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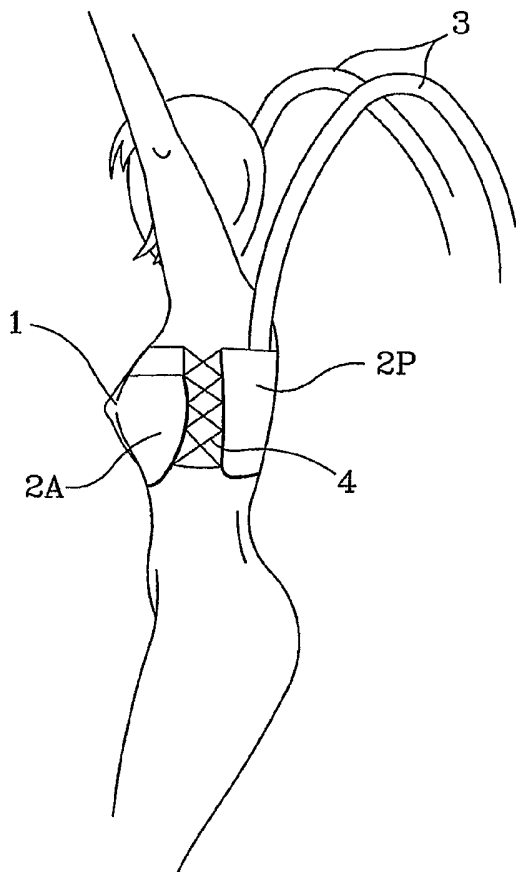
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[Continued on next page]

(54) **Title:** POST-SURGICAL MEDICAL DEVICE FOR MAMMARY SURGERY



(57) **Abstract:** Post-surgical medical device for gaudrectomy, mastectomy and/or mammary surgery, comprising a support and containing corset divided into at least two parts, respectively front part and rear part (2A, 2P), tightened about patient thorax, said corset supporting a cups bra (1), and providing at least two bandage bands (3) that are passed about the patient thorax, crossing them many times, to be finally fixed giving the proper containment function without using adhesive tapes.

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POST-SURGICAL MEDICAL DEVICE FOR MAMMARY SURGERY

5 The present invention relates to the post-surgical field, with particular reference to the quadrectomy, mastectomy and generally speaking to the mammary surgery, including the aesthetical and/reconstructive surgery.

10 Containing bras are usually suggested after the quadrectomy or mastectomy intervention, for breasts subjected to surgical trauma, since more or less large tissue parts are ablated. Organ is modified and reconstructed. It is carried out a more or less drastical intervention on the basis of the specific pathology for each case and on the basis of the age of each patient, since some times the whole organ is ablated, while some times also glands lymphatic axillary and all or part of underlying muscular
15 tissues are ablated. This modification of the woman body involves a psychical and physical sufferance. In any case, the femininity is modified at the physical level.

20 After the intervention, the patient wakes up with the thorax fully dressed by adhesive tapes that the surgery employees for medication; from the waist to the neck it seems as if a body-armour holds tight and models the new breast shape.

25 The problem for the women is that, in the days following the surgical interventions, said bandage band must be daily removed for medication and controls, and it is made up again immediately after the medication.

30 After 4/5 days, dresses are finally removed. Thorax is flared, skin is inflamed, since it did not breathe and further many zones are present on which adhesive tape glue residual remained, said glue having to be removed by oil.

35 Due to this procedure, elder women can be subjected to bedsores. This risk is higher during the hot season, but the skin inflammation drawback is present independently from the age. Thorax and breast are fully swollen and turgid. This problem occurs for about 30/40 days after the surgical intervention.

Swelling is diffused and furthermore, if lymph glands are removed, also zones under, in front of and behind the axillary zone swell, sometimes interesting also the arm and often causing liquid effusion, thus requiring drawing by syringe. This is the post-surgery procedure.

At present, many calibrated bras and containing corsets are available on the market.

However, calibrated bras (i.e with a large cup and small corset or vice versa) provided with more or less elastic cups, are difficult to find and cannot suitably fit with the real build of the patient.

Containing corsets can have interchangeable cups or they can have zip-fasteners, but they have a shape not always corresponding to the shape of the patient.

To this end, it is important underlying that present bras and corsets in any case require the use of bandages, at least during the very first days after the surgical intervention.

Beside, said products in any case are not fully satisfying: bras do not provide the tightening of the various swelling axillary and dorsal parts and, furthermore, if for some reasons they must be elastic, on the other hand, when woman moves, the breast too moves while it should remain still.

Corsets are not calibrated, i.e. it is not possible conform their cup – thorax ratio. They have a zip-fastener closure or a hook closure (thus not being possible enlarging the corset beyond a set dimension). Even if interchangeable cups are present, they cannot be enlarged or narrowed at will. Thus, swelling containment is not sufficiently carried out.

A first disadvantage of the products known on the market is that they cannot be used to replace bandages.

A second disadvantage is that the adjustment of corsets and/or bras for conforming the same to the patient is almost null, or very reduced, thus not permitting a suitable containment and a suitable modelling of tissues subjected to the surgical intervention.

Main object of the present invention is that of solving the above problems, providing a bra – corset – bandage suitable to be directly applied to the patient immediately after the surgical intervention, thus eliminating the noisy adhesive tape – bandage and comfortably accompanying patient all along the post-surgical period.

This object has been reached, according to the invention, realising a support and containing corset substantially divided into four parts: two lateral – front parts and two lateral – rear parts, said corset supporting two fixed or removable cups, and providing two bandage bands that are passed about the patient thorax, crossing them many times, and

that are then fixed giving the proper containment function without using adhesive tapes.

A better understanding of the invention will be obtained by the following detailed description and with reference to the figures of the enclosed drawings, showing now described, for illustrative but not
5 limitative purposes a preferred embodiment.

In the drawings:

figure 1 schematically shows bra cups according to the invention;

10 figure 2 schematically shows the laces for tightening the parts comprising the corset about the patient body;

figure 3 shows a front view of the inventive solution, put on the patient;

figure 4 shows the rear part of the inventive solution;

15 figures 5, 6 and 7 show different views of the inventive solution before wrapping with shoulders;

figures 8 – 11 show the different steps of bandage band with bands – shoulders.

20 Making now reference to the above-mentioned figures, medical device according to the present invention substantially comprises the following elements:

- bra: comprising two cups 1 having shape and dimension suitable to the patient needing, said cups being preferably, but not exclusively, removable;

25 - bodice: supporting said cups 1, it is comprised of four parts or "quadrants", two lateral – front parts 2A and two lateral – rear parts 2P, wrapping the patient thorax;

30 - bandage band: comprised of long bands or shoulders 3, preferably fixed to the upper side of the rear quadrants 2P, passing on the shoulder and crossed both on the front and on the rear of the patient thorax, in order to maintain said bodice well adhering the body, thus conforming to the reduction of the post-surgical swelling.

Bra cups 1 are chosen on the basis of the patient breast size, thus giving the maximum containment of the zones subjected to the
35 surgical intervention.

Bodice is tightened on the patient body and quadrants 2A-2P comprising the same are restrained each other conforming to the patient shape, in function of her body.

5 In the illustrative example described, quadrants 2A-2P comprising bodice are tied by the laces 4, tightening of which can be different on the front and on the rear side and/or on the right and on the left side. Said laces 4 are provided near the four openings (front, rear, right and left) between the four bodice quadrants 2A-2P, and have such a length to permit an adjustment of the dimension of each opening, said
10 dimension preferably ranging between about 0 and 10 cm.

Cups 1 and bodice tissue is of the transpiring and elastic – containing kind, and stiffening and support sticks are provided in bodice, said sticks being preferably provided in a substantially vertical position.

15 According to a peculiar feature of the invention, bodice and bra described perfectly follow the patient body modification (with particular reference to the progressive reduction of swelling) all along the post-surgical course and the convalescence.

Beside, bandage band 3 crossing in the front and on the rear, is passed above and under the breast, thus tightening at the same time the
20 part under axillas and about breasts and behind shoulders, thus ensuring an efficient containment and support action of tissues traumatized by the surgical intervention.

This feature is very important, since besides completely avoiding the need of adhesive tapes, permits to the patient of having a
25 bodice exactly conforming to her size and to the dimension and postural variation of her body.

As clearly shown in the figures, once chosen cups 1 having dimensions suitable for the breast, they are coupled to the front quadrants 2A of the bodice, that is put on by the patient, tightening the front, rear and
30 lateral laces 4 according to her needing and sensation (figures 1 – 3).

Now, patient makes the bandage band 3 passing above shoulders, crossing them in the front between breast and turning downward about the same, and then makes them passing laterally toward the back, crossing once again on the back, going back on the front side,
35 passing under axillas and lacing or fixing them above the breast (figures 3 – 7).

