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D E C I S I O N
of 11 May 2000

Case Number: T 0275/97 - 3.2.6

Application Number: 89305224.1

Publication Number: 0343941

IPC: A61F 13/46

Language of the proceedings: EN

Title of invention:

Absorbent articles with multiple layer absorbent cores

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Mölnlycke AB

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0275/97 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 11 May 2000

Appellant: Mölnlycke AB
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Respondent: The Procter & Gamble Company
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 9 January 1997
rejecting the opposition filed against European
patent No. 0 343 941 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: T. Kriner
J. C. M. De Preter

Summary of Facts and Submissions

- I. The appellant (opponent) lodged an appeal, received at the EPO on 10 March 1997, against the decision of the Opposition Division, dispatched on 9 January 1997, on the rejection of the opposition against European patent No. 0 343 941. The appeal fee was paid simultaneously and the statement setting out the grounds of appeal was received at the EPO on 9 April 1997.
- II. Opposition was filed against the patent as a whole and based on Article 100(a) together with Articles 52(1) and 56 EPC.

The Opposition Division held that the grounds for opposition cited in these Articles did not prejudice the maintenance of the patent unamended.

- III. From the documents considered by the Opposition Division, the following documents played a role during the appeal proceedings:

D1: EP-A-0 228 353

D3: GB-A-2 124 907.

Additionally,

D4: EP-A-0 202 125

was introduced into the appeal proceedings, a document which was filed by the appellant with letter dated 3 March 2000.

IV. Oral proceedings took place on 11 May 2000.

The appellant requested that the decision under appeal be set aside and the patent revoked.

The respondent (patent proprietor) requested that the appeal be dismissed and the patent be maintained as granted (main request) or in amended form on the basis of one of the auxiliary requests 1 to 4 filed with facsimile on 11 April 2000.

VI. Claim 1 of the main request reads as follows:

"A multiple layer absorbent core (42, 542, 642, 742, 842, 942) suitable for use in an absorbent article and incorporating a receiving layer (48) that in use is disposed adjacent the body of the user, said receiving layer (48, 648) comprising hydrophilic fibrous material, optionally admixed with discrete particles of absorbent gelling material, said receiving layer (48, 648) having a holding zone (58), and an acquisition zone (56, 656, 956) having a lower average density, and preferably a lower average basis weight per unit area, than said holding zone (58), said holding zone (58) at least partially laterally surrounding the perimeter of said acquisition zone (56, 656, 956) so as to be in liquid communication with at least a lateral portion of said acquisition zone (56, 656, 956); characterised in that said absorbent core comprises a first layer formed by said receiving layer (48) and containing from 0% to 8% by weight of absorbent gelling material, a liquid handling layer (50, 550) positioned subjacent at least said acquisition zone (56, 656, 956) of said first layer (48, 648), said liquid handling layer comprising a resilient material having gush handling capacity to

receive quantities of body exudates, said liquid handling layer (50, 550) being moisture insensitive and having a percentage void volume greater than 80%, preferably greater than 90%; and a storage layer (52, 552, 752) positioned subjacent said liquid handling layer (50), said storage layer (52, 552, 752) comprising a combination of hydrophilic fibrous material and discrete particles of absorbent gelling material".

Claim 1 of the first auxiliary request additionally comprises features describing that the liquid handling layer is in liquid communication with the holding zone and the storage layer.

Claim 1 of the second auxiliary request refers to a disposable absorbent article comprising a liquid pervious topsheet, a liquid impervious backsheet joined with said topsheet and an absorbent core positioned between said backsheet and said topsheet, wherein the core is a core as defined in claim 1 according to the first auxiliary request.

Claim 1 of the third auxiliary request and claim 1 of the fourth auxiliary request refer to the article described in claim 1 of the second auxiliary request, wherein the storage layer comprises absorbent gelling material in a certain amount (third auxiliary request: at least 9%; fourth auxiliary request: 10 to 60%).

VII. In support of its requests the appellant relied essentially on the following submissions.

The most relevant state of the art was shown in D1. The subject-matter of claim 1 of the main request differed

from the disclosure of this document only by the features according to which

- (a) the receiving layer contained from 0% to 8% by weight of absorbent gelling material, and
- (b) the liquid handling layer had a percentage void volume greater than 80%.

These features which were completely independent of each other, did not involve a synergistic effect and served to achieve two different objects.

With respect to feature (a), D1 suggested the use of a high content of absorbent gelling material in the receiving layer (7) to achieve a sealing effect by gel-blocking in order to avoid rewetting. Since absorbent gelling materials were expensive, it was desirable to avoid rewetting by other means than gel-blocking.

Therefore, the object underlying feature (a) when starting from D1 could be regarded as to provide an absorbent core which was especially effective and efficient in its use of absorbent gelling material as described in column 2, lines 42 to 52 of the patent in suit.

The object of the high void volume described in feature (b) was to provide a liquid handling layer having enough gush handling capacity so that it was suitable to acquire and transport rapidly voided body liquids as described in column 16, lines 43 to 58 of the contested patent.

Since D4 suggested to use from 0% to 8% by weight of

absorbent gelling material in an upper fluid acquisition layer of an absorbent core to provide an absorbent article which was especially effective and efficient in its use of hydrogel absorbent materials, the selection of the amount of absorbent gelling material according to feature (a) in the receiving layer of the absorbent core according to D1 was obvious for the skilled person.

Furthermore, since D3 suggested a liquid handling layer having a percentage void volume greater than 80% to achieve a rapid catchment of a gush of urine, it was also obvious for the skilled person to provide a liquid handling layer having feature (b) in the absorbent core according to D1.

Therefore, the subject-matter of claim 1 of the main request did not involve an inventive step.

VIII. The respondent disputed the appellant's views. His arguments can be summarized as follows:

D1 and the patent in suit referred to completely different absorbent cores which had different purposes and worked in different ways.

D1 disclosed a bag for collecting and absorbing liquid. The absorbent core of this bag only comprised the liquid handling layer (8) and the storage layer (6). The upper layer (7) was merely provided as a sealing. For this purpose the upper layer contained so much absorbent gelling material that the entrance of fluid through the liquid permeable topsheet (3) of the bag resulted in swelling of the layer so that any unevenness and folds were filled out.

The patent in suit referred to an absorbent core as it was primarily used for diapers. Here, the upper layer (48) formed part of the absorbent core and cooperated with the other layers to store liquids and to avoid rewetting.

The core according to the contested patent was based on the single object, to absorb rapidly subsequently deposited gushes of liquid and to avoid rewetting of the user's skin.

This object was achieved by an interaction of the receiving layer and the liquid handling layer, in particular by the high permeability of the liquid handling layer which allowed a rapid transportation of fluid from and to the receiving layer, and by the ability of the receiving layer to acquire and transport several gushes of liquid as well as to store liquid flowing back from the handling layer without any blocking effect.

Since this interaction was not suggested by the state of the art and required a complete reconstruction of the absorbent article of D1, the subject-matter of the patent in suit was based on an inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 The most relevant state of the art is shown in D1. This document discloses

a multiple layer absorbent core suitable for use in an absorbent article and incorporating a receiving layer (formed by absorption body 7 and recess 11) that in use is disposed adjacent the body of the user, said receiving layer comprising hydrophilic fibrous material, optionally admixed with discrete particles of absorbent gelling material (see column 3, lines 57 to 64), said receiving layer having a holding zone (7), and an acquisition zone (11) having a lower average density, and preferably a lower average basis weight per unit area, than said holding zone, said holding zone at least partially laterally surrounding the perimeter of said acquisition zone so as to be in liquid communication with at least a lateral portion of said acquisition zone, wherein said absorbent core comprises a first layer formed by said receiving layer and containing absorbent gelling material, a liquid handling layer (8) positioned subjacent at least said acquisition zone (11) of said first layer, said liquid handling layer comprising a resilient material having gush handling capacity to receive quantities of body exudates, said liquid handling layer being moisture insensitive (see column 3, lines 53 to 57); and a storage layer (6) positioned subjacent said liquid handling layer (8), said storage layer comprising a combination of hydrophilic fibrous material and discrete particles of absorbent gelling material (see column 3, lines 57 to 64 and column 5, lines 52 to 55).

2.2 The subject-matter of claim 1 undisputedly differs from that which is described in D1 by the following features:

- (a) the receiving layer contains from 0% to 8% by weight of absorbent gelling material,

(b) the liquid handling layer has a percentage void volume greater than 80%, preferably greater than 90%.

2.3 The purpose of the receiving layer of the patent in suit is to acquire and distribute subsequent gushes of fluid and to prevent liquids absorbed within the liquid handling layer from rewetting the skin of the wearer (see column 10, lines 41 to 45 and column 2, lines 37 to 41). To achieve this purpose, the contested patent proposes amongst others a receiving layer being free of absorbent gelling material or having only a low content of this material (feature (a)), so that gel-blocking is avoided (see column 1, line 57 to column 2, line 25) and liquid coming in from the surface may be repeatedly acquired and distributed to the other layers and liquid from the liquid handling layer may repeatedly be absorbed to avoid rewetting of the skin of the user.

The purpose of the liquid handling layer of the patent in suit is to rapidly receive practical quantities of liquid and transport liquid to the other layers. This is achieved by the high percentage void volume according to feature (b) (see column 16, lines 42 to 57 and column 18, lines 6 to 11).

2.4 Therefore, starting from the state of the art according to D1 and in view of features (a) and (b), the object of the patent in suit has to be regarded as to provide an absorbent core which allows a rapid acquisition and distribution of liquids so that subsequently deposited liquids may be absorbed and rewetting of the users skin is avoided (see column 1, lines 21 to 31, and column 2, lines 37 to 41 of the patent in suit).

- 2.5 The appellant's argumentation that features (a) and (b) were independent of each other and served to achieve different objects cannot be accepted by the Board.

It is true that the direct purposes of these features are different, in particular to avoid gel-blocking (feature (a)) and to provide a high gush handling capacity (feature (b)). However, both features, together with the remaining features of claim 1, contribute to achieve the common, more important object to rapidly absorb subsequently deposited liquids and to avoid rewetting.

In order to achieve this object, it is necessary that all layers of the claimed absorbent core are adapted to each other.

With regard to the avoidance of rewetting, this requires amongst others that the liquid handling layer is able to rapidly receive liquid from the storage layer and to transport it to the receiving layer, and that the receiving layer is able to receive and store at least a portion of this liquid. Therefore, features (a) and (b) are codependent and cannot be regarded as independent of each other.

- 2.6 In view of the considerations above, the remaining question to be answered is whether or not it was obvious for the skilled person to provide features (a) and (b) in an absorbent article according to D1 to achieve the object mentioned under point 2.4.

It is undisputed that each of features (a) and (b) is separately known from the state of the art.

D3 describes a liquid handling layer (1) having a

percentage void volume greater than 80% (see page 1, left hand column, lines 39 to 41), and D4 discloses a receiving layer (103) containing from 0% to 8% by weight of absorbent gelling material (see page 5, lines 8 to 11).

However, D3 as well as D4 refer to an absorbent core having only two layers.

The absorbent core according to D3 comprises a liquid handling layer (1) and a storage layer (2). The purpose of the high percentage void volume is to offer low resistance to urine penetration so that it is possible to achieve a rapid catchment of urine and an even distribution over a large surface of the storage layer (see page 1, lefthand column, lines 15 to 22).

The absorbent core according to D4 comprises a receiving layer (103) and a storage layer (104). The purpose of the low content of absorbent gelling material in the receiving layer is to provide an absorbent article which is especially effective and efficient in its use of absorbent gelling material without interfering with the acquisition of fluid by the receiving layer and the distribution of fluid to the storage layer.

Therefore, neither D3 nor D4 can be said to suggest an interaction of a receiving layer with a liquid handling layer in order to achieve the object mentioned above.

Furthermore, even if the skilled person considered the separate teachings of D3 and D4, he would not use the suggestion of D4 in the receiving layer according to D1.

With respect to the amount of absorbent gelling material contained in the receiving layer, D1 teaches to select such a large quantity of absorbent gelling material that gel-blocking occurs in the receiving layer when liquid is absorbed, in order to provide a self-sealing action (see column 5, lines 52 to 64). Since the sealing effect is essential for the functioning of the absorbent core according to D1 and since a reduction of the high amount of absorbent gelling material would annul this effect, the skilled person would not follow a suggestion to reduce the amount of absorbent gelling material, because it is in contradiction to the teaching of D1.

- 2.7 The appellant's argument that the skilled person would substitute the receiving layer according to D1 by a receiving layer described in D4 to avoid rewetting by means other than gel-blocking, because absorbent gelling material was relatively expensive, is not convincing.

The Board agrees that it is desirable to reduce the amount of absorbent gelling material in an absorbent core, because of its relative high price. However, the skilled person would only substitute the receiving layer according to D1, if the general mode of its operation is not affected by the substitution.

In the present case he would only use the teaching of D4, if the receiving layer having a low content of absorbent gelling material was still able to avoid rewetting. However, D4 is silent about the avoidance of rewetting and only teaches to use a small amount of absorbent gelling material to reduce the costs of an absorbent core.

Therefore, D4 cannot be said to suggest to reduce the content of absorbent gelling material in the receiving layer according to D1 to avoid rewetting by other means than gel-blocking.

2.8 Such suggestions are also not derivable from the further available documents which were no longer relied upon by the appellant and which do not come closer than the prior art discussed here above.

2.9 With respect to the assessments above, the Board comes to the conclusion that the subject-matter of claim 1 according to the main request cannot be derived in an obvious manner from the available prior art and accordingly involves an inventive step (Article 56 EPC). Claim 1 together with claims 2 to 11 according to the patent specification which include all features of claim 1 and the description and drawings of the patent specification, therefore can be maintained unamended.

3. *Auxiliary requests*

As the respondent's main request is allowable, there is no need to consider the auxiliary requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau