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**Datasheet for the decision
of 27 February 2007**

Case Number: T 0492/05 - 3.3.06

Application Number: 96912478.3

Publication Number: 0823007

IPC: D21H 27/38

Language of the proceedings: EN

Title of invention:

Disposable paper products with indicator means

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

SCA Hygiene Products AB

Headword:

Disposable Paper/PROCTER

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (all requests) - no; problem and solution, suitable starting point for the assessment of inventive step"

Decisions cited:

-

Catchword:

-



Case Number: T 0492/05 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 27 February 2007

Appellant:
(Opponent)

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Representative:

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Respondent:
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Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 February 2005 concerning maintenance of
European patent No. 0823007 in amended form.

Composition of the Board:

Chairman: P.-P. Bracke
Members: G. Dischinger-Höppler
A. Pignatelli

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning maintenance of the European patent No. 0 823 007 in amended form on the basis of the then pending first auxiliary request, the independent Claim 1 reading:

"1. A disposable paper product (20) comprising:

- at least one lamina of relatively low basis weight paper; and
- an indicator means (29) disposed on a portion of said at least one lamina wherein:

said indicator means (29) comprises a pattern of discrete elements; and characterised in that said indicator means is selected from the group consisting of opacifying material, which is added to a laminating adhesive and opaque white ink, said indicator means (29) is not substantially visually distinguishable when said disposable paper product (20) is in dry state and said indicator means (29) becomes visually distinguishable when said disposable paper product (20) is transformed from said dry state to a wet state by substantially transparent aqueous liquid."

II. A notice of opposition had been filed against the granted patent, wherein the Opponent sought revocation of the patent on the grounds of Article 100(c) EPC for added subject-matter (Article 123(2) EPC), Article 100(b) EPC for insufficiency of disclosure (Article 83 EPC) and Article 100(a) EPC for lack of

novelty and lack of inventive step (Articles 52(1), 54 and 56 EPC). The opposition was based, amongst others, on the following documents

D1 DE-A-4 142 460, and

D7 WO-A-95/08671.

III. In its decision, the Opposition Division held that the subject-matter claimed in accordance with the first auxiliary request fulfilled the requirements of the EPC. The higher ranking main request was held to be not allowable under Article 123(2) EPC for extension beyond the application as filed.

The Opposition Division further refused to admit the Opponent's late ground of opposition under Article 52(2) EPC for being not prima facie relevant.

IV. This decision was appealed by the Opponent, now Appellant, and the Patent Proprietor, now Respondent, filed submissions in reply.

Under cover of a letter dated 27 December 2006, the Respondent filed amended sets of claims in eight auxiliary requests.

During oral proceedings held before the Board on 27 February 2007, the Respondent withdrew its first, third, fifth and seventh auxiliary requests and maintained the second, fourth, sixth and eighth auxiliary requests as its first to fourth auxiliary requests.

Claim 1 of the first auxiliary request differs from Claim 1 of the main request by adding at the end the feature ", wherein the gray scale difference between said wet state and said dry state, between said portion of said at least one lamina that is not provided with said indicator means and said portion of said at least one lamina that is provided with said indicator means is at least 64 gray scale units".

Claim 1 of the second auxiliary request differs from that of the main request by adding at the end the features ", and wherein said disposable paper product comprises at least two laminae (20T, 20B) that are joined by a laminating adhesive (27), said laminating adhesive (27) also comprising an opacifying agent, said opacifying agent causing said laminating adhesive (27) to act as said indicator means (29), and said opacifying agent has a refractive index of greater than 1.55".

Claim 1 of the third auxiliary request differs from that of the second auxiliary request by substituting the last feature of the claim "and said opacifying agent has a refractive index of greater than 1.55" by the term ", and wherein said laminate comprises first and second laminae (20T, 20B), said laminae being provided with embossed regions comprising embossments (22) having distal ends (23) wherein said laminating adhesive (27) is applied to said distal ends (23) of at least a portion of said embossments (22)".

Claim 1 of the fourth auxiliary request differs from that of the third auxiliary request by adding at the end the following features "and wherein said indicator

means (29) is generally disposed between two of said laminae (20T, 20B), and wherein said opacifying agent is titanium dioxide and wherein the gray scale difference between said wet state and said dry state, between said portion of said at least one lamina that is not provided with said indicator means and said portion of said at least one lamina that is provided with said indicator means is at least 64 gray scale units".

V. The Appellant, orally and in writing, submitted in essence the following arguments:

- The amendments made to the claims were not allowable under the provisions of Articles 84 and/or 123(2) EPC. Further, the claimed subject-matter was not sufficiently disclosed contrary to the requirements of Article 83 EPC, excluded from patentability under Article 52(2)b EPC due to lack of technical character and anticipated by the disclosure of D1.

- The claimed subject-matter was further not inventive over the disclosure of D7 in combination with the disclosure of D1.

VI. The Respondent, orally and in writing, refuted the Appellant's objections under Articles 123(2), 84, 83, 54 and 56 EPC and refused its consent that the ground of opposition under Article 52(2) EPC be allowed in appeal proceedings. Concerning inventive step, the Respondent submitted in essence the following arguments:

- The technical problem solved by the claimed subject-matter in view of D7 as the closest prior art consisted in the provision of a disposable paper product wherein a pattern is made visible when the paper is in the wet state.

- Whilst the skilled person could have used within the adhesive present in the laminate disclosed in D7 a filler material like titanium dioxide (TiO_2) as disclosed in D1, there was no reason to do so since D1 neither contained a hint to the above technical problem nor suggested that a beneficial effect could be obtained if TiO_2 was used as opacifying material.

- Even if the skilled person had combined the teaching of D1 and D7, he could not have arrived at the claimed product without making several selections within the teaching of D1 for which no guidance was given either in D1 or in D7.

- The closest prior art in relation to the fourth auxiliary request was represented by the trade mark product WALK'N ROLL by Kimberly Clark Corporation since this product already addressed the object underlying the patent in suit. The technical problem solved by the claimed subject-matter in view of this product consisted of the provision of an alternative means for the same purpose for which no suggestion was present in the cited prior art.

VII. The Appellant requested that the decision under appeal be set aside and the patent be revoked.

The Respondent requested that the appeal be dismissed, or the patent be maintained on the basis of auxiliary request 2 or 4 or 6 or 8 as filed with letter dated 27 December 2006.

Reasons for the Decision

1. *Amendments, sufficiency of disclosure, technical character and novelty*

The Board is satisfied that the claims of all requests fulfil the requirements of Article 123(2) EPC and that the subject-matter claimed therein is sufficiently disclosed (Article 83 EPC) and not anticipated by the cited prior art (Article 54 EPC).

Concerning clarity of the claimed subject-matter as amended (Article 84 EPC), the Board notes not only that both parties, orally and in writing, were able to present their arguments in relation to novelty and inventive step but also that their technical understanding of the claimed subject-matter was not contradictory.

Since the appeal succeeds for other reasons, there is no need to give further details.

The same applies for the objection under Article 52(2) EPC since it is irrelevant in the present case as will be apparent from the detailed reasoning given below in relation with inventive step.

2. *Main request*

- 2.1 The patent in suit and in particular Claim 1 relate to disposable paper products comprising at least one lamina of relatively low basis weight paper (page 2, paragraphs [0001] and [0006] in combination with page 3, lines 15 to 16).

The relevant prior art mentioned in the patent in suit includes paper products of two embossed laminae wherein each embossed site of one lamina is adhesively joined to a non-embossed site of the other lamina. These products are said to provide high quality quilted cloth-like appearance, thick caliper and an aesthetically pleasing pattern without sacrificing other desirable qualities like softness and absorbency of the paper product (page 2, paragraph [0009]).

Such a paper product comprising two laminae adhesively joined at the distal ends of embossments is known, e.g. from D7 (Figure 1 in combination with page 3, lines 15 to 19 and page 7, lines 1 to 24), in particular for being used as paper towels, toilet tissue or facial tissue (page 1, lines 16 to 18 and page 3, lines 9 to 14), hence as disposable paper product of relatively low basis weight. It is apparent from Figure 2, that the embossments provide a pattern of discrete elements when the paper is in the dry state (see also page 8, line 31 to page 9, line 15).

The Board agrees, therefore, with both parties that D7 is a suitable starting point for the assessment of inventive step.

2.2 It is explained in the description of the patent in suit, that any pattern coming from embossments and, therefore, any beneficial appearance related to such pattern essentially disappears when the paper product is saturated with water (page 3, lines 1 to 5).

The object of the patent in suit is, thus, stated to consist in the provision of disposable paper products, such as paper towelling, with a readily recognisable signal that the article has desirable physical properties, particularly when the article is wetted with a substantially transparent aqueous liquid (page 3, lines 6 to 8).

2.3 It is undisputed that the paper product of D7 does not comprise an indicator means as claimed in Claim 1, namely an indicator means which is disposed on a portion of the lamina(e), comprises a pattern of discrete elements and consists of either an opacifying material added to the laminating adhesive or an opaque white ink and which is not substantially visible when the paper product is dry but becomes visible when the paper product is wetted by a transparent aqueous liquid.

2.4 In view of D7, so the Respondent argued, the technical problem to be solved can thus be defined to consist in providing a paper product wherein a pattern of discrete elements is made visible when the paper is in a wet state.

However, as correctly observed by the Respondent, the visibility of the pattern in the wet state of the paper is a feature of Claim 1 (see I above) and as such

necessarily part of the solution of another technical problem.

The Board agrees therefore with the Respondent that the technical problem credibly solved by the claimed subject-matter over the disclosure of D7 has to be reformulated. The examples given in the patent in suit only show how the claimed visibility of the pattern on the wet paper is achieved by using TiO_2 as opacifying material at a concentration of e.g. 3.75% or 7.5% (Table 1), that the same visibility is achieved by the commercial product WALK'N ROLLTM by Kimberly Clark Corporation (Table 2) and that consumers prefer the wet appearance of the claimed paper showing a pattern of discrete elements over patterns of continuous elements (Table 3). Hence, no evidence is present in the patent in suit showing a particular **technical** effect which is provided by the claimed paper product, in particular by the claimed visibility of the pattern of discrete elements on the paper when compared with the paper disclosed in D7. Nor has the Respondent provided evidence for such an effect during prosecution of the case. Therefore, the technical problem actually solved by the claimed subject-matter in view of D7 can only be seen as providing an alternative paper product.

- 2.5 It remains to be decided whether, in view of the available prior art documents, it was obvious for someone skilled in the art to solve the above stated technical problem by the means claimed, namely by providing the paper product with an indicator means as defined in Claim 1.

2.6 As pointed out above (point 2.2), the product of D7 does not contain an indicator means comprising a pattern of discrete elements which is only visible when the paper is wet.

2.7 However, D1 discloses an aqueous binder composition for use in laminating paper webs comprising 10 to 80 parts by weight of an aqueous dispersion containing 30 to 70 wt% of a synthetic resin and 0.1 to 300, preferably 10 to 100, parts by weight of an organic or inorganic filler material of low water solubility, thus, corresponding to a preferred minimum concentration of filler of about 11 wt%. The filler material is said to improve the adhesive strength of the resin. Suitable inorganic fillers include the material used in the patent in suit as indicator means, i.e. opacifying material, which is added to the laminating adhesive, namely TiO_2 , zinc oxide, calcium carbonate and kaolin (in D1: Claim 1 and column 3, lines 28 to 48; in the patent: page 7, lines 21 to 25).

The Board concludes, therefore, that a person skilled in the art seeking to provide an alternative paper product to that disclosed in D7 would consider any of the binder composition disclosed in D1, hence, also those containing TiO_2 , zinc oxide, calcium carbonate and kaolin, in particular those containing the filler in the preferred amounts of at least about 11 wt%, as a possible substitute for the adhesive used at the distal ends of the embossments present in the laminates of D7. He would, thereby, arrive at the claimed subject-matter since the product then obtained necessarily includes an indicator means in the form of a pattern of discrete elements which pattern is produced by the embossments

provided in accordance with D7 and which indicator means is visible only in the wet state of the paper due to the opacifying material contained in the adhesive resin of the binder composition.

2.8 The Respondent essentially argued that a skilled person could not arrive at the claimed subject-matter by merely combining the disclosure of D7 and D1. On the contrary, he had to make deliberate selections, in particular, within the group of fillers and the amounts to be used as well as from the various methods of applying the binder compositions suggested in D1.

2.9 The Board is not convinced by these arguments since D1 proposes adhesive binder compositions which fulfil the requirements of the indicator means of Claim 1 and which are used for the purpose of laminating paper webs. For those skilled in the art, these compositions are just as suitable as any other binder compositions covered by the disclosure of D1 as a substitute for the laminating adhesive used in D7 if the technical problem to be solved consists merely in the provision of an alternative paper product. It is not necessary for this purpose to select a particular application method or binder composition, but only to try as adhesive in D7 the binder compositions disclosed in D1. Therefore, the Board concludes that the skilled person would simply try the compositions of D1 in the reasonable expectation of success and thus arrive in an obvious manner at the claimed subject-matter.

In the present case, it is therefore irrelevant whether the feature concerning the visibility of the pattern formed by the indicator means provides merely an

aesthetic effect in accordance with Article 52(2)(b) EPC since the same effect is necessarily obtained by the above obvious substitution of the adhesive used in D7 by e.g. the TiO₂ containing binder composition of D1.

2.10 For these reasons the Board finds that the subject-matter of Claim 1 is not based on an inventive step and does not comply with the requirements of Articles 52(1) and 56 EPC.

3. *Auxiliary requests*

3.1 Claim 1 of the first auxiliary request differs from that of the main request in that the degree of visibility of the pattern in the wet paper product is defined via a gray scale difference (as defined in the patent in suit) of at least 64 gray scale units (see point IV).

Claim 1 of the second auxiliary request differs from that of the main request only in that the opacifying agent is defined via a refractive index of greater than 1.55 and in that the product now contains at least two laminae which are joined by the laminating adhesive comprising the opacifying agent.

Claim 1 of the third auxiliary request differs from that of the second auxiliary request only in that the adhesive is applied to the distal ends of embossments provided on the laminae and that the feature relating to the refractive index has been deleted.

Claim 1 of the fourth auxiliary request differs from that of the third auxiliary request only in that the

indicator means is disposed between two laminae and TiO_2 is used as the opacifying material.

However, for the reasons set out below, the newly introduced features do not add anything on which an inventive step could be based:

The specific visibility as defined in Claim 1 of the first auxiliary request via the grey scale difference is necessarily also provided by the binder composition of D1 when TiO_2 is used as filler in the preferred minimum amount (see point 2.7 above and in D1, column 3, lines 28 to 48).

The refractive index defined in Claim 1 of the second auxiliary request is an inherent property of a material and the value of at least 1.55 is not only present in TiO_2 but also in other filler materials mentioned in D1 (e.g. zinc oxide, calcium carbonate and kaolin) as is well-known from chemical encyclopaedias.

Further, it is apparent from D1 and D7 that the adhesive or adhesive binder composition respectively is also used for joining at least two laminae (D1, Claim 1; D7, Figure 1 in combination with page 7, lines 14 to 16).

The feature introduced in Claim 1 of the third auxiliary request is already present in the paper product of D7 (Figure 1 in combination with page 7, lines 14 to 16).

Finally, the features introduced in Claim 1 of the fourth auxiliary request necessarily result if a binder

composition containing TiO_2 as filler in accordance with D1 is used in the paper product of D7 as adhesive (D1, column 3, lines 28 to 48 in combination with column 5, lines 36 to 43; D7, Figure 1 in combination with page 7, lines 14 to 16).

Therefore, the above conclusions with respect to Claim 1 of the main request apply, *mutatis mutandis*, also to Claim 1 of the auxiliary requests.

3.2.1 At the oral proceedings before the Board, the Respondent sought to argue with regard to the fourth auxiliary request that the closest prior art was not disclosed in D7 but represented by the commercial product WALK'N ROLLTM by Kimberly Clark Corporation since this product had the most features in common with the claimed subject-matter and already solved the problem stated in the patent in suit. The technical problem solved by the claimed subject-matter in view of this prior art consisted in the provision of a further means for the same purpose, namely of providing disposable paper products with a readily recognisable signal that the product has desirable physical properties in the wet state. Since there was no hint in the prior art for solving this problem as proposed in Claim 1, the subject-matter as claimed was based on an inventive step.

3.2.2 In the Board's opinion, there is however no reason why the WALK'N ROLLTM product should be more suitable as a starting point for the assessment of inventive step than the product disclosed in D7.

Firstly, as indicated above (point 2.4), the visibility of the pattern in the wet state of the paper mentioned in the patent in suit as an object of the invention is part of the claimed subject-matter, hence, part of the solution of a problem not related to that visibility. Further, there is no evidence that the scrim in the WALK'N ROLLTM product actually provides a pattern indicating desirable physical properties in the wet state. On the contrary, the patent in suit states that such scrims are used for specific needs to add strength to a disposable paper product and where the benefit gained outweighs the higher cost and the loss of softness or absorbency caused by the introduced scrim (page 2, paragraph [0005]).

Secondly, the Respondent has not indicated any prior art document relating to that particular commercial product. The only information available with regard to this product is, therefore, the information given in the patent in suit where it is described as a product comprising between two laminae a scrim which provides a pattern of continuous elements if the product is in a wet state and that the wet gray scale difference of the WALK'N ROLLTM product is as large as 65 gray scale units (see in the patent, page 9, paragraphs [0063] and [0064] and Table 2).

However, as correctly stated by the Respondent and not contradicted by the Appellant, several important features are not present in the WALK'N ROLLTM product but present in the product disclosed in D7. For example, the commercial product does not show embossments on the laminae, adhesive applied to the distal ends of the embossments or a pattern of discrete elements.

3.2.3 The Board, therefore, concludes that D7 remains valid as a suitable starting point for the assessment of inventive step of the subject-matter claimed in the fourth auxiliary request with the consequence that this subject-matter is not based on an inventive step as set out above under point 3.1.

3.2.4 For the sake of completeness, the Board wishes to indicate its opinion that the claimed subject-matter would also not involve an inventive step even if the WALK'N ROLLTM product was used as the starting point.

Considering the sparse information available with regard to this product, the claimed subject-matter differs therefrom at least by the presence of TiO₂ and the above mentioned embossments, adhesive on the embossments and pattern of discrete elements.

No technical improvement of the claimed subject-matter over the WALK'N ROLLTM product has been shown or relied upon by the Appellant. However, considering paragraph [0005] of the patent in suit (see also point 3.2.2 above), a possible technical problem may consist in the provision of disposable paper products having comparable strength but higher softness and absorbency.

It is, however, known from D1 that fillers like TiO₂ improve the strength of the adhesive resin.

The Board concludes, therefore, that it was obvious for someone skilled in the art to replace the plastic scrim of the WALK'N ROLLTM product by any of the filler containing binder composition disclosed in D1 in order

to provide strength and at the same time remove the origin of loss of softness and absorbency.

Concerning the remaining features of Claim 1, namely those relating to laminae adhesively joined at the distal ends of embossments in a pattern of discrete elements, the Board observes that it is conspicuous from the patent in suit (see paragraph [0009] and point 2.1 above) that softness and absorbency are not attributed thereto. Instead, it is stated in this paragraph that these features provide a high quality cloth-like appearance, thick caliper and an aesthetically pleasing pattern without sacrificing other desirable qualities such as softness, absorbency and bond strength.

Hence, the features concerning the adhesively joined and embossed laminates are not related to the technical problem of providing strength, softness or absorbency of the paper product but merely to a particular appearance of the product. It is however known from D7 (Figures 1 and 2 in combination with page 1, lines 16 to 18, page 3, lines 15 to 28 and page 7, lines 14 to 16) that such an appearance is achieved by laminae adhesively joined at the distal ends of embossments in a pattern of discrete elements. Therefore, an inventive step cannot be based upon these features.

4. Since all of the Respondent's requests fail, the patent has to be revoked.

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:

G. Rauh

P.-P. Bracke