

PATENT SPECIFICATION (11)

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(54) MANUFACTURE AND TREATMENT OF AN INFLATABLE BABY'S BATH

(71) We, VERN LEONARD TODD, a citizen of United States of America, of 49 John Street, Woollahra, New South Wales, 2025, Commonwealth of Australia and ANTHONY JAMES EDDY, an Australian citizen of 49 John Street, Woollahra, New South Wales, 2025, Commonwealth of Australia, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a method of manufacturing and treating a baby's bath.

Conventional baby's baths have been constructed of a relatively rigid material such as stiff plastics material or metal. As is well known babies in their first months of life are very delicate and must be handled with great care to avoid bodily damage. The use of a bath made of a rigid material could cause damage to a baby if the baby slipped from the hands of a person washing it. Conventional baby's baths suffer from the further disadvantage that they are generally of a deep construction and require up to 2 gallons of water to wash a baby adequately. The present invention is designed to provide a bath of a soft, flexible nature so as to avoid the possibility of a baby being injured while bathing and a bath in which less water is used than would normally be required.

The present invention provides a method of manufacturing and treating an inflatable baby's bath, the method comprising: sealing a double thickness of polyvinyl chloride sheet material by two rings, one ring being within the other ring, to form, after the provision of a valve, an inflatable endless tube defining an aperture across which a web extends, the tube and the web constituting the bath; inflating the bath whilst subjecting the bath to a temperature of at least 130°F; and cooling the inflated bath from said temperature to ambient temperature so that on subsequent reinflation the bath has a wrinkle-free appearance.

Preferably the rings are elliptical in shape
 [Price 33p]

so that the bath is elliptical in plan view. The bath may be provided with a tab. If the bath is elliptical, the tab is preferably provided at one end of the bath. 50

The subjecting of the inflated bath to the temperature of at least 130°F causes the bath to assume a wrinkle-free appearance. 55 The cooling of the bath from said temperature of at least 130°F imparts a "memory" to the bath. Thus on subsequent reinflation the bath has a wrinkle-free appearance.

A preferred method of forming a bath according to this invention comprised the following steps: 60

1. Mark out the rings on a sheet of polyvinyl chloride material.
2. Cut out a valve aperture and weld a valve in position. 65
3. Weld or glue the marked out rings onto another sheet of the same material and trim off excess material.
4. Heat the resulting bath to at least 130°F preferably by inserting it into boiling water for a short period of time, inflate the bath with air while it is still hot and allow it to cool to ambient temperature while still inflated. 75

If desired the steps 1 and 3 could be combined by using e.g. a heating die of an appropriate size and shape. It has been found that if step 4 is not carried out the bath on subsequent inflation by the consumer partially distorts by the appearance of wrinkles along the circumference of the tube, particularly in the vicinity of the seams. 80

Hereinafter given by way of example only is a preferred embodiment of the present invention described with reference to the accompanying drawings in which: 85

Figure 1 is a perspective view of a baby's bath according to this invention. 90

Figure 2 is a side elevation of the bath of Figure 1.

Figure 3 is a cross sectional view of the bath of Figure 1.

Figure 4 is a longitudinal sectional view of the bath of Figure 1. 95

The bath 10 comprises an endless tube 11 of elliptical shape in plan view and of circular cross sectional configuration. The tube is provided with a valve 12A for the inlet and outlet of air to inflate or deflate the tube 11. The valve is positioned so as not to interfere with the occupant of the bath or the bather. A web of material 12 extends across the aperture defined by the annular tube 11 midway through the thickness of the tube 11.

The bath 10 is so dimensioned that it can be used to wash babies up to 6 months old. In use the bath is provided with a small quantity of water 13A in the depression 13 defined by the endless tube and the web, a baby can then be placed face up in the depression and washed. The soft nature of the bath, which is made of PVC material, and the flexible nature of the air-filled tube ensure that the baby will not be hurt or injured by striking the sides of the bath. The rounded and flexible walls of the bath prevent the baby from moving about in the bath unduly and prevent it from rolling over into the water if left unattended for a short period. The shape of the bath is designed to allow the baby's feet to touch the wall of the bath as this has been found to provide the baby with a sense of security when it is being washed. A tab 14 may be provided to facilitate storage, for example by hanging the tub on a wall.

The baby's bath is of particular use in hospitals as, after being sterilized, it can be used for the washing of two babies, i.e. one on each side of the web, whereas conventional baths must be sterilized after each baby is washed.

The bath has the further advantage that on smooth surfaces on which a conventional bath may tend to slip the air space under the web acts as a suction cup when air is displaced from the space. The bath is thereby clamped to the surface, thus preventing the possibility of the bath slipping off the surface if it is inadvertently knocked.

It will be recognised by persons skilled in the art that the construction of the bath may be varied considerably. The endless tube need not be elliptical in plan view, it could be made in any other suitable outline such as circular or rectangular.

The bath can conveniently be made by marking out on a sheet of PVC material, preferably of a thickness of 0.014", the desired shape of the bath and at some suitable position inserting a valve to allow the bath to be inflated and deflated. The sheet is then superposed on a further sheet of the same

material, of the same or a different colour and the sheets are heat welded together along the outline marked on the upper sheet to form a double-skinned central web extending across an aperture in an endless tube. It is important that during manufacture the longitudinal axis of the outline of the bath run in the longitudinal direction of the supply of PVC material, as the PVC possesses stretch characteristics in a longitudinal direction that are favourable to producing a wrinkle-free article.

The sheets are then trimmed to the outer shape of the tube and the bath is immersed in boiling water for 5 seconds and inflated with air. The inflated tube assumes a smooth outer shape without the wrinkles which would be present if the bath was merely inflated without being heated. Such wrinkles would tend to destroy the ability of the bath to rigidly suck onto the surface on which it is being used. On subsequent reinflation the bath retains its wrinkle-free appearance.

WHAT WE CLAIM IS:—

1. A method of manufacturing and treating an inflatable baby's bath, the method comprising: sealing a double thickness of polyvinyl chloride sheet material by two rings, one ring being within the other ring, to form, after the provision of a valve, an inflatable endless tube defining an aperture across which a web extends, the tube and the web constituting the bath; inflating the bath whilst subjecting the bath to a temperature of at least 130°F; and cooling the inflated bath from said temperature to ambient temperature so that on subsequent reinflation the bath has a wrinkle-free appearance.

2. A method as claimed in claim 1, wherein the rings are elliptical in shape so that the bath is elliptical in plan view.

3. A method as claimed in claim 1 or 2, wherein the bath is provided with a tab,

4. A method as claimed in claim 2 and 3, wherein the tab is provided at one end of the bath.

5. A method as claimed in claim 1, substantially as described herein with reference to the accompanying drawings.

6. A baby's bath manufactured and treated by a method as claimed in any preceding claim.

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The bath 10 is so dimensioned that it can be used to wash babies up to 6 months old. In use the bath is provided with a small quantity of water 13A in the depression 13 defined by the endless tube and the web, a baby can then be placed face up in the depression and washed. The soft nature of the bath, which is made of PVC material, and the flexible nature of the air-filled tube ensure that the baby will not be hurt or injured by striking the sides of the bath. The rounded and flexible walls of the bath prevent the baby from moving about in the bath unduly and prevent it from rolling over into the water if left unattended for a short period. The shape of the bath is designed to allow the baby's feet to touch the wall of the bath as this has been found to provide the baby with a sense of security when it is being washed. A tab 14 may be provided to facilitate storage, for example by hanging the tub on a wall.

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2. A method as claimed in claim 1, wherein the rings are elliptical in shape so that the bath is elliptical in plan view.

3. A method as claimed in claim 1 or

- 2, wherein the bath is provided with a tab,

4. A method as claimed in claim 2 and 3, wherein the tab is provided at one end of the bath.

5. A method as claimed in claim 1, substantially as described herein with reference to the accompanying drawings.

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