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**Datasheet for the decision  
of 7 May 2025**

**Case Number:** T 0204/23 - 3.2.04

**Application Number:** 17728783.6

**Publication Number:** 3457874

**IPC:** A24F40/40, A24F40/465,  
A24D1/20, A24D3/04, A24D3/17

**Language of the proceedings:** EN

**Title of invention:**

ARTICLE FOR USE IN APPARATUS FOR HEATING SMOKABLE MATERIAL

**Patent Proprietor:**

Nicoventures Trading Limited

**Opponent:**

Philip Morris Products S.A.

**Headword:**

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - auxiliary request (yes)

**Decisions cited:**

T 0386/89

**Catchword:**



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0

**Case Number: T 0204/23 - 3.2.04**

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.04**  
**of 7 May 2025**

**Respondent:**

(Patent Proprietor)

Nicoventures Trading Limited  
Globe House  
1 Water Street  
London WC2R 3LA (GB)

**Representative:**

Harrison, Philip Mark  
Venner Shipley LLP  
200 Aldersgate  
London EC1A 4HD (GB)

**Appellant:**

(Opponent)

Philip Morris Products S.A.  
Quai Jeanrenaud 3  
2000 Neuchâtel (CH)

**Representative:**

Grünecker Patent- und Rechtsanwälte  
PartG mbB  
Leopoldstraße 4  
80802 München (DE)

**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
21 November 2022 concerning maintenance of the  
European Patent No. 3457874 in amended form.**

**Composition of the Board:**

**Chairman**

G. Martin Gonzalez

**Members:**

C. Kujat

C. Heath

## **Summary of Facts and Submissions**

- I. The opponent's appeal lies from the interlocutory decision of the opposition division of the European Patent Office concerning maintenance of the European Patent No. 3 457 874 in amended form pursuant to Articles 101(3) (a) and 106(2) EPC.
- II. The opposition division held inter alia that the patent as amended according to Auxiliary Request 1c and the invention to which it related met the requirements of the EPC, having regard inter alia to the following pieces of evidence:
- |      |                            |
|------|----------------------------|
| D5   | WO 2015/082649 A1          |
| D6   | WO 2016/207192 A1          |
| D7   | WO 2017/153443 A1          |
| D9   | WO 2000/053037 A1          |
| D11  | WO 2011/000638 A1          |
| D12  | GB 2210546 A               |
| D13  | DE 1056023 A               |
| D14  | CA 2416144 C               |
| D15  | CN 104921296 A             |
| D15a | English translation of D15 |
| D18  | US 2012/0048286 A1         |
| D19  | WO 2014/158051 A1          |
- III. The opponent as appellant requests that the impugned decision be set aside and that the patent be revoked in its entirety.
- IV. The proprietor had lodged an appeal against this decision. At the end of the oral proceedings they withdrew their appeal. The proprietor as respondent to the opponent's appeal requests that the patent be

maintained on the basis of Auxiliary Requests 1c, 2, 2a to 2c, 3, 3a to 3c, 4, 4a to 4c, 5, 5a to 5c, 6 and 6a to 6c re-filed with their reply of 16 August 2023, whereby Auxiliary Request 1c corresponds to the version as upheld by the opposition division.

V. In preparation for oral proceedings the Board issued a communication pursuant to Article 15(1) RPBA setting out its provisional opinion on the relevant issues. Oral proceedings were duly held on 7 May 2025 in the presence of both parties as a video conference.

VI. Independent claim 1 of Auxiliary Request 1c reads as follows:

"A smoking article (101, 301) for use with apparatus for heating smokable material to volatilise at least one component of the smokable material, the article (101, 301) comprising:  
a body of smokable material (103, 303); and  
an assembly (105, 305) comprising:  
a cooling segment (107, 307) of between 20 mm and 30 mm in length for cooling the volatilised at least one component of the smokable material (103, 303);  
a filter segment (109, 309) adjacent to the cooling segment (107,307) for filtering the volatilised at least one component of the smokable material (103, 303); and  
a mouth end segment (111, 311) adjacent to the filter segment (109, 309) for being received in a mouth of a user, wherein the mouth end segment (111, 311) consists of a hollow tube of length between 6 mm to 10 mm;  
wherein the cooling segment (107, 307) is located between the body of smokable material (103, 303) and the filter segment (109, 309), wherein a ventilation

region (317) is provided in the cooling segment (307) to enable air to pass into the cooling segment (307)."

