Datasheet for the decision
of 18 September 2018

Case Number: T 0162/15 - 3.2.06
Application Number: 04788541.3
Publication Number: 1793783
IPC: A61F13/49, B32B1/00
Language of the proceedings: EN

Title of invention:
METHOD FOR PRODUCTION OF DISPOSABLE ABSORBENT ARTICLES

Patent Proprietor:
SCA Hygiene Products AB

Opponents:
The Procter & Gamble Company
Kimberly-Clark Worldwide, Inc.

Headword:

Relevant legal provisions:
EPC 1973 Art. 56, 111(1)
RPBA Art. 13(1)
Keyword:
Inventive step - problem and solution - partial objective
technical problems
Remittal to the department of first instance - (yes)

Decisions cited:

Catchword:
Case Number: T 0162/15 - 3.2.06

DECISION
of Technical Board of Appeal 3.2.06
of 18 September 2018

Appellant: The Procter & Gamble Company
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Representative: Mather, Peter Geoffrey
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Appellant: Kimberly-Clark Worldwide, Inc.
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Respondent: SCA Hygiene Products AB
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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted on 26 November 2014 rejecting the opposition filed against European patent No. 1793783 pursuant to Article 101(2) EPC.
Composition of the Board:

Chairman: M. Harrison
Members: M. Hannam
W. Ungler
Summary of Facts and Submissions

I. An appeal was filed by each of the appellants (opponent I and opponent II) against the decision of the opposition division rejecting the oppositions to European patent No. 1 793 783. Each requested that the decision be set aside and the patent be revoked.

II. In its letter of response, the respondent (patent proprietor) requested that the appeals be dismissed, or that the patent be maintained according to one of auxiliary requests 1 to 7.

III. The following documents, referred to by the appellants in their grounds of appeal, are relevant to the present decision:

D1 WO-A-03/070140
D4 The Mechanics of Web Handling, TAPPI PRESS, 1998, pages 1 to 8, 9 to 12 and 49 to 52
D7 US-B-6 720 279
D8 US-A-5 376 198
D9 US-A-6 149 637

IV. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated inter alia that the ground for opposition under Article 100(c) EPC appeared not to prejudice maintenance of the patent as granted and that the subject-matter of claim 1 appeared not to involve an inventive step (Article 56 EPC).

V. With letter of 17 August 2018 the respondent filed auxiliary requests 1 to 3 to replace the previous auxiliary requests on file.
VI. Oral proceedings were held before the Board on 18 September 2018, during which opponent II withdrew its objection under Article 100(c) EPC. The requests at the end of the oral proceedings were as follows:

The appellants (opponents I and II) requested that the decision under appeal be set aside and the European patent be revoked.

The respondent (patent proprietor) requested that the appeals be dismissed (main request), auxiliarily that the case be remitted to the opposition division, further auxiliarily that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 3 filed with letter dated 17 August 2018.

VII. Claim 1 of the main request (patent as granted) reads as follows:

"A method for production of disposable hygienic absorbent articles (12), each article comprising:

a substantially homogenous elastic laminate web (14) having a maximum elastic extensibility in a first direction of at least 40%, preferably at least 60%, and most preferably at least 80%, under a peak load \( F_p \) (determined using ASTM D882, conditions as defined in the description) and

an absorbent core (16) attached to said elastic laminate web,

said method comprising the steps of:

providing a continuous length of said elastic laminate web (14);

advancing said continuous length of said elastic laminate web in a direction of travel (A) corresponding to said first direction;

attaching individual absorbent cores (16) to said
continuous length of said elastic laminate web at spaced intervals, and
forming individual articles (12) from the thus assembled individual absorbent cores and said
continuous length of said elastic laminate web, whereby said continuous length of said elastic laminate web (14) is maintained under a tensioning load \( F_t \) in said direction of travel during said advancing, said tensioning load \( F_t \) satisfying the condition: \( 0.03F_p \leq F_t \leq 0.25F_p \).

VIII. The arguments of appellant (opponent I) relevant to the present decision may be summarised as follows:

D1 disclosed all features of claim 1 save for the tensioning load satisfying the condition: \( 0.03F_p \leq F_t \leq 0.25F_p \). As regards the patent, this included apertures 36 in the elastic laminate web (see para. [0030]) which nonetheless did not hinder the laminate web being substantially homogenous. Analogously, the elastic threads 403 in D1 were similarly dimensionally insignificant such that the laminate comprising nonwoven elastic web 401, elastic threads 403 and the elastic film 408 (see Fig. 4) could also be viewed as a substantially homogenous elastic laminate web. Even if the homogeneity of the elastic laminate were seen as not known from D1, the absorbent article produced by the method of claim 1 would be identical to that produced in D1.

A partial objective technical problem starting from D1 and based on the tensioning load differentiating feature could be seen as how to achieve good control of the web. A solution to this was known from D4, particularly on page 50, where a rule of thumb for a web tension of 10 to 25% of web peak load was
suggested.

IX. The arguments of opponent II relevant to the present decision may be summarised as follows:

The subject-matter of claim 1 did not involve an inventive step. D1 disclosed all features of claim 1 save for the tensioning load Ft satisfying the condition: 0.03Fp ≤ Ft ≤ 0.25Fp. D1 could be considered to disclose a homogenous elastic laminate web analogously to the patent since, while the Fig. 4 embodiment of D1 included elastic threads 403, para. [0033] and Fig. 1 of the patent also incorporated elastic threads 38 into what was nonetheless considered a homogenous elastic laminate web.

Should the homogenous laminate be found to be a differentiating feature, the partial objective technical problem to be solved could be seen simply as to provide an alternative to the single layer web 401. D1 itself provided the obvious solution to this with page 4, lines 5 to 8 discussing elastic laminates used in the prior art and the reference to the elastic web of the invention in lines 22 to 26 thus obviously encompassing elastic laminates. It was also common general knowledge for the skilled person to consider an elastic laminate as an alternative to single layer films or non-woven materials.

D4 provided an unambiguous teaching to apply a 10 to 25% of peak load tension to an elastic web, thus solving the second partial objective technical problem when starting from D1.

D9 should be admitted since it disclosed a homogenous elastic laminate web, stretchable in both the machine
and cross-machine directions, for use as the chassis of an absorbent article. As such it provided the solution, included in claim 1 of the patent, to the partial objective technical problem of providing an alternative elastic web.

X. The arguments of the proprietor relevant to the present decision may be summarised as follows:

The subject-matter of claim 1 involved an inventive step when starting from D1 and combining this with the teaching from D4. As regards the 'rule of thumb' for setting web tension in D4, absent a positive indication in D4, the skilled person would not consider it applicable to elastic laminates; even if it were considered, the 10 - 25% tension rule of D4 was not applicable to claim 1 since the claimed web was very elastic and so fell under the exception to the rule applicable to very stretchy webs as indicated on page 51 of D4. Furthermore D1 concerned absorbent pant production at a maximum material stretch of 5% and only a slight degree of elastic tensioning (see page 18, lines 20 to 22), which excluded the suitability of 10 - 25% of peak load being applied to the materials.

As regards the claimed substantially homogenous elastic laminate web, this was not known from D1. Para. [0009] of the patent stated how the claimed homogeneity was to be understood and the elastic threads 403 of D1 would clearly not enable the laminate, comprised of the web 401 and film 408, to exhibit the same properties at any two sections of the web. Fig. 1 of the patent also depicted how the homogenous elastic laminate web 14 existed throughout the method and would still be identifiable in the produced absorbent article irrespective of the elastic members 38 and further
material webs 40, 42 being added to the laminate 14. When starting from D1, the partial problem of providing an alternative elastic web did not reflect the advantages offered by the claimed homogenous web; the homogenous laminate web provided for better control of the web in the method due to its homogeneity while it being a laminate implied to the skilled person a prefabricated, thicker web at the start of the process when compared to D1. Even if this partial problem were accepted as being objective, D1 itself included no hint to the solution providing an alternative elastic web. The elastic laminate side panels on page 4, lines 5 to 8 were irrelevant in the context of the web forming the absorbent articles. The method of claim 1 was furthermore supplied with a ready-made laminate rather than this being made at the start of the process; such a ready-made laminate benefited from more predictable characteristics and thus greater reliability in its use in the manufacturing method. A substantially homogenous elastic laminate web extensible in the machine direction was not known from any of the cited prior art documents and so no hint to the claimed solution of the partial technical problem was available. Even if D7 were considered, this disclosed cross-machine elasticity only. Also D8 disclosed a laminate comprising an absorbent layer which would not be incorporated into the method of D1 by the skilled person since an absorbent core 409 was already present.

As regards D9 it should not be admitted since its use in the inventive step attack starting from D1 was raised at oral proceedings for the first time. D9 was anyway prima facie unable to provide the hint for replacing the web 401 of D1 with a substantially homogenous elastic laminate web extensible in the machine direction. Should D9 be admitted, the case
should be remitted to the opposition division for further prosecution.

Reasons for the Decision

Main request

1. Inventive step (Article 56 EPC 1973)

1.1 When starting from D1, the Board finds this to disclose the following features of claim 1, the references in parentheses relating to D1:

A method for production of disposable hygienic absorbent articles (page 1, lines 6 to 7 and 17), each article comprising (see Figs. 4 and 5; page 13, line 20 to page 14, line 26):

a substantially elastic web (401) having a maximum elastic extensibility in a first direction of at least 40%, preferably at least 60%, and most preferably at least 80% (page 4, lines 23 to 26), under a peak load Fp determined using ASTM D882, conditions as defined in the description and

an absorbent core (409) attached to said elastic web (401; the absorbent cores 409 are 'attached to the elastic web' 401 of D1 in precisely the same arrangement as the absorbent cores 16 are to the web 14 in Fig. 1 of the patent, i.e. with a second material web therebetween: 408 in D1; 40 in the patent), said method comprising the steps of:

providing a continuous length of said elastic web (401; see e.g. Fig. 4);

advancing said continuous length of said elastic laminate web in a direction of travel corresponding to said first direction (Fig. 4, page 13, lines 20 to 22);
attaching individual absorbent cores (409) to said continuous length of said elastic laminate web (401) at spaced intervals (Fig. 4; page 14, lines 2 to 4), and forming individual articles (404) from the thus assembled individual absorbent cores and said continuous length of said elastic laminate web (page 14, lines 17 to 26), whereby said continuous length of said elastic web (401) is maintained under a tensioning load Ft in said direction of travel during said advancing (page 5, lines 19 to 20).

1.2 Regarding the argument of opponent I that D1 also disclosed a substantially homogenous elastic laminate web, this is not accepted. The apertures 36 discussed in para. [0030] of the patent are intended for increasing breathability of the elastic laminate web and would therefore be expected by a skilled person to be in the order of fractions of a millimetre diameter and regularly dispersed across the web. Consequently, these would not be understood to adversely affect the homogenous nature of the elastic laminate web of claim 1. Conversely in D1, the elastic threads would exhibit significantly different material characteristics to the nonwoven elastic web 401 to which they are adhered, such that a lack of homogeneity would result depending on whether the web properties are measured at a section of the web including an elastic thread or at a section of the web absent an elastic thread.

1.3 The argument of opponent II that Fig. 4 of D1 disclosed essentially the same production method as Fig. 1 of the patent such that D1 also had to comprise a substantially homogenous elastic laminate web is not accepted. In Fig. 1 of the patent the substantially homogenous elastic laminate web is indicated as 14 upon
which, as described in para. [0033], elastic members 38 can be positioned. The web 14 is thus still existent in the finished absorbent articles 12 (and this is indeed understood by the Board to be required by claim 1, since the claim defines a method for production where 'each article compris(ing)es a substantially homogenous elastic laminate web'. In contrast to this, in D1 (see Fig. 4), the starting web 401 is simply a nonwoven elastic web upon which elastic threads 403 are positioned and a laminate is then formed by sandwiching the elastic threads between the web 401 and an elastic film 408 applied on top. Thus, the method of D1 fails to disclose a substantially homogenous elastic laminate web at any time, neither at the outset of the method nor in the finished absorbent article, due to the presence of the elastic threads 403 rendering any laminate formed non-homogenous.

1.4 D1 thus fails to disclose the following features of claim 1:

1. said elastic web is a homogenous elastic laminate web; and
2. said tensioning load \( F_t \) satisfies the condition: 
\[
0.03F_p \leq F_t \leq 0.25F_p.
\]

1.5 As regards these two differentiating features, in combination these are not directed to a common technical effect such that the formulation of partial objective technical problems to be solved is appropriate. The partial objective technical problems may be seen as:

1. To provide an alternative elastic web; and
2. How to achieve good control of the web in the production of the articles.
1.6 Although the proprietor did not dispute the second partial problem, its argument that the first problem did not reflect the advantages bestowed on the claimed method by the homogenous web is not accepted. The alleged advantages of the claimed homogenous web are not reflected in the subject-matter of claim 1. Firstly, with the claim failing to state when or how the laminate is made, no advantage can be recognised in the mere potential for the web to be prefabricated and then supplied to the method. Secondly, the claim fails to indicate any thickness of the claimed web so that a greater web stability over D1 can not be recognised here. The further argument of the proprietor that the non-recitation of such characteristics in claim 1 did not prohibit the possibility in claim 1 of a thicker and more stable web being provided is also not relevant for the consideration of inventive step, since claim 1 equally covers the possibility of thinner and less stable webs, inventive step considerations having to apply over the whole scope of the claimed subject-matter.

1.7 Wishing to solve the second of these problems, the skilled person would consult D4 which is indicated to be applicable to any web (see 'page 1 of 8') and on page 50, paragraph 2, discloses a rule of setting the web tension to 10 – 25% of the web's yield strength, Fig. 4.1 of D4 indicating yield strength to correspond to the claimed peak load. Paragraph 3 on page 50 indicates that such tensions typically strike a successful balance between maintaining a stable web and potentially damaging the web. Thus, when wishing to solve the second partial technical problem above, the skilled person would, without becoming inventively active, be guided by D4 to provide a web tension
falling within the claimed range of 3 - 25% of peak load.

1.7.1 The proprietor's argument that the claimed web was very stretchy and so would not be considered as suited to the 10 - 25% rule is not accepted. Claim 1 indicates an elastic extensibility of at least 80% yet no evidence has been presented that this would meet the 'very ductile (stretchy)' exception provided on page 51 of D4. Indeed, D1 (see page 4, lines 22 to 24) discloses an elastic web with an elastic extensibility of at least 100% without there being any suggestion that this was 'very stretchy'. There is thus no basis for the allegation that the skilled person would consider the claimed laminate web as being inappropriate for using the 10 - 25% tension rule.

1.7.2 The proprietor's suggestion that D4 was not suited for application to elastic laminates is unconvincing. D4 indicates its applicability to 'any web' and, whilst not explicitly mentioning its applicability to laminates of elastic webs, no reason is apparent as to why the characteristics of elastic laminates would be precluded by the skilled person from the considerations of appropriate web tension given in D4.

1.7.3 The proprietor's further argument that the desired slight degree of elastic tensioning disclosed in D1 would dissuade the skilled person from applying 10 - 25% of peak load to the materials of D1 is also not accepted. There is no basis on which to conclude that the 'slight degree of elastic tensioning' indicated in D1 (see page 18, line 22) is not met by applying the 10 - 25% of peak load to the web as suggested by D4. The maximum stretch of 5% also allows no such conclusion to be drawn, since a low percentage stretch does not imply
a similarly low percentage of peak load tension being applied, notably without knowledge of the web's Young's modulus, for which no values are indicated in D1 or even in the patent. The skilled person would thus face no reason not to try the suggested 'rule of thumb' tension in D4 in the method of D1 and would recognise its broad applicability, also with regard to the web defined in claim 1.

1.7.4 The Board thus finds that, starting from D1 and wishing to solve the second partial objective technical problem above, the skilled person would be guided to the claimed tensioning load by D4 and apply this to D1 without exercising an inventive step.

1.8 D1 and the general knowledge of the skilled person or the technical teaching of D7 or D8

1.8.1 As regards the first differentiating feature of claim 1 over the disclosure in D1 (the elastic web is a homogeneous elastic laminate web) and the related first partial objective technical problem (to provide an alternative elastic web), the opponents referred to D1, D7 and D8 as disclosing the claimed solution.

1.8.2 The argument of opponent I that the absorbent article produced by the method of claim 1 would be identical to that produced in D1, particularly in view of Fig. 4, is not accepted. As indicated in point 1.3 above, the combination of web 14 and elastic members 38 of the patent is not the same as web 401 and elastic threads 403 of D1 due to web 401 simply being a nonwoven elastic web rather than a laminate. The absorbent article produced by the method of claim 1 thus indeed still comprises the substantially homogenous elastic laminate web 14 present at the start of the method.
depicted in Fig. 1; conversely, the equivalent 'base' web of D1 is not disclosed to be a laminate. As also identified in point 1.2 above, considering the combination of web 401, elastic threads 403 and film 408 of D1 as the claimed elastic laminate, such a laminate would lack the necessary 'substantially homogenous' nature claimed due to the presence of the elastic threads 403 (see Fig. 4).

1.8.3 The argument of opponent II that D1 itself provided a hint guiding the skilled person to the claimed homogenous elastic laminate is also not accepted. The reference to an elastic laminate on page 4, lines 5 to 8 of D1 is in relation to its use as a side panel in the prior art. There is no suggestion of such an elastic laminate being used elsewhere in the absorbent article of the prior art, let alone a hint to utilise such an elastic laminate in the web of the absorbent articles being produced. The subsequent reference to an elastic material web in lines 22 to 26 of page 4 is not unambiguously linked to the said elastic laminate in the foregoing discussion of the prior art such that there is also no motivation for the skilled person to conclude that this reference to an elastic material web could be an elastic laminate.

1.8.4 The further argument of opponent II that the skilled person would generally consider an elastic laminate always as an obvious alternative to single layer films and non-woven materials is not convincing. While indeed elastic laminates are found in prior art absorbent articles and can be regarded as a possible alternative to the single layer nonwoven 401 in Fig. 4 of D1, there is no reason that the Board can derive from the evidence and arguments presented for the skilled person to make this particular selection from the multitude of
possible alternatives available in the field of absorbent articles.

1.8.5 The Board thus concludes that D1 itself does not guide the skilled person, starting from D1 and wishing to solve the first partial objective technical problem, to the claimed homogenous elastic laminate web without exercising an inventive step.

1.8.6 D7 also fails to provide the skilled person with the necessary hint leading to the claimed differentiating feature. Col. 4, lines 33 to 38 discloses an elastic laminate (composite 21) for use in diapers (see col. 1, line 18) yet the elastic laminate is disclosed to possess elasticity in the cross-machine direction and notably to resist stretching in the machine direction. With the 'base' web of D1 having 'elastic extensibility in the direction of travel' of the web (see page 4, lines 22 to 26), the skilled person would not see the cross-machine elastic laminate of D7 as providing a suitable alternative elastic web in the process of D1.

1.8.7 Similarly, D8 fails to provide a hint to a suitable alternative to the web of D1. Col. 2, line 59 to col. 3, line 13 summarises the nature of the layered undergarment of D8 which comprises an absorbent layer in addition to bodyside, outer and stretchable layers. The laminate produced in D8 thus defines the structure of a complete undergarment, notably including an absorbent layer, which thus would not obviously be used to substitute for the single non-woven elastic web 401 of D1.

1.8.8 The Board thus concludes that neither D7 nor D8 guide the skilled person, starting from D1 and wishing to solve the first partial objective technical problem, to
the claimed homogenous elastic laminate without exercising an inventive step.

1.9 D1 + technical teaching of D9

1.9.1 As regards the inventive step argument of opponent II starting from D1 and combining the technical teaching of D9 with this, this was a line of argument presented for the first time at oral proceedings and was thus an amendment to its complete case (see Article 12(2) of the Rules of Procedure of the Boards of Appeal, RPBA). According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion. In the present case the Board had to consider whether to admit D9 into the proceedings, and part of this consideration involved whether the argument based upon the document was, at least prima facie, such as to have a high probability of changing the outcome with respect to the conclusions made on inventive step based on the documents already on file.

1.9.2 As already identified in point 1.4 above, the first differentiating feature of claim 1 over the disclosure in D1 is that the elastic web is a homogeneous elastic laminate web, and the related partial objective technical problem, see point 1.5, may be seen as to provide an alternative elastic web.

1.9.3 D9 is, in part, directed to a method of manufacturing an absorbent article (see Figs. 8 and 9; col. 15, lines 4 to 56), said article having a chassis 14 comprised of a laminate 90 itself comprised of an inner lamina 46, an elastomeric lamina 47 and an outer lamina 48 (col. 3, lines 9 to 16). The elastomeric lamina 47 is preferably elastomeric in all directions (col. 3, lines
55 to 59) and as a consequence the laminate 90 will also contract after extension in these directions (col. 5, lines 11 to 14). As depicted in Figs. 8 and 9, the elastomeric laminate 90 is the web upon which the absorbent articles are assembled with absorbent cores and waist and leg elastics. At least *prima facie* the laminate 90 is therefore suitable as an alternative elastic web to the nonwoven elastic web 401 of D1 which the skilled person would integrate into the absorbent article of D1 without exercising an inventive step.

1.9.4 The proprietor's argument that D9 was unable to provide the hint for replacing the web 401 of D1 with a substantially homogenous elastic laminate web extensible in the machine direction is not accepted. The laminate 90 of D9 comprises inner and outer lamina and an elastomeric lamina. The manufacture of the inner and outer lamina is described in col. 4, lines 31 to 36 and 47 to 51 of D9 and encompasses essentially homogenous constructions of *inter alia* non-woven webs and plastic films. The elastomeric lamina 47, preferably stretchable in all directions, would therefore combine with the inner and outer lamina to *prima facie* produce just the web of claim 1 i.e. a substantially homogenous elastic laminate web which, being stretchable in all directions, would also be extensible in the machine direction.

1.9.5 It follows therefore that, starting from D1 and wishing to solve the partial objective technical problem, the skilled person would seemingly take the teaching of the elastic laminate from D9 and incorporate this into the method known from D1, thus at least *prima facie* solving the objective problem and reaching the claimed subject-matter without the exercise of an inventive step. D9 is thus admitted into the proceedings under Article 13(1)
RPBA.

1.10 Remittal according to Article 111(1) EPC 1973

1.10.1 The Board notes that D9 was introduced into the proceedings by opponent II with its grounds of appeal, yet was relied upon at oral proceedings in a hitherto unraised inventive step argument which was prima facie more relevant than the previous objections on file.

1.10.2 According to Article 111(1) EPC 1973, when deciding on an appeal, the Board may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution.

1.10.3 In the exercise of such discretion, in the present case an important aspect is that the proprietor did not have a chance to develop its own arguments in response to the new objection, nor to consider possible auxiliary requests providing fall-back positions. The document had also not been available before the opposition division for it to have come to a conclusion regarding its relevance, thus depriving the parties of having two instances decide on a particular matter. With remittal having been requested by the appellant, and not objected to by either of the opponents, the Board avails itself of its power under Article 111(1) EPC 1973 to remit the case back to the department of first instance for further prosecution.

1.10.4 For the avoidance of doubt, the Board has solely found that the second differentiating feature regarding the tension load is rendered obvious by D4 when starting from D1. No conclusion regarding the obviousness of the first differentiating feature regarding the elastic
laminate has been made, other than that when starting from D1, the content of D9 is prima facie highly relevant for consideration of the objection of lack of inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division for further prosecution.

The Registrar: M. H. A. Patin

The Chairman: M. Harrison

Decision electronically authenticated