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D E C I S I O N
of 5 May 2000

Case Number: T 0550/99 - 3.2.6

Application Number: 94202428.2

Publication Number: 0698384

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:
Disposable absorbent article with self adapting body facing surface topography

Applicant:
THE PROCTER & GAMBLE COMPANY

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 123(2)

Keyword:
"Amendments - added subject-matter (no)"
"Novelty and inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0550/99 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 5 May 2000

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

Representative: Hirsch, Uwe Thomas
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 29 March 1999 refusing European patent application No. 94 202 428.2 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: P. Alting van Geusau
Members: H. Meinders
J.-C. Saisset

Summary of Facts and Submissions

I. European patent application 94 202 428.2 published under No. 0 698 384 was refused by the Examining Division by decision dated 29 March 1999.

II. The Examining Division considered that the subject-matter of claim 1 filed with letter dated 28 August 1998 presented neither novelty nor inventive step over the prior art disclosed in:

D1: DE-A-3 517 192.

III. The Examining Division argued that the disposable absorbent article as disclosed therein had a bubble which was filled to 100% with gas. In use, at a certain load, this gas bubble could burst through a barrier with a predetermined breaking point, thus opening up further space for the gas bubble. The resulting larger bubble would then have an inflation up to no more than 90%, as claimed. The Division further considered that the experience with such an article having an improved comfort after bursting of the bubble would directly lead the skilled person to further developing the article towards an initial inflation of the gas bubble with less than 100%, so that the improved comfort would be present right from the beginning.

IV. On 28 April 1999 the Appellant (applicant) lodged an appeal against this decision, paid the prescribed appeal fee and filed a statement of grounds of appeal, all on the same day.

V. In a communication pursuant to Article 12 of the Rules of Procedure of the Boards of Appeal the Board

expressed the preliminary opinion that the set of claims, amended to overcome objections regarding Articles 123(2) and 84 EPC, with a description adapted accordingly, could form the basis for grant of a patent.

VI. By letter of 26 January 2000 the applicant filed an amended set of claims and amended pages 2 and 3 of the description. Further amendments resulted from a telephone call on 17 April 2000 with the Rapporteur of the Board.

VII. The Appellant requested cancellation of the decision under appeal and grant on the basis of the following documents:

Claims:
1 to 9 as filed with letter of 26 January 2000, with amendments agreed by telephone on 17 April 2000.

Description:
page 1 as originally filed, with amendments agreed by telephone on 17 April 2000,
pages 4, 7 to 10 as originally filed,
pages 5 and 6 filed with letter of 6 November 1998,
pages 2 and 3 filed with letter of 26 January 2000,
with amendments agreed by telephone on 17 April 2000.

Drawing:
Figure 1 as originally filed.

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

The teaching of D1 concerns a completely filled gas

bubble, required for providing stability of the napkin. The invention concerns something different, namely the raising of the absorbent structure together with the topsheet towards the discharge area, to allow topographical adaptation to the wearer's exterior genital region. Adaptation of the napkin of D1 towards a lower than 100% gas filling of the bubble for better comfort would be at odds with the necessity of structural stability as advocated by D1.

VIII. Claim 1 reads as follows:

"Disposable absorbent article for wearing adjacent a body discharge area, said article having a body facing surface, a garment facing surface and an absorbent core between said body facing surface and said garment facing surface and further having a longitudinal axis and a lateral axis, said article comprising a yielding gas bubble or a number of yielding gas bubbles which function in combination, said article being characterised in that the gas bubble(s) is (are) filled on manufacture exclusively with gas up to no more than 90% of the maximum volume of the (each) gas bubble and has (have) a (combined) shape which has an orientation which is symmetrical to the longitudinal axis but asymmetrical to the lateral axis of the article so as to raise said body facing surface towards the discharge area for adaptation of said body facing surface to the topography of the wearer in that area."

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments (Article 123(2) EPC)*

With respect to claim 1 as filed originally, the following features have been added (their support in the original application documents is indicated in brackets):

- "gas bubble filled on manufacture exclusively with gas up to no more than 90% of the maximum volume" (page 3, lines 38 to 42; page 4, lines 35 to 45).

- "or a number of gas bubbles functioning in combination and having a combined shape" (page 4, lines 20 to 28).

- "article having a longitudinal and a lateral axis" (page 2, lines 39 and 40).

- "(combined) shape with an orientation which is symmetrical to the longitudinal axis but asymmetrical to the lateral axis" (page 4, lines 20 to 28).

- "so as to raise the body facing surface towards the discharge area for adaptation of said surface to the topography of the wearer in that area" (page 2, lines 24 to 28).

The amendments in the description concern the adaptation thereof to the amended claims.

As there is a basis for the amendments in the application documents as originally filed, the requirements of Article 123(2) EPC are fulfilled.

3. *Novelty*

3.1 D1 (DE-A-3 517 192), considered by the Examining Division to be relevant in respect of novelty, does not disclose an air bubble or a group of air bubbles which has been filled **on manufacture** up to at most 90% of the maximum volume of the bubble(s), asymmetrical to the lateral axis.

3.1.1 According to a first embodiment of D1 the gas bubble(s) are filled on manufacture with air so that it (they) yield(s) **elastically** on pressure but when the pressure is no longer applied it (they) restore(s) the article to its original form.

There is no explicit mention of an filling up to no more than 90%. There is neither an implicit disclosure of such a filling degree because if the bubble(s) was (were) not filled up to its (their) maximum volume it (they) would not be capable of elastically restoring the article to its original form after the pressure thereon had been relieved. Furthermore, the mention of **elastic** yielding implies a filling at or over 100%, otherwise there would not have been a need to mention the elasticity of the bubble(s) specifically.

3.1.2 According to a second embodiment of D1 a number of active air filled bubbles are provided ("Aktivbereiche der Luftpolster"), which can be connected to reserve bubbles, the connection consisting of a barrier with a predetermined breaking point. The active bubbles are inflated ("aufgeblasen") on manufacture with air. The reserve bubbles are not filled with air on manufacture or are only filled up to a limited pressure.

With respect to the active bubbles there is no explicit disclosure of a filling up to at most 90%. There is also no implicit disclosure of this lower degree of inflation in view of the indication that these bubbles are pumped up ("aufgeblasen") and that the further compression of this air by localized pressure on the bubble(s) results in the barrier breaking, the compressed air finding its way into the reserve bubble(s). If the filling of the active bubbles would have been less than 100% the bubbles would have been described as yielding first under increasing pressure until the barrier had broken at a local pressure exceeding the predetermined breaking pressure of the barrier.

The argument developed by the Examining Division, that after the rupture of the barrier between the active bubble and the reserve bubble it could be assumed there would be a filling with air of these combined bubbles equal to or less than 90%, no longer holds as the claim now specifies that the filling should be up to that degree **on manufacture**.

With respect to the embodiment in which the reserve bubbles are only partly filled with air ("nur mit geringem Druck beaufschlagten Luftschlauch") it appears that the filling degree is below 90%. However, these reserve bubbles do not have a combined shape which is asymmetrical to the lateral axis of the article, nor are they under such circumstances capable of raising the body facing surface towards the discharge area for adaptation of said surface to the topography of the wearer in that area.

3.2 D2 (GB-A-1 575 363), cited in the European Search

Report, concerns a disposable absorbent article with yielding gas bubbles between the garment facing surface and the body facing surface. These bubbles are however filled with compressed air and provide a natural resilience, according to the description of D2. This is neither an explicit nor an implicit disclosure of a filling degree up to no more than 90%.

3.3 D3 (EP-A-0 359 391), the last document cited in the European Search Report, also concerns a disposable absorbent article with air filled bubbles between the garment facing surface and the body facing surface. These are however plastically heat formed in a first film and are closed off by a second film. Thus it is not guaranteed that they can yield. Further, there is a 100% filling of these bubbles with air. Furthermore, there is no disclosure of the combined shape of these bubbles being asymmetrical to the lateral axis.

3.4 Therefore none of the documents revealed during the search discloses all the features of claim 1. Thus its subject-matter is novel (Article 54 EPC).

4. *Inventive step*

4.1 Closest prior art is represented by the embodiment of D1, in which yielding gas bubbles are provided as reserve bubbles for active bubbles which can unload overpressure into the reserve bubbles. The subject-matter of claim 1 differs therefrom in that the bubble(s):

- is (are) filled on manufacture up to no more than 90% of the maximum volume of the (each) gas bubble and

- has (have) a (combined) shape which has an orientation which is symmetrical to the longitudinal axis but asymmetrical to the lateral axis of the article so as to raise said body facing surface towards the discharge area for adaptation of said body facing surface to the topography of the wearer in that area.

4.2 These features solve the problem of increasing comfort for the wearer of the absorbent article. Thus the Board is satisfied that the invention as claimed in claim 1 solves this problem.

4.3 The state of the art, revealed by the search, does not provide the claimed solution for this problem nor does it render it obvious. The reserve bubbles in D1 have the function of providing security against bursting of the active bubbles, such that structural stability is maintained. There is no reason for the skilled person to provide these reserve bubbles in an asymmetric form with respect to the lateral axis, let alone to use these bubbles for raising the body facing surface towards the discharge area.

D2 and D3 employ gas bubbles which are spread over the entire surface of the absorbent pad; there is no indication whatsoever to provide them symmetrically to the longitudinal axis and asymmetrically to the lateral axis of the article. D2 further discloses the teaching to inflate the bubble(s) at least completely ("compressed air"), D3 traps the ambient air between the formed plastics film and a second sheet, which amounts to a 100% inflation as well. The teachings of both documents thus go against the solution chosen for the present invention.

4.4 The Examining Division has used as a basis for its objection of lack of inventive step the other embodiment of D1, where the active bubbles (which are filled up to or over 100% with air) burst into empty reserve bubbles, thus resulting in a filling degree less than 100%. It assumed that the filling of the active bubble together with the reserve bubble would then be less than 90%. After such bursting the wearer would then experience an increased comfort, which would lead to developing the article further, such that the gas bubble(s) used would have a filling degree of 90% or less. The provision of the reserve bubbles with a filling degree less than 100% was seen as an indication that the provision of fully filled gas bubbles was not considered a comfortable one.

4.5 There is no disclosure in this embodiment's description in D1, nor in the rest of that document, of a reduced filling degree up to 90% of the active and the reserve bubbles together, after bursting of the barrier between them, nor of the reasons related to comfort which the Examining Division brings forward for the reduced filling of the reserve bubbles. There is no indication in D1 of what will be experienced when wearing the napkin disclosed therein in the situation where the active bubbles actually burst. D1 is not at all concerned with improving comfort; the aim of the invention disclosed therein is to improve stability of the napkin, even under increased pressure during use. Thus not only does D1 not provide the information to arrive at the claimed solution, it neither discloses indications nor hints for choosing the claimed solution.

In assessing inventive step an interpretation of prior

art documents with a knowledge of the solution provided for the problem by the invention under examination must be avoided, particularly when the problem has no previous mention or suggestion in the prior art. Such an interpretation characterises an ex-post-facto approach.

4.6 For the above reasons the Board considers that the solution provided by the invention as claimed in claim 1 does not follow in an obvious manner from the prior art as revealed during the search and thus involves an inventive step (Article 56 EPC).

5. The subject-matter of dependent claims 2 to 9, being for preferred embodiments of the article claimed in claim 1, also fulfil the requirements of novelty and 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 to 9 as filed with letter of 26 January 2000, with amendments agreed by telephone on 17 April 2000.

Description:

page 1 as originally filed, with amendments agreed by telephone on 17 April 2000,
pages 4, 7 to 10 as originally filed,
pages 5 and 6 filed with letter of 6 November 1998,
pages 2 and 3 filed with letter of 26 January 2000,
with amendments agreed by telephone on 17 April 2000.

Drawing:
Figure 1 as originally filed.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau