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Datasheet for the decision of 14 July 2008

Case Number: T 1324/06 - 3.2.04

Application Number: 93925161.7

Publication Number: 0668991

IPC: G01D 13/00

Language of the proceedings: EN

Title of invention:
Improved brush filaments

Patentee:
GILLETTE CANADA COMPANY

Opponent:
C.-Werke GmbH

Headword:
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Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 100
EPC R. 101

Keyword:
"Transfer of the procedural status of opponent"
"Inventive step (no)"

Decisions cited:
G 0002/04, G 0004/88, T 0850/96, T 0799/97, T 0693/05

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1324/06 **-** 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 14 July 2008

Appellant I: (Opponent)
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Appellant II: (Patent Proprietor)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 22 June 2006 concerning maintenance of European patent No. 0668991 in amended form.**

Composition of the Board:

Chairman: M. Ceyte
Members: C. Scheibling
C. Heath

Summary of Facts and Submissions

I. In its interlocutory decision posted 22 June 2006, the Opposition Division found that, taking into consideration the amendments made by the patent proprietor, the European patent and the invention to which it relates met the requirements of the EPC.

On 21 August 2006 Appellant I (opponent) filed an appeal and paid the appeal fee simultaneously. On 22 August 2006 Appellant II (patentee) filed an appeal and paid the appeal fee simultaneously. The statements setting out the grounds of appeal were received on 27 October 2006 (Appellant I) and on 2 November 2006 (Appellant II).

II. The patent was opposed on the grounds based on Articles 100(a) and (b) EPC 1973. The ground for opposition based on Article 100(b) EPC 1973 was withdrawn during oral proceedings before the Opposition division.

III. The following documents played a role in the present proceedings:

E1: Translation into English of JP-U-59-77430
E2: DE-U-83 00 846
A1: FDA/IFIC (Food and Drug Administration in cooperation with International Food Information Council Foundation); 1993; "Food Color Facts"

IV. Oral proceedings took place on 14 July 2008 before the Board of Appeal.

Appellant I (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

He mainly argued as follows:

The appeal filed by the opponent is admissible as the present representative had an authorisation to represent the opponent Coronet-Werke when the appeal was filed. Since then, the company changed its name in C.-Werke. A new authorisation from this company was filed as soon as doubts were expressed in this regard by the patentee.

The toothbrush of Claim 1 of the main request differs from that of E1 in that the second coloured sheath region has a thickness of about 10% or less of the filament diameter and in that a change in the colour intensity of the second coloured sheath region is indicative of filament wear. Also in E1, filament wear is indicated by a change of the colour intensity of the second coloured sheath region. Once the toothbrush is in use, the specific thickness of the external sheath region of the filaments diminishes due to wear. E2 teaches to adjust the period of time during which a toothbrush can be used by selecting the thickness of the outer sheath region accordingly. It would therefore be obvious for a skilled person to apply this teaching to a toothbrush according to E1. A specific thickness of about 10% of the filament diameter is therefore solely representative of the period during which the brush might be used. Setting this period of time cannot involve an inventive step.
E1 and E2 disclose cylindrical filaments whose outer sheath regions are concentric with the core region. It is clear for a skilled person that the thickness

variation of the sheath region along the circumference of the filament should be as low as possible. Furthermore, it is common standard in the technical field of co-extruded toothbrush filaments that the manufacturing tolerances for the thickness of the outer sheath region are within the claimed value of 20%. It is also common standard to use colorants that are harmless for the user. Selecting the sub-group of food dyes within the general group of "harmless" colorants is an obvious choice which does not involve an inventive step.

Appellant II (patentee) contested the arguments of the Appellant and submitted that:

The appeal filed by the opponent is not admissible since his representative had no authorisation from the new company C.-Werke when he filed the appeal. Furthermore, it is not clear whether the C.-Werke still have a legitimate interest in pursuing the opposition appeal procedure, since several divisions of the company have been sold.

E1 does not refer to a change in the colour intensity but rather to a change of colour due to the removal of the outer sheath region and does not achieve maintenance of the effectiveness of the toothbrush until the wear indication becomes effective. E2 teaches to employ different materials for the inner and outer sheaths. Therefore, a skilled person would not take this document into consideration. None of the cited documents discloses that the thickness of the outer sheath region should be of about 10% of the filament diameter, which

is a critical value, for signalling that the brush will no longer be effective.
Neither E1 nor E2 addresses the issue of the variation of the thickness of the outer sheath region. The set limit of 20% or less guarantees that the change in colour intensity is uniform. None of the cited documents teaches to use a food dye as colorant. Moreover, there existed a prejudice against food dyes because they were held not to exhibit the required thermal stability.

Appellant II requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), alternatively on the basis of the claims of a first auxiliary request filed with the grounds of appeal or a second auxiliary request filed with letter dated 16 June 2008. He also requested that the appeal filed by the opponent be held inadmissible.

The Board agreed that should the auxiliary requests be found not to comply with the requirements of Articles 84 or 123 EPC 1973, an opportunity would be given to Appellant II to file an amended auxiliary request in order to overcome these objections.

IV. Claims 1 the main request (as granted) reads as follows:

"1. A toothbrush (10) including a handle (12) associated with a head (14) having at least one tuft (16) securely affixed in or attached to the head, said tuft including a plurality of filaments (2, 20), each filament having a longitudinal surface (22) and a cross-sectional area (24) and comprised of a first colored core region (28) and a second colored sheath region (26), wherein the second colored sheath region is bound to said first colored

region forming a clear line of demarkation along a cross-sectional area at a magnification of about 250X, characterized in that the second colored sheath region extends along at least a portion of the outer surface of the filament and further extends inwardly into a portion of the cross-sectional area for a distance equivalent to about 10 percent or less of the filament diameter, the sheath region and the core region are comprised of nylon, and a change in the color intensity of the second colored region is indicative of filament wear."

Claim 1 of the first auxiliary request reads as follows:
"1. A toothbrush (10) including a handle (12) associated with a head (14) having at least one tuft (16) securely affixed in or attached to the head, said tuft including a plurality of filaments (2, 20), each filament having a longitudinal surface (22) and a cross-sectional area (24) and being comprised of a first colored core region (28) and a second colored sheath region (26),
wherein the second colored sheath region (26) is bound to the first colored core region (28) forming a clear line of demarcation along the cross-sectional area at a magnification of about 250X, the second colored sheath region (26) extends along at least a portion of the outer surface of the filament and provides an annular ring extending inwardly into a portion of the cross-sectional area (24) of the filament, and the second colored sheath region (26) and the first colored core region (28) are comprised of nylon,
characterized in that
the second colored sheath region (26) extends inwardly for a distance (30) equivalent to about 10 percent or less of the filament diameter,

the annular ring formed by the second colored sheath region (26) has a depth (30) which varies by 20% or less from a mean depth around the annular ring, and
a change in the color intensity of the second colored sheath region (26) is indicative of filament wear."

Claim 1 of the second auxiliary request reads as follows
"1. A toothbrush (10) including a handle (12) associated with a head (14) having at least one tuft (16) securely affixed in or attached to the head, said tuft including a plurality of filaments (2, 20), each filament having a longitudinal surface (22) and a cross-sectional area (24) and being comprised of a first colored core region (28) and a second colored sheath region (26),
wherein the second colored sheath region (26) is bound to the first colored core region (28) forming a clear line of demarcation along the cross-sectional area at a magnification of about 250X, the second colored sheath region (26) extends along at least a portion of the outer surface of the filament, and the second colored sheath region (26) and the first colored core region (28) are comprised of nylon,
characterized in that
the second colored sheath region (26) extends inwardly for a distance (30) equivalent to about 10 percent or less of the filament diameter,
a change in the color intensity of the second colored sheath region (26) is indicative of filament wear and,
at least one of the first and second colored regions (26, 28) is provided by a food dye".

Reasons for the Decision

1. *Admissibility of the appeals*.

1.1 The admissibility of the appeal filed by the patentee has not been cast into doubt. The Board is satisfied that this appeal is admissible.

1.2 The admissibility of the opponent's appeal has been questioned on two grounds. First, that the company C.- Werke was no longer entitled to pursue the appeal due to a sale of its assets, and, second, that the representative appointed by Coronet-Werke, Mr. Lasch, had no authorisation to pursue the case once that company was declared bankrupt and placed into insolvent administration.

1.3 While a transfer of the position of an opponent is possible in principle (decision **G 4/88**, OJ EPO 1989, 480), and the position of an opponent in such case is not necessarily prejudiced by the fact that the company in question is declared bankrupt during the proceedings (decision **T 799/97** of 4 July 2001), the transfer requires a concurrent transfer of the material assets that are related to the opposed patent, decision **G 2/04** (OJ EPO 2005, 549). Since a transfer of material assets by the initial opponent may thus result in its inability to further pursue the opposition or appeal, allegation of facts that would entail such grave consequences should be proven beyond any reasonable doubt. Yet, all the patentee could offer in this respect was some hearsay evidence about the alleged sale of assets, and the fact that one of documents filed in appeal did not originate from C.-Werke, but another source. Taken alone

or together, these allegations are insufficient to prove beyond reasonable doubt that C.-Werke should no longer be entitled to pursue the appeal.

1.4 The opposition was filed in the name of Coronet Werke on 10 July 2001 by Mr. Lichti, a professional representative whose name appears on the list maintained by the EPO and who identified himself as such. According to Rule 101(1) EPC 1973 (now Rule 152 (1) EPC 2000), Art. 1(1) of the corresponding Decision of the President of the EPO of 19 July 1991 (OJ EPO 1991, 489), and the decision **T 850/96** of 14 January 1998, no power of attorney needed to be filed by him in such case. According to the letterhead of Mr. Lichti's firm of patent attorneys, he was in partnership with two other authorised representatives, one of whom was Mr. Lasch, who subsequently acted on behalf of the opponent both in opposition and appeal proceedings. According to Rule 101(8) EPC 1973 (now Rule 152(11) EPC 2000) and Art. 1(2) of the above cited Decision of the President, neither did Mr. Lasch need to file an authorisation at that stage. Before the oral proceedings in opposition were held on 26 April 2006, the opponent Coronet Werke was declared bankrupt and an insolvency administrator appointed. On 15 October 2006, after the appeal had been filed, but before oral proceedings were held, the insolvency administrator decided to rename the company in C.- Werke GmbH. This was a change in name, not in assets. A company that has gone into receivership can no longer validly file an appeal; only the insolvency administrator can do so on its behalf (**T 693/05** of 6 March 2007). But the opponent in opposition and appeal proceedings did not act on its own behalf, but was represented by Mr. Lasch. As an authorised

representative before the Office and once appointed by the opponent, Mr. Lasch "shall be deemed to be authorised until the termination of his authorisation has been communicated to the European Patent Office", Rule 152(8) EPC 2000, and the same can be inferred from the previous Rule 101(6) EPC 1973. Yet no notice of termination was filed by the insolvency administrator or by the representative himself. On the contrary, once the authorisation of the representative had been called into question by the patentee's letter of 16 June 2008, the representative at the request of the Board submitted an authorisation on behalf of the renamed C.-Werke dated 7 July 2008 and signed by the insolvency administrator. The authorisation made reference to the opposition and appeal proceedings at issue. This was in compliance with Art. 1(3) of the above cited Decision of the President of the EPO that reads: "The European Patent Office may require that an authorisation be produced if the circumstances of a particular case necessitate this, particularly in case of doubt as to the professional representative's entitlement to act." There is nothing to indicate that the authorisation should explicitly cover acts done in the past, and reading such requirement into the Notice or indeed into the decision **T 693/05** (as above) would not be in line with the general presumption of authorisation as expressed in Rule 152(8) EPC 2000. In the decision **T 693/05** (as above), the representative prior to filing an appeal had submitted an authorisation signed by the insolvency administrator. But this does not mean that in the absence of submitting such an authorisation, the appeal would be deemed not to have been filed. Rather, in such case, authorisation would have to be assumed under

Rule 152(8) EPC 2000 unless there was an indication to the contrary.

1.5 For the above reasons, Coronet Werke GmbH (in receivership) and subsequently C.-Werke were entitled to pursue the opposition and appeal as successors to Coronet Werke GmbH, and Mr. Lasch as the authorised representative was entitled to act on behalf of the opponent throughout the proceedings. Consequently, the appeal filed by Mr. Lasch on behalf of Coronet Werke (then in receivership) is admissible.

2. *Main request - Inventive step:*

2.1 The Board and the parties consider that E1 represents the closest prior art.
According to Appellant II the toothbrush according to claim 1 differs from that of E1 in that:
-a- the second coloured sheath region extends along at least a portion of the outer surface of the filament and further extends inwardly into a portion of the cross-sectional area for a distance equivalent to about 10 percent or less of the filament diameter,
-b- a change in the colour intensity of the second coloured region is indicative of filament wear.

2.2 Appellant II argued that the passage page 5, lines 23 to 28 of E1 as well as example 1 teach that filament wear is indicated by a change in colour due to the exposure of the inner layer, i.e. after the external layer has been worn away, so that this document does not disclose a gradual change in colour.

The cited passage reads: "When the bristles in use become worn in outer layer components to expose inner layer components, the resulting change in the color intensity an thus be evaluated either by visual inspection or in comparison with a colorimetric sample previously prepared to evidently determine the marginal use of a brush."

It is to be noted that the quoted passage expressly refers to a change in the colour intensity and not to a change of the colour itself.

Indeed, in the light of the whole passage and of examples 1 and 2, the expression "the bristles in use become worn … to expose the inner layer components" clearly means that the inner layer is progressively exposed because the outer layer wears and becomes so thin, that the colour of the internal layer, is visible through the outer layer to such an extend that the colour of the outer layer changes in intensity.

This is confirmed by examples 1 and 2. In example 1 a toothbrush with bristles comprising a red core and a purple outer layer was used during thirty days twice a day. At the end of the experiment the brush showed reddish regions over entire side faces. It was concluded that the brush has been employed beyond its marginal use.

In example 2, the bristles comprised a purple core and a yellow outer layer. The handle was used as colorimetric sample. After one week of use the brush tufts were lighter in colour than the handle. After three weeks of use, the tips and side faces of the brush tufts corresponded in colour to the handle. It was concluded that the limit was reached in the use of the toothbrush.

These examples show that the limit until which the toothbrush can be used is reached when a change in the colour intensity occurs (example 2, limit is reached)

and not when the colour itself changes (example 1, where the brush was employed beyond its marginal use).

Accordingly, E1 also discloses feature b).

2.3 Thus, the toothbrush according to claim 1 differs from that of E1 solely in that the second coloured sheath region extends inwardly into a portion of the cross-sectional area for a distance equivalent to about 10 percent or less of the filament diameter.

The problem to be solved with respect to E1 can be seen in modifying a toothbrush as known from E1 so as to indicate filament deterioration due to a predetermined period of typical use.
Appellant II argued that the problem could be seen in maintaining effectiveness of the toothbrush until wear indication is effective.
This point of view cannot be shared since effectiveness depends not only on the percentage of the outer layer which is worn away but also on other parameters such as the material stiffness and the diameter of the complete filament which are not claimed.
Moreover the effectiveness problem is already solved by E1 see page 8, last sentence of the first paragraph where it is stated: "As a result, it was determined that the limit had been reached in the use of the toothbrush, in which cleaning effectiveness will lessen, so that the use of the toothbrush was terminated."

2.4 E2 discloses a toothbrush (page 1, seventh line) comprising filaments (Figure 1) having a core region and a concentrically surrounding sheath region, whereby core and sheath regions have different colours (page 2, last

sentence of the third paragraph), whereby the brush is to be discarded when the different colour of the core region becomes clearly visible (last sentence of the penultimate paragraph of page 6).

It is further stated on page 3, last sentence and page 4 first line "Die Einstellung der Nutzungsdauer von Borsten, die empirisch bekannt ist, lässt sich in einfacher Weise durch entsprechende Auswahl des die Nutzschicht bildenden Kunststoffs bzw. durch deren geometrische Stärke erreichen."
Thus, E2 teaches to adjust the period of time during which a brush can be used by selecting the thickness of the sheath region such that the outer sheath layer is worn away at the end of this period of time to such an extent that the colour of the core region becomes apparent.

Appellant II argued that E2 discloses the use of two different materials for the core and the outer sheath region and that therefore a skilled person would not take this document into consideration.
However, on page 3, lines 15 and 16 it is indicated "wobei Kern und Nutzschicht aus verschiedenfarbigen und **gegebenenfalls** verschiedenartigen Kunststoffen bestehen" (emphasis added).
Thus, E2 also contemplates using the same material for the core and the sheath region.

Appellant II further argued that 10% of the filament diameter is a critical value for the outer sheath thickness, which is disclosed neither in E1 nor in E2 and that therefore a combination of these two documents would also fail to disclose this parameter.

Although E2 does not disclose a specific value for the outer sheath thickness, it teaches to select a sheath thickness such that the sheath region is worn away after a predetermined period of normal use.

2.5 For a skilled person confronted with the problem of modifying a toothbrush as known from E1 so as to indicate filament deterioration due to a predetermined period of typical use, there is from this teaching a clear incentive to carry out wear tests in order to adjust the thickness of the sheath region such that wear results in a change in the colour intensity of the filaments when the selected period of time during which the brush can be submitted to normal use has elapsed. That the sheath region thickness should be of about 10 percent of the filament diameter is therefore solely a consequence of the selected time period during which the toothbrush can preferably be used and does not provide an inventive contribution per se.

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

3. *First auxiliary request - inventive step:*

3.1 In addition to the features of claim 1 of the main request, claim 1 of the first auxiliary request comprises the following features:
"the second colored sheath region … provides an annular ring extending inwardly into a portion of the cross-sectional area (24) of the filament",

"the annular ring formed by the second colored sheath region (26) has a depth (30) which varies by 20% or less from a mean depth around the annular ring".

3.2 The fact that the second coloured sheath region provides an annular ring extending inwardly into a portion of the cross-sectional area of the filament is likewise disclosed in E1 and E2.

3.3 Appellant II argued that a maximum variation of the thickness of the outer sheath region of 20% or less guarantees that when the wear limit is reached the colour intensity change is uniform. E1 and E2 do neither disclose a limit for the variation of the outer sheath thickness, nor address the importance of this parameter.

However, it is clear for a skilled person that the thickness of the outer sheath region cannot be perfectly uniform and that therefore manufacturing tolerances are to be set.
It is further evident that the more the thickness of the outer sheath region is uniform, the more precise the wear indication will be. A skilled person will therefore be prompted to realise an outer sheath region exhibiting a thickness as uniform as possible.
Appellant I contended that a variation of the outer sheath thickness of plus or minus 20% is far beyond the tolerances normally imposed to manufacturers of co-extruded nylon filaments. Since this statement has not been challenged by Appellant II and since plus and minus 20% effectively appears to be large, setting such a manufacturing tolerance cannot provide an inventive contribution.

4. *Second auxiliary request - inventive step:*

4.1 In addition to the features of claim 1 of the main request, claim 1 of the second auxiliary request comprises the following features:
"at least one of the first and second colored regions (26, 28) is provided by a food dye".

Appellant II contended that food dyes are of low thermal stability and that therefore there was a prejudice against the use of this type of colorant, since the material composing the filaments has to be melted during the manufacturing process.
However, the document A1 filed by Appellant II during the oral proceedings comprises in "Table II" (last page) a list of colour additives certifiable for food use, comprising inter alia "FD&C Blue No. 2", "FD&C Red No. 3" and "FD&C Yellow No. 6" all useable in "backed goods". Thus, low thermal stability is not inherent to all food dyes and accordingly, a skilled person would not refrain from using such a food dye for realising a coloured filament.

On the other hand, it is clear for a skilled person that the parts of the filaments which are worn away during use (i.e. when brushing the teeth), might be swallowed by the user and must therefore be harmless.
Accordingly, selecting a food dye within the group of harmless colorants does not involve an inventive step, all the more because A1 contradicts the existence of a prejudice in this respect.

Accordingly, the subject-matter of claim 1 of the second auxiliary request does not involve an inventive step.

5. The issue whether the auxiliary requests meet the requirements of Articles 84 and 123 EPC 1973 does not have to be addressed, since both auxiliary requests fail due to a lack of inventive step.

Order

For these reasons it is decided that:

1. The opponent is entitled to further prosecute the present opposition appeal proceedings.

2. The decision under appeal is set aside.

3. The European Patent is revoked.

The registrar: The Chairman:

G. Magouliotis M. Ceyte