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Datasheet for the decision of 18 February 2009

Case Number: T 0655/07 - 3.2.06

Application Number: 98305949.4

Publication Number: 0896081

IPC: D04H 13/00

Language of the proceedings: EN

Title of invention:
Fabrics formed of hollow filaments and fibres and methods of making the same

Patentee:
BBA Fiberweb Sweden AB

Opponent:
Reifenhäuser GmbH & Co. KG Maschinenfabrik

Headword:
-

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:
"Novelty (main request) - no"
"Inventive step (first and second auxiliary request) - no"
"Novelty and inventive step (third auxiliary request) - yes"

Decisions cited:
-

Catchword:
-

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Case Number: T 0655/07 **-** 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 18 February 2009

Appellant I: (Patent Proprietor)
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Appellant II: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 21 February 2007 concerning maintenance of European patent No. 0896081 in amended form.

Composition of the Board:

Chairman: P. Alting Van Geusau
Members: G. Kadner
R. Menapace

Summary of Facts and Submissions

I. The mention of grant of European patent No. 0 896 081 in respect of European patent application No. 98305949.4, filed on 22 November 2002 and claiming a Japanese priority from 26 November 2001, was published on 22 September 2004 with 18 claims. A Corrigendum was issued on 9 March 2005. Claim 1 reads as follows:

"A nonwoven fabric (10) suitable for hygiene applications, said fabric (10) having a basis weight ranging from about 5 to 35 grams per square meter (gsm) and characterised in that it comprises a plurality of randomly arranged continuous hollow filaments (12) having an average filament diameter of about 20 microns and comprising a polypropylene dominant composition greater than 50 percent by weight polypropylene, wherein said filaments (12) are thermally fused to form a coherent fabric."

II. Notice of opposition was filed against the granted patent, according to which revocation of the patent on the grounds of Article 100(a) EPC was requested.

By decision posted on 21 February 2007, the Opposition Division maintained the patent in amended form according to the Patentee's third auxiliary request, holding that the subject-matter of the independent claims met the requirements of novelty and inventive step when compared with the state of the art represented by:

D1: EP-A-0 775 572
D2: EP-B-0 159 427

D3: EP-A-0 459 203
D4: WO-A-94/09 066
D5: US-A-5 188 625
D6: US-A-5 614 281
D7: US-A-5 604 012
D8: JP-A-09 195 120 (Abstract)
D9: WO-A-96/26 307

III. Notice of appeal was filed against this decision by Appellant I (Patentee) on 20 April 2007 and by Appellant II (Opponent) on 23 April 2007, and the respective appeal fees were paid on the same respective days. Grounds of appeal were filed on 19 June 2007 by the Patentee and on 2 July 2007 by the Opponent.

IV. In a communication accompanying the summons to oral proceedings the Board expressed its preliminary view that the Opposition Division's decision in respect of novelty appeared correct. Inventive step would have to be discussed in detail during the oral proceedings.

V. Oral proceedings were held on 18 February 2009 in which only document D6 was discussed.

VI. Appellant I (Patentee) requested that the decision under appeal be set aside and that the patent be maintained as granted or on the basis of one of the auxiliary requests 1 to 9 (submitted during the opposition proceedings) or on the basis of auxiliary requests 10 or 11 filed with letter dated 19 June 2007 setting out the grounds of appeal.

The main request is based on the claims as granted.

Claim 1 of the first and second auxiliary requests (the respective claims of these requests are identical) is restricted by the feature of granted claim 2: "... (the hollow filaments (12) having an average filament diameter of about 20 microns) and a hollowness of about 5% to about 70% in the cross-section of said filaments (12) ...".

Claim 1 of the third auxiliary request is restricted by the feature of granted claim 3: "... and wherein said hollow filaments (12) have a hollowness of about 10% to about 50% in the cross-section of said filaments (12)."

Granted independent claims 10, 14 and 15 relate to a laminate and to an absorbent article comprising the nonwoven fabric claimed, and to a process for producing the continuous filament nonwoven fabric, respectively, and are renumbered corresponding to each claim 1 in the first, second and third auxiliary request.

Appellant II (Opponent) requested that the decision under appeal be set aside and that the European patent No. 0 896 081 be revoked.

VII. In support of its request Appellant I (Patentee) essentially relied upon the following submissions:

The invention related particularly to endless continuous filaments, and the selection of a nonwoven fabric comprising these filaments for a particular use. Therefore the prior art documents dealing with staple fibres was not relevant.

The claimed solution did not specify just a specific hollowness of the filaments but rather the whole combination of features, which enabled the fabric to achieve several contradictory objects, such as improved barrier and containment, high strength, abrasion resistance due to stronger thermal bonds than those obtainable with solid fibres.

VIII. The arguments of Appellant II (Opponent) can be summarized as follows:

The subject-matter of claim 1 according to the main request lacked novelty when compared to the disclosure of D1. The claimed nonwoven fabric according to the first, second and third auxiliary requests did not involve an inventive step. The skilled person in the technical field concerned was well aware that filaments having a hollowness of less than 5% or more than 70% were not practically useful filaments because, in the first case, their cross section was nearly solid or, in the second case, they would easily collapse.

To the skilled person who was aware that a hollowness outside the range of from 5% to 70% could not reasonably be carried out, the selection of the arbitrary range from 10% to 50% was bare of any inventiveness because a particular effect arising out of that selection was neither proven by the Patentee nor recognizable by the skilled person.

Reasons for the Decision

1. The appeal is admissible.

2. *Main Request (Novelty)*

D6 discloses a nonwoven fabric 12 (column 6, lines 10 to 14) suitable for hygiene applications (column 4, lines 28 to 30) having a basis weight of 23,6 gsm (Examples 1-7) or 16,9 gsm (Example 9). The nonwoven fabric comprises a plurality of randomly arranged continuous hollow filaments (column 6, lines 4 to 6) having a diameter of 10 to 20 microns (column 6, lines 28 to 31) and comprising a polypropylene dominant composition (column 6, lines 61 to 63) of 96,8% percent by weight polypropylene. The filaments are thermally fused to form a coherent fabric (column 7, lines 26 to 29).

Therefore as the Opposition Division correctly concluded that the subject-matter of claim 1 lacks novelty.

3. *First and second auxiliary requests (Inventive step)*

The subject-matter of claim 1 is distinguished from the nonwoven fabric disclosed in D6 in that the hollowness in the cross-section of said filaments is specified to be from about 5% to about 70%. The skilled person, when trying to carry out the teachings of D6 would clearly recognize that hollow filaments must have a particular degree of hollowness, so as to be able to be identified as "hollow filaments". On the other hand, these hollow fibres must have a particular stability sufficient to resist the drawing strength. The skilled person being aware of these problems would select a value of hollowness within this wide range of 5% to 70% because

outside of that range the filaments would be either extremely solid or unstable to an extent that they would not be suitable for the production of the nonwoven fabric in which the hollow filaments maintained their hollowness.

Thus the nonwoven fabric according to claim 1 is arrived at by use of ordinary skill without the involvement of an inventive step.

4. *Third auxiliary request*

4.1 *Amendments*

Claim 1 was restricted by the features of granted claim 3 and meets the requirements of Article 123 (2) and (3) EPC.

4.2 *Novelty*

Neither D6 nor any of the other documents on file disclose the feature that the hollow filaments have a hollowness of about 10% to about 50% in the cross-section of the filaments. Therefore the subject-matter of claim 1 meets the requirement of novelty (Article 54 (2) EPC).

4.3 *Inventive step*

4.3.1 Appellant II (Opponent) argued that the skilled person having found out that filaments of a hollowness of less than 5% or more than 70% were not suitable for making a nonwoven fabric would try to optimize the filaments in this respect and would select the more particular range

of 10% to 50% in an obvious manner. However, the degree of such hollowness, namely 5% to 70%, is not part of the state of the art. The closest prior art is D6, where no specific range of hollowness is disclosed.

4.3.2 The object of the present invention is the provision of a nonwoven fabric which can exhibit a combination of various properties, such as improved barrier and containment properties, good abrasion resistance and tensile strength, pleasing aesthetics and the like (patent specification, page 3, lines 7 to 8).

4.3.3 When starting from D6, the skilled person would not find any pointer towards those properties because the nonwoven fabric disclosed in that document relates to an loop fastening material for a mechanical or hook and loop fastening system (column 4, lines 24 to 26). Therefore not only is the selection of a hollowness range and a suitable material required to arrive at the complete combination needed to solve the above problem, but also the other interacting features must be determined, such as the base weight of the fabric, the filament diameter and the method of thermally fusing the hollow filaments to form a coherent fabric. Particularly convincing is the Patentee's argument that the degree of hollowness in combination with the filament diameter implies a specific elasticity by which the adjacent surfaces of the filaments during fusing are enlarged thus providing higher strength of the bond points. Also in this respect D6 lacks any indication towards the this aspect of the combination of features of claim 1.

4.3.4 The further cited prior documents do not come closer to the claimed solution than D6 discussed above. Hence, in absence of a teaching in the prior art as to the combination of features of the nonwoven fabric according to claim 1, the subject-matter claimed involves an inventive step (Article 56 EPC).

4.4 In the decision under appeal the Opposition Division correctly stated that, since independent claim 1 could be allowed, it was not necessary to discuss claim 13, which merely defined a process for producing the novel and inventive product of claim 1, and that the same was true for claims 8 and 12 which included the subject-matter of claim 1 (renumbered granted claims 15, 10 and 14).

4.5 Since the dependent claims 2 to 7, 9 to 11 and 14 to 16 also meet the requirements of the EPC the patent can be maintained in the form as upheld in opposition proceedings.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau