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**Datasheet for the decision
of 3 August 2006**

Case Number: T 0278/05 - 3.2.06

Application Number: 95905082.4

Publication Number: 0737054

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:

A layered absorbent structure, an absorbent article comprising the structure, and a method for the manufacture thereof

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Paul Hartmann AG

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step - no"

Decisions cited:

-

Catchword:

-



Case Number: T 0278/05 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 3 August 2006

Appellant: THE PROCTER & GAMBLE COMPANY
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Respondent: Paul Hartmann AG
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 28 December 2004
revoking European patent No. 0737054 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. Kadner
W. Sekretaruk

Summary of Facts and Submissions

I. The mention of grant of European patent No. 747 054 with 31 claims in respect of European patent application No. 95905082.4 filed on 19 December 1994 as an international application was published on 13 March 2002.

II. Notice of opposition was filed against this patent requesting revocation based on the grounds of Article 100(a) EPC.

By decision posted on 28 December 2004, the Opposition Division revoked the patent on the grounds that the subject-matter of claim 1 according to the main, first and second auxiliary request was not novel and that of claim 1 according to the third and fourth auxiliary requests did not involve an inventive step when compared with the disclosure of the prior art documents:

E1: WO-A-94/01 069

E2: DE-A-22 22 780

E6: DE-U-88 15 855

III. Notice of appeal was filed against this decision by the Appellant (Patentee) on 25 February 2005 together with payment of the appeal fee. The statement setting out the grounds of appeal was filed on 6 May 2005 wherein the Appellant pursued its main request together with the second and fourth auxiliary requests as new first and second auxiliary requests.

IV. Further prior art documents were filed by the Respondent (Opponent) in order to highlight the fact that amounts of hydrogelling absorbent materials in absorbent articles had been used in quantities much higher than 220 g/m² as now claimed, namely:

E7: WO-A-91/11 165

E8: US-A-5 149 335

E9: US-A-4 935 022

E10: EP-B-0 202 125

V. In a communication pursuant to Article 11(1) of the Rules of Procedure of the Boards of Appeal dated 24 May 2006 accompanying the summons to oral proceedings, the Board expressed its preliminary opinion that the subject-matter of claim 1 of the main request did not appear to be novel when compared with the disclosure of E2, and the subject-matter of claim 1 of the first auxiliary request, even if novel, at least appeared to lack inventive step as did also that of claim 1 of the second auxiliary request.

VI. Oral proceedings were held on 3 August 2006.

The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the second auxiliary request filed on 6 May 2005.

The Respondent requested that the appeal be dismissed.

Independent claim 1 reads as follows:

"A layered, absorbent structure, characterized in that it comprises, in combination, first and second layers (1, 2) of fibrous material and an intermediate layer (5) comprising a hydrogelling, absorbent material (6), in an amount exceeding 220 g/m², distributed between the first and second fibrous layers (1, 2), at least one of the first and second layers (1, 2) being permeable to liquids, and the intermediate layer (5) also comprising a thermoplastic material (7) in the form of particles, the intermediate layer (5) bonding the first and second fibrous layers (1, 2) together, with the intermediate layer (5) between them, by forming discrete, spaced-apart bond spots."

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

The subject-matter of claim 1 was novel when compared with the disclosure of the closest prior art according to E2 because, in contrast to the absorbent structure claimed, there was no indication of the basis weight of the superabsorbent material.

Furthermore, the subject-matter of claim 1 involved an inventive step since two main features were lacking in E2. The conical heaps comprising the mixture of hydrogelling, absorbent material and thermoplastic material would lead the skilled person away from the idea that, with such a shape, a high basis weight of superabsorbent material could be disposed in the structure disclosed in E2 since the surface of the first layer was only partly covered by the heaps. No

hint or suggestion could be derived from those known embodiments to increase the amount of hydrogelling, absorbent material.

Also when considering the description of the prior art in E4 (EP-B-0 033 235, page 4, lines 23 to 27) relating to E2, the skilled person would clearly recognize that the construction of E2 was not suitable for the application of a higher basis weight of superabsorbent material.

E2 also failed to disclose the feature that the first and second layers of fibrous material were bonded together, with the intermediate layer between them, in the manner as claimed, by forming discrete, spaced-apart bond spots. Figure 4 of E2 did not disclose a second fibrous layer at all, and from the embodiments of Figures 5 and 6 it could not be derived that the second layer was bonded to the first layer. The idle roll 21 was only suitable for deviating the upper layer onto the first layer but did not exert a pressure on it which would be necessary in order to bond the fibrous layers together. Although the mixture of hydrogelling, absorbent material and thermoplastic material was melted by the heating device 15, it could already have cooled down when coming into contact with the upper layer.

At the priority date of the patent, the skilled person would not have considered a combination of E2 with younger documents disclosing higher amounts of superabsorbent material, and therefore was not led to the claimed invention in an obvious manner.

VIII. The Respondent's arguments can be summarised as follows:

Document E2 clearly indicated that the first and second fibrous layers were bonded together by the molten thermoplastic hydrogelling, absorbent material. The problem underlying that prior art was comparable with that underlying the patent in suit, namely to improve the absorption characteristic of an absorbent structure while simultaneously maintaining a good structural integrity. When the second layer 20, 22 (Figure 5) was fed onto the layer 23 containing the still melted thermoplastic powder ("aufgeschmolzen", page 10, last but one line) a multilayer laminate was produced (page 14, 3rd paragraph), which would imply that the fibrous layers together with the hydrogelling absorbent material were combined to form a bonded structure.

The other feature, relating to hydrogelling, absorbent material in an amount exceeding 220 g/m^2 , was clearly obvious from the prior art according to E6 to E10 which disclosed high basis weight amounts of superabsorbent material. When making an absorbent structure, the skilled person would estimate the amount of superabsorbent necessary to absorb the expected quantity of fluid, and then would select the suitable quantity. The amount of 220 g/m^2 was not very high when compared with normal baby's diapers. For example, an absorbent structure having a dimension of 10 cm by 30 cm and containing 10 g of superabsorbent material, resulting in an amount of 300 g/m^2 , would already exceed the value defined in claim 1.

Thus the absorbent structure according to claim 1 did not involve an inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments (Article 100(c) and 123(2) EPC)*

Current claim 1 corresponds to claim 1 of the fourth auxiliary request in opposition proceedings. The amendments made to this claim have no longer been objected to by the Respondent and the Board fully adopts the reasons given by the Opposition Division for its formal acceptability.

3. *Novelty (Article 54(1) EPC)*

Novelty of the subject-matter of claim 1 was not in dispute. The Board also concludes that none of the prior art documents discloses the combination of features of claim 1.

4. *Inventive step (Article 56 EPC)*
 - 4.1 E2 is considered to represent the closest prior art, since this document also discloses a layered absorbent structure in which hydrogelling absorbent material is sandwiched between two layers of fibrous material.
 - 4.2 In particular, E2 discloses a layered, absorbent structure comprising, in combination, first 1 and second 20 layers of fibrous material and an intermediate layer 23 comprising a hydrogelling absorbent material 4, distributed between the first and

second fibrous layers. The first layer 1 is permeable to liquids (wood pulp, tissue) and the intermediate layer 23 comprises a thermoplastic hydrogelling material 5 in the form of particles (page 11, last paragraph).

It is further explained in relation to Figures 5 and 6 that a multilayered laminate is produced. Because of the particulate form of the hydrogelling material after the heating step, the resulting bonds between the particles and tissue layers are necessarily in the form of discrete spaced-apart bond spots.

- 4.3 The Appellant argued that the skilled person would not immediately draw the conclusion from E2 that the tissue layer 20 was bonded to the particulate material because nothing was said about the pressure exerted by roll 21 when applying the tissue 20 to the particulate material, which, because of the distance between the heater and roll 21 was not necessarily still in a molten state.

However, in particular pages 10 and 14 in combination with Figure 5 explain clearly that the product made by the method of E2 also has a structure similar to that as claimed. Figures 5 and 6 show an apparatus comprising a heating device 15 for melting the thermoplastic powder, an idle roll 21 for guiding the upper layer onto the base, and a cooling device 16 positioned downstream of where the tissue 20 is applied. The general description related to Figure 6 indicates that the thermoplastic powder is still melted when the cover sheet is placed thereon (page 10, last paragraph). According to page 14, 3rd paragraph, the apparatus is for producing a multilayered laminate

(mehrschichtiges Laminat). The technical meaning of a "Laminat" in the German language is that at least two layers are bonded together substantially over their whole area.

Furthermore in Figures 1 and 2 of E2, it is recognizable that discrete, spaced-apart bond spots are formed with the first tissue layer upon heating of the thermoplastic gelling material, and nothing speaks against the same kind of bonds when applying the second 20 fibrous layers on the molten heaps of the thermoplastic material. Consequently this feature contested by the Appellant, is unambiguously derivable from E2.

- 4.4 It is true that E2 does not disclose that the hydrogelling absorbent material 4 is present in an amount exceeding 220 g/m^2 , since the quantity of superabsorbent material is not mentioned.

However, in this respect the Board follows the Respondent's argument according to which, at the priority date of the patent in suit, many efforts had been made to increase the amount of superabsorbent material in absorbent structures. Since the quantity of superabsorbent material is not defined in E2, the skilled person, in order to achieve a desired absorption capacity, would have looked to the available prior art to find a solution to the problem. The conversion of the values of Example 2 and Example 4 in E8 (column 20 and 21) results in quantities of 689 g/m^2 and 646 g/m^2 of high absorbency material, which is about three times the quantity claimed as being a minimum in the patent in suit. For that reason the selection of

hydrogelling absorbent material in an amount exceeding 220 g/m² does not involve an inventive step.

Therefore, since the subject-matter of claim 1 does not meet the requirement of Article 56 EPC, it cannot be allowed. As a consequence the Appellant's request is to be rejected.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau