March 16, 1954 B. E. MUSTEE 2,672,255

LAUNDRY TUB ASSEMBLY

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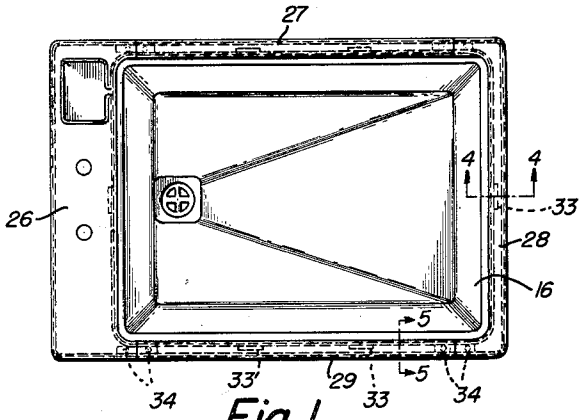


Fig. 1

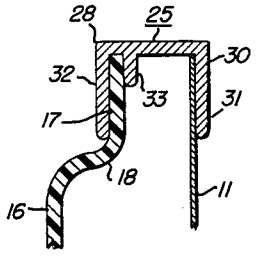


Fig. 4

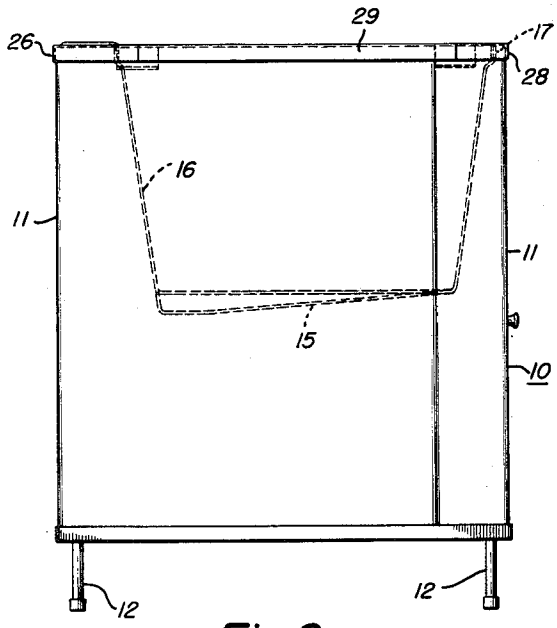


Fig. 2

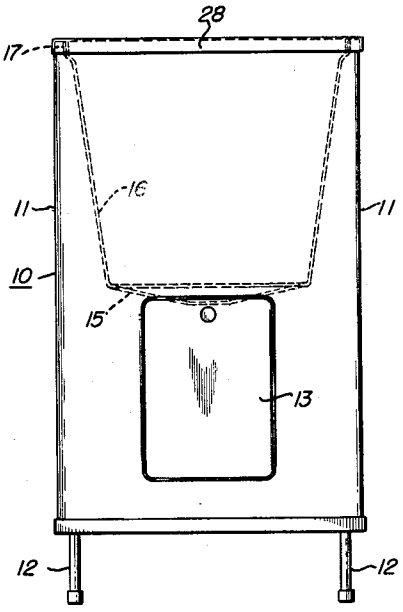


Fig. 3

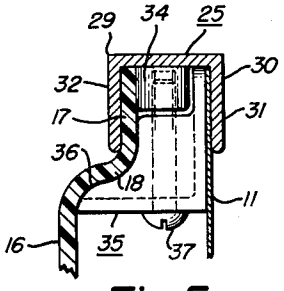


Fig. 5

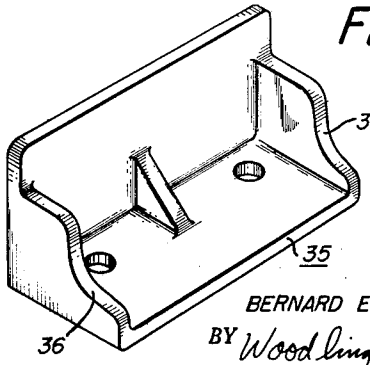


Fig. 6

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LAUNDRY TUB ASSEMBLY

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4 Claims. (Cl. 220—15)

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This invention relates generally to laundry equipment, and relates more specifically to laundry tubs.

For many years laundry tubs have been made of heavy, unattractive, cast concrete set on light metal stands. These tubs are ponderous, fragile, and completely out of place in a modern basement laundry or utility room.

An object of this invention is to provide a laundry tub unit which is light in weight, attractive in appearance, and durable without being fragile.

Another object is to provide a means for securing a stabilizing, rigid rim to a strong, but resilient, tub structure, without the necessity of penetrating the brim of the tub structure with bolts or screws.

Specifically, an object of the invention is to provide a means for securing a rigid metal rim to the brim of a tub which is made of a tough plastic reinforced with glass fibers.

Still another object of the invention is to provide a method of uniting sectional rim members together as a large rim structure and simultaneously uniting a resilient tub member with the rim structure.

Other objects and a fuller understanding of my invention may be had by referring to the following description and claims, taken in conjunction with the accompanying drawing, in which:

Figure 1 is a top view of a laundry tub unit constructed according to the teachings of this invention;

Figure 2 is a side elevation of the laundry tub unit;

Figure 3 is a front elevation of the laundry tub unit;

Figure 4 is a section of the upper rim portion of the unit, taken along line 4—4 of Figure 1, to show the configuration of the rigid rim and the location of the channel lugs;

Figure 5 is a section similar to Figure 4, but taken near a junction point between two rim sections; and

Figure 6 is a perspective view of the lock-lug used in the duel capacity of section joiner and tub clamp.

Laundry tub units as have been used in home laundries are massive structures, usually of cast concrete material. These cast units are not only extremely heavy, but are very fragile with respect to sharp blows, such, for example, as the accidental dropping of a hard object into the tub. Chipping, or actual fracture, usually results from such a blow on the cast laundry tub units.

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Furthermore, these massive and unattractive looking units have no place in the modern home laundry.

The laundry tub unit of this invention employs a lightweight, but exceptionally strong, tub member constructed of molded plastic material reinforced with glass fiber. The plastic material most commonly used will depend upon the economics and availability of material, because several of the plastic materials are quite suitable to make such tub units. However, although the plastic material, when reinforced with glass fibers, is exceptionally strong, it nevertheless is quite resilient unless cast in thicknesses which would make the cost of the tub prohibitive. The glass fiber reinforced plastic tub used in the illustrated embodiment of the invention is capable of withstanding heavy blows from a large hammer, and will withstand a large man jumping up and down in the tub, itself. There is no chipping or cracking when thus abused.

In the drawing, the preferred embodiment of a single unit laundry tub is illustrated. This type of single unit is popular with automatic washing equipment. In the drawing, the unit is illustrated as comprising a base cabinet 10 of lightweight sheet metal. The base cabinet 10 has side walls 11 enclosing a space into which the plastic tub 15 can extend. The base 10 is preferably mounted upon legs 12 and provided with an inspection door 13. Laundry supplies can be stored within the base 10 if desired.

The tub 15 is molded, as before indicated, of a suitable, reinforced plastic material, or may be provided of a lightweight, non-ferrous metal, such, for example, as aluminum. However, glass fiber reinforced plastic is preferred.

The tub 15 has four side walls 16 and is provided with a brim 17 around the top peripheral edge of the tub. The brim 17 is best illustrated in the Figures 4 and 5, wherein a cross-section through the brim is shown. The brim is offset from the walls 16 and therefore provides a laterally extending shoulder 18 near the top edge of the tub.

It is the object of this invention to reinforce the resilient tub 15 with a rigid rim at the top thereof. It will at once be seen that such a rim, the size necessary to reinforce the top brim of the tub unit 15, would involve a rather expensive casting in order to obtain the narrow rim portions with the large opening in the center of the rim. Such castings are extremely difficult to obtain and necessarily involve a large number of scrap pieces in a production run. Scrap pieces

raise cost of the finished pieces. The second feature of this invention is provided in the sectional rim member and the method of joining the section together as a unitary structure and, simultaneously, uniting the resilient tub 15 with the rim without the necessity of providing holes in the tub member.

The rigid rim member is indicated generally by the reference character 25. This rim member 25 is composed, in the illustrated embodiment of the invention, of four individual sections 26, 27, 28 and 29.

In the Figures 4 and 5, which are cross-sectional figures through two portions of the rim member 25, it will be seen that the rim member is an inverted channel with an outer wall 30 including two side walls 31 and 32.

Within the individual sections, a series of lugs 33 are spaced a distance from the depending side wall 32 and therefore define, in conjunction with the side wall 32, a second channel within the larger channel defined by the outer wall 25. The channel defined by the lugs 33 and the wall 32 is just wide enough to closely receive the upwardly extending brim 17 of the tub 15.

At each end of each of the rim sections there is provided a threaded lug 34. A lock-lug 35 is designed to bridge across the junction between two adjacent rim sections and bind the rim sections into a solid rim to outline the brim of the tub 15.

The lock-lug 35 has a curved shoulder 36 at each side thereof which is formed to conform exactly with the curvature of the shoulder 18 on the tub 15. Screws 37 extend upwardly through the lock-lug 35 into adjacent threaded lugs 34 and serve to draw the lock-lug upwardly into tight engagement with the threaded lugs 34. When the screws 37 are tightened, the shoulders 36 will engage under the shoulders 18 and will force the brim 17 upwardly into the second channel within the rim sections. Thus, the lock-lug 35 performs the dual function of simultaneously forcing the tub brim 17 into tight engagement with the defined channel of the rigid rim, and joining the rim sections together as a rigid unitary structure.

The lock-lug is so proportioned that the space is left between the lock-lug and the wall 31 of the rim. Thus, after the tub 15 and the rim sections 26—29 have been assembled into a rigid unit with the tub 15 depending downwardly from the assembled rim 25, the entire unit can be placed upon the top edge of the base 10 and the walls 11 of the base will extend into the area left between the lock-lug 35 and the wall 31 of the rim sections. Therefore, there is no need for screws or bolts to assemble the tub structure to the base cabinet 10, and the tub unit may thereafter be readily lifted out of the base cabinet for interior cleaning of the cabinet, or for repairs. Furthermore, the assembly of the unit is greatly facilitated, whether the unit is assembled in the factory or by the person installing the unit in the home. The number of parts is materially reduced by the elimination of bolts or screws in the joining of the tub and the cabinet walls with the rim member and, consequently, the opportunity for error and lost parts is eliminated.

It is believed that the illustrated embodiment of the invention represents the ultimate in simplicity in providing an assembled unit with the minimum number of parts, and it is also believed that the preferred embodiment represents an extremely practical method of using the very durable, but resilient, plastic materials for the tub unit of the laundry tub cabinet, while employing conventional materials for the exterior of the cabinet. The method of joining the parts together entirely eliminates the possibility of misalignment of screws or bolts and, thus, eliminates the possibility of concentrating a strain upon a few such fastening devices, which may result in a tearing and failure of the plastic tub.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. A laundry tub assembly comprising, a resilient tub member having a non-rigid upper brim, said brim including an upwardly extending wall and a laterally extending external shoulder, a sectional rigid rim member comprising a plurality of separable sections, each said section having an outer wall and a brim-receiving inner channel, each said section having a threaded lug near each end thereof, said upwardly extending wall of the tub brim extending into said channel, and lock-lug means having tub shoulder engaging surface means, said lock-lug means including two spaced threaded screw means, one screw means of each lock-lug being engaged with a threaded lug of one rim member and the other engaged with an adjacent rim member, said screw means drawing said lock means tightly toward said rim member, said lock means simultaneously forcing the tub shoulder engaging surface thereof against said laterally extending external shoulder of the tub and joining the sections of the rim together as a unitary structure.

2. A laundry tub assembly comprising, a resilient tub member having a non-rigid upper brim, said brim including an upwardly extending wall and a laterally extending shoulder, a rigid rim member having a series of offset flanges defining a brim-receiving channel, said upwardly extending wall of the tub brim extending into said channel, and lock-lug means having tub shoulder engaging surface means, said lock-lug means including a threaded screw means drawing said lock means tightly toward said rim member with said shoulder of the brim engaged by the tub shoulder engaging surface means of the lock means and the upwardly extending wall of the brim forced into said channel.

3. A laundry tub assembly comprising, a resilient tub member having a non-rigid upper brim, said brim including an upwardly extending wall and a laterally extending shoulder, a rigid rim member having a brim-receiving channel, said upwardly extending wall of the tub brim extending into said channel, and lock-lug means having tub shoulder engaging surface means, said lock-lug means including a threaded screw means drawing said lock means tightly toward said rim member with said shoulder of the brim engaged by the tub shoulder engaging surface means of the lock means and the upwardly extending wall of the brim forced into said channel.

4. A laundry tub assembly comprising, a base member having upwardly extending side walls, a resilient tub member having upwardly extending side walls with an offset brim edge at the top of the walls, a section through a tub wall and the brim thereof being in the form of an

S-curve to produce an upwardly extending brim wall and a laterally extending external shoulder, a sectional rigid rim member comprising a plurality of separable sections, each said section having an inverted channel cross-sectional configuration with an outer finish wall including depending side walls, spaced lug members with each said channel spaced from one said depending side wall to define a second channel within said section to receive the brim edge of said tub, each said section having a threaded lug near each end thereof, said brim wall of the tub extending into said second channel, and lock-lug members each having a curved shoulder portion fitting under said laterally extending shoulder of the tub with screw means drawing each said lock-lug upwardly into tight engagement with the end threaded

lugs of adjacent mating sections and clamping the brim into the channel of each section, the assembled tub and channeled rigid rim closing said base member with the tub extending into the base member and the walls of the base member extending into the channel of the rim adjacent the external depending side wall thereof.

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