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1,961,360

SANITARY REMOVABLE LINER FOR VESSELS

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FIG. 1.

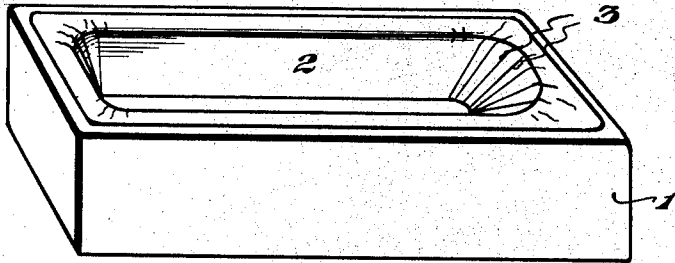


FIG. 2.

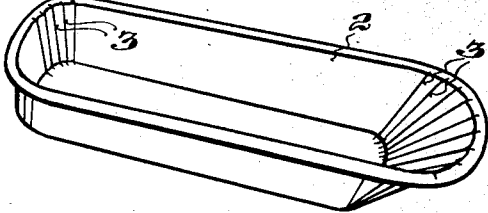


FIG. 3.

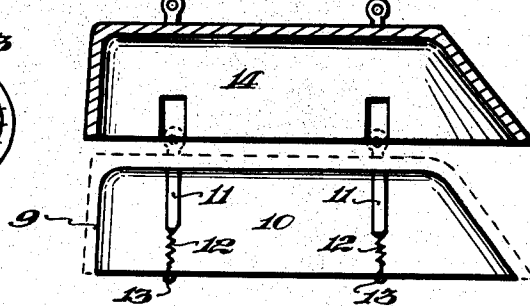


FIG. 4.

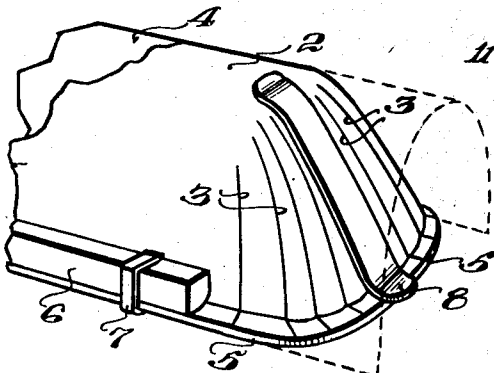


FIG. 5.

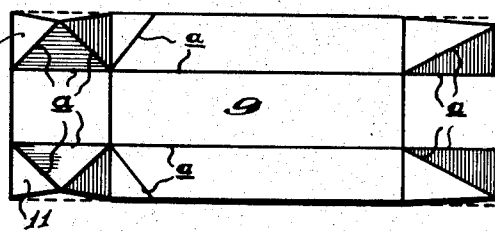


FIG. 6.

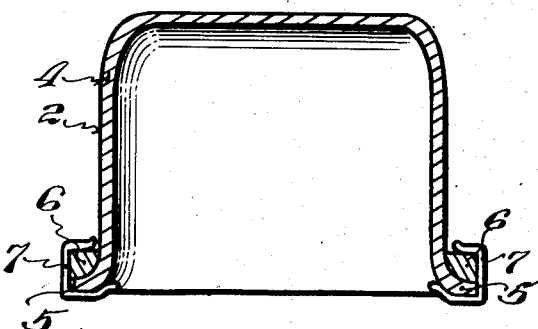
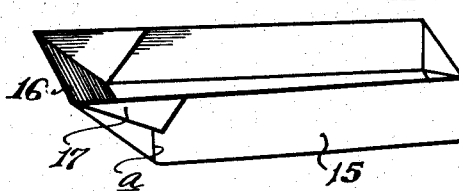


FIG. 7.



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SANITARY REMOVABLE LINER FOR VESSELS

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1 Claim. (Cl. 93—36)

This invention relates to a new article of manufacture embodying certain new and useful improvements in liners for bathing vessels, wash bowls and like utensils and the invention has further reference to the method or process for producing said liners.

The principal object of the invention is to provide a new article and method intended to minimize the spreading of infectious or communicable diseases, especially in public bath houses, hotels, sanitariums and other places in which it is vitally important to protect the health of patrons.

The invention further comprehends the provision of a liner for vessels whose finish may be affected by water having a strong salt content therefore leaving a noticeable stain thereon. The liner thus serves the dual purpose of either protecting the vessel from becoming stained or will conceal such stains as well as affording a sanitary medium for users of the tub or vessel.

Yet another object of the invention, in addition to its utilitarian features described, is to provide a medium for advertising by printing or otherwise affixing to the liner the names of the advertisers and the character of the goods sold by them. This means of advertising would not be objectionable or annoying to the users of the liners in view of the usefulness of the liner in affording them comfort and assurance that a sanitary condition exists.

The invention aims to provide further, a method for making the liners which is novel in the respect that the liners may be quickly and efficiently made to conform to the shape of the vessel in which they are to be used and may be nested for convenience in shipping and storage. The method likewise involves the step of folding the liners if this step is found to be more economical and practicable for reducing the liners to a more compact form for shipping.

With the foregoing objects as paramount, the invention has further reference to the novel steps in the method of producing the liners and in the salient features of the article so produced and which will be fully described as the description continues, taken in connection with the accompanying drawing, wherein:—

Figure 1 is a perspective view of a "built-in" type of bath tub, showing one of the liners arranged therein for use.

Figure 2 is a perspective view of the preferred form of liner and whose shape conforms with the shape of the inside of the vessel in which it is to be arranged.

Figure 3 illustrates one step in the method of producing the liner shown in Figure 2.

Figure 4 is a transverse section through Figure 3, showing the form for producing the article shown in Figure 2.

Figure 5 is a view showing a modified step with means for holding the material on the form preparatory to shaping by means of a conforming mold.

Figure 6 is a further modified form of the invention in which the liners are produced by making a series of folds in a piece of blanked material, and

Figure 7 shows a completed liner produced through the folding method shown in Figure 6.

Continuing with a more detailed explanation of the drawing, 1 designates a conventional bathing vessel or bath tub.

In the embodiment shown in Figures 1 to 4 inclusive, the invention is comprised of the blank 2, which is preferably a single sheet of waterproofed paper, the waterproofing being wax such as paraffin or the like, and which sheet is formed to produce the article shaped as shown in Figure 2 by placing a series of folds 3 in either end thereof.

The sheet of material is placed over a form 4, shown in transverse section in Figure 4, which has flanges 5 about its edges. Moulding bars 6 are provided to lie against the edges of the sheets 2, interposed between the flanges 5 and the moulding 6. Spring clips 7 or other suitable securing means are provided to hold the moulding 6 in place during the step of folding the material as at 3 in Figures 2 and 3.

In order to press the radiating folds 3 tightly against the form 4, a shaper 8 is provided which conforms with the curves of the vessel or form 4 and its rim 5. This shaper is preferably constructed of some character of transparent material in order that the folds 3 may be viewed there-through.

In performing the steps of the method identified in Figures 1 to 4 inclusive, the sheet of waxed or other waterproofed material 2 is placed on the form 4, and secured against displacement by affixing the moulding 6 to the flanges 5 by means of clips 7 to interpose the side edges of the sheet 2. The extended ends of the sheet 2 are folded as at 3 so as to conform to the form 4 and as each fold is made, the shaper 8 is moved thereover to firmly crease the material. After this operation, a hot mit iron or the like is moved over the creases or folds 3 to fuse the wax coating of the sheet and bind the overlapping folds together, after which

the edges of the sheet are made uniform by trimming.

A modified step is to place a sheet of material 9 over a mold 10 as shown in Figure 5. One or more straps is passed thereover and to each end of this strap is affixed a spring 12, having a hook 13 connected thereto. The hooks 13 are drawn down against the resistance of the springs 12 and hooked under the edges of the mold 10, as in Figures 5 and 6. This means insures against displacement of the paper blank 9.

The next step is to fold the material at either end of the blank as exemplified in Figure 2 in order to shape the blank to conform with the tub 1. When this done, the female mold 14, shown suspended above the mold 10 in Figure 5 is lowered to press the material and tightly crease the folds therein. Afterwards, the mold 14 is raised and the folds are subjected to a smoothing action, such as with a hot mit or iron of sufficient temperature to fuse the wax coating on the material and effect adhesion of the overlapped portions or folds as in the preceding case. This operation will obviously prevent the folds from separating and will hold the liner in shape during shipment, in storage and use.

The irregular edges of the form are cut off smoothly as before and when placed in the vessel, these edges are turned outward to lie against the edges of the vessel as shown in Figure 1. By so doing, the liner is prevented from becoming displaced in the tub.

To drain the tub after the bath is completed, it is necessary only to punch out the material covering the drain and experiments have shown that there is little likelihood that any paper will become loosened and catch in the drain pipes.

The further modified form of liner shown in Figures 6 and 7 is substantially the same as the liners just described except that instead of a multiplicity of radial folds, the blank material 15 is folded on lines *a* to produce the shape shown in Figure 7. The inclined end at 16 is produced by the folded flaps 17 which results in a form in which absolute conformation to the walls of the tub is brought about by filling with water, the weight of which will press the paper form against the sides, ends and bottom of the vessel and the result will be about as satisfactory as the preferred embodiment shown in Figures 1 to 4 inclusive.

It will be understood that the folds in the latter design are secured in the same manner as described in the foregoing, although some character of waterproof adhesive may be employed for this purpose in lieu of wax or paraffin subjected to the action of heat.

Summarily, the slightly modified forms of the invention have substantially equal advantages, all being applicable for the purposes specified except that the latter structure may be folded flat for shipment and may, if found practicable, be dispensed from a suitable vending apparatus at health resorts and the like.

It is understood that since the invention seeks to provide, broadly, a removable liner for bath tubs, or like vessels, it is within the objects thereof to produce a film of such shape as to conform to the shape of the vessel. Such a film may be produced by spraying a membranous substance onto a form from which it may be removed after hardening and placed in a vessel whose inner surface corresponds to the shape of the form or mold on which the article is produced. The liquid composition above mentioned may be of well known manufacture, such for example, as cellophane in a fluid state.

Manifestly, the construction shown is capable of some modification and such modification as is considered within the scope and meaning of the appended claims is also considered within the spirit and intent of the invention.

What is claimed is:

The herein described method of producing replaceable liners for bath tubs which consists initially in blanking out a rectangular sheet of wax coated material and in securing the same to a mold corresponding in shape to that of the interior of said bath tub, in making initial folds in the corners of said sheet at one end and across the opposite end, in causing a female mold to be lowered on said sheet to embrace said first mold, in removing said female mold and finally in applying heat to the folded portions of said blank to fuse said wax coating to effect adhesion of the overlapped portions of the sheet.

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