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D E C I S I O N
of 10 November 2004

Case Number: T 0100/03 - 3.2.6

Application Number: 95926682.6

Publication Number: 0783286

IPC: A61F 13/15

Language of the proceedings: EN

Title of invention:

Method for applying an elastic member to a moving substrate

Patentee:

KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:

The Procter & Gamble Company
SCA Hygiene Products AB

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty and inventive step (yes)"

Decisions cited:

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Catchword:

-



Case Number: T 0100/03 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 10 November 2004

Appellant: SCA Hygiene Products AB
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Other Party: The Procter & Gamble Company
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 November 2002
rejecting the opposition filed against European
patent No. 0783286 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. L. De Crignis
R. T. Menapace

Summary of Facts and Submissions

- I. The mention of the grant of European patent No. 0 783 286 in respect of European patent application No. 95926682.6 claiming a US-priority from 12 August 1994 was published on 10 May 2000.

Claim 1 reads as follows:

"A method for intermittently applying at least one elastic member onto a continuously moving substrate web along a selected path, said method comprising the steps of

- a) moving said substrate web along a substrate path;
 - b) supplying said elastic member along an elastic path;
 - c) elongating said elastic member;
 - d) intermittently applying a meltblown adhesive on said substrate web at spaced-apart locations along said selected path;
 - e) delivering said elongated elastic member to said substrate web along said selected path;
 - f) securing said elongated elastic member to said substrate web at said spaced apart locations thereby providing a secured portion of said elongated elastic member at each of said spaced-apart locations and an unsecured portion of said elongated elastic member between each of said spaced-apart locations and an unsecured portion of said elongated elastic member between each of said spaced apart locations; and
 - g) selectively cutting said unsecured portions of said elongated elastic member and allowing said unsecured portions to elastically contract
- characterized in that said applying step includes the step of intermittently depositing said meltblown

adhesive on said substrate web to provide an adhesive area at each of said spaced-apart locations wherein said meltblown adhesive is substantially uniformly distributed on said adhesive areas."

- II. Notices of opposition were filed on 9 February 2001 by The Procter & Gamble Company (opponent 01) and SCA Hygiene Products (opponent 02), on the grounds of Article 100(a) and (b) EPC.
- III. By decision of the opposition division announced during the oral proceedings on 23 October 2002 and posted on 19 November 2002 the oppositions were rejected in that it was found that the subject-matter claimed complied with the requirements of the EPC. In particular, the subject-matter of claim 1 was held to have been disclosed in a manner sufficient and complete for it to be carried out by a skilled person, furthermore to be novel and inventive when compared in particular to the prior art disclosed in documents:

D4: EP-A-0 475 419

D5: US-A-4 842 666

D7: EP-A-0 282 196

D8: US-A-5 145 689

D9: EP-B-0 554 345

D10: US-A-4 626 305

D11: EP-A-0 429 214

relied upon by the opponents during the opposition proceedings.

IV. On 15 January 2003 a notice of appeal against this decision was filed by opponent 02 and the appeal fee was paid that same day, followed by the statement of grounds of appeal filed on 24 March 2003, in which the appellant's objections in respect of novelty and inventive step under Article 100(a) EPC were reiterated.

V. Oral proceedings were held on 10 November 2004. The appellant requested that the decision under appeal be set aside and that the European patent be revoked. The respondent (patentee) requested that the appeal be dismissed and that the patent be maintained as granted or on the basis of one of the auxiliary requests filed with letters of 10 October 2003 and 11 October 2004.

VI. In support of his request the appellant essentially relied upon the following:

Lack of novelty was still at issue because on proper reading of D5 it disclosed the subject-matter defined in claim 1. The only feature of claim 1 of the patent in suit in dispute, when compared with the subject-matter disclosed in D5, was feature (d) to be considered in combination with the features of the characterizing part. In this respect D5, in particular its figures 8 and 9, showed a uniform distribution of the adhesive, since spraying would imply a uniform distribution. These figures also showed that the adhesive contacted the substrate web below the elastic member and hence, the required order of method steps as

claimed was given. Furthermore, D5 referred in example 1 to a "melt glue", which appeared from the figures to be used in all embodiments.

Considering inventive step, the closest prior art was represented by D4.

In figures 2 and 4, D4 already suggested adhesive patterns with uniform distribution in intermittent relation. The problem to be solved by the skilled person was to find a suitable method for applying the adhesive to the moving web. The skilled person would look for a suitable application technique and find D8.

D8 was concerned with the same technical area as both D4 and the patent in suit. It disclosed that meltblown adhesive and its direct application was suitable for the application on backsheets in any desired pattern. The skilled person would contemplate using the method disclosed in D8 in the process of D4. The fact that it was well-known in the art to use meltblown adhesive for the adhesive attachment of elastics in the leg area was demonstrated by D5 and D9.

Therefore the skilled person would arrive at the subject-matter of claim 1 without any inventive activity.

VII. The submissions of the respondent can be summarized as follows:

The subject-matter of claim 1 was novel over D5 because in D5 the adhesive was not applied to the web before the elastic members were secured to the substrate. Neither did D5 disclose the use of a "meltblown

adhesive" which had a specific meaning in the patent in suit. Furthermore, the spraying method of D5 did not result in a substantially uniform distribution of the adhesive areas as claimed.

The subject-matter of claim 1 also involved an inventive step over the combination of the teachings of D4 and D8. Starting from D4, the technical problem was the selection of a method for the application of adhesive which obtained consistent and reliable securement of tensioned elastic members along regions of predictable length, whilst avoiding "creep" of the elastics over time in use, and avoiding the need for excessive amounts of adhesive.

In D8 the meltblown adhesive was not used for the attachment of elastics, since particularly the regions of the leg elastics were not covered by adhesive. Therefore, there was no indication in D8 to use a meltblown adhesive for fastening the elastics to the substrate. D7 and D10 directed the skilled person to the use of another separate glue for elasticized areas in order to comply with the special needs for such areas. Hence, the skilled person was not led to choose a meltblown adhesive for such areas.

Reasons for the Decision

1. The appeal is admissible.

2. *The claimed subject-matter*

Claim 1 of the patent in suit refers to a method for intermittently applying an elastic member to a moving

substrate web. The method steps (a) to (g) have to be carried out one after the other in the sequence given in the claim. Therefore, claims 4 and 7 repeating in explicit terms this sequence are redundant, as admitted by the patentee. However, deleting claims 4 and 7 for reason of consistency (Article 84 EPC) is not acceptable under Rule 57a EPC.

Furthermore a "meltblown adhesive" in claim 1 is to be understood in the way explained in column 7, lines 24 to 39 as being applied by a meltblowing process, i.e. by employing an extruder to force a hot melt of adhesive material through a row of fine orifices in a meltblown die and high velocity streams of heated gas being arranged on each side of the orifices as it is understood by a the skilled person when using the term "meltblown adhesive".

3. *Novelty*

3.1 The patent in suit is directed to a method for the application of leg elastics in disposable absorbent articles.

3.2 D5 was held novelty destroying by the Appellant. However, the subject-matter of its claim 1 differs from that of D5 in that

- in D5 the adhesive is not applied to the web before the elastic members are secured to the substrate.

- in D5 the adhesive is sprayed onto the elastics and substrate, so that a uniform distribution of adhesive below the elastic members is not achieved.
- D5 refers to a "melt glue", which term is not as specific as the claimed "meltblown adhesive".

The appellant's argument that these differences did not matter, because the result was the same, cannot be followed. The claimed method is different in that the elastics are posed on the layer of adhesive instead of applying the elastics covered with adhesive on the substrate, the latter method obviously leading to a different quality of functioning of the elastics-substrate combination.

3.3 Therefore, the subject-matter of claim 1 is novel (Article 54 EPC).

4. *Inventive step*

4.1 The patent in suit concerns a method for applying an elastic member to a moving substrate by intermittent application of meltblown adhesive on a substrate web at spaced-apart locations in a selected deposition pattern. As explained in the patent specification, the deposition of the adhesive should not result in burn-through of the substrate web. Meltblown adhesive can be accurately provided in desired regions, and, further, because it consists of a "bed" of very fine fibers, the elastic members sink into this bed and a secure bond is provided, whilst using a lesser amount of adhesive than if the "bed" was a solid mass of adhesive and thus the problem of burn through and creep can be avoided.

- 4.2 In agreement with the parties' views the board considers that D4 forms the closest state of the art. According to D4, several elastic strands are intermittently attached to a curved adhesive area (14 in figure 4) on a moving substrate web (7 in figure 4). The elastic members are supplied as continuous elastic members and applied in a tensioned state (column 5, lines 36 to 43). In D4 adhesive is generally mentioned and not further specified and no particular method for applying the adhesive to the moving web is suggested. D4 refers to the possibility to provide adhesive areas and to join the elastic elements in a pinch roll to these areas of the substrate web (column 6, line 38 to 43), but also to further possibilities e.g. to apply the adhesive in an adhesive area for each elastic yarn separately (column 7, lines 24 to 28).
- 4.3 The objective technical problem starting from D4 to be solved by the subject-matter of claim 1 of the patent in suit is to be seen in the selection of an adhesive which is suitable to be applied for the attachment of elastic members to a moving substrate and an appropriate application method of the adhesive.
- 4.4 Considering inventive step the question to be answered is thus, whether or not it was obvious for the skilled person to apply meltblown adhesives in the method of an intermittent application of glue as set out in D4.
- 4.5 The person skilled in the art, faced with the problem of choosing the appropriate adhesive and its application method starting from D4, would find D8

which is also concerned with the application of adhesive in a predetermined pattern upon a backsheet.

4.6 D8 which is the only cited document referring to "meltblown adhesive" is not concerned with the application of elastics to a support web. D8 teaches that meltblown adhesive is suitable for providing large areas of adhesive coverage (figure 4, lines 30 to 34) to a backsheet. The adhesive is not subjected to any contractive forces in use and the particular problems outlined above in relation to fastening elastic yarns to a substrate do not arise. In fact, D8 points away from the use of meltblown adhesive to attach the leg elastics of the diaper. In figure 4, the strips 125, 126 corresponding to the regions in which the leg elastics are applied, are free from adhesive. The implication is that the meltblown adhesive is not used for the leg elastics and some other attachment means is envisaged. Thus, the skilled person is led away from the use of a meltblown adhesive for applying elastic members to a substrate in a manufacturing process as disclosed in D4.

4.7 The fact that in D5 and D9 "melt glue" or "hot-melt adhesive", respectively, is used for the attachment of the elastics to the backsheet (figure 7 in D5 and figure 2 in D9) does not necessarily imply that these documents refer to "meltblown adhesive". Furthermore, the application method used in these documents is different. D9 suggests slot coating whereas in D5 spray coating is applied. D7 and D10 also relied upon by the Appellant directed the skilled person to the use of a separate glue for elasticized areas in order to comply with the special needs for such areas.

4.8 Hence, there is no indication in any available prior art for the skilled person to choose in a process as disclosed in D4 a meltblown adhesive as disclosed in D8 for intermittently applying an elastic member onto a moving substrate.

4.9 Therefore, the subject-matter of claim 1 involves an inventive step within the meaning of Article 56 EPC. The same is true as regards the subject-matter of dependent claims 2 to 18 and claims 19 to 37. In conclusion, the grounds of opposition under Article 100(a) EC do not prejudice the maintenance of the patent as granted. Hence, it has not been necessary 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