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D E C I S I O N
of 13 January 2006

Case Number: T 0888/04 - 3.3.06

Application Number: 96906237.1

Publication Number: 0808389

IPC: D21H 19/18

Language of the proceedings: EN

Title of invention:
Soft treated tissue

Patentee:
KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:
GEORGIA-PACIFIC FRANCE

Headword:
Soft tissue/KIMBERLEY-CLARK

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (Main and 1. and 2. Auxiliary Requests): no - obvious selection"
"Inventive step (3. Auxiliary Request): no - alternative process selected in order to comply with the developments of the papermaking technique - therefore obvious"

Decisions cited:
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Catchword:
-

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Case Number: T 0888/04 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 13 January 2006

Appellant: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 11 June 2004 concerning maintenance of European patent No. 0808389 in amended form.

Composition of the Board:

Chairman: G. Raths
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the interlocutory decision of the Opposition Division concerning the maintenance in amended form of the European patent no. 0 808 389 relating to a soft tissue product.

II. In its notice of opposition the Opponent sought revocation of the patent on the grounds of Article 100(a) EPO, because of lack of novelty and inventive step of the claimed subject-matter.

The following documents were referred to *inter alia* in support of the opposition:

(4): US-A-3 305 392;
(5): US-A-5 354 425;
(6): US-A-4 112 167 and
(7): US-A-3 896 807.

A new main request based on a set of 39 claims was filed by the Patent Proprietor during the oral proceedings held before the Opposition Division.

III. In its decision posted on 11 June 2004 the Opposition Division found that the claims according to said main request complied with the requirements of the EPC.

In particular it found that document (4) disclosed a soft tissue product having one or more plies, wherein one or both outer surfaces of the product had uniformly distributed solidified spaced-apart deposits, the composition of the deposits comprising a softener-

lubricant which could be a wax and an additive which could be oil.

The selection of a combination of a wax and an oil with the required melting point from the lists of the suitable unctuous materials and additives of document (4) was not arbitrary and, as shown by the tests contained in the patent in suit, brought about an improved technical effect not to be expected in the light of the teaching of that document.

IV. The set of claims according to the main request contains independent claims 1 and 28 reading, respectively, as follows:

"1. A soft tissue product having one or more plies, wherein one or both outer surfaces of the product have uniformly distributed solidified spaced-apart deposits having a composition comprising from about 30 to about 85 weight percent oil and from about 15 to about 40 weight percent wax, said composition having a melting point of from about 30°C to about 70°C."

"28. A method of making a soft tissue product comprising: a) heating a composition comprising from about 30 to about 85 weight percent oil and from about 15 to about 40 weight percent wax to a temperature above the melting point of the composition, causing said composition to melt, said composition having a melting point of from about 30°C to about 70°C; b) uniformly applying the melted composition to one or both surfaces of a tissue web in spaced-apart deposits; and c) resolidifying the deposits of the melted composition."

Dependent claims 2 to 27 and 29 to 39 refer to particular embodiments of the claimed tissue product and of the claimed method of making it, respectively.

V. On 12 July 2004 an appeal was filed by the Opponent (Appellant) against this decision.

An experimental report was filed by the Appellant as annexes I and II together with the statement of the grounds of appeal on 15 October 2004.

The Respondent and Patent Proprietor filed under cover of the letter dated 3 March 2005 three sets of claims as first to third auxiliary request, respectively.

The set of claims according to the first auxiliary request, containing 37 claims, differs from that according to the main request insofar as the independent claims 1 and 27 (former claim 28) require that **the actual surface coverage of the tissue product is from about 30 to about 99 percent,** former claims 20 and 30 being thus deleted.

The set of claims according to the second auxiliary request, containing also 37 claims, differs from that according to the main request insofar as the independent claims 1 and 27 (former claim 28) require that the space-apart deposits have **a composition comprising also from about 5 to about 40 weight percent fatty alcohol,** former claims 3 and 39 being thus deleted.

The set of claims according to the third auxiliary request, containing only 12 claims, differs from that according to the main request insofar as **it consists only of former method claims 28 to 39,** thus renumbered as claims 1 to 12.

Oral proceedings were held before the Board on 13 January 2006.

VI. The Appellant submitted in writing and orally *inter alia* that

- document (4) already suggested the combined use of emollients and, in particular, of a wax and an oil for providing a soft tissue having this formulation uniformly distributed as solidified spaced-apart deposits on the outer surface of the tissue; the combinations of materials applicable according to the teaching of document (4) had also a melting point as required in the patent in suit and could be added in the amounts envisaged by the patent;

- the soft absorbent tissues prepared by following the teaching of document (4) had properties of softness, pleasant hand-feel, absorbency and strength as those of the patent in suit; the alleged technical problem of the transferability of the emollients to the user's skin in order to reduce skin irritation and redness in an effective cost-effective manner was not reflected in the wording of claim 1 of the patent in suit which did not contain any features relating to the amounts of the emollients used or to their transferability to the skin;

- moreover the patent in suit envisaged the use of very low amounts of emollients, e.g. 1% by weight of the tissue, which, even if transferred to the user's skin, could not bring about any substantial effect;

- the tests of the patent in suit did not show any surprising advantage obtained by selecting the specific combinations of claim 1; in particular, the products of comparative examples 6 and 7 were not comparable to those of document (4) since the formulations applied to the surface of the tissues did not contain any waxy material as required by the teaching of document (4); the alleged effect had thus to be disregarded;

- therefore, document (4) already provided a solution to the technical problem dealt with in the patent in suit; the technical problem underlying the claimed invention amounted thus to the provision of an alternative product having similar characteristics;

- since it was obvious to select a wax and an oil from the lists of unctuous waxy materials and liquid additives of document (4), the claimed subject-matter lacked an inventive step in the light of the teaching of document (4) taken alone or in combination with any of the documents (5), (6) or (7);

- the additional technical features of claim 1 according to the first and second auxiliary requests were already suggested in document (4); moreover, the process of preparation of such products according to claim 1 of the third auxiliary request had already been suggested, e.g. in document (5), as an improvement over the method described in document (4);

- therefore, the subject-matter of the claims according to any of the auxiliary requests did not involve an inventive step.

VII. The Respondent submitted in writing and orally *inter alia* that

- the patent in suit provided absorbent tissues carrying formulations which not only improved their frictional characteristics between the skin and the web, as already taught in document (4), but also were readily transferable to the user's skin to reduce irritation and redness;

- starting from document (4), the skilled person would have had no reason to select amounts of wax and oil complying with all the requirements of the patent in suit for obtaining this technical effect;

- in fact, document (4) referred to a different technical problem and, even though some of the formulations which could be prepared by following its teaching could be transferable to the user's skin, it did not mention that this would be possible or even desirable;

- moreover, document (4) envisaged also the use of a wax as the main component or the only component of the coated formulation whilst the patent in suit required a skin care formulation wherein the wax was used in amounts of less than 50% by weight and served to obtain the desired consistency; the rest of the formulation,

e.g. the oil, served as emollient transferable to the user's skin;

- documents (5) to (7) did not contain additional information which would have led the skilled person to the claimed invention;

- in particular, the prior art did not suggest to use a process as claimed for obtaining a product having emollient deposits on its outer surface with the desired characteristics of transferability to the user's skin;

- the claimed subject-matter thus involved an inventive step over the cited prior art.

VIII. The Appellant requests that the decision under appeal be set aside and that the European patent No. 0 808 389 be revoked.

The Respondent requests that the appeal be dismissed or auxiliarily that the patent be maintained on the basis of one of the three auxiliary requests submitted with the letter dated 3 March 2005.

Reasons for the Decision

1. *Respondent's main request*

1.1 Articles 123(2) and (3), and 54 EPC

The Board is satisfied that the claims according to the main request comply with the requirements of Articles

123(2) and (3) EPC and that the claimed subject-matter is novel over the cited prior art.

Since the Appellant only argued against the inventiveness of the claimed subject-matter no further details are necessary.

1.2 Inventive step

1.2.1 The claimed invention and, in particular, the subject-matter of claim 1 relates to a soft tissue product, such as facial tissue or bath tissue, which has uniformly distributed solidified spaced-apart deposits of a composition comprising specific percentages of oil and wax on one or both of its outer surfaces (see page 2, lines 5 to 6 and 29 to 33).

As explained in the description of the patent in suit, soft absorbent tissues, though absorbing body fluids thus leaving the skin dry, also tend to abrade the skin. It was thus common in the prior art to add to such tissues formulations which either provide lubricity, thus causing the tissue to glide across the surface of the skin, or leave the tissue and deposit on the skin to reduce skin irritation. Since these formulations, being liquid or semi-solid, are usually absorbed into the tissue leaving less on the surface, a high amount of them should be used to provide the benefit (page 2, lines 5 to 14).

The technical problem underlying the claimed invention is thus presented in the patent in suit as the provision of a formulation to be applied to such kind of tissues in such a way to remain available for

transfer to the user's skin to reduce skin irritation and redness in an efficient cost-effective manner, i.e. without the need of using a high amount of it (page 2, lines 15 to 16).

1.2.2 Document (4) relates to a process for the treatment of the surface of thin, absorbent sheet material, e.g. facial tissue, in order to improve its softness and surface feel and to reduce friction to the skin in an economical way in order to achieve a maximum of utility and effect (see column 1, lines 14 to 25 and column 1, line 72 to column 2, line 21).

Since the formulation deposited onto the surface of the absorbent tissue is applied in amounts of only 0.1 to 4% by weight of the fibrous web (see column 2, lines 68 to 72) and is available for exerting its effect, the Board finds thus that this technical problem is similar to that described in the patent in suit.

The Board thus takes document (4) as the most suitable starting point for the evaluation of inventive step.

1.2.3 The products of document (4) contain the applied formulation as a discontinuous stratum only onto the outermost portion of the external fibres at the surface of the web (column 1, lines 53 to 57, figure 2, column 4, and lines 43 to 50). This formulation is applied by contacting the softener-lubricant block with the tissue in an uniform and complete way, by moving the web across one face of the suitably shaped block which can be also preheated to facilitate the abrading of the composition (column 2, lines 45 to 51; column 4, lines 38 to 42 and 48 to 50). The composition is thus

present as uniformly spaced-apart solids on the surface of the tissue.

This composition comprises necessarily a wax-like material which can comprise a wax such as spermacetic or carbowax as required in the patent in suit (column 3, lines 19 to 24 ad 43 to 49) and, preferably, a liquid or semi-solid additive, e.g. an oil such as mineral oil, in order to make the material to be applied softer (column 3, lines 33 to 43).

Therefore, the subject-matter of document (4) differs from that of attacked claim 1 insofar as it does not disclose a composition comprising about 30 to about 85 weight percent oil and from about 15 to about 40 weight percent wax, said composition having a melting point of from about 30°C to about 70°C.

1.2.4 As regards the transferability of the formulation applied onto the surface of the absorbent tissue to the user's skin to reduce skin irritation and redness, document (4) would appear at first sight not to relate explicitly to such an effect.

However, this document teaches that the composition to be applied has softening and lubricating properties, is non-irritating to the skin and is desirably an emollient for the skin (column 3, lines 54 to 55).

Emollients are well-known components of skin cleansers in cosmetic formulations **for application to the skin** and include e.g. paraffins as well as waxes (see e.g. document (6), column 10, lines 25 to 49), i.e. most of the components which can be used as softener-lubricant

or additive according to the teaching of document (4) (see column 3, lines 20 to 29 and 41 to 43).

The teaching of document (4) implies thus in the Board's judgement that the preferred formulations being emollients for the skin must be available for transfer to the rubbed user's skin in order to provide the desired emollient effect.

The Appellant has also not disputed that some of the formulations encompassed by document (4) might be transferred on use onto the user's skin.

The Board concludes thus that document (4) dealt also in its preferred embodiments with the same technical problem as indicated in the patent in suit, namely with the transferability of the formulation applied onto the surface of the absorbent tissue to the user's skin to reduce skin irritation and redness.

1.2.5 The Appellant argued that the selection of specific amounts of wax and oil and the selection of the melting point of their mixture would be essential for the effective transfer onto the skin of the emollients. The crucial importance of such features cannot, however, be derived from the text of the patent in suit or from the tests present therein.

In fact "transferability" is only mentioned in the passage contained on page 2, lines 15 to 16 of the description relating to the technical problem to be solved and the tests present in the patent in suit do not relate explicitly to the improvement of the transfer to the skin of the selected formulations but

only to the improvement of the softness, thickness or absorbency in comparison to a commercial lotion-treated tissue having an emollient composition absorbed therein (see page 6, lines 45 to 46 in combination with page 4, lines 57 to 58).

Moreover, the comparative examples 6 and 7 relate to formulations not containing any of the waxy materials essential for the compositions according to document (4) and listed therein on column 3, lines 19 to 32 (see patent in suit, page 8, line 17). In fact, the Board notes that the formulations of examples 6 and 7 of the patent in suit are prepared in the same way as that of example 1, i.e. by premixing components liquid at ambient temperature, the last one being mineral oil, before heating and adding the components solid at room temperature (see page 6, lines 21 to 23). Since components 1 to 6 of example 6 and 1 to 4 of example 7 of the patent in suit must be liquid, isopropyl palmitate cannot be considered to be a waxy ester of palmitic acid as required in document (4) (column 3, lines 24 to 26) which must form a solid block at room temperature. Furthermore, component 7 of example 6 is a glyceryl monohydroxystearate and not a glycerol **stearate** cited in document (4) as a waxy component (column 3, line 23) which does not contain any hydroxyl group on the stearic rest.

Therefore, the Board finds that examples 6 and 7 - cited in the patent in suit for comparative purpose - do not relate to a formulation as required in document (4); in fact, according to the requirements of document (4), such compositions must be solid at room

temperature and contain a waxy component from the list of column 3, lines 19 to 32.

These comparative examples are thus not apt to show the presence of any technical advantage over the products of document (4).

The alleged additional technical advantage of an improved transferability to the user's skin of the selected formulations has thus to be disregarded.

1.2.6 The Board finds therefore that the products of document (4) already solved the same technical problem dealt with in the patent in suit.

The technical problem underlying the claimed invention, seen in the light of document (4), can thus only be specified in simpler terms as the provision of an alternative material having similar properties.

The Board has no reason to doubt that the technical problem underlying the claimed invention, as defined hereinabove, has been successfully solved by means of a product as claimed.

1.2.7 The question to be answered in order to evaluate the inventiveness of the claimed subject-matter is thus whether the skilled person, in the light of the teaching of the prior art and of his common general knowledge, would have envisaged to select a formulation as claimed within the broader range of possibilities disclosed in document (4).

The Board finds that, following the teaching of document (4), the skilled person could select a wax, e.g. spermacetic or carbowax, from the list of the waxy component and would add oil, e.g. mineral oil, in order to render the solid block more soft and easy to abrade. Since a wax such as spermacetic or carbowax has already a melting point as required in the patent in suit (see annexes 1 and 2 to the Appellant's statement of the grounds of appeal), the addition of oil could only lower this melting point to a point within the claimed range, as the block prepared according to the teaching of this document must remain solid.

The adjustment of the concentrations of the various components in order to form a block suitable for application of the formulation from the process of document (4) is a routine operation for the skilled person; said operation by itself cannot be considered to require any inventive skill.

The Appellant has also shown by experiments that solid blocks as required in document (4) are obtainable by following the teaching of document (4) and using concentrations of wax and oil as required in the patent in suit (see annex 1 to the Appellant's statement of the grounds of appeal).

Moreover, the Board finds that document (4) does not require the wax to be the major component of the used formulation. A wax-like component is regarded as being essential and can be used alone or in combination with any amount of, e.g., mineral oil insofar as such a mixture gives a solid block which can be abraded.

Furthermore, it has not been shown that the specific concentrations selected in claim 1 of the patent in suit bring about any unexpected additional technical effect. Hence these concentrations have been arbitrarily chosen.

The Board therefore concludes that it was obvious for the skilled person, following the teaching of document (4), to try a combination of wax and oil having all the characteristics of a product according to claim 1 of the patent in suit.

Therefore, the subject-matter of claim 1 according to the main request does not involve an inventive step.

2. *Respondent's first auxiliary request*

Claim 1 according to the first auxiliary request differs from that according to the main request insofar as it requires additionally that **the actual surface coverage of the tissue product is from about 30 to about 99 percent**.

Document (4) discloses, however, that the softener-lubricant block can be contacted with the surface of the paper tissue uniformly and completely (column 4, lines 48 to 50). This includes necessarily coverage of about 99 percent.

Since the additional technical feature mentioned above was already suggested in document (4), the subject-matter of claim 1 according to this request does not amount to an inventive step for the same reasons put forward above with regard to the main request.

3. *Respondent's second auxiliary request*

Claim 1 according to the second auxiliary request differs from that according to the main request insofar as it requires that the space-apart deposits have **a composition comprising also from about 5 to about 40 weight percent fatty alcohol.**

However, document (4) already suggested that a stearyl alcohol, i.e. a fatty alcohol, could be used as part of the waxy component (column 3, line 24). It was thus obvious for a skilled person to try such an alcohol in combination with the other components disclosed therein.

Since it has not been shown that the selection of particular concentrations of fatty alcohol in combination with the other components brings about any unexpected technical effect, the subject-matter of claim 1 according to this request does not amount to an inventive step for the same reasons put forward above with regard to the main request.

4. *Respondent's third auxiliary request*

The set of claims according to the third auxiliary request, containing only 12 claims, differs from that according to the main request insofar as **it consists only of former method claims 28 to 39,** thus renumbered as claims 1 to 12.

The method of claim 1 requires that the composition of wax and oil is heated to a temperature above the melting point of the composition, is uniformly applied

to one or both surfaces of a tissue web in spaced-apart deposits and that the deposits are then solidified.

This method differs from that disclosed in document (4) since it requires to form a melt of the formulation and then to apply it to the tissue in a way to provide spaced-apart solids, e.g. by means of a rotogravure printing technique (see page 3, lines 52 to 53 and figure 1) whilst document (4) requires the formation of a solid block of the softener-lubricant composition which is then rubbed against an optionally preheated web (column 4, lines 38 to 47).

However, document (5) already suggested that the dry web process of document (4) was difficult to adapt to commercial papermaking systems that run at high speeds (column 3, lines 1 to 10 and 21 to 24). Document (5) thus suggested to use a different dry web method applicable in modern papermaking techniques (column 3, lines 31 to 37), e.g. to melt the composition to be applied and to use a printing technique such as flexographic printing (column 11, line 66 to column 12, line 4 and example 2).

It was moreover also known that such methods allow a uniform application of a formulation as spaced-apart deposits as obtained by following the teaching of document (4) (see e.g. document (5), column 12, line 61 to 63 and column 13, lines 14 to 16).

By applying the printing techniques of document (5), the skilled person would thus have expected to obtain a product not having different characteristics from those obtained following the teaching of document (4).

Since it was obvious for the skilled person to apply the printing technique of document (5) instead of the process of document (4) in order to comply with the development of the papermaking technique, the Board concludes that the subject-matter of claim 1 of this request does not involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

A. Wallrodt G. Raths