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D E C I S I O N
of 12 September 2001

Case Number: T 0499/99 - 3.2.6

Application Number: 93901243.1

Publication Number: 0617603

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:

Disposable absorbent article having core spacers

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Paul Hartmann Aktiengesellschaft

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0499/99 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 12 September 2001

Appellant: Paul Hartmann Aktiengesellschaft
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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 March 1999
rejecting the opposition filed against European
patent No. 0 617 603 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. Pricolo
M. J. Vogel

Summary of Facts and Submissions

- I. The mention of the grant of European patent No. 0 617 603 in respect of European patent application No. 93901243.1 filed on 15 December 1992 was published on 28 August 1996.
- II. Notice of opposition was filed against the patent as a whole by the appellant (opponent), based on Article 100(a) EPC in conjunction with Articles 52(1) and 56 EPC. The appellant relied on the prior art disclosed in
- D1: US-A-5 037 416;
- D2: FR-A-2 561 078.
- III. By decision posted on 9 March 1999 the Opposition Division rejected the opposition. The Opposition Division held that, since neither document D1 nor document D2 disclosed that the core comprised an upper layer joined to the topsheet and the means for maintaining a void space provided a Z-direction clearance between said upper layer and said lower layer, these documents could not suggest to the person skilled in the art a disposable article with all the features of claim 1 as granted.
- IV. The appellant lodged an appeal, received at the EPO on 3 May 1999, against this decision. The appeal fee was paid simultaneously with the filing of the appeal. The statement setting out the grounds of appeal was received at the EPO on 7 July 1999.

V. Oral proceedings took place on 12 September 2001.

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

The respondent (patentee) requested that the appeal be dismissed and that the patent be maintained as granted.

VI. Claim 1 as granted reads as follows:

"A disposable absorbent article (20) having a front waist margin (32), a rear waist margin (34), a longitudinal centerline and a Z-direction orthogonal thereto, said disposable absorbent article comprising: a liquid impervious backsheet (24); a liquid pervious topsheet (22) at least partially peripherally joined to said backsheet to form a void space (52) intermediate said topsheet and said backsheet for receiving fecal material, said topsheet having an aperture (46) for communicating fecal material to the void space; and an absorbent core (26) intermediate said topsheet and said backsheet; characterized in that a spacing means (54, 56) is provided for maintaining the void space when the disposable absorbent article is loaded by the weight of a wearer, without interrupting the transport of fecal material away from said aperture (46) and towards said rear waist margin (34), said core comprises an upper layer (26U) joined to said topsheet (22) and a lower layer (26L) joined to said backsheet (24), and said means (54,56) for maintaining said void space provides a Z-direction clearance between said upper layer and said lower layer".

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

It was clear from the description that the function of the upper layer of the core joined to the topsheet was to shield the wearer from the impression and applied pressures of the spacers, i.e. to provide a cushioning effect, and to provide a transverse stability to maintain the anal opening registered with the aperture in the topsheet, rather than to provide some absorbency. Indeed, the patent in suit even disclosed that the upper layer could, advantageously, be omitted from the rear portion of the absorbent article and from the front portion as well. Having this in mind, the technical problem was not so general as the problem stated in the patent, and was to be seen in providing a disposable absorbent article which always communicated fecal material to a void space and isolated it therein, also when the wearer was sitting, without diminishing the comfort. The skilled person, starting from the prior art known from D1 and seeking to solve this problem, would have considered the teaching of document D2. The fact that D2 related to a reusable diaper, rather than to a disposable diaper as D1, would not have prevented the skilled person from considering the teaching of D2, because D1 and D2 were still in the same technical field and both prior art diapers were based on the same concept of avoiding permanent contact of the skin with urine and fecal material. Since D2 taught the use of spacing means that ensured that the void space did not collapse even if the weight of the wearer was applied to the diaper, the skilled person would have inevitably provided such spacing means in the diaper of D1, between the absorbent core and the topsheet, in order to solve the above mentioned

problem. In doing this, the skilled person would have noted that the teaching of D2 was not limited to an air chamber as spacing means, but that other means could have been used, insofar as they were suitable as spacing means. Furthermore, D1 disclosed a diaper having a particular topsheet consisting of laminates having different functions, and being made of different materials. The topsheet of D1 could comprise a urine pervious layer, a second elastic layer providing for snug fit, and a third layer. When dealing with the aspect of the above-mentioned problem related to the comfort, the skilled person would have readily noted that said third layer could have provided a cushioning function. Since D1 described that any material could be used for the third layer, which is the topsheet's layer facing the absorbent core, the skilled person would have inevitably used the same material of the absorbent core for said third layer, namely wood pulp, thus arriving at an object falling within the scope of claim 1.

Even if one did not accept the latter argument that the skilled person would have inevitably used wood pulp for said third layer, it certainly did not require an inventive step to do so, since the selection of a core material for said third layer did not provide any particular advantages over the selection of another known material. On the contrary, in view of the disclosure in the patent that an absorbent upper layer could advantageously be omitted, the selection of an absorbent material for said third layer was even disadvantageous.

VIII. The respondent disputed the views of the appellant. Its arguments can be summarized as follows.

The core and the topsheet of the claimed article were distinct components that performed different functions: the topsheet let liquid through to reach the core and the core absorbed liquid. Claim 1 defined the presence of two core layers, each performing the absorbing function. In addition to the absorbing function, the upper layer of the core additionally provided a cushion against applied pressure of the spacers. In contrast thereto, document D1 disclosed a single absorbent core and a topsheet. Although the topsheet was made of plural layers, these had to be viewed as an entity forming a topsheet that let liquid through, since D1 did not suggest that either of these layers had to be suitable for absorbing. D2 related to a diaper that could be reused, comprising a plastic pants with a plastic bag at the bottom, the bag forming a reservoir for receiving both feces and urine, which was kept open by an inflatable chamber. Therefore, the diaper of D2 was radically different from the disposable diaper of D1, and the skilled person would not have taken D2 into consideration when confronted with the technical problem stated in the patent. But even considering the teaching of D2, the skilled person would not have arrived at the claimed solution, since the spacers of D2 consisted of an air chamber welded to a plastic backsheet, and in D1 the void space was not bounded by a plastic layer on which to weld on the spacers. Furthermore, no absorbent core was provided in the article according to D2, and therefore D2 could not suggest the provision of an upper core layer.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty*

Novelty of the subject-matter in accordance with claim 1 as granted follows from the fact that none of the cited documents discloses a disposable absorbent article with means for maintaining a void space that provides a Z-direction clearance between an upper and a lower layer of the absorbent core.

Novelty was in fact not disputed.

3. *Inventive step*

3.1 Document D1 discloses (see Figure 6) a disposable absorbent article according to the preamble of claim 1 of the granted patent, having a front waist margin (22'), a rear waist margin (24'), a longitudinal centerline and a Z-direction orthogonal thereto, said disposable absorbent article comprising: a liquid impervious backsheet (16'); a liquid pervious topsheet (12') at least partially peripherally joined to said backsheet to form a void space (28') intermediate said topsheet (12') and said backsheet (16') for receiving fecal material (see col. 12, lines 43-47), said topsheet having an aperture (21') for communicating fecal material to the void space (col. 12, lines 18-25); and an absorbent core (18') intermediate said topsheet (12') and said backsheet (16').

3.2 The Board cannot follow the Appellant's view that a skilled reader, considering the embodiment disclosed by D1 of an absorbent article having a topsheet consisting of three layers, would inevitably use a topsheet with a layer of absorbent material facing the absorbent core.

D1 discloses a topsheet consisting of a laminate comprising a first lamina 13a (see Fig. 3) and a second lamina 13b (see col. 9, lines 19-21). According to the disclosure of D1, the first lamina 13a is elastically extensible and preferably elastomeric and more preferably an elastomeric adhesive (col. 9, lines 21-26), whilst the second lamina 13b may be any material commonly used in the art as a topsheet (col. 9, lines 42-44). An additional second lamina (not shown in Fig. 3) joined in face-to-face relationship with the first lamina 13a may additionally be used (D1, col. 11, lines 58-61). In such a configuration, the second lamina 13b faces the wearer (see col. 9, lines 21-24) and the additional second lamina faces the absorbent core 18. D1 further discloses (col. 11, line 65 - col. 12, line 4) that the outboard laminae may be of similar or different materials. If the outboard laminae are of similar materials, then both the second lamina 13b and the additional second lamina are made of a material commonly used in the art as a topsheet, i.e. of a material that readily allows liquid to penetrate therethrough (see D1, col. 6, lines 16-26), and the additional second lamina does not, therefore, constitute an absorbent core layer. If the outboard laminae are of different materials, it can only be inferred from the disclosure of D1 that the second lamina 13b is made of a material commonly used in the art as a topsheet and the additional second lamina is made of another material. Since document D1 is silent with respect to which "other" material could be used, it does not directly and unambiguously disclose that the additional second lamina is made of an absorbent material.

3.3 Therefore, document D1 does not disclose the features

of the characterizing portion of claim 1, namely that a spacing means is provided for maintaining the void space when the disposable absorbent article is loaded by the weight of a wearer, without interrupting the transport of fecal material away from said aperture and towards said rear waist margin, said core comprises an upper layer joined to said topsheet and a lower layer joined to said backsheet, and said means for maintaining said void space provides a Z-direction clearance between said upper layer and said lower layer.

- 3.4 Starting from the closest prior art D1, the object underlying the patent in suit is to provide a disposable absorbent article which provides for easier cleaning of fecal material from the skin of the wearer, which not only communicates fecal material away from the wearer, but preferably isolates the fecal material in a void space (col. 3, lines 8-14 of the granted patent).

