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**Datasheet for the decision
of 3 November 2021**

Case Number: T 0682/18 - 3.2.01

Application Number: 10782535.8

Publication Number: 2493342

IPC: A24F47/00

Language of the proceedings: EN

Title of invention:

AN ELECTRICALLY HEATED SMOKING SYSTEM WITH IMPROVED HEATER

Patent Proprietor:

Philip Morris Products S.A.

Opponents:

British-American Tobacco (Investments) Limited
eSmoking Institute sp. z o.o.

Headword:

Relevant legal provisions:

EPC Art. 100(a), 100(b), 100(c), 54, 56, 84, 123(2), 83
RPBA 2020 Art. 15(8)

Keyword:

Grounds for opposition - insufficiency of disclosure (no) -
subject-matter extends beyond content of earlier application
(no)

Novelty - main request (no) - auxiliary request 1, 2 (no) -
auxiliary request 4 (yes)

Claims - clarity - auxiliary request 3 (no)

Extension beyond the content of the application as filed -
auxiliary request 4 (no)

Sufficiency of disclosure - auxiliary request 4 (yes)

Inventive step - auxiliary request 4 (yes)

Decisions cited:

G 0003/14

Catchword:



Beschwerdekammern

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Case Number: T 0682/18 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 3 November 2021

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 January 2018 concerning maintenance of the
European Patent No. 2493342 in amended form.**

Composition of the Board:

Chairman G. Pricolo
Members: J. J. de Acha González
 A. Jimenez

Summary of Facts and Submissions

- I. The appeals of the patent proprietor and of the opponent 1 lie against the interlocutory decision of the Opposition Division to maintain the European patent N° 2493342 in amended form according to the auxiliary request 3.
- II. The Opposition Division found among others that:
- the subject-matter of the granted patent did not go beyond the content of the application as originally filed (Articles 100(c) EPC), the invention according to the granted patent was sufficiently disclosed for it to be carried out by a person skilled in the art (Article 100(b) EPC), and the subject-matter of granted claim 1 as well as of claim 1 according to the auxiliary request 1 lacked novelty;
 - claim 8 of auxiliary request 2 was not clear (Article 84 EPC);
 - the subject-matter of claims 1 and 7 of auxiliary request 3 was new in view of D8 and involved an inventive step in view of D8 in combination with D1.

The following documents among others are cited in the contested decision:

- D1:** WO95/27412 A1,
- D2:** US 5 505 214,
- D3:** US 5 591 368,
- D4:** US 5 060 671,
- D5:** US 5 093 894, and
- D8:** WO2009/11 8085.

III. Oral proceedings before the Board were held on 3 November 2021 in the form of a videoconference with the consent of the parties.

The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted or, in the alternative, that the patent be maintained in amended form according to auxiliary requests 1 to 13 filed on 3 December 2018 with the reply to the statement of grounds of the appellant (opponent 1).

The appellant (opponent 1) requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent (opponent 2) did not file any submission nor presented any request in the appeal proceedings. It stated that it supported the requests and argumentation of the appellant (opponent 1).

IV. Claims 1, 8 and 9 of the patent as granted read as follows:

"1. An electrically heated smoking system for receiving an aerosol-forming substrate (407) the system comprising:

at least one heater for heating the substrate to form the aerosol, and

a power supply for supplying power to the at least one heater,

characterised in that the at least one heater comprises a plurality of electrically conductive tracks (103, 203, 303, 403, 503) on an electrically insulating substrate (101, 201, 301, 401, 501), wherein the

electrically insulating substrate is rigid and is arranged to be inserted into the aerosol-forming substrate (407), the electrically conductive tracks having temperature coefficient of resistance characteristics such that the electrically conductive tracks can act as both a resistive heater and as a temperature sensor."

"8. A heater for use in an electrically heated smoking system, characterised by the heater comprising a plurality of electrically conductive tracks (103, 203, 303, 403, 503) on an electrically insulating substrate (101, 201, 301, 401, 501), wherein the electrically insulating substrate is rigid and is arranged to be inserted into an aerosol-forming substrate (407), the one or more electrically conductive tracks having temperature coefficient of resistance characteristics such that the one or more electrically conductive tracks can act as both a resistive heater and as a temperature sensor."

"9. Use of a heater in an electrically heated smoking system, characterised by the heater comprising a plurality of electrically conductive tracks (103, 203, 303, 403, 503) on an electrically insulating substrate (101, 201, 301, 401, 501), wherein the electrically insulating substrate is rigid and is arranged to be inserted into an aerosol-forming substrate (407), the one or more electrically conductive tracks having temperature coefficient of resistance characteristics such that the one or more electrically conductive tracks can act as both a resistive heater and as a temperature sensor."

Claim 1 of the auxiliary requests 1 and 2 is identical to granted claim 1.

Claims 1, 8 and 9 of the auxiliary request 3 differ from granted claims 1, 8 and 9 in that the wording "can" has been omitted.

Auxiliary request 4 includes only two independent claims 1 and 7.

Claim 1 of auxiliary request 4 differs from claim 1 as granted in that it further includes the following wording at its end:

"wherein the power supply supplies power to the at least one heater in dependence upon the temperature sensed by the electrically conductive tracks and a desired temperature."; and

claim 7 of auxiliary request 4 differs from claim 9 as granted in that it further includes the following wording at its end:

"wherein a power supply supplies power to the heater in dependence upon the temperature sensed by the electrically conductive tracks and a desired temperature".

- V. In the foregoing the appellant (patent proprietor) and the appellant (opponent 1) will be referred to as the patent proprietor and opponent 1 respectively.

Reasons for the Decision

1. *Main request - Patent as granted*

The subject-matter of granted claim 1 is not new in view of **D5**.

1.1 *Novelty - Article 100(a), 54 EPC*

1.1.1 The patent proprietor defended that the subject-matter of granted claim 1 was new over the electrically heated smoking system of D5. In particular, D5 did not disclose the following features:

- (i) An electrically heated smoking system for receiving an aerosol forming substrate;
- (ii) the electrically insulating substrate is rigid and is arranged to be inserted into an aerosol-forming substrate; and
- (iii) the electrically conductive tracks having temperature coefficient of resistance characteristics such that the electrically conductive tracks can act as both a resistive heater and as a temperature sensor.

1.1.2 With respect to features (i) and (ii) of granted claim 1 the patent proprietor submitted that it derived therefrom that the smoking system was limited to a reusable system in which the aerosol-forming substrate was interchanged once fully used. The system of D5 was not such a system. Indeed there was no disclosure in D5 that the heating element could be inserted into the aerosol-forming substrate. In fact, D5 was generally silent on the location of the aerosol-forming substrate and only disclosed a substrate filling the voids of a mat used as base (1) and as such not being in contact with the heater tracks (3) since the insulating region (2) was located therebetween (see figures 1A to 2B and col. 8, lines 8-12 of D5). Moreover, the heater of D5 as depicted in figure 1C included connecting wires to the tracks which would be destroyed when the used aerosol-forming substrate was removed and replaced by a

new one. The system of D5 was thus not reusable but intended to be thrown away once used. Additionally, the system as shown in figures 3 and 4 of D5 was not designed for receiving an aerosol-forming substrate since the form of the far end 9 was unspecified and certainly not defined as an open end so that the aerosol-forming substrate could not be introduced. The patent proprietor further noted that the heater in D5 with the aerosol-forming substrate was not part of the smoking system as such. In contrast, the system received the heater together with the aerosol-forming substrate. Finally, the base region provided the physical support for the conductive tracks and as such corresponded to the claimed rigid substrate. The base region was, however, made out of metal and not rigid enough to be inserted into the aerosol-forming substrate but solely needed to be rigid enough to carry the insulating and heating regions. Consequently, the substrate of D5 was neither rigid nor insulating and certainly not arranged to be inserted into the aerosol-forming substrate.

The Board is not persuaded. The subject-matter of claim 1 is not limited to either disposable or undisposable smoking systems. Claim 1 defines an electrically heated smoking "system" which not necessarily is a smoking device ready for use, but might simply constitute a part thereof. In accordance with the wording of claim 1, the system comprises two components: at least one heater, as specified further in the claim, and the power supply. The wording of claim 1 does not thus require that the electrically insulating substrate is actually inserted into the aerosol forming substrate. However, the Board agrees with the patent proprietor that the term "arranged to be inserted" implies that the electrically insulating substrate with the

electrically conductive tracks is such that it can be physically inserted into an aerosol-forming substrate for performing the intended function of the heater, namely heating the aerosol-forming substrate to form the aerosol. The claim thus requires the electrically insulating substrate to have such characteristics that allow it to be inserted into an aerosol-forming substrate and for this it is simply necessary that it has a certain rigidity. The system as shown in figure 1C of D5 includes the electrical power source and switching means 5, the connecting wires 6 and the linear heating element of figures 1A and 1B. As put forward by the opponent 1, the insulating substrate can be seen as being formed of an electrical conductor (base metal 1 in D5) that is insulated from (insulating region 2) the electrically conductive tracks (see para. 51 and figure 1b of the contested patent). Therefore, the base region together with the insulating region in D5 correspond to the insulating substrate claimed. Moreover, according to D5 the layers 1 and 2 of the heating element could be implemented in just one layer as an alternative (see col. 7, l. 38 et seq.). Further, according to the contested patent the aerosol-forming substrate may be a solid, liquid or gas substrate (see para. 37, 41 and 44 of the patent) and in the case of solid substrate it does not even require contact with the heater (see para. 24 of the patent). It follows that the linear heating element is sufficiently rigid for it to be inserted in an aerosol-forming substrate, be it with the adequate consistency and form in solid, liquid or gas form, to perform its heating function of the aerosol-forming substrate as claimed, without damaging the connecting wires from the power source to the control circuitry 5.

1.1.3 Regarding feature (iii) the Opposition Division considered that the temperature coefficient of resistance characteristics of the conductive tracks was a parameter depending only on their material. The proprietor did not specifically contest this, but alleged in an exemplary way and referring to paragraph 78 of the patent that the voltage across and the current through the electrically conductive track may be measured and the resistance of the track determined. Accordingly, the skilled person would understand that this double functionality of the tracks went beyond the property of the materials used for the conductive tracks and required the presence of the means for measuring in order for it to be able to act as a temperature sensor.

However, the referred paragraph merely explains the procedure to determine the temperature of a resistor, which is known to the skilled person. This is achieved by calculating its resistance measuring the voltage and current through it and by applying the temperature dependence of resistivity of the conductors for the specific resistor used. The temperature coefficient of resistance characteristics depends only on the material used as resistors for the tracks and is thus a property of the material. Consequently, the considerations of the Opposition Division are correct, since using any of the materials disclosed in the patent for the tracks would provide the temperature coefficient of resistance characteristics that allow such a temperature measurement and, therefore, the tracks can act as a temperature sensor. In this sense and in line with the submissions of opponent 1, "can act" indicates a property or capability of the tracks but does not require that the sensing is carried out in the system claimed. It follows that in the end it only comes up to

knowing the resistivity behaviour of the material of the tracks with respect to temperature in order for the tracks to be able to act as a temperature sensor. This is implicitly known to the skilled person for conductors used as resistors.

- 1.1.4 Consequently, the system disclosed in D5 anticipates the subject-matter of granted claim 1 and the ground for opposition under Article 100(a) EPC prejudices the maintenance of the granted patent.

2. *Auxiliary requests 1 and 2*

Since claim 1 of auxiliary requests 1 and 2 (whereby auxiliary request 2 corresponds to auxiliary request 1 underlying the decision under appeal) is identical to granted claim 1, these requests are not allowable for the same reasons as presented above under novelty in point 1.1 for the granted patent.

3. *Auxiliary request 3 - Clarity*

- 3.1 Auxiliary request 3 corresponds to auxiliary request 2 underlying the decision under appeal and is not allowable on the same grounds as in the contested decision, namely lack of clarity (Article 84 EPC) of claim 8.

- 3.2 The patent proprietor argued that the amended claims 1 and 8 according to auxiliary request 3 were not open for examination for compliance of Article 84 EPC because the alleged non-compliance was already included in the granted claims (reference was made to the decision of the Enlarged Board of Appeal G 3/14). The wording "can act" included two alternatives, namely one wherein the tracks do not act as both a resistive

heater and as a temperature sensor but can do so, and another one wherein the tracks do act as both a resistive heater and as a temperature sensor. The omission of the wording "can" from "can act" in the claims merely limits the subject-matter to the second alternative. Further, even if the claims were open to an examination under Article 84 EPC, the claims 1 and 8 would be clear since the additional features needed in order for a track to act as a temperature sensor are implicit to the skilled person.

3.3 The Board however concurs with Opposition Division and the opponent 1 in that at least claim 8 is open to an examination for compliance of the requirements of Article 84 EPC in line with the criteria set out in G 3/14. Claim 8 is directed to a heater for use in an electrically heated smoking system. The claimed heater alone cannot heat nor sense any temperature without being provided with the necessary power supply and circuitry for measuring the temperature when in use by applying the procedure explained in paragraph 78 of the contested patent. Consequently, amending the wording "can act", which denotes a capability of the heater, to "act", which denotes an actual function of the heater, results in a different subject-matter than that of granted claim 8, contrary to the patent proprietor's allegations.

Furthermore, the amendment introduces a lack of clarity since it is not clear to the skilled person how the heater alone acts as a temperature sensor. It might be, as alleged by the patent proprietor, that the skilled person implicitly knows what kind of circuitry he needs to carry out that functionality; however, that functionality is only possible when the heater is mounted in such a system that includes the features,

i.e. the needed circuitry and configuration, in order to use the heater also as a temperature sensor.

4. *Auxiliary request 4*

4.1 Auxiliary request 4 corresponds to the version maintained by the Opposition Division in its decision.

With respect to added subject-matter and sufficiency of disclosure the appellant (opponent 1) only reiterated the same objections raised for the main request (i.e. the granted patent), which fail for the following reasons.

4.2 *Inadmissible extension - Article 123(2) EPC*

4.2.1 The opponent 1 maintained the objections raised in the opposition proceedings against the patent as granted regarding the objection of added subject-matter.

4.2.2 In particular, one of the objections was that the only basis for limiting the subject-matter of granted claims 1 and 9 to a plurality of tracks was on page 4 of the application as originally filed. However, according to that passage, each of the tracks had to be separately connectable to the power supply. As this feature was disclosed in combination with the plurality of tracks, its omission amounted to an unallowable intermediate generalisation. Furthermore, the wording of the claims left open whether the plurality of tracks performed the heating and the temperature sensing functions simultaneously, and the claims included the possibility for there to be two or more tracks, where one track heats and the other senses, which was not disclosed in the application as filed.

The Board disagrees and shares the view of the patent proprietor and of the Opposition Division in its decision. The basis for the objected wording in granted claims 1 and 9 which is also present in claim 1 and 7 of auxiliary request 4th, respectively is found in the claims as originally filed. Granted claims 1 and 9 are primarily based on independent claims 1 and 14 as originally filed. The latter claims recite that "the heater comprises one or more electrically conductive tracks" and that "the one or more electrically conductive tracks can act as both a resistive heater and as a temperature sensor". Consequently, claims 1 and 14 as filed explicitly disclose an alternative in which there is a plurality of, i.e. more electrically conductive tracks, without specifying that each of the tracks has to be separately connectable to the power supply, and in which the plurality of, i.e. said more electrically conductive tracks, can act as both a resistive heater and as a temperature sensor. Accordingly, although admittedly broad, the wording of granted claims 1 and 9 is derived from the above-mentioned independent claims of the application as filed.

- 4.2.3 The other objection is directed to the inconsistency of the wording of granted claim 9. The first part of this claim is limited to a heater comprising a plurality of electrically conductive tracks whereas in the last part of the claims refers to "the one or more electrically conductive tracks". In the opponent 1's view this wording included a heater with a plurality of conductive tracks where only one of the tracks had to possess the characteristics for heating and sensing, the characteristics of the other tracks being unspecified.

The Board is not persuaded by this line of argument. Clearly there is an inconsistency in the wording of granted claim 9 and of the corresponding claim 7 of auxiliary request 4, which however represents - as noted by the patent proprietor - a clarity issue. This issue is not a ground for opposition. The skilled person when reading this claim with a mind willing to understand immediately recognises that the conductive tracks in the last sentence of the claim refer to the plurality of tracks previously defined in the claim and not just to one or more tracks of the plurality of tracks as a subset. This is not only supported by the use of the article "the", as pointed out by the Opposition Division in its decision, but also by the description of the patent where the plurality of tracks on the substrate may act as a heater and as a temperature sensor (see page 11, third para., page 13, sixth para., page 14, third para. and page 15, third para. of the application as originally filed).

4.2.4 It follows that the subject-matter of the claims of auxiliary request 4 complies with the requirement of Article 123(2) EPC.

4.3 *Insufficiency of disclosure - Article 83 EPC*

4.3.1 As regards the requirement of sufficiency of disclosure, the opponent 1 merely referred to the notice of opposition and re-stated the arguments raised during the oral proceedings before the Opposition Division regarding the main request without indicating why the reasons of the Opposition Division are incorrect in that respect (see page 10, third paragraph of the statement of grounds of appeal of opponent 1).

4.3.2 Pursuant to Article 15(8) RPBA 2020 (Rules of Procedure of the Boards of Appeal OJ EPO 2019, A63), if the Board agrees with the finding of the department which issued the decision under appeal, on one or more issues, and with the reasons given for it in the decision under appeal, the Board may put the reasons for its decision in abridged form in respect of that issue.

4.3.3 The Opposition Division has dealt in detail with the opponent 1's line of argument in its decision. The Board shares the reasoning of the Opposition Division on this point and makes it as its own (see point 15 of the contested decision). The Board further notes that the temperature coefficient of resistance for different materials used as resistors and its characteristics and applications belong to the common general knowledge of the skilled person (e.g. PTC and NTC resistors and their different applications).

4.3.4 It follows that subject-matter of the claims of auxiliary request 4 complies with the requirement of Article 83 EPC.

4.4 *Novelty - Article 54 EPC*

4.4.1 The subject-matter of claims 1 and 7 is new over the disclosure of D8.

4.4.2 The opponent 1 essentially argued that the electrically heated smoking system shown in figure 1 of D8 together with the explicit reference to any of the heating elements of D2 and D3 anticipated the subject-matter of claims 1 and 7.

In particular, figure 10 of D2 disclosed a heater including a plurality of electrically conductive tracks (162) on an electrically insulating substrate (155,

161), wherein the substrate was rigid and suitable to be inserted into an aerosol-forming substrate. For the latter feature reference was made to figure 4 which showed a cross sectional view of a "centre draw" embodiment which included the permanent heater unit of figure 10. The substrate of the heater was clearly suitable for insertion into the aerosol-forming substrate. Moreover, the Opposition Division was wrong in considering that the heater blades (162) were not mounted on the electrically insulating material in figure 10 of D5, since the claims did not require direct contact between substrate and conductive tracks, let alone in the form of a printed circuit board. Furthermore, according to the contested patent the insulating substrate could be a conductor provided that it was insulated in some fashion from the tracks (see para. 51). Consequently, the insulating substrate according to the claims merely provided a dual function to the tracks, namely an insulation and a mechanical support for the tracks. It followed that the air gap between tracks 162 and substrate 161 served as insulator and together with the substrate 161 formed the claimed electrically insulating substrate that provided the insulation and mechanical support. As regards the reference to the heater of D3, the same applied in view of the heater shown in figures 5 and 14 of D3. The heaters disclosed in those figures had a plurality of conductive tracks (blades 120 and 471 respectively) located on a single insulating hub (110 and 480 respectively), which in the case of figure 5 was coated with an electrically insulating ceramic. Each of the heater blades were thus located on a single electrically insulating substrate.

4.4.3 The Board disagrees and follows the view of the patent proprietor and of the Opposition Division. The Board

judges that according to claims 1 and 7 the electrically conductive tracks as a whole are located on the substrate which provides them, and consequently the heater, with the rigidity needed for insertion into the aerosol-forming substrate.

This interpretation corresponds to the normal reading of claim 1 and, contrary to the opponent 1's allegations, is supported by the whole description of the patent specification, in particular by all embodiments of the invention, and is not limited to a heater in the form of a printed circuit board.

Irrespective of whether the insulating substrate is made out of a single insulating material or as a multi-layered material comprising a conductive layer with an insulating one on top of it, the plurality of conductive tracks as a whole are located on the insulating substrate on which they lie (see e.g. para. 54 and 59 of the contested patent), be it directly or, as an option, coated or embedded with an insulating material. As a consequence, the heaters according to D2 and D3 fail to disclose such an electrically insulating substrate since the electrically conductive tracks do not lie on it. The tracks 162 in figure 10 of D2 do not lie on the insulating substrate 161 but their opposite ends are on conducting fingers (164 and 165). The air between the tracks 162 and the insulating fingers 161 together do not equate to a coating of insulating material on a conductive layer; when considering the substrate and the air as insulator the necessary rigidity and insulation in the sense of the patent is not provided (see in this respect para. 51, 54 and 59 of the contested patent). The same applies for the heaters in figures 5 and 14 of D3 wherein the blades are anchored on a hub and cantilevered therefrom and thus not lying on the substrate. Furthermore, in D3 the hub being the insulating substrate is not arranged to

be inserted into the aerosol forming substrate since it is located at the far end of the heater and cannot be inserted into the aerosol-forming substrate for performing the heating function.

Additionally, it does not derive directly and unambiguously that the heater referred to in D2 by opponent 1 when mounted into the system in figure 1 of D8 would be such that the substrate is arranged to be inserted into the aerosol-forming substrate. This is left open when assessing the disclosure of D8. When implementing the heater of figure 10 of D2 into the device shown in figure 1 of D8 it could well be that the substrate is not suitable to be inserted into the aerosol-forming substrate, depending on the interior structure of the device.

It follows that claims 1 and 7 differ from the disclosure of D8, taken together with the reference to the heaters of either D2 or D3, in that the plurality of electrically conductive tracks are on an electrically insulating substrate which is arranged to be inserted into the aerosol-forming substrate, in line with the Opposition Division's conclusions.

4.5 *Inventive step - Article 56 EPC*

4.5.1 The subject-matter of claims 1 and 7 involves an inventive step in view of the combination of D8 with any of D1, D4 and D5.

4.5.2 According to one line of argument, opponent 1 started from the alternative smoking system of D8 disclosed on page 5, second paragraph, as the closest prior art, which system included one or more heating needles or rods as the heating element that run through the centre of the aerosol-forming substrate. The subject-matter of claims 1 and 7 differed therefrom only in that the

heater comprised a plurality of electric conductive tracks on an electrically insulating substrate. The problem to be solved could be thus formulated as how to provide the heating rods or needles in a simplified fashion with simplified manufacturing (see para. 8 of the patent in dispute). Figures 11 and 12 and page 44 of the description of D1, document whose family member (US 5 665 262) was already explicitly incorporated in D8 (see page 1, line 22), taught the skilled person how to manufacture in an easier way a heater as claimed with simplicity of manufacture (see also page 5, third paragraph; page 8, fifth paragraph of D1). The skilled person when looking for manufacturing possibilities would indeed look also into the external heater of figures 11 and 12 of D1 in order to implement such a manufacturing technique into the needles or rods of D8.

According to a second line of argument presented in writing, opponent 1 argued, bearing in mind the view of the Opposition Division in its decision that the subject-matter of claims 1 and 7 differed from the external smoking system of D8 (taken together with the explicit reference to any of the heating elements of D2 and D3) in that the heater comprised a plurality of electrically conductive tracks which were on an electrically insulating substrate that was arranged to be inserted into an aerosol-forming material. However, opponent 1 disagreed with the technical effect being a more efficient manner of arranging the tracks on the substrate, and with the objective technical problem formulated by the Opposition Division in its decision, consisting in ensuring a uniform and improved heat distribution. In its view such a technical effect was not attributed in the opposed patent to the differentiating technical features. Accordingly, the objective technical problem could be simply formulated

as to provide a smoking system where the heater could be used as temperature sensor and the system had an alternative construction. D1 aimed at simple and more economical manufacture of such heaters. The skilled person would indeed turn to D1 and apply its teachings, in particular those of the heater of figures 10 and 11 and arrive at the subject-matter of claims 1 and 7 without exercising an inventive step.

Also D4 disclosed a heater comprising a plurality of electrically conductive tracks (792) on an electrically insulated substrate (791; figure 7K). D4 explicitly stated that the heater configurations of figures 7A to 7K reflected considerations relating to ease of manufacture (see column 5, lines 60 to 66) - they were thus of simple design and would therefore be employed to solve the problem.

Finally, D5 disclosed a heater comprising a plurality of electrically conductive tracks on an electrically insulated base which confirmed that the construction of the device lent itself to economical, continuous production using simple manufacturing methods (see column 3, lines 29 to 31).

- 4.5.3 The Board disagrees and concurs with the patent proprietor that the reasoning of opponent 1 is based on hindsight for the following reasons.

As regards the first line of argument, the Board judges that the chosen closest prior art including the internal heater on page 5 of D8 differs from the subject-matter of claims 1 and 7 not only in the features alleged by opponent 1 but also in the insulating substrate on which the tracks lie and which is arranged to be inserted into the aerosol-forming substrate. Indeed, the alternative heater in D8 merely comprises in general terms a heating element in the

form of one or more needles or rods. The specific structure and composition of such rods and needles remains however unspecified. For this reason alone the reasoning of opponent 1 is flawed. Furthermore, even considering the objective technical problem defined by opponent 1, the Board cannot recognize any motivation that would prompt the skilled person to implement the heater shown in figures 11 and 12 of D1 in the form of rods or needles of the heater in D8. As pointed out by the Opposition Division in its decision, the heater according to figures 11 and 12 of D1 is an external heater in contrast to the internal heater of D8 chosen as closest prior art. The Board is not persuaded that the skilled person would only consider the manufacturing of the tracks on a substrate from figure 11 of D1 in an isolated manner without considering its structure and form as an external heater, and apply it to the needles or rods of the internal heater of D8. Such a motivation is missing in D1.

Regarding the inventive step objection according the second line of argument, the subject-matter of claims 1 and 7 differs from the external smoking system of D8 together with the heater specifically referred to in D2 or D3 in that the plurality of electrically conductive tracks are on an electrically insulating substrate which is arranged to be inserted into the aerosol-forming substrate (see point 4.4 above). The question of whether the formulation of the objective technical problem as made the opponent 1 is correct can be left aside, since even in such case the subject-matter of claims 1 and 7 is not rendered obvious in view of the heaters disclosed in either D1, D4 or D5. When looking at the heaters of D1 and D4, even if the skilled person were prompted to substitute the external heaters of D2 and D3 with those shown in figures 11 and 12 of D1 and

those of figures 7A to 7K of D4, the question of whether the insulating substrate with the tracks would be arranged to be inserted into the aerosol-forming substrate would still remain unanswered (see point 4.4.3 above). The Board cannot identify any hint that would prompt the skilled person to perform such a replacement of the heaters of D2 and D3 used in the external heater of D8.

Finally, the skilled person does not have any motivation to implement the internal heaters disclosed in D5 into the external heater of D8 taken together with D2 or D3, since the structure and functioning of the devices are completely different. This reasoning is based on hindsight.

5. From all the above it follows that the decision of the Opposition Division is to be confirmed and both appeals are to be dismissed.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar:

The Chairman:



A. Voyé

G. Pricolo

Decision electronically authenticated