In this way, shoulders 3 advantageously make a bandage band with a beneficial function of compression of all the post-surgical swelling.

Final fixing of the bandage band or shoulders 3 each other can be carried out in different ways, such as for example by a suitable buckle,
5 or by Velcro[®], or hooks and rings, or by a simple knot, or in any other suitable way.

Finally, it is important noting that the medical device described in the above, thanks to its adaptability and adjustability features, can be used immediately after the surgical intervention, following the anatomical
10 profile of the patient and advantageously permitting properly positioning drainage tubes (front, rear, and/or lateral) eventually necessary for wound draining in order to facilitate cicatrisation and post-surgical course.

To this end, it is worthwhile noting that according to the present invention, it is also possible using, in function of the anatomical need of
15 the patient, front quadrants 2A with different sizes with respect to rear quadrants 2P, just to better conform to patient physique.

Finally, a simplified arrangement of the invention can provide that said front 2A and rear 2P quadrants are, at least one front quadrant and one rear quadrant, tied to the patient body only by lateral laces.
20

It is also preferable that the lower part of front quadrants 2A is shaped in so shaped not to cover the part under the breastbone (corresponding to the so called ("stomach mouth"), thus permitting all the thorax movements without causing troubles to the patient while seating or bending forward.
25

The present invention has been described for illustrative but not limitative purposes, according to its preferred embodiments, but it is to be understood that modifications and/or changes can be introduced by those skilled in the art without departing from the relevant scope as defined in the enclosed claims.
30

CLAIMS

1. Post-surgical medical device for quadrectomy, mastectomy and/or mammary surgery, characterised in that it comprises a support and containing corset divided into at least two parts, respectively front part and rear part (2A-2P), tightened about patient thorax, said corset supporting a cups bra (1), and providing at least two bandage bands (3) that are passed about the patient thorax, crossing them many times, to be finally fixed giving the proper containment function without using adhesive tapes.

2. Medical device according to the previous claim, characterised in that it comprises:

- bra: comprising two cups 1 according to the anatomical conformation of the patient;

- bodice: supporting said cups 1, it is comprised of four parts or "quadrants", two lateral – front parts (2A) and two lateral – rear parts (2P), wrapping the patient thorax;

- bandage band: comprised of long bands or shoulders 3, fixed to the upper side of the rear quadrants (2P), passing on the shoulder and crossed both on the front and on the rear of the patient thorax, in order to maintain said bodice well adhering the body, thus conforming to the natural reduction of the post-surgical swelling.

3. Medical device according to the previous claim, characterised in that said bodice is suitable to be tightened about the patient body and quadrants (2A-2P) comprising the same are suitable to be coupled each other, conforming to the patient body shape, in function of the patient physique.

4. Medical device according to the previous claim, characterised in that quadrants (2A-2P) comprising said bodice are tied each other by the laces (4), the tightening of said laces can be different on the front and on the rear side and/or on the right and on the left side; said laces (4) being provided near four openings (front, rear, right and left) between the four bodice quadrants (2A-2P).

5. Medical device according to the previous claim, characterised in that said laces (4) have such a length to permit an adjustment of the dimension of each opening, said dimension ranging between about 0 and 10 cm.

6. Medical device according to one of the previous claim, characterised in that cups (1) and bodice tissue is of the transpiring and

elastic – containing kind; stiffening and support sticks being provided in said bodice.

5 7. Medical device according to one of the previous claim, characterised in that bandage band (3) crossing in the front and on the rear, is also suitable to pass above and under the breast according to a substantially horizontal direction, thus tightening at the same time the part under axillas and about breasts and behind shoulders, thus ensuring an efficient containment and support action of tissues traumatized by the surgical intervention; and obtaining to completely avoid the need of
10 adhesive tapes, permitting to the patient of having a bodice exactly conforming to her size and to the dimension and postural variation of her body.

15 8. Medical device according to one claim 1 or 2, characterised in that final fixing of the bandage band or shoulders (3) each other is carried out in different ways, such as for example by a suitable buckle, or by Velcro[®], or hooks and rings, or by a simple knot, or in any other suitable way; thus obtaining that shoulders make a bandage band with a beneficial function of compression of all the post-surgical swelling.

20 9. Medical device according to one of the previous claim, characterised in that it can be used immediately after the surgical intervention, following the anatomical profile of the patient and advantageously permitting properly positioning drainage tubes (front, rear, and/or lateral) eventually necessary for wound drainage in order to facilitate cicatrisation and post-surgical course.

25 10. Medical device according to one of the previous claim, characterised in that said bra cups (1) are removable, being it possible changing them in function of the patient breast size.

30 11. Post-surgical medical device for quadrectomy, mastectomy and/or mammary surgery, substantially as described and shown in the specification and in the enclosed drawings.

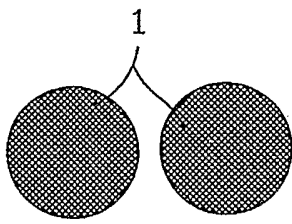


FIG. 1

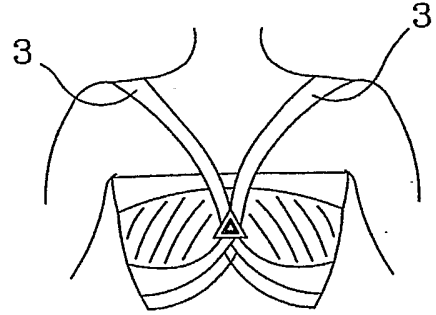


FIG. 3

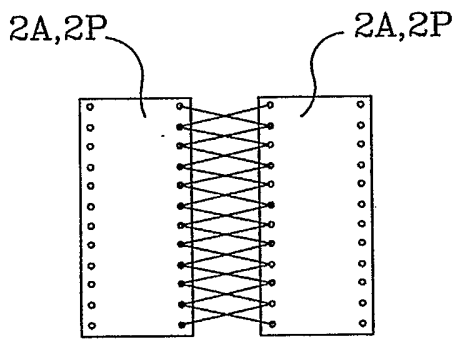


FIG. 2

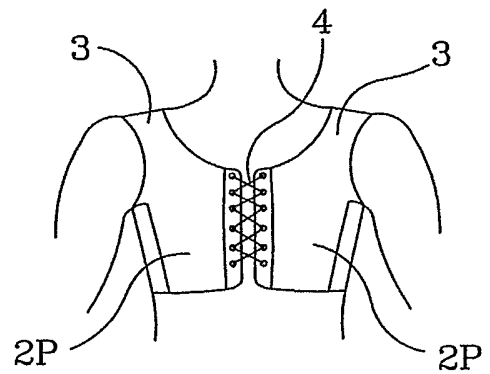


FIG. 4

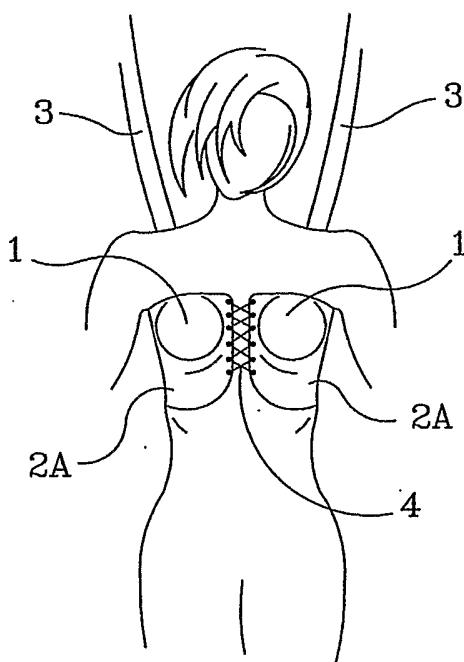


FIG. 5

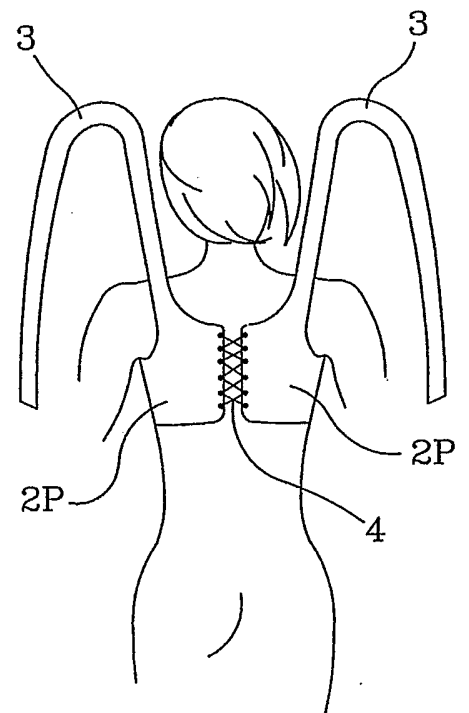


FIG. 6

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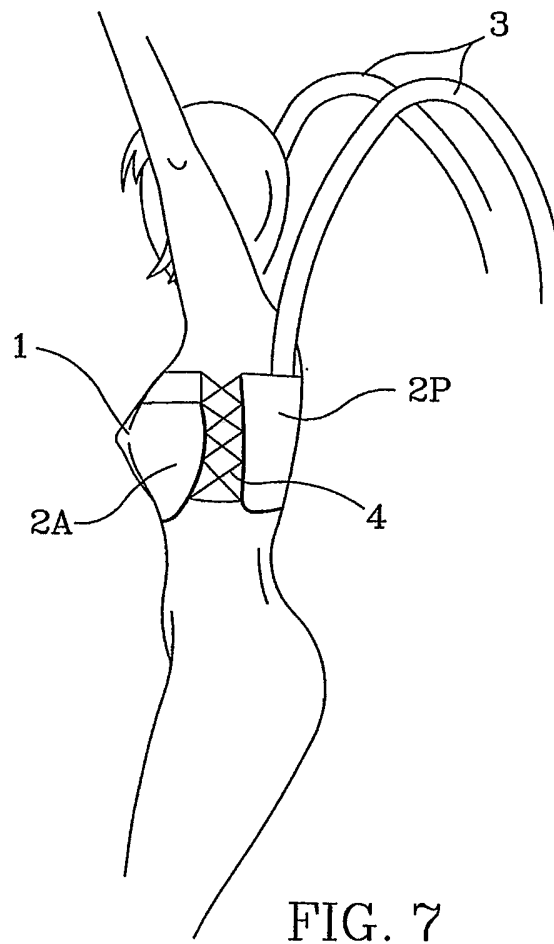


FIG. 7

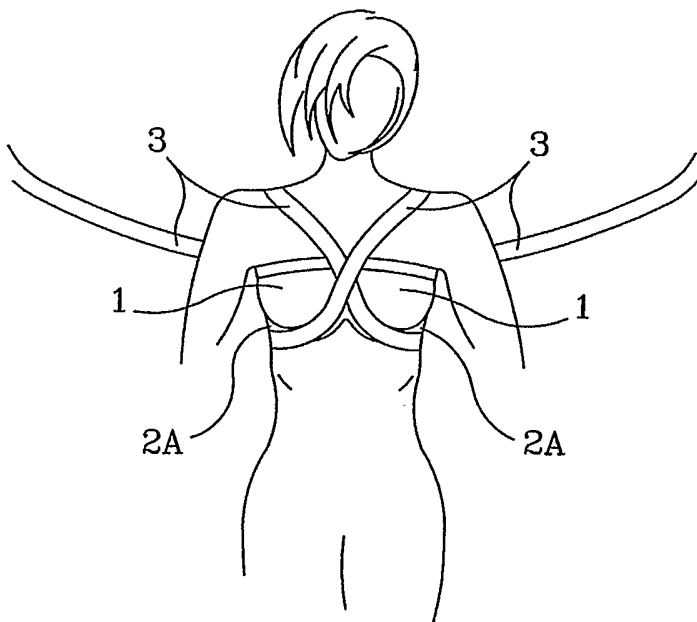


FIG. 8

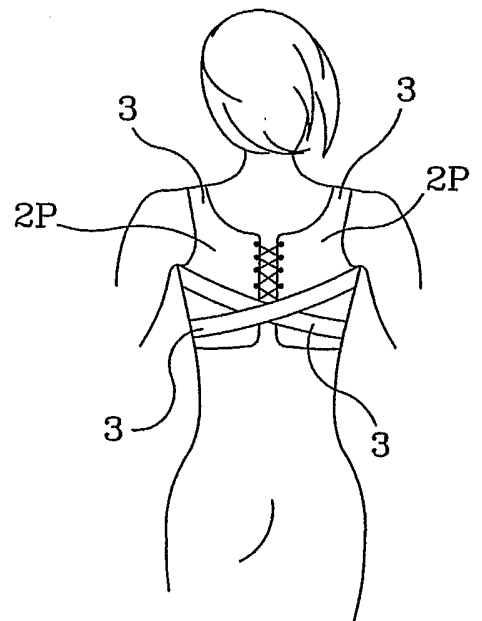


FIG. 9

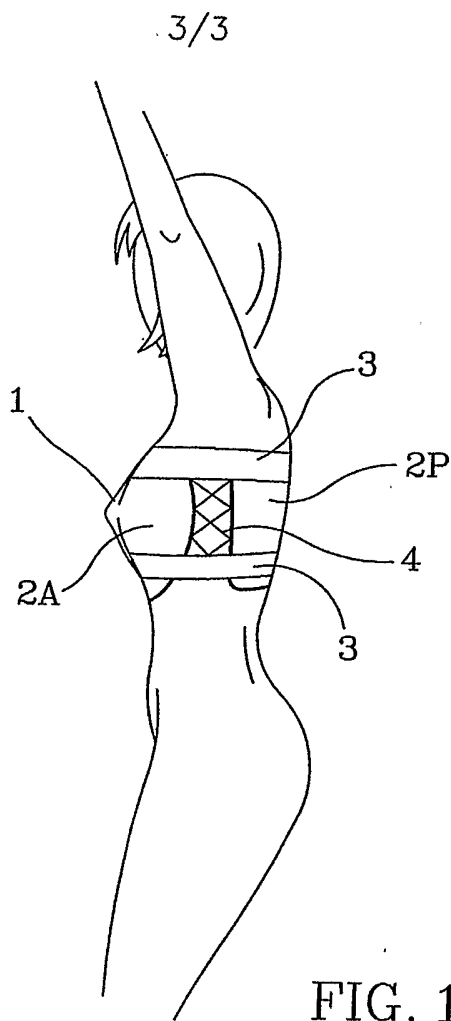


FIG. 10

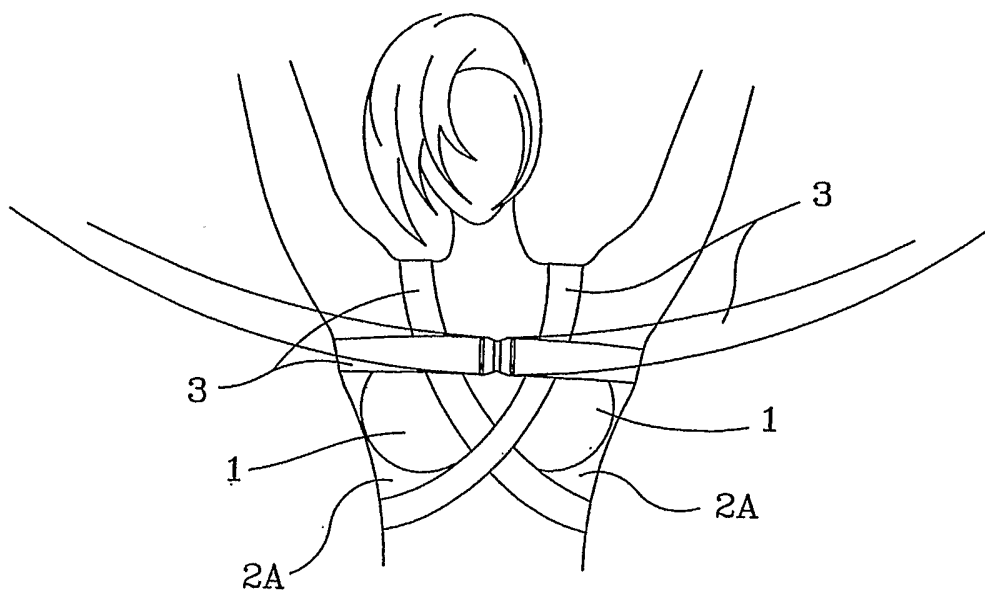


FIG. 11

INTERNATIONAL SEARCH REPORT

International application No
PCT/IT2006/000125

A. CLASSIFICATION OF SUBJECT MATTER
INV. A41C3/00 A61F13/14

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)
A41C A61F

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2 717 602 A (RADLER HELEN B) 13 September 1955 (1955-09-13) column 2, line 1 - column 3, paragraph 1; claims 10,11,13; figures 1-4	1,11
A	US 5 098 331 A (CORRADO ET AL) 24 March 1992 (1992-03-24) column 4, line 32 - column 7, line 20; claims 1-10; figures 1-5	1,11
A	US 6 135 975 A (JOHNSTONE ET AL) 24 October 2000 (2000-10-24) column 4, line 9 - column 8, paragraph 1; claims 1-6; figures 1-6	1,11
A	FR 1 366 993 A (L. FAËSSEL) 17 July 1964 (1964-07-17) the whole document	1,11

Further documents are listed in the continuation of Box C.

See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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