This object is effectively achieved by means of the characterizing features of claim 1. Indeed, the spacing means allows to maintain the void space and thereby to isolate fecal material in the void space even when the disposable absorbent article is loaded by the weight of a wearer thus providing easier cleaning of the wearer (see granted patent col. 3, lines 5-7).

- 3.5 The Appellant argues that the skilled person would inevitably provide spacing means in the diaper of D1 in view of the teaching of document D2 to use spacing means that ensures that the void space does not collapse even if the weight of the wearer is applied to the diaper.

The object of document D2 is to provide an article in which there are no absorbent layers (see page 1, lines 3-17, in particular lines 15-17). Accordingly, D2 teaches to provide plastic pants (page 1, line 13: "slip" and lines 15-17) with an integral bag slung beneath the pants to receive urine and fecal matter (page 1, lines 21-23), comprising an inflatable air chamber 3 which forms a void space 2 intermediate the topsheet 10 and the backsheet 6 for receiving fecal material from the aperture 1 (page 1, lines 21 -29). Thus, the function of the inflatable air chamber 3 is to create a reservoir (void space 2) between backsheet 6 and topsheet 10 to receive urine and fecal matter (page 1, lines 27-29). In contrast thereto, in the absorbent article of document D1 this reservoir function is accomplished by the absorbent core 18' and void space 28' (see D1, Fig. 6). There is, therefore, no apparent reason for the skilled person to extract from the disclosure of D2 the features providing the reservoir function, in particular the inflatable air chamber, and include them in the absorbent article of D1 *in addition* to the already present reservoir, namely the absorbent core 18' and void space 28'. It is true that the inflatable air chamber disclosed by D2 also functions as a spacing means ensuring that the void space does not collapse even if the weight of the wearer is applied to the diaper. However, D2 is totally silent with respect to this additional function of the air chamber, and therefore, the recognition that the air chamber of document D2 may *additionally* provide the function of spacing means in the disposable absorbent article of document D1 goes beyond what the skilled person could arrive at in application of any of the teachings disclosed in the prior art. For this reason, the skilled person would not have combined the

absorbent article of D1 and the teaching of D2.

- 3.6 Moreover the Board shares the Opposition Division's view (see point 2.4 of the appealed decision) that, since neither document D1 nor document D2 discloses that the core comprises an upper layer joined to the topsheet and the means for maintaining a void space provided a Z-direction clearance between said upper layer and said lower layer, these documents could not suggest to the person skilled in the art a disposable article with all the features of claim 1 as granted. Indeed, in the article according to document D2 no absorbent core is provided and in the article according to document D1 the absorbent core is not separated into upper and lower layers.

As stated above in this decision (point 3.2), the Appellant's argument that the skilled reader would inevitably use a topsheet with a layer of absorbent material facing the absorbent core, thereby providing upper and lower absorbent layers, cannot be followed. In the Board's view, the skilled person would not even take into consideration the use of an absorbent material in the topsheet of D1, for the following reasons. Although consisting of three laminae, the skilled person would view the topsheet's laminate of D1 as an entity having the declared purpose of permitting liquid to readily penetrate therethrough (D1, col. 6, lines 16-18). Since it would lead to liquid being retained in the topsheet, the provision of an absorbent layer would be contrary to the declared purpose of the topsheet. Thus, in the absence of the disclosure of any specific advantages thereby obtainable, the skilled person would not be inclined to provide an absorbent layer in the topsheet of D1.

The Appellant also argued that the provision of an absorbent layer joined to the topsheet is an arbitrary selection from available materials which is, in fact, described as disadvantageous in the patent itself. The patent describes in col. 8 (lines 37-51) that the upper layer of the core may be omitted in the front portion of the disposable absorbent article, if the core has sufficient absorptive capacity; the upper layer should however be present in the rear portion to insulate the wearer from the impression and applied pressures of the spacers. In col. 14 (lines 41-57) of the patent it is described, in connection with the embodiment of Figure 4 which does not fall within the scope of the patent claims, that the omission of the upper layer of the core provides the advantage that urine is rapidly transmitted through the topsheet but provides the disadvantage that the spacers are placed more directly in contact with the buttocks of the wearer, increasing the likelihood of red marking. Therefore, it is only in the latter embodiment that the upper core is omitted completely: this provides an advantage, namely rapid transmission of urine, at the expense, however, of the wearer's comfort. Thus, it cannot be derived from the disclosure of the patent in suit that the upper layer of the core is, per se, disadvantageous. On the contrary, the patent conveys the information that the provision of an absorbent upper layer plays a significant technical role in that it effectively insulates the wearer from the impression and applied pressures of the spacers.

- 3.7 For the above reasons, the subject-matter of claim 1, and of dependent claims 2 to 17, involves an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau