

Internal distribution code:

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

**Datasheet for the decision
of 27 March 2014**

Case Number: T 0832/10 - 3.3.10

Application Number: 03764036.4

Publication Number: 1551465

IPC: A61L9/12, A61L9/04, A01M1/20,
B60H3/00

Language of the proceedings: EN

Title of invention:
A DEVICE FOR DISPENSING ACTIVE VOLATILE LIQUID

Applicant:
Firmenich SA

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no) - all requests

Decisions cited:
T 0020/81, T 0197/86

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0832/10 - 3.3.10

**D E C I S I O N
of Technical Board of Appeal 3.3.10
of 27 March 2014**

Appellant: Firmenich SA
(Applicant) P.O. Box 239,
1, route des Jeunes
1211 Geneva 8 (CH)

Representative: Salvaterra-Garcia, Maria de Lurdes
Firmenich SA
Département des Brevets
Case Postale 239
1211 Genève 8 (CH)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 27 November
2009 refusing European patent application No.
03764036.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: P. Gryczka
Members: R. Pérez Carlón
F. Blumer

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 03 764 036.
- II. The documents forming part of the examination proceedings included the following:
- D1: EP A 0 194 017
D3: EP A 0 669 137
D4: EP A 0 462 605
- III. The examining division considered document D3 to be the closest prior art. Claim 1 of the then pending sole request contained only one distinguishing feature vis-à-vis D3, namely that the wicking and the emitting part were made of the same material. The problem underlying the claimed invention was simplifying the manufacture of the wick-emanator superstructure and the solution, which was a device whose wicking and emitting parts were made of the same material, was obvious taking into account the common general knowledge of the person skilled in the art, as represented by D1, with the consequence that the subject-matter of claim 1 was not inventive.
- IV. With a letter dated 21 March 2014 the appellant filed a main request and auxiliary requests 1 and 2, which replaced every request filed earlier.
- V. Claim 1 of the main request reads as follows:
- "A non-electrically powered device for dispensing an active volatile liquid composition in the surrounding space, comprising:*

- a) *a reservoir chamber formed of a material impermeable to the vapors of the active volatile liquid composition and having an open end;*
- b) *an active volatile liquid composition having less than 5% weight in water and containing at least two ingredients, said active volatile liquid composition containing an active volatile material selected from the group consisting of perfumes, deodorizing or sanitizing agents and insect repellents; and optionally one or more ingredients selected from the group consisting of solvents, thickeners, anti-oxidants, dyes, bittering agents and UV inhibitors;*
- c) *a reservoir chamber lid capable of preventing evaporation of the active volatile liquid composition from the open end of the reservoir chamber, said lid having at least one aperture and being formed of a material impermeable to the vapors of the active volatile liquid composition; and*
- d) *a wick-emanator superstructure securely positioned in the aperture of said reservoir chamber lid;*

said device being characterised in that:

- i) *said superstructure consists of*
 - I) *an emitting part extending over the reservoir chamber lid and having an evaporative surface exposed to the surrounding air; and*
 - II) *a wicking part extending down through said lid*

and to be in submerged contact with the active volatile liquid composition;

the emitting part and the wicking part being made of the same material;

- ii) at least 60% of the total weight of the active volatile liquid composition is made of ingredients having a vapour pressure comprised between 4 Pa and 270 Pa, measured at 20°C and a pressure of 1.01 bar (760 mm Hg);*
- iii) the emitting part has a weight comprised between 100 and 500 grams per square metre of evaporative surface, and has an absorbency comprised between 0.02 and 0.08 grams of active volatile liquid composition per square centimetre of evaporative surface; and*
- iv) the quantity of active volatile liquid composition absorbed by the emitting part is less than about 15% of the initial total weight of said active volatile liquid composition present in the device."*

The characterising part of claim 1 of **auxiliary request 1** reads as follows:

"said device being characterised in that:

- i) said superstructure consists of*

I) an emitting part extending over the reservoir chamber lid and having an evaporative surface exposed to the surrounding air, and being made of a material having a porous size comprised between

5 µm and 200 µm and based on high density polyethylene, ultra high molecular weight polyethylene or polypropylene; and

II) a wicking part extending down through said lid and to be in submerged contact with the active volatile liquid composition;

- ii) at least 60% of the total weight of the active volatile liquid composition is made of ingredients having a vapour pressure comprised between 4 Pa and 270 Pa, measured at 20°C and a pressure of 1.01 bar (760 mm Hg);*
- iii) the emitting part has a weight comprised between 80 and 1000 grams per square metre of evaporative surface, and has an absorbency comprised between 0,01 and 0,1 grams of active volatile liquid composition per square centimetre of evaporative surface; and*
- iv) the quantity of active volatile liquid composition absorbed by the emitting part is less than about 20% of the initial total weight of said active volatile liquid composition present in the device.*
- v) the active volatile liquid composition contains a active materials selected from the group consisting of perfumes, deodorizing or sanitizing agents and insect repellents."*

The characterising part of claim 1 of **auxiliary request 2** reads as follows:

"said device being characterised in that:

i) *said superstructure consists of*

I) an emitting part extending over the reservoir chamber lid and having an evaporative surface exposed to the surrounding air, and being made of filter paper having particle retention size comprised between 3 μm and 30 μm ; and

II) a wicking part extending down through said lid and to be in submerged contact with the active volatile liquid composition;

ii) *at least 60% of the total weight of the active volatile liquid composition is made of ingredients having a vapour pressure comprised between 4 Pa and 270 Pa, measured at 20°C and a pressure of 1.01 bar (760 mm Hg);*

iii) *the emitting part has a weight comprised between 80 and 1000 grams per square metre of evaporative surface, and has an absorbency comprised between 0,01 and 0,1 grams of active volatile liquid composition per square centimetre of evaporative surface; and*

iv) *the quantity of active volatile liquid composition absorbed by the emitting part is less than about 20% of the initial total weight of said active volatile liquid composition present in the device.*

v) *the active volatile liquid composition contains a active materials selected from the group consisting of perfumes, deodorizing or sanitizing agents and insect repellents."*

VI. The arguments of the appellant relevant for the present decision were the following:

Document D3 was the closest prior art. D3 failed to disclose a device fulfilling the conditions required by features ii) to iv) of claim 1, and having emitting and wicking parts made of the same material. Further, the emitting part of D3 was non-saturated, whereas the emitting part of the claimed device was always saturated, and this represented an additional distinguishing feature. The problem underlying the claimed invention was providing an emitting device which improved the constant release of active substance over time and maintained a constant profile of said substance over time. The solution to this problem was a device having the parameters defined in claim 1 and whose emitting part was saturated; the requirement that the wicking and emitting parts were made of the same material was not linked to the effect sought. The success of the solution was proven by the data provided in the annex to the statement setting out the grounds of appeal, which showed an improvement in linearity of the emission and of its composition. Since the features of claim 1 could not be expected to lead to this effect, the subject-matter of claim 1 of the main request was inventive.

Claim 1 of auxiliary requests 1 and 2 required that the emitting parts were made of specific materials, and no indications towards these materials could be found in the art, with the consequence that the subject-matter of claim 1 of these requests was inventive.

VII. Oral proceedings before the board took place on 27 March 2014.

VIII. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of any one of the main request, auxiliary request 1 and auxiliary request 2, all requests as filed with letter dated 21 March 2014.

IX. At the end of the oral proceedings, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.

Inventive step:

Main request:

2. Claim 1 of the main request is directed to a non-electrically powered device for dispensing an active volatile liquid composition in the surrounding space. At least 60% of the active volatile liquid composition is made of ingredients with a vapour pressure between 4 and 270 Pa measured at 20°C, 760 mmHg. The device contains a superstructure consisting of an emitting part and a wicking part which are made of the same material, the emitting part has a weight between 100 and 500 g/m² and an absorbency of 0.02-0.08 g of active volatile liquid composition per square centimeter, and the quantity of active volatile liquid composition absorbed by the emitting part is less than about 15% of the initial weight of said active volatile liquid composition in the device.

2.1 Closest prior art:

The examining division considered that document D3 was

the closest prior art, and the board sees no reason to differ. Document D3 discloses non-electrically powered devices for evaporating non-aqueous active substances such as insecticides or perfume compositions, and refers to the problem of linear evaporation of the active composition (see for example column 3, lines 7-8).

The appellant saw that the following features distinguished the claimed device from that disclosed in D3:

- (a) at least 60% of the total weight of the active liquid composition is made of ingredients having a vapour pressure comprised between 4 Pa and 270 Pa measured at 20°C and 760 mm Hg (feature ii),
- (b) the emitting part has a weight comprised between 100 and 500 g/m² and an absorbency between 0.02 and 0.08 grams of active volatile liquid composition per square centimetre of evaporative surface (feature iii);
- (c) the quantity of active volatile liquid composition absorbed by the emitting part is less than about 15% of the initial total weight of said active volatile liquid composition present in the device (feature iv),
- (d) the emitting part is saturated, and
- (e) the emitting part and the wicking part are made of the same material (feature i).

2.2 Difference (e):

The board concurs with the appellant and the examining division that D3 fails to disclose a device having emitting and wicking parts made of the same material, as the device of example 1 of D3 has a wick formed on a nonwoven and an emitting part in which nonwoven is laminated to a paper porous blotter. Feature (e) mentioned above is thus a distinguishing feature between the claimed device and that of D3.

2.3 Difference (d):

The appellant argued that feature (i) of claim 1 required a superstructure consisting of an emitting part and a wicking part and hence excluded the additional presence of any restriction means associated with the wick. The appellant thus concluded that the emitting part of the claimed device was necessarily saturated and that this represented a distinction over the devices of D3, whose emitting part was unsaturated (column 3, line 1).

The board, however, considers that the wording of claim 1 does not exclude means for restricting the dosing of the wick such as the choice of material, shape or cross-section. For this reason, the degree of saturation of the emitting part is not a distinguishing feature vis-à-vis D3.

The appellant has argued that the wick of example 1 of document D3 was laminated to a nonwoven, and said nonwoven provided a mechanical restriction of the wick. However, the wick of example 1 of document D3 is made exclusively of nonwoven; only the emitting part is laminated.

The appellant further argued that said example

disclosed a plastic tube which should act as a mechanical flow restriction, and such restriction means were excluded from claim 1 by the wording "consisting of". However, it is apparent from figure 5 that said tube merely serves as a support for the wick-emitting structure placed on the opening of the reservoir and not as a means for restricting the flow through the wick. In addition, this tube does not necessarily form part of the superstructure required by claim 1 and is therefore not excluded by the features of said claim. Lastly, control of the saturation of the emitting part in example 1 of D3 is exercised by choosing the appropriate wick, which is also not excluded from the wording of claim 1. These arguments are therefore dismissed.

2.4 Differences (a) to (c):

The appellant has argued that since D3 did not describe the required vapour pressure distribution, the surface weight and absorbency of the emitting part, and the amount of volatile liquid composition absorbed by the emitting part, these features should be considered as distinctions over D3. Although the appellant has failed to provide any evidence in this respect, the board will consider, in its favour, that these parameters represent distinguishing features over the disclosure of document D3.

3. Technical problem underlying the invention:

The appellant defined the problem underlying the claimed invention as providing a device which allowed the constant release of active substance over time to be improved, while maintaining a constant profile of

the active substance over time.

4. Solution:

The claimed solution are devices which contain a perfume with a specific vapour pressure, in which the emitting part has a specific surface weight and absorbency, and in which the emitting part absorbs less than 15% of the initial amount of active volatile liquid composition.

The appellant acknowledged that the limitation in claim 1 that the emitting and the wicking part are made of the same material, which was introduced in the claim to overcome novelty issues, does not contribute to the improvement of constant release or provide a constant composition of the emitted active volatile liquid composition. The board also shares this conclusion.

5. Success:

5.1 *More constant release of active substance over time:*

The appellant relied on the comparative data submitted as an annex to the statement setting out the grounds of appeal for showing that the combination of parameters required by claim 1 led to an improvement in terms of the constant release of active volatile liquid composition over the devices of D3.

Said annex merely states that it provides a comparison between a device as described in D3 and a device according to the invention having an emitting part made of Vyon T 1.5 mm, without providing further construction details of any of these devices.

According to established jurisprudence, in cases where comparative tests are chosen to demonstrate an inventive step with an improved effect over a claimed area, the nature of the comparison with the closest prior art must be such that the effect is convincingly shown to have its origin in the characterising features of the invention. For this purpose, it may be necessary to modify the elements of comparison so that they differ only by such characterising features (see T 197/86, OJ EPO 1989, 371, Reasons 6.1.2 and 6.1.3).

The annex provided by the appellant lacks essential information about the features of the devices tested. Document D3 contains two examples and a broader general disclosure, so that many different devices "according to D3" could be envisaged. The same holds true for the devices according to the claimed invention. In these circumstances, the board is not in a position to examine whether any alleged improvement over the prior art is the consequence solely of the distinguishing features thereof. For this reason alone, the alleged effect in terms of improving the constant release and profile of active substance over time with respect to D3 cannot be considered proven.

5.2 *More constant composition of active substance over time:*

The second part of the problem underlying the claimed invention as formulated by the appellant was providing devices which allowed a more constant composition of the active volatile liquid in the surrounding space during the life of the device.

In order to prove the alleged effect, the appellant relied on the results disclosed in figures 2 and 3 of

the annex to the grounds of appeal. Comparison of figures 2 (according to D3) and 3 (according to the invention) should show that the device according to the invention provided a more constant composition of the dispensed active volatile liquid.

The odour profile depends mainly on the relative amount of the different components. Notwithstanding the lack of experimental details in the annex (see point 5.1), figures 2 and 3 show that the relative amounts of the components at the end of the lifetime of the device according to D3 are more similar to the initial composition than when using the device according to the invention.

This data therefore does not suffice to prove that the part of the problem underlying the claimed invention that consists in providing a more constant composition of active substance over time has been validly solved.

5.3 *Constant composition of active substance over time:*

The appellant further alleged that, even if an improvement over D3 were not to be acknowledged, the claimed device nevertheless unexpectedly allowed a high linearity of the different components of the composition to be maintained, so that the composition of the active substance released was constant over time, as could be seen in figure 5.

However, the lack of precise information about the device used for the test does not allow the board to draw any conclusion as to whether the alleged effect would be obtained by every device according to claim 1 or only by some. For this reason alone, the argument fails.

In addition, comparison of figures 5 and 4 shows that "day 28", which allegedly reflected the end of the lifetime of the device, falls at about the middle of the device's lifetime according to figure 4. Hence, the composition at day 28 cannot represent that at the end of the lifetime of the device, as alleged by the appellant, and figure 5 fails to show the alleged linearity throughout the whole device's lifetime.

For these reasons, it has not been proven that the problem of maintaining a constant profile of the perfume over the lifetime of the device has effectively been solved.

6. Reformulation of the technical problem underlying the invention:

According to the case law of the boards of appeal, alleged but unsupported advantages cannot be taken into consideration in determining the problem underlying the invention (see e.g. decision T 20/81, OJ EPO 1982, 217, Reasons 3, last paragraph). As both the alleged improvement in terms of the constant release of active substance over time and the alleged effect of maintaining or improving a constant profile of the perfume over time lack the required support, the technical problem as defined above needs reformulation.

Thus, in view of the teaching of D3, the problem underlying the objection can only be seen as providing further non-electrically powered devices for dispensing an active volatile liquid composition in the surrounding space.

7. Solution:

The solution to this technical problem are the devices according to claim 1 which contain a perfume with a defined vapour pressure distribution profile, in which the emitting part has a defined surface weight and absorbency, in which the emitting part absorbs less than 15% of the initial amount of active volatile liquid composition, and in which the emitting and the wicking part are made of the same material.

8. Success:

In the light of the data provided in the examples, the problem mentioned under point 6. above is considered to be successfully solved by the features of claim 1 of the main request.

9. Finally, it remains to be examined whether the claimed solution was obvious for the person skilled in the art:

9.1 Using the same material for the wicking and the emitting part is an obvious option in the light of the general technical knowledge of the skilled person, as reflected for example by document D1, see page 5, lines 25-28, which discloses that it had been found that the emanator surface and the wick were conveniently formed of an integral strip of cellulosic material, for instance paper which was absorbent.

With respect to the parameters defined in claim 1, namely the required vapour pressure distribution, weight and absorbency of the emitting part and the quantity of volatile liquid composition absorbed by the emitting part (see differences (a) to (c) above, corresponding to features ii) to iv) of claim 1), the

appellant has failed to provide evidence which could show that those are not fulfilled by materials normally used in the art of emitting devices. In fact, the appellant acknowledged that each of these features was known per se.

The appellant has also failed to provide evidence that the ranges required by claim 1 defined a purposive selection which led to an improvement over the non-claimed subject-matter falling outside them.

For these reasons the board concludes that, in the light of the evidence on file, the subject-matter of claim 1 does not go beyond an arbitrary selection of equally possible alternatives and is hence not inventive in the sense of Article 56 EPC.

9.2 The applicant relied on the different strategies adopted in D3 and in the application in order to achieve a linear emission of the active volatile liquid composition. D3 taught keeping the surface of the emitter unsaturated by providing a restriction to the wick. In contrast, the claimed invention used fully saturated emitting parts, but requires that less than 15% by weight of the initial composition is absorbed by the emitting part. This different way of achieving a linear emission could not have been derived from the teaching of any document on file.

However, claim 1 of the main request is not limited to fully saturated emitting parts (see point 2.3 above). In addition, an unsaturated wick as disclosed in D3 could still absorb less than 15% of the initial composition. This alleged different strategy is thus not reflected in the features of claim 1.

9.3 Lastly, with respect to the vapour pressure of the components of the composition, the appellant alleged that the volatility of the substances used in perfumery extended over eight orders of magnitude in terms of their vapour pressure, so that no indication could be found which would lead the skilled person to choose perfumes with a narrow distribution of vapour pressure, as defined in claim 1. This argument must be dismissed, since it is obvious for the person skilled in the art that the composition of a perfume will be more constant if a mixture of compounds having a narrow volatility distribution is used.

9.4 Since the subject-matter of claim 1 of the main request lacks an inventive step in the sense of Article 56 EPC, said request is not allowable.

Auxiliary request 1:

10. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that it does not contain the feature that the emitting and the wicking parts are made of the same material.

Said claim further defines the emitting part as being made of a material having a porous size comprised between 5 μm and 200 μm and based on high density polyethylene, ultra high molecular weight polyethylene or polypropylene.

Lastly, the ranges defined in feature iii) of the surface weight and absorbency of the emitting part are broader than those required by claim 1 of the main request.

11. Polypropylene is a material frequently used for emitting parts, as disclosed in D4, page 6, line 9. Although an additional parameter, i.e. the porous size of the material of the emitting part, has been introduced into claim 1, the appellant has failed to provide evidence which could show that this parameter further differentiates the claimed subject-matter and is linked with any unexpected technical effect which goes beyond a mere random selection among equally suitable alternatives. For this reason, the analysis of inventive step does not differ from that of the main request, with the consequence that the subject-matter of claim 1 of auxiliary request 1 is not inventive in the sense of Article 56 EPC and this request is therefore not allowable.

Auxiliary request 2:

12. Claim 1 of auxiliary request 2 differs from claim 1 of the first auxiliary request in that the material of the emitting part is made of filter paper having a particle retention size between 3 μm and 30 μm .
13. Document D3 already discloses emitting parts made of filter paper. As explained with respect to the previous requests, the parameters defined in features ii) to iv) of claim 1 do not go beyond a random selection among equally suitable alternatives in the light of the experimental data on file, and for this reason the subject-matter of claim 1 of auxiliary request 2 is also not inventive (Article 56 EPC) and this request is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



T. Buschek

P. Gryczka

Decision electronically authenticated