $b$  represents a plate, also of preferably the same material, formed to fit over the depressed portion of the side wall of the tub and on the outside of the tub. The plates  $c$  and  $b$  are secured together and to the side wall of the tub by rivets  $r$  passing through suitable holes therefor in such plates and in the side wall of the tub.  $e$  represents the spacing strip extending from the wall of the tub, at the bottom of the depressed portion and between the corrugations  $d$  therein, inwardly to and contacting with the plate  $c$  and thus comprising a support for such plate  $c$  and the wall of the

tub at the depressed portion and operating to prevent a forcing together of the plate *c* and the side wall of the tub at such depressed portion.

- 5 I prefer to make the pockets in the side wall of the tub deeper at the top than at the bottom, as indicated, so that a minimum pressure of the attaching clamps will securely hold the wringer in place and prevent its removal from the tub until such clamps are opened. It will be understood that the spacing strap *e* is cut of a width varying to fit the varying distance between the depressed portion of the side wall of the tub and the plate *c*. The plates *c* and *b* may be each of them extended around the wire *w* and thus formed into the finishing bead or roll at the upper edge of the tub.

- Referring to Figs. 5, 6 and 7, in the modification of my invention therein shown, the outer and inner plates are formed integrally, as seen at *f* in such figures, and on the inside of the tub flanges *f*<sup>1</sup> vertically disposed and a flange *f*<sup>2</sup> horizontally disposed are arranged to fit snugly within and engage, on three sides, the side walls of the pocket or depression formed in the wall of the tub. In other respects this modification of my invention is the same as that already described, except that the inner plate, or that portion of the plate *f* lying on the inside of the tub, is not held or engaged by the retaining rivets *r*<sup>1</sup>,—this is more clearly shown in Fig. 5. The flanges *f*<sup>1</sup> and *f*<sup>2</sup> together with the curved formation of the plate *f* serve to retain the inner portion of the plate *f* securely in place with the flanges *f*<sup>1</sup> and *f*<sup>2</sup> thereon entering and engaging the pocket or depression formed in the side wall of the tub.

- 40 It will of course be readily understood that the size of the reinforcement or wringer attachment is immaterial, likewise also the number of such reinforcements which may be formed upon the tub.

- 45 Referring now to Fig. 8, which shows a modified arrangement and relation of the parts comprising my present invention,—*a* represents the side wall of the tub between which and the plate *b* there is seen a pocket formed by a depression, in this instance, in the plate *b*, while the plate *b*<sup>1</sup> has also a depression formed therein fitting around and over and thus containing the depression formed in the plate *b*. *d*<sup>2</sup> represents the corrugation which may be formed in the bottom wall of the depression in the plate *b*. *e* is a spacing strip or medium which may be used equally well in this modification.

- In Fig. 9 *a* represents a portion of a side wall of a tub, *c*<sup>1</sup> a portion of a reinforcing plate, such reinforcing plate having pressed away from the plane thereof and away from the observer a tongue *r*<sup>2</sup> as indicated in dotted lines.

- 65 Refer now to Figs. 10 and 11 which show

vertical sections of the arrangement of the device shown in Fig. 9, and taken along the dotted line *x*<sup>1</sup>—*y*<sup>1</sup> in such figure, a different method of heading down the securing rivet being shown in each of such figures. The depressed portion *r*<sup>2</sup> is seen extending through a suitable opening therefor in the side wall *a* of a tub and also through a suitable opening therefor in the plate *c*<sup>2</sup>. For rigidly securing the parts together this tongue *r*<sup>2</sup> may be headed down as seen in Fig. 10 or it may be bent downwardly on the plate *c*<sup>2</sup> as seen at *r*<sup>3</sup> in Fig. 11.

By thus forming a pocket in a sheet or plate of metal and inclosing such pocket on the open side thereof by a second sheet and with one of such sheets comprising the side wall of the tub or receptacle, and then forming a depression in the third sheet to fit over and inclose the depression in the first mentioned sheet, there is afforded a cheap and economically produced projection and reinforcement for engagement by the clamping members of a wringer or like article. This in many instances is sufficient to properly support the wringer and support the clamping members thereof but in the case of large tubs and wringers that are used for wringing heavy articles I have found it desirable to introduce the spacing strip *e*.

I desire to call attention to the fact that the side walls of the tub are materially strengthened by the reinforcing plates at points considerably removed from those directly engaged by the clamping members of the wringer, thus serving to strengthen the wall of the tub and support the same against the strain exerted thereon in using the wringer.

The operation of my improvement is believed to be sufficiently obvious from the above description to call for no further explanation herein.

What I claim is:—

1. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, a pocket formed by a depression in the wall of the receptacle and a reinforcing plate secured to the receptacle and having also a depression therein arranged to fit over and inclose such first named depression.

2. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, a pocket formed by a depression in the wall of the receptacle and a reinforcing plate secured to the receptacle and having also a depression therein arranged to fit over and inclose such first named depression, one of the bottom walls of such depression being corrugated.

3. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, a pocket formed by a depression in the wall of the receptacle, the bottom of such depression being corrugated,

and a reinforcing plate secured to the receptacle and having also a depression therein arranged to fit over and inclose such first named depression.

5 4. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, an inclosed pocket formed by two sheets of metal secured together, one of  
10 such sheets having a depression formed therein and such depression closed by the other sheet, one of such sheets comprising a wall of the receptacle and a third sheet secured to the sheet having a depression and  
15 also having a depression arranged to inclose and receive the depression in the other sheet.

5 5. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, an inclosed pocket formed by two sheets of metal secured together, one of  
20 such sheets having a depression formed therein and such depression closed by the other sheet and a third sheet secured to the sheet having a depression and also having a depression arranged to inclose and receive  
25 the depression in the other sheet, the central one of such sheets comprising the wall of the receptacle and the sheets on each side thereof formed integrally in one piece and extending around and inclosing the bead or  
30 roll formed at the upper and open edge of the receptacle.

6. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, a pocket formed by a depression  
35 in the wall of the receptacle and a plate secured to such wall and covering such depression on the open side thereof, such plate hav-

ing a flange thereon arranged to enter such pocket.

7. As a reinforcement and means for 40 thickening the wall of a receptacle formed of sheet metal, a pocket formed by a depression in the wall of the receptacle and a plate secured to such wall and covering such depression on the open side thereof, such plate hav- 45 ing a flange thereon arranged to enter such pocket and such flange adapted to support such plate by engaging the bottom or outer wall of such depression.

8. As a reinforcement and means for 50 thickening the wall of a receptacle formed of sheet metal, a sheet of metal secured on one side of the wall of the receptacle, and a pocket formed by a depression in both the wall of such receptacle and in such sheet of 55 metal one of such pockets nesting within the other.

9. As a reinforcement and means for thickening the wall of a receptacle formed of sheet metal, an inclosed pocket formed by 60 two sheets of metal secured together, one of such sheets having a depression formed therein increasing in depth toward the open end of the receptacle and such depression closed by the other sheet, one of such sheets 65 comprising a wall of the receptacle and a third sheet secured to the sheet having a depression and also having a depression arranged to inclose and receive the depression in the other sheet.

MALCOLM E. GRAY.

Witnesses:

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F. H. BEACH, Jr.