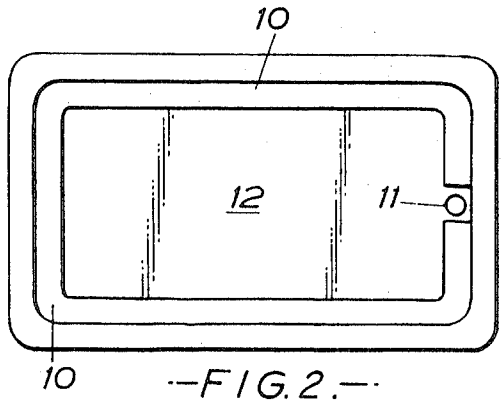
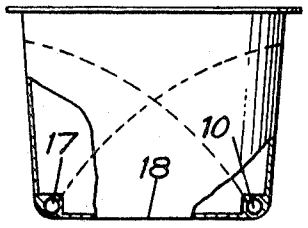
Oct. 26, 1971 S. L. SIERANT 3,614,792

BATHS

Filed June 14, 1968 2 Sheets-Sheet 1



-FIG. 2.-



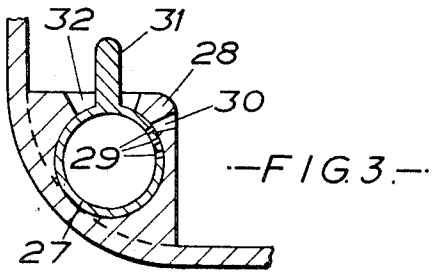
-FIG. 1.-

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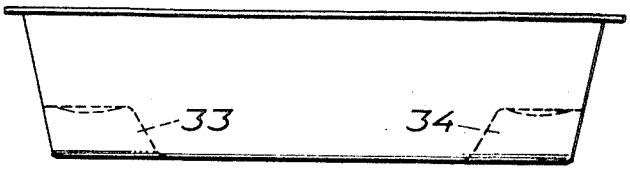
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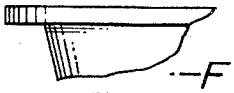
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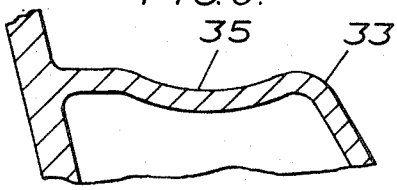
—FIG. 3—

—FIG. 4—

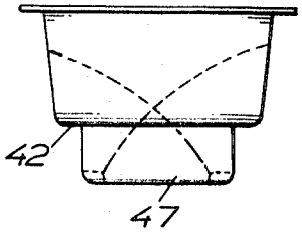




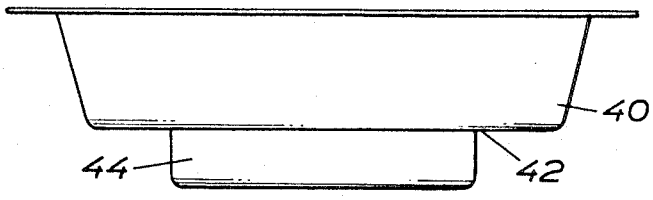
—FIG. 5—



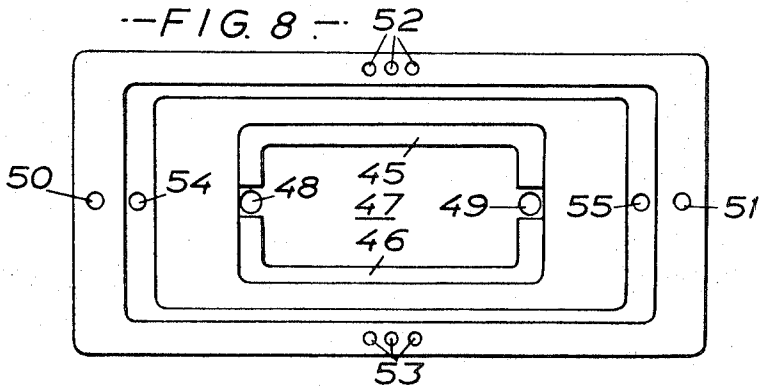
—FIG. 7—



—FIG. 6—



—FIG. 8—



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BATHS

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Claims priority, application Great Britain, June 17, 1967, 28,022/67; Aug. 11, 1967, 36,958/67; Mar. 20, 1968, 13,416/68

Int. Cl. A47k 3/022

U.S. Cl. 4—150

4 Claims

ABSTRACT OF THE DISCLOSURE

A bathtub having water introducing hollow perforated means extending along the lower part of the tub adjacent the intersection of the bottom and side walls of the tub, the hollow perforated means directing a plurality of jets of water upwardly and inwardly into the tub. A headrest is provided at one end of the tub adjacent the bottom thereof.

This invention relates to baths, primarily domestic baths, and is designed to provide certain improvements in baths.

The first object of the invention is to provide means for supplying warm or hot water to the bath, to ensure a better distribution of this water in the bath than is obtained with the conventional tap arrangement.

A secondary objective of the invention is the incorporation of duplicate sets of adaptation holes, for various bath fittings, thereby ensuring that the bath is not "handed."

A further object of the invention is the adaptation of a bath for the addition of an appliance for supplying air to the water within the bath, as described in the specification of U. S. Pat. No. 3,111, 686.

In specification No. 3,111,686, there is described an appliance for use in a bath for supplying air into the water in the bath for the purpose of forming bubbles for a "bubble bath" and also for applying a massaging effect to a person immersed in the water in the bath. This appliance is intended to be disposed in the bottom of a bath and a person using the bath either sits or lies on the appliance. According to the first aspect of the invention, a bathtub is provided with water-suply means disposed in the lower part of the bathtub, said water-supply means being arranged to produce a plurality of upwardly directed water-jets into said bathtub. Preferably the bathtub is provided with two hollow perforated members disposed within the lower part of said bathtub along opposite walls of said bathtub, said hollow perforated members forming steps between the side walls and base of said bathtub whereby a recess is formed in the bottom of said bathtub between said steps, and said hollow perforated members being arranged to produce a plurality of upwardly directed water jets into said bathtub. This aspect of the invention is primarily designed to adapt a domestic bath to accommodate an appliance such as that described in specification No. 3,111,686, but it will be understood that the invention is capable of modification for use with other appliances or devices either with a domestic bath or other kind of bath, e.g. the larger baths as used by sports organisations, or baths used by therapeutic establishments.

The appliance described in the said specification No. 3,111,686 includes a hollow platform on which a user sits or lies, the hollow space in the platform having a pipe or air passages with perforations, from which air that is fed to the pipe or air passages can escape into the water in the bath. To accommodate such as platform, the recess in the bottom of the bath may be substantially the same shape as the platform, and its depth may be substantially

equal to the thickness of the platform, so that when the latter is in position in the recess, the upper surface of the platform will be substantially flush with the bottom of the bath adjacent to the edges of the recess. There may also be a groove in the wall of the recess to accommodate an air supply pipe connected to the pipe or air passages in the platform. A mat of rubber, plastics material, or any other convenient material, may be provided to fit in the recess when the said platform is not in use.

The step may have a wall blended into the walls and base of the bath so that there is a hollow structure around the bottom of the bath.

According to a preferred feature of the invention, a hollow perforated member connected to a water supply through a valve or cock.

The supply of water to a bath is usually by means of two taps or faucets, one for hot water and the other for cold water, although in some instances a "mixer" device is provided by means of which a mixture of hot and cold water is supplied through a single faucet with a control or controls for the hot and cold water. Such taps or faucets are usually mounted at the top of the bath either at one end or midway along one side of the bath.

With the arrangement according to this aspect of the invention, water supplied to the hollow perforated member will be distributed more evenly throughout the bath than would be the case if it were supplied at one point in the bath. The hollow perforated member may comprise a pipe having perforations which may be arranged so as to direct jets of water towards the centre of the bath, or towards the longitudinal axis of the bath so that it can serve as a shower or rinsing device for a person in the bath. If desired, the hollow perforated member or pipe may be mounted within or be enclosed by a housing that has openings for the passage of water from the said perforations. The hollow perforated member can be connected to the water supply in any convenient manner, for example by means of a pipe or pipes which may be either flexible or rigid as desired, and such connecting pipe or pipes may be passed through an opening or openings in the wall or the bottom of the bath, sealing means being disposed in such opening or openings.

The water supply arrangements of the invention may be adapted for fitting to an existing bath although it may be preferable to construct the bath specifically to accommodate the water supply arrangements. For an existing bath, the hollow perforated member or pipe may be connected by a flexible pipe or pipes with couplings adapted to be connected to the outlet or outlets of the existing taps or faucets. Such connecting pipe or pipes may therefore lie against the side of the bath between the hollow perforated member or pipe and the tap or faucet.

According to another aspect of the invention, a bath has an internal protrusion at one end to provide a headrest or seat for a person lying or sitting in the bath.

The protrusion preferably fills the corner between the end and the bottom of the bath, and it extends across the full width of the interior of the bath. It may have a shallow depression in the centre to receive the occipital part of the head, or it may be padded with a washable or replaceable cushion or pad. The height of the headrest is preferably such that when the bath is filled to the normal depth (say 8 inches) and the occupant lies with his head on the headrest, the water will cover his ears but not his nose, mouth or eyes.

Preferably there are similar protrusions in opposite ends of the bath so that the occupant can use either end as the head end. With this arrangement, a tall person can use one of the protrusions as a footrest, whilst a short person will rest or brace his feet against it.

Such protrusions may extend along the length of the bath, whatever its shape, to provide a step into the bath,

a seat, head, feet and arm rest. The steps may be of uniform height and width, or may be contured as for instance for arm rests.

The bath is preferably manufactured with all the holes for taps, outlet chain and any other fittings duplicated so that it is not "handed" but can be orientated in any way within a bath room. It will be necessary to provide plugs (which may for example be chromium plated or otherwise decorative or in matching colours), to fill the redundant openings, and the holes for the side water controlling taps or knobs, can be interchanged with those for handgrips and the like.

Furthermore, the bath may be provided with attachment means whereby plastics or glass panels can be fitted above its sides and/or ends so as to enclose the space above the bath. This feature is especially useful if the bath is provided with a shower.

If the bath is fitted with protrusions in accordance with this aspect of the invention a perforated member in accordance with the invention may extend into one or all the protrusions so that water can be sprayed into the bath through the wall or top of the protrusions.

Several constructions of bath in accordance with various aspects of the invention will now be described by way of examples only, with reference to the accompanying drawings in which:

FIG. 1 is a sectional end view of a bath showing a simple form of recess, construction,

FIG. 2 is a plan view of the bath shown in FIG. 1,

FIG. 3 is a detail view to a larger scale of a controllable water supply,

FIG. 4 is a side view of a bath showing head and feet rests,

FIG. 5 is a detail view of a headrest,

FIG. 6 is a side view of a bath provided with steps,

FIG. 7 is an end view of a bath shown in FIG. 6, and

FIG. 8 is a plan view of the bath shown in FIG. 6.

Referring to FIGS. 1 and 2 of the drawings, there is shown a bath which may be made of resinous material although it will be appreciated that it may be made of any convenient material. Resinous material has been specifically mentioned however because it is readily mouldable, and as will be observed from the drawings, a step **10** is moulded into the bath around the perimeter of the base. That is to say, that the step **10** extends along both sides and across each end of the bath. At one end of the bath, there is an outlet hole **11**, and the step **10** may be interrupted at this position so that the outlet hole is in the lowest part of the base of the bath.

The steps **10** form a recess **12** on the inside of the bath, which may be of such a size and shape that it can accommodate an appliance for supplying air into the water as described in the specification of United States Patent No. 3,111,686.

It will be appreciated that when the recess **12** is not used to house an appliance similar to that described in specification 3,111,686, it may be filled with some kind of platform or mat, to bring the effective base of the bath flush with the top surfaces of the steps **10**.

Although the steps **10** are blended into and formed integral with the walls and base of the bath, they are hollow, and provision is made for connecting the water supply for the bath to these hollow steps **10**.

The water connection means may be of any known type and may include flexible or rigid pipes connected to the water supply system for the house in which the bath is fixed. As illustrated in FIG. 1, a series of perforations are formed in each of the steps **10** along the upper inside edges, so that when the water supply is turned on, a series of jets of water are directed upwardly across the bath from each side, thus providing in effect a shower for a person lying in the bath. In addition to the shower effect, the supply of the hot water through the perforated hollow steps **10** ensures a better distribution of the water throughout the bath, than would be obtained by the use of conventional faucets at one end or along one side. It should be understood however that any of the water supply systems described in this specification could be used in addition to an ordinary faucet system.

If desired there may be two hollow perforated members (not shown) extending side by side, the perforations of one member being different from those of the other member, and both members being connected separately to the water supply through valves or cocks so that water may be supplied to one or both members selectively. The differences in the perforations may be in the sizes of the perforations so that fine or coarse jets of water may be directed into the bath according to which member is in use at any time. Alternatively, the perforations of one member may be arranged to direct jets of water in different directions to those of the other member.

In the arrangement illustrated in FIG. 3, a hollow perforated pipe **27** is rotatable within a housing **28**, the pipe **27** having two or more rows of perforations **29** any row of which is capable of being brought into register with a single row of perforations **30** in the housing **28**. Each row of perforations in the inner member **27** will be different from the other row or rows, the differences being either in sizes and/or direction in which the jets of water will be projected. A lever **31** connected to the pipe **27** projects through a slot **32** in the outer member **28** and by means of this lever it is possible to rotate the pipe **27** about its own longitudinal axis in order to bring any one of the rows of holes **29** into register with the row of holes **30**. Alternatively, the pipe **27** may be stationary, and a shutter may be adjustably mounted to uncover selected rows of perforations in the pipe. Instead of a shutter, a deflector member may be adjustably mounted to deflect the jets of water from the pipe.

Turning now to FIG. 4, there is shown a bath, in which protrusions **33** and **34** are formed integral with the walls and base of the bath on the inside of the bath. Each of these protrusions fills the corner between the end and the bottom of the bath and extends across the full width of the interior of the bath. As shown in FIG. 5, each of the horizontal upper portions of the protrusions is formed with a shallow recess or depression **35**, to accept the occipital part of the head of a user.

These protrusions **33** and **34** provide head and feet rests for a user, and it is possible to lie in the centre portion of the bath, with the head supported on one protrusion and the feet supported on the other. Since both protrusions are alike, the bath is not "handed" and either end can be used as the head end.

FIGS. 6, 7 and 8 illustrate a bath which incorporates several features of the invention and in particular is designed to accept fittings without being "handed."

The bath has a body portion **40** of generally conventional formation, but there is a step **42** which extends along each side and across the ends of the bath. The lower center portion **44** is itself provided with two internal hollow members **45** and **46** similar to those described with reference to FIG. 1 of the drawings, so that there is a central recess **47** adapted to receive an air bubble appliance as described in United States patent specification No. 3,111,686. Outlet holes **48** and **49** are provided at each end of the recess **47** between the inturned ends of the hollow members **45** and **46**. In practice, only one of the outlet members will be connected to a drain, it is therefore necessary to provide some kind of seal, (for example a chromium plated metal seal) to protect the redundant outlet hole **48** or **49** as the case may be.

Since the hollow member **45** and **46** are constructed as described with reference to FIG. 1, they are adapted to provide jets of water directed upwardly into the bath as shown in FIG. 7 for the purpose of ensuring an adequate mixing of the water supply and also the provision of an internal shower for a user.

The step 42 which extends around the perimeter of the bath can be used for stepping into and out of the bath, and in addition, the end portions of this step can be used as described above as head and feet rests.

At each end of the bath there is a hole 50 and 51 which can be used for fitting a conventional water supply faucet or faucets. Here again, it will be necessary to provide some kind of cover for the redundant hole, and only one of the holes 50 and 51 will be used in practice.

Similarly at the sides of the bath, there are sets of holes 52 and 53 which can be used for fitting taps or brackets to either side of the bath. The bath is also provided, in each sloping end wall, with an overflow hole 54 and 55. Furthermore, the bath may be provided with attachment means whereby plastics or glass panels can be fitted above its sides and/or ends so as to enclose the space above the bath. This feature is especially useful if the bath is provided with an external shower in addition to the internal shower provided by the hollow members 45 and 46.

I claim:

1. Bathing apparatus comprising a bathtub, hollow perforated means for introducing water into said tub, said hollow perforated means extending substantially along opposite side walls of said tub and being disposed within the lower part of said tub at the intersection of the bottom and side walls of said tub to form steps between the bottom and side walls of said tub and a recess in the bottom of said tub between said steps, said hollow perforated means having aperture means for directing a plurality of jets of water upwardly and inwardly into said tub to evenly distribute the water throughout said tub, an internal protrusion at one end of said tub to provide a headrest for a person lying in the tub, said internal protrusion being secured to the end wall and bottom of said tub whereby a bather may position himself in said tub with his head resting on said protrusion as the water enters the tub uniformly throughout its length from the bottom-located perforated means.

2. Bathing apparatus as defined in claim 1, said perforated means comprising two hollow perforated members mounted within housings, each of said housings being disposed within the lower part of said bathtub, said housing forming steps between the side walls and base of said bathtub, whereby a recess is formed in said bathtub between said steps, and said housings having openings registering with the apertures in said hollow perforated members.

3. A bathtub according to claim 1, which is so proportioned that it is adapted to permit the user to lie in it, and which has one such internal protrusion at each end to provide respectively a headrest and a footrest for a person lying in the bath.

4. A bathtub according to claim 3, which has at least one internal protrusion to provide an armrest for a person lying in the bath.

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