- VII. The relevant submissions of the parties will be discussed in detail in the reasons for the decision.

## **Reasons for the Decision**

### *Inventive Step*

The opponent as appellant disputes the decision's finding that the subject-matter of claim 1 of Auxiliary Request 1c involves an inventive step over each of documents D15 and D19 as alternative starting points.

#### 1. Document D15 as starting point

- 1.1 It is common ground that document D15 relates to heat-not-burn cigarettes, and thus, constitutes a suitable starting point for the assessment of inventive step. Figures 1 and 2 of document D15 depict a smoking article comprising a body of smoking material 12, a filter segment 1 and three hollow tubular segments 2, 3, 4 which due to their inner voids are suitable for acting as cooling segments. Segment 7 is permeable and acts as a ventilation region which enables air to pass into that segment, see the vertical arrows in figure 1 and the corresponding explanation in paragraphs 22 and 23 of the English translation D15a.
- 1.2 According to the preferred embodiment in paragraph 0016 of document D15, segments 2, 3, 4 have a minimum length of 7 mm, 5 mm and 10 mm, i.e. a minimum length of the cooling segment of 22 mm. The Board does not share the respondent proprietor's view that this concerns

multiple selections from separate lists, since at least the minimum length of each segment is required in order to manufacture the smoking article of document D15. Therefore, the Board concurs with the appellant that the subject-matter of claim 1 of Auxiliary Request 1c differs from the disclosure of document D15 in that there is a mouth end segment which consists of a hollow tube of length between 6 mm and 10 mm, see item 6 of their statement of grounds of appeal. These are the distinguishing features of claim 1 over document D15.

- 1.3 With regard to the formulation of the objective technical problem underlying these distinguishing features, the Board endorses the appellant's argument that a problem described in a contested patent might be a "subjective" technical problem. Indeed, such a problem does not necessarily take into account the disclosure in the closest prior art as that document may not have been known at the time of drafting the patent application. However, in accordance with the problem-solution approach, the objective technical problem is formulated on the basis of the distinguishing features. To do so, one identifies the technical effect resulting from the distinguishing features, and then formulates the technical problem as the aim and task of modifying or adapting the closest prior art to provide the technical effect that the invention provides over the closest prior art, see "Guidelines for Examination in the European Patent Office" (Guidelines), G-VII, 5.2, which are explicitly mentioned in "Case Law of the Boards of Appeal of the European Patent Office" 10th edition 2022 (CLBoA), I.D. 4. In the case at hand, the Board must identify the technical effect which a mouth end segment consisting of a hollow tube of length between 6 mm and 10 mm - the

distinguishing features - provide over - the closest prior art - document D15.

- 1.4 According to established case law, see CLBoA, I.D.4.1, the objective technical problem must be derived from physical, chemical etc. effects directly and causally related to the technical features of the claimed invention. This is understood by the Boards of Appeal as an effect which is derivable from the application as filed when considered in the light of the closest prior art, see CLBoA, I.D.4.4.2 and 4.4.3 b) and the decision T0386/89 cited therein.
- 1.4.1 The appellant formulated the objective technical problem as improving the appearance of the mouth end segment of the smoking article, see items 7 and 18 of their statement of their grounds of appeal, or as avoiding negative visual perception and gustatory perception of condensate in the filter during the oral proceedings before the Board. The Board disagrees with this formulation, because neither the contested patent nor the English translation D15a mention staining of the filter, or gustatory perception of the condensate. Invited to explain their formulation of the objective technical problem during the oral proceedings before the Board, the appellant referred in a sweeping manner to their written submissions. Without further details, the Board cannot share the appellant's view as each party bears the burden of proof for the facts it alleges, see CLBoA, III.G.5.1.1.
- 1.4.2 As highlighted by the appellant in item 25 of their statement of grounds of appeal, combination document D19 teaches that *"the portion of the wrapper which surrounds the mouth end cavity generally reduces visibility of the downstream end of the first segment*



*of filtration material so that any staining of the downstream end of the first segment of filtration material which does occur is less visible"* (page 2, lines 30 to 33). The appellant did not provide any reason why - in the present case - the objective technical problem may be formulated based on an effect that is only derivable from the combination document D19, and neither does the Board see such reason.

- 1.4.3 The Board is not convinced that the problem of staining (or avoiding negative visual perception and gustatory perception of condensate) is known to the person skilled in the art of heat-not-burn cigarettes from their common general knowledge, because no proof of that knowledge was provided by the appellant. The appellant submits in this respect that colourants of tobacco material may also be present in the aerosol of D15, a heat-not-burn device (see items 11-15 of the statement of grounds of appeal), but provides no proof that the skilled person would commonly recognise this as causing a staining problem. The Board emphasizes that patent document D19 is no proof of the common general knowledge, see CLBoA I.D.8.3.

The Board therefore comes to the intermediate conclusion that the appellant's formulation of the objective technical problem is not deducible by the skilled person from the contested patent considered in relation to document D15 and its common general knowledge.

- 1.4.4 As the technical effect resulting from the distinguishing features must be deducible by the skilled person from the contested patent considered in relation to the closest prior art, see above, the Board considers paragraph [0034] of the contested patent as a

basis for the formulation of the objective technical problem. That paragraph discloses that *"The mouth end segment 111 provides the function of preventing any liquid condensate that accumulates at the exit of the filter segment 109 from coming into direct contact with a user"*. The Board therefore formulates the objective technical problem underlying the distinguishing features of claim 1 according to Auxiliary Request 1c over document D15 as preventing any liquid condensate that accumulates at the exit of the filter segment from coming into direct contact with a user.

- 1.5 Combination document D19 discloses that the tubular hollow wrapper forms a mouth end cavity which reduces visibility of staining on the downstream end of the filter, see above. As the visibility of staining according to document D19 and physical contact of the user with the condensate according to the objective technical problem do not concern the same sensory perception, the Board considers a combination of documents D15 and D19 to be based on hindsight. Therefore, this combination does not render obvious the subject-matter of claim 1 of Auxiliary Request 1c.
- 1.6 During the oral proceedings before the Board, the appellant relied on the further combination documents D6, D7 and D11. Documents D6 and D7 are international patent applications with a respective priority date (23 June 2015, 9 March 2016) before, but a respective publication date (29 December 2016, 14 September 2017) after the priority date (20 May 2016) of the application underlying the contested patent. These earlier PCT applications at most belong to the state of the art only when considering novelty and not when considering inventive step, see Guidelines 2025, G-IV 5.2. Document D11 discloses a heat-not-burn cigarette

with a recessed filter wherein the mouth end segment has a length of 5 mm, see page 4, lines 17 and 18 of the document. As the disclosed value falls short by 1 mm from the claimed range of between 6 and 10 mm, even a combination of documents D15 and D11 does not disclose all features of claim 1. Therefore, these combinations do not render obvious the subject-matter of claim 1 of Auxiliary Request 1c.

- 1.7 During the oral proceedings before the Board, the appellant declared to also rely on their written submissions to the "opposition division", but did not identify any particular submission or specify any passage therein when asked to do so. With regard to earlier submissions to the opposition division, the Board does not consider such references inasmuch as they do not adequately address the grounds underlying the contested decision due to their filing prior to the date of the decision. Provided that the appellant's intention was to rely on their written submissions to the Board, paragraphs 1.1.3.2 and 1.1.3.3 on pages 11 to 13 of their statement of grounds of appeal only refer to the "Opposition Facts", see items 31 and 33. However, Auxiliary Request 1c was filed only after the summons to oral proceedings before the opposition division were issued, for which reason the appellant's reference cannot directly refer to the contested Auxiliary Request 1c. Claim 1 of this request is directed to a combination of granted claims 1, 3 and 7. The mere reference to the opposition facts, or simply copy-pasting parts thereof, is not sufficient for the Board to understand without further investigation why the respective arguments in the opposition brief also apply to the combination of granted claims 1, 3 and 7. Both formally and content-wise, a reference to arguments directed towards a set of claims that do not

correspond to the ones currently under discussion does not comply with the requirement of proper substantiation. The Board therefore decided not to consider the appellant's mere references in their statement of grounds of appeal and reiterated in item 8 of their letter of 18 December 2024 to their written submissions.

1.8 The appellant's statement of grounds of appeal refers to the further combination documents D12 to D14, D5 and D9 (in that order), see items 31 and 33. The Board has examined these combinations in substance and finds them unconvincing for the following reasons:

- Document D12 aims at reducing the stub of a papirosa cigarette by providing a telescoping recessed filter, but does not specify the length of the recess segment. Therefore, even a combination of documents D15 and D12 does not disclose all features of claim 1.

- Documents D13, D9 and D5 are referred to as documents E9, E5 and E1 in item 33 of the statement of grounds of appeal. These documents were not cited in the opposition facts against granted claim 3, see paragraph 5.2 on page 30 thereof, they are not relevant for the length of the recessed mouth end segment specified in that claim. Document D9 is alternatively referred to as document E4 in item 35 of the statement of grounds of appeal. However, that document (WO 2015/166245) discloses a recessed filter wherein the mouth end segment has a length of 11 mm, see page 20, line 1 of the document, which is outside the claimed range of between 6 mm and 10 mm.

- Document D14 discloses a cigarette with a recessed ventilated filter. There is no cooling segment - which

could be ventilated - upstream from the filter as the filter directly abuts the tobacco rod. Due to the different locations of the ventilation in these documents, their combination is considered by the Board to be based on hindsight.

2. Document D19 as starting point

2.1 It is common ground that document D19 relates to a heat-not-burn cigarette with a body of smoking material 12 and a segmented mouthpiece 14. The segmented mouthpiece comprises three segments, i.e. an unfilled first cavity 16 acting as cooling segment, a filter segment 18 and an unfilled mouth end cavity 22. The first cavity 16 is permeable and acts as a ventilation region which enables air to pass, page 6, lines 1 and 2 of the document. While the mouth end cavity 22 has a length of 7 mm, see page 3, line 5, the first cavity 16 has a length of only 10 mm, see page 2, line 34 of the document. The Board concurs with the appellant that the subject-matter of claim 1 of Auxiliary Request 1c differs from the disclosure of document D19 in that the cooling segment is of between 20 mm and 30 mm in length, see item 39 of their statement of grounds of appeal.

2.2 According to paragraph 20 of the contested patent, the physical displacement provided by the cooling segment results in a thermal gradient which provides a temperature differential for the heated volatilised component in order to protect the temperature sensitive filter element. Due to the presence of an unfilled first cavity 16, this effect already occurs in the segmented mouthpiece of the cigarette according to document D19. The Board therefore formulates the objective technical problem as increasing the cooling,

as set out in paragraph 18.7 of the contested decision. This corresponds to the problem of reducing the temperature at which the aerosol is delivered to the filter segment formulated by the appellant in item 59 of their statement of grounds of appeal.

- 2.3 The Board is not convinced that extending the cooling segment in the segmented mouthpiece of document D19 to a length of between 20 mm and 30 mm is an obvious solution to the formulated objective technical problem. The reason is that the segmented mouthpiece is proposed in that document as a more cost effective alternative to a conventional filter which comprises a single segment of filter material extending along the entire length of the mouthpiece, see page 1, lines 22 to 24 of document D19. The Board understands the reference to a more cost effective cigarette compared with a conventional cigarette (D19, page 2, lines 14 and 15), and to a mouthpiece constructed to the size required for processing on existing manufacturing equipment (D19, page 2, lines 17 to 19) only in the sense that both the length of the mouthpiece and the overall length of the cigarette shall remain the same when the cigarette is equipped with the segmented mouthpiece.

- 2.3.1 This conclusion is not altered by the appellant's argument that document D19 does not explicitly refer to the length of the mouthpiece, see item 42 of their statement of grounds of appeal. As a mouthpiece is implicitly cylindrical, it is characterized by its length and diameter, which is evidenced by the references to length and diameter on page 3, lines 9 and 20 of document D19. There is no indication in D19 that the diameter of the cigarette / mouthpiece is changed when the conventional mouthpiece is replaced with a segmented one, particularly because the

segmented filter is considered an improvement over a conventional filter where the filter material extends along the entire length of the mouthpiece (D19, page 1, line 24), or from the tobacco rod to the mouth end (D19, page 2, lines 15 and 16). The Board therefore understands the expressions "dimensions of the first cavity" and "size of the mouthpiece" on page 2, lines 16 to 18 only as references to the length of the respective items.

2.3.2 In contrast, extending the first cavity from 10 mm (D19, page 2, line 34) to 30 mm will either shorten the wrapped rod of tobacco by 20 mm or lengthen the mouthpiece by 20 mm. In the first case, the comparison with the manufacturing cost of a conventional cigarette (D19, page 2, lines 14 and 15) does not make sense because the two cigarettes would differ not only in the cheaper segmented mouthpiece, but also in the shortened - and therefore cheaper - tobacco rod. In the second case, the Board is not convinced - and the appellant did not provide evidence for their assertion in items 42, 43 and 47 of their statement of grounds of appeal - that the lengthened mouthpiece can still be manufactured on existing equipment. The Board therefore does not share the appellant's view.

2.3.3 For these reasons, the Board considers a lengthened first cavity of between 20 mm and 30 mm in document D19 to be based on hindsight.

2.4 The Board concurs with the appellant that heat transfer belongs to the common general knowledge of the skilled person, see item 60 of their statement of grounds of appeal. However, this knowledge does not incite the skilled person to lengthen the first cavity 16 in document D19 because they will construe the document

only in the sense that the length of the segmented mouthpiece must be the same as that of a conventional mouthpiece, see above. By the same token, the Board considers routine experiments of increasing and reducing the length of the cylindrical cooling segment (see item 65 of the statement of grounds of appeal) or the incorporation of hollow tubular segment 152 shown in document D18 (see items 67 to 71 of the statement of grounds of appeal) into the mouthpiece of document D19 to be based on hindsight, because both measures would lead to a lengthened mouthpiece.

- 2.5 During the oral proceedings before the Board, the appellant declared to also rely on their written submissions, but did not specify any passage therein when asked to do so. Paragraph 1.2.3.4 on pages 22 to 24 of their statement of grounds of appeal only refers to the "Opposition Facts", see items 73 and 74. Auxiliary Request 1c was filed after the summons to oral proceedings before the opposition division were issued, and its claim 1 is directed to a combination of granted claims 1, 3 and 7. As pointed out above, the mere reference to the opposition facts is not sufficient for the Board to understand without further investigation why these arguments should also apply to the combination of the granted claims 1, 3 and 7. The Board therefore decided not to consider the appellant's mere references in their statement of grounds of appeal and reiterated in item 8 of their letter of 18 December 2024 to their written submissions and the combination documents cited therein.
- 2.6 The appellant's statement of grounds of appeal refers to further combination documents that show cigarettes with cooling segments' lengths within the claimed range, see item 74 of the grounds of appeal, which



where reiterated in item 8 of their letter dated 18 December 2024. The same arguments presented above for the other combinations starting from document D19 apply *mutatis mutandis* to these additional documents. They contain no more relevant teachings than D18, a combination document analysed above. They are cited to merely show cigarettes with cooling segments having a length within the claimed range of 20 to 30 mm, as is also the case for the cooling segment disclosed in D18.

3. In conclusion, the Board finds that the appellant's contentions against the patent as upheld in amended form corresponding to Auxiliary Request 1c are without merit.

In particular, the subject matter of claim 1 of Auxiliary Request 1c involves an inventive step in the light of the cited prior art, Article 56 EPC.

The Board thus confirms the decision under appeal.

## Order

### For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Magouliotis

G. Martin Gonzalez

Decision electronically authenticated