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D E C I S I O N
of 7 October 2004

Case Number: T 0213/03 - 3.2.7

Application Number: 95927342.6

Publication Number: 0777783

IPC: D21F 11/14

Language of the proceedings: EN

Title of invention:
Soft layered tissues having high wet strength

Patentee:
KIMBERLY-CLARK WORDWIDE, INC.

Opponents:
The Procter & Gamble Company
GEORGIA-PACIFIC FRANCE
SCA Hygiene Products AB

Headword:
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Relevant legal provisions:
EPC Art. 54, 83, 84, 111(1), 123

Keyword:
"Admissibility of amendments and of disclaimer with respect to Article 54(3) and (4) documents (yes)"
"Clarity of amendments (yes)"
"Enabling disclosure (yes)"
"Novelty (yes)"
"Remittal to first instance"

Decisions cited:
G 0001/03, G 0002/03, T 0332/87

Catchword:
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Case Number: T 0213/03 - 3.2.7

D E C I S I O N
of the Technical Board of Appeal 3.2.7
of 7 October 2004

Appellant: (Proprietor of the patent)
KIMBERLY-CLARK WORLDWIDE, INC.
401 North Lake Street
Neenah
Wisconsin 54956 (US)

Representative:
DIEHL GLAESER HILTL & PARTNER
Patentanwälte
Augustenstrasse 46
D-80333 München (DE)

Respondent: (Opponent I)
The Procter & Gamble Company
One Procter & Gamble Plaza
Cincinnati
Ohio 45202 (US)

Representative:
Vercaemer, Laurence
Cabinet Plasseraud
65/67 rue de la Victoire
F-75440 Paris Cedex 09 (FR)

(Opponent II)
GEORGIA-PACIFIC FRANCE
11, route industrielle KUNHEIM
F-68320 Kuhnheim (FR)

Representative:
David, Daniel
Cabinet Bloch & Associés
2, square de l'Avenue du Bois
F-75116 Paris (FR)

(Opponent III) SCA Hygiene Products AB
S-405 03 Göteborg (SE)

Representative: Egeröd, Lisbeth
Ström & Gulliksson IP AB
Lindholmspiren 5
S-417 56 Gothenburg (SE)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 2 December 2002 revoking European patent No. 0777783 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: A. Burkhart
Members: H. E. Hahn
C. Holtz

Summary of Facts and Submissions

I. The patent proprietor lodged an appeal against the decision of the Opposition Division to revoke European patent No. 0 777 783.

II. Three oppositions had been filed against the patent as a whole and were based on Article 100(a) EPC (lack of novelty and lack of inventive step). During the procedure further objections were made under Articles 83, 84, 100(b) and 100(c) EPC.

The Opposition Division held that amended claim 1 of the main request did not contravene Article 123(2) and (3) EPC, that it met the requirement of Article 84 EPC and that the patent fulfilled the requirements of Article 83 and 100(b) EPC. The subject-matter of claims 1 and 12 of the main request and claim 1 of the auxiliary request were considered to lack novelty with respect to the Article 54(3) and (4) EPC document D1.

III. Oral Proceedings were held on 7 October 2004.

(a) During the oral proceedings the appellant (patent proprietor) requested that the decision under appeal be set aside and that novelty of the subject-matter of the claims of the main request or the auxiliary request both filed on 7 September 2004 with letter of 6 September 2004, should be acknowledged and that the case be remitted to the first instance for further examination regarding inventive step.

(b) The respondents I, II and II (the opponents I, II and III) requested that the appeal be dismissed.

(c) The following documents of the prior art were considered to be relevant:

D1 = WO-A-95/01478

D2 = WO-A-95/01479

D3 = EP-A-0 029 269

D13 = WO-A-95/11344

D15 = WO-A-94/26974

D18 = US-A-4 940 513

D20 = WO-A-95/11343

IV. The independent claims 1 and 12 of the main request as filed on 7 September 2004 with letter of 6 September 2004 read as follows:

"1. A method for making a soft tissue sheet comprising forming a layered wet web of papermaking fibers using a layered head box, said layered wet web having two outer layers and at least one inner layer, wherein the two outer layers comprise predominantly hardwood fibers and said at least one inner layer comprises predominantly softwood fibers, said two outer outer layers containing a debonding agent, and said at least one inner layer containing a wet strength agent, and drying the web,

with the proviso that the outer layers do not comprise a polyhydroxy compound."

