



(11) **EP 1 372 448 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
13.05.2009 Bulletin 2009/20

(21) Application number: **02703755.5**

(22) Date of filing: **08.03.2002**

(51) Int Cl.:
A47K 1/05 (2006.01)

(86) International application number:
PCT/GB2002/001033

(87) International publication number:
WO 2002/071905 (19.09.2002 Gazette 2002/38)

(54) **WATER RECEPTACLES AND WASHING ARRANGEMENTS INCORPORATING SAME**
WASSERBEHÄLTER UND WASCHANLAGE MIT EINEM SOLCHEN WASSERBEHÄLTER
RECIPIENTS D'EAU ET ENSEMBLES DE LAVAGE COMPRENANT CEUX-CI

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

(30) Priority: **13.03.2001 GB 0106084**
16.10.2001 GB 0124765

(43) Date of publication of application:
02.01.2004 Bulletin 2004/01

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Description

[0001] This invention relates to water receptacles and washing arrangements incorporating same.

[0002] Water, particularly potable water, is an increasingly scarce resource in many parts of the world, particularly in the Middle East and Africa. Today the majority of countries in this region are either consuming or are expected to consume more water than their annual renewable supply.

[0003] Water in this region is considered to be the most critical natural resource because these countries lie in arid regions of the world. Several countries in the region are currently suffering from water scarcity due to increased demand resulting from population growth, higher standards of living, urbanisation and economic growth rates. This situation is very likely to affect all countries in the region in the near future.

[0004] Problems of finding water supplies, conserving them, and distributing them have been seen as increasingly critical issues for the future of the Middle East and North Africa as a whole.

[0005] Water resource conservation and allocation is one of the most urgent and pressing issues for the region. Until recently, new sources of supply have been exploited to cope with increasing demand. However, this is no longer cost effective due to limited water resources and the economic and environmental costs of tapping new sources. Many countries in the region have virtually tapped all their natural water resources. The potential for developing other renewable sources is limited. Developing alternative water resources is costly and unaffordable for many countries.

[0006] Water shortage in the Middle East and North Africa has forced countries to reuse treated waste water for agriculture, industry and recreation. The primary problem associated with using treated waste water (in addition to high cost) are the inherent health risks from water containing bacteria, viruses and a wide range of parasitic organisms.

[0007] According to Allan and Mallet in their publication entitled 'Water in the Middle East: Legal, Political and Commercial Implications' (1995), the countries in the Middle East are in need of twice as much water as is presently available, and by 2025, it is more realistic that the world will need up to three times the amount of water that is currently available.

[0008] Additionally, heating caused by so-called global warming is expected to aggravate the difficulties associated with the provision of water supplies to this region.

[0009] Wodou and Ghushl are important Muslim practices which relate to washing. Wodou is an ablution procedure which is obligatory whilst performing all prayers, including the five daily prayers. The majority of practicing Moslems perform Wodou, some five times a day. A Wodou involves washing of the hands, mouth, nose (nostrils), face, arms, wiping of the head and ears, and both feet with handfuls of water. During Wodou, one is required to recite certain Islamic texts and remember given phrases, with the result that a typical Wodou may take some minutes. With running water facilities, a considerable amount of water goes to waste during the practice, since only handfuls of water are collected and used at each washing step.

[0010] Ghushl is a practice where the whole body is wiped with handfuls of clean water. It is performed by practicing Moslems every Friday before the Friday midday prayer. In addition, Ghushl is required after sexual intercourse and nocturnal emissions. Therefore, the average Moslem would be expected to perform Ghushl several times a week.

[0011] The Wodou and Ghushl practices derive directly from the teaching of the Prophet Mohammed. The prophet Mohamed recommended that minimal quantities of water are used to perform Wodou and Ghushl. Specifically, the equivalent of a Moud of water is what he was known to use for Wodou, and the equivalent of a Sa'a of water is what he was known to use for Ghushl. According to Islamic literature, a Moud is equivalent to 688 grams of water, and a Sa'a is equivalent to four Mouds, or 2752 grams of water. In general Muslims strive to adhere to the practices of the prophet Mohamed as much as is practically possible.

[0012] According to Hadith, the Prophet Mohammed urged his followers to use water sparingly and with care when performing Wodou and Ghushl. However, the use of the limited quantities of water known as Moud and Sa'a is not an obligatory requirement for Moslems, and often, even with the best of intentions, water is wasted or, at least, the use is not optimised. Thus, for example, mosques provide Wodou facilities so that several individuals may use stretches of water drainage canals supplied with many water taps for use by individual users. In such facilities, water runs continuously during Wodou and often unattended. It represents a major waste of water.

[0013] Reducing wastage of water during Wodou by, for example, the use of traditional water measuring mobile containers to perform Wodou or Ghushl (instead of running water taps) is no longer practical or compatible with modern living facilities. It leads to water spillage on floors and may be perceived to be an unnecessary complication. However, with the widespread availability of running water facilities and high pressure shower fittings, significant waste of water inevitably occurs during Ghushl. Despite the fact that according to Sunna only about 2752 grams of water (ie, a Sa'a) is required to perform a perfectly adequate Ghushl, many times that amount is consumed due to the continuous flow of water.

[0014] The present invention addresses the above named problems, disadvantages and considerations. The present invention provides articles which have the practical effect of enabling water wastage to be reduced, and the more spiritual effect of aiding Moslems to adhere to or follow the Sunna to as close a degree as is practically possible.

[0015] According to the invention there is provided a wash basin having a washing arrangement according to claim 1 or a bath-tub having a washing arrangement according to claim 4. The receptacle adapted to hold a body of water

and having indicator means for indicating when the volume of water held in the receptacle is equal to a volume i) in the range 688 to 757cm³, preferably 688 to 697cm³, most preferably about 689cm³, and/or ii) in the range 2752 to 3028cm³, preferably 2752 to 2786cm³, most preferably about 2757cm³.

[0016] In this way, a volume of water which exactly, or very nearly, corresponds to the weight of water known as a Moud or the weight of water known as a Sa'a can be conveniently measured out by a user. In this way Wodou and Ghushl can be performed in a manner faithful to the teachings of Hadith, and water usage is minimised.

[0017] Henceforth, receptacles having indicator means indicating when the volume of water held in the receptacle is equal to volume i) as defined above are termed Moud receptacles, and receptacles having indicator means indicating when the volume of water held in the receptacle is equal to the volume ii) as defined above are termed Sa'a receptacles.

[0018] The indicator means may comprise a marking on the receptacle equivalent to a volume i) as defined above, and/or ii), as defined above.

[0019] Alternatively, the capacity of the receptacle may be equal to a volume i), as defined above, or ii) as defined above, and the indicator means may comprise a water releasing feature of the receptacle which releases water once the receptacle is filled to capacity. The water releasing feature may be a hole, a spout or even the top of a perimeter wall of the receptacle.

[0020] The width of the receptacle may exceed its depth. Such arrangements are convenient for washing purposes, allowing easy movement of the hand.

[0021] In the instance in which the indicator means indicates when the volume of water held in the receptacle is equal to the volume i) as defined above, the receptacle may have the word Moud disposed thereon.

[0022] In the instance in which the indicator means indicates when the volume of water held in the receptacle is equal to the volume ii) as defined above, the receptacle may have the word Sa'a disposed thereon. The words Moud and Sa'a need not be written in English - other languages might be used.

[0023] The receptacle may comprise one or more gripping portions disposed near to the top of the receptacle, preferably on an upper surface thereof. The gripping portions may comprise handles.

[0024] The washing arrangement of the wash basin or of the bath tub of the invention comprises

[0025] a receptacles housing adapted to receive the receptacle and being integral with the wash basin or bath tub.

[0026] The receptacle housing may comprise a recessed region to receive the receptacle, the recessed region generally conforming to the external shape of the receptacle. Such receptacle housings provide a convenient and aesthetically pleasing way of stowing the receptacle.

[0027] Document US-A-1379152 discloses a wash basin having the features of the preamble of claim 1.

[0028] Embodiments of receptacles and washing arrangements in accordance with the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 shows a receptacle;

Figure 2 shows (a) a plan view of a washing arrangement and (b) a cross sectional view along the line A - A¹;

Figure 3 shows a shower facility having a washing arrangement;

Figure 4 shows a bath tub having a washing arrangement; and

Figure 5 shows (a) a plan view of a sink having an integral washing arrangement and (b) a cross sectional view along the line A - A¹.

[0029] Figure 1 shows an example of a Moud receptacle 10. The receptacle is adapted to hold a body of water and has a marking 12 thereon indicating when the volume of water held in the receptacle 10 is equal to 688cm³. Thus, by filling the receptacle 10 with water up to the level of the marking 12, the user can ensure the amount of water is equal to (or very nearly equal to) a Moud. In this way, Wodou can be performed in a manner faithful to the teachings of Hadith, using a minimal amount of water.

[0030] It should be noted that the quantities of a Moud and a Sa'a relate to weights of water: a Moud is 688 grams and a Sa'a is 2752 grams. In principle, the correct weight of water could be used by pouring water into a weight measuring arrangement. However, such an arrangement would be cumbersome and unnecessarily complicated. In the simple and convenient arrangement consideration is made of the correct volume of water. To obtain these volumes, the density of water must be known. However, the density of water is temperature dependent (and to a lesser degree pressure dependent). Table 1 shows the variation of the density of water between 0 and 50°C at a pressure of 1 atmosphere. Also, Table 1 shows the volumes of water which are equivalent to a Moud and a Sa'a at these temperatures.

Table 1. Water Densities and Water Volumes Corresponding to a Moud and a Sa'a as a function of temperature.

Temperature/°C	Density of Water ^a /GCM ⁻³	Volume of a Moud of water/cm ³	Volume of a Sa'a of Water/cm ³
0	0.99984	688.1	2752.4
20	0.99820	689.2	2757.0
40	0.99222	693.4	2773.6
50	0.98804	696.3	2785.3
a. Water densities obtained from 'Kaye and Laby Tables of Physical and Chemical Contents Fifteenth Edition', various Eds, Longman Group Limited, Harlow, UK, 1986.			

[0031] The pressure dependence of water density causes negligible variation in water density over commonly encountered atmospheric pressures and can be ignored. Volumes considered useful in the context of the present invention range from the Moud and Sa'a volumes at 0°C to volumes which are greater by 10%, ie, from 688 to 757cm³ in the case of a Moud and from 2752 to 3028cm³ in the case of a Sa'a. The volume range 688 to 697cm³ in the case of a Moud (and 2752 to 2786cm³ in the case of a Sa'a) are considered particularly useful since they correspond to temperatures in the temperature range 0 to 50°C, which is the range in which most washing takes place. Volumes corresponding to room temperature (20 °C), ie, 689cm³ and 2757cm³ for a Moud and Sa'a, respectively, are possibly most useful. Although in general a single marking corresponding to a single volume is used, it is possible to dispose a number of markings relating to the relevant volumes on a receptacle. For example, three separate marking might be used to indicate desired volumes corresponding to 'cold', 'warm' and 'hot' water. -

[0032] The receptacle 10 of Figure 1 further comprises handles 14, 16 and a lip 18. The lip 18 assists in pouring water held in the receptacle 10.

[0033] In a similar manner, a large Sa'a receptacle can be provided having a capacity in excess of 2752 cm³, and having a marking indicating when a volume of water equal to 2752 cm³ is present in the receptacle. Such a receptacle can be used to store an amount of water equal to (or very nearly equal to) a Sa'a, and can be advantageously used in conjunction with Ghushl.

[0034] Although the skilled reader will appreciate that a vast number of possible variations exist with regard to the shape of the Moud and Sa'a receptacles, it is preferable that the receptacles, especially Moud receptacles, are spacious in shape so as to allow easy movement of the hand within the receptacle.

[0035] Figure 2 shows a washing arrangement (generally shown at 20), which is not part of the invention, comprising a Sa'a receptacle 22 and a receptacle housing 24 adapted to receive the receptacle 22. Conveniently, the receptacle housing 24 comprises a recessed region 24a to receive the Moud receptacle 22, the recessed region 24a generally conforming to the external shape of the Sa'a receptacle 22. Similar arrangements can be provided to house Moud receptacles. Such washing arrangements can be conveniently positioned at desired locations, such as within bathrooms. The receptacle housing provides a convenient way of storing the receptacle in between uses, and the combination of receptacle and receptacle housing in the washing arrangement can be designed so as to have aesthetic appeal. The receptacle housing can be provided with a drain outlet to aid cleaning. The receptacle 22 has a lip 22a to aid pouring of water held therein.

[0036] Figure 3. shows a shower facility, which is not part of the invention, comprising a shower 30, a shower cubicle 32 and a washing arrangement 34. The washing arrangement 34 comprises a Sa'a receptacle 34a and a receptacle housing 34b. The washing arrangement 34 is generally similar to the arrangement 20 shown in Figure 2, although in the case of the embodiment shown in Figure 3 the lower outer surface of the receptacle housing 34b is generally shaped in accordance with the shape of the lower outer surface of the receptacle 34a. This affords quite an aesthetically pleasing appearance. The shower 30 might be used to introduce water to the receptacle 34a.

[0037] Figure 4 shows a bath tub 40, which is not part of the invention, having the washing arrangement 34 which is depicted in Figure 3. A shower 42 is also provided.

[0038] Figure 5 shows a wash basin 50 having a Moud receptacle 52. The Moud receptacle 52 has the appropriate line mark depicting the volume of 688cm³ (not shown) and a lip 52a to facilitate pouring of water. The basin 50 is of the type having hot and cold taps. The taps are not shown in Figure 5 in order to simplify the appearance of this Figure; however taps can be disposed at the locations 54, 56. The wash basin 50 comprises an integral receptacle housing 58 in which the Moud receptacle 52 resides. The housing receptacle might be positioned to one side of the basin, rather than centrally, if the wash basin is of the type having a central mixer tap. Bath tubs are provided having housing receptacles integral therewith.

[0039] Receptacles and receptacle housings can be fabricated from any convenient materials, such as ceramics,

plastics or metal. Washing arrangements can be conveniently positioned against walls using conventional fixing means such as bolts, screws, pins and adhesive.

5 Claims

1. A wash basin having a washing arrangement comprising a receptacle adapted to hold a body of water and a receptacle housing adapted to receive the receptacle, **characterised in that** the receptacle adapted to hold a body of water and having indicator means for indicating when the volume of water held in the receptacle is equal to a volume i) in the range 688 to 757cm³, preferably 688 to 697cm³, most preferably about 689cm³ and/or ii) in the range 2752 to 3028cm³, preferably 2752 to 2786cm³, most preferably about 2757cm³; and **in that** the receptacle housing is integral with the wash basin.
2. A wash basin according to claim 1 in which the receptacle housing comprises a recessed region to receive the receptacle, the recessed region generally conforming to the external shape of the receptacle.
3. A wash basin according to claim 1 or claim 2 in which the receptacle housing is located on a rearwardly disposed upper surface of the basin.
4. A bath tub having a washing arrangement comprising a receptacle adapted to hold a body of water, **characterized in that** the receptacle adapted to hold a body of water and having indicator means for indicating when the volume of water held in the receptacle is equal to a volume i) in the range 688 to 757cm³, preferably 688 to 697cm³, most preferably about 689cm³, and/or ii) in the range 2752 to 3028cm³, preferably 2752 to 2786cm³, most preferably about 2757cm³; and **in that** the washing arrangement further comprises a receptacle housing adapted to receive the receptacle; in which the receptacle housing is integral with the bath tub.
5. A wash basin or bath tub according to any of claims 1 to 4 in which the indicator means comprises a marking on the receptacle equivalent to a volume i) and/or ii).
6. A wash basin or bath tub according to any of claims 1 to 4 in which the capacity of the receptacle is equal to a volume i) or ii), and the indicator means comprising a water releasing feature of the receptacle which releases water once the receptacle is filled to capacity.
7. A wash basin or bath tub according to any of claims 1 to 6 in which the width of the receptacle exceeds its depth.
8. A wash basin or bath tub according to any of claims 1 to 7 comprising one or more gripping portions disposed near to the top of the receptacle, preferably on an upper surface thereof.
9. A wash basin or bath tub according to claim 8 in which the gripping portions comprise handles.

45 Patentansprüche

1. Waschbecken mit einer Waschanlage, umfassend ein Gefäß, das eine Wassermenge aufnehmen kann und ein Aufnahmegehäuse, das das Gefäß aufnehmen kann, **dadurch gekennzeichnet, daß** das Gefäß in der Lage ist, eine Wassermenge aufzunehmen und mit einer Anzeigevorrichtung versehen ist, die anzeigt, sobald die Wassermenge, die sich in dem Gefäß befindet, gleich einer Menge i) im Bereich zwischen 688 bis 757 cm³, vorzugsweise 688 bis 697 cm³ und insbesondere etwa 689 cm³ ist und / oder ii) im Bereich von 2752 bis 3028 cm³, vorzugsweise 2752 bis 2786 cm³ und insbesondere etwa 2757 cm³ liegt, und daß das Aufnahmegefäß mit dem Waschbecken ein einteiliges Ganzes bildet.
2. Waschbecken nach Anspruch 1, **dadurch gekennzeichnet, daß** das Aufnahmegehäuse einen ausgesparten Bereich zur Aufnahme des Gefäßes aufweist, und daß der ausgesparte Bereich im allgemeinen der äußeren Form des Gefäßes entspricht.

3. Waschbecken nach Anspruch 1 oder 2, **dadurch gekennzeichnet, daß** das Aufnahmegehäuse auf einer rückwärtig gelegenen Oberseite des Beckens angeordnet ist.
- 5 4. Badewanne mit einer Waschanlage, umfassend ein Gefäß, das eine Wassermenge aufnehmen kann, **dadurch gekennzeichnet, daß** das Gefäß in der Lage ist, eine Wassermenge aufzunehmen und eine Anzeigevorrichtung aufweist, mit der angezeigt wird, sobald die in dem Gefäß enthaltene Wassermenge gleich einem Volumen i) im Bereich von 688 bis 757 cm³, vorzugsweise 688 bis 697 cm³, insbesondere aber etwa 689 cm³ ist und /oder ii) die Wassermenge im Bereich von 2757 bis 3028 cm³, vorzugsweise 2752 bis 2786 cm³, insbesondere aber etwa 2757 cm³ liegt, und daß die Waschanlage des weiteren ein Aufnahmegehäuse aufweist, das das Gefäß aufnehmen kann, wobei das Aufnahmegehäuse mit der Badewanne ein einheitliches Ganzes bildet.
- 10 5. Waschbecken oder Badewanne gemäß einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, daß** die Anzeigevorrichtung auf dem Gefäß eine Markierung besitzt, die einem Volumen i) und / oder ii) äquivalent ist.
- 15 6. Waschbecken oder Badewanne nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, daß** die Kapazität des Gefäßes gleich einem Volumen i) oder ii) ist, und daß die Anzeigevorrichtung eine Wasserfreigabe des Gefäßes ermöglicht, wodurch Wasser freigegeben wird, sobald das Gefäß bis zur Kapazität gefüllt ist.
- 20 7. Waschbecken oder Badewanne nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, daß** die Breite des Gefäßes größer ist als seine Tiefe.
8. Waschbecken oder Badewanne nach einem der Ansprüche 1 bis 7, **gekennzeichnet durch** einen oder mehrere Greifteile, die in der Nähe der Oberseite des Gefäßes, vorzugsweise auf einer oberen Oberfläche des Gefäßes, angeordnet sind.
- 25 9. Waschbecken oder Badewanne nach Anspruch 8, **dadurch gekennzeichnet, daß** die Greifteile Handgriffe bilden.

Revendications

- 30 1. - Lavabo ayant un dispositif de lavage comprenant un réceptacle apte à contenir une masse d'eau et une enveloppe de réceptacle apte à recevoir le réceptacle, **caractérisé par le fait que** le réceptacle apte à contenir une masse d'eau et ayant des moyens indicateurs pour indiquer lorsque le volume d'eau contenu dans le réceptacle est égal à un volume i) dans la plage de 688 à 757 cm³, de préférence 688 à 697 cm³ de façon davantage préférée d'environ 689 cm³ et/ou ii) dans la plage de 2752 à 3028 cm³, de préférence de 2752 à 2786 cm³, de façon davantage préférée d'environ 2757 cm³ ; et **par le fait que** l'enveloppe de réceptacle est d'un seul tenant avec le lavabo.
- 35 2. - Lavabo selon la revendication 1, dans lequel l'enveloppe de réceptacle comprend une région évidée pour recevoir le réceptacle, la région évidée se conformant d'une manière générale à la forme externe du réceptacle.
- 40 3. - Lavabo selon la revendication 1 ou la revendication 2, dans lequel l'enveloppe de réceptacle est située sur la surface supérieure disposée à l'arrière du lavabo.
- 45 4. - Baignoire ayant un dispositif de lavage comprenant un réceptacle apte à contenir une masse d'eau, **caractérisée par le fait que** le réceptacle apte à contenir une masse d'eau et ayant des moyens indicateurs pour indiquer lorsque le volume d'eau contenu dans le réceptacle est égal à un volume i) dans la plage de 688 à 757 cm³, de préférence de 688 à 697 cm³, de façon davantage préférée d'environ 689 cm³, et/ou ii) dans la plage de 2752 à 3028 cm³, de préférence de 2752 à 2786 cm³, de façon davantage préférée d'environ 2757 cm³ ; et **par le fait que** le dispositif de lavage comprend en outre une enveloppe de réceptacle apte à recevoir le réceptacle ; l'enveloppe de réceptacle étant d'un seul tenant avec la baignoire.
- 50 5. - Lavabo ou baignoire selon l'une quelconque des revendications 1 à 4, dans lequel ou laquelle les moyens indicateurs comprennent un marquage sur le réceptacle équivalent à un volume i) et/ou ii).
- 55 6. - Lavabo ou baignoire selon l'une quelconque des revendications 1 à 4, dans lequel ou laquelle la capacité de réceptacle est égale à un volume i) ou ii), et les moyens indicateurs comprennent une caractéristique de libération de l'eau du réceptacle qui libère l'eau une fois que le réceptacle est rempli jusqu'à sa capacité.

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7. - Lavabo ou baignoire selon l'une quelconque des revendications 1 à 6, dans lequel ou laquelle la largeur du réceptacle dépasse sa profondeur.
8. - Lavabo ou baignoire selon l'une quelconque des revendications 1 à 7, comprenant une ou plusieurs parties de saisie disposées près de la partie supérieure du réceptacle, de préférence, sur une surface supérieure de celui-ci.
9. - Lavabo ou baignoire selon la revendication 8, dans lequel ou laquelle les parties de saisie comprennent des poignées.

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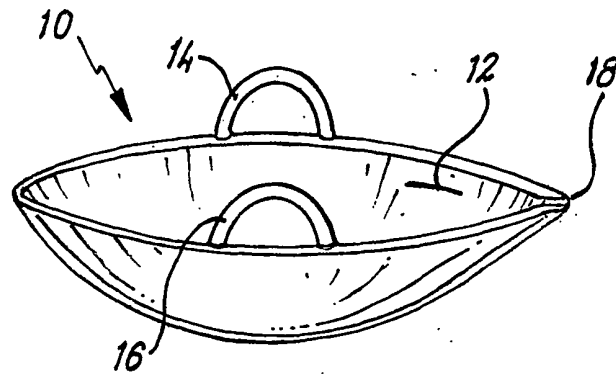


Fig. 1

Fig. 2a

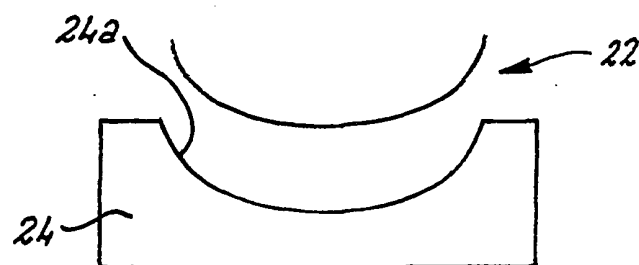
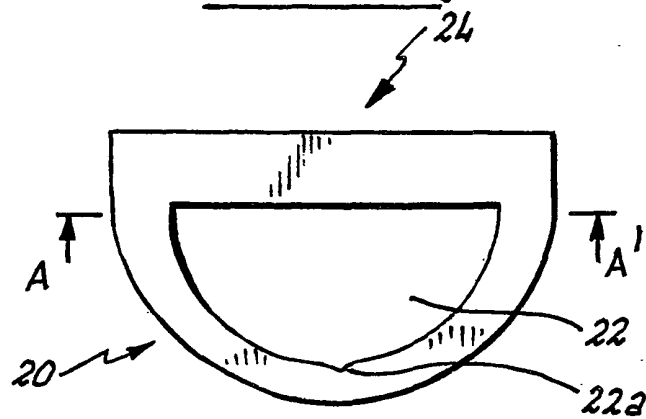


Fig. 2b

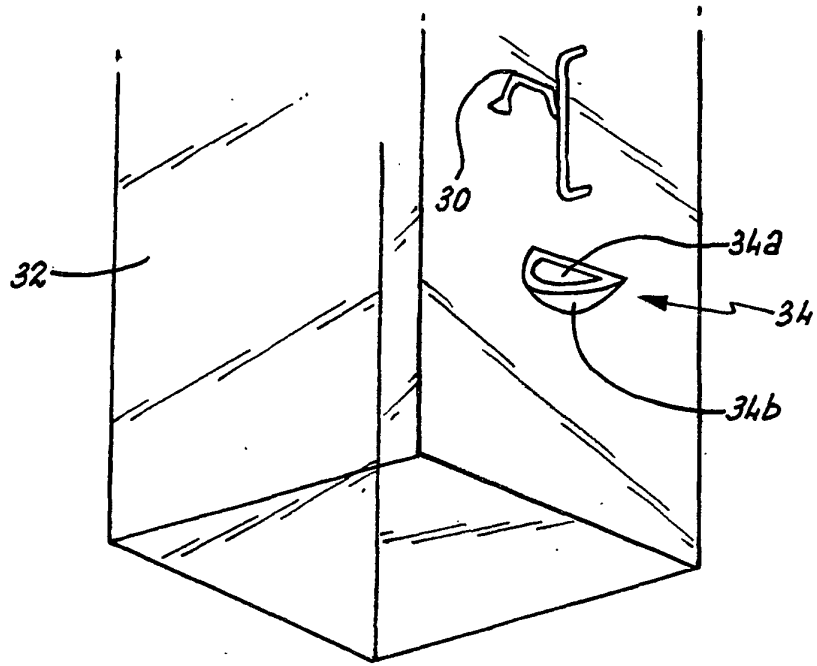


Fig. 3

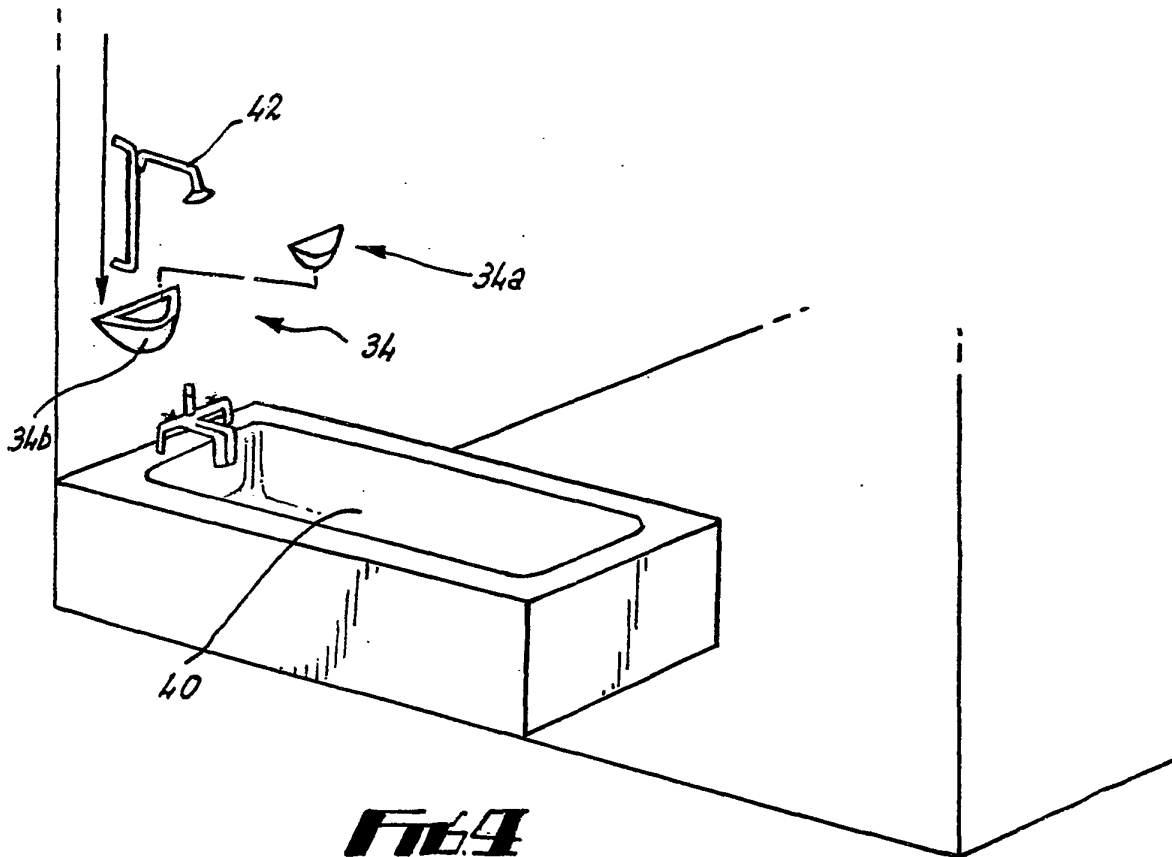


Fig. 4

Fig. 5a

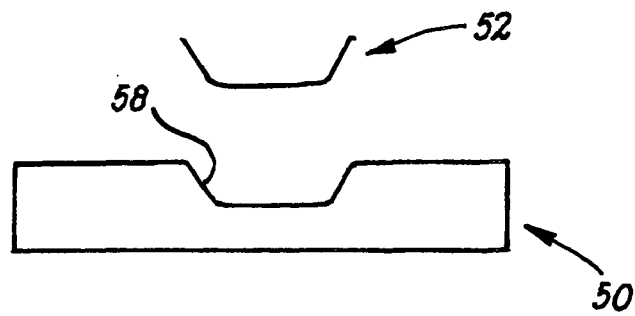
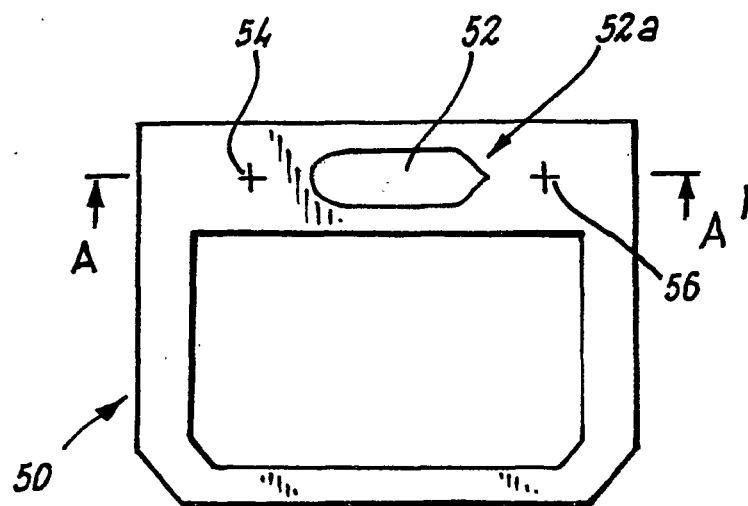


Fig. 5b

REFERENCES CITED IN THE DESCRIPTION

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