

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

D E C I S I O N
of 21 February 2006

Case Number: T 0257/04 - 3.2.06

Application Number: 94927143.1

Publication Number: 0719122

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:

Absorption body

Patentee:

SCA Hygiene Products AB

Opponent:

Kinmberly-Clark Worldwide, Inc.

Headword:

-

Relevant legal provisions:

EPC Art. 54(2), 56

Keyword:

"Novelty - yes"

"Inventive step - no (main request)"

"Inventive step - yes (auxiliary request)"

Decisions cited:

-

Catchword:

-



Case Number: T 0257/04 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 21 February 2006

Appellant: KIMBERLY-CLARK WORLDWIDE, INC.
(Opponent) 401 North Lake Street
Neenah, WI 54956 (US)

Representative: Davies, Christopher Robert
Frank B. Dehn & Co.
European Patent Attorneys
179 Queen Victoria Street
London EC4V 4EL (GB)

Respondent: SCA Hygiene Products AB
(Proprietor of the patent) S-405 03 Göteborg (SE)

Representative: Anette Romare
Albihns Patentbyrå Göteborg AB
P.O. Box 142
S-401 22 Göteborg (SE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted on
26 November 2003 rejecting the opposition filed
against European patent No. 0719122 pursuant to
Article 102(2) EPC.

Composition of the Board:

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

Summary of Facts and Submissions

- I. The appeal is from the decision of the Opposition Division posted on 26 November 2003 to reject the opposition filed against European patent No. 0 719 122, granted in respect of European patent application No. 94 927 143.1.

Claim 1 of the patent as granted reads as follows:

"1. An absorption body (10) suitable for use in sanitary napkins (16) or similar, said body comprising at least one layer of an absorbent material and presenting a plurality of longitudinally extending embossed channels (12), characterized in that said body (10) has a thickness of between 0.5 and 1.2 mm, and in that said at least one layer of absorbent material is latex- or thermally-bonded airlaid paper which provides the absorption body (10) with a basis weight of between about 80 and 240 g/m²."

- II. In coming to its decision the Opposition Division considered that the patent in suit disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art and that the claimed subject-matter was novel and involved an inventive step over the relevant prior art represented by documents:

D1: US-A-3 881 490;

D2: EP-A-0 523 683.

III. The appellant (opponent) lodged an appeal against this decision, received at the EPO on 5 February 2004, and simultaneously paid the appeal fee. With the statement setting out the grounds of appeal, received at the EPO on 2 April 2004, the appellant filed the additional document

D3: EP-A-0 106 473.

IV. In an annex to the summons for oral proceedings pursuant to Article 11(1) Rules of Procedure of the boards of appeal the Board expressed the preliminary opinion that it would appear that the subject-matter of claim 1 was novel and that inventive step had to be discussed.

V. Oral proceedings took place on 21 February 2006.

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 (main request) or that the patent be maintained on the basis of the auxiliary request filed during the oral proceedings.

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

"1. An absorption body (10) suitable for use in sanitary napkins (16) or similar, said body comprising at least one layer of an absorbent material and presenting a plurality of longitudinally extending embossed channels (12), wherein said body (10) has a thickness of between 0.5 and 1.2 mm, and in that said

at least one layer of absorbent material is latex- or thermally-bonded airlaid paper which provides the absorption body (10) with a basis weight of between about 80 and 240 g/m² and wherein each of said embossed channels (12) has a base width of between about 0.7 and 2.0 mm and wherein said channels (12) are uniformly spaced across substantially the entire width of the absorption body (10) and are separated by a distance of between about 2.5 and 3.5 mm."

VII. The arguments of the appellant can be summarized as follows:

D1 disclosed an absorption body comprising at least one layer of an absorbent material having a plurality of longitudinally extending embossed channels. D1 further disclosed that the layer of absorbent material was obtained by airlaying a batt of wood pulp fibres, spraying the batt with an aqueous-based latex adhesive, then heating and embossing the batt. These steps inevitably resulted in that at least some of the fibres were bonded to each other by latex adhesive. Hence, considering that the term "paper" used in claim 1 of the patent in suit covered any structure formed from papermaking fibres, such as wood pulp fibres, D1 disclosed a layer of absorbent material which was a latex-bonded airlaid paper. D1 further disclosed that the layer could have a thickness of about 1.6 mm and that the density in the uncompressed areas was in the range of 0.03 to 0.5 grams per cubic centimetre. This implied a basis weight of about 48 to 239 gsm for the 1.6 mm thick layer of absorbent material. The measurement of the thickness of a layer of wood pulp fibres depended substantially on the pressure applied.

Since the patent in suit did not specify any measurement conditions, in particular the pressure applied, it had to be taken in account of the fact that for any one particular layer different thickness values would be measured depending on the measurement conditions arbitrarily chosen. Thus, the range of thickness of 0.5 to 1.2 mm defined in claim implied in reality a much broader range, which encompassed a thickness of 1.6 mm as disclosed by D1. It followed that the subject-matter of claim 1 was not novel. Anyway, even if a thickness of the absorption body in the range of 0.5 to 1.2 mm were regarded as a distinguishing feature over D1, the subject-matter of claim 1 did not involve an inventive step. The distinguishing feature provided for a thinner absorption body and did not result in any further advantages or unexpected benefits. The skilled person would obviously realize that by reducing the thickness of the absorption body of D1 its absorption capacity would be reduced. However, if the absorption capacity was not of primary importance, e.g. in case of using the absorption body for absorbing light flow between periods, then the skilled person would regard it as obvious to provide an absorbent layer having a thickness less than that specifically disclosed in D1. In fact, it was an objective of D1 to provide a very thin absorption body. The skilled person would thus arrive at a thickness within the claimed range without exercising inventive activity.

The appellant refrained from giving detailed objections in respect of the respondent's auxiliary request.

VIII. In support of its request the respondent relied essentially on the following submissions:

Neither D1 nor the patent in suit specified a test procedure for determining the thickness of the absorbent body. However, since D1 belonged to the same technical field as the patent in suit, it was clear that in both cases conventional procedures for measuring the thickness of absorbent products were used. These conventional procedures provided directly comparable results and therefore D1 did not disclose a thickness for the absorbent body within the claimed range of 0.5 to 1.2 mm. Moreover, D1 explicitly stated that the latex adhesive did not provide any bonds between the fibres of the absorbent layer, but only served to bond the absorbent layer to a cover sheet, and that hydrogen bonds were the sole means for maintaining the integrity of the absorbent layer. Thus D1 did not disclose a latex-bonded paper. Furthermore, in contrast to D1 in which the adhesive was present only on the surface of the absorbent layer, claim 1 required that the latex adhesive penetrated into the layer. Accordingly, the claimed subject-matter was novel. It also involved an inventive step. The step of latex- or thermally-bonding the fibres allowed very thin absorbent layers to be obtained. This was particularly advantageous if the absorption body was laminated because in such case the individual layers of absorbent material could be thinner than if the body were made from a single layer, whereby greater lengths of material could be wound onto feed rolls during manufacture of the absorption body. This resulted in a reduction of the frequency with which the feed rolls had to be changed. Moreover, the skilled person would

not consider reducing the thickness of the absorbent layer of D1 as this would imply excessive additional costs due in particular to the provision of suitable means for supporting the airlaid batt.

Claim 1 according to the auxiliary request further specified the width of the channels and the distance between them, and that the channels were uniformly spaced across substantially the entire width of the absorption body. This combination of features was neither disclosed nor suggested by the available prior art. It allowed an improved distribution of discharged body fluid across a considerable area of the absorption body which minimized the risk of side leakage.

Reasons for the Decision

1. The appeal is admissible.
2. Main request - patent as granted
 - 2.1 D1 undisputedly discloses (see Figs. 1 and 3) an absorption body according to the preamble of claim 1, namely an absorption body suitable for use in sanitary napkins or similar (column 1, lines 4-8), which comprises at least one layer of an absorbent material (fibre batt of absorbent wood pulp fibres 17; see column 3, line 42) and presents at least three longitudinally extending embossed channels (14; column 3, lines 42-44). Moreover, D1 discloses that the material of the layer of absorbent material is airlaid paper. In fact, it is generally understood in the art that the term "paper" in its broad sense covers a thin

sheet of airlaid cellulose fibres as disclosed by D1 (see column 5, lines 14 to 16).

D1 further discloses that a latex-based adhesive (see column 5, lines 41 to 50) is sprayed onto the layer of absorbent material after the latter is airlaid. A cover sheet is then applied to the surface of the layer on which the adhesive is present and the thus formed laminate is heated to partially set the adhesive (column 5, lines 51 to 58), and then passed through a high pressure nip comprising a top embossing roll and a lower heated roll (column 5, lines 64 to 66), whereby the adhesive is further set (column 6, lines 5 to 7). It is true, as submitted by the respondent, that the only purpose of the latex adhesive in D1 is to attach the cover sheet to the absorbent layer (see also column 3, lines 56-58), and that D1 does not explicitly disclose that the latex adhesive is used for bonding the fibres to each other (see in particular column 5, lines 3 to 5 and claim 1). However, the application of latex adhesive by spraying and its subsequent setting by heating inevitably results in that at least some of the fibres of the layer are bonded to each other by the latex adhesive. In this respect it is noted that the term "latex-bonded" in claim 1 can only be broadly interpreted as requiring the presence of latex bonds between at least some of the fibres of the airlaid paper, not as implying any particular distribution (e.g. uniform) of the latex bonds. A more restricted meaning of this term as suggested by the respondent is not supported by corresponding statements in the description. Nor has the respondent filed any evidence in support of the allegation that the expression "latex-bonded airlaid paper" is generally understood in

the art as implying the presence of adhesive not only on the surface of but also into the absorbent layer. Accordingly, D1 discloses the feature of claim 1 that said at least one layer of absorbent material is a latex-bonded airlaid paper.

D1 further discloses (column 6, lines 10-13) that the density in the uncompressed areas is from 0.03 to 0.15 g/cm³. For the lowest thickness of 1.6 mm (1/16 inch) disclosed in D1 for the layer of absorbent material (column 5, line 28), this density range implies a basis weight of 48 to 239 g/m², which includes the claimed range for the basis weight of between 80 and 240 g/m².

- 2.2 During the oral proceedings, it was no longer disputed by the appellant that the thickness referred to in claim 1 of the patent in suit could only be the thickness of the absorbent body as a whole (i.e. in the uncompressed area) and not the thickness in the channel areas. D1 discloses that the thickness of the absorbent layer can be in the range of 1/16 to ¼ inch, i.e. about 1.6 to 6.35 mm. These values of thickness are directly comparable with the values of thickness of the patent in suit: since D1 belongs to the same technical field (manufacturing of absorbent bodies suitable for use in sanitary napkins or similar) as the patent in suit, it is clear that in both cases the same or similar measuring methods are used, whereby the thickness values of D1 are directly comparable to those of the patent in suit. Accordingly, D1 does not disclose an absorbent layer having a thickness within the claimed range of 0.5 to 1.2 mm.

In this respect it is added that, although the Board does not doubt the appellant's submission that there exist standard procedures for measuring the thickness of paper and cardboard in which relatively high pressures are applied to the material under consideration, the appellant has not submitted any evidence that if the thickness of an absorbent layer being 1.6 mm thick in accordance with D1 is measured with such standard procedures, then the result would inevitably be a thickness within the claimed range of 0.5 to 1.2 mm.

Therefore, the subject-matter of claim 1 is novel over D1.

2.3 Thus, the only feature distinguishing the subject-matter of claim 1 from the absorption body of D1 is that said body has a thickness of between 0.5 and 1.2 mm. This feature provides the technical effect over D1 that the absorption body is thinner. Thus, the objective technical problem solved by the absorption body of claim 1 is to provide a thinner absorption body.

2.4 Since the provision of a very thin absorbent body is one of the main objects of D1 (see column 1, line 5; see claim 1, line 1), the skilled person would obviously consider further reducing the thickness of the absorption body of D1 below the lower value of the specifically disclosed range of 1.6 to 6.35 mm. In doing this he would recognize that although the provision of a thinner absorption body implies a lower absorption capacity, the latter can be accepted depending on the intended use. If, for instance, the absorbent body is intended for use in a sanitary napkin

designed for absorbing light flow between periods (see e.g. D1, column 1, lines 7, 8), then its absorption capacity could be chosen to be relatively low and, as a consequence, its thickness could be chosen to be less than the value of 1.6 mm specifically disclosed in D1. In particular, the skilled person would consider choosing a value which is in the range of 0.5 to 1.2 mm recited in claim 1 of the patent in suit, thus arriving in an obvious manner at an absorption body falling within the scope of claim 1.

The respondent submitted that the skilled person would not consider reducing the thickness of the absorbent layer of D1 as this would imply excessive additional costs due to the difficulties that would be encountered in the manufacturing process. However, the respondent failed to explain why such additional costs would be prohibitive. In the Board's view, the mere fact that the provision of a reduced thickness for the layer would result in additional costs would not prevent the skilled person from putting this technical measure into practice. Nor did the respondent show that the skilled person would be prevented by reasons of technical, rather than economical, nature.

- 2.5 Therefore, the subject-matter of claim 1 does not involve an inventive step (Article 100(a), 52(1) and 56 EPC). For this reason the respondent's main request cannot be allowed.

3. *Auxiliary request*

- 3.1 Claim 1 according to the auxiliary request results from the combination of granted claims 1, 5 and 8 to 10. Claims 2 to 18 correspond to granted claims 2 to 4, 6, 7, and 11 to 22.

The description is amended to be in conformity with the new claims and to acknowledge D1, and the Figures are the same as the patent as granted.

Accordingly, the amendments do not give rise to objections under Article 123(2) and (3) EPC.

- 3.2 In addition to the features of claim 1 as granted discussed above (point 2.1), D1 discloses (using the wording of claim 1) that each of said embossed channels has a base width of 0.8 mm (see column 4, line 39; 0.8 mm falls within the range of 0.7 and 2.0 mm referred to in claim 1), and that said channels are uniformly spaced across substantially the entire width of the absorption body (see Fig. 1). According to the teaching of D1, the channels are separated by a distance of between $\frac{1}{4}$ to $\frac{3}{8}$ inch, i.e. about 6.35 to 9.5 mm.

Therefore, the subject-matter of claim 1 is distinguished from the absorption body of D1 in that the thickness of the body is between 0.5 and 1.2 mm and in that the channels are separated by a distance of between about 2.5 and 3.5 mm.

As acknowledged by the appellant, the available prior art, including the document D3 filed with the grounds of appeal, does not disclose channels separated by a distance of between about 2.5 and 3.5 mm.

Therefore, the subject-matter of claim 1 is found to be novel over the cited prior art (Article 52(1) and 54(2) EPC).

3.3 According to the patent in suit, the latter feature has the technical effect of minimizing the risk of side leakage (see column 3, lines 51 to 54 of the patent in suit) in thinner than conventional absorption bodies (column 4, lines 1 to 4). D1 discloses that an objective of the channels (line embossments; see column 4, lines 46 to 55) is to direct the migration of absorbent flow in the longitudinal direction and to keep the absorbed fluid away from the edges. Accordingly, the objective problems solved by the absorption body of claim 1 over D1 are to provide a thinner absorption body (see paragraph 2.3 above) and to minimize the risk of side leakage.

Neither D1 nor the remaining available prior art give any hint that the risk of side leakage may be minimized by an appropriate choice of the distance between adjacent channels. Therefore, the subject-matter of claim 1 involves an inventive step (Article 52(1) and 56 EPC).

3.4 It follows that claim 1, together with dependent claims 2 to 7, claims 8 to 16 directed to a method of manufacturing an absorption body having all the features of claim 1, claims 17 and 18 directed to a

sanitary napkin comprising an absorption body having all the features of claim 1, and the amended description and drawings according to the auxiliary request of the appellant therefore form a suitable basis for maintenance of the patent in amended form.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The main request is rejected.
3. The case is remitted to the first instance with the order to maintain a patent on the basis of the following documents:

Claims: 1 to 18 as filed during the oral proceedings held on 21 February 2006;

Description: columns 1 to 5 as filed during the oral proceedings held on 21 February 2006;

Figures: 1 to 3 as granted.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau