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**Datasheet for the decision
of 11 January 2023**

Case Number: T 2316/19 - 3.3.09

Application Number: 13817687.0

Publication Number: 2938208

IPC: A23L29/10

Language of the proceedings: EN

Title of invention:

EMULSIFIER SYSTEM

Patent Proprietor:

Société des Produits Nestlé S.A.

Opponent:

Koninklijke Douwe Egberts BV

Headword:

Emulsifier system/NESTLÉ

Relevant legal provisions:

EPC Art. 56, 69(1), 83, 84, 123(2), 123(3)

Keyword:

Amendments - allowable (yes)

Protection conferred extended - (no)

Sufficiency of disclosure - (yes)

Inventive step - non-obvious alternative

Decisions cited:

G 0002/88, T 0229/85, T 0910/90, T 1736/09



Beschwerdekammern

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Case Number: T 2316/19 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 11 January 2023

Appellant: Société des Produits Nestlé S.A.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
17 June 2019 concerning maintenance of the
European Patent No. 2938208 in amended form.**

Composition of the Board:

Chairman A. Haderlein
Members: F. Rinaldi
F. Blumer

Summary of Facts and Submissions

- I. This decision concerns the appeals filed by the patent proprietor and the opponent against the opposition division's interlocutory decision that the European patent as amended met the requirements of the EPC.
- II. In the following, the parties are referred to by their party position before the opposition division.
- III. In the notice of opposition, the opponent had requested that the patent be revoked based on Article 100(a) (lack of novelty and inventive step) and 100(b) EPC.
- IV. The following documents are referred to in the decision:
 - D2: E. Illy *et al.*, "Neglected Food Bubbles: The Espresso Coffee Foam", *Food Biophysics*, 6, 2011, 335-48
 - D10: E. Dickinson, "Use of nanoparticles and microparticles in the formation and stabilization of food emulsions", *Trends in Food Science & Technology*, 24, 2012, 4-12
- V. The opposition division decided, among other things, that the third auxiliary request filed at the oral proceedings was allowable. Moreover, the adapted description, filed at these proceedings, complied with the requirement of Article 84 EPC.

VI. On appeal, the patent proprietor filed auxiliary request 3' by letter dated 25 May 2022, which is the patent proprietor's main and sole claim request.

VII. Claims 1, 6 and 12 of the main request read as follows.

"1. Use of an emulsifier system comprising coffee particles, wherein the coffee particles have an average particle size in the range of from 10 μm to 30 μm , for stabilising an interface between a fat phase and an aqueous phase of a food product, wherein the particle size is measured by laser diffraction methods, and wherein the average particle size is the volume weighted mean ($d_{4,3}$)."

"6. A food product characterised in that it comprises an emulsion stabilised by from 0.1 to 10 wt% of an emulsifier system comprising coffee particles, wherein the coffee particles have an average particle size in the range of from 10 μm to 30 μm , for stabilising an interface between a fat phase and an aqueous phase of a food product, wherein the particle size is measured by laser diffraction methods, and wherein the average particle size is the volume weighted mean ($d_{4,3}$)."

"12. A method for stabilizing the interface between a fat phase and an aqueous phase of a food product, the method comprising the steps of:

(i) providing at least one fat phase; at least one aqueous phase; and an emulsifier system comprising coffee particles have [sic] an average particle size in the range of from 10 μm to 30 μm , wherein the particle size is measured by laser diffraction

methods, and wherein the average particle size is the volume weighted mean ($d_{4,3}$);

(ii) dispersing the emulsifier system in at least one fat phase, at least one aqueous phase, or in both at least one fat phase and at least one aqueous phase;

(iii) homogenising the at least one aqueous phase and the at least one fat phase to form an emulsion."

VIII. The patent proprietor's arguments relevant to the present decision may be summarised as follows.

- The amendments in the claims of the main request were disclosed in the application as filed and did not involve a shift in extent of protection conferred. The particle size disclosed in the claims of the patent invariably concerned the average particle size.
- The patent's emulsifier system was sufficiently disclosed. It comprised coffee particles of the required size and possibly consisted of these coffee particles.
- The claims of the main request involved an inventive step. Starting from the closest prior art D10, there was no suggestion in the art, including D2, to provide the emulsifier system set out in the claims.

