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D E C I S I O N
of 19 April 2002

Case Number: T 0177/00 - 3.2.6

Application Number: 91903049.4

Publication Number: 0512010

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:
Absorbents containing stiffened fibers and superabsorbent materials

Patentee:
THE PROCTER & GAMBLE COMPANY

Former Opponent:
Paul Hartmann AG

Headword:
-

Relevant legal provisions:
EPC Art. 52(1), 54(1), 56, 102(2)
EPC R. 29(3)

Keyword:
"Novelty - yes"
"Inventive step - yes"

Decisions cited:
-

Catchword:
-

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Case Number: T 0177/00 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 19 April 2002

Appellant: (Proprietor of the patent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 6 December 1999 revoking European patent No. 0 512 010 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. C. Kadner
M. B. Tardo-Dino

Summary of Facts and Submissions

I. The mention of the grant of European patent No. 0 512 010 in respect of European patent application No. 91 903 049.4 filed on 14 January 1991 was published on 17 September 1997.

Claim 1 reads as follows:

"An absorbent structure (106) for acquisition, distribution and storage of bodily fluids, said structure comprising:

i) a fluid acquisition/distribution layer (110) having an average dry density of less than 0.30 g/cc, and an average dry basis weight of from 0.001 to 0.10 g/cm^2;

comprising from 50% to 100%, dry weight basis, chemically stiffened cellulosic fibres;

and from 0% to 50%, dry weight basis, of a binding means;

is having no more than 6% by weight of superabsorbent material; and

ii) a fluid storage layer (108), positioned beneath said acquisition/distribution layer comprising at least 15%, by weight of said storage layer (108), of superabsorbent material and from 0% to 85% of a carrier means for said superabsorbent material;

characterised in that

said fluid acquisition/distribution layer (110)

- has an average density upon saturation with 1.0% NaCl aqueous solution, on dry weight basis of less than 0.20 g/cc,

- and has a top surface area which is from 15% to 95% of the top surface area of said fluid storage layer (108)."

II. Notice of opposition was filed on 10 June 1998 on the grounds of Article 100(a) EPC.

III. By decision posted on 6 December 1996 the Opposition Division revoked European patent No. 0 512 010 based on the grounds of Articles 56, 52(1) EPC with respect to the disclosure of documents:

(D1): EP-A-0 343 941

(D2): EP-A-0 251 675

(D3): GB-A-2 215 609.

The Opposition Division was of the opinion that the subject-matter of claim 1 was obvious by a combination of the teachings of D1 with D2 or of D3 with D1.

IV. On 18 January 2000 the Appellant (Patentee) lodged a notice of appeal against the decision, paid the appeal fee on 19 January 2000 und filed the statement of grounds of appeal on 6 April 2000.

V. On 21 December 2000 the opposition was withdrawn.

VI. In a communication dated 6 December 2001 the Board pointed out that in view of the arguments presented by

the Appellant the subject-matter claimed did not appear obvious when considering the combination of documents D1 with D2. However, during oral proceedings the combination of the teachings of D3 and D1 would have to be considered further to establish whether the subject-matter claimed was based on an inventive step.

VII. Oral proceedings were held on 19 April 2002.

The Appellant requested that the decision under appeal be set aside and that the patent be maintained in its granted form.

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

The liquid-handling layer of the absorbent article disclosed in D1 worked in similar way when compared with the fluid acquisition/distribution layer as claimed. However, according to the solution of D1 it comprised a synthetic foam or a batt of synthetic fibres. Cellulosic fibres were expressis verbis not suitable for use in a fluid handling layer because they were non-resilient when wetted. Therefore no indication was given to draw other fibres into consideration than such synthetic fibres , and the skilled person was prevented from combining D1 with D2 which proposed the application of cellulose fibres in absorbent structures.

The combination of D3 with D1 was also non-obvious because the general teachings of D3 referred to a fluid acquisition/distribution layer of a larger size than the fluid storage layer. Even when considering the particular application in adult incontinence articles

where the upper layer has approximately the same top surface area as the lower layer, the surface area of the storage layer is at maximum 0.95 times the top surface area of the upper fluid acquisition/distribution layer, whereas contrary to that relation according to claim 1 of the patent in suit the top surface area of the upper distribution layer is at maximum 0.95 times the surface area of the lower storage layer. Since the upper layer disclosed in D3 was in any case larger than the lower storage layer, and additionally comprised 3% to 15% by weight of superabsorbent, it worked not only as a fluid acquisition/distribution layer but also as a first storage layer. In contrast to the combination of features of the invention the general teachings of D3 took a different direction, in which the skilled person was not led to consider a combination with D1.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty*

Novelty was not contested, neither in the opposition proceedings nor in appeal. The Board is satisfied that none of the cited documents discloses an absorbent structure comprising the combination of all features of claim 1 (Article 54(1) EPC).

3. *Inventive step*

3.1 The closest prior art is represented by D3 which document discloses an absorbent structure for

acquisition, distribution and storage of bodily fluids, said structure comprising

a fluid acquisition/distribution layer 103 having an average dry density of less than 0.05 to 0.25 g/cc, an average dry basis weight of from 0.01 to 0.10 g/cm^2 , comprising chemically stiffened cellulosic fibres and having 3% to 15%, preferably 5% to 8% by weight of superabsorbent material; and

a fluid storage layer 104, positioned beneath said acquisition/distribution layer the surface area of which is 0.25 to.095 times the top area of the upper fluid acquisition/distribution layer comprising a higher concentration of superabsorbent material than the upper layer and stiffened, twisted, curled cellulose fibers.

3.2 Starting from such an absorbent article the objects of the invention are to provide superabsorbent-containing absorbent structures which can circumvent the problem of gel-blocking and wet collapse, can utilize an increased proportion of their absorbent capacity, can acquire fluid rapidly in the region of discharge and transport the fluid over a relatively large proportion of the absorbent structure storage area, and are capable of effectively acquiring and distributing discharged bodily fluid from second or other successive voiding thereby having a relatively thin design (see patent specification page 3, lines 12 to 19).

These technical problems are solved by an absorbent structure with the combination of features of claim 1.

3.3 The features of the absorbent structure disclosed in D3

are not exactly those of the preamble of claim 1. They define ranges of dry density and dry basis weight of the fibre batt, content of cellulosic fibres and of superabsorbent particles which are partially overlapping those of claim 1. The first characterising feature of claim 1 is an additional condition relating to stiffness and defined stability of the fibres depending on the selection of those parameters which is neither defined nor hinted at in D3. However , it is apparent that the average density upon saturation is responsible for the properties of acquisition and distribution of bodily fluids.

3.4 The fluid acquisition and distribution properties of the upper layer are also interconnected with the relation of surface sizes when the fluid storage layer works together with this upper layer. This combination of features working together cannot be derived from D3 because this document does not disclose an average density upon saturation with 1.0% NaCl aqueous solution nor that the upper layer is smaller than the storage layer. Therefore the teaching of D3 does not give any indication leading towards the combination of the features in claim 1.

3.5 With regard to the problem of discharge of subsequent voidings of bodily fluids the skilled person might take D1 into consideration because that document deals with a similar problem (column 15, lines 58 to 62). The surface area of the liquid handling layer 50 of that known absorbent article can be sustantially smaller than the surface area of the storage layer 48 (column 18, lines 55 to 60). However, according to D1 the solution is achieved with polymeric or synthetic foam, or a batt of synthetic fibres (claim 1,

column 25, lines 40 to 44). Cellulose fibres are described as not being useful in the application as liquid handling layer for reason of their non-resiliency when wetted (column 16, lines 25 to 30). In view of that disadvantage of cellulose fibres the skilled person starting from D3 would not consider combining it with the teachings of D1, and even if he did, he would replace the cellulosic fibres of D3 with the more suitable synthetic fibres of D1. Since the teachings of D1 lead in a different direction, no indication is given of the subject-matter of claim 1 by a combination of the teachings of D1 with those of D3. In any case, there is no reason to select distinct single features out of their specific operational combination and to combine them in a new manner with a different result.

3.6 Document D2 deals with the production of cross-linked cellulosic fibres and their advantageous application in absorbent structures. However, the disclosure of D2 does not come closer to the subject-matter claimed than that of D3, and therefore also cannot lead to the combination of features of the absorbent structure according to claim 1 without inventive activity.

3.7 The further documents cited in opposition proceedings were not raised again in the appeal. Since they also do not come closer to the subject-matter of claim 1 than the documents discussed above, they do not lead towards the solution of the patent in suit.

4. 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 13 relating to a particular embodiment of the invention in accordance with Rule 29(3) EPC, can be maintained (Articles 52(1), 102 (2) 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 its granted form.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau