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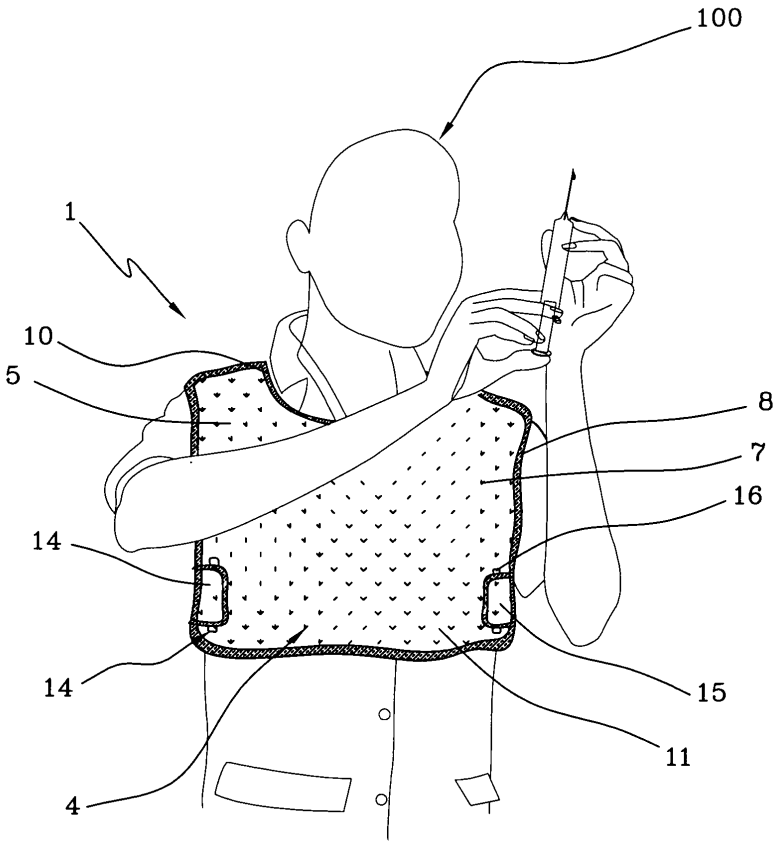
(54) A lightweight bib for surgical personnel

(57) The comprises at least an air chamber (2), which can be positioned in contact with at least a body portion of an operator (100), a gas inlet into the air chamber (2) and an outlet (4) of the gas from the air chamber (2) at least toward the operator's body (100).

FIG 2



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Description

[0001] This invention relates to a surgical bib and more specifically to a surgical bib for health personnel to be worn during surgical operations.

[0002] It is well known that during a surgical operation the surgical personnel, i. e. the surgeons and the paramedical operators who assist the surgeon, are highly concentrated and physically involved.

[0003] This considerable commitment, especially in some particularly long and complicated operations, causes increased perspiration perspiration; in fact a nurse has the task of wiping the surgeon's brow.

[0004] The increased perspiration also causes a series of problems during the surgical operation, as abundant perspiration is combined with a rise in the body temperature of the health operators, with consequent physical tiring and the risk of a fall in concentration.

[0005] This drawback has been aggravated in recent years by the advent of special materials, which have replaced cotton in the surgeons' surgical gowns; this more-technical material being more protective and liquid-proof, but at the same time affording less transpiration and therefore being less comfortable for the wearer.

[0006] This drawback is at present limited by reducing the operating theatre temperature during operations. This can, however, cause serious problems both to the patients, who might suffer from hypothermia, and to the surgical personnel, often having to work in an inappropriate and uncomfortable environment.

[0007] In order to avoid hypothermia in the patients, special heating devices have been developed for them, while the non-surgical personnel present in the operating theatre have to wear additional clothes that are often unsuited to the operating environment.

[0008] The main technical purpose of this invention is to provide a surgical bib able to offer a high degree of comfort to heath personnel during surgical operations.

[0009] In more detail, the invention aims at creating a surgical bib which is able to reduce perspiration in the theatre personnel during surgical operations.

[0010] A further purpose of the present invention is to provide a surgical bib able to lower the body temperature of the theatre personnel during surgical operations.

[0011] The specific technical aim is achieved by a surgical bib having the technical characteristics described in any one of the accompanying claims.

[0012] Further characteristics and advantages of the invention will better appear in the following non-limiting description of a preferred but not exclusive embodiment of the bib, illustrated in the non-limiting figures of the accompanying drawings, in which:

Figure 1 is a plan view of a surgical bib of the invention;

Figure 2 is a view of the bib of figure 1 when worn.

[0013] With reference to the figures of the drwings, figure 1 shows in its entirety the bib of the present invention.

[0014] The bib 1 comprises an air chamber 2 to be placed in contact with at least a portion of a body of an operator 100, as shown in figure 2.

[0015] By the term "air chamber", a space sealed between two layers is meant, for containing a gas, not necessarily hermetically.

[0016] The bib 1 comprises an inlet 3 for a gas into the air chamber 2 and an outlet for the gas 4 from the air chamber 2 at least towards the operator's body 100.

[0017] The operator thus receives a gas flow that removes dampness from him or her, thus lowering his or her body temperature and keeping his or her body dry.

[0018] In more detail, the air chamber 2 comprises a first layer 5 in contact with the operator's body 100 and a second layer 6 superposed, and joined to the first layer 5.

[0019] In the preferred embodiment, the material of the first layer 5 as well as that of the second layer 6, is not pemeable to the gas used, i.e. is a plastic material or any other suitable non-textile material.

[0020] In the preferred embodiment, as shown in the accopanying figures of the drawings, the outlet 4 comprises a plurality of holes 7, preferably between 0.2 - 2 mm diameter, afforded on the first layer 5 of the bib, i.e. the layer 5 in contact with the operator's body 100, so that the operator's body directly receives the gas flow from the air chamber 2 of the bib 1.

[0021] The outlet 4 can advantageously also comprise a number of holes 7 on the second layer of the bib 1, which is the layer in contact with the surrounding environment 100 in order to maximise the drying action of the gas exiting the air chamber 2.

[0022] The bib 1 advantageously comprises the two layers 5, 6, which enclose a single air chamber 2.

[0023] For this purpose, each layer 5, 6 is limited by the respective perimeter edges 8 thereof which are superposed and joined together to form the air chamber 2.

[0024] In the preferred embodiment, the borders 8 of the first layer 5 and the second layer 6 are heat-welded together.

[0025] In order for the bib 1 to be easily and rapidly put on, each layer 5, 6 comprises a hole 9 for the operator 100 to put his or her head through.

[0026] The perimeter edges 10 of the first and the second hole 9 are superposed and heat welded, in order to guarantee the seal of the air chamber 2.

[0027] As you can see in figure 1, the bib 1 comprises a front portion 11 and a back portion 12.

[0028] More in detail, the front portion 11 covers the operator's chest 100, while the back portion 12 covers at least a part of the operator's back 100.

[0029] The front part advantageously covers only the operator's chest and leaves the abdominal area free; so that only the chest, but not the abdominal area, receives the air flow. As a consequence of this the operator is protected from hypothermia in the abdomen which, as known, can cause problems.

[0030] Similarly and for the same reason, the back portion 12 of the bib 1 only covers the shoulders and a part of the operator's back 100, thus leaving the operator's lumbar region free.

[0031] The front portion 11 and the back portion 12 of the bib, as can be seen in the accompanying figures of the drawings, advantageously comprise the means for fastening 13 of both portions, to be used when the bib is put on, in order for the bib 1 to operate correctly.

[0032] In more detail, the front portion 11 or the back portion 12 comprise two appendices 14 which develop away from the peripheral edge 8 of the bib 1. Each appendix 14 exhibits at an end portion thereof an adhesive element 15 which can be engaged by a further adhesive element 16 located on a portion of the peripheral edge of the back portion 12 or of the front portion 11.

[0033] Both adhesive elements 15,16, once fastened, keep the front 11 and the back portion 12 engaged together in a part of the bib 1 stretching below the operator's armpits,

As already mentioned, the bib comprises an inlet 3 of the gas into the air chamber 2 made up of the first and second layers 5, 6.

[0034] The inlet 3 in the preferred embodiment comprises a valve 17 in fluid communication with the air chamber 2.

[0035] The valve 17 is housed between the peripheral edges 8 of both layers 5, 6 and can be connected to a gas source (not in the figure).

[0036] The valve 17 can advantageously be connected either to an gas source already present in the operating theatre or to a special ventilator.

[0037] In any case, in the preferred embodiment the used gas is air, as it is easily sourced, readily available, cheap and has good properties of heat exchange and dampness absorption.

[0038] Because of its low production cost, the bib, made up of two perforated and superposed layers, is single-use and thus in compliance with the most stringent sanitary regulations relating to prevention of disease transmission among patients.

[0039] Putting on the bib 1 of the present invention is quite easy: it suffices to insert your head into the hole 9, to position the front portion 11 and the back portion 12 on your body and then fasten the adhesive elements 15 of the appendices 14 of the back portion to the adhesive elements 16 of the front portion 11.

[0040] Of particular importance is the the bib's practicality, as it can be worn under any garment, whether a surgical gown or an ordinary jacket. This characteristic is due to the fact that the bib, as already mentioned, is made up of only two layers of a soft material.

Claims

1. A surgical bib **characterised in that** the bib (1) comprises at least an air chamber (2), which can be placed in contact with at least a part of the body of an operator (100), an inlet (3) of a gas into the air chamber (2) and an outlet of the gas from the air chamber (2) which directs the gas at least towards the operator's body (100).

2. The bib of claim 1, **characterised in that** the air chamber (2) comprises a first layer (5) facing the operator's body (100) and a second layer (6) superposed on and joined to the first layer (5).

3. The bib of claim 2, **characterised in that** the first layer (5) and the second layer (6) are made of a material which is not permeable to the gas.

4. The bib of claim 2 or 3, **characterised in that** the first layer (5) and the second layer (6) respectively exhibit perimeter edges (8) which are superposed on one another and joined together.

5. The bib of any one of claims from 2 to 4, **characterised in that** the outlet (4) of the gas affords a plurality of holes (7) on at least the first layer (5) of the bib which can be positioned on the operator's body (100), for spraying the operator's body with the gas.

6. The bib of claim 5, **characterised in that** the outlet (4) affords a plurality of holes (7) on the second layer (6) of the bib.

7. The bib of any one of claims from 2 to 6, **characterised in that** the first layer (5) and the second layer (6) respectively comprise a first hole and a second hole (9) which are superposed and for the operator's head (100) to pass through.

8. The bib of claim 6, **characterised in that** the first hole and the second hole (9) exhibit perimeter edges (10) which are superposed on one another and joined together.

9. The bib of any one of the preceding claims, comprising a front portion (11) for covering the operator's chest (100) and a back portion (12) for covering the operator's back (100); the air chamber (2) extending along both the front portion (11) and the back portion (12) of the bib (1).

10. The bib of claim 9, **characterised in that** the front portion (11) does not cover an abominal area of the operator (100) and the back portion (12) does not cover a lumbar area of the operator (100).

11. The bib of claim 9 or 10, **characterised in that** the front portion (11) and the back portion (12) of the bib (1) comprise means for fastening (13) which engage the front portion (11) to the back portion (12) when the bib (1) is worn by an operator.

12. The bib of any one of the preceding claims, comprising a single air chamber (2).

13. The bib of claim 2 and 11, comprising the first layer (5) and the second layer (6); **characterised in that** the first layer (5) and the second layer (6) form the single air chamber (2).

14. The bib of any one of the preceding claims, **characterised in that** the gas inlet (3) comprises a valve (17) in fluid communication with the air chamber (2), and connectable to a source of gas.

15. The bib of any one of the preceding claims, **characterised in that** the bib is single-use.

16. The bib of any one of the claims from 2 to 15, **characterised in that** the first layer (5) and the second layer (6) are made of a soft material.

17. The bib of any one of the preceding claims, **characterised in that** the gas used is air.

FIG 1

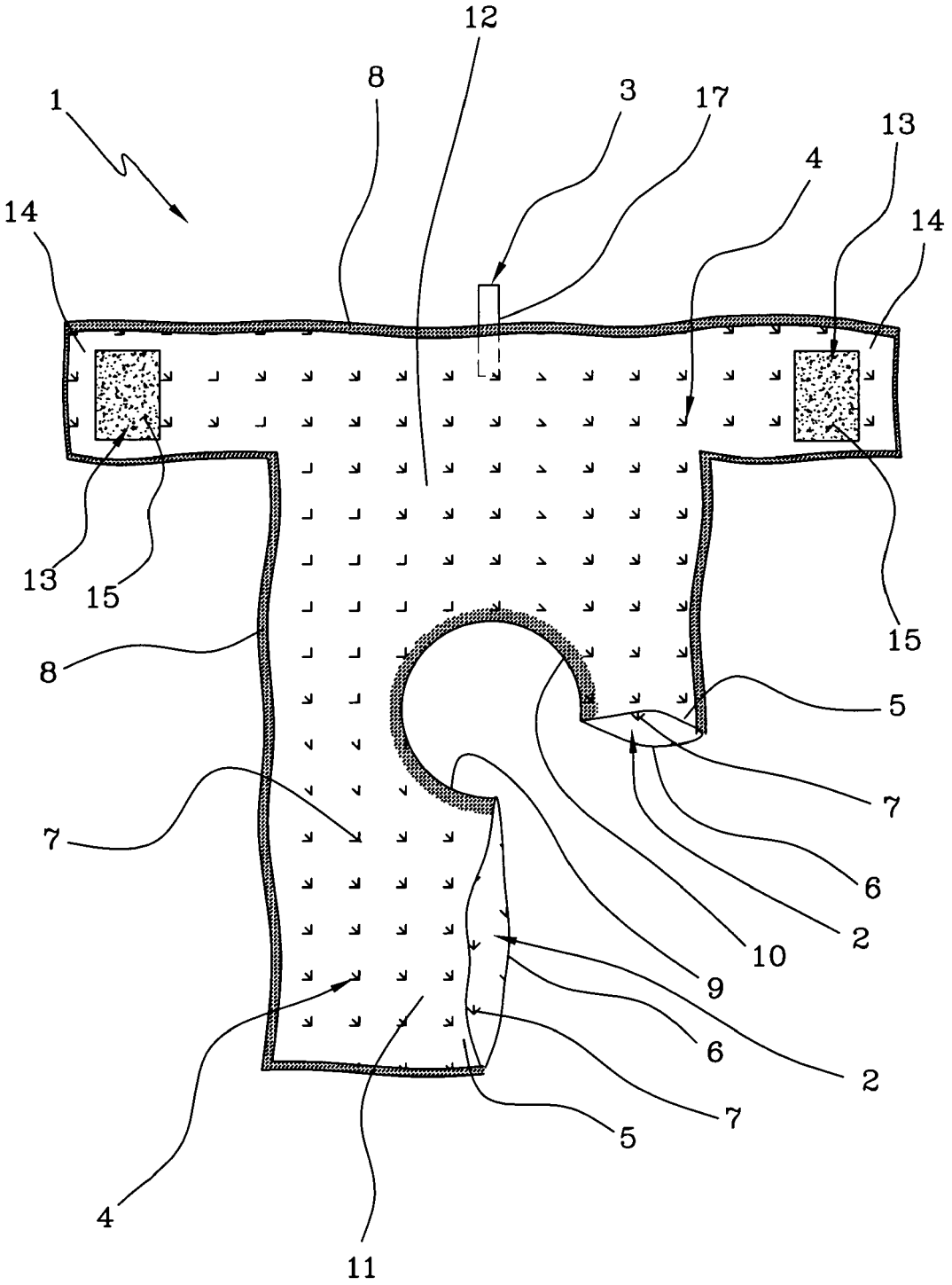
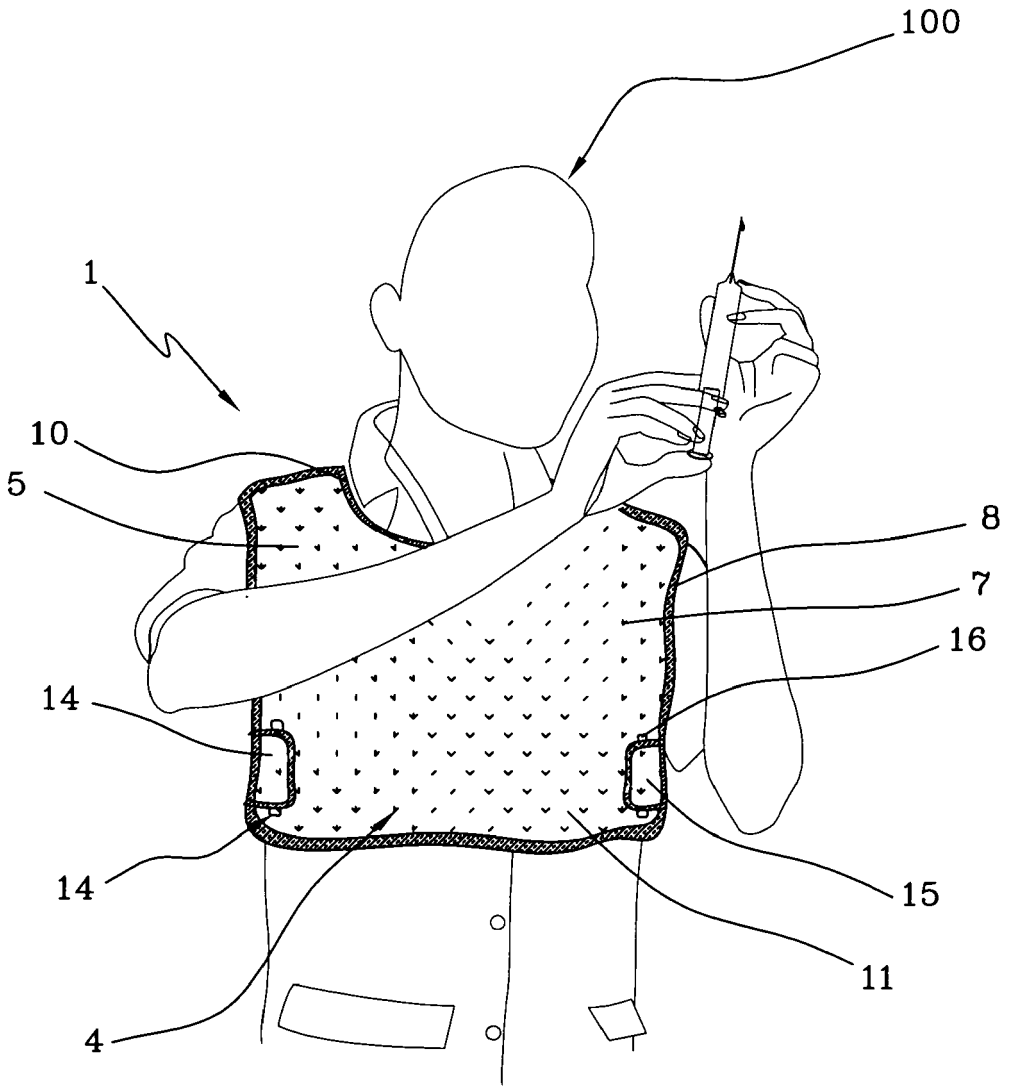


FIG 2



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EUROPEAN SEARCH REPORT

Application Number
EP 06 42 5439

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 5 564 124 A (ELSHERIF DINA [US] ET AL) 15 October 1996 (1996-10-15) * column 3, line 17 - column 9, line 20; figures 1-9 *	1-17	INV. A41D13/12 A41D13/005
A	EP 0 147 031 A2 (HOWORTH AIR ENG LTD [GB]) 3 July 1985 (1985-07-03) * page 8, line 6 - page 14, line 7; figures 1-5 *	1-17	
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A	WO 96/33625 A (STACKHOUSE INC [US]) 31 October 1996 (1996-10-31) * page 6, line 19 - page 11, line 34; figures 1-5 *	1-17	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	12 February 2007	HERRY-MARTIN, D

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82