IX. The opponent's arguments relevant to the present decision may be summarised as follows.

- The claims of the main request involved added subject-matter and a shift in extent of protection

conferred. According to the claims as granted, coffee particles outside the range of from 0.1 μm to 500 μm were "cut-off", i.e. excluded from, the claimed subject-matter. In contrast, the amendment made to the granted claims lifted this restriction.

- The invention was insufficiently disclosed. The skilled person would lack the information necessary to determine the ingredients which constitute the emulsifier system of the invention.
- The claims of the main request did not involve an inventive step. Starting from the closest prior art D10, which disclosed Pickering emulsions, the skilled person would have been aware that to stabilise food products such as coffee beverages, coffee particles would have to be used. D2 confirmed that these particles had stabilising properties.

X. Final requests

The patent proprietor requested that the decision under appeal be set aside and that the patent be maintained on the basis of auxiliary request 3', filed by letter dated 25 May 2022 (sole request).

The opponent requested that the decision under appeal be set aside and that the patent be revoked.

Reasons for the Decision

1. *Patent*

The patent relates to an emulsifier system comprising coffee particles with a defined particle size and their use for stabilising emulsions (paragraphs [0001] and [0015]). Example 2 demonstrates that in the emulsions tested, prepared with coffee particles, no oil separation was observed after storage over a specified period of time.

2. *Article 123(2) and (3) EPC*

2.1 Against the claims of the main request, the opponent raised objections under Article 123(2) and (3) EPC. It argued as follows.

- The emulsifier system called for in the claims as granted comprised coffee particles having a particle size in the range of from 0.1 μm to 500 μm . The range had the effect of "cutting-off" particles of a different size. In other words, subject-matter including coffee particles outside this range (e.g. 600 μm) did not fall under the claims of the patent as granted. This interpretation was consistent with the disclosure in paragraph [0015] and figure 1 of the patent.
- In contrast, the particle size called for in the main request (i.e. average particle size in the range of from 10 μm to 30 μm) changed the definition of the particle size. The restriction that subject-matter involving coffee particles

outside the range of from 0.1 μm to 500 μm did not fall under the claims of the patent as granted was an essential feature of the claims. However, this restriction was lifted. Instead, subject-matter involving coffee particles with a particle size of e.g. 600 μm fell under the claims of the main request, provided that the coffee particles had at the same time an average particle size in the range of from 10 μm to 30 μm .

- Therefore, the main request involved added subject-matter because an essential feature of the patent had been modified. Furthermore, the modification extended the protection conferred to subject-matter not covered by the claims as granted.

2.2 The opponent's arguments failed to convince the board.

2.3 The requirement of Article 123(2) EPC

2.3.1 The issue under scrutiny here is whether the amendment in claims 1, 6 and 12 of the main request involves added subject-matter. In the following, claim 6 is examined. Analogous considerations apply for claims 1 and 12.

2.3.2 What has to be assessed is whether the subject-matter of claim 6 is directly and unambiguously disclosed in the application as filed. Considerations on whether the feature disclosed in the claims as granted was an essential feature play no role in this context.

2.3.3 The application as filed explicitly sets out the following (passage bridging pages 6 and 7):

"In certain embodiments the particles have an average particles size of from about 10 to about 30 microns ... By particle size, or mean particle diameter, is in the present context meant the diameter as measured by laser diffraction methods, a static light scattering technique, unless otherwise defined. When particle size distributions are considered it is thus the volume weighted distribution as determined by laser diffraction, unless otherwise defined, and when average or mean sizes are discussed the volume weighted mean size, also called $d_{4,3}$ or volume moment mean, is meant unless otherwise defined."

2.3.4 Therefore, the amendment in claim 6 that:

- the particles have an average particle size in the range of from 10 μm to 30 μm
- the particle size is measured by laser diffraction methods
- the average particle size is the volume weighted mean ($d_{4,3}$)

is directly and unambiguously derivable from the application as filed, in particular the above-mentioned passage.

2.3.5 In view of this alone, the amendment in claims 1, 6 and 12 complies with the requirement of Article 123(2) EPC.

2.4 The requirement of Article 123(3) EPC

2.4.1 Under this provision, the claims of a patent cannot be amended during opposition proceedings in such a way as to extend the protection conferred.

- 2.4.2 In the following, claim 6 of the main request is examined. Analogous considerations apply for claims 1 and 12.
- 2.4.3 Claim 6 of the main request corresponds to claim 7 as granted. The latter claim is directed to a food composition that comprises a specified amount of an emulsifier system comprising coffee particles in which the coffee particles have a particle size in the range of from 0.1 μm to 500 μm .
- 2.4.4 The expression "particle size" in claim 7 as granted is not further defined, and no measurement method is set out in the claim. This means that this expression encompasses any type of particle size that the skilled person would consider to be covered by this expression. Such a particle size is in particular, and typically, the "average particle size".
- 2.4.5 Moreover, on the face of it, claim 7 does not categorically exclude coffee particles outside the range of from 0.1 μm to 500 μm . There is no explicit restriction to that effect in the claim. In this context, the claim does not impose any apparent restriction on the composition of the food product itself.
- 2.4.6 This interpretation is also supported by the description and the figures, which have to be used to interpret the claims as granted to determine the extent of the protection that they confer (Article 69(1) EPC and its Protocol on Interpretation, G 2/88, Reasons 3.3 and T 1736/09, Reasons 1.1.8). The reasons are as follows.

- 2.4.7 Paragraph [0015] of the patent as granted, to which the opponent referred, discloses that the invention relates to an "emulsifier system for use in a food product comprising coffee particles with a particle size comprised between 0.1 and 500 microns". The use of the open terms "comprising" and "comprised" in the context of the coffee particles and their size does not support the opponent's interpretation of claim 7 as granted. Rather, the contrary conclusion imposes itself, namely that no restriction of particles falling outside the range is intended.
- 2.4.8 Moreover, paragraph [0024] of the patent states that the open terms used in paragraph [0015] "are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of 'including, but not limited to'".
- 2.4.9 The opponent referred to figure 1 of the patent to support its argument that claim 7 as granted excluded particles outside the range of 0.1 μm to 500 μm (from the emulsifier system). According to the opponent, this figure showed that all coffee particles were in the range of about 1 μm to about 100 μm .
- 2.4.10 However, figure 1 relates to the particle size distribution of the coffee particle emulsifier system, as set out in the description of the drawings in paragraph [0023]. In the patent, the particle size distribution is discussed in the context of the average particle size, established with a particular measuring method (paragraph [0039]). It does not refer to the dimensions of the smallest and largest particle. Therefore, figure 1 also does not support the opponent's interpretation of claim 7 that it excludes all particles outside the range of 0.1 μm to 500 μm .

- 2.4.11 Furthermore, paragraph [0039] of the patent as granted underlines that the coffee particles can have a particle size with an average particle size of from 0.1 μm to 500 μm . In other words, it is preferred (but not mandatory) that the particle size referred to in the patent, and consequently in claim 7 of the patent as granted, is the average particle size.
- 2.4.12 Finally, in the patent as granted, the range of 0.1 μm to 500 μm is disclosed as an average particle size (e.g. paragraph [0039]) and without any qualifier (paragraph [0015]). It is manifest that one value range cannot define at the same time an average particle size and, as argued by the opponent, the smallest and the largest dimensions of the population of particles. This would be nonsense from a technical point of view. It follows from this that the range in claim 7 of the patent as granted needs to be interpreted broadly, including that it relates to an average particle size.
- 2.4.13 In view of this, the particle size mentioned in claim 7 of the patent as granted encompasses the interpretation that it defines an average particle size.
- 2.4.14 Therefore, the restriction of the particle size called for in claim 6 of the main request, namely an average particle size in the range of from 10 μm to 30 μm , does not extend the protection conferred (Article 123(3) EPC).
- 2.4.15 The same conclusion applies to claims 1 and 12 of the main request.

3. *Article 83 EPC*

3.1 In the decision under appeal, the opposition division decided that the invention was sufficiently disclosed.

3.2 The opposition division's view was that:

"coffee particles, when present, inherently contribute to the emulsion stabilisation of an emulsion's interface, since even the patent in suit does not describe any other measure necessary to obtain said effect" (decision under appeal, point II 3.2)

In view of this, for assessing sufficiency of disclosure, it was not relevant that the patent did not define what was part of the emulsifier system or what components counted towards it.

3.3 The opponent disagreed with the last point. It argued that the skilled person would not be provided with the information necessary to determine the ingredients which must be selected to provide a suitable emulsifier system and a food having a stabilised emulsion.

3.4 However, the patent proprietor is correct that the patent's emulsifier system must comprise coffee particles and may consist of coffee particles. This is also what the patent discloses, for instance, in paragraphs [0037], [0040] and [0041]. The skilled person would understand that the mandatory feature is that coffee particles with the required size are to be used.

3.5 This may be a broad definition of the emulsifier system, and the skilled person may have some difficulty in establishing whether they would be working within

the scope of the claim. But this in itself is not an issue of insufficiency of disclosure, as the opposition division correctly concluded.

3.6 Therefore, the invention as set out in the claims complies with the requirement in Article 83 EPC.

4. *Article 56 EPC*

4.1 The opponent argued that the invention set out in the main request lacked inventive step over D10 as the closest prior art.

4.2 Inventive step of claim 6 is considered first because this claim has the largest scope. Nevertheless, analogous considerations apply for claims 1 and 12.

4.3 It is uncontested that D10 is the closest prior art. This document relates to Pickering emulsions. In these emulsions, particles contribute to stabilising the system based on the water and oil to be emulsified. In D10, food-grade ingredients such as hydrophobically modified starch particles having the size of 10 µm are used as emulsifiers (page 6, left column).

4.4 Claim 6 differs from D10 in that the emulsifier system comprises coffee particles with a defined average particle size.

4.5 As to the problem to be solved, the following is observed.

4.5.1 There is no evidence that the distinguishing feature provides an additional technical effect. Therefore, the technical problem starting from D10 is to provide an

alternative food-grade emulsifier for products such as foods and beverages.

4.5.2 The opponent argued that the technical problem should be formulated as providing alternative Pickering particles for stabilising emulsions and foams in foods and beverages such as coffee products. This was in line with the intended use of the emulsifier system set out in paragraph [0057] of the patent. To stabilise coffee products, the skilled person would have straightforwardly considered only coffee particles. In view of this, the solution set out in claim 6 would have been obvious to the skilled person.

4.5.3 However, the opponent's formulation of the technical problem includes pointers to the solution.

4.5.4 First, foam stabilisation is not mentioned in the closest prior art. It is also not an aim highlighted in the contested patent. There is no reason to include this aim, which is a pointer to the combination document D2, in the formulation of the technical problem.

4.5.5 Second, the reference to coffee beverages in the suggested formulation means that it includes yet another pointer where to look for the solution to the technical problem. In other words, it partially anticipates the solution proposed.

4.5.6 This is not permissible. As set out in T 229/85, (Reasons 5):

"the technical problem addressed by an invention must be so formulated as not to contain pointers to the solution, since including part of a solution offered by

an invention in the statement of the problem must, when the state of the art is assessed in terms of that problem, necessarily result in an ex post facto view being taken of inventive activity."

The problem must not include elements which relate to the solution provided by the invention (T 910/90, Reasons 5).

- 4.5.7 Therefore, the opponent's formulation of the technical problem is rejected, and the technical problem starting from D10 is to provide an alternative food-grade emulsifier for products such as foods and beverages.
- 4.6 The solution set out in claim 6 is not suggested in the prior art.
 - 4.6.1 D10 itself does not propose using coffee particles. Starting from this document, the skilled person would have no motivation to consider coffee particles to be (part of) the emulsifier system.
 - 4.6.2 D2 suggests that "the solid particles in the *arabica crema* may be considered an additional class of surfactants which can play a role in the foam stabilization" (page 340, right column). However, there is no teaching in D2 that coffee particles stabilise the interface between a fat phase and an aqueous phase. D2 refers solely to the stabilisation of the coffee's foam (crema) and suggests a different particle size, i.e. 2 to 5 μm .
- 4.7 To conclude, the subject-matter of claim 6 would not have been obvious to the skilled person starting from closest prior art D10. The same reasoning applies to claims 1 and 12 of the main request.

4.8 Therefore, the subject-matter claimed in the main request involves an inventive step (Article 56 EPC).

5. *Adaptation of the description*

5.1 At the oral proceedings before the board, the patent proprietor submitted an amended description.

5.2 The opponent did not raise any objection to the adapted description (Article 84 EPC), nor did the board identify anything that required further adaptation.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in the following version:
 - claims 1 to 12, filed as auxiliary request 3' with the letter dated 25 May 2022
 - description:
 - paragraphs 1 to 38 and 40 to 94 as filed during oral proceedings before the opposition division
 - paragraph 39 as filed by email during the oral proceedings before the board
 - drawing sheets 1/3 to 3/3 of the patent specification.

The Registrar:

The Chairman:



M. Schalow

A. Haderlein

Decision electronically authenticated