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— *as to non-prejudicial disclosures or exceptions to lack of novelty (Rule 4.17(v))*

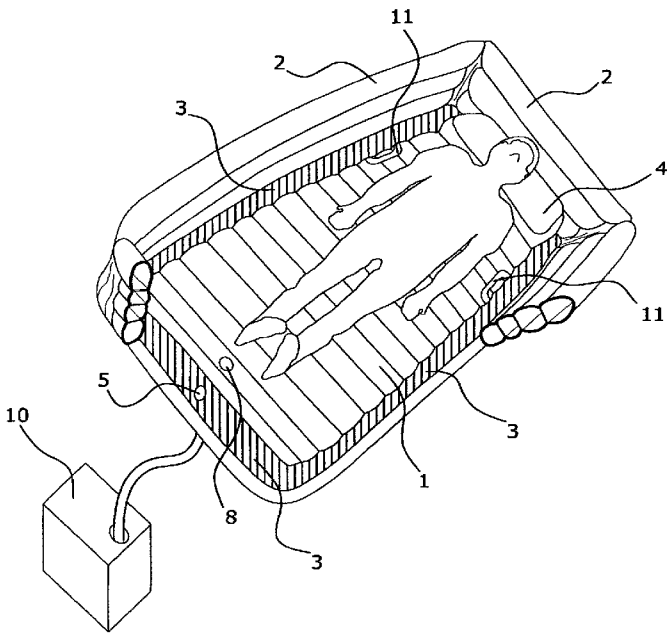
Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(54) **Title**: BATHING SYSTEM FOR ASSISTED AND NON-SUFFICIENT BEDRIDDEN PATIENTS

Fig. 1



(57) **Abstract**: The present invention relates to a bathing system for assisted and non-sufficient bedridden patients with the use of an inflatable PVC air tub, universal and suitable for any bed, which allows the bathing by means of a common water dispenser, and characterized by a main inflatable and ergonomic central body, a head rest coplanar to the main body which supports the bather, and a periphery tubular air wall with three functions: safety of the bather for accidental fall; water splash containment during bathing; waste water canalization towards drain hole. The peculiarity of the construction of the air tub allows the patient to remain in a raised position in relation to waste water during the washing and therefore ensures better hygiene because not immersed in water.

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"BATHING SYSTEM FOR ASSISTED AND NON-SUFFICIENT BEDRIDDEN PATIENTS"

TECHNICAL FIELD

The present invention relates to a bathing system for washing assisted and non-sufficient bedridden patients by means of an inflatable air tub, whose peculiarity is found in its construction design that allows the patient to remain in a raised position in relation to waste water during bathing and consequently ensures better hygiene.

BACKGROUND

As is known, for nurses and / or caregivers, the washing of a patient confined to bed for certain periods of time or permanently, is problematic for both the patient and who does the service. In the presence of Alzheimer's, patients debilitated, paralyzed, burned, in coma, and an indefinite number of other conditions of hardship, the temporary or permanent immobility does not allow easy movements, other than make use of lifting and moving systems in special equipped facilities which are expensive and bulky, besides requiring trained and competent staff. The most common alternative appears to be the washing sponge that, as applied with thoroughness and accuracy, does not give the patient a complete and hygienic washing. Other systems involve washing in bed by the assembly of complex joint structures or else waterproof sheets that also require complex supports to prevent outside water leaking. In such cases, however, the patient results directly "immersed" in water. This is not always suitable for example in the case of plasters and / or burns.

SUMMARY OF THE INVENTION

The bathing system for assisted and non-sufficient bedridden patients results to have the distinction of maintaining the patient raised above the wastewater during washing. It follows that the patient is never "immersed" at any stage of washing, allowing a better hygienic and quality bath.

The bathing system for assisted and non-sufficient bedridden patients is designed for use directly in bed of the patient, whether the bed of a hospital, a nursing home, or the bed at home. It follows that the washing does not require trained personnel because of its ease of use.

The cleaning system does not need assistance to move the patient, nor to lift him. When deflated, the air tub is placed under the patient's back with simple rotations, with same procedure as

changing bed sheets, then be inflated with a common air pump, and proceed washing by common water dispenser.

BRIEF DESCRIPTION OF THE DRAWINGS

These and additional features and advantages of the embodiments disclosed herein will be better understood with respect to the following description and drawings, in which like numbers refer to like parts throughout, and in which:

Figure 1 represents schematically in inflated position, an exploded perspective view of the air tub with relative bather;

Figure 2 represents schematically in inflated position, the top view of the air tub with relative bather;

Figure 3 represents schematically in inflated position, the longitudinal section view of the air tub with relative bather;

Figure 4 represents schematically in inflated position, the cross section view of the air tub with relative bather;

Figure 5 represents schematically in inflated position, the side view of the air tub;

Figure 6 shows, schematically in inflated position, the rear elevation view of the air tub.

DETAILED DESCRIPTION

With reference to the described figures the bathing system for assisted and non-sufficient bedridden patients is composed of an inflatable plastic pvc air tub, built with the well-known technology of high-frequency welding of PVC materials.

The bathing system for assisted and non-sufficient bedridden patients can be used on any bed or flat surface that allows it to spread out and open. The bathing is to take place through common

shower water dispenser connected to a tap if available, or by electric water pump immersed in a supply reservoir. Both cases are not the limiting factor of the embodiment, as the use of one case or the other is not distinctive, but only provided herein for indication purposes only. Similarly waste water resulting from bathing, can be collected in a common tank or allowed to flow into a floor drain when available.

Fig. 1 represents, schematically in the open position and inflated, an exploded prospective view of the bathing system for assisted and non-sufficient bedridden patients. In evidence the two bodies: the central main body (1), which results an element of support for the bather, and the body perimeter (2), formed by an air tubular wall. Both are equipped with independent inflation valves (respectively (8) and (7)), and connected to each other along the entire perimeter by a PVC string, resulting from their construction, and forming a drain canal in evidence in Fig. 1, 2, 3 and 4 with point (3), whose function is to collect and direct the waste water (12) towards the outlet drain hole (5).

In fig. 1, 2, 3 and 4 in evidence the central body (1), a peculiar element herein, allows the bather to assume a raised position respect the waste water during bathing by an assistant. The inflatable body, built using the technology of high-frequency welding of PVC, preserves a slight longitudinal slope towards the lower end of the same, allowing the patient to assume a comfortable position during bathing, and equally giving a proper inclination in order to direct water to the bottom of the drain (3), and subsequently expel through the waste water outlet (5) visible in Fig. 1, 2, 3, 5 and 6. The i-beams (6) also induce waste water to the side edges of the body (1), avoiding stagnate points on the body (1) directly in contact with the bather. In Figures 3 and 4 is displayed how the level of waste water (12) is never in direct contact with the patient's body.

The body (1) is therefore provided, in its construction, with built-in headrest (4) and grab handles (11) that are useful for the bather with minimal motor ability, when putting in place and inflating body (1) and body (2) by assistant.

The body perimeter (2) results connected to the central main body (1) by means of a PVC string, resulting from their construction, forming a drain canal for waste water (3) as in evidence in fig. 3 and 4. The body perimeter (2) consists of four tubes placed transversely to the central main body (1) along the entire perimeter, and choked near the four corners. It also has a slight opening towards the top in order to increase surface for sprinkling water containment.

Fig. 1 also shows a waste water collection reservoir (10) for purpose only representative in fact waste water can also flow down to the floor in the presence of a drain hole.

The whole structure appears to be entirely self-supporting and does not require any kind of support structure or reinforcement, but only a support surface that may be the same bed of the patient undergoing bathing.

The above description is given by the way of example, and not limitation. Given the above disclosure, one skilled in the art could devise variations that are within the scope and spirit of the invention disclosed herein. Further, the various features of the embodiments disclosed herein can be used alone, or in varying combinations with each other and are not intended to be limited to the specific combination described herein. Thus, the scope of the claims is not to be limited by the illustrated embodiments.

WHAT IS CLAIMED IS:

1. A bathing system for washing assisted and non-sufficient bedridden patients by means of an inflatable air tub, characterized in its construction design that allows the patient to remain in a raised position in relation to waste water during bathing and consequently ensures better hygiene, and formed by :

an inflatable central main body dimensioned to support bather;

an inflatable body perimeter placed transversely to the central main body along the entire perimeter whose function is to contain water from bathing;

a drain canal, included and obtained from the two bodies, whose function is to collect and direct the waste water towards the outlet drain hole;

2. System as claimed in Claim 1, in which the system is composed mainly of plastic inflatable PVC.

3. System as claimed in Claim 1, in which the central main body is an element of support for the bather and allows a raised position respect the drain water canal.

4. System as claimed in Claim 1, in which the perimeter body is an element of safety of the bather for accidental fall and water splash containment during bathing.

5. System as claimed in Claim 1, in which the perimeter body is connected to the main body by means of a PVC string.

6. System as claimed in Claim 1, in which the union of the two primary bodies of the system form a drain canal along the perimeter between the two bodies to collect the waste water.

7. System as claimed in Claim 1, in which the drain canal results at a lower level respect the surface of the central main body, allowing the bather, lying on the same, to remain elevated respect the level of waste water.

8. System as claimed in Claim 1, in which the drain canal includes, by the lower base of the system, a drain hole for collecting waste water generated from bathing.

Fig. 1

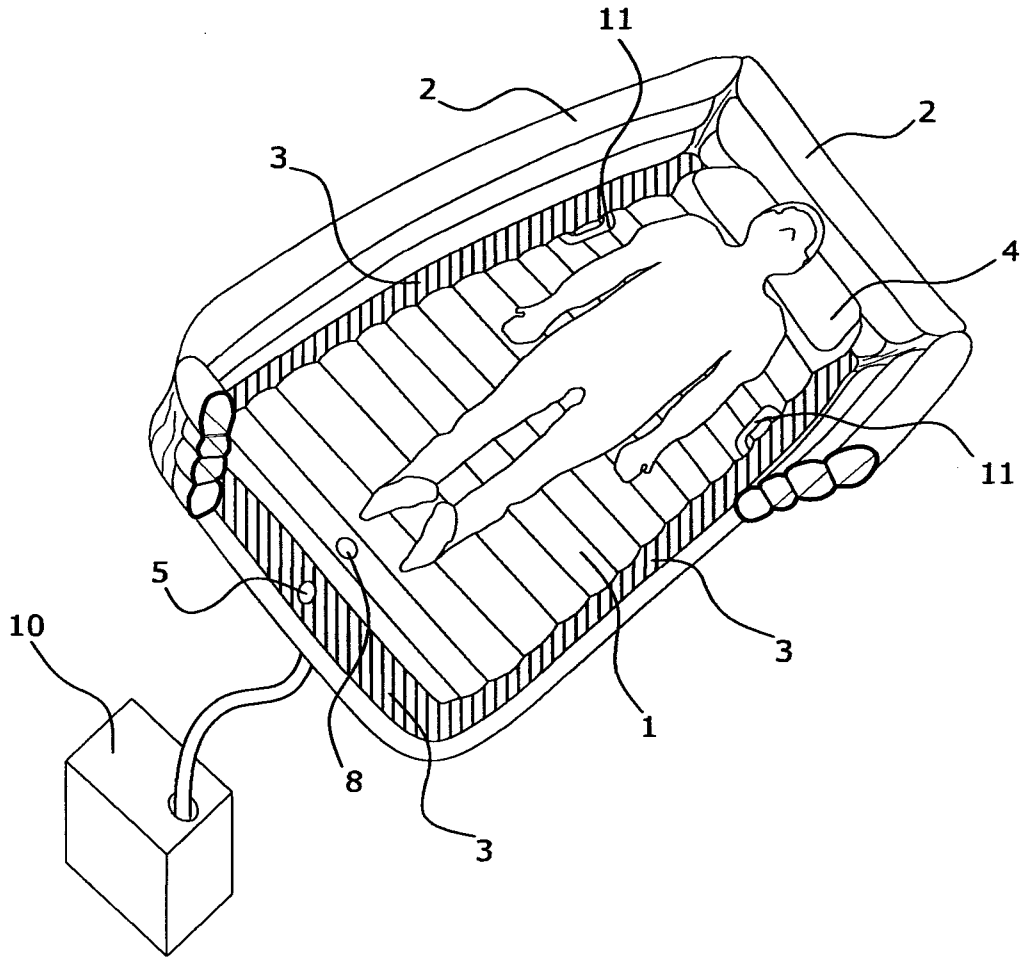


Fig. 2

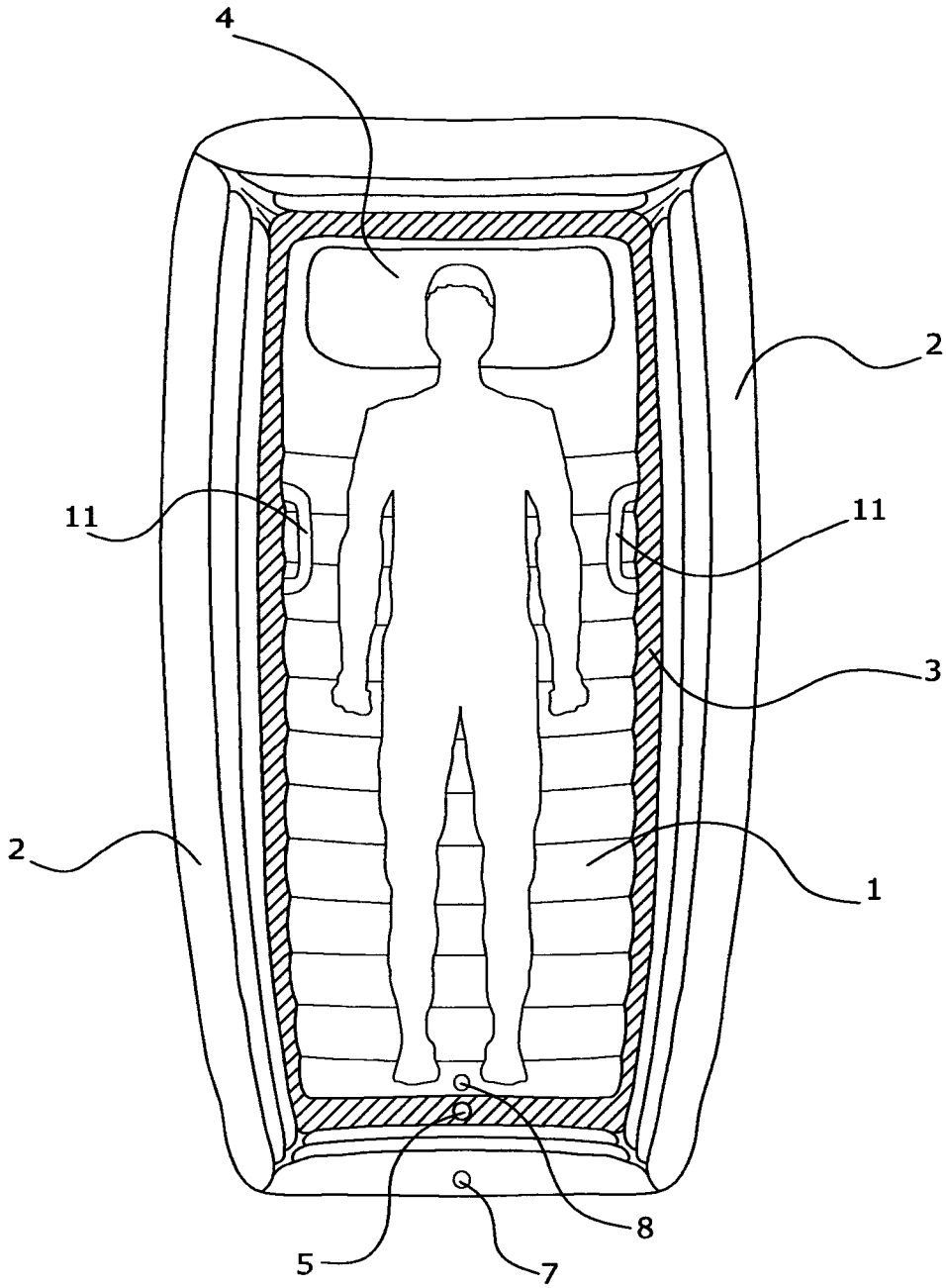


Fig. 3

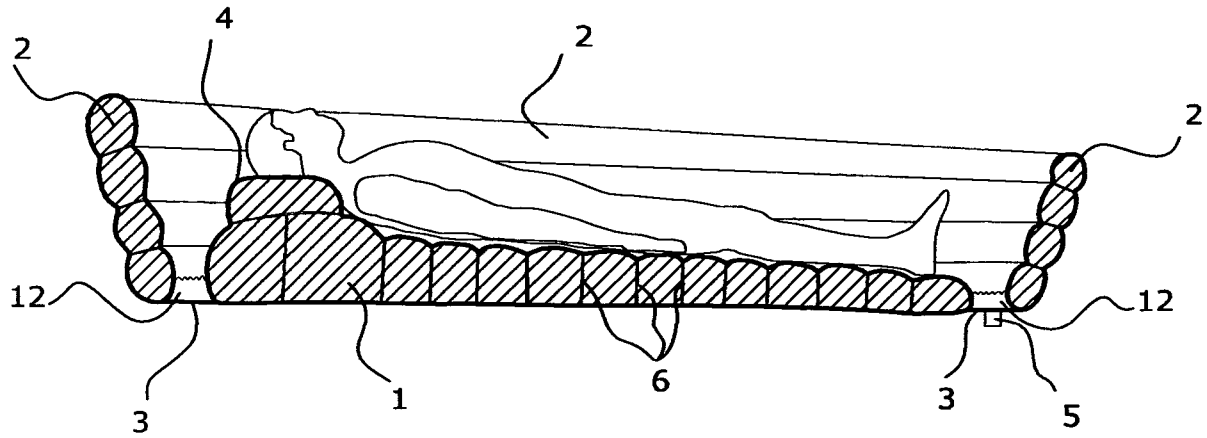


Fig. 4

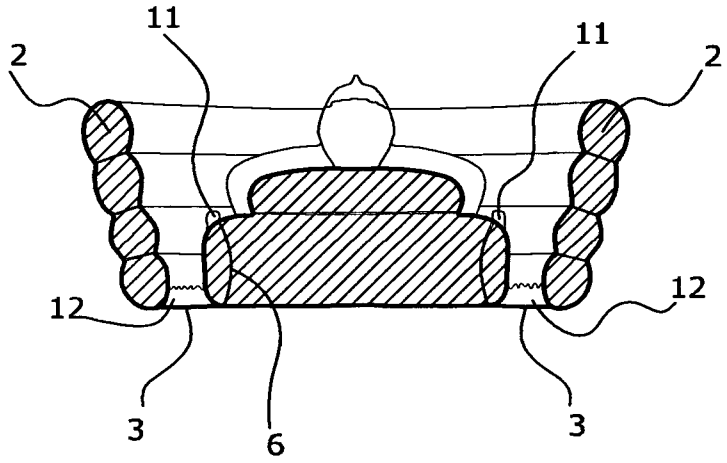


Fig. 5

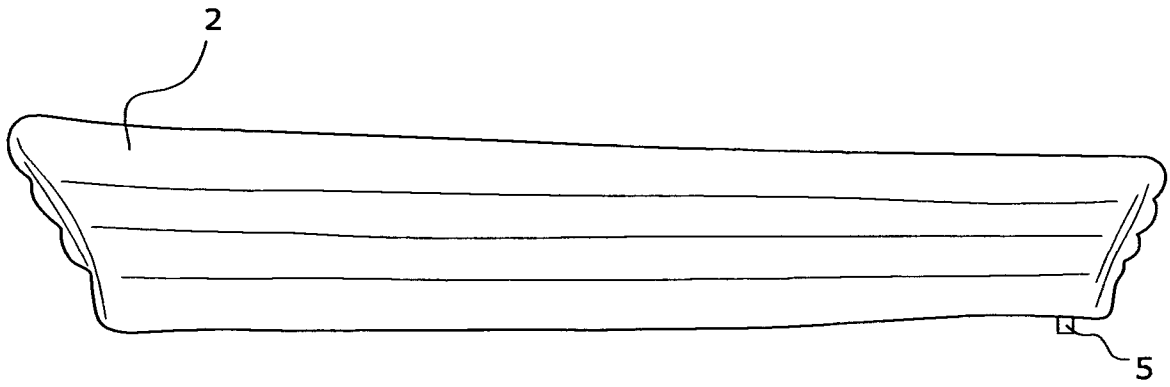
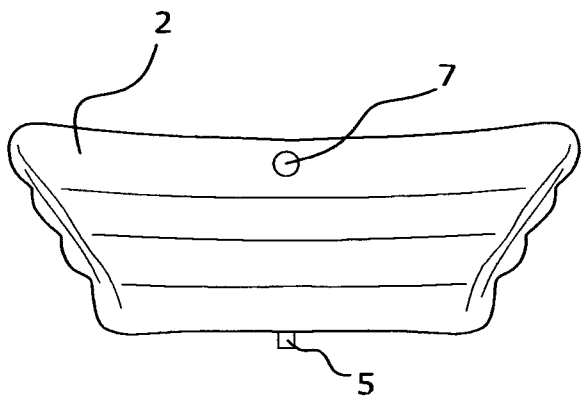


Fig. 6



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61G7/00 A47K3/06
ADD. A61G7/057 A47C27/10 A61G7/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61G A47C A47K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 744 112 A (KEESLING JR WILEY E [US]) 17 May 1988 (1988-05-17) column 2, line 42 - column 4, line 33 figures 1-3	1-8
X	US 3 058 122 A (MCDANIEL BILLY B ET AL) 16 October 1962 (1962-10-16) column 2, line 57 - column 5, line 62 figures 1-3,7-9	1-8
X	US 5 247 712 A (WILLIAMS PRUNE P [US]) 28 September 1993 (1993-09-28) column 2, line 26 - column 3, line 25 figures 1-5	1-8
X	US 2006/042015 A1 (WANG CHAO-JAN [TW]) 2 March 2006 (2006-03-02) paragraph [0023] - paragraph [0029] figures 1-5	1-8

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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