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**D E C I S I O N**  
of 3 September 1998

**Case Number:** T 0680/97 - 3.2.4

**Application Number:** 90306819.5

**Publication Number:** 0404580

**IPC:** A24D 1/02

**Language of the proceedings:** EN

**Title of invention:**  
Improvements relating to smoking articles

**Patentee:**  
British American Tobacco (Investments) Limited

**Opponent:**  
H.F. & Ph.F. Reemtsma GmbH & Co

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 123, 54, 56, 102(3)

**Keyword:**  
"Novelty (yes)"  
"Inventive step (yes)"

**Decisions cited:**  
T 0450/89, T 0677/91, T 0511/92, T 0056/87, T 0002/83,  
T 0005/81

**Catchword:**  
-



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Case Number: T 0680/97 - 3.2.4

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**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.4**  
**of 3 September 1998**

**Appellant:**  
(Opponent) H.F. & Ph.F. Reemtsma GmbH & co  
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**Respondent:**  
(Proprietor of the patent) British American Tobacco (Investments) Ltd  
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**Representative:** MacLean, Kenneth John Hamson  
Patents Department  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 2 May 1997  
rejecting the opposition filed against European  
patent No. 0 404 580 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** C. A. J. Andries  
**Members:** R. E. Gryc  
M. Lewenton

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## Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received at the EPO on 19 June 1997, against the decision of the Opposition Division, dispatched on 2 May 1997, on the rejection of the opposition against the European patent No. 0 404 580. The appeal fee was paid on 19 June 1997 and the statement setting out the grounds of appeal was filed on 2 September 1997.

II. The opposition was filed against the patent as a whole and based on lack of novelty and inventive step (Article 100(a) EPC) of the claimed subject-matter in view of:

- intermediate document D1: EP-A-0 338 159 and
- prior art document D2: EP-A-0 290 911,

and based on Article 100(c) EPC.

The opposition division considered that none of the priorities claimed for the opposed patent was valid for Claim 1 as granted. However, the first instance held that the grounds for opposition did not prejudice the maintenance of the patent unamended and therefore rejected the opposition.

III. In his statement setting out the grounds of appeal, the appellant contended that all the characteristics of Claim 1 were disclosed in the claims of D1 since, by referring to each other, said claims make conceivable and offer to the disposal of the skilled person any possible combination of the claimed features. In particular, a combination of the lower limits indicated in Claims 2 and 4 of D1 for the precipitated and particulate magnesium hydroxide fillers together with

10% of calcium carbonate co-filler (Claim 6) leads to percentages comprised in the ranges given in Claim 1 as granted.

Moreover, the appellant was of the opinion that the problem brought forward in D1 was about the same as that according to the invention and that D1 taught the skilled person to use different mixtures of sidestream reducing filler and calcium carbonate co-filler. According to him, the skilled person could easily test the effect of these mixtures without inventive activity.

In a subsequent letter dated 29 July 1998, in order to ensure that the Board would consider D1 as belonging to the prior art and not only as intermediate document (Article 54(3)(4) EPC), the appellant contested the validity of the priorities claimed in the patent and, to support the alleged common knowledge of the skilled person, he referred in particular to documents:

D3: US-A-4 231 377 and

D4: US-A-4 450 847

cited in D1 as background art document (see D1, page 2, lines 11 to 16 and 28 to 35 and page 3, lines 10 to 18).

IV. In response to the Board's communications, the respondent (proprietor of the patent) filed, with his letter of 13 August 1998, an auxiliary claims set comprising 23 claims and, with his letter of 21 August 1998, a new set of Claims 1 to 7 (defined as auxiliary claim set 1) and two auxiliary sets of Claims 1 to 7 defined as "auxiliary main claim n° 2" and "auxiliary main claim n° 3".

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V. Oral proceedings took place on 3 September 1998.

The appellant contended again that all the characteristics of Claim 1 were already known from Claims 1, 2 and 4 of D1 taken in combination and also from the summary of the invention described on page 6 of D1 (see points 3, 4, 5 and 7). He was in particular of the opinion that, in Claims 2 and 4 of D1, the skilled person would find a hint for adding the lower limits of the ranges described therein so as to arrive to percentages of visible sidestream smoke reducing filler in the range of 4% to 14 % as claimed in Claim 1.

Moreover, he argued that, when the lowest percentages of freshly precipitated and particulate magnesium hydroxide fillers were taken into combination, no additional calcium carbonate co-filler would be necessary.

The appellant pointed also out that the statement in the description of D1 (see page 5, line 28) according to which a chemical adjuvant or burning chemical is an essential ingredient of low sidestream smoke cigarette papers is contradicted by the fact that such a co-filler is not even mentioned in Claim 1 of D1.

The appellant argued additionally that the statement in D1 (see page 3 , lines 23 to 26) describing the use of 15% freshly precipitated magnesium hydroxide with a minimum of 5% particulate magnesium hydroxide anticipates the crux of the inventive concept of the opposed patent as defined by the respondent, (i.e. to have a sidestream reducing paper with a low total filler content) when it is considered independently and not in relation with the aforementioned reference to

the first generation low sidestream cigarette paper product comprising additional components (see D1: page 3, lines 6 to 13).

The appellant argued also that the high percentage of total filler content (40%) by weight of the paper given in the examples of D1 is to be considered in direct ratio to the indicated basis weight of the paper (45 g/m<sup>2</sup>) and that it is evident for the person skilled in the art to reduce proportionately said percentage with lighter paper having a basis weight of 30 g/m<sup>2</sup>.

The respondent contradicted the appellant's argumentation. He contended mainly that D1 concerns an improvement of the high total filler content papers described in D4 and that the teaching of D1 goes in a completely opposite direction compared to the one leading to the invention.

VI. At the end of the oral proceedings, the appellant requested that the decision under appeal be set aside and that the European patent No. 404 580 be revoked.

The respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following main request:

- Claims 1 to 7 filed with respondent's letter of 21 August 1998 (auxiliary claim set 1);
- Claims 8 to 23 filed with letter dated 13 August 1998 ;

or, auxiliarily, on the basis of the auxiliary requests 2 and 3 filed with letter dated 21 August 1998.

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VII. The wording of Claim 1 of the respondent's main request reads as follows:

"A cigarette paper comprising a total filler content of 20% by weight, or less, a proportion of the filler being a visible sidestream reducing filler, the visible sidestream reducing filler being present in the range of about 4% to 14%, by weight of the paper, and the weight of the paper being 30 g/m<sup>2</sup>, or more."

## Reasons for the Decision

### 1. Admissibility of the appeal

After examination the appeal has been found to be admissible with regard to Articles 106 to 108 and Rule 64 EPC.

### 2. *Main request*

#### 2.1 Modifications (Article 123 EPC)

In the new Claim 1 on file, the range for the visible sidestream smoke reducing filler has been modified with respect to Claim 1 as granted so as to read: "about 4% to 14%", and the description (see the patent: page 2, lines 17, 22 and 31) has been amended accordingly.

Since the values of the limits of the new range are explicitly disclosed in the application as filed (see page 2, line 20 and page 15, Example 5, Table 6, paper L), and since this amendment reduces the protection conferred by the patent as granted, no objection is made regarding Article 123 EPC.

## 2.2 Validity of the priorities claimed

Since, for the reasons given hereafter, the subject-matter of Claim 1 has been considered as patentable in comparison with the disclosure of D1, there is no need to examine further whether the priorities claimed in the opposed patent are valid or not.

## 2.3 Novelty (Article 54 EPC)

It is recalled that a claimed subject-matter would lack novelty only if it were derivable as a whole directly and unambiguously from a single document (see for example the unpublished decisions T 450/89, T 677/91 and T 511/92) and that, in particular when assessing novelty, it is not justified arbitrarily to isolate parts of such document from their context in order to derive therefrom a technical information which would be distinct from the integral teaching of said document (see decision T 56/87, OJ EPO 1990, 188).

D1 discloses ranges of percentages for each type of filler which can be incorporated in the cigarette paper. These specific ranges are indicated separately, on the one hand, for the precipitated magnesium hydroxide filler and, on the other hand, for the particulate magnesium hydroxide filler, as well as for the calcium carbonate filler and the chemical adjuvants or burning chemicals. However, D1 does not disclose either explicitly or implicitly in which proportions these different fillers should be added together in the same paper and it is not justified arbitrarily to isolate the lower limits (i.e. 2% and 5%) of the ranges concerning the precipitated and the particulate magnesium hydroxide fillers and to add them together with 10% of calcium carbonate co-filler in order to



derive therefrom a total filler content (17%) which is much lower than the percentage (40%) cited repeatedly in the four examples described in D1.

Moreover, for the following reasons, the Board cannot accept the appellant's argumentation according to which the statement of D1, page 3, lines 23 to 26, should be considered independently and anticipates the inventive concept of the opposed patent.

Referring to a first generation of paper products containing up to 15% precipitated magnesium hydroxide as filler, 28% to 25% calcium carbonate co-filler and approximately 4% by weight of potassium and sodium acetate burning chemicals (see D1: page 3, lines 6 to 9) D1 teaches that the in situ precipitated magnesium hydroxide filler, in combination with the alkali metal acetate burning chemical, is responsible for the sidestream smoke reduction characteristics of the known cigarettes and that increasing the in situ precipitated magnesium hydroxide filler level to greater than 15% caused the cigarettes to self-extinguish. Therefore, when D1 teaches further (see D1: page 3, lines 23 to 26) that reducing sidestream particulate smoke without causing self-extinction can be accomplished by replacing "the" 15% in situ precipitated magnesium hydroxide with 15% freshly precipitated magnesium hydroxide and adding from 5% to 25% particulate magnesium hydroxide as a co-filler, the skilled person cannot doubt that said "15% in situ precipitated magnesium hydroxide" to be replaced refers to the filler of said aforementioned first generation paper products. And since said paper products contain necessarily in addition about 4% burning chemicals which is an essential ingredient without which the papers would be non-combustible (see D1: page 5, line 28 and first line of the table of Example 3), the total filler content would represent already at least

24% by weight of the paper without taking into account the co-filler of 28 to 25% calcium carbonate and would thus exceed the upper limit claimed in Claim 1.

Therefore, ranges of contents as claimed in Claim 1 can neither be found in D1, nor be derived directly and unambiguously from the global teaching given therein.

In comparison with the prior art known from D1 cited alone against novelty by the appellant, the subject-matter as set forth in Claim 1 is thus novel within the meaning of Article 54 EPC.

#### 2.4 The closest state of the art

During the appeal proceedings the appellant himself considered D1 as the only document to be relevant.

D1 relates to smoking articles having a low sidestream smoke wrapper weighting at least 30 g/m<sup>2</sup> and is concerned with the problem of reducing the visible sidestream smoke as according to the invention.

The Board is therefore of the opinion that the state of the art disclosed in this document can effectively represent the prior art closest to the invention and be taken as a starting basis when examining for inventive step.

Referring to Section 2.3 above, the subject-matter of Claim 1 differs from this closest state of the art in that the total filler content of the cigarette paper is 20% by weight or less and that the visible sidestream smoke reducing filler content is comprised in the range of about 4 to 14% by weight of the paper.

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2.5 Problem and solution

Starting from D1, the Board sees the problem to be solved as being to improve the known sidestream-smoke reducing wrapper as regards its filler contents and its reducing capacity.

The Board is satisfied that the implementation of the measures claimed in Claim 1 brings a solution to the above-mentioned problem.

2.6 Inventive step

2.6.1 An essential question to be answered as regards the inventive step in relation to the modification of the smoking Article wrapper of D1 is in particular whether, in expectation of the result he was seeking, the skilled person would find in the state of the art suggestions for applying to the wrapper of D1 the essential means of the invention in so far as they are provided to him by the state of the art seen in the light of his general common knowledge (see decision T 2/83, OJ EPO 1984, 265).

Moreover, the technical teaching in a prior art document should be considered in its entirety (see decision T 56/87) and when examining for inventive step, an excessively abstract approach removed from the practical thinking of the skilled person must be avoided, such an approach being merely the result of an a posteriori analysis (see decision T 05/81, OJ EPO 1982, 249).

2.6.2 It should be pointed out that in D3 and D4 cited in D1 as background art and referred to by the appellant himself in his statement of 29 July 1998 (see page 6, lines 26 to 27), it is taught respectively that for maximum sidestream smoke reductions, the wrapper should

contain at least 37% total filler content (see D3: column 3, lines 16 to 20 and also Tables III and V) and that the filler should constitute 30% to 60% of the total sheet weight (see D4: column 2, lines 22 to 23; column 4, lines 11 to 12 and the four examples).

Also, as already mentioned above in Section 2.3, in all the examples given in D1, the same percentage of 40% by weight has repeatedly been preferred for the total filler content of the wrappers exemplified and, besides this preferred value, no other percentage has been clearly and explicitly described in this document.

Moreover, D1 teaches that the level of 15% of precipitated magnesium hydroxide filler alone is known to be optimum for maximum sidestream smoke reduction (see D1: page 6, lines 12 to 13) and that previous studies optimized the filler blend at 15% precipitated and 25% particulate magnesium hydroxide i.e. 40% by weight only for the visible sidestream smoke reducing filler (see D1: page 6, lines 37 to 38).

2.6.3 Therefore, the skilled person would be entitled to consider that D1 concerns wrappers with high or relatively high total filler content and there is no reason why, starting from the wrappers of D1 and without any particular hint, he would reasonably consider to reduce said total content in a large extent i.e. under at least the half of said preferred and exemplified percentage of 40%.

There is also no reason why the skilled person would envisage to limit to 14% the visible sidestream reducing filler composed of a synergetic blend of combined magnesium hydroxides whereas, in D1, the optimum level of precipitated magnesium hydroxide filler alone is taught to be 15% by weight.

2.6.4 For the foregoing reasons, the Board is convinced that to improve the wrapper of D1 according to the teaching of Claim 1 does not follow plainly and logically either from the prior art or from the general knowledge of a skilled person and therefore implies an inventive step within the meaning of Article 56 EPC.

2.7 Conclusion: Consequently, the Board is of the opinion that, taking into consideration the amendments made by the respondent during the appeal proceedings, the amended opposed patent and the invention to which it relates meet the requirements of the EPC and that the patent can be maintained in the amended version of the respondent's main request in application of Article 102(3) EPC.

3. *Respondent's auxiliary requests*

Since the board has acknowledged the main request as allowable, there is no need to consider the respondent's auxiliary requests.

**Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent in the following version:
  - Claims 1 to 7 filed with respondent's letter of 21 August 1998 (defined as auxiliary claims set 1);
  - Claims 8 to 23 filed with letter of 13 August 1998;
  - Description: page 2 filed during the oral proceedings, pages 3 to 10 as granted.

The Registrar:



N. Maslin

The Chairman:

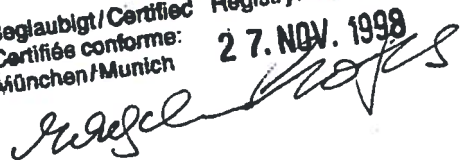


C. Andries



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München/Munich

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27. NOV. 1998



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