"12. A layered tissue comprising two outer layers and at least one inner layer, characterised in that said two outer layers comprise predominantly hardwood fibers and a debonding agent, and said inner layer comprises predominantly softwood fibers and a wet strength agent, with the proviso that the outer layers do not comprise a polyhydroxy compound."

V. The appellant argued essentially as follows:

Claims 1 and 12 of the main request are narrower than claims 1 and 12 as granted and have a basis in the specification as filed. The disclaimer incorporated in claims 1 and 12 meets the conditions as set out in decision G 2/03. The term "polyhydroxy compound" of the disclaimer defines a chemical agent that can be defined by a chemical formula such as polyoxyethylene glycol in document D1 whereas a "cellulose fiber" although comprising more than 2 hydroxy groups is a macromolecule which cannot be represented by a clear formula. The skilled person will understand what is meant by the prior art documents D1, D2, etc. and will also understand the meaning of the disclaimer, particularly in the sense that it does not concern the cellulose fibers. Normally, the prior art D1, D2 etc. should have used the term "oligohydroxy compound", which covers compounds having 2 to 8 hydroxy groups. The term "polyhydroxy compound" normally refers to compounds having more than 8 hydroxy groups.

The subject-matter of the claims 1 and 12 of the main request is novel. With respect to the Article 54(3) and (4) EPC documents it is new due to the disclaimer which excludes the polyhydroxy compounds according to documents D1, D2, D13, D15 and D20. Document D1 does also not suggest in its description of the prior art to use the debonding agent without any polyhydroxy compound (see page 3). The 3-layer tissue according to document D3 although containing a wet strength agent in the inner layer does not contain a debonding agent in its outer layers. The 3-layer tissue according to the example 1 of document D18 although comprising a debonding agent in its outer layers does not contain a wet strength agent in its inner layer. These documents D1, D3 and D18 do not unambiguously disclose an embodiment meeting all the requirements of claims 1 or claim 12. Therefore novelty of claims 1 and 12 should be acknowledged.

VI. Respondent I argued essentially as follows:

Claim 1 is rendered unclear by the term "polyhydroxy compound" of the disclaimer of claim 1 - which term covers all compounds having at least 2 hydroxy groups - which term is inconsistent with the definition of the (cellulose) fibers of claim 1 since cellulose represents a compound which is covered by this term. Furthermore, there exists a contradiction between the term "polyhydroxy compound" and the debonding agents disclosed in the patent in suit (see the cellulose derivatives at column 2, lines 36-39) and also the disclosed wet strength agents (see the starch derivatives at column 3, lines 4-5) which also fall under the definition of a "polyhydroxy compound".

Therefore claims 1 and 12 are rendered unclear by this term "polyhydroxy compound".

The patent in suit does not meet the requirements of Article 83 EPC because the specification is silent as to how to obtain the result of claim 1 of the main request, ie that the outer layers are free of a polyhydroxy compound since some wet strength agents and/or debonding agents represent polyhydroxy compounds (see patent, column 2, lines 35-39; and column 3, lines 4-5). It is admitted that certain embodiments within the scope of claim 1 can be carried out by the skilled person.

Document D3 is novelty destroying for claims 1 and 12. Example 4 of document D3 discloses the production of a 3-layer tissue comprising an inner layer comprising softwood fibers including a wet strength agent while the outer layers are made from hardwood fibers (see page 36, lines 1-5 and figure 37; and pages 52-53, example 4). The said 3-layer tissue is then creped using polyvinyl alcohol (see page 53).

VII. Respondent II argued essentially as follows:

Document D18 is novelty destroying for the subject-matter of claims 1 and 12 of the main request. Example 1 of document D18 disclose the production of a 3-layer tissue sheet comprising hardwood fibers in the two outer layers and softwood fibers in the inner layer which is treated with a non-cationic surfactant as a debonding agent (see column 3, lines 37-40; column 6, lines 57-66; column 16, lines 50-55). Since the document also discloses that a wet strength agent can be added (see column 7, lines 1-10) it lies within the ordinary skills of the skilled person to add this wet

strength agent. Thus, the subject-matter of claims 1 and 12 is derivable from document D18. It is admitted that example 1 does not mention any wet strength agent.

VIII. Respondent III argued essentially as follows:

Document D1 does not only disclose the treatment of the outer layers of tissue sheets with a softening composition comprising a polyhydroxy compound but also suggests to the skilled person in accordance with decision T 332/87 to use the quaternary compounds alone as debonding agent (see D1, page 2, line 24 to page 3, line 2; and page 3, lines 22-30). Therefore the subject-matter of claims 1 and 12 lacks novelty with respect to document D1 despite the disclaimer.

Reasons for the Decision

1. *Admissibility of amendments (Article 123(2) and (3) EPC)*

Claim 1 of the main request is based on a combination of claims 1 and 4 as filed while claim 12 of the main request is based on claim 18 of the application as filed (see claims 1 and 4, and claim 18, respectively). Claims 1 and 12 - which are now directed to a 3-layer tissue structure - have been limited compared with the claims 1 and 20 as granted which were directed to a tissue structure comprising at least 2-layers.

Additionally, the disclaimer "**with the proviso that the outer layers do not comprise a polyhydroxy compound**" has been incorporated into the independent claims 1 and 12 of the main request in order to establish novelty

with respect to the Article 54(3) and (4) EPC documents D1, D2, D13, D15 and D20. The multi-layered tissue paper products according to the said documents D1, D2, D13, D15 and D20, which generally comprise an inner layer of softwood fibers and outer layers of hardwood fibers and a mixture of a polyhydroxy compound and a quaternary ammonium compound (= debonding agent) in their outer layers (see D1, claims 1-3 and examples; see D2, claims 1-3; D13, claims 1 and 3; see D15, claim 1; see D20, claims 1, 4 and 6), are clearly excluded by this disclaimer. Consequently, this disclaimer is considered to meet the criteria as set out in decisions G 1/03 and G 2/03 (see paragraph 3 of the reasons in both decisions).

Therefore claims 1 and 12 of the main request are considered to meet the requirements of Article 123(2) and (3) EPC.

2. *Clarity (Article 84 EPC)*

2.1 Respondent I argued that the term "polyhydroxy compound" of the disclaimer of claims 1 and 12 - which term covers all compounds having at least 2 hydroxy groups - is inconsistent with the definition of the (cellulose) fibers of claims 1 and 12, since cellulose represents a compound which is covered by this term. Furthermore, there exists a contradiction between the term "polyhydroxy compound" and the debonding agents disclosed in the patent in suit (see the cellulose derivatives at column 2, lines 36-39) and also the disclosed wet strength agents (see the starch derivatives at column 3, lines 4-5) which also fall under the definition of a "polyhydroxy compound".

Therefore claim 1 is rendered unclear by this term "polyhydroxy compound".

2.2 The Board cannot accept these arguments for the following reasons.

The technical term "**polyhydroxy compound**" defines chemical compounds comprising more than 2 hydroxy groups. The skilled person will immediately realize that this term is used in the usual manner to define chemical compounds having more than 2 hydroxy groups. The skilled person is taught by the prior art documents D1, D2, D13, D15 and D20 that preferably chemicals such as glycols, sorbitols and polyglycerols are meant by this term (compare eg document D1, claim 1). It is clear to the skilled person that the term "polyhydroxy compound" does not mean cellulose fibers. Consequently, the skilled person will readily understand the meaning of the disclaimer "**with the proviso that the outer layers do not comprise a polyhydroxy compound**", namely that the resulting product of the process of claim 1, according to which a three layer tissue sheet is treated with a debonding agent will not contain any polyhydroxy compound in the two outer layers.

2.3 The definition of the disclaimer "**with the proviso that the outer layers do not comprise a polyhydroxy compound**" is interpreted by the Board in the sense that the use of a wet strength agent (or any other additive) which would fall under the definition "polyhydroxy compound" in the inner layer - which due to the migration of the chemicals in the wet web would migrate into the outer layers - is now excluded from the subject-matter of claims 1 and 12.

2.4 The Board therefore considers that the disclaimer is clear. The person skilled in the art is able to establish whether or not a polyhydroxy compound has been added during the method for making the tissue sheet of claim 1 of the main request. The technical term "polyhydroxy compound" as such is also clear.

2.5 The claim 1 is thus considered to meet the requirement of Article 84 EPC. This consideration applies *mutatis mutandis* to product claim 12 of the main request.

3. *Enabling disclosure (Article 83 EPC)*

3.1 Respondent I argued that the specification is silent as to how to obtain the result of claim 1 of the main request, ie that the outer layers are free of a polyhydroxy compound since some wet strength agents and/or debonding agents represent polyhydroxy compounds (see patent, column 2, lines 35-39; and column 3, lines 4-5).

The Board cannot accept these arguments. Any skilled person in the field of paper technology - even if only reading claim 1 - would immediately realize what is meant by the subject-matter of claim 1 and how he could put this process into practice: namely by eg adding a wet strength agent into a softwood fiber suspension for making the inner layer of the 3-layer web structure and by adding a debonding agent to the hardwood fiber suspension for the two outer layers or by spraying the debonding agent onto the two outer layers of the 3-layer web structure. This view is supported by the patent specification (see examples 1-7). Furthermore,

the skilled person would also take account of the disclaimer of claim 1 and would not use any chemicals falling under the definition of the term "polyhydroxy compound".

Respondent I, however, admitted that certain embodiments within the scope of claim 1 can be carried out by the skilled person.

Therefore the Board considers that the patent gives the skilled person sufficient information to carry out the invention. Consequently, the requirements of Article 83 EPC are considered to be met.

4. *Novelty*

4.1 The Board concurs with the Opposition Division's view that the documents D1, D2, D13, D15 and D20 represent Article 54(3) and (4) EPC documents which are only relevant with respect to the assessment of novelty.

4.2 Respondent III alleged a lack of novelty of the subject-matter of the claims 1 and 12 despite their disclaimer with respect to the Article 54(3) and (4) EPC document D1 and the prior art described therein. The argumentation is based on the conclusion of decision T 332/87 according to which two passages within a document can be combined and therefore the description of document D1 would suggest to the skilled person to use quaternary compounds alone as the debonding agent.

4.2.1 The Board cannot accept these arguments. The description of the prior art in document D1 (cf. page 2, line 24 to page 3, line 2) mentions several patents which, although mentioning quaternary ammonium compounds as debonding agents either alone or in combination with other chemicals, do not concern 3-layer tissue structures comprising an inner layer predominantly comprised of softwood fibers and two outer layers predominantly comprised of hardwood fibers. Furthermore, the second cited passage in the description of D1 (see page 3, lines 22-30) is considered to teach the skilled person away from using quaternary compounds alone due to the statement "However, these quaternary ammonium compounds are hydrophobic, and can adversely affect the absorbency of the treated paper webs. Applicants have discovered that mixing the quaternary ammonium compounds with a polyhydroxy compound ... will enhance both softness and absorbency rate of fibrous cellulose materials".

4.2.2 The Board additionally remarks that the cited decision T 332/87 is not applicable to the present case. In said decision T 332/87 (unpublished) the Board held that when examining novelty, different passages of a document might be combined provided that there were no reasons which would prevent the skilled person from making such a combination (see "Case Law of the Boards of Appeal of the European Patent Office", 4th Edition 2001, I.C.2.2, page 56). In the present case, however, respondent III did not combine the technical teaching of an example of document D1 with a technical teaching of a document of the prior art described in document D1 as mentioned in said T 332/87. There was no example concerned which was indeed representative of or in

line with the general teaching disclosed in the respective document of the prior art which is indeed representative. In the present case it is necessary to amend the general teaching of document D1 (see claim 1) by omitting the polyhydroxy compound and to combine it with the technical teaching of a prior art document cited in the description thereof which teaching additionally must be modified in order to correspond to the 3-layer tissue structure comprising an inner layer predominantly of softwood fibers and a wet strength agent and the two outer layers predominantly comprised of hardwood fibers as required by document D1. Thus the general teachings of document D1 and of the prior art are considered not to be fully compatible. Consequently, the Board considers that respondent III took an "inventive step" approach which, however, is not allowable with respect to novelty, and particularly not with respect to an Article 54(3) and (4) EPC document.

4.2.3 Consequently, the Article 54(3) and (4) EPC document D1 does not contain an unambiguous disclosure of a specific embodiment without a polyhydroxy compound which meets all the requirements of either claim 1 or claim 12 of the main request. All embodiments containing a polyhydroxy compound according to document D1 are, however, clearly excluded from the subject-matter of claims 1 and 12 of the main request due to the incorporated disclaimer.

4.3 The same conclusion as in paragraph 4.2.3 above applies *mutatis mutandis* to the other Article 54(3) and (4) EPC documents D2, D13, D15 and D20.

4.4 Respondent I alleged a lack of novelty of the subject-matter of process claim 1 and/or the product of claim 12 with respect to document D3 and its example 4. Example 4 discloses the production of a 3-layer tissue comprising an inner layer comprising softwood fibers including Parez 631 NC wet strength agent while the outer layers are made from hardwood fibers (see page 36, lines 1-5 and figure 37; and pages 52-53, example 4). The said 3-layer tissue is then creped using polyvinyl alcohol (see page 53).

The Board cannot accept these arguments since the product according to example 4 of document D3 does not contain a debonding agent in both outer layers as argued by the appellant. The specified polyvinyl alcohol (PVA) according to document D3 is only applied as a creping adhesive to one side of the Yankee dryer (see page 53, lines 19-22 in combination with page 52, lines 2-6 and figure 44) and thus only to one side of the 3-layer tissue web. Furthermore, there is no evidence on file which would prove that PVA acts as debonding agent.

Hence the subject-matter of claims 1 and 12 of the main request is novel with respect to document D3.

4.5 A further lack of novelty of the subject-matter of process claim 1 and/or the product of claim 12 was alleged by respondent II with respect to document D18.

The Board cannot accept these arguments because the 3-layer tissue according to the example 1 of document D18 although comprising a non-ionic surfactant as debonding agent in its outer layers does not contain a wet

strength agent in its inner layer (cf. column 16, line 44 to column 17, line 44). The fact that another passage of document D18 mentions that wet strength agents may be added dependent upon the particular end use of the tissue sheet contemplated (see column 7, lines 1-10) does not imply that the embodiment of example 1 must contain a wet strength agent. This is due to the fact that the intended end use of the tissue of example 1 is not specified. Consequently, document D18 is considered not to unambiguously disclose an embodiment meeting all the requirements of claims 1 or claim 12.

4.6 All other submitted documents are less relevant than the documents D1, D2, D3, D13, D15, D18 and D20.

4.7 The Board therefore concludes that the subject-matter of claims 1 and 12 of the main request is novel.

5. *Remittal to the first instance*

Since the Opposition Division has not yet examined inventive step considerations it is not appropriate for the Board to express an opinion on this matter. Furthermore, the appellant requested that the case be remitted to the first instance for further examination regarding inventive step. In accordance with Article 111(1) EPC, the Board therefore considers it appropriate to remit the case to the first instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

G. Nachtigall A. Burkhart