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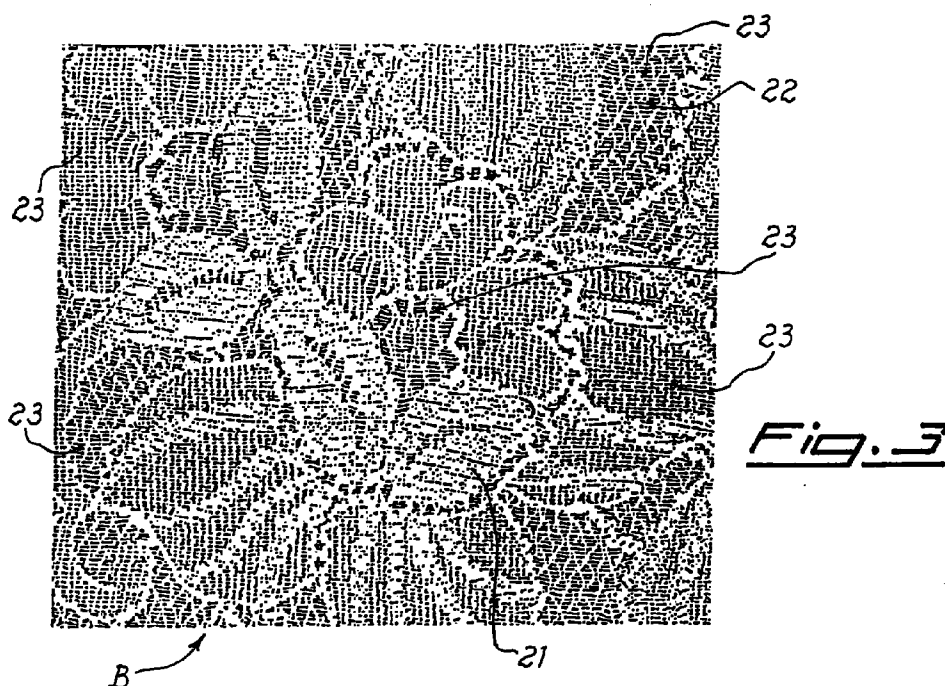
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(54) **A raschel type fabric comprising a good side and a separate reverse side, and a loom for manufacturing said fabric**

(57) A double layer Raschel fabric manufactured by Raschel looms, of the jacquard and/or electronic and/or mechanical type, comprising a layer (T) on the fabric good side, bearing an ornamental jacquard relief pattern (21), obtained by means of synthetic threads, and a layer (B) on the reverse side of the fabric, obtained by means

of different threads (23) comprising a natural and/or a special synthetic fiber, soft to the touch.

This invention concerns as well a loom of the above mentioned type, provided with an additional bar (16) carrying threads (15) forming the above mentioned reverse side layer (B) soft to the touch.



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Description

This invention concerns a new type of Raschel fabric which, on the good side, bears a normal relief ornamental jacquard pattern obtained by using synthetic threads, while being provided with a continuous reverse side made of a natural or special synthetic fiber, soft to the touch.

As it is already known, Raschel type fabrics, and in particular lace fabrics, are used for manufacturing corsage items. Said known fabrics are usually obtained using synthetic fibers. However, these fibers, when contacting the skin of a user, in particular when used for corsage items, may cause allergy problems, or the like. It has already been proposed to manufacture Raschel fabrics, by means of Raschel looms of the jacquard and/or electronic, and/or mechanical type wherein, in addition to the synthetic fibers, also a natural fiber is used, for instance cotton or wool, but in such a case, the natural fiber yarn is inserted into the pattern and it gets distributed on both faces of the resulting fabric.

Conversely, it is an object of this invention to provide a Raschel type fabric particularly suitable for the manufacturing of corsage items, wherein the reverse side of the fabric comprises a layer made exclusively of a natural and/or special synthetic fiber, soft to the touch, whereby a fabric free from the above drawbacks is provided.

Said object is achieved by providing a double-layer fabric comprising respectively a good side bearing a relief jacquard pattern made up of synthetic fibers, and a reverse side comprised entirely of a natural and/or special synthetic fiber yarns.

In order to obtain such a fabric, Raschel looms are used, of a jacquard and/or electronic and/or mechanical type, suitably modified as it will be disclosed in the following. Said modifications comprise further new features of this invention.

The fabric provided in accordance with this invention, in addition to solving the main problem, i.e. just that of avoiding allergy troubles to a user, has a further advantage of making it possible to improve the shaping of the corsage items, as it will be described in the following.

Further advantages and features of this invention will become apparent to those skilled in the art from the following detailed description of some embodiments thereof, reference being made to the accompanying drawings, wherein:

Figure 1 is a schematic cross-sectional view of a modified jacquard type Raschel loom;

Figure 2 shows the reverse side of the fabric manufactured by a conventional, unmodified loom;

Figure 3 shows the reverse side of the fabric manufactured by a modified loom, as shown in Figure 1; and

Figure 4 shows a cross-section of the new fabric of Figure 3.

Referring now to Figure 1, the loom according to this invention includes a front portion 1 and a rear portion 2, and the side portions, among which only side portion 3 is shown. On the above side portions there is mounted a number of yarn carrier beams, i.e. beam 4, where ground threads or warp threads 5 unwind from, jacquard beam 6 carrying weft threads 7, which tie up ground threads 5, beam 8 where elastomeric warp threads 9, for instance licra yarns, unwind from. For sake of clarity of the drawing of Figure 1, only one thread has been shown for each beam. Yarn carrier bars are provided for the number of yarns, and precisely carrier bar 10 carries ground threads 5, carrier bar 11 carries jacquard threads 7, carrier bar 12 carries elastomeric warp threads 9.

Carrier bars 13 are eventually provided for carrying weft threads for the ornamental relief pattern.

Through motions typical of the Raschel looms, the above mentioned bars are subjected to combined motions while linking the respective threads, whereby they provide Raschel type fabrics comprising ornamental relief patterns that change according to the displacements said bars are subjected to.

In a new fashion, the loom mentioned above includes a beam 14, providing additional weft threads 15, which may comprise natural fibers, like cotton, wool and/or a special synthetic fiber, soft to the touch, and similar to a natural fiber. Thus, each bar 16 carries, at the rear of the loom front portion, additional threads 15.

Said additional threads carried by bar 16 link up with the threads carried by bars 10, 11, 12, 13, whereby they provide a layer of soft material on the reverse side of fabric T, separate from the layer on the good side.

Cloth-pulling rollers 17, while rotating, gradually withdraw fabric T which is formed by looping members 18, and winds up on roll 19.

Said additional threads 15 are operated upon by small springs 20, which automatically recover the threads and keep them continuously tight.

The additional threads mentioned above operate within the weft, i.e. horizontally, on the fabric reverse side, whereby the latter shows two separate layers. The good side, bearing the relief pattern, with the weft operating threads, and the reverse side overlapping the pattern, still with weft operating threads.

Referring now to Figures 2, 3 and 4, the difference between the reverse side of a conventionally obtained fabric and that obtained according to this invention may be appreciated.

In fact, as it may be seen in Figure 2, the fabric obtained without additional bar 16, on its reverse side A has the ornamental pattern 21, for instance in warp 22, without any concealing layer, while in Figures 3 and 4, where the new additional bar 16 has been introduced, the reverse side B of the fabric thus obtained shows a layer of horizontal threads in the weft 23, which completely conceal the layer patterned through the warp 22.

In other words, by means of this invention, a Raschel fabric is obtained having an ornamental relief pattern on the good side, while the reverse side shows a full body

and a concealing texture, whereby taking the transparency out of the fabric, while it maintains the ornamental pattern on the good side.

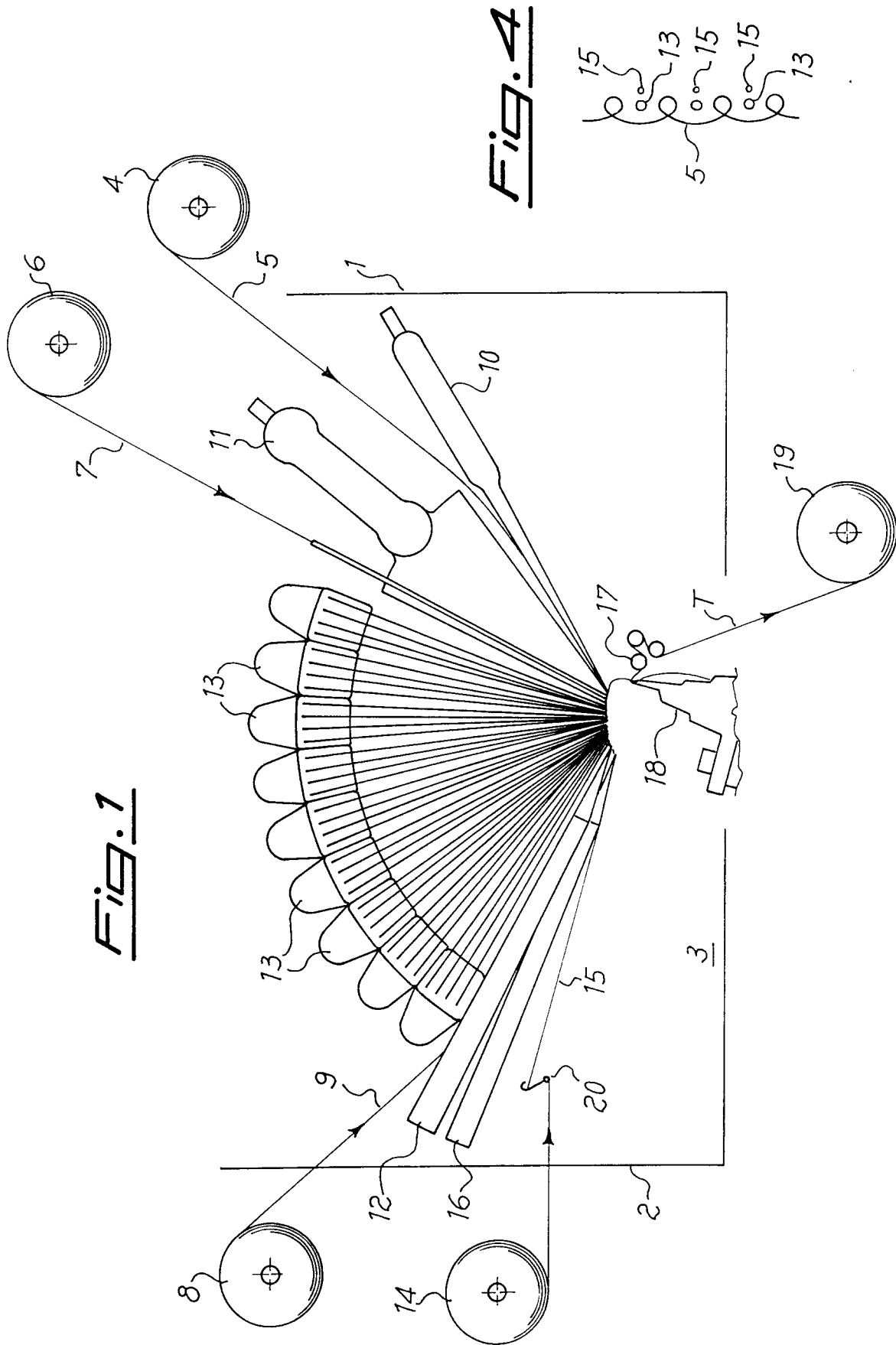
The elastomeric yarn 9 might be done away with, whereby a non-extensible fabric in the vertical warp direction would result, while still keeping additional bar 16, with the feature of the two separate layers on the good and on the reverse side. 5

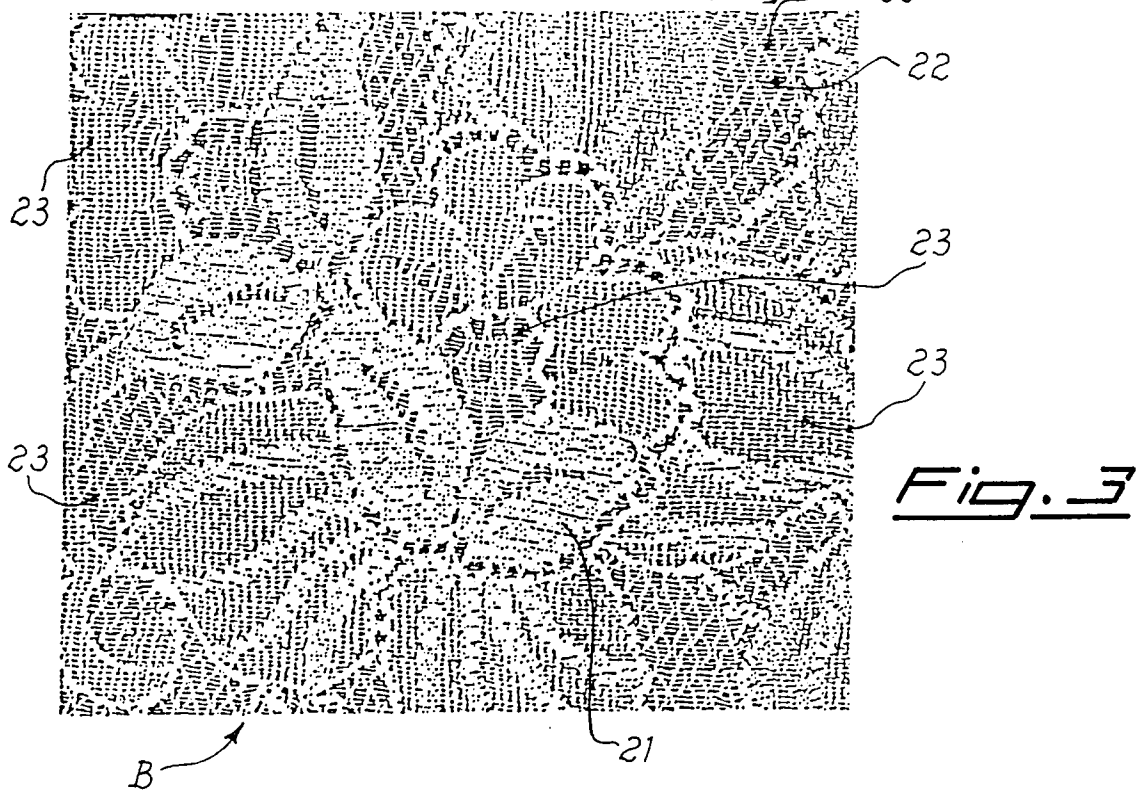
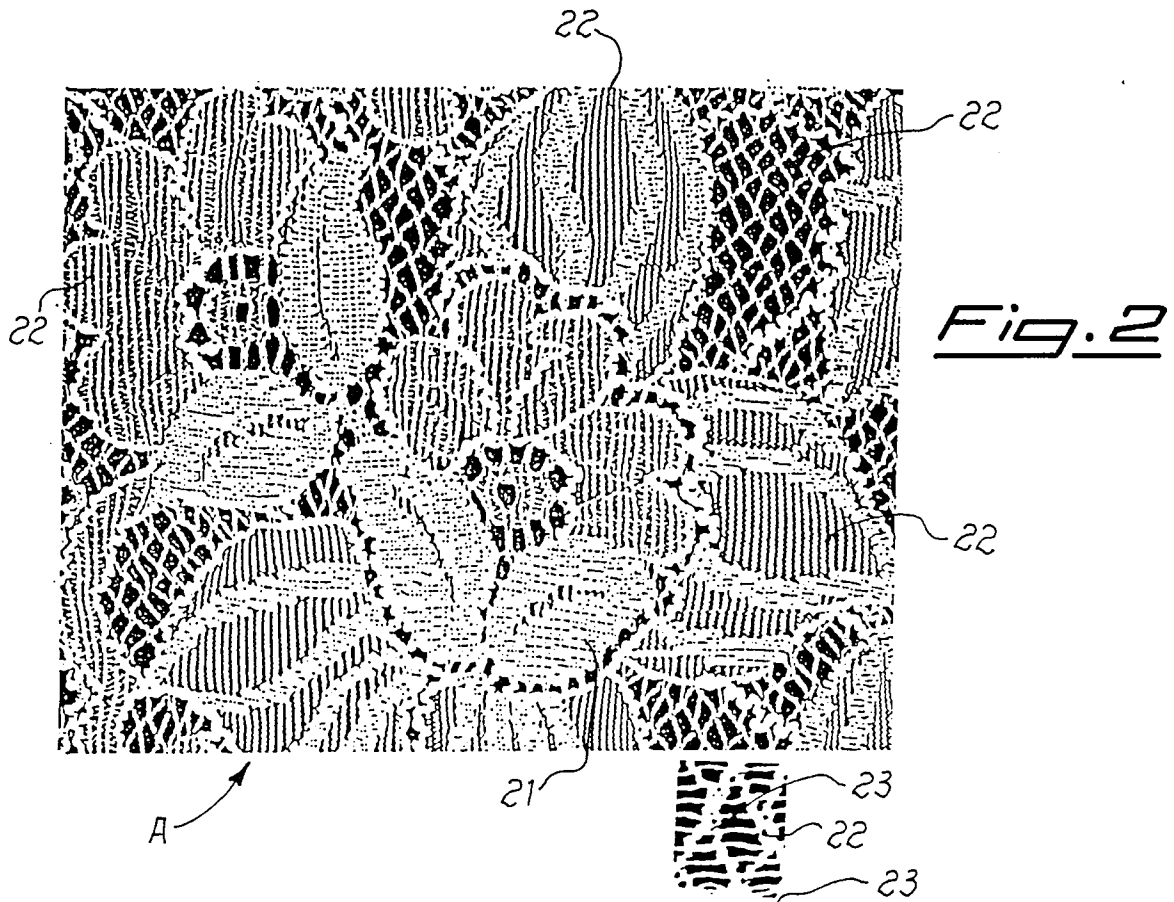
Said choice of alternatives might depend upon the use of said fabric one desires to make: in the first embodiment the extensible fabric is advantageously used in the corsage items for underwear since, in addition to avoiding allergy problems when in contact with the skin, the fabric extensibility advantageously enhances the ability of said items to perfectly adhere to the wearer's body. 10 15

In the second embodiment, i.e. non-extensible fabric, said fabric may be used for non-underwear items of clothing, but still in contact with the skin, and therefore it would be a matter of items having an advantageously soft and smooth reverse side, and a good side bearing an ornamental relief pattern. 20

Claims

1. A fabric comprised of two layers, obtained by means of Raschel looms, of a Jacquard and/or electronic, and/or mechanical type, characterized in that said fabric (T) has a layer on the good side, bearing an ornamental jacquard relief pattern, obtained by means of synthetic threads, and a layer (B) on the reverse side, obtained by means of different threads comprising natural fibers or special synthetic fibers, soft to the touch. 25 30
2. The fabric according to claim 1, characterized in that said layer (B) on the reverse side of fabric (T) is obtained using weft threads (23) which conceal warp threads (22) of the ornamental pattern. 35
3. The fabric according to any one of the preceding claims, characterized in that fabric (T) may contain elastomeric warp threads (9), for instance lycra, in order to provide an elastic fabric (T). 40
4. A loom adapted to manufacture said fabric (T) according to the above claims, including a bar (10) carrying ground threads (5), a bar (11) carrying jacquard threads (7), bars (13) carrying threads for the relief pattern, and possibly a bar (12) carrying elastomeric threads (9), characterized in that said loom is provided with a bar (16) carrying additional threads (15) comprising a natural and/or a special soft synthetic fiber, said last bar (16) being positioned on the loom in a rear area, in order to obtain a weft (23) on the entire reverse side (B) of fabric (T), whereby on the reverse side there is provided a soft concealing layer (23), separate from patterned layer (22) on the good side. 45 50 55
5. The loom according to claim 4, characterized in that small springs are positioned around additional threads (15) for recovering the same, whereby said threads (15) are kept constantly tight.







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EUROPEAN SEARCH REPORT

Application Number
EP 95 83 0528

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US-A-3 922 888 (PATTERSON) * column 7, line 37 - column 9, line 37; figures 1-15 *	1,3	D04B21/08
A	US-A-4 356 710 (MIZUNO ET AL) * claims 1,6; figures 1-3 *	1	
A	DE-C-43 12 443 (KARL MAYER TEXTILMASCHINENFABRIK GMBH)		
A	US-A-3 835 512 (PILLER ET AL)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6) D04B
Place of search THE HAGUE		Date of completion of the search 29 March 1996	Examiner Van Gelder, P
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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