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**Datasheet for the decision
of 20 March 2024**

Case Number: T 2224/21 - 3.2.01

Application Number: 13774188.0

Publication Number: 2908673

IPC: A24F47/00

Language of the proceedings: EN

Title of invention:
ELECTRONIC VAPOUR PROVISION DEVICE

Patent Proprietor:
Nicoventures Trading Limited

Opponent:
Weickmann & Weickmann Patent- und
Rechtsanwälte PartmbB

Headword:

Relevant legal provisions:
EPC Art. 52(1), 54, 56, 83, 87(1), 123(2)

Keyword:

Novelty - main request (yes)

Inventive step - main request (yes)

Sufficiency of disclosure - (yes)

Priority - same invention (yes) - validity of priority date
(yes)

Amendments - allowable (yes)

Decisions cited:

G 0001/22

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 2224/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 20 March 2024

Appellant: Weickmann & Weickmann Patent- und
(Opponent) Rechtsanwälte PartmbB
P.O. Box 860 820
81635 München (DE)

Respondent: Nicoventures Trading Limited
(Patent Proprietor) Globe House
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Representative: D Young & Co LLP
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 18 October 2021
rejecting the opposition filed against European
patent No. 2908673 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: V. Vinci
P. Guntz

Summary of Facts and Submissions

I. The appeal filed by the appellant (opponent) is directed against the decision of the opposition division rejecting the opposition against European patent No. 2 908 673.

In its decision the opposition division held that none of the grounds of opposition raised by the appellant (opponent) was prejudicial to the maintenance of the patent as granted. In particular, the opposition division found that the claimed priority was valid and that the subject-matter of claim 1 as granted involved an inventive step within the meaning of Articles 52(1) and 56 EPC in view of the following state of the art:

D2 : EP1785711 A2

D3 : EP2047880 A1

D8 : US2011/0226236 A1

D13: US2005/0274193 A1

D24: CN 202364801 U

D24a: Human Translation of document of D24

Document D24 was filed after expiry of the opposition period and was admitted by the opposition division in the opposition proceedings because it was considered "*prima facie*" relevant to the assessment of inventive step.

A communication by UKIPO dated 17 October 2013 (EV1) was filed by the respondent (patent proprietor) during the opposition proceedings in support of the priority claim disputed by the appellant (opponent).

Following additional documents were filed after expiry

of the opposition period and were not admitted in the opposition proceedings pursuant to Article 114(2) EPC:

D22: WO 2013/138384 A2

D23: Free scale semiconductor, Miniature I2C Digital Barometer; Oct. 19, 2011

D25: US 4320664

Following additional evidence was filed during the appeal proceedings:

D26: Communication by UKIPO dated 4 August 2013

D27: DE 10 2009 035 973 A1

D27a: English language translation of D27

D28: Excerpt from the UK register regarding the priority application GB201218816 (publication number GB2507102)

II. With the communication according to Article 15(1) RPBA dated 16 November 2023 the Board informed the parties of its preliminary assessment of the case.

Oral proceedings pursuant to Article 116 EPC were held before the Board on 20 March 2024 by videoconference.

III. The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed or, in the alternative, that the patent be maintained in amended form, based on the set of claims according to one of auxiliary requests 1 to 5 filed with the reply to the statement of grounds of appeal.

IV. Claim 1 as granted reads as follows (labelling according to the decision under appeal):

- a) *"An electronic vapour provision device comprising*
 - b) *a power cell,*
 - c) *a heating element,*
 - d) *and a computer, where the computer comprises a computer processor, a memory and an input-output means;*
 - e) *wherein the device further comprises a pressure sensor*
 - f) *and a temperature sensor, and*
- characterised in that*
- g) *the pressure sensor and temperature sensor form a combined sensor (28), constructed as a single electronic component,*
 - h) *wherein the computer is configured in use to read both pressure and temperature at substantially the same time,*
 - i) *and to deliver an electrical current to the heating element when a pressure measured by the pressure sensor is reduced below a threshold pressure,*
 - j) *wherein the combined sensor is configured in use to determine the temperature and the pressure and provide a pressure reading that is dependent on the temperature."*

Reasons for the Decision

MAIN REQUEST - PATENT AS GRANTED

Amendments: Article 123(2) EPC

1. The patent as granted complies with the requirements of Article 123(2) EPC as correctly assessed by the opposition division.
- 1.1 Compliance with Article 123(2) was contested by the appellant with its appeal. In this respect it was observed that the feature that the claimed electronic vapour provision device comprised "*a heating element (12)*" was introduced in claim 1 in the preamble of claim 1. The appellant (opponent) pointed out that the originally filed description as a whole (reference was made to page 1, line 28, page 2, line 1 and page 3, line 18) as well as original claim 20 mentioned said "*heating element*" as being inextricably linked to a "*vaporiser*". It was thus concluded that the omission in claim 1 of the feature that the claimed electronic vapour provision device comprises "*a vaporiser*" comprising in turn the claimed "*heating element (12)*" resulted in an unallowable intermediate generalisation infringing Article 123(2) EPC.
- 1.2 The reasoning of the appellant (opponent) is not convincing for the following reason:

As acknowledged by the parties claim 1 as granted is based on the combination of original claims 1, 9, 10, 14, 15 and 18. Dependent claim 18 provides the basis for the introduction in claim 1 of the "*heating element*" alone, i.e. not as a component of a vaporiser which is in fact not recited in any of the preceding

dependent claims 1, 9, 10, 14 and 15, whereas the specification that *"the vaporiser comprises a heating element"* is recited for the first time in dependent claim 20. Therefore, the omission of the *"vaporiser"* in claim 1 is supported by a combination of claims as filed and therefore, contrary to the view of the appellant (opponent) does not result in any unallowable generalisation infringing Article 123(2) EPC as correctly stated by the opposition division. The appellant (opponent) also objected that claim 18 as filed could not form the basis for the introduction of the *"heating element"* in claim 1 because the *"heating element"*, despite being recited by using the definite article *"the"* in dependent claim 18 had no antecedent basis in the preceding claims. The Board cannot see why this minor original inconsistency could lead to an issue under Article 123(2) EPC. In fact the application as originally filed discloses only one *"heating element"* and therefore there can be no doubt that the *"heating element"* recited in claim 18 as filed is the same *"heating element"* introduced in claim 1 as granted.

Sufficiency of Disclosure: Article 83 EPC

2. The patent as granted meets the requirements of Article 83 EPC as correctly assessed by the opposition division.
- 2.1 With the grounds of appeal the appellant (opponent) contested this finding of the opposition division. Regarding this objection the parties relied at the oral proceedings on the arguments presented in writing and did not wish to make any further submission. Consequently, the Board has no reason to deviate from the assessment of this issue as presented in the

preliminary opinion which is hereby confirmed and reads as follows:

- 2.2 The appellant (opponent) held that since the granted patent did not describe any constructional embodiment of a "*combined sensor*" according to feature (g) of claim 1 as granted, the skilled person was unable to carry out the invention.
- 2.3 However, according to established case law of the Boards of Appeal, when establishing insufficiency of disclosure, the burden of proof in inter-partes proceedings is upon the opponent who has to demonstrate, on the balance of probabilities, that a skilled person reading the patent and using common general knowledge would be unable to carry out the invention. In the present case, the allegation of the appellant (opponent) that the person skilled in the art was unable to realize a combined sensor according to feature (g) does not appear substantiated let alone proved. In this respect the Board shares the view of the opposition division and the respondent (patent proprietor) that the contested patent in paragraph [0049] describes a technically plausible solution to implement feature (g) by providing a circuit board carrying a pressure sensor and a temperature sensor arranged adjacent to each other. As the appellant (opponent) did not explain why this specific and explicitly suggested technical solution would not fulfill feature (g) of claim 1 and the Board does not see any reason for such a conclusion, the objection of the appellant (opponent) is not justified.
- 2.4 The appellant (opponent) maintained that the contested patent did not provide any teaching on how to adjust the pressure reading to compensate for temperature

changes as required by dependent claim 5 as granted. The appellant (opponent) supported this allegation by referring to documents D23 and D25 (not admitted by the opposition division), which allegedly demonstrated the complexity of the mathematical/physical relationship between these two physical parameters. In the appellant's (opponent's) view this complexity would render "*de facto*" impossible for the person skilled in the art to carry out the invention as specified in dependent claim 5 without undue burden.

- 2.5 However, irrespective of the admissibility issue relating to documents D23 and D25, the Board takes the view that the person skilled in the art who masters the basic laws of physics governing the relationship between pressure and temperature in a gas would be able by means of empirical tests and/or mathematic modelling to implement a computer routine suitable to provide a temperature-compensated pressure reading with the precision required by the technical context of the patent.

Article 87(1) EPC: Validity of the Priority

3. The Board concurs with the conclusion of the opposition division that the claimed priority of the GB201218816 (19 October 2012) is valid.
- 3.1 The appellant (opponent) objected that it had not been proved that the applicant of the contested patent was the same as the applicant of the first application, and that the contested patent did not relate to the same invention as disclosed in the priority document, whereby the requirements of Article 87(1) EPC were not met.

Same applicant

3.2 The first application GB201218816 (hereinafter 816') from which priority is now claimed was filed in the name of CN Creative Limited whereas the applicant of the subsequent PCT application on which the contested patent is based is Nicoventures Holdings Limited. The appellant (opponent) pointed out that in order to validly claim priority from 816' the Nicoventures Holdings Ltd. must have become the legal successor of CN Creative Limited according to UK law. The appellant (opponent) also observed that according to the publicly available information provided by the UK Intellectual Property Office (UKIPO) there was a transfer from CN Creative Limited to British American Tobacco (NC) Limited (evidence D26) and a further transfer from British American Tobacco (NC) Limited to Nicoventures Holdings Limited (evidence EV1). The appellant (opponent) pointed out that on one side it was impossible for him to access all the relevant information relating to the disputed transfer because they were non-public and in the possession of the respondent (patent proprietor) only and, on the other side, it would have been easy for the respondent (patent proprietor) to provide the relative commercial contracts or any other kind of written evidence clearly demonstrating the transfer of the priority rights from CN Creative Limited to British American Tobacco (NC) Limited and from British American Tobacco (NC) Limited to Nicoventures Holdings Ltd. In view of the above circumstances the appellant (opponent) put forward that the burden of proof laid with the respondent (patent proprietor) who was the only party having full access to the relevant documentation. The refusal to provide this kind of written evidence cast a shadow on the statement of the respondent (patent proprietor) that

the transfer of the priority rights had validly taken place.

3.3 The arguments of the appellant (opponent) are not convincing for the following reasons:

3.4 The respondent (patent proprietor) pertinently referred to the reasoning of the Enlarged Board of Appeal in case G1/22 which originated from a case of transfer of priority rights from joint applicants. The principles set out in this decision are also applicable the present case. In particular, G 1/22 states that:

- entitlement to priority should in principle be presumed to exist to the benefit of the subsequent applicant of the European patent application if the applicant claims priority in accordance with Article 88(1) EPC and the corresponding Implementing Regulations (Reasons, 105);

- but the presumption should be rebuttable since in rare exceptional cases the priority applicant may have legitimate reasons not to allow the subsequent applicant to rely on the priority (reasons, 108), whereby the rebuttable presumption involves the reversal of the burden of proof, i.e. the party challenging the subsequent applicant's entitlement to priority has to prove that this entitlement is missing (Reasons, 110); and

- the presumption that the subsequent applicant is entitled to the priority right is a strong presumption under normal circumstances since the other priority requirements (which establish the basis for the presumption of priority entitlement) can usually only be fulfilled with the consent and even cooperation of

the priority applicant. The party challenging the entitlement to priority can thus not just raise speculative doubts but must demonstrate that specific facts support serious doubts about the subsequent applicant's entitlement to priority (Reasons, 110).

In the present case the appellant (opponent) only raised speculative doubts not supported by evidence. On the contrary, the evidence presented by the respondent (see EV1, relating to the recordal of GB2497616 to proceed in the name of the respondent before the UK Intellectual Property Office, EV1 also referring to application 1218816.5 in the second page) reinforces the strong presumption of entitlement to priority. In this context, it is not apparent why the alleged failure of the respondent (patent proprietor) to provide written evidence in the form of commercial contracts or agreement between the parties, should go to the detriment of the respondent. The Board further notes that the appellant (opponent) was not in a position in which any evidence for rebutting the presumption of entitlement would only be at the hands of the respondent (patent proprietor). As explained in G1/22 (Reasons, 108) there might be circumstances related to bad faith behaviour on the side of the subsequent applicant or to the outcome of other proceedings such as litigation before national courts about the title to the subsequent application, that the appellant (opponent) could have had access to. In other cases the Enlarged Board, following the High Court of Justice of England and Wales, did not find any obvious public interest in striking down patents based on legal flaws related to the entitlement to priority, unlike all the other grounds of invalidity (Reasons, 116 and 117).

The opponent (opponent) not having submitted any evidence to successfully rebut the presumption of entitlement to priority, the Board has to assess that the respondent is entitled to the priority.

Same Invention

- 3.5 The appellant (opponent) put forward that the contested patent related to an *"electronic vapour provision device"* whereas the priority document disclosed an *"electronic inhalation device"*. In their opinion a vapour provision device was not meant to be necessarily used for inhalation purposes and also covered other kind of devices such as e.g. fog machines and engines exhausting toxic vapour not envisaged by the first application. It was submitted that the term *"electronic vapour provision device"* was technically different from the term *"electronic inhalation device"* with the consequence that the priority document and the contested patent did not cover the same invention as required by Article 87(1) EPC. It was further argued that according to the priority document (exemplary reference was made to page 1, lines 23-27) electronic inhalation devices were typically cigarette-sized devices allowing an user to inhale a nicotine or essence vapour from a liquid store by applying a suction force to a mouthpiece. Electronic vapour provision devices as recited in claim 1 of the contested patent were not intended for inhalation. In fact the claimed device did not comprise a mouthpiece which was required in the inhalation device of the priority document in GB'816 for directing the flow of vapour into the user's mouth. The appellant (opponent) thus concluded that, contrary to the view taken by the opposition division, the subject matter of claim 1 was not directly and unambiguously derivable from the

disclosure in the priority document.

3.6 The Board is not convinced:

The electronic vapour provision device of claim 1 as granted is also an inhalation device in the sense that the vapour delivered in the environment in which the device is operated is necessarily inhaled by any individual located nearby. Furthermore, as convincingly pointed out by the respondent (patent proprietor), the application as originally filed describes the electronic vapour provision device at issue essentially in the same way as the priority document discloses an inhalation electronic inhalation device, i.e. as devices *"allowing an user to inhale a nicotine vapour from a liquid store by applying a suction 10 force to a mouthpiece"* (compare application as originally filed, lines 8-10 and priority document, page 1, lines 23-27). The Board also observes that the fact that the *"mouthpiece"* is omitted in claim 1 does not result in any new technical information because this feature is also omitted in claim 1 of the priority application. Accordingly, the Opposition Division was correct in its finding that the patent as granted relates to the same invention disclosed in the priority application.

3.7 The Board thus confirms the assessment of the opposition division that the priority of 19 October 2012 claimed by the contested patent is valid.

4. Accordingly the international application D22 claiming the priority of 12 March 2012 and published on 19 September 2013 does not form part of the prior art pursuant to Article 54(2) EPC. Furthermore, as also stated in the decision under appeal and not contested by the appellant (opponent), this international

application does not represent a state of the art pursuant to Article 54(3) EPC either because it did not validly enter the European regional phase.

- 4.1 In view of the above, the novelty and inventive step attacks based on this document and presented by the appellant (opponent) with the statement of grounds of appeal are void.

