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**D E C I S I O N**  
**of 10 June 1999**

**Case Number:** T 0374/96 - 3.2.2

**Application Number:** 89200783.2

**Publication Number:** 0335466

**IPC:** A61C 15/04

**Language of the proceedings:** EN

**Title of invention:**

Dental Floss

**Patentee:**

Colgate-Palmolive Company

**Opponent:**

Westone Products Limited

**Headword:**

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**Relevant legal provisions:**

EPC Art. 123(2)

**Keyword:**

"Documents "incorporated by reference"

**Decisions cited:**

T 0196/92, T 0952/93, T 0689/90, T 0006/84

**Catchword:**

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Boards of Appeal

Chambres de recours

**Case Number:** T 0374/96 - 3.2.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.2**  
**of 10 June 1999**

**Respondent:** Westone Products Limited  
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**Representative:** Paget, Hugh Charles Edward  
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**Appellant:** Colgate-Palmolive Company  
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**Representative:** van Gennip, Johannes Simeon Wilhelmus  
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**Decision under appeal:** Interlocutory decision of the Opposition Division  
of the European Patent Office posted 12 February  
1996 concerning maintenance of European patent  
No. 0 335 466 in amended form.

**Composition of the Board:**

**Chairman:** W. D. Weiß  
**Members:** R. Ries  
J. C. M. De Preter

## Summary of Facts and Submissions

- I. European patent No. 0 335 466 was opposed under Article 100(c) EPC on the sole ground that the subject matter of the European Patent extended beyond the content of the application as filed (Article 123(2) EPC).
- II. The Opposition Division held in its interlocutory decision posted on 12 February 1996 that the subject matter of claim 1 as granted (main request) extended beyond the application as filed, but that the claims of the first auxiliary request fulfilled the requirements of Article 123(2) EPC.
- III. The Appellants (patentees) lodged an appeal against the interlocutory decision of the opposition division to maintain the patent in amended form. A statement of grounds was filed and, as an auxiliary request, oral proceedings were requested.
- IV. The Respondent replied to the appeal.
- V. Oral proceedings were held before the Board of Appeal on 10 June 1999, at the end of which the requests were as follows:
  - (i) The Appellants requested that the appealed decision be set aside and the patent be maintained on the basis of the claims as granted (main request), or be maintained on the basis of auxiliary request I or auxiliary request II (the words "a multiplicity of filaments" in line 3 being deleted) filed on 24 June 1996. As a third

auxiliary request they requested to maintain the patent in the form deemed allowable in the interlocutory decision of the Opposition Division.

In addition, reimbursement of the Appeal fee was requested.

(ii) The Respondents requested that the appeal be dismissed.

VI. Claim 1 as granted reads as follows:

"1. A waxed dental cleaning floss comprising a coating adhering thereon of microcrystalline wax, characterized in that it comprises an Expanded PTFE having a multi filamentous nature of the interior, said floss having a coefficient of friction of from 0.08 to 0.25."

VII. The Appellants argued as follows:

Claim 1 as granted which does not contain the limits for the tensile strength and the polymer matrix strength is fully supported by the description as originally filed. As indicated in the description, conventional PTFE, e.g. as disclosed in D1, is not suitable for use as a dental floss since it is too weak and breaks. Therefore, the invention uses a modified PTFE called "Expanded PTFE" which is porous and exhibits a high strength. These properties are attained by uni-axial or bi-axial stretching coupled with heating (cf. the A2 publication, page 3, lines 51 to 55). As set out in the patent application page 4, lines 3/4, such "Expanded PTFEs" and the properties thereof are described in D2 US-A-3 953 566, D3

US-A-4 096 227, D6 US-A-4 187 390 and D7 US-A-3 962 153 which are all "incorporated by reference" to the patent. Apart from the specific physical properties of Expanded PTFE exclusively mentioned in the A2 publication on page 3, lines 56 to 58, which are, however, regarded to be only a preferred embodiment of the invention, the entire description makes no reference to specific ranges for the tensile strength and the matrix strength of "Expanded PTFE" to adhere to. In a more general way, the expert reader of the application as filed is referred several times to the cross references D2, D3, D6, D7 describing in detail the mechanical properties and the production route of the Expanded PTFE used in the invention. The skilled person on reading the application would, therefore, turn to these documents which are incorporated by reference, when he seeks more detailed information about the material used in the invention. Consequently, a limitation of claim 1 by including any ranges for the tensile strength and the matrix strength are not necessary since the broad wording of claim 1 has a basis in the application as filed. Moreover, a clear distinction has to be made between "Expanded PTFE" and "high strength expanded PTFE". Contrary to the unreasoned opinion of the Opposition Division, the term "Expanded PTFE" is held suitable to define a high strength region of the spectrum of expanded PTFEs produced according to the Gore patents. Besides, there is no basis or indication in the specification for concluding or implying that Expanded PTFE having a tensile strength below 10,000 psi and a polymer matrix strength lower than 100,000 psi would not be suitable for use as a dental floss, contrary to the fallacious and unreasoned contention given in the interlocutory

decision of the Opposition Division. Therefore, refund of the appeal fee is justified.

VIII. The Respondents argued as follows:

The patent at issue makes reference to four other documents D2, D3, D6 and D7. However, the specification as filed is emphatic and self-contained, i.e. capable of being understood without the reference to any other document, in that it specifies either in claim 1 or in the description, page 3, lines 57, 58 the tensile strength and matrix tensile strength ranges necessary to adhere to in order to solve the problem underlying the patent at issue. Consequently, there is no need whatsoever for a skilled person to turn to those documents in order to find a substitute value for the tensile strength and the matrix tensile strength other than those already mentioned in the patent. On the contrary, resorting to these documents would make the case totally inconsistent, since they also disclose expanded PTFE products exhibiting tensile strength values below 5000 psi, thus corresponding to the tensile strength of "conventional PTFE" which is, however, found unsuitable for the intended purpose. As to the term "Expanded PTFE" in comparison with "expanded PTFE" or even "high strength expanded PTFE", it is entirely wrong to provide a significant technical limitation of claim scope by means of the use of a capital letter at the beginning of a word. Consequently, the amendments to claim 1 contravene Article 123(2) EPC.

## Reasons for the Decision

1. The appeal is admissible.
2. Claim 1 as originally filed comprised the technical feature

"having a tensile strength of at least 68950 KPa and a polymeric matrix strength of at least about 689600 KPa" which is not contained in claim 1 as granted. According to the applicant (now appellant) these lower limits for the tensile strength and the polymer matrix strength were removed since their values were considered to be redundant because according to the description expanded PTFE has inherently a tensile strength of at least 68,950 KPa and a polymer strength of at least 689,600 KPa (see letter of 29 October 1992, page 1, last paragraph).

3. According to the established case law of the Boards of Appeal, the deletion of a technical feature from a claim may be permissible in circumstances where its removal serves to avoid a contradiction within the claim or to resolve an inconsistency. The removal of a technical feature may also be allowed if the skilled person would directly and unambiguously recognise that this feature is not identified as essential to the functioning of the invention in the light of the technical problem it serves to solve.

However, the deletion of a technical feature from a claim is not permissible under Article 123(2) EPC where a skilled person would understand the application as filed as seeking protection for a particular

combination of features. In the present case, the skilled person is aware on reading the original disclosure that the minimum limits of 10 000 psi (68950 KPa) for the tensile strength and of 100 000 psi (689 500 KPa) for the polymer matrix strength of the Expanded PTFE specifically mentioned in claim 1 as filed and in the description, page 3, lines 57/58 of the A2 publication are critical to the functioning of the invention, since according to page 2, lines 53/54 of the description, "the tensile strength of Expanded PTFE described below is quite satisfactory for pressures associated with flossing". By the wording "described below", the expert reader looking for more detailed information about the technical properties of Expanded PTFE is referred to the description page 3, lines 57/58 and to claim 1 which explicitly specify the tensile strength and polymer matrix strength of Expanded PTFE used in application. Hence, both claim 1 as filed and the passages on pages 2 and 3 reflect the necessity to adhere to a minimum tensile strength and a minimum polymer matrix strength in order to provide an Expanded PTFE which is suitable for the particular use as a dental floss. Thus, contrary to the position of the appellants, there is no indication whatsoever in the application as filed that these minimum values are of minor importance or even could be dispensed with, or that they merely represent a preferred embodiment of the invention. On the contrary, the minimum limits for the mechanical properties of Expanded PTFE featuring in claim 1 confirm that they have to be regarded as being one of the key features of the invention rather than being merely a preferred embodiment or even optional.

4. The Appellants have drawn attention inter alia to

page 3, lines 5, 6, 23, 27 to 29, 46, page 4, lines 1 to 5, which all relate to "Expanded PTFE" without specifying its properties. In particular, they refer to the passage on page 3, line 51 to 55 and page 4, lines 8, 9 stating that

"such porous, high strength PTFE having such properties (as explained in US-A-3953566, emphasis added) is also specifically referred to herein as "Expanded PTFE" and

"such Expanded PTFEs are used in the present invention, especially those having the properties described in the above '566, '227, '390 and '153 patents".

