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D E C I S I O N
of 16 June 1994

Case Number: T 0297/91 - 3.2.4

Application Number: 84301062.0

Publication Number: 0119754

IPC: A41D 27/06

Language of the proceedings: EN

Title of invention:

Composite fusible interlining fabric and method

Patentee:

Crown Textile Company

Opponent:

Lainière de Picardie, S.A.
Kufner Textilwerke GmbH

Headword:

-

Relevant legal norms:

EPC Art. 123(2)(3), 54, 56, 104(1), 111(1), 112(1)(a)
EPC R. 29(7)

Keyword:

-

Decisions cited:

T 0056/87, T 0095/83, T 0024/81, T 0029/85

Catchword:

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Case Number: T 0297/91 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 16 June 1994

Appellant:
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 29 November 1990,
dispatched on 4 February 1991, revoking European
patent No. 0 119 754 pursuant to Article 102(1)
EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: R. E. Gryc
M. V. E. Lewenton

Summary of Facts and Submissions

- I. The Appellants (patent proprietors) lodged an appeal (received on 4 April 1991) against the Opposition Division's decision (dispatched on 4 February 1991) revoking European patent No. 119 754, and paid the appeal fee at the same time.

The Statement of Grounds of Appeal was received on 4 June 1991.

Oppositions were filed against the patent as a whole. The Opposition Division held that the grounds for opposition mentioned in Article 100(a) EPC prejudiced the maintenance of the patent having regard to the following documents:

D10: Kettenwirk-Praxis 2/81, pages 9-12

D11: DE-A-2 332 492.

- II. In the Statement of Grounds the Appellants argued in particular that D11 did not disclose either that the base material should be compacted so as to avoid strike back, or that the materials should be reinforced by warp knitting technology instead of sewing technology or that weft yarns instead of warp yarns should be inlaid.

In their replies Respondents 01 and 02 (Opponents 01 and 02 respectively) referred to the following other three documents:

D1: GB-A-1 456 049

D3: FR-A-2 283 972

D6: GB-A-1 378 261.

Respondents 01 argued mainly that in order to be able to prevent strike back the non-woven fabric according to D11 should also have "closely compacted fibres", that in D11 the use of inlaid warp yarns was merely preferred and did not exclude the use of inlaid weft yarns, and that the warp knitting technology was already known from D11 and D3.

Respondents 02 took the view that the expression "closely compacted fibres" in Claim 1 was not clear, that the invention did not seem to be new or inventive in view of D1 or D6, and that the combined teachings of D10 and D11 would lead to it anyway.

III. In a communication dated 9 September 1993 pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal the Board stated in particular that no procedural violation could be seen in the opposition procedure and that D11 seemed to reveal a warp knit stitch pattern similar to the one according to the claimed invention.

IV. The first oral proceedings took place on 29 September 1993.

At the beginning of the oral proceedings the Appellants filed a second auxiliary request consisting of Claims 1 and 2, and indicated that the remaining claims (i.e. Claims 3 to 5) had still to be amended.

They emphasized the importance of the term "inlaid", which characterised the weft yarns of the claimed interlining fabric, and pointed out that inlaying weft yarns in combination with knitting permitted more precise control of the position of the insert yarns on the non-woven layer.

Respondents 01 and 02 questioned the allowability of said second auxiliary request with respect to its late filing, and they reiterated their previous arguments concerning the patentability of the claims in the different requests. In particular they drew attention to the fact that strike back was influenced by several different factors and that fabric density, which was only one of them, was not clearly defined by the expression "closely compacted fibres".

They also considered that there was no difference between the invention and the tricot with inlaid warp or weft yarns already disclosed in D6, and that D11 gave two alternatives without excluding either one.

Moreover, the Respondents took the view that the way of laying the yarns was a method step of manufacturing the interlining fabric and thus could not serve to characterise the subject-matter of Claims 1 and 4, which referred to end-products. They alleged that it made no difference to the product if the fleece was compacted before being stitched or by the knitting operation itself.

They were also of the opinion that in order to permit stitching the non-woven fabric should be sufficiently compacted anyway, and they contended that both D1 and D11 anticipated the process feature of inlaying the yarns into the loops of the knitting.

During the oral proceedings the Board observed that the wordings of the various claims submitted were ambiguous, particularly in relation to certain passages of the description (Article 69 EPC), and might therefore possibly be interpreted as describing a fabric consisting of two preformed and superposed layers of weft yarns and non-woven fabric respectively, joined

together by knitting, instead of being interpreted as describing a fabric made of individual weft yarns, each being separately inlaid and secured one by one by knitting to a layer of non-woven fabric, whereby all said inlaid yarns could be considered in the final product as forming a layer which covers the non-woven fabric.

After it had closed the technical discussion on the Appellant's various requests, and had conferred, in order to clarify the situation and to dispense with the first interpretation, which was considered obvious, the Board gave its provisional opinion that the subject-matter of Claim 1 of said second auxiliary request might be considered patentable if the description were to be amended in such a way as to eliminate the contradiction between the description and the claims. The Board stated that it had to be made clear in the description that there was no preformed layer of inlaid weft yarns to be connected or attached to the layer of the non-woven fabric. It would then be possible to interpret the wording of the claims (Article 69 EPC) to mean that the interlining fabric has been made in a particular fashion, wherein individual weft yarns have been inlaid separately in the knitting as the knitting progressed (see column 4, lines 12 to 16).

After a break the Appellant filed an amended set of five claims and a correspondingly adapted description (the so-called "modified second auxiliary request") which took into account the Board's observations. After these claims had been filed, technical difficulties arose which prevented the Board from continuing with the oral proceedings, so that the Respondents could not comment on the Appellant's latest amendments. In order to ensure that these amendments met the conditions of

Article 113(1) EPC, the Board decided to continue the proceedings in writing and gave the Respondents a non-extendible time limit to file observations.

V. Independent Claims 1, 4 and 5 of the new set of claims filed at the end of the oral proceedings read as follows:

"1. A composite fusible interlining fabric adapted to be fused to a base fabric, said interlining fabric comprising a layer of non-woven fabric (11) of closely compacted fibres, inlaid weft yarns (12) positioned against one side of said layer of non-woven fabric, stitch yarn (13) knit through said layer of non-woven fabric and said inlaid weft yarns in a warp knit stitch pattern, said inlaid weft yarns being inlaid in every course, or alternate courses, of said warp knit stitch pattern, to form a layer of weft yarns, said inlaid weft yarns thereby being secured to said layer of non-woven fabric, and a coating (16) of thermoactive adhesive material on the side of said layer of non-woven fabric opposite the side against which said inlaid weft yarns are positioned, said coating of thermoactive adhesive materials being fusible at a predetermined temperature which is lower than the temperature at which said layer of non-woven fabric, said layer of inlaid weft yarns, said knit stitch yarn and the base fabric will be adversely affected, so that said composite interlining fabric may be fused to one side of the base fabric by the application of heat thereto, said layer of non-woven fabric providing a barrier to prevent strike back of said adhesive coating material when said composite interlining fabric is fused to the base fabric."

"4. A garment base fabric in combination with a composite interlining fabric fused to one side thereof and wherein said composite interlining fabric comprises

a layer of non-woven fabric of closely compacted fibres and having one side positioned adjacent said one side of said garment base, a coating of thermoactive adhesive material on said one side of said layer of non-woven fabric and fusing the same to said garment base fabric, inlaid weft yarns being positioned against the other side of said layer of non-woven fabric, and stitch yarn knit through said layer of non-woven fabric and said inlaid weft yarns in a warp knit stitch pattern, said layer of non-woven fabric providing a barrier to prevent strike back of said coating of thermoactive adhesive material through said layer of inlaid weft yarns, said inlaid weft yarns being inlaid in every course, or alternate courses, of said warp knit stitch pattern to form a layer of inlaid weft yarns."

"5. A method of forming a composite fusible interlining fabric adapted to be fused to a garment base fabric comprising the steps of forming a layer of non-woven fabric of closely compacted fibres and applying a fusible coating of thermoactive adhesive material to one side of the layer of non-woven fabric, characterised by the further step of attaching inlaid weft yarns to the other side of the non-woven fabric by knitting stitch yarn in a warp knit stitch pattern through the layer of non-woven fabric and the inlaid weft yarns such that said weft yarns are inlaid in every course, or alternate courses, of said warp knit stitch pattern, to form a layer of inlaid weft yarns."

VI. Within the given time limit Respondents 01 filed three new documents and a letter from a company which confirmed that "Raschel machines" for manufacturing fabrics with inserted weft yarns had been put on the market before the priority date of the present European patent.

Respondents 01 also maintained that the patent specification as granted did not disclose that the weft yarns did not form a layer at the time they were inlaid. Moreover, they argued that the idea of inserting weft yarns in a knit stitch pattern was already known on the priority date of the opposed patent and he considered that a skilled person would be provided with all the characteristics of Claim 1 by the teachings of D3 and D11.

In their statement dated 30 November 1993, Respondents 02 also disputed the fact that the three new independent claims were clear and supported by the application as filed or as patented (Article 123 EPC), and argued mainly that, in view of the teachings of D1, D6, D10 and D11 the subject-matter of said claims did not involve an inventive step.

VII. The second oral proceedings took place on 16 June 1994.

During the first part of the proceedings, discussion concentrated on the wording and admissibility of the amendments in the latest set of claims filed.

The Respondents considered that, since the granted independent claims made no clear distinction between the two possibilities of having a preformed layer of weft yarns stitched to the base material and of inlaying the weft yarns separately, such a distinction should not be taken into account in the assessment of inventive step.

Respondents 01 argued in particular that, since the claimed final product actually comprised a layer of weft yarns, deletion of the term "layer" in Claim 1 should not be permitted. They also maintained that the

interpretation given to the term "inlaid" introduced new matter in the form of a method step into the independent claims.

Respondents 02 argued mainly that the insertion of the reference numeral (12) in Claim 1, line 4, after the expression "inlaid weft yarns" was not permissible under Article 123 EPC because it assigned a new technical meaning to the product, thereby changing the content of the claim.

The Appellants disagreed and pointed out that the term "layer" had not been detected, but simply moved within the claims, that the method-step feature of inlaying was already present in the claims in the term "inlaid", and that only separate yarns, and not layers, could be "inlaid".

During the second part of the oral proceedings the discussion turned on the novelty of and inventive step involved in the subject-matter of the amended independent claims, primarily in comparison with the state of the art described in D3, D10 and D11.

Respondents 01 were of the opinion that the teachings of D3 and D10 were similar and that the state of the art disclosed in D10 belonged to the same technical field as the invention. They also observed that in D10 the yarns were laid on a non-woven fabric and incorporated into a knitted structure while it was being knitted using a Raschel machine, and that the weft yarns had to be introduced individually. They therefore considered that the in-laying technique was disclosed by D3 and D10 and that these two documents described the same method steps as the invention.

VIII. At the end of the oral proceedings the following requests remained:

- the Appellants requested that the decision under appeal be set aside and the patent be maintained on the basis of Claims 1 to 5 and the description, columns 1 to 4, as filed at the end of the oral proceedings on 29 September 1993, with Figures 1 and 2 as granted;
- the Respondents requested that the appeal be dismissed.

Respondents 01 also requested remittal to the first instance for further examination, and Respondents 02 requested a different apportionment of costs and referral of the two following questions to the Enlarged Board of Appeal:

Question 1

"Ist es mit den im Beschwerdeverfahren anzuwendenden Regeln 66(1) und 86(3) sowie Artikel 114(2) EPÜ, bzw. unabhängig hiervon, dem auch gegenüber den weiteren Verfahrensbeteiligten zu wahren Grundsatz der Verfahrensökonomie, insbesondere Artikel 11(3) der Verfahrensordnung der Beschwerdekammern - im Widerspruch zu T 95/83 sowie T 29/85 etc. - vereinbar, im Einspruchsbeschwerdeverfahren erst in der mündlichen Verhandlung vor der Beschwerdekammer vorgelegte neue Ansprüche zuzulassen, wenn weder triftige Gründe für die verspätete Antragstellung, noch neue massgebliche Sachverhalte, die der Antragstellerin vorher nicht bekannt waren, geltend gemacht werden und dadurch ein Abschluss des Verfahrens mit der mündlichen Verhandlung nicht erreicht werden kann?"

Question 2

"Ist es der Beschwerdekammer in dem der Patenterteilung nachfolgenden mehrseitigen Einspruchs(beschwerde)-verfahren gestattet, der Patentinhaberin in der mündlichen Verhandlung **konkrete** Hinweise zur Abänderung von Wortlaut und Aussagegehalt von Ansprüchen zu geben, um hierdurch die eventuelle Aufrechterhaltung des Patents mit derart abgeänderten Ansprüchen zu erreichen?"

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal complies with Articles 106 to 108 and Rule 64 EPC and is admissible.

2. *Late filed documents (see section VI above)*

The Board examined the documents filed by the first Opponents after the first oral proceedings and found that they were either not dated or had been published after the priority date of the opposed patent.

The letter relating to the availability of "Raschel" machines on the market before the priority date of the opposed patent does not add anything new to the cited prior art. Indeed such machines are already disclosed in D10.

The Board therefore considered that these late filed documents were not particularly relevant and decided to disregard them under Article 114(2) EPC.

3. *Amendments to the granted independent claims*

New independent Claims 1, 4 and 5 filed at the end of the first oral proceedings correspond to granted Claims 1, 5 and 6 respectively, amended as follows:

3.1 Claim 1 as granted (see column 4 of the specification):

(a) The words "layer of" have been deleted from lines 42, 46 and 50.

(b) The reference numeral (12) has been moved from after the word "layer" in line 42 to after the words "weft yarns" in line 43.

(c) In line 46, the words "in a warp knit stitch pattern" have been inserted after the words "inlaid weft yarns".

(d) In lines 46 and 47, the phrase "... and securing said inlaid weft yarns to ..." has been replaced by the following: "... said inlaid weft yarns being inlaid in every course, or alternate courses, of said warp knit stitch pattern, to form a layer of weft yarns, said inlaid weft yarns thereby being secured to ...".

3.2 Claim 5 as granted (see column 5):

(e) The words "layer of" have been deleted from lines 28 and 31.

(f) In lines 28, 29, the phrase "... inlaid weft yarns having one side positioned..." has been replaced by "... inlaid weft yarns being positioned...".

(g) In line 32, the words "in a warp knit stitch pattern" have been inserted after the words "inlaid weft yarns".

(h) The following phrase has been added to the end of the claim: "said inlaid weft yarns being inlaid in every course, or alternate courses, of said warp knit stitch pattern to form a layer of inlaid weft yarns.".

3.3 Claim 6 as granted (see column 5):

(i) The words "a layer of" have been deleted from line 43.

(j) In line 45, the words "in a warp knit stitch pattern" has been inserted between the words "stitch yarn" and "through".

(k) The following words have been added to the end of the claim: "such that said weft yarns are inlaid in every course, or alternate courses, of said warp knit stitch pattern, to form a layer of inlaid weft yarns.".

4. *Admissibility of these amendments (Article 123(2) and (3) EPC)*

4.1 Amendments (a), (e), (f) and (i):

"Inlaying" and "inlaid weft yarns" are, for a person skilled in the art, specific expressions meaning that individual weft yarns are tensioned and actively incorporated into the knitting as the knitting progresses (see section 5.1). Therefore only yarns can be "inlaid", and not a preformed layer of yarns. It does not make any technical sense to interpret the expression "a layer of inlaid weft yarns" as meaning that the weft yarns are disposed so as to form a layer before being

inlaid. In fact, it is only after being inlaid that, in the final product, the inlaid weft yarns can be considered as forming a layer.

This is corroborated by the fact that, in the expression "a layer of inlaid weft yarns" used throughout the description, the term "inlaid" qualifies the weft yarns, not the layer. This interpretation is also supported in the original description:

- on page 3, lines 24 to 28, of the application as filed, where the first embodiment shown in Figures 1 and 2 (which corresponds to the interlining fabric according to Claim 1) is described as comprising a layer formed of inlaid weft yarns "applied during the knitting of the stitch yarns", and
- on page 7, lines 10 to 14, where it is stated that the fabric according to the invention can be formed by knitting a yarn "...while inlaying a spun (worsted or cotton) yarn ...".

Moreover, the Board draws attention to the fact that the term "layer" has been reintroduced into the independent claims by the other modifications (d), (h) and (k) as a consequence of the fact that in the final product the inlaid weft yarns can be considered as forming a layer. Contrary to what was claimed by Respondents (01), this technical feature has thus not disappeared from the independent claims.

Consequently, amendments (a), (e), (f) and (i) in combination with part of amendments (d), (h) and (k) do not change the technical content of the amended sentences, but simply clarify it by returning to its original and technically relevant meaning. Since they

also clearly limit the scope of the claims to the first embodiment described in the original description, they satisfy all the requirements of Article 123 EPC.

4.2 Amendment (b):

The Board cannot follow the submission of Respondents 02 that the shifting of reference sign (12) from after the word "layer" to after the word "yarns" changes the scope of Claim 1, because under Rule 29(7) EPC reference signs are not construed as limiting the claim. Furthermore, it is clear from Figures 1 and 2 and from the description of the application as originally filed and granted (see page 5, lines 27 and 30, page 6, line 6, and page 7, lines 6, 15 and 17, together with column 3, lines 27, 30 and 41, and column 4, lines 9, 18 and 19) that the reference sign (12) always related to the yarns, not the layer.

Consequently, amendment (b) appears to be nothing more than the correction of a clerical error made in granted Claim 1, which furthermore has no effect at all on the technical content of the claim.

Such a correction does not contravene Article 123 EPC.

4.3 Amendments (c), (g) and (j):

These amendments are supported by the statements on page 4, lines 1 to 8, and column 2, lines 41 to 49, and by Claim 2 of both the application as filed and the patent as granted, and they limit the protection of the claims as granted.

Therefore they do not contravene the requirements of Article 123 EPC.

4.4 Amendments (d), (h), and (k):

The amendment relating to the way of inlaying the yarns is supported in the description as filed on page 7, lines 10 to 16 (in the patent as granted: column 4, lines 12 to 21).

The Board cannot follow the Respondents' submission that the inlaying of the weft yarns in every course or alternate courses should be considered only in combination with the knitting of a 40-denier polyester yarn, because no inter-relationship can be seen between the commonly known manner in which the yarns are inlaid on the one hand and the characteristics of the knitted yarn on the other hand, and because no particular synergetic effect appears to have resulted from bringing these features together. Consequently the Board can see no reason not to consider these features separately.

Since, moreover, the claims as granted protected composite fusible interlining fabrics comprising inlaid weft yarns in general, the amendments restrict said protection to a particular type of inlaying in predetermined courses and emphasise even more explicitly that a layer of weft yarns is formed as the weft yarns are inlaid.

Consequently, these amendments do not contravene the requirements of Article 123 EPC.

4.5 The further amendments made to Claim 2 (corresponding to amendments (a) and (b) above), as well as to the description (in relation to the adaptation of the description to the amended claims), do not contravene the requirements of Article 123 EPC either.

5. *Interpretation of the independent claims*

5.1 The "inlaid" process feature

With respect to the term "laying-in", the publication "Knitting Technology " (David J. Spencer, School of Textile and Knitwear Technology, Leicester Polytechnic, UK) gives the following definitions on page 45:

- "An inlaid fabric consists of a ground structure of knitted (overlapped) threads which hold in position other non-knitted threads which were incorporated (laid in) into the structure during the same knitting cycle."

- "Weft insertion is a special type of laying-in where the yarn is laid onto special elements which in turn introduce it to the needles at the correct moment during the knitting cycle..."

The term "inlaid" thus qualifies the way the weft yarns are brought into contact with the non-woven fabric and means implicitly that each weft yarn is brought into a predetermined position on the base layer in a tensioned state, and is not randomly positioned in a slackened state. Since such a precisely predetermined arrangement has an effect upon the quality of the fabric in particular, the functional feature defined by the term "inlaid", in conjunction with the particular type of yarns to be used (weft yarns), implicitly characterises the final product itself, so that when looked at as a whole, the expression "inlaid weft yarns" can be considered as a product feature.

5.2 "Closely compacted fibres"

The Board agrees with the Respondents that strike back depends upon several factors and not only upon the degree of compaction of the fibres of the mat. Nevertheless, when interpreted in the light of the description (see column 2, lines 36 to 40 and 59 to 64, and column 4, lines 2 to 8 of the patent specification), it is clear that according to the invention the impermeability of the non-woven fabric to the adhesive material is obtained essentially and imperatively by close compaction of the fibres of the non-woven fabric.

Therefore, starting from an existing fibrous layer and using routine methods of experimentation or analysis, a person skilled in the art can easily determine the compaction to be given to the fibres of said layer so that it forms an impervious barrier to a given adhesive material whose fluidity at a given temperature is known.

Consequently, referring to a definite fibre mat, the expression "a layer of ... closely compacted fibres" in Claims 1 and 5, considered in combination with the phrase "said layer... providing a barrier to prevent strike back", gives the skilled person a clear teaching about the way the fibres of the mat should be treated (Article 100(b) and 83 EPC).

6. *Novelty*

6.1 When examining novelty it should be borne in mind that the disclosure of a prior art document must be considered in isolation and that a claimed subject-matter would lack novelty only if it were derivable directly and unambiguously from that document.

6.2 D1 discloses a fleece lining web for garments having a base layer of non-woven fabric (1) formed of randomly oriented fibres which corresponds to the base layer of non-woven fabric according to the invention. However, D1 does not teach or give any hint at all about possible compaction of the fibres of said base layer so as to provide a barrier against the adhesive material.

The fabric disclosed in D3 does not comprise a base layer of non-woven fabric as a foundation and thus cannot provide a barrier to prevent strike back of an adhesive material.

D6 is concerned with a stitch-bonded fabric having thermo-insulating properties for use for outerwear (see D6, page 1, lines 50 to 56), and gives no indication as to its compaction, whereas the invention relates to a fusible interlining fabric which prevents strike back. The function and corresponding construction of the fibrous mats of the two fabrics are thus different.

D10 (Raschelmaschine) relates to fabrics consolidated by the incorporation of weft yarns. Close compaction of the fibres of the fleece is neither described nor suggested.

In D11 (Figure 5) the fibrous base layer of the described interlining fabric is consolidated by the incorporation of warp threads, instead of weft yarns as the invention, and no importance is given to the degree of compaction of the fibres of said layer.

6.3 Consequently, in comparison with the state of the art described in the aforementioned documents cited by the Respondents, the subject-matter of the independent claims is novel within the meaning of Article 54 EPC.

7. *The closest state of the art*

7.1 The Board considers that the state of the art closest to the invention is disclosed in Figure 5 of D11, because the described composite fabric belongs to the same technical field of interlining fabrics, is manufactured in order to overcome the same disadvantages and comprises the same basic components as the interlining fabric of the opposed patent.

7.2 The fabric according to the invention differs from this closest prior art in that:

- the fibres of its layer of non-woven fabric are closely compacted,
- weft yarns instead of warp yarns (Stehfäden) are used to strengthen the fabric, and
- said weft yarns are inlaid into the structure and not simply laid on the base layer of fleece.

8. *The problem and its solution*

8.1 According to established Board of Appeal case law, the technical problem an invention addresses and solves should be determined in the light of the objectively ruling state of the art, in particular as revealed in the course of proceedings, which may be different from the prior art of which the Applicants were aware at the time they filed the application (see decision T 24/81, OJ EPO 1983, 133).

8.2 Starting from the closest prior art defined in section 7 and taking into account the differences mentioned, the problem to be solved by the person skilled in the art could be objectively defined as being to improve the quality of the interlining fabric known from D11 with regard to the prevention of strike back and the

resiliency and strength of the fabric (see column 2, lines 31 to 40 of the patent specification), and the Board is satisfied that the solution described in independent Claims 1, 4 and 5 solves the problem effectively.

9. *Inventive step (Article 56 EPC)*

9.1 When assessing whether a modification of the closest state of the art along the lines of the claimed solution involves an inventive step, two questions must be answered:

- the first is whether the state of the art as viewed in the light of his general common knowledge provides the skilled person with enough information (teaching) and places the essential means at his disposal for him to arrive at the invention and,
- the second is whether, being in possession of the above, he would, in expectation of the improvement he was searching for, apply the teaching to the closest state of the art considered as the starting point for the invention.

Moreover, it should be borne in mind that according to established Board of Appeal case law (see decision T 56/87, OJ EPO 1990, 188) the technical teaching in a prior art document should be considered in its entirety, as it would be by a person skilled in the art.

9.2 The main concern of D11, when considered as the starting point for the invention, appears to be the problem of providing a reinforced interlining fabric having a base layer that prevents strike back. To solve

the problem, D11 proposes the use of a fleece or a more or less loose fabric (see last paragraph of page 3, and page 4, particularly lines 1 and 2) consolidated by warp knitting and the incorporation of warp threads.

No importance is given to the degree of compaction of the fibres of the base layer, and the teaching is focused on its absorption capacity and consolidation only.

To solve the problem of strike back, D11 appears to teach a solution opposite to that given in independent Claims 1, 4 and 5, which recommend forming an impervious barrier against the adhesive material by compacting the base layer.

A skilled person looking to improve the fabric known from D11 thus could not simply ignore the aforementioned main concern and would be more likely to envisage measures along the lines of the general teaching of D11, i.e. measures which might increase the absorptive capacity of the base layer instead of reducing it drastically.

- 9.3 The skilled person would thus a priori be reluctant to compact the fibres so that they lost their absorption capacity, unless he had learnt from the prior art that such treatment had already been used elsewhere satisfactorily.

Since the skilled person consulting the prior art cited by the Respondents could not find any indication to this effect in either D1, D6 or D10, which describe layers which do not have the explicit function of preventing strike back, or in D3, which describes a fabric having

no layer of non-woven fabric as a foundation at all, he would not be provided with enough information to lead him to adopt such a solution.

- 9.4 However, even if he did compact the base layer, in order to arrive at the invention the person skilled in the art would still have to replace the warp yarns of the fabric of D11 by inlaid weft yarns.

It is true that it is already known per se, in particular from D1, D6 and D10, to use weft yarns to reinforce a base layer of non-woven fabric of an interlining fabric. Nevertheless, the skilled person would also learn from these documents that before being fed to the stitching point of the stitching machine, the threads should be arranged so as to preform a bed to be laid on the base layer.

This is in particular the case with the parallel oriented fibres (2) of the lining web of D1, which form a fibrous fleece layer laid on and then simply sewn together with the base layer (1), instead of each of the fibres (2) being separately inlaid while knitting through the base layer as in the invention.

Also, D6 clearly discloses (see Figures 2 and 3 in conjunction with page 2, lines 66 to 83) that, before being fed to the stitch-knitting point of the knitting machine, the weft threads form a bed which is moving in the same direction as the fibrous base layer, and that at said point they are not inserted into the structure (i.e. inlaid in the sense of the invention) but laid successively on the base layer (see page 1, lines 57 to 77, and page 2, lines 115 to 130).

D10 also relates to fabrics manufactured according to a similar method, i.e. the weft yarns are disposed so as to form a bed moving in the same direction as a base layer until they are laid on said base layer at the stitch-knitting point.

These documents therefore neither could nor would guide the skilled person to the claimed solution, i.e. inlaid in the sense of the invention.

- 9.5 On the other hand, it is clear that the fabric disclosed in D3 comprises weft threads inlaid into a warp knitted structure in accordance with the invention, but that said known fabric does not comprise a non-woven base layer to which the weft yarns could be secured.

The technique of inlaying weft yarns was thus known per se, in particular from the disclosure in D3, and was available to the skilled person on the priority date of the opposed patent. Nevertheless, since D3 does not refer to the problem of strike back and does not recommend using the described warp-knitted laid-in fabric in association with a non-woven base layer (see page 9; lines 22 to 30), the skilled person seeking to improve the interlining fabric according to D11 would have no particular reason firstly to consult D3, and secondly to combine the teachings of these two disclosures.

Such a combination could only be the result of an ex post facto analysis.

- 9.6 Even if the assessment of inventive step were to start from embodiments disclosed in one of the other documents available, the Board can find no obvious modifications which would lead to the claimed embodiments.

Indeed, starting from an interlining fabric according to D1 or D3, there is no single available prior art document which could, let alone would, suggest the use of a layer of closely compacted fibres providing a barrier to prevent strike back of adhesive coating material. D10, which discloses a pre-compacted non-woven layer (vorverfestigtes Vlies), does not even suggest the existence of such a barrier. Simply arguing that such a layer is obvious to a person skilled in the art must be considered as the result of an ex post facto analysis having no basis in the available prior art.

Nor does using a fabric according to D6 as a starting point lead in an obvious way to the claimed embodiments, since D6 does not even disclose an interlining fabric. A technical development which starts from a fabric for outerwear, although fabrics for interlining exist, can only lead in an obvious way to a further developed (modified or even improved) fabric for outerwear, and cannot without strong indications unexpectedly result in a fabric for another use, which has thus to fulfil other requirements.

9.7 Furthermore, the Board wishes to emphasize that the approach in the present case, which involved a number of modification steps which were necessary in order to progress from the closest prior art to the claimed embodiment, cannot be considered as obvious, particularly since one step was not even disclosed in the available prior art, and for another step there was no clear teaching towards such a modification. An approach such as the one suggested by the Respondents, and which for certain steps is not supported by any prior art, must be viewed as the result of an ex post facto analysis of the opposed patent.

9.8 For the aforementioned reasons the Board is of the opinion that the modification made to the interlining fabric according to D11, considering D11 as a whole, in order to arrive at the invention does not follow plainly and logically from the cited prior art, but involves an inventive step within the meaning of Article 56 EPC.

10. *Conclusion*

The subject-matter of Claims 1, 4 and 5 is thus patentable within the meaning of Article 52 EPC, and the opposed patent may be maintained on this basis.

With respect to the fabric claims, the Board agrees that, in the present case, in view of the unitary structure of the fabric, the one-part form of these claims is appropriate (Rule 29(1) EPC).

11. *Apportionment of costs*

11.1 Only Respondents 02 requested that the Board order a different apportionment of the costs incurred by the Respondent and the EPO after the first oral proceedings of 29 September 1993.

11.2 As already indicated above (see section IV, last paragraph), the first oral proceedings could not be concluded properly due to problems connected with the interpreters (Rule 2(1) and (5) EPC). As the Respondents did not want to deal with the remaining points without appropriate interpreters, the Board had to terminate the oral proceedings and find a way of bringing the case to a conclusion.

The fact that all items to be discussed could not be dealt with during the oral proceedings on 29 September 1993 was therefore due to a number of reasons which could not be assigned to the Patentees.

11.3 Since, furthermore, the Respondents requested that second oral proceedings be held, which request was granted by the Board, it cannot be stated that the costs incurred during the second oral proceedings were also caused by the Patentees.

11.4 In view of Article 110 and Rule 2(1) and (5) EPC, the Board considers in the present case that it is neither reasonable nor possible for the EPO to require money from any of the parties.

11.5 The Board therefore cannot detect any reasons of equity which could be used to order a different apportionment of costs (Article 104(1) EPC).

12. *Referral of questions to the Enlarged Board of Appeal*

Both questions (see section VIII above) were put forward by Respondents 02.

12.1 The first question relates to the filing of a new set of claims at the beginning of the oral proceedings. It is quite clear to all participants that such late filing can be problematic, and should be avoided as much as possible.

Such late filing should however be considered in each case on its own merits.

12.1.1 In the present case it should be remembered that the Appellants had already submitted a first auxiliary request (filed with letter of 4 June 1991), in which the knitting pattern was defined as "a warp knit stitch pattern".

The Appellants apparently decided to participate in the oral proceedings only after receipt of a communication from the Board dated 9 September 1993 containing the Board's provisional opinion, which was rather negative for the Patentees (see letters dated 23 August and 14 September 1993).

The Patentees' representative explained that in the short period remaining before the proceedings he had only been able to contact the inventor, who participated in the first oral proceedings, on the day before the proceedings took place, and was therefore unable to file the amendments earlier.

12.1.2 These amendments are in fact the result of the sole introduction into Claim 1 of the first auxiliary request of the indication that yarns "are inlaid in every course, or alternate courses of said warp knit stitch pattern".

Although, after the Board had asked the Patentees why they had filed these amendments and why they had filed them so late, the Respondents did not agree with this late filing, they both did not consider the amendments to be important. In any case, the opportunity offered by the Board of more time to study the wording and its implications was waived by the Respondents (see the later opinion of Respondents 01, letter of 26 November 1993, page 3, section 4, lines 16 to 21).

- 12.1.3 The Board took an analogous view, namely that the amendment made with respect to the first auxiliary request was not difficult to understand, that it was easy to evaluate its implications, and, moreover, that it was in line with what could be expected following the Board's negative provisional opinion, i.e. that it was a further clarification of what was meant by the term "inlaid". The essence of the alleged invention was not changed.
- 12.1.4 Furthermore, the Board considered that the time factor, i.e. the time between the date on which the Board's communication dated 9 September 1993 was deemed to have been delivered to the addressees (the Patentees), namely 19 September 1993 (Rule 78(3) EPC), and the date of the oral proceedings (29 September 1993), was such that the Patentees could not have been expected to respond any earlier.
- 12.1.5 Considering all the specific elements of this case, as well as the arguments put forward by the Respondents during the first oral proceedings, the Board therefore decided during a break at the end of the first oral proceedings to **accept** the second auxiliary request filed at the beginning of these oral proceedings.

At that time the Board was also in no doubt that it would be possible to take a decision based on a complete set of documents at the end of the proceedings. However, due to the circumstances which ensued (see sections IV, last paragraph, and 11.2 above) after the above-mentioned break, and which were not linked to the Patentees' attitude a prolongation of the proceedings, which was not expected by the Board or the parties' appeared to be necessary.

12.1.6 According to the Board, it was not unreasonable in the light of the Board's provisional opinion for the Patentees to file a new request focusing on what later became for a large part of the oral proceedings "the" item of discussion, namely the term "inlaid".

In addition to this, it should be pointed out that each additional request submitted by the Patentees can prolong discussion, as of course can any other additional request of the Opponents.

Furthermore, it should be emphasised that decision T 95/83, OJ EPO 1985, 75, related to a case where the essence of the invention was shifted away to a new principle. The Board agrees that in such a case amendments should only be allowed in the most exceptional circumstances. In the present case, however, the amendment took the form of a further clarification of the same principle. Decision T 95/83 therefore cannot be compared with the present case.

Decision T 29/85 cannot be compared with the present case either, since, firstly, the new request did not give rise to a new, unexpected situation, but can only be considered as a further clarification of an important feature, and, secondly, there was no indication, after a short discussion as to the allowability of the new request at the beginning of the oral proceedings, that due to this new request the case would be not ready for decision at the conclusion of the oral proceedings.

12.1.7 Since the conditions set out in the first question do not apply to the present case (see 12.1.6 above) and the outcome of the present decision cannot therefore be influenced by a decision of the Enlarged Board of Appeal based on these conditions, the Board cannot see any reason to refer it to the Enlarged Board of Appeal.

12.2 Concerning the second question, the Board can only state that during the first oral proceedings a large part of the technical discussion focused on the interpretation and technical meaning of the word "inlaid", which throughout the description and claims of the present European patent in fact qualifies the yarns and not the layer (i.e. "a layer of inlaid weft yarns" and not "an inlaid layer of weft yarns").

During that discussion it became clear that the Respondents placed emphasis on the word "layer" in the expression "a layer of inlaid weft yarns", thereby implying that during the production process, an existing layer of yarns was positioned against one side of the layer of non-woven fabric. They based their opinion on passages in the description which clearly indicated such a method step (e.g. column 3, lines 5 to 7 and 39 to 40).

To avoid such an interpretation, which cannot be considered to be technically correct (see section 5.1 above), is supported by careless and incorrectly formulated passages of the description, and does not match the content of the wording of the claim concerned, where it states that the stitch yarn knit is "securing said inlaid weft **yarns** to said layer of nonwoven fabric", the Board pointed out that the claim involved was patentable provided that it was made clear in the description that the yarns and not the layer of yarns were connected or attached to the layer of non-woven fabric. The Board also indicated the passages in the description where it is stated that a layer is connected or attached to another layer.

The Board thus did not ask for the claim to be re-written, nor did it suggest ways in which it could be re-worded. It merely indicated that the description had

to be brought into line with the existing wording of the claim, and that the only possible technically relevant interpretation of the wording of the claim seemed to be the one presented by the Patentees.

Since the question refers to circumstances which did not occur in the present case, the answer to it would not influence the outcome of the present decision. The Board therefore sees no valid reason to refer this question to the Enlarged Board of Appeal.

13. *Remittal to the first instance for further examination*

Respondents 01 requested remittal to the first instance for further examination. The Board is however of the opinion that the content of the granted claims has been discussed thoroughly, and that the relevant documents, as well as the arguments based on these documents, took proper account of the correct technical interpretation of the term "inlaid". The Board therefore sees no reason to remit the case to the first instance for further examination.

14. Minutes of oral proceedings before the Boards of Appeal of the EPO concentrate basically on new **facts** which have a relevant, decisive influence on the final decision, as well as on the requests remaining at the end of the oral proceedings.

The Board therefore does not see any reason to modify the minutes of the oral proceedings, which were posted on 7 October 1993, particularly since, in this specific case, the Appellant's first requests, which were no longer maintained at the end of the proceedings, can be found in the part of the file which is open for public inspection (Rule 93 EPC).

With respect to these non-maintained requests, the Board wishes to emphasise that a final decision must be based only on the requests remaining at the end of the proceedings.

Order

For these reasons it is decided that:

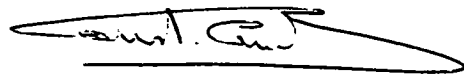
1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent in the following version:
 - Claims 1 to 5 and description, columns 1 to 4: as filed at the end of the oral proceedings on 29 September 1993 (modified second auxiliary request).
 - Figures 1 and 2: as granted.
3. The request for a different apportionment of costs is refused.
4. The requests for referral to the Enlarged Board of Appeal are refused.
5. The request for remittal to the first instance for further examination is refused.

The Registrar:



N. Maslin

The Chairman:



C. Andries

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