Articles 52(1) and 56 EPC: Inventive Step

5. The subject-matter of claim 1 of the patent as granted involves an inventive step within the meaning of Articles 52(1) and 56 EPC as correctly stated by the opposition division.

- 5.1 The positive assessment of inventive step of the department of first instance is contested by the appellant (opponent) who submitted the following lines of attack:

D24/D24a in view of D2, D13, D25 or D27

- 5.2 It is undisputed that document D24 does not disclose feature (g) of claim 1 as granted. In fact the device according to this prior art document uses a condenser microphone (24) and not a combined sensor to trigger the activation of the power supply of the heating element in response to a puff of the user and not a combined pressure and temperature sensor. Since according to paragraph [0030] of the translation D24a the sensitivity of the condenser microphone was *"automatically adjusted according to changes in the ambient 30 temperature and humidity"*, a temperature sensor according to feature (f) of claim 1 as granted had to be inherently provided as well. Regarding

feature (h) of claim 1, in view of the broad and vague meaning of the expression "substantially at the same time" this feature was also inherently derivable from this prior art document. Thus - contrary to the assessment of the opposition division - features (f) and (h) were also directly and unambiguously disclosed in D24. Regarding feature (j), it merely expressed the well known dependence of the pressure of a gas on the temperature according to the gas law and not the temperature-compensated pressure reading implied by the respondent (patent proprietor) which was instead claimed in dependent claim 5, whereby also this feature was inevitably fulfilled in operation by the device of D24. Document D2 gave a direct hint to a person skilled in the art starting from D24 and aiming to improve the accuracy of the pressure reading detrimentally affected by the temperature gradient within the device, to replace the condenser microphone of the device of D24 by the combined temperature and pressure sensor adopted in the electronic vapour provision device of D2 (reference was made to paragraph [0017]). In order to support this allegation the appellant (opponent) referred to paragraphs [0019] and [0033] of D2 teaching the person skilled in the art that such a combined temperature and pressure sensor is indeed suitable to improve the accuracy of the pressure measurement. The same reasoning and conclusions applied to the combination of D24 with any one of documents D13, D25 and D27 all disclosing a combined pressure and temperature sensor according to feature (g) of claim 1 as granted.

5.3 The Board does not agree for the following reasons:

Contrary to the view of the appellant (opponent), the Board is convinced that the device of document D24 does

not mandatorily require a temperature sensor in order to adjust the sensitivity of the condenser microphone to changes in the ambient temperature. As convincingly argued by the respondent (patent proprietor), the broad teaching of paragraph [0030] of D24 (in the translation D24a cited by the appellant (opponent)) leaves fully open whether the adjustment of the sensitivity of the condenser microphone is carried out on the basis of absolute values of the actual temperature measured by a temperature sensor or in another way. Irrespective of the question whether the adjustment of the sensitivity of the condenser microphone according to changes in the ambient 30 temperature and humidity mentioned in paragraph [0030] of D24 equates to an adjustment of the pressure reading delivered to the controller, the Board concurs with the respondent (patent proprietor) that it is possible to obtain a temperature-compensated pressure reading without using a temperature sensor. In fact, as convincingly explained by the respondent (patent proprietor) at the oral proceedings, to detect a pressure change suitable for triggering the power supply to the heating element it is not necessary to rely on measurements of the absolute pressure, but it is alternatively possible and also technically practicable to use a differential measurement of pressure instead. By doing this, the effect of the temperature on the pressure reading will be automatically compensated without the need of a temperature sensor because this effect will be subtracted out in the differential measurement. Furthermore, as also submitted by the respondent (patent proprietor) at the oral proceedings, a compensation of the effect of the temperature on the pressure reading can be obtained by measuring the variation of the resistance of a resistor which - as well known - is linked to the temperature. Also this

technical solution does not require a direct measurement of the temperature and, hence, a temperature sensor. Finally, as further pointed out by the respondent (patent proprietor), a solution for compensating the pressure reading without measuring the temperature is disclosed in document D8 according to which a temperature-compensated pressure sensor is used. The examples above convincingly support the view of the respondent (patent proprietor) that - contrary to the opinion of the appellant (opponent) - it cannot be directly and unambiguously derived from paragraph [0030] of D24/D24a that the device disclosed in this prior art document is provided with a temperature sensor according to feature (f). It follows that if no temperature measurement is carried out, features (f), (h) and (j) are not directly and unambiguously disclosed in D24 either. Accordingly, taking into account that D24 does not unambiguously suggest a direct measurement of the temperature to obtain a temperature-compensated reading of the pressure, the Board takes the view that it would not be obvious for the person skilled in the art to replace the capacitive sensor of D24 by the piezo-resistive sensor of D2 because this step implies a fully different approach to the problem at issue and would additionally require major modifications in the controller and in its programming in order to foresee and manage an additional input for a temperature measurement which is not foreseen in D24. The same applies for the same reasons to the combination of D24 with D13, D25 (not admitted by the opposition division) or D27 (filed for the first time with the statement setting out the grounds of appeal), and this irrespective of a decision on the admissibility of the latter two documents which is, thus, not required.

D8 in view of D2, D13, D25 or D27

- 5.4 There is agreement that features (f), (g) and (h) are not disclosed in this document relating to an electronic vapour provision device which uses a temperature-compensated pressure bridge in order to take account of the effect of the temperature on the pressure reading. Also in this case a temperature sensor is not provided/required. The Board takes thus the view that the subject-matter of claim 1 as granted is not rendered obvious by D8 in combination with any of documents D13, D25 and D27 for the same reasons given in respect of the line of attack on inventive step starting from D24 as closest prior art.

D1 or D3 in view of D2, D13, D25 and D27

- 5.5 Regarding these lines of attack on inventive step the parties relied at the oral proceedings on the arguments presented in writing and did not make any further submission. Consequently, the Board has no reason to deviate from the assessment presented in the preliminary opinion which is hereby confirmed and reads as follows:
- 5.6 The appellant (opponent) concurred with the opposition division that the subject-matter of claim 1 as granted differed from the technical content of D1 in features (g) and (h). It was alleged that for the same reasons given regarding the lines of inventive step attack starting from D24 or D8 the person skilled in the art was motivated to replace the single and spaced apart pressure and temperature sensors disclosed in this prior art document by a combined sensor, as suggested in any of documents D2, D13, D25 and D27, thereby arriving without inventive step to the subject-matter

of claim 1, and thus taking into account that feature (h) had to be considered either inherently disclosed or at least obvious.

5.7 These arguments are not convincing for the following reasons:

The Board concurs with the respondent (patent proprietor) that D1 does not deal at all with the problem/goal to provide a more accurate temperature-compensated pressure reading. While according to certain embodiments a temperature sensor, however not forming a combined sensor as recited in feature (g), is foreseen in addition to a pressure sensor, no temperature-compensated pressure reading is implemented or suggested. Therefore, besides the fact that D1 does not appear to represent a promising starting point compared with D24 or D8 for the reasons above as stressed by the respondent (patent proprietor), the Board cannot see any motivation for the person skilled in the art to significantly modify the structure and the control of this known device in the sense of introducing a combined sensor according to feature (g) in view of documents D2, D13, D25 or D27.

5.8 Regarding D3 as closest prior art, it is uncontested that this electronic vapour provision device does not comprise features (g) and (h) of claim 1 as granted as stated by the opposition division. The appellant (opponent) acknowledged that also feature (f) is not disclosed in D3 (see page 16 of the grounds of appeal, line 1). The Board agrees with the opposition division that indeed a temperature sensor (180) is provided in this known device, namely associated with the heating element. However, as for D1 and contrary to the conclusions of the appellant (opponent), there is no

hint to a temperature-compensated pressure reading because the temperature sensor (180) is used for a different purpose. The same arguments in support of inventive step presented regarding the line of attack starting from document D1, thus, apply.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Spira

G. Pricolo

Decision electronically authenticated