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D E C I S I O N
of 21 March 2002

Case Number: T 1194/00 - 3.2.4

Application Number: 94307290.0

Publication Number: 0648435

IPC: A24D 1/00

Language of the proceedings: EN

Title of invention:
Smoking articles

Patentee:
British American Tobacco (Investments) Limited

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

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Inventive step (yes)"

Decisions cited:
G 0010/91, G 0007/95, T 0248/85

Catchword:
-



Case Number: T 1194/00 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 21 March 2002

Appellant: H.F. & Ph.F. Reemtsma GmbH
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 26 October 2000
rejecting the opposition filed against European
patent No. 0 648 435 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: R. E. Gryc
C. Holtz

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received at the EPO on 22 December 2000, against the decision of the Opposition Division (dispatched on 26 October 2000) rejecting the opposition against the European patent n° 0 648 435. The appeal fee was paid simultaneously and the statement setting out the grounds of appeal was received at the EPO on 26 February 2001.

II. The opposition was filed against the patent as a whole on the ground of lack of inventive step (Article 100(a) and 56 EPC) of the subject-matter of the claims mainly in view of the following prior art documents:

E2: Coresta 1991-3, Special "Smoking Methods", Coresta Report 1991-1, pages 4 to 8 and 97 to 99 and

E3: Recent Advances in Tobacco Science, Vol. 10, 1984, pages 72 to 74 and 81 to 84.

The Opposition Division held that the ground for opposition did not prejudice the maintenance of the patent unamended and rejected the opposition.

III. With his statement setting out the grounds of appeal, the appellant submitted the results of two experiments (annexes A and B) showing that moving the ventilation zone relative to the mouth-side end of the filter of the tested smoking article results in little or no change in the nicotine-free dry particulate matter (NFDPM) delivery and in the mainstream smoke water-to-tar ratio.

On the basis of these results and on the result

obtained with one of the cigarettes of the second example of E3 (page 81, last paragraph), the appellant concluded that the location of the ventilation zone in any arrangement along the filter would provide a mainstream smoke water-to-tar ratio (x 100) of more than 6 and that it was not possible to influence this ratio solely by moving the ventilation zone along the length of the filter. According to the appellant, a water-to-tar ratio (x 100) above 6 was an inherent result of ventilating a smoking article at any position along the filter length so that, as regards novelty, E3 disclosed cigarettes which comprised all the features of Claim 1 and destroyed therefore novelty of the claim.

The appellant recalled that, in its first communication, the examining division stated that the skilled person wanting to produce a light cigarette would find it logical to choose water-to-tar ratios above 6 as taught in EP-A-0 474 940 (E6) cited in the european search report.

He contended also that the skilled person knew from E2 (pages 97-98) that light cigarettes like the "NOW" or "R1" could have water-to-tar ratios far above 6 and that, without filter ventilation, it was impossible to produce cigarettes accepted by smokers with a tar content below 6 mg/cigarette.

Therefore, in the opinion of the appellant, since E3 is concerned with the influence of the filter ventilation, the skilled person would turn to this document and would learn therein that every arrangement of the ventilation zone between 50 and 100% of the filter length results in a water-to-tar ratio above 6.

According to the appellant, table II (page 83) of E3 would have prompted the skilled person to move the ventilation zone from the middle of the filter towards the tobacco rod.

- IV. In reply, the respondent (patentee) drew attention to the fact that lack of novelty was not a ground cited in the notice of opposition so that novelty could not be challenged in appeal proceedings. He also asserted that the experiments submitted by the appellant were not a true comparative test and that the supplied data was erroneous. He therefore filed an "Affidavit" of the inventor Mr White, dated 30.08.2001. Moreover he pointed out that water-to-tar ratios were not mentioned in E3, nor the teaching that moving the ventilation zone of a filter would influence the water-to-tar ratio.

The respondent also contended that the problem being addressed by E6 was very different from that addressed by the opposed patent and that there was no clear teaching of the invention relating to water-to-tar ratios. For him, both E2 and E6 were irrelevant in that they did not disclose a homogeneous mono filter nor did they specify the location of the ventilation holes along the filter length, the ventilation value and the water-to-tar ratios per se.

- V. Oral proceedings took place on 21 March 2002.

The appellant contended that, for the skilled person, the subject-matter of Claim 1 was not inventive over the teachings of E3.

The appellant was of the opinion that the closest prior

art was disclosed by E3 which related to low-tar cigarettes delivering tar in the range of 3 to 16 mg (see Figure 1) through a monofilter with a dilution of at least 50% and a ventilation zone being located not less than 75% of the length of the filter from the mouth end thereof.

As regards the last feature of Claim 1 relating to the water-to-tar ratio, the appellant contended (also acknowledged by the respondent himself) that the minimum value of 6 given in Claim 1 was an automatic technical effect resulting from the combination of all the previously cited features of the claim.

The appellant contended also that it was common knowledge that the low tar cigarettes need dilution, that the only question was to know where to locate the ventilation zone and that Figures 3 and 4 submitted by the respondent with the affidavit dated 30.08.01 of the inventor, Mr White, prompted the skilled person to shift the dilution zone away from the mouth end of the filter. In particular the appellant pointed out that the general considerations on page 72 of E3 indicated implicitly that flow rates were influenced by the position of the dilution zone.

The respondent considered also that E3 disclosed the closest state of the art and he contended that neither Figure 1 nor Figure 5 of E3 was directed to a specific cigarette but only tell how to model cigarettes. According to the respondent, E3 did not indicate a fixed starting point but a speculative one so that E3 did not deliver a clear and unambiguous teaching, let alone any indication that moving the dilution zone of the filter could influence the water-to-tar ratio. The

respondent also pointed out that Figure 3 (Kuwabara Cell Model) submitted by the respondent (see Mr White's affidavit) was a model which relates only to tar and not to water-to-tar ratios. Moreover, the respondent argued that the curve disclosed in Figure 4 of the same affidavit was not public but only for internal use.

VI. At the end of the oral proceedings, the appellant requested that the decision under appeal be set aside and that the European patent n° 648 435 be revoked. The respondent requested that the appeal be dismissed.

VII. Claim 1 as granted reads as follows:

"A smoking article comprising a smoking material rod and a filter, the NFDPM delivery of the article being not more than about 6 mg under standard machine smoking conditions, the filter being of homogenous internal constitution, the filter being ventilated to at least a 50% ventilation value and the ventilation zone being located not less than 75% of the length of the filter from the mouth end thereof, whereby the smoking article exhibits a mainstream smoke water-to-NFDPM ratio (x 100) of at least 6."

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal is admissible.

2. *Novelty (Article 54 EPC)*

In the notice of opposition pursuant to Rule 55(c) EPC

of the present case, the opposition was based on the sole ground of lack of inventive step.

Since lack of novelty was objected for the first time in the statement setting out the grounds of appeal, it is a fresh ground for opposition that may be considered only with the approval of the patentee (see the Opinion of the Enlarged Board of Appeal G 10/91, OJ EPO 1993, 420 and the decision of the Enlarged Board of Appeal G 7/95, OJ EPO 1996, 626).

The respondent having requested that the novelty arguments put forward by the appellant be struck out (see the respondent's response dated 29 August 2001), this ground is not admitted into the proceedings.

3. *The state of the art closest to the claimed invention*

3.1 The Board is of the opinion that an objective assessment of inventive step starting from the closest prior art implies that the latter has been positively identified and considered (see for example decision T 248/85, OJ EPO 1986, 261). The closest prior art must be unequivocally and clearly defined, at least for the features which are essential for the claimed subject-matter with which said closest prior art is being compared.

The closest prior art should be an entity i.e. a concrete piece of prior art and not a puzzle of features chosen with knowledge of the invention in a catalog of features and assembled together in a post facto approach in order to constitute the most promising starting point to arrive at the claimed invention.

3.2 In particular, E2 is a report concerning the review of existing smoking methods as regards the measurement of NFDPM, nicotine and water. This report discloses results obtained by the different methods using different smoking machines and applied to six different types of blended cigarettes with single filters covering the range 1 mg to 16-17 mg NFDPM (nicotine-free dry particulate matter). However, apart from the name of the tested cigarettes i.e. "Now", "R1" and "Philip Morris Extra" (pages 97 to 99) the report does not disclose any specific characteristics of a cigarette as an entity which can serve as a proper starting point for assessing inventive step.

Also E3 gives an overview of a study on different designs of low tar cigarettes, more particularly the influence of filter ventilation in the design of the filter system, and teaches general considerations and parameters for various examples but this document does not disclose any cigarette as an entity which may constitute a concrete closest prior art. Moreover, no information is given concerning the water-to-tar ratios.

3.3 Among all the documents mentioned during the appeal proceedings, solely two disclosures refer to low tar delivery cigarettes as entities, i.e. E6 (cited in the european search report and in the appellant's statement setting out the grounds of appeal) and DE-A-41 18 815 (cited in column 1, lines 8-9 of the opposed patent and referred to hereafter as E7).

The object of E6 is, in particular, to provide an efficiency filter producing low tar delivery while delivering an improved taste (see for example E6:

column 2, lines 22 to 25 and 36 to 38; column 3, lines 15 to 17 and column 7, lines 1 to 6).

In E7, the problem to be solved is also to provide an efficient filter which delivers an improved taste (see E7: page 2, lines 52 to 56).

E6 and E7 are thus both directed to the same purpose as the invention but E7 does not even mention the water-to-NFDPM ratios of the mainstream smoke of the disclosed cigarettes whereas E6 indicates the values of 0.21 mg of water and 1.5 mg of "Tar" for its embodiment of Example I (see column 6, lines 12-13) and 0.10 mg of water and 1.4 mg of "Tar" for its embodiment of Example II (see column 6, lines 52-53). These values correspond to water-to-NFDPM ratios (x 100) of respectively 14 and 7,14 i.e. ratios (x 100) of at least 6 as claimed in Claim 1 of the patent in suit.

Therefore, the Board considers that the state of the art described in E6 is the closest to the invention.

With respect to Figure 4 of Mr White's affidavit, there is no proof that this figure and the delivered information was available to the public before the priority date of the patent in suit, so that it cannot be taken into consideration for the assessment of inventive step.

3.4 The subject-matter of Claim 1 differs from the cigarettes of E6 in that:

- the filter is of homogenous internal constitution whereas the filters of the cigarettes of E6 have either "tow and web filter media portions arranged

concentrically" or "two abutting filter segments" (see E6: column 1, lines 5 to 7; column 3, lines 23-24, respectively column 4, lines 18 to 22 and column 5, lines 32 to 38) and,

- the ventilation zone is located not less than 75% of the length of the filter from the mouth end thereof whereas, on the cigarettes of E6, the ventilation zone is located about half the length of the filter (see E6: Figures 1, 3, 5 and 6).

4. *Problem and solution*

Starting from said closest state of the art and taking into account the differences mentioned in section 3.4 above, the Board sees the problem as to provide an alternative to the solution proposed in E6 i.e. a new high efficiency filter producing a low tar delivery while also delivering acceptable taste (see the patent specification: column 2, lines 22 to 25).

The Board has no reason to doubt that the new type of filter of the smoking article according to Claim 1 brings effectively a solution to this problem.

5. *Inventive step (Article 56 EPC)*

5.1 As already stated in section 3.2. above, E2 is a report concerning the review of existing smoking methods as regards the measurement of NFDPM, nicotine and water of blended cigarettes with single filters covering the range 1 mg to 17 mg NFDPM. The purpose of the study is thus not to improve the taste of low tar delivery cigarettes i.e. cigarettes delivering less than 6 mg NFDPM as claimed in Claim 1. Therefore, starting from

one of the cigarette exemplified in E6 which delivers about 1.5 mg Tar and looking for means capable of improving the taste, the skilled person could not expect to find any relevant information in E2 and would normally not consult this document.

Even if, nevertheless, he would do so, the skilled person would have no reason for replacing the smoking filters of E6 having concentric media portions (see E6: column 1, lines 5 to 7 and the figures) by the single filter of the cigarettes of E2 (see E2: page 7, section 1.07) because it is unlikely that, during development, the skilled person being completely free in choosing a starting point would change the type originally chosen. Moreover, the skilled person would not get from E2 any indication about the role played by the location of the ventilation zone relative to the mouth end of the filter. Consequently, a combination of the teaching of E6 with the teaching of E2 would not lead the skilled person to the invention.

5.2 E3 concerns the design of the filter system of low tar cigarettes and emphasizes the role of the filter ventilation as a convenient mechanism for reducing tar (see E3: page 73, second paragraph). However, there is no indication in E3 that the ventilation zone should be located "not less than 75% of the length of the filter from the mouth end" as claimed in Claim 1. Moreover, the skilled person starting from E6 (i.e. a document relating either to concentric smoking filters having tow and web filter media portions or to dual filters), would be bound afterwards by his choice and would not be inclined to adopt a single filter element as described in E3 which was only one among different disclosed filters (see page 81, last paragraph: second

example of Figure 5 versus page 81, line 2), let alone a filter "being of homogenous internal constitution". Therefore, also a transposition of the teaching of E3 into E6 would not result in a smoking article according to Claim 1.

5.3 For the foregoing reasons, the Board considers that to modify the cigarette of E6 so as to arrive at the subject-matter of Claim 1 does not follow plainly and logically from the state of the art and thus implies an inventive step within the meaning of Article 56 EPC.

6. *Conclusion*

The discussed ground for opposition does not prejudice the maintenance of the European patent n° 0 648 435 as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries