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D E C I S I O N
of 16 January 2001

Case Number: T 0121/97 - 3.2.6

Application Number: 90200419.1

Publication Number: 0386816

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:

Disposable absorbent article having eleastically extensible topsheet

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Mölnlycke AB

Headword:

-

Relevant legal provisions:

EPC Art. 52(1), 54, 56, 84

Keyword:

"Clarity - yes"
"Novelty - yes"
"Inventive step - yes"

Decisions cited:

-

Catchword:

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Case Number: T 0121/97 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 16 January 2001

Appellant: Mölnlycke AB
(Opponent) SE-405 03 Göteborg (SE)

Representative: Hammond, Andrew David
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Respondent: THE PROCTER & GAMBLE COMPANY
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Representative: Canonici, Jean-Jacques
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 29 November
1996 concerning maintenance of the European
patent No. 0 386 816 in amended form.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. C. Kadner
J. C. M. De Preter

Summary of Facts and Submissions

- I. The mention of the grant of European patent No. 0 386 816 in respect of European patent application No. 90 200 419.1 filed on 22 February 1990 was published on 13 April 1994.
- II. Notice of opposition was filed on 13 January 1995 by the Appellant (Opponent), on the grounds of Article 100(a) EPC. In respect of an alleged prior use the Appellant relied upon:

(D1): Mölnlycke Product Specification No. 57-31891

(D2): Mölnlycke Product Specification No. 57-31892

(D3): Mölnlycke Product Specification No. 57-31893

(D4): Mölnlycke Material Specification dated
1 December 1987

(D5): Mölnlycke Laboratory Report No. 57-31891

(D6): Test graphs

Further the following prior art documents were cited:

(D7): US-A-4 166 464

(D8): US-A-4 209 563

(D9): US-A-4 789 699

(D10): US-A-4 407 284

(D11): WO-A-80/00 676

(D12): US-A-4 662 877

III. By a decision posted on 29 November 1996 the Opposition Division maintained the patent 0 386 816 in amended form.

The Opposition Division was of the opinion that the amended claim 1 together with claims 2 to 11 and adapted parts of the description met the requirements of Article 52 (1), 54 and 56 EPC.

IV. On 31 January 1997 a notice of appeal was lodged against the decision together with payment of the appeal fee.

The statement of grounds of appeal was filed on 25 March 1997.

V. In a communication dated 14 July 2000 the Board pointed out that D7 and D10 appeared to be the most relevant documents and therefore would have to be discussed during oral proceedings in respect of novelty and inventive step.

VI. Oral proceedings were held on 16 January 2001.

The Appellant (Opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The Respondent (Patentee) requested that the appeal be dismissed and that the patent be maintained in the form as allowed by the Opposition Division with the

amendment in column 10 of the description, as submitted at the oral proceedings.

Claim 1 reads as follows:

"An disposable absorbent article (10), comprising:

a liquid impervious backsheet (16)

a liquid pervious topsheet (12) at least partially peripherally joined to said backsheet and

an absorbent core (18) disposed intermediate said topsheet and said backsheet,

said topsheet (12) is elastically extensible without rupture in at least the longitudinal direction to an elongation between 50 percent and 350 percent under a tensile load of about 800 grams per centimeter of width,

wherein said topsheet (12) has a differential force per 50 percent increment of elongation less than about 9 grams per centimeter of cumulative width."

VII. In support of its requests the Appellant essentially relied upon the following submissions:

The amended patent did not meet the requirements of Article 84 EPC because the expressions "cumulative width" of claim 1 and "contact force" of the description (column 8, line 54) were not clear. Since the topsheet of claim 1 according to the description might include inelastic zones it was ambiguous how and where its characteristics were to be measured.

As regards the requirements of novelty and inventive step, the claimed features were implicitly disclosed in D10. At least in the crotch portion the elasticised margins covered the entire width of the diaper thus effecting the same result as the claimed subject-matter. Additionally the topsheet of the contested patent was constructed of an elastic first lamina 13a and a relatively inextensible second lamina 13b in a similar manner to D10 by joining them in a prestretched condition of the elastic member. The force of 20 grams to stretch the leg band area of D10 back to its non-gathered length related to a width of the elastic band in the range of one inch. Thus the force per centimeter was 8 grams, which force lay in the claimed range of less than about 9 grams of differential force per 50 percent increment of elongation. As was also indicated by the test graphs shown by D6, it was common knowledge in the art that the increment of tension force of elasticised diaper sheets remained under a value of 9 grams in a 50 percent range of elongation.

The claimed elastic extensibility relating to an elongation of 50 to 350 percent of the topsheet under a tensile load of about 800 grams per centimeter of width was included in the teaching of D10 since its range of force to stretch the material 100 percent from its original length was 30 to 2000 grams. The selection of the claimed force value was not inventive as it solely characterized the material as to be sufficiently strong, and did not include any surprising effect.

The subject-matter of claim 1 was also obvious in view of the disclosures of D7 which document disclosed a highly flexible, easily stretchable film used in diapers. A skilled person intending to avoid "red

marking" on the skin of the baby would apply this material in a diaper according to D10 thereby arriving at the claimed article. Since any explanation of identifiable advantages of the claimed parameters in the patent description was lacking and no inventive activity could be seen in selecting numerical values of known ranges to arrive at expected results, the subject-matter of claim 1 did not involve an inventive step.

VIII. The submissions of the Respondent are summarised as follows:

In respect of the Appellant's objections against clarity of the different expressions used in the patent, it was clear that the parameters of claim 1 were related to the topsheet as a whole, but not excluding inelastic zones within its extension and additional elastification of the margins. The definitions given in the description were clear enough so as to enable a skilled person to carry out the invention.

The selected parameters provided a combination of benefits, namely avoiding irritation of the skin of the wearer and creating an absorbent article of higher comfort which was suitable for a wider range of sizes of wearers. Neither D7 nor D10 could lead a skilled person to the claimed subject-matter because D7 did not teach any measurable values, and D10 dealt particularly with the elastification of the margins of a diaper, and not with its topsheet. Since there was no incentive for using features from the one in the other, a combination would not have been obvious, and would even not have resulted in the subject-matter of claim 1.

Reasons for the Decision

1. The appeal is admissible.
2. *Clarity of the claimed subject-matter*
 - 2.1 Considering the Appellant's objections with regard to clarity of the terms "cumulative width" and "contact force", the Board draws attention to the fact that the expressions objected to are defined in the description of the patent. The term "contact force" is explained in column 8, line 52 to column 9, line 20 and 29 to 37 as to be a specific force required to cause an amount of elongation measured on a specified model of measuring machine. The terms "cumulative width" in connection with "inelastic zones" are described in column 9, lines 21 to 28 with the explanation as to how the test samples have to be selected. These parts of the text enable a person skilled in the art to understand the background of the definitions in relation to well known prior art topsheets or diaper material, respectively.
 - 2.2 Considering further the ranges of numerical values claimed by the features of claim 1, the Board is of the opinion that they do not concern the question of clarity but rather that of broadness of the claim. This means that the teachings of the prior art documents have to be considered in the same broad meaning as in respect to the patent in suit. However, this aspect will have to be considered under the examination of novelty and inventive step and, in the present case, does not represent a lack of clarity.
 - 2.3 In view of the Appellant's argument that the patent

claimed merely parameters and did not disclose particular materials suitable for the topsheet, the Board is of the opinion that the description (column 11, lines 16 to 49; column 12, lines 24 to 33 of the patent) indicates sufficient details as to enable a skilled person to understand the embodiments which are claimed by the patent. EPC does not require the expression of the invention in particular materials if it can also be characterized by parameters.

3. *Novelty*

- 3.1 The Appellant submitted that the subject-matter of claim 1 was not novel since the claimed parameters were implicitly included in the ranges of extensibility and differential force derivable from D10.

This document discloses a laminated structure for use as disposable apparels or diapers consisting of a backing sheet 30, a facing sheet 32 and an absorbent core 31 (Figure 3). However, the elastic members 28, 29 of D10 are only applied to the marginal portions and not to the whole topsheet (see Figures 2, 3, 6, 8, 9). Therefore the claimed absorbent article differs from that of D10 by the latter feature.

- 3.2 The Appellant further stated that in respect of the width of two inches of the elastic member the entire cross section of the diaper may be elasticised in the crotch portion. But as shown in Figure 9 there is still a remarkable space of inelastic moisture permeable material 166 between the elasticised crotch portions 163.

- 3.3 The elastic material of D10 should have a force to

stretch it 100 percent of from 30 to 2000 grams (column 9, lines 47 to 48). The force to stretch the leg band area back to its original or non-gathered length after joining the sheets may be as low as 20 grams (column 9, lines 56 to 59) which amount has no relation to a length of elongation. The particular numerical values of claim 1 are neither mentioned in D10 nor does this document contain the teaching that the topsheet material must accomplish both requirements of defined elastic extensibility and specified differential force in combination with one another.

3.4 Since novelty of the claimed subject-matter with respect to the further cited prior art documents including D7 was not contested novelty of the absorbent article of claim 1 is established (Article 54 EPC).

4. *Inventive step*

4.1 The closest state of the art is assumed to be represented by D7 which document discloses a highly conformable absorbent dressing like a disposable diaper comprising a backing film 13, an extensible facing sheet 14 and an absorbent core 12. The facing film may be of the same material as the highly elastic backing film possessing the capability of high elongation before breaking, preferably at least about 400 percent (column 1, lines 35 to 58; column 5, lines 37 to 63; column 7, lines 31 to 33). Such a diaper is suitable to solve the problem of good conformability to the body of a baby.

Starting from this known absorbent article the problem underlying the subject-matter of claim 1 of the patent in suit relates to how to further optimize the comfort

of the wearer, and particularly how to maintain such optimization over a wide range of wearer sizes (see column 1, line 58 to 20 to 22 of the patent and column 1, lines 20 to 22; column 16, lines 23 to 27 of the patent in suit). The combination of features of claim 1 provides this additional benefit by tailoring the extensible properties of the topsheet so that it applies sufficient contact pressure against wearers of different body size while avoiding red marking of the skin of the wearer.

4.2 Since D7 does not disclose the particular values of elastic extensibility and differential force per 50 percent of elongation, and does not address the problem of comfort taking account of different body sizes this document cannot therefore lead a skilled person to the subject-matter of claim 1.

4.3 The Board follows the Appellant in that a skilled person starting from D7 would have drawn D10 into consideration because this document mentions the problem of minimizing the occurrence of red marking and avoiding skin irritation. However, it cannot agree with the conclusion that a combination of both documents would lead a skilled person to the solution according to claim 1 of the patent.

D10 discloses a disposable diaper provided with elasticised margins. The elastic members forming the margin of a width of 1/2 inch to 2 inches (column 2, lines 60 to 61) should be made of a material which when stretched to 100 percent requires a force from 20 to 2000 grams (column 9, lines 47 to 48). However, since D10 is silent about the parameters of the topsheet material as a whole, a skilled person searching for

suitable means to provide a diaper for an extended range of sizes of wearers would not draw the properties of the elasticised margin of D10 into consideration because the elasticised margin would not be expected to contribute anything to the property of applicability of the topsheet material to a wider range of sizes.

Therefore, even if an elasticity parameter of the elastic strip member of D10 coincides with one claimed parameter of the topsheet material of the patent, they are not comparable. The teaching of D7 is intended for different properties i.e. certain areas of the diaper (the sleeve cuff, the leg encircling portion etc., see column 2, lines 35 to 38) and does not suggest higher extensibility of the topsheet as a whole for use in a larger range of sizes of wearers.

Additionally there is a further difference between the topsheet material of the patent in suit and the elastic members of D10 in that the claimed topsheet with the defined extensibility must at the same time meet the requirement that the differential force per 50 percent elongation is less than about 9 grams per centimeter. This feature cannot be derived from D10 because there is no indication as to which length of extension relates to the force of 20 grams to stretch the leg band area back to its non-gathered shape. Again this feature is related to the margin area and not to the topsheet as a whole. No suggestion can be derived from this document that by applying the elastic material of D10 a diaper for an extended range of sizes of wearers would be provided.

- 4.4 The Appellant further argued that the combination of claimed parameters was obvious in view of common

knowledge of the skilled person as represented by D6.

However, it is to be noted that D6 does not bear a date and that the related document D5 with an indicated date of 920511 contains a confidentiality remark. Thus for reasons of confidentiality and since the valid priority date of the patent in suit is 9 March 1989, D6 cannot be considered to be included in the prior art.

In the absence of any other verifiable proof of the Appellant's contentions, the selection of specific combination of parameters of the topsheet used in the disposable absorbent article claimed in claim 1 of the patent in suit cannot be considered obvious to the skilled person.

5. Summarizing, in the Board's judgment, the proposed solution to the technical problem underlying the patent in suit defined in the independent claim 1 is inventive and therefore this claim as well as its dependent claims 2 to 11 relating to a particular embodiment of the invention in accordance with Rule 29(3) EPC, can form the basis for maintenance of the patent (Article 52(2) EPC).

The description upheld by the Opposition Division contains in column 10 an obvious error. A new description page containing columns 9 and 10 filed by the Respondent during the oral proceedings held on 16 January 2001 no longer contains this error so that the present description is also suitable for maintenance of the patent in amended form.

Thus taking into account the amendments made by the Appellant, the patent and the invention to which it

relates meet the requirements of the EPC and the patent as amended is maintained in this form (Article 102(3) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent in the form as allowed by said Opposition Division with the sole amendment in column 10 of the description, as submitted at the oral proceedings of 16 January 2001.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau