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D E C I S I O N
of 5 September 2001

Case Number: T 0231/01 - 3.2.6

Application Number: 96830343.8

Publication Number: 0813849

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:
Breathable absorbent articles

Applicant:
THE PROCTER & GAMBLE COMPANY

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 83, 84, 54, 56

Keyword:

"Sufficiency of disclosure (yes)"
"Characterisation of a product by parameters - clarity (yes)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:

T 0048/95

Catchword:



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Boards of Appeal

Chambres de recours

Case Number: T 0231/01 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 5 September 2001

Appellant: THE PROCTER & GAMBLE COMPANY
One Procter & Gamble Plaza
Cincinnati
Ohio 45202 (US)

Representative: Hirsch, Uwe Thomas
Procter & Gamble European Service GmbH
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 10 October 2000
refusing European patent application
No. 96 830 343.8 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. Pricolo
M. Tardo-Dino

Summary of Facts and Submissions

I. European patent application No. 96 830 343.8 published under No. 0 813 849 was refused by the Examining Division by decision dated 10 October 2000.

II. The Examining Division held that the invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC), that claim 1 according to the main request filed with letter dated 14 March 2000 and auxiliary request filed with letter dated 10 July 2000 was not clear (Article 84 EPC), and that the subject-matter of claim 1 lacked novelty or inventive step over the prior art disclosed in:

- D1: EP-A-0 710 471
- D2: EP-A-0 705 584
- D3: EP-A-0 710 472
- D4: EP-A-0 705 583.

III. As far as the requirement of Article 83 EPC was concerned, the Examining Division considered that the application did not clearly disclose how to reproduce a disposable absorbent article having the parameters claimed in claim 1. In order to perform the invention, a skilled person would have to randomly select components among those known in the art, and then carry out tests to know whether the final product meets the criteria set out in claim 1.

With respect to the requirements of Article 84, the Examining Division argued that a meaningful comparison with the prior art could not be made, because the parameters used in claim 1 were unusual and no

comparative tests had been provided by the Applicant. In the absence of such comparative tests and in view of the low values chosen for the dryness index and the sensory index, the Examining Division saw "an overlap between unclarity of claim 1 and insufficiency of disclosure of the application as a whole". Furthermore, the Examining Division considered that there was an undue burden of tests required for assessing whether an article fell within the scope of the claims.

As far as novelty and inventive step were concerned, the Examining Division held that each of documents D1 to D4 was prejudicial to the novelty or inventive step of the subject-matter of claim 1. The Division argued that, although documents D1 to D4 did not refer to the same parameters as those referred to in claim 1 and hence did not explicitly disclose any values for those parameters, the disposable absorbent articles known from D1 to D4 would very likely have parameters falling within the ranges claimed.

- IV. On 30 November 2000 the Appellant (applicant) lodged an appeal against this decision and paid the prescribed appeal fee. The statement setting out the grounds of appeal was received on 10 February 2000.

- V. Following a telephone call on 23 May 2001 with the Rapporteur of the Board, during which an objection under Rule 29(1) EPC and editorial amendments of the description were discussed, the Appellant filed, with letters dated 28 and 31 May 2001, an amended description and claims.

- VI. The Appellant requested that the decision under appeal be set aside and a patent granted on the basis of the

following documents:

Claims: 1 as filed with letter dated 31 May 2001;
2 to 17 as filed with letter dated 28 May 2001.

Description: pages 1, 3-6, 8-42 as filed with letter dated 28 May 2001;
pages 2, 7 as filed with letter dated 14 March 2000.

Claim 1 reads as follows:

"A disposable absorbent article comprising the following elements: a liquid pervious topsheet, an absorbent core and a breathable backsheet, said absorbent core having a caliper of less than 12 mm and being positioned intermediate said topsheet and said backsheet, said topsheet, core and backsheet each comprising at least one layer, characterized in that said topsheet has a liquid retention of less than 0.22g for a 2.0g load in the topsheet liquid retention test, said core has a vapour permeability of at least 200g/m²/24hrs, as defined in the vapour permeability test and, said breathable backsheet has a liquid permeability of less than 0.16g for a 15ml load as defined in the liquid permeability test, and said elements are joined such that said absorbent article has a dryness index of greater than 0.5 and a sensory index of greater than 50 as defined herein."

VII. In essence, the Appellant's arguments in support of the request are as follows:

The critical item of the invention was the use of existing and well established materials from the field of disposable absorbent articles to create a new absorbent article in a way and fashion which has not been provided to date from such materials and in such a combination. The key aspect that led the Examining Division to the finding of lack of sufficiency and clarity was the misunderstanding that the dryness index and the sensory index defined in claim 1 were the goals to be achieved rather than the characteristics of the way the article was constructed from materials previously selected in dependence of functional teaching.

Moreover, although the prior art documents D1 to D4 disclosed breathable disposable absorbent articles, they did not teach the selection of the specific parameters in the manner as claimed so that a satisfactory performance profile of comfort, flexibility and discreteness was obtained, without loss of any of these.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments (Article 123(2) EPC)*
 - 2.1 With respect to claim 1 as originally filed, claim 1 additionally includes the expression "as defined herein".

This expression is a reference to the description, and serves the purpose of explicitly stating that the

dryness and sensory indexes are to be measured as defined in the description. Therefore, the expression does not introduce subject-matter extending beyond the content of the application as filed.

2.2 Dependent claims 2 to 17 correspond to originally filed claims 2 to 17.

2.3 The description has been amended only by way of minor editorial amendments.

2.4 Therefore, the amendments do not give rise to objections under Article 123(2) EPC.

3. *Sufficiency of disclosure (Article 83 EPC)*

3.1 The teaching of the claimed invention consists in a particular selection of materials for the topsheet, absorbent core and breathable backsheet, having, respectively, liquid retention, caliper and vapour permeability as well as liquid permeability within specified ranges, and joining said elements so that the absorbent article thus obtained has a dryness index and a sensory index within specified ranges.

Hence, the claimed invention teaches the skilled person to make a particular selection of materials and to join them so that the defined parameters fall within specified ranges.

3.2 With respect to the topsheet, claim 1 states that it must have a liquid retention of less than 0.22 g. The topsheet liquid retention test is described on pages 18 to 21 of the originally filed application. Hence, the skilled person could reproduce the liquid retention

test and measure the liquid retention for any given, available topsheets. Examples 4 and 5 on page 21, referring to topsheet samples commonly used in hygienic articles, have liquid retention values below 0.22 g, i.e. within the range defined in claim 1.

- 3.3 How to measure the caliper of an absorbent core is described on page 38 of the originally filed application and the vapour permeability test is sufficiently described on pages 33 to 34. Certainly the skilled person would find no difficulty in providing absorbent cores having a caliper of less than 12 mm, as defined in claim 1. The skilled person could then perform the vapour permeability test on different absorbent cores and verify whether the vapour permeability is of at least $200\text{g}/\text{m}^2/24\text{hrs}$.

Examples 1 to 4 on pages 22 and 23 all have a caliper and a vapour permeability within the ranges defined in claim 1.

- 3.4 The liquid permeability test is sufficiently described on pages 23 to 27, and hence the skilled person would have no difficulty in verifying whether available backsheets have a liquid permeability falling within the range of less than 0.16 g for a 15 ml load defined in claim 1. Examples of suitable backsheets are given on pages 27 to 28 of the originally filed application (see the table on page 29, examples 2a to 4).

- 3.5 Once the topsheet, absorbent core and backsheet are joined, the skilled person has to verify whether the absorbent article thus obtained has a dryness index of greater than 0.5 and a sensory index of greater than 50. How to measure the dryness index and the sensory

index is sufficiently described in the original application. Indeed, these indexes are calculated with the following formulae (see page 12, last paragraph and page 13, line 17):

$$\text{Dryness index} = \text{Effective breathability} / (\text{Rewet test})$$
$$\text{Sensory index} = \text{Effective breathability} / (\text{Flexibility} * \text{Caliper}),$$

whereby

$$\text{Effective Breathability} = \text{Vapour Permeability} + 0.25 \times \text{Air Permeability}.$$

The test procedures for measuring vapour and air permeability, product wetness (rewet, see page 40, line 11), flexibility and caliper are sufficiently described on pages 33 to 39.

3.6 Examples of absorbent articles according to the invention as defined in claim 1 are given on pages 30 to 33 (examples 2b, 2c, 3b, 3c, 4a and 4b), see also page 41, lines 11-15. There are no doubts that such examples are susceptible of being reproduced, since the patent application gives sufficient details enabling the skilled person to identify and reproduce the elements used.

3.7 The Examining Division objected that "there is an undue burden of tests required in order to assess whether an article falls within or without the scope of the claim".

As explained above, the skilled person would have no

difficulties in providing an absorbent article according to the examples given on pages 30 to 33 and in carrying out the tests for measuring the various parameters referred to in claim 1, thereby verifying whether the article falls within the scope of the claim.

- 3.8 Moreover, the Board is satisfied that the fact that various tests have to be carried out does not constitute an undue burden even with respect to the reproducibility of embodiments of the invention that are different from the exemplified specific embodiments given in the patent application as filed.

Indeed, if the skilled person, having selected a particular topsheet which is not one according to the examples given in the original application, carries out the liquid retention test for that topsheet and obtains a value which is not within the range claimed of less than 0.22 g for a 2.0 g load, the skilled person would as a next step select another topsheet having a greater liquid permeability, whereby the skilled person would use the common general knowledge in the art in making such selection towards a topsheet which is, generally speaking, more liquid permeable.

Analogous considerations apply for the selection of a particular absorbent core having a caliper and a vapour permeability outside the claimed ranges of, respectively, less than 12 mm and at least 200g/m²/24hrs, and for the selection of a particular backsheet having a liquid permeability of less than 0.16 g for a 15 ml load. Indeed, also for these elements the person skilled in the art would have used the common general knowledge available to steer the

selection towards success, for example by selecting an absorbent core which is, generally, more vapour permeable, and by selecting a backsheet which is, generally, less liquid permeable.

Once suitable topsheet, absorbent core and backsheet have been selected and joined, the skilled person would need to carry out the additional tests for calculating the dryness index and the sensory index, in order to establish whether a disposable article according to the invention has been obtained. If this is not the case, i.e. if the dryness index is less than 0.5 and the sensory index is less than 50, the skilled person would have to readjust the selection of topsheet, absorbent core and backsheet to obtain higher values for those indexes. In such a case, the skilled person would redirect the selection of these elements so as to increase the vapour and/or air permeability and/or to decrease the product wetness, flexibility and/or caliper of the absorbent article. Also in that respect, the skilled person would make use of general knowledge to guide him in the choice of elements that provide e.g. greater vapour permeability when combined together. Moreover, as instructed by the present patent application (see page 15), the skilled person would also consider modifying the joining technique, if he considers that the joining technique used affected the breathability too much.

Hence, it can be expected that the teaching of the patent application together with a reasonable amount of trial and error and the application of common general knowledge would lead a skilled person directly towards success through the evaluation of initial failures.

3.9 Therefore, the Board is satisfied that the application discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

4. *Clarity (Article 84 EPC)*

4.1 The Examining Division has objected that, "according to the Guidelines C-III, 4.7a, characterisation of a product mainly by its parameters should only be allowed in those cases where the invention cannot be adequately defined in any other way. Cases in which unusual parameters are employed are objectionable on grounds of lack of clarity, as no meaningful comparison with the prior art can be made."

As explained above, the skilled person would have no difficulties in carrying out the tests and in evaluating the parameters of a known absorbent article, thereby establishing whether the known absorbent article falls within the terms of the claim. Hence, the skilled person would be in a position to make a meaningful comparison with the prior art.

Moreover, it is quite usual for absorbent articles to be defined by parameters (see T 48/95, unpublished, point 2.5 of the decision). Indeed such products can often be adequately defined only in such way. In this respect the Guidelines C-III 4.7a merely state that "characterisation of a product mainly by its parameters should only be allowed in those cases where the invention cannot be adequately defined in any other way, provided that those parameters can be clearly and reliably determined either by indications in the description or by objective procedures which are usual

in the art (see T 94/82, OJ EPO 1984, 75)". As explained above (point 3 of this decision), sufficient detail as to the exact meaning of these parameters is evident from the description.

4.2 Therefore, the requirement that the claims shall be clear referred to in Article 84 EPC is met.

5. *Novelty*

5.1 According to the established case law of the Boards of Appeal, any prior-art disclosure is novelty-destroying if the subject-matter claimed can be inferred directly and unequivocally from that disclosure, including features which for the skilled person are implicit in what is explicitly disclosed.

5.2 Document D1 discloses (see claim 1; see page 2, line 5) a disposable absorbent article comprising a liquid pervious topsheet, an absorbent core and a breathable backsheet (see claim 1).

D1 only specifies materials for the backsheet (see e.g. page 3, lines 50-54 and page 5, lines 52-59).

No specific indication is given of the material for the topsheet. D1 discloses merely (page 4, lines 27-29) that any of the materials known in the art may be used. This means that the skilled person is left completely free to select any known topsheets. Therefore, document D1 cannot be regarded as a direct and unequivocal disclosure of a topsheet having a liquid retention of less than 0.22 g for a 2.0 g load. Moreover, topsheets with values of liquid retention above 0.22 g are available, such as a topsheet according to example 3 on

page 21 of the originally filed application.

Furthermore, D1 is silent about the specific characteristics of the absorbent core to be used.

5.3 Also document D3, filed on the same day and by the same applicant as D1, and being of similar content, is silent about the specific materials used for the topsheet and absorbent core.

5.4 Document D2 discloses (col. 5, line 57 to col. 6, line 7) a disposable absorbent article comprising a liquid pervious topsheet, an absorbent core and a breathable backsheet.

D2 discloses that topsheets of the kind known from e.g. US-A-3 929 135 or US-A-4 342 314 (see col. 10, lines 20-25) and backsheets of the kind known from e.g. US-A-4 591 523 (see D2, col. 11, line 45) may be used. Such topsheets and backsheets may also be used in the absorbent article according to the present invention, see page 7, 1st paragraph and page 8, last line of the originally filed patent application.

However, the fact that both D2 and the present patent application acknowledge that the materials known from another patent specification may be used, does not necessarily imply that the topsheet or the backsheet made of such materials will also meet the requirements for the liquid retention and liquid permeability defined in claim 1 of the present patent application. Firstly, a patent specification does normally not disclose one, single material, but a class of materials, and not necessarily all the materials from that class will meet the above requirements. Moreover,

other parameters of the materials used have an influence on the liquid retention and liquid permeability, namely thickness and number of layers, diameters of apertures, etc., which parameters are not specified in D2.

Furthermore, caliper and vapour permeability of the absorbent core cannot be inferred from D2.

- 5.5 Document D4 relates to an absorbent article similar to that of D2, and discloses that topsheets of the kind known from e.g. US-A-3 929 135 or US-A-4 342 314 (see page 6, lines 40-48) and backsheets made of Goretex or Sympatex, or XMP-1001 (see page 7, lines 8, 9) may be used. These same kinds of topsheets and backsheets may also be used in the absorbent article according to the present invention, see page 8, lines 6-13 of the originally filed patent application.

However, for the same reasons given above under point 5.4 of this decision, the disclosure of D4 that such materials may be used does not necessarily imply that the topsheet or the backsheet made of such material will also meet the requirements for the liquid retention and liquid permeability defined in claim 1 of the present patent application.

Furthermore, caliper and vapour permeability of the absorbent core cannot be inferred from D4.

- 5.6 When making out a reasoned case that the known absorbent structures meet the criteria of claim 1, the Examining Division relied on the probability and likeliness that the parameters of the absorbent articles known from D1 to D4, if measured, would fall

within the claimed ranges (see point 2.4 of the Decision under appeal).

The Board cannot follow this line of argumentation, because the criteria for assessing novelty is not based on likeliness, but on identity of technical information between the content of the prior art disclosure and the subject-matter claimed.

- 5.7 The Examining Division (see point 2.4 of the Decision under appeal) has also argued that the applicant failed in providing comparative tests showing that the absorbent structures disclosed in documents D1 to D4 would not meet the criteria of claim 1.

Since documents D1 to D4 leave the skilled person free to select different topsheets, absorbent cores, and backsheets, a comparative test could only be carried out if a previous selection is made for each single element. Such a comparative test would therefore be carried out on an object which is itself novel. Hence, it could not serve the purpose of comparing the claimed invention with the prior art.

- 5.8 Moreover, the other documents cited in the search report do not disclose the combination of features of claim 1.

Indeed, D5 (US-A-4 341 216) relates to a disposable diaper with a relatively liquid impervious backsheet (see claim 1 and col. 3, line 66 to col. 4, line 2). D6 (US-A-4 713 068; see col. 8, lines 26-47) and D7 (US-A-4 758 239; see col. 7, lines 13-15 and col. 8, lines 4-29) disclose breathable backsheets, but do not specify any parameters for the topsheet and absorbent

core. D8 (EP-A-0 171 041; see claim 1) discloses a breathable backsheet comprising a spunbonded polymeric web and a meltblown polymeric web which does not completely stop fluid transfer (see page 4, lines 4-8 and 19-27). With respect to D9 (WO-A-93/16669), the only passage thereof relating to a breathable backsheet is to be found on page 24, lines 10-12.

5.9 Therefore, the subject-matter of claim 1 must be considered novel.

6. *Inventive step*

6.1 The closest prior art is represented by document D2 (see page 3, last paragraph of the originally filed patent application), which discloses (col. 5, line 57 to col. 6, line 7) a disposable absorbent article comprising the following elements: a liquid pervious topsheet, an absorbent core and a breathable backsheet, said absorbent core having a caliper of less than 12 mm (col. 4, lines 51-55) and being positioned intermediate said topsheet and said backsheet, said topsheet, core and backsheet each comprising at least one layer (see claim 1).

6.2 Starting from this closest prior art, the problem underlying the subject-matter of claim 1 is to provide an absorbent article having improved absorbent comfort which maintains an acceptable level of protection (see page 4, lines 17-19, of the originally filed patent application).

6.3 This problem is solved by an absorbent article of the above kind, wherein said topsheet has a liquid retention of less than 0.22 g for a 2.0 g load in the

topsheet liquid retention test, wherein said core has a vapour permeability of at least 200g/m²/24hrs, as defined in the vapour permeability test and, wherein said breathable backsheet has a liquid permeability of less than 0.16 g for a 15 ml load as defined in the liquid permeability test, and wherein said elements are joined such that said absorbent article has a dryness index of greater than 0.5 and a sensory index of greater than 50.

- 6.4 None of the other documents D1, D3 and D4 referred to in the decision under appeal, disclose specific parameters for the liquid retention of the backsheet, vapour permeability of the absorbent core and liquid permeability of the backsheet.

D1 and D3 merely refer to wet-through tests that give an indication of whether wet-through occurs at a defined load (both D1 and D3: see page 5, lines 20-35) and of the lowest load at which wet-through occurs (D1 and D3: see page 5, lines 44-48).

- 6.5 With respect to inventive step, the Examining Division has argued (point 2.6 of the decision under appeal) that, since the components used in D1 and D4 are very similar to those used in the absorbent article according to the present invention and documents D1 to D4 also aim at providing a breathable article with good flexibility and reduced leakage, the "different parameters are therefore also very likely to be achieved".

This reasoning does not differ from that used for supporting the alleged lack of novelty, and indeed it does not explain why the skilled person would

necessarily arrive at the subject-matter of claim 1 in an obvious manner, rather it assumes that the skilled person would "probably" arrive at the subject-matter of claim 1 when putting into practice the teaching of one of D1 to D4. As explained above, such reasoning is not suitable for depriving the subject-matter of claim 1 of an inventive activity.

- 6.6 Since documents D1 to D4, as well as the remaining available prior art, do not suggest the solution claimed to the above mentioned problem, the subject-matter of claim 1 involves an inventive step.

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 grant a patent on the basis of the following documents:

Claims: 1 as filed with letter dated 31 May 2001;
2 to 17 as filed with letter dated 28 May 2001.

Description: pages 1, 3-6, 8-42 as filed with letter dated 28 May 2001;
pages 2, 7 as filed with letter dated 14 March 2000.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau