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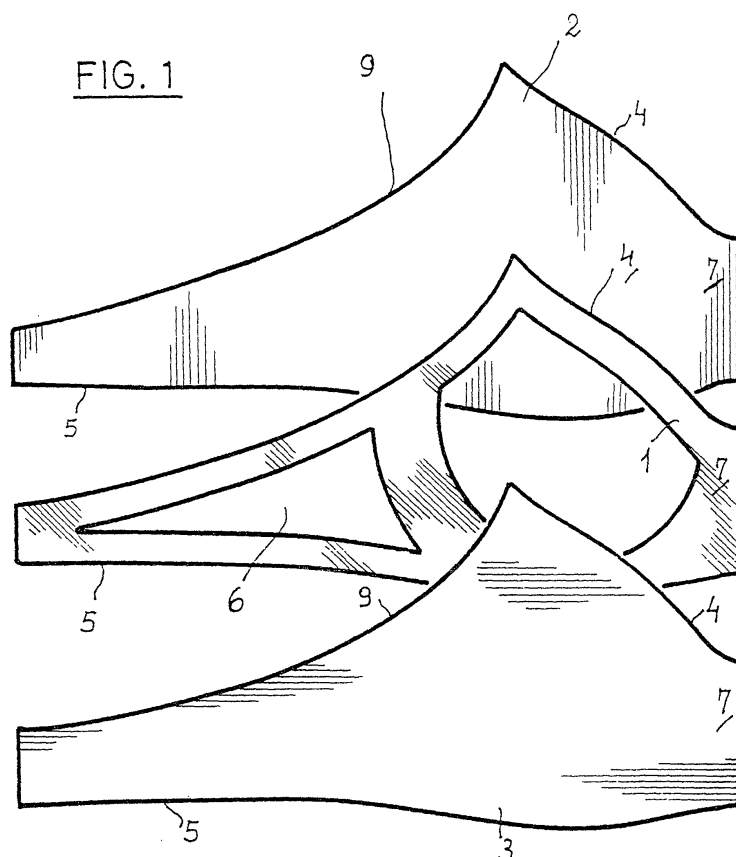
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(54) **Process for producing an undergarment and product obtained thereof**

(57) The process is composed of following steps: a step of joining an intermediate structure (1) to a layer (2,3) of textile material; a second step of joining internal layer (2) to external layer (3), by the ends, leaving an area (9) not adhered, but so that intermediate structure (1) is left externally seen; a third step in which the un-

dergarment is passed through the said area (9), stretched through the opening existing in that area (9) and fully turned over so that intermediate structure (1) is located between the two layers; and a last step in which internal and external layers (2, 3) are joined in area (9) of the undergarment.



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Description

[0001] Process for producing an undergarment and product obtained thereof which is composed of following steps: a step of joining an intermediate structure to a layer of textile material; a second step of joining the internal layer to the external layer, by their ends, leaving an area not adhered, but so that the intermediate structure is left externally seen; a third step in which the undergarment is passed through the said area, stretched through the opening existing in the area and completely turned over so that the intermediate structure is located between the two layers; and a last step in which the internal and the external layers are joined to each other in the area of the undergarment.

BACKGROUND OF THE INVENTION

[0002] This invention refers to a process for producing a undergarment and product obtained thereof which are overcoming the great (blood) circulatory problems caused by garments namely those of the underwear sector.

[0003] Every woman knows that for those of them having some problem of overweight, the brassiere is a necessary but unpleasant undergarment because when the user fastens the brassiere, accumulations of skin and flesh occur at the area of the back of the said brassiere, which, on one hand are aesthetically ugly and on the other hand cause inflammations and sometimes sores.

[0004] Also, all the companies of the sector invest great amounts of money in means for reducing the time of production of undergarments, which have to match the quality of the products with the some times fragility of the fabrics, the accurateness of the cuts and the joining step.

SHORT DESCRIPTION OF THE PATENT APPLIED FOR

[0005] This invention refers to an undergarment and the process for its production, which essentially provides characteristics of novelty and significant advantages with respect to the means already known and used for those same aims in the state of the art, as it was already mentioned above.

[0006] On one hand, with the object of the patent it is achieved that the unpleasant elastics existing in that undergarment disappear which caused most of time inflammation, marks, reddening and with time a great discomfort on the skin of the user.

[0007] Also, there exists no visible seams, so that the said undergarment is very appreciated from the aesthetic point of view.

[0008] On the other hand, it is achieved that actually the back of the brassiere may be produced in a non-stop operation, that is to say in a single piece, with subse-

quent savings of cutting and sewing.

[0009] In addition, a longer life of the undergarment is achieved because thanks to this invention the stresses are distributed throughout the undergarment, avoiding the tears and wears on the undergarment, which with time shall mean a greater comfort on the skin of the user.

[0010] Last and for producers purposes, times of production are cut down because, on one hand there exists no seams, there is less cuts, less joining and the process claimed speeds up production.

SHORT DESCRIPTION OF THE DRAWINGS

[0011] In order to make the explanation easier, three sheets of drawing are attached to this description in which several practical cases of embodiment have been illustrated which are only for example purpose which do not limit the scope of this invention.

[0012] In the said sheets of drawings:

Fig. 1 shows an exploded view of half the brassiere.
Fig. 2 shows a detail of the three superposed layers.
Fig. 3 shows a detail of the way of joining the seams.
Fig. 4 shows a detail of the intermediate structure which fully covers the back of the brassiere.

ACTUAL EMBODIMENT OF THE PATENT APPLIED FOR

[0013] Fig. 1 shows an exploded view of the brassiere, and it can be seen an internal layer (2), an intermediate structure (1), with the area (6) corresponding to the back (5) of the brassiere having an undercut, the external layer (3) and the neckline (4).

[0014] Fig. 2 shows the three layers disposed one over the other, as they would be located in the brassiere once it is assembled, in which it can be distinguished external layer (3) located over the intermediate structure (1), this later being located over the internal layer (2).

[0015] Fig. 3 shows a detail of the junction of the different layers.

[0016] Fig. 4 shows a second embodiment of the intermediate layer (2) with the area (6) without the undercut.

[0017] Thus in this way the process for producing the undergarment is initially composed of a previous step in which a single fabric is folded in two halves to form two layers, internal layer (2) and external layer (3).

[0018] In a first step intermediate structure (1) is adhered to internal layer (2) (although they could be joined in another different way).

[0019] In the second step, internal layer (2) is joined to external layer (3) by the neckline triangle, but in such a way that intermediate structure (1) is left externally seen, leaving also an area (9) of the back of the brassiere not adhered.

[0020] In a third step, one of the halves of the brassiere, corresponding to one of the cups including the

back (5) is passed through the junction bridge (7) of the cups, so that the said half of the brassiere is stretched through the opening existing in the area (9) of the back of the brassiere and the brassiere is fully turned over.

[0021] This way, internal layer (2) is now located outside of the brassiere, with the intermediate structure at the non visible part of the brassiere (between the two layers), and that which was external layer (3) is which will contact the skin of the user.

[0022] In a four step, additional structures may be added in order to enhance the breasts.

[0023] In the last step it is proceeded to joining internal and external layers (2, 3) in the area (9) of the back of the brassiere, which then is ready to be used.

[0024] In the event that a ring is required, because of the characteristics of this process of production, that ring may be added before the fourth or during the fifth step.

[0025] It is also feasible to place shoulder straps, generally during the last step or at the end of it.

[0026] Also same process can be provided for only one cup so that once each cup has been turned over separately, they are joined to each other through a bridge (7) joining the cups.

[0027] As explained above, preferably the junctions will be carried out by adhering the pieces (for example through adhesive points joined by thermofusion) to prevent grazes of the skin of the users, although in certain parts it could be made by sewing.

[0028] On the other hand, the intermediate structure (1), in the area (6) corresponding to the back, can be produced with an undercut at the centre (Fig. 1) or without the said undercut (Fig. 4) depending on the kind of brassiere, the kind of user and the requirements of fastening of concretely this part.

[0029] In the case of embodiment, it was thought to only one fabric, although two fabrics could be used forming each, independently, the internal layer and the external layer.

[0030] The intermediate structure (1) is stiffening, joined to at least one of referred layers, throughout the undergarment or, in at least the periphery of the undergarment or in part thereof, that is to say that it can be foreseen that this structure is only stiffening the area of the back (5) for example.

[0031] It must be pointed out that as well intermediate structure (1) as layers (2, 3) can be respectively formed of a single piece and also both layers can be formed of a single piece of same fabric

[0032] The textile material used for the layers can be any, although in the actual embodiment one fabric was chosen; that is to say, it can be a fabric, a nonwoven fabric, a material interlacing open threads, etc., also they can be matched, that is to say, one layer can be of a fabric and the other one of a nonwoven fabric, etc.

[0033] Also this process is perfectly valid for other products different from the example mentioned, such as for example panties, a corset, etc.

[0034] This patent of invention discloses a process for

producing an undergarment and the product obtained thereof. The examples mentioned herein do not limit this invention, therefore they may have different applications and/or adaptations, all of them within the scope of following claims.

Claims

1. Process for producing an undergarment, formed at least by a textile material folded in two halves, internal layer (2) and external layer (3) or by at least two textile materials facing each other, internal layer (2) and external layer (3), **characterized in that** it includes following steps:
 - joining at least one intermediate structure (1) to one of mentioned layers,
 - joining internal layer (2) to external layer (3), at least by the ends, leaving an area (9) not adhered but in such a way that intermediate structure (1) is left externally seen.
 - the undergarment is passed through said area (9), stretched through the opening existing in area (9) and fully turned over so that intermediate structure (1) is located between the two layers, and
 - internal and external layers (2, 3) are joined in area (9) of the undergarment.
2. Process according to claim 1, **characterized in that** between third and fourth steps an intermediate step can be incorporated in which enhancing supplementary structures are added.
3. Process according to claim 1 or 2, **characterized in that** shoulder straps are added during the last step or at the end thereof.
4. Undergarment incorporating at least a textile material folded in two halves, internal layer (2) and external layer (3), or at least two textile materials facing each other, internal layer (2) and external layer (3), **characterized in that** it incorporates at least a stiffening intermediate structure (1), joined to at least one of the said layers, throughout the undergarment or on the periphery of the whole undergarment or at least on one part of the periphery thereof.
5. Undergarment according to claim 4, **characterized in that** it is a brassiere.
6. Undergarment according to claim 4 **characterized in that** they are panties.
7. Undergarment according to claim 5, **characterized in that** at least one of the cups of the brassiere and its respective back (5) form a single textile material

on the internal layer (2).

8. Undergarment according to claim 5, **characterized in that** at least one of the cups of the brassiere and the respective back (5) form a single textile material in the external layer (3) 5
9. Undergarment according to claim 5 **characterized in that** at least one of the cups of the brassiere and the respective back (5) form a single structure in the intermediate structure (1). 10
10. Undergarment according to claims 5 or 6 **characterized in that** internal layer (2) is formed by a single piece of textile material. 15
11. Undergarment according to claims 5 or 6 **characterized in that** external layer (3) is formed by a single piece of textile material. 20
12. Undergarment according to claims 5 or 6 **characterized in that** intermediate structure (1) is formed by a single piece of structure. 25

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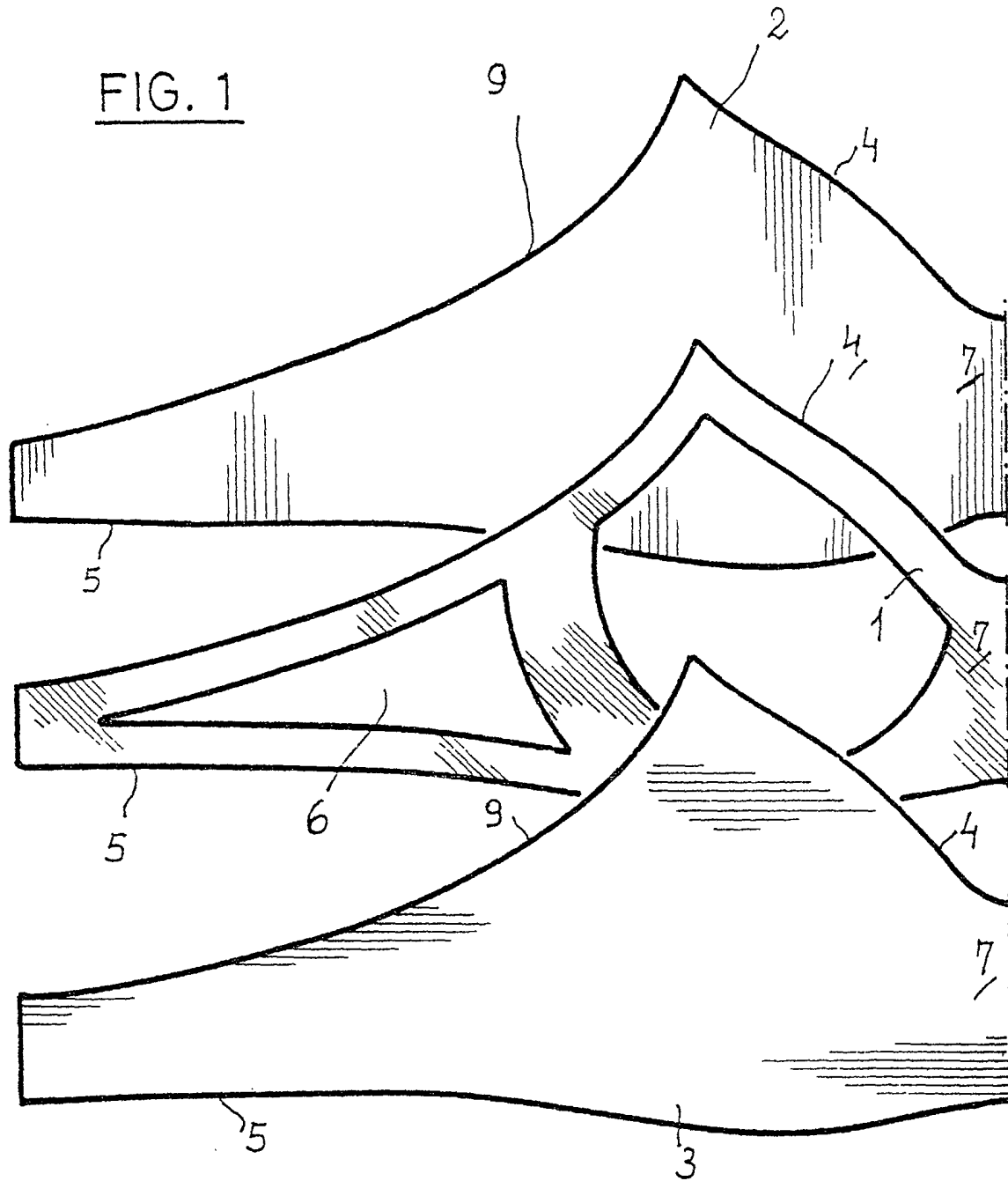


FIG.2

