

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 30 September 2021**

Case Number: T 1962/19 - 3.2.01

Application Number: 14178446.2

Publication Number: 2954791

IPC: A24F47/00, F24H1/00

Language of the proceedings: EN

Title of invention:

Atomizer and electronic cigarette having same

Patent Proprietor:

Shenzhen First Union Technology Co., Ltd.

Opponent:

KELTIE LLP

Headword:

Relevant legal provisions:

EPC Art. 54, 56

RPBA 2020 Art. 13(2)

Keyword:

Novelty - main request (yes)

Inventive step - main request (no) - obvious modification

Amendment after summons - exceptional circumstances (no) -
taken into account (no)

Decisions cited:

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
Fax +49 (0)89 2399-4465

Case Number: T 1962/19 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 30 September 2021

Appellant:

(Opponent)

KELTIE LLP
No.1 London Bridge
London SE1 9BA (GB)

Representative:

Moore, Michael Richard
Keltie LLP
No.1 London Bridge
London SE1 9BA (GB)

Respondent:

(Patent Proprietor)

Shenzhen First Union Technology Co., Ltd.
Tangwei Industry Park
N° 1 Jian'an Road
Fuyong Street
Baoan District
Shenzhen, Guangdong 518104 (CN)

Representative:

Proi World Intellectual Property GmbH
Obermattweg 12
6052 Hergiswil, Kanton Nidwalden (CH)

Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
6 May 2019 concerning maintenance of the
European Patent No. 2954791 in amended form.**

Composition of the Board:

Chairman

C. Narcisi

Members:

A. Wagner

A. Jimenez

Summary of Facts and Submissions

- I. The appeal of the opponent lies against the decision of the opposition division to maintain European patent No. 2 954 791 in amended form.
- II. In its decision, the opposition division held among others that none of the grounds of opposition raised by the opponent under Article 100(a) EPC in combination with Articles 54 and 56 EPC was prejudicial to the maintenance of the patent according to the main request as filed with letter of 4 January 2018.
- III. In order to come to these conclusions the opposition division considered in particular document D3 (WO2014/071329 A1).
- IV. Oral proceedings by videoconference were held before the board on 30 September 2021.
- V. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed and the patent be maintained in the form found allowable by the opposition division (main request) or, alternatively, that the patent be maintained in amended form according to auxiliary request 1 filed during the oral proceedings.

- VI. Claim 1 of the main request reads as follows (feature analysis as proposed by the opposition division):

[A] An atomizer for an electronic cigarette,
comprising:

[B] a housing (10) defining

[B1] an air inlet (202),

[B2] an air outlet (201), and

[B3] an air passage (101) communicating the air
inlet and the air outlet;

[C] a solution reservoir (30)

[C1] received in the housing and

[C2] configured for reserving tobacco solution; and

[D] an atomizing part (60)

[D1] configured for atomizing the tobacco solution,
the atomizing part

[D2] comprising an atomizing cup (62)

[D2a] with an atomizing cavity, and

[D2b] an atomizing unit received in the atomizing
cavity;

[E] wherein the atomizer further comprises a first
solution guiding component (40)

[E1] positioned between the solution reservoir and
the atomizing part,

[E2] the first solution guiding component

[E2a] is configured for conveying the tobacco
solution from the solution reservoir to the
atomizing cup for atomization,

[E2b] is plate shaped and

[E2c] comprises a porous ceramic body,

[F] the tobacco solution is absorbed and stored in the
porous ceramic body,

[G] and is then conveyed to the atomizing unit for
atomization.

VII. The appellant's (opponent) arguments relevant to the present decision may be summarized as follows:

Novelty

The only feature not shown in the two embodiments of D3, figure 4 and figure 5, was feature E2b. Paragraph [0027], referring explicitly to the U-shaped wick elements shown in figures 1 to 5, stated that *"The wick can also be wholly contained within an opening in the partition and not extend outwards into the reservoir or vaporization chamber."* Such embodiments therefore necessarily and inevitably implied that the first solution guiding element was plate-shaped, since the wick element was disclosed as being "wholly contained" within an opening in the partition 107 or 507,510 (see D3, figures 4, 5).

The opposition division's conclusion that such a wick element was not plate-shaped but plug-like was based on scaling off a figure in an unallowable way in a patent document. Moreover this conclusion was likewise incorrect in view of the term "plate-shaped" being unclear and ill-defined.

Contrary to the opposition division's opinion the first solution guiding element did not have to be a one piece item as could be seen from paragraph [0014] of the patent in suit where it was stated that *"the first solution guiding component 40' includes a porous ceramic body 402 and a cotton cloth 404 formed on the bottom of the porous ceramic body 402"*. Thus the partition 107 (D3, figure 4) together with the wholly contained wick element 106 could be considered as a plate-shaped first guiding solution component that comprised the wick elements as porous ceramic bodies.

The opposition division erred in finding that a wick element being wholly contained within an opening of the partition was not derivable from the embodiment of figure 5, as the wick element 506 was not connected to the partition but to said barrier 510. Paragraph [0027] clearly also referred to figure 5. The partition introduced in paragraph [0021] *"serves as a partition between the reservoir 104 and the vaporization chamber 103"*. The skilled person would have understood that in figure 5 the barrier 510 together with constructional component 507 constituted a partition in accordance with paragraph [0021].

Inventive step

The conclusion of the opposition division that the subject-matter of claim 1 as granted involved an inventive step starting from D3 was wrong. In case that paragraph [0027] considered together with figure 4 or 5 did not take away novelty, it at least made feature E2b obvious, as explained with regard to novelty.

The specification did not describe any technical effect provided by the feature "plate-shaped". This feature only was mentioned once in a paragraph referring to the first embodiment. Paragraph [0027] of D3 gave a clear teaching that the wick elements could be modified. Such a modification resulting in a plate-shaped first solution guiding element constituted a simple workshop modification, particularly in view of figure 4.

With regard to figure 5, even supposing that the skilled person would not have considered the barrier 510 to be a partition in accordance with paragraph [0021] of D3, the skilled person looking to reduce the amount of wick used, would have been motivated to

wholly contain the wick within the opening of the barrier, following the teaching and suggestion of paragraph [0021] of the same document. In doing so, the skilled person would have arrived at a flat, thin wick element, i.e. a "plate shaped" first solution guiding component according to claim 1.

Admissibility of auxiliary request 1

Auxiliary request 1 was late filed and should not be admitted. The respondent had not shown any interest in filing auxiliary requests in response to neither the statement of grounds of appeal nor to the preliminary opinion of the Board indicating that the appeal may be allowed. There were no new objections or any other special reasons that could justify filing an auxiliary request only during oral proceedings before the board of appeal. The amendments were not the same as in the auxiliary request filed during opposition proceedings and were not clearly and unambiguously derivable from the original application as filed (Article 123(2) EPC).

- VIII. The respondent's (patent proprietor) arguments relevant to the present decision may be summarised as follows:

Novelty

The features E2a, E2b and F were not disclosed in D3. Referring to feature E2a and F the wick element of D3 could not absorb and store the tobacco solution and then convey it to the atomizing unit. In order to fulfil the requirements of features E2a and F two solution guiding components were necessary.

Paragraph [0027] did not mention a plate-shaped first solution guiding element let alone provide an enabling

disclosure of an atomizer with a plate-shaped first solution guiding element. Paragraph [0027] included only a general statement. All the embodiments showed U-shaped wick elements.

The feature "solution guiding element" was defined by its function, i.e. guiding the solution. It was not excluded that the solution guiding element may comprise several components but they all still had to be solution guiding. Thus, even if the embodiment of figure 4 would have been adapted in a way such that the wick element was wholly contained in the partition 107, the plate-shaped partition incorporating the wick element would not have been (as a whole) guiding the solution, see paragraph [0021] of D3.

Furthermore paragraph [0027] was contradicting the embodiment of figure 4 because of the heating wire that needed to be wrapped around the wick element 106.

With respect to figure 5, paragraph [0027] only disclosed the wick element being contained in the "partition", not in the barrier 510.

Inventive step

D3 and in particular paragraph [0027] did not mention explicitly or disclose implicitly a plate-shaped wick element and did not provide any teaching prompting the skilled person to provide a plate-shaped solution guiding element. The wording "wholly contained" did not necessarily or automatically lead to a plate-shaped wick element. Hence, the skilled person did not get any incentive to modify the embodiments shown in D3, figure 4 or 5, such as to arrive at the claimed subject-matter.

The plate-shaped wick element had the benefit of a simple structure while providing on the one hand sufficient containment of the solution by the barrier to prevent the solution to leak out and on the other hand an efficient solution guiding. D3 did not give any hint to provide a plate-shaped solution guiding element to achieve this benefit.

Further, a plate-shaped wick element wholly contained or incorporated in the partition 107 would not have been compatible with the U-shape of the wick element, necessarily implied by the heating wire being wrapped around it. This prevented the skilled person from modifying the embodiment of D3, figure 4.

With regard to figure 5, paragraph [0027] only referred to the partition that could contain the wick element not to the barrier 510. As D3 distinguished between the partition and the barrier, paragraph [0027] was neither applicable to the embodiment of figure 5 nor suggesting the claimed subject-matter to the skilled person.

Admissibility of auxiliary request 1

Auxiliary request 1 was filed in response to the conclusion of the board announced during oral proceedings. The conclusion was surprising as it differs from the opinion of the opposition division.

Reasons for the Decision

1. Novelty in view of D3 - Article 54 EPC

- 1.1 The board confirms the opposition division's decision that the subject-matter of claim 1 is new within the meaning of Article 54 EPC in view of D3 as feature E2b

is not clearly and unambiguously disclosed.

- 1.2 With reference to the embodiment of figure 4, the board does not concur with the argument of the appellant (opponent) that in conjunction with paragraph [0027] and figure 6 (see openings 110A, 110B in the partition 107), the skilled person would regard the disclosure concerning the partition 107 and the wick element *"wholly contained within an opening in the partition"* as implying a plate-shaped first solution guiding element. Even if the wording of claim 1 does not exclude a multiple-part element or does not define that the first solution guiding element exclusively comprises solution guiding materials as alleged by the respondent (patent proprietor), it cannot be inferred from paragraph [0027] any unequivocal explicit or implicit disclosure of a plate-shaped constructional element (comprising solely the wick element or in combination with the partition), resulting from a modification of the embodiment in figure 4.

In effect, paragraph [0027] does not specify in any manner how the various constructional parts (e.g. the partition 107 and said openings) should be modified (if necessary) in order to arrange the wick element *"within an opening in the partition"*. In particular, all embodiments of D3 disclose a heating element that is wrapped around the wick element and there is no clear and unambiguous disclosure of an embodiment according to figure 4 including the necessary modifications resulting from a wick element wholly contained in an opening of the partition.

Hence the claimed atomizer is new over the embodiment of D3, figure 4.

1.3 The claimed atomizer also is new over the embodiment of D3, figure 5. Paragraph [0027] proposes a wick element that is "*wholly contained within an opening in the partition*" and explicitly refers to figure 5. However paragraph [0027] does not disclose that the wick element 506 of figure 5 can be wholly contained in the barrier 510. The skilled person needs to incorporate the explicit disclosure of a wick element "*wholly contained within an opening in the partition*" into the embodiment of figure 5. The resulting modified embodiment of figure 5 is however not described in D3, let alone described in a clear and unambiguous way.

1.4 Contrary to the respondent's opinion, features E2a and F are disclosed in D3. Claim 1 defines a first solution guiding element that absorbs, stores and conveys the tobacco solution by means of its porous ceramic body. In both discussed embodiments of D3 the wick element 106, 506 comprises a porous ceramic body (D3, paragraph [0039]) performing the function of guiding the solution from the solution reservoir 104, 504 to the atomizing unit. No valid reasons were given as to why the wick elements disclosed in D3 should not provide the same functional features as defined in features E2a and F.

2. **Inventive step - Article 56 EPC**

2.1 The Board held that the subject-matter of claim 1 does not involve an inventive step with regard to D3 combined with common general knowledge.

2.2 All parties agreed on D3 as closest prior art. Claim 1 differs from D3, figure 4 or figure 5, in feature E2b.

2.3 The embodiment shown in figure 4 or the embodiment shown in figure 5 seen together with paragraph [0027]

and combined with common general knowledge leads in an obvious manner to the subject-matter of claim 1. D3, paragraph [0027] refers obviously to figures 1 to 5. Therefore the skilled person is prompted to use different shapes for the wick element of both embodiments, e.g. to find an alternative, to save space within the solution reservoir, to provide a simpler shape or to save wick material.

2.4 Embodiment of figure 4

2.4.1 Reference is made to item 1.2 of the reasons of this decision. The skilled person would evidently modify and adapt the openings in partition 107 in an obvious manner as necessary and appropriate (e.g. preserving the plate-shape of partition 107), thereby leading to the wick element being wholly contained therein and constituting a plate-shaped first solution guiding element according to claim 1. The skilled person then would be confronted with the problem of how to arrange the heating wire 109.

2.4.2 The respondent's (patent proprietor) argument that the skilled person would not implement the general disclosure of paragraph [0027] to the embodiment of figure 4 because the skilled person would have to modify the heating wire arrangement is not convincing. As mentioned in paragraph [0022] of D3, the skilled person knows that the heated coil shown in figure 4 can be replaced by any other suitable heating element. Furthermore claim 1 neither specifies the atomizing unit nor defines a heating element. Thus these features are assumed as generally known by the skilled person. The skilled person would provide an equivalent heating element known from its common general knowledge to

guarantee proper functioning of the atomizer.

2.5 Embodiment of figure 5

2.5.1 Reference is made to item 1.3 of the reasons of this decision. D3, paragraph [0021], describes with reference to the first embodiment that the wick element holder 107 *"serves as a partition between the reservoir, 104, and the vaporization chamber, 103."* For the same function, paragraph [0024] of D3 referring to the second embodiment, mentions besides the partition 507 additionally a barrier 510, that protects the vaporization chamber 503 *"from direct contact with the reservoir"*. Therefore the board agrees with the arguments of the appellant (opponent) that a skilled person would not only consider the partition disk 507 but the constructional unit formed by the partition disk 507, the barrier 510 and the closing plug as the partition according to paragraph [0027].

2.5.2 The skilled person would apply the teaching about a wick element *"wholly contained in the opening of the partition"* to the embodiment of figure 5, as paragraph [0027] also clearly refers to figure 5. Such a modification of the wick element 506 (e.g. cutting of the legs of the U-shape) is considered as a design option or an alternative embodiment suggested by D3 itself.

2.5.3 In the patent in suit, the term "plate-shaped" is not provided with any definition and only mentioned once in the last line of paragraph [0009] as a possible design of the first solution guiding element. When modifying the wick element 506 of figure 5 in a way that it is wholly contained within the barrier as proposed by paragraph [0027] of D3, a "plate-shaped" object in a

broad sense according to feature E2b would be obtained, being substantially flat and extending in the transverse direction as shown in figure 5, including some further modifications to adapt the wick element to the barrier's circumferential shape. In particular, the skilled person would inherently and obviously adapt and conform the outer wick element portions in direct contact with the barrier to its circular outer shape (thereby preserving and further improving the wick element's plate-shape). This amounts to a mere workshop modification. Furthermore the teaching of D3, in particular paragraph [0027], does not hinder the skilled person from modifying the shape of the wick element to any arbitrary shape (e.g. rectangular or square, see D3, figure 12 or figure 13, 303A, 303B, 402A, 402B, 402C).

There are no further modifications necessary to guarantee the proper functioning of the atomizer of figure 5. Contrary to the argument of the respondent (patent proprietor), a redesign of the overall construction of the atomizer of D3, figure 5, is not necessary or needed.

- 2.5.4 The respondent's (patent proprietor) argument that D3 does not teach the skilled person to provide a plate-shape to achieve the technical effect of providing a sufficient barrier and an effective solution guiding is not convincing. In the patent in suit the mentioned benefit rather requires a second solution guiding element being in contact with the first solution guiding element and conveying the solution absorbed and stored in the first solution guiding element to the heating wire. It is not apparent from the patent in suit how the plate-shape alone achieves said technical effect.

Instead, in light of the disclosure of D3, such a

plate-shape rather constitutes a workshop modification than a solution to a technical problem.

3. Auxiliary request 1 - Admissibility

3.1 Based on Article 13(2) RPBA 2020 the board did not admit auxiliary request 1 into the appeal proceedings.

3.2 Article 13(2) RPBA 2020 applies according to the transitional provisions in Article 25(3) RPBA 2020. The summons to oral proceedings (dated 13 November 2020) has been notified after the date of entry into force of the revised version (1 January 2020). Consequently the filing of any amendment to a party's appeal case after notification of the summons to oral proceedings is only taken into account in case of exceptional circumstances, which have been justified with cogent reasons by the party concerned.

3.3 The conclusion of the board in view of inventive step is based on objections and arguments of the appellant that already have been on file with the statement of grounds of appeal. The objections raised in the statement of grounds should have led the respondent (patent proprietor) to define fallback positions by way of auxiliary requests with its reply to the statement of grounds of appeal. However no auxiliary requests were filed.
The fact that the board's conclusion differs from that of the opposition division can not be considered as representing an exceptional circumstance.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



A. Vottner

C. Narcisi

Decision electronically authenticated