Based on these citations, it is contended that the expert reader would be immediately led to turn to the above mentioned documents in order to find out which kind of material has to be used as a dental floss in the disputed patent. The teaching from these documents, in particular document D2, is said to be that the material used in the patent at issue is a porous high expanded PTFE exhibiting the mechanical properties given e.g. in D2, from where it is also apparent (see D2, column 4, lines 29 to 38), that a material, having a maximum tensile strength of 10,000 psi or above and a polymer matrix strength of 100 000 psi or above is only a preferred embodiment which may be produced under optimized conditions and to the use of which the subject matter of the patent in suit is not limited.

The application documents do, however, not support this view. The application as originally filed is consistent in itself. In order to solve the problem of breakage

and gingival bleeding, the patent application proposes a floss made of porous high strength Expanded PTFE which is satisfactory for pressures associated with flossing and which is coated with microcrystalline wax. The minimum limits for the tensile strength and the polymeric matrix of Expanded PTFE which are considered to be necessary for carrying out the invention are also mentioned in the application. Although there are various references to other documents D1 to D4, describing the process for producing high strength expanded PTFE and how particular properties such porosity and strength of such PTFE may be attained, there is actually no need for the expert reader to resort to these documents for further technical information because the application is internally consistent, i.e. capable of being understood without any other document. There is also no inconsistency with any of the document D2, D3, D6 or D7 since all of them confirm that materials are available which match the desired mechanical properties of Expanded PTFE mentioned in the application.

5. The Appellant further pointed to the fact that documents D2, D3, D6 and D7 are all "incorporated by reference" and thus could give support for technical feature not disclosed in the original specification. In this context they referred to decisions T 196/92, T 952/93, T 689/90 and T 6/84.

The common denominator of all these decisions can be summarized in that technical features mentioned in a cross reference can be exceptionally incorporated in a claim if the description leaves no doubt to the skilled reader that:

- (a) protection is or may be sought for such features
  
- (b) such features contribute to achieving the technical aim of the invention and are thus comprised in the solution to the technical problem underlying the invention
  
- (c) such features implicitly clearly belong to the description of the invention of the application as filed (Article 78(1)(b) EPC) and thus to the content of the application as filed (Article 123(2) EPC);
  
- (d) such features are precisely defined and identifiable within the total technical information within the reference document (see in particular T 689/90).

It is emphasized in point 1.4 second paragraph of T 689/90 that under normal circumstances the reader of the published European patent application is entitled to expect that the "description of the invention" which it must contain pursuant to Article 78(1)(b) EPC will itself identify all the features of the described invention for which protection is or may be sought. As has been previously shown, the present case perfectly meets this requirement in that the application as filed is internally consistent.

Moreover, with respect to the conditions (a) to (d), at least condition (d) is not met in present case. The application refers to four different documents rather than one single document. Despite the fact that these documents are all concerned with high strength expanded

PTFE, they comprise a large variety of examples and data showing a wide range of tensile strength values and polymer matrix strength values depending upon the production method applied. It is, therefore, highly unlikely that the skilled reader can unambiguously identify those high strength expanded PTFE's having tensile strength values which satisfy the requirements for dental floss. Hence, the present case does not meet the requirements set by the case law concerning the admissibility of a transfer of technical features from any of these documents in order to incorporate them into the claims of the disputed patent.

Consequently, claim 1 in the form as granted (main request) fails to meet the requirements of Article 123(2) EPC.

6. Compared to the main request, Claim 1 of the first auxiliary request additionally comprises the wording  
  
"attained by uni-axial or bi-axial stretching of the PTFE coupled with heating".

Although this technical term is disclosed on page 3, lines 53/54 of the A2 publication of the application, claim 1 still fails to mention the lower limits for the tensile strength and the polymer matrix strength which are held to be one of the key features of the invention. Therefore, the same reasoning given with respect to the main request also applies to the first auxiliary request.

7. This statement is also true for claim 1 of the second auxiliary request which comprises the wording

...Expanded PTFE "having a matrix strength of above 50.334 KPa (7300 p.s.i.)".

This lower limit for the matrix strength is not disclosed anywhere in the application as filed. It has rather been derived from document D2, column 3, lines 43 to 48. However, for the reason given under point 5, a transfer of such a technical feature from the prior art is not permissible under Article 123(2) EPC in the present case.

8. The third auxiliary request is identical to the amended version of the patent as maintained which, by the decision under appeal, was found to meet the requirements of the EPC. Having in mind that the opponent has not appealed this decision, the third auxiliary request may be challenged neither by the respondent nor by the Board.
  
9. Since the appeal is not allowable, there is no basis for a reimbursement of the appeal fee.

**Order**

**For these reasons it is decided that:**

1. The appeal is dismissed.
2. The request for the reimbursement of the appeal fee is rejected.

The Registrar:

The Chairman

S. Fabiani

W. D. Weiß