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D E C I S I O N
of 4 November 2003

Case Number: T 0940/00 - 3.2.6

Application Number: 93102167.9

Publication Number: 0564784

IPC: D04H 1/56

Language of the proceedings: EN

Title of invention:
Anisotropic nonwoven fibrous web

Patentee:
KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:
Reifenhäuser GmbH & co. Maschinenfabrik

Headword:
-

Relevant legal provisions:
EPC Art. 52(1), 54(1), 56, 84, 102(3)
$EPC R. 29(3)

Keyword:
"Admissibility of amendments - yes"
¨"Novelty and inventive step - yes"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0940/00 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 4 November 2003

Appellant: (Proprietor of the patent)	KIMBERLY-CLARK WORLDWIDE, INC. 401 North Lake Street Neenah Wisconsin 54959 (US)
Representative:	Grünecker, Kinkeldey Stockmair & Schwanhäusser Anwaltssozietät Maximilianstrass 58 D-80538 München (DE)
Respondent: (Opponent)	Reifenhäuser GmbH & Co. Maschinenfrabrik Spicher Strasse 46 - 48 D-53839 Troisdorf (DE)
Representative:	Masch, Karl Gerhard, Dr. Patntanwälte Andrejewski, Honke & Sozien Postfach 10 02 54 45002 Essen (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 5 July 2000 revoking European patent No. 0564784 pursuant to Article 102(1) EPC.**

Composition of the Board:

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

Summary of Facts and Submissions

I. The mention of the grant of European patent No. 564 784 in respect of European patent application No. 93102167.9 filed 11 February 1993 and claiming a US-priority from 7 April 1992 was published on 22 October 1997.

II. Notice of opposition was filed on 21 July 1998 by the Respondent (Opponent) on the grounds of Article 100(a) EPC (lack of inventive step).

III. By decision of the Opposition Division announced during the oral proceedings on 24 May 2000 and posted on 5 July 2000 the European patent No. 546 784 was revoked.

The Opposition Division was of the opinion that the subject-matter of claim 1 according to the main request was not novel within the meaning of Article 54 EPC and that the subject-matter according to the auxiliary request lacked an inventive step and therefore did not comply with the requirements of Article 56 EPC.

IV. On 15 September 2000 a notice of appeal was lodged against this decision by the Appellant (Patentee) together with payment of the appeal fee. The statement of grounds of appeal was filed on 15 November 2000.

V. In a communication dated 4 August 2003 the Board submitted its preliminary opinion that it did not see a reason to change the Opposition Division's decision not to take into account an alleged public prior use relied upon by the Appellant for lack of insufficient substantiation.

The reasons given in respect of the revocation of the patent did not appear to be erroneous.

As regards the auxiliary requests it would have to be discussed at the oral proceedings whether the subject-matter claimed was clearly defined and whether an inventive step was involved when compared with the teachings of D2.

VI. Oral proceedings were held on 4 November 2003. The following prior art documents, relied upon in the opposition proceedings, were discussed in detail:

D1: US-A-4 656 081

D2: US-A-4 663 220

D3: DE-A-40 14 989

D4: US-A-4 720 415

The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents:

– claims 1 to 19, filed during the oral proceedings;

– description page 2 to 15, filed during the oral proceedings;

– drawings, Figures 1 to 7, as granted.

The Respondent requested that the appeal be dismissed.

Claim 1 reads as follows:

"A process of making an anisotropic non-woven fibrous web containing a substantially homogenous arrangement of meltblown fibers generally aligned along one of the planar dimensions of the web, the process comprising the steps of:

providing a first stream of gas-borne meltblown fibers; and

deflecting the first stream of gas-borne meltblown fibers at an impingement point above the forming surface with a second stream of gas to an angle from about 15 to 60 degrees to the forming surface."

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

The process according to claim 1 (identical with granted claim 22) was novel because none of the prior art documents disclosed a deflection of the stream of gas-borne meltblown fibers between the die head and the forming surface.

Starting from D2 representing the closest prior art no indication was given which led the skilled person to the process steps of claim 1. Also considering the embodiment according to Figure 5 of D2 in which a second gas stream was applied, the description indicated clearly that no deflection of the first gas stream was intended (column 21, lines 34 to 43).

Since the prior art did not lead to the subject-matter of claim 1 in an obvious manner maintenance of the patent as amended was justified.

VIII. The submissions of the Respondent can be summarized as follows:

Regarding Figure 5 of D2 the skilled person would presume that at least some deflection of the first gas stream carrying the meltblown fibers was caused by the second gas stream. In view of the claimed range of angles of 15° to 60° between the direction of the resulting gas stream and the forming surface the deflection resulting from the second gas stream most certainly would fall within this range and therefore the process according to claim 1 lacked novelty.

The patent in suit (page 5, lines 28 to 30) covered also the possibility to add other fibers to the stream of meltblown fibers. Exactly the same step was carried out in the known process of D2 in the same manner. At least for that reason the process claimed was obvious when compared with the teachings of D2.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Independent claim 1 and dependent claims 2 to 6 are identical with independent claim 22 and dependent claims 23 to 27 as granted.

2.2 In the reformulated dependent claims 7 to 19 the product features as granted with dependent claims 2 to 14 were changed to process features and related to the process according to anyone of claims 1 to 6. Those features are disclosed in the originally filed claims 2 to 14 and these claims being granted as filed do not extend the protection conferred. Therefore the amended claims meet the requirements of Article 123(2) and (3) EPC.

2.3 The further amendments to the patent are necessary in order to adapt the description to the amended claims.

3. *Novelty*

3.1 D2 discloses a process of making a anisotropic nonwoven fibrous web containing meltblown fibers generally aligned along one of the planar dimensions of the web. Anisotropy of the web is derivable from Table IV (column 26) in which the initial load in machine direction at 150% length is 411 grams whereas the load at the same elongation in cross-machine direction is 209 grams, i.e. lowered by a factor of nearly 2. Regarding the way of forming the web a skilled person immediately recognises that the arrangement of the fibers is substantially homogeneous. The process comprises the steps of providing a first stream of gas-borne meltblown fibers. According to the embodiment of Figure 5 a second gas stream carrying secondary fibers is moving towards the first gas stream bearing the meltblown fibers at a point of merger of the two gas streams (column 21, lines 29 to 35).

3.2 The Respondent was of the opinion that the second gas stream would deflect the first stream of gas-borne meltblown fibers at this point of merger of in a manner to fall within the claimed range of angles.

3.3 However, the further description of D2 (column 21, lines 36 to 43) indicates clearly that the velocity of the second gas stream is adjusted such that the flow of the gas stream after merging is flowing in the same direction as that of the first gas stream. A deflection in the sense of the patent in suit is clearly not intended and for that reason cannot be derived from D2. Consequently the process of claim 1 is novel with respect to D2.

3.4 The other documents D1, D3 and D4 do not disclose a second gas stream flowing in a cross direction to a first gas stream. Therefore the process according to claim 1 meets the requirement of novelty (Article 54(1) EPC)

4. *Inventive step*

4.1 The closest prior art is represented by D2. That document discloses a process for making an anisotropic nonwoven fibrous web (see point 3.1).

4.2 The technical object underlying the patent in suit is to provide an improved process of making an anisotropic web having a substantially homogeneous arrangement of meltblown fibers generally aligned in one of the planar dimensions of the web (see also page 2, lines 44 to 48).

4.3 This object is fulfilled by the process with the combination of method steps and features of claim 1, in particular by deflecting the first gas stream of gas-borne meltblown fibers at an impingement point above the forming surface with a second stream of gas to an angle from about 15 to about 60 degrees to the forming surface.

4.4 The general teaching of D2 relates to a method of forming a homogeneous non-woven web. In the specific embodiment according to Figure 5 a second stream of gas is applied, but this stream is intended only for transport of secondary fibers which are merged into the web. Attention is drawn to the text in column 21, lines 35 to 42 which indicates that upon merger and integration of the fibres the resulting stream flows substantially in the same direction as that of the stream of microfibers. The direction of the gas stream carrying the meltblown fibers in both apparatus shown in D2 is perpendicular to the forming surface. No indication is given to arrange the direction of the gas stream other than at a right angle to the forming surface. Thus document D2 cannot lead to a process in which the gas stream carrying the microfibers is directed to the forming surface at an angle from about 15 degrees to about 60 degrees, and still less to perform this deflection with a second gas stream.

4.5 It is true that the second gas stream according to the patent in suit may contain additives and/or other materials (such as additional fibers), however, the primary purpose of the second gas stream is to deflect the first gas stream at an impingement point towards the forming surface at an angle. That effect is not

intended according to D2 and also cannot be achieved with the arrangement of Figure 5. Therefore the process of claim 1 cannot be derived in an obvious manner from D2.

4.6 D1 also deals with a method of producing a non-woven web from meltblown fibers, however, the arrangement of the fibers is not homogeneous in that it consists of fine fibers and yarn-like fiber bundles. According to the embodiment of Figure 5 the die head is arranged in a slanted position such that the stream of gas-borne meltblown fibers is directed at an "ejecting angle á" with respect to the collecting surface which has a value between 15° and 75°, preferably between 30° and 60° (column 5, lines 18 to 33).

4.7 Considering the teaching of D1, the skilled person has no reason to select one single characteristic of the method according to D1 and use it in the process of D2 because both D1 and D2 disclose complete distinct processes. If he would nevertheless do so, he would arrange the die head of D2 in a slanted position at an angle with respect to the forming surface. No indication is derivable from D1 to use a second stream of gas for deflecting the first stream of gas-borne meltblown fibers. Therefore also a combination of the teachings of D2 with those of D1 cannot lead to the process according to claim 1 in an obvious manner.

4.8 The further documents D3 and D4 do not come closer to the claimed solution than D2 and D1 as discussed above and therefore cannot contribute towards a suggestion in the direction of the claimed invention.

4.9 Since no single one of the cited documents nor a combination of them leads the skilled person to the subject-matter of claim 1 in an obvious manner the claimed invention complies with the requirement of inventive step (Article 56 EPC).

5. 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 19 relating to particular embodiments of the invention in accordance with Rule 29 (3) EPC, can form the basis for maintenance of the patent (Article 52(1) EPC).

Thus taking into account the amendments made by the Appellant, the patent and the invention to which it relates meet the requirements of the EPC, and the patent as amended is maintained in this form (Article 102(3) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the following documents:

   – claims 1 to 19, filed during the oral proceedings;
   – description page 2 to 15, filed during the oral proceedings;

   – drawings, Figures 1 to 7, as granted.

The Registrar: The Chairman:

E. Görgmaier P. Alting van Geusau