Internal distribution code:

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

Datasheet for the decision of 18 March 2021

Case Number: T 1244/17 - 3.3.01

Application Number: 10705242.5

Publication Number: 2398331

IPC: A21D13/00

Language of the proceedings: EN

Title of invention:
BAKE-STABLE CREAMY FOOD FILLING BASE

Patent Proprietor:
Intercontinental Great Brands LLC

Opponent:
Société des Produits Nestlé S.A.

Headword:
Bake-stable creamy food filling base/INTERCONTINENTAL

Relevant legal provisions:
EPC Art. 100(c), 123(2), 100(b), 100(a), 56
RPBA Art. 12(4)

Keyword:
Grounds for opposition - subject-matter extends beyond content of earlier application (no) - insufficiency of disclosure (no) - Inventive step (yes)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1244/17 - 3.3.01

D E C I S I O N
of Technical Board of Appeal 3.3.01
of 18 March 2021

Appellant: (Opponent)	Société des Produits Nestlé S.A. Avenue Nestlé 55 1800 Vevey (CH)
Representative:	Rupp, Christian Mitscherlich PartmbB Patent- und Rechtsanwälte Sonnenstraße 33 80331 München (DE)
Respondent: (Patent Proprietor)	Intercontinental Great Brands LLC 100 Deforest Avenue East Hanover, NJ 07936 (US)
Representative:	Boult Wade Tennant LLP Salisbury Square House 8 Salisbury Square London EC4Y 8AP (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 20 February 2017 rejecting the opposition filed against European patent No. 2398331 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairwoman	T. Sommerfeld
Members:	M. Pregetter
	P. de Heij

Summary of Facts and Submissions

I. European patent no. 2 398 331 is based on European patent application 10705242.5, filed as an international application published as WO2010/096397.

It was opposed under Article 100(a), (b) and (c) EPC on the grounds that the claimed subject-matter lacked an inventive step, was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, and extended beyond the content of the application as filed.

II. The following documents, cited during the opposition and appeal proceedings, are referred to below:

(1) EP1247460 A2

(2) EP1795257 B1

(3) US5,529,801

(4) EP1449439 A1

(5) US6,528,104

(6) US 2004/0202764

(8) GlenMills, " "Solubilize" the mpossible! 13 nm Nano-Particle with the DYNO®-MILL", 2006, 1 page

(9) WO01/56545

(10) WO2009/152150

(11) E.O. Afoakwa, "Chocolate Science and Technology", Wiley-Blackwell, 2010, 46-51

(12) Print-out of internet pages of Horiba, "Particle Size Analysis, HORIBA", 28 June 2017, 3 pages

(12a) Print-out of internet pages of Horiba, "How To Select A Particle Size Analyzer - HORIBA", 28 June 2017, 3 pages

(12b) HORIBA Scientific, "A guidebook to particle size analysis", 2012, 32 pages

III. In the course of the opposition proceedings, the patent proprietor requested the rejection of the opposition and submitted 4 auxiliary requests.

The claims of the patent as granted read as follows:

"1. A lipid-based, creamy food filling that is bake-stable, the creamy food filling comprising:
a continuous lipid phase including a low-melting lipid having a melting point of 40°C or lower;
a solid phase dispersed in the continuous lipid phase and including a hydrophilic powder and a high-melting lipid with a melting point of at least 70°C;
a water activity of 0.5 or lower; and
particles of the hydrophilic powder and the high-melting lipid forming a particle size distribution of the creamy food filling which renders the creamy food filling bake stable as evidenced by substantially no spreading of the filling and substantially no oil bleeding of the filling upon a sample of the creamy food filling heated for 10 minutes at 150°C, and
wherein the particle size distribution is a bi-modal particle size distribution including a dust particle

portion having a sub-distribution of dust particles less than 4 microns with a sufficient amount of sub micron dust particles of 1 micron or less effective to render the creamy food filling bake stable and a creamy particle portion having a sub-distribution of creamy particles greater than 4 microns, and
wherein the dust particle portion is at least 10 volume percent of the bi-modal particle size distribution and the dust particle portion includes at least 0.1 volume percent of the sub micron dust particles.

2. The creamy food filling of claim 1, wherein the creamy food filling includes less than 70 percent by weight of the hydrophilic powder, at least 0.5 percent by weight of the high-melting lipid, and at least 30 percent by weight of the low-melting lipid.

3. The creamy food filling of claim 1, wherein the bimodal particle size distribution includes at least 90 volume percent of the particles less than 30 microns and at least 10 volume percent of the particles less than 4 microns.

4. The creamy food filling of claim 1, wherein the sub-micron dust particles include the high-melting lipid.

5. The creamy food filling of claim 1, wherein a ratio of the dust particle portion to the creamy particle portion is at least 0.1 by volume.

6. The creamy food filling of claim 1, wherein a ratio of the solid phase to the continuous lipid phase is 2.3 or less by weight.

7. The creamy food filling of any of the preceding claims, wherein the bimodal particle size distribution

of the hydrophilic powder and the high-melting lipid include an amount of submicron high-melting lipid particles having a size of 1 micron or less rendering the creamy food filling bake-stable up to a filling temperature of 125°C as evidenced by substantially no spreading of the filling and substantially no oil-bleeding of the filling upon a sample of the creamy food filling heated for 10 minutes at a temperature of 150°C.

8. The creamy food filling of claim 7, wherein the high-melting lipid includes calcium stearate, and/or wherein the hydrophilic powder includes a cheese powder.

9. A method of forming a lipid-based, creamy food filling that is bake-stable up to a temperature of at least 125°C, the method comprising:
blending a hydrophilic powder, a high-melting lipid with a melting point of at least 70°C, and a low-melting lipid having a melting poirt [sic] of 40°C or below to form a blended mixture;
milling the blended mixture to form a particle size distribution of the high-melting lipid and the hydrophilic powder; and
the particle size distribution includes an amount of the high melting lipid with a particle size of 4 microns or less to render the creamy food filling bake-stable so that is [sic] exhibits substantially no spreading of the filling and substantially no oil-bleeding of the filling upon a sample of the creamy food filling heated for 10 minutes at 150°C, wherein the particle size distribution is a bi-modal particle size distribution including a dust particle portion have [sic] a sub-distribution of dust particles less that [sic] 4 microns with an amount of sub-micron dust

particles less than 1 micron effective to render the filling bake stable and a creamy particle portion having a sub-distribution of cream particles greater than 4 microns, and
wherein the dust particle portion is at least 10 volume percent of the bi-modal particle size distribution and the dust particle portion includes at least 0.1 volume percent of the sub micron dust particles.

10. The method of claim 9, wherein the blended mixture includes less than 70 percent by weight of the hydrophilic powder, at least 0.5 percent by weight of the high-melting lipid, and at least 30 percent by weight of the low-melting lipid.

11. The method of claim 9, wherein the particle size distribution includes at least 90 volume percent of the particles less than 30 microns and at least 10 volume percent of the particles less than 4 microns."

IV. The opposition division rejected the opposition. The opponent appealed this decision. Together with its statement setting out the grounds of appeal, it submitted documents (8) to (12), (12a) and (12b).

V. With its reply to the statement of grounds of appeal, the patent proprietor submitted auxiliary requests 1 to 4. It requested that documents (8) to (12), (12a) and (12b) not be admitted.

VI. The board issued a communication pursuant to Article 15(1) RPBA, identifying crucial issues in the discussion of sufficiency of disclosure and inventive step and referring to the decision under appeal as the starting point for the discussion of the amendments.

VII. Oral proceedings before the board took place on 18 March 2021.

VIII. The arguments of the appellant (opponent), in so far as they are relevant for the present decision, may be summarised as follows.

Admission of documents

Documents (8) to (12), (12a) and (12b) were filed in reaction to the decision under appeal. The decision under appeal relied on the mention of trade names for a particle size analyser and mill in the patent in suit to establish sufficiency of disclosure. Documents (8), (12), (12a) and (12b) were intended to throw light on the trade names mentioned in the patent. Documents (9) and (10) confirmed that document (6) used high-melting lipids. Document (11) merely provided evidence for common general knowledge in the context of inventive step.

Amendments

The application as filed did not directly and unambiguously disclose that the percentages in claim 1 as granted related to percent by volume. On the contrary, the application as filed contained a clear statement that all percentages were by weight (paragraphs [0017] and [0048]) unless indicated otherwise, with no such indication being given for the percentages of claim 1. Paragraphs [0018] and [0026] were not to be taken into account since they related to a very specific combination of features. Figures 1 to 3 did not disclose the required sub-micron dust portion and were of a generic nature.

A "technically sensible reading" did not automatically fulfil the requirement of a direct and unambiguous disclosure.

Concerning claim 2, the application as filed did not disclose the combination of the values of claim 2 with the values of claim 1 as granted (deriving from claims 3 and 4 as filed) and the percentage by weight, especially in view of the omission of the lower ranges. Paragraph [0017] did not disclose such a combination as could be seen from the term "another aspect". Claims 2 and 4 as filed both referred only to claim 1 as filed.

The same line of argument applied *mutatis mutandis* to claim 3 with the difference that paragraph [0018] as filed had been invoked (using the terms "by another approach" and "in yet another approach") and that the percentages under consideration were percentages by volume. The same was true for claim 6, where neither claim 8 nor paragraph [0031] as filed led to a combination of the features, and the percentages under consideration were by weight.

The issue of percentages by volume also applied to claims 4 and 5.

Claim 7, dependent on claim 1, was based on independent claim 9 as filed. However, claim 9 could not form a basis for the specific combination of features resulting from the combination with claim 1 as granted.

Concerning claim 8, no direct and unambiguous disclosure for the specific combination of features could be found since claims 15 and 16 as filed were only dependent on claim 9 as filed.

Independent claim 9 also lacked a basis in the application as filed. It was based on independent claim 17 as filed, the disclosure of which could not be combined with the technical features of claims 4 and 5 as filed.

Similar considerations applied to claims 10 and 11.

Sufficiency of disclosure

Measurement of particle sizes was not well defined in the patent in suit. Since it could be seen in Figure 5 of the patent in suit that the particles were non-spherical, it was necessary to specify in detail how particle size was determined. Laser-based, light-scattering-based and image-analysis-based instruments were on the market under the trade name Horiba. With these instruments, depending on various details of the measurement as they relied on various physical principles, drastic differences in particle sizes would be determined. The patent in suit did not disclose any of these details. Specific problems arose with unevenly shaped, non-spherical particles, e.g. rod-shaped particles and small dust particles. Furthermore, since claim 1 as granted required certain volume percentages, the differences in measured particle size would lead to a potentiation in differences for the calculated volume. Further difficulties arose due to the ingredients under consideration. A composition comprising a low-melting lipid having a melting point of 40°C would be solid. No indication could be found in the patent in suit on how the particle sizes of a solid composition were to be determined.

Furthermore, no sufficient disclosure was made of the method of forming the lipid-based, creamy food filling.

The method relied on a milling step. It was, however, merely known that a certain mill, a Dyno®-Mill, with a certain gap size was to be used. All further critical parameters were missing. In particular, no particle size of the starting materials and no milling time were disclosed in the patent. Document (8) clearly showed that milling using such a Dyno®-Mill led to compositions not having a bimodal particle size distribution. The patent in suit was thus silent on how to achieve the claimed bimodal particle size distribution.

In addition, the patent in suit disclosed a non-working example. Comparative Example 4, despite being labelled "comparative", contained all the technical features of claim 1 as granted but was not bake stable. The small amount of calcium stearate (a high-melting lipid) did not differentiate the example from the claimed subject-matter since claim 1 covered compositions comprising any amount of high-melting lipid. Consequently, the technical features relating to the ingredients of the creamy food filling provided in claim 1 did not result in the claimed inventive effect.

Inventive step

Document (1) represented the closest prior art. It disclosed a bake-stable barrier layer, which had to be considered a filling composition (see Figure 1). This composition was obtained by co-milling a low-melting lipid and a high-melting lipid in a Dyno®-Mill, i.e. in the same way as the patent in suit. The milling process necessarily led to the required particle size distribution (see also document (4)). The only difference to the subject-matter claimed in independent claims 1 and 9 lay in the addition of a hydrophilic

powder. No effect had been shown to be linked to this addition. The technical problem was the provision of an alternative heat stable composition. In view of the disclosure of documents (2), (3), (5) and (6), it would have been obvious to add a hydrophilic powder to a filling composition in such a way that the complete composition would undergo co-milling. Paragraph [0006] of document (1) merely discussed the background art and thus was not part of the disclosure of the barrier composition of this document. In addition, it was common general knowledge, as confirmed by document (11), that temperature characteristics of a composition such as bake stability are intrinsically associated with a bimodal particle size distribution.

Alternatively, document (6) represented the closest prior art. It disclosed the preparation of bake-stable low water activity filling compositions which comprised a low-melting lipid, a high-melting lipid and a hydrophilic powder. Document (6) utilised high-shear mixing, which was a known alternative homogenising method that produced similar particle sizes as the co-milling described by the patent in suit (Example II). The only difference between the subject-matter of claim 1 and claim 9 and the disclosure in document (6) was the co-milling instead of high-shear mixing in the production step or the definition of a bimodal particle size distribution. The problem to be solved could be either to:
- provide an alternative composition by using co-milling as a different production method
- use an alternative homogenising method in the production method of the filling
- provide a filling having a bimodal particle size distribution, which could be achieved by co-milling the ingredients according to, for instance, claim 9 of the

patent in suit

Co-milling had already been suggested in document (1) and thus would have been used by the person skilled in the art when providing an alternative. Furthermore, it was common general knowledge (see document (11)) that a bimodal particle size distribution provided improvements with respect to temperature stability.

IX. The arguments of the respondent (patent proprietor), in so far as they are relevant for the present decision, may be summarised as follows.

Admission of documents

Documents (8) to (12), (12a) and (12b) were late filed. They were not *prima facie* relevant. Taking them into account would considerably change the facts of the case and ran contrary to the aim of reviewing the decision under appeal. Consequently, they were not to be admitted.

Amendments

Reference was made to the opposition division's assessment.

The application as filed taught throughout its disclosure that "particle-size distributions" were always described by percentages by volume. Weight percent was used in specific contexts. Paragraph [0017] dealt with bulk amounts of ingredients to be included in the creamy filler. Paragraph [0048] related to the examples which disclosed amounts of ingredients to be added to the mixture.

Paragraph [0017] generally disclosed the amounts of the ingredients of the creamy filler in the application as filed and could thus serve as a basis for claim 2 as granted.

In addition, the basis for the claims could be summarised as follows:

Claim 1: claims 1, 4 and 5; for particle size distribution by "volume”: paragraphs [0008],[0018] and [0026] and Figures 1, 2 and 3
Claim 2: paragraph [0017] and claim 2; for ingredient amount being by "weight”: paragraphs [0017]and [0048]
Claim 3: claim 3 and paragraphs [0008], [0018] and [0026]; paragraphs [0026] and [0027] support a combination of claims 3 and 4/5 as filed since paragraph [0027] starts “At the same time...”
Claim 4: claim 6 and paragraph [0023]
Claim 5: claim 7 and paragraph [0022], which refers to Figures 1 and 2; for particle size distribution by "volume”: paragraphs [0008],[0018] and [0026] and Figures 1, 2 and 3
Claim 6: claim 8 and paragraph [0031]; for ratio of ingredient amounts being by "weight”: paragraphs[0017] and [0048]
Claim 7: claim 9 and paragraph [0007]
Claim 8: claim 16, paragraph [0043] and Example 2
Claim 9: claims 17, 20 and 5; paragraphs [0008],[0018] and [0026]; and Figures 1, 2 and 3
Claim 10: paragraph [0017] and claim 18; for ingredient amount being by "weight”: paragraphs [0017]and [0048]
Claim 11: claim 19

Sufficiency of disclosure

The patent specification included a full and complete description of the claimed bake-stable, lipid-based, creamy food filling. Guidance was also provided in Examples 1 to 3. The appellant had not provided any evidence to show that the invention could not be reproduced. The appellant's arguments amounted to mere assertions and clarity objections.

Information on particle size determination and milling conditions could be found in paragraphs [0053] and [0054], Example 2, and Figure 3. Concerning the principles underlying the particle size measurements, it would have been clear from documents (12a) and (12b) that only laser diffraction methods were suitable for use over the range of particle sizes required by the patent (see Figure 1 of document (12a) and document (12b), page 26). Furthermore, such particle size measurements were commonplace in the broader field of food science. Figure 5 of the patent showed balls, i.e. particles of spherical form, of calcium stearate, agglomerated as explained in paragraph [0065].

The patent specification gave details for the milling step. The exact instrument, the gap size and the fact that the composition was milled twice were indicated. Furthermore, how the milling affected the ingredients was discussed.

Comparative Example 4 had already been marked as being "comparative" in the application as filed as it was not within the claimed scope. The reason for this was the low amount of high-melting lipid. Due to this low amount of high-melting lipid, the composition of

Example 4 did not, although having been milled, achieve the required particle size distribution. This was in line with the discussion in paragraphs [0021] to [0023] and [0035] of the patent specification.

Inventive step

Document (1) should not be considered the closest prior art. It related to a moisture barrier different from a filler in that it had to be imperceptible (see paragraphs [0004], [0009] and [0016]). If document (1) were considered the closest prior art, the distinguishing feature was, *inter alia,* the inclusion of a hydrophilic powder in the composition. The problem to be solved was to provide an improved bake-stable composition. Even if the problem to be solved was merely the provision of an alternative, the skilled person would not have turned to any of documents (2) to (6) and added a hydrophilic powder. Document (1) clearly taught that the addition of hydrophilic powders was detrimental to the stability of the barrier (paragraph [0006]).

Starting from document (6) as the closest prior art, there were several differences. Document (6) did not disclose a particle size distribution having very specific definitions or the co-milling of a high-melting lipid, which was not even present in all the examples. The problem to be solved was the provision of a filling with an improved bake stability. However, even if the problem was seen as the provision of an alternative filling, the person skilled in the art would not have arrived at the claimed subject-matter. None of the documents cited in the proceedings and dealing with fillings taught to co-mill certain

ingredients and thus to achieve a certain particle size distribution.

X. The parties' final requests were as follows.

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

The respondent requested that:
- the appeal be dismissed or, alternatively, that the patent be maintained on the basis of any of the sets of claims of auxiliary requests 1 to 4
- documents (8) to (12), (12a) and (12b) not be admitted into the proceedings

Reasons for the Decision

1. The appeal is admissible.

2. *Admission of documents*

2.1 *Documents (8), (12), (12a), (12b)*

In its statement of grounds of appeal, the appellant presented its case as to why the opposition division had been wrong to arrive at its conclusion with respect to, *inter alia*, sufficiency of disclosure. It invoked documents (8), (12), (12a) and (12b) which relate to essential points addressed in the decision under appeal. The board therefore considers that the filing of these documents constitutes a normal and justified development in the appeal proceedings. Therefore, the board sees no reason to make use of its discretionary power under Article 12(4) RPBA 2007, applicable pursuant to Article 25(2) RPBA 2020, to hold these

documents inadmissible. Consequently, the board decided to take these documents into account in the appeal proceedings.

2.2 *Documents (9) to (11)*

The board decided to take these documents into account in the appeal proceedings. As the documents turned out not to be crucial for the board's assessment as set out below, there is no need to give reasons for this decision.

3. *Amendments*

3.1 *Claim 1*

Claim 1 of the patent as granted is a combination of claims 1, 4 and 5 as filed and additionally includes the definition that the percentages of the dust particle portion and the sub-micron dust particles are given as volume percent.

The application as filed discloses that fractions of the particle size distribution are present in certain percentages given as "volume percent" (paragraphs [0008], [0018] and [0026]; see also the y-axis of Figures 1 to 3). The specific values and combinations of features in these passages are irrelevant in this context because the skilled person would have taken from these passages that in general the fractions of the particle size distribution are indicated as volume percent. This is confirmed by the fact that there is no disclosure anywhere in the application as filed of a fraction of the particle size distribution quantified by weight percent.

3.2 Weight percent is also used in the application as filed, although for different technical features of the food filling. Paragraph [0017] clearly indicates that weight percent is used to describe portions of the creamy fillers when the ingredients as such (i.e. hydrophilic powder, low-melting lipid and high-melting lipid) are discussed. This quantification of ingredients by weight percent can also be seen in paragraph [0048], which refers to the amounts of the ingredients to be used in the examples.

3.3 In sum, it is directly and unambiguously derivable from the application as filed, in particular from the description and the drawings, that the amounts of fractions of the particle size distribution are quantified in volume percent and that the amounts of the ingredients of the creamy food filling are quantified in weight percent. This also applies to the ratios.

This finding is valid not only for claim 1 but for all the claims as granted.

3.4 *Dependent claims 2 to 8*

The subject-matter of claim 2 as granted is disclosed in paragraph [0017] of the application as filed. Paragraph [0017] describes properties of "the creamy fillers herein". The term "the creamy fillers herein" marks this disclosure as general and thus is to be read in combination with other technical features, e.g. the features of claims 1, 4 and 5 as filed.

Claim 3 corresponds to claim 3 as filed, with the addition of the definition that the percentages are by volume. The introductory parts of the description as

filed provide the same disclosure in a general way [paragraph [0008]).

Claim 4 picks up the wording of claim 6 as filed. Claim 6 as filed referred directly back to claim 5 as filed, the subject-matter of which has been included in claim 1 as granted.

Claim 5 derives from claim 7 as filed. The inclusion of the term "volume" in the definition of the ratio in claim 5 is allowable for the reasons given in paragraph 3.1 above.

Claim 6 derives from claim 8 as filed. The inclusion of the term "weight" in the definition of the ratio of claim 6 is allowable for the reasons given in paragraph 3.2 above.

Claim 7 includes, in addition to the technical features of any of the preceding claims as granted, the requirement that the bake stability test must be fulfilled "up to a filling temperature of 125°C". Such a requirement can be found in claim 9 as filed, which is an independent claim. However, since this requirement is completely embedded in the application as filed (see e.g. the introductory general passages in paragraph [0007]), it is disclosed in combination with the technical features of the preceding claims.

Claim 8 identifies one particular high-melting lipid in the form of calcium stearate and one particular hydrophilic powder in the form of cheese powder. These ingredients are singled out in claims 15 and 16 as filed, respectively. Calcium stearate is the preferred high-melting lipid of the application (see the examples and paragraph [0042]). Cheese powder is the only

hydrophilic powder of the application described additionally by a trade name (paragraph [0043]). It can thus also be seen as a preferred ingredient. The combination of preferred ingredients does not contravene the requirements of Article 123(2) EPC.

3.5 *Claim 9*

The respondent has identified claims 17, 20, 4 and 5 and paragraph [0029] as filed as a basis for claim 9 as granted. The opposition division came to the conclusion that claim 17 as filed related to the same lipid-based creamy food filling as disclosed in claim 1 as filed. Consequently, according to the opposition division, claims referring to claim 1 as filed may be combined with claim 17 as filed.

The board, while not being generally of the opinion that product claims may be freely combined with method claims, reaches the same conclusion as the opposition division for the following reasons. Claims 17 and 20 as filed disclose all the features of claim 9 as granted with the exception of the features mentioned in the last two lines of the claim 9 ("wherein the dust particle portion...of the sub micron dust particles"). These features refer to the product resulting from the method and are mentioned in product claim 5 as filed.

Throughout the application as filed a milling step, and in particular a co-milling step, is described as being the crucial method step for achieving the bimodal particle size distribution that is said to be responsible for the bake stability and which is defined in, *inter alia*, claims 4 and 5 as filed, now included in claim 1 as granted (see, for example, paragraph [0029]). Apart from this (co-)milling step,

the only further process step in claim 9 as granted is the blending of the ingredients. Bringing ingredients into contact with each other by blending is an inherent method step for the formation of any creamy food filling that comprises more than one ingredient. It therefore would have been clear to the skilled person that the product specified in claim 5 as filed was the result of the same method of co-milling and blending as disclosed in claim 17 as filed. Consequently, in the case at hand, the subject-matter of the method claim may be amended by including the features of claim 5 as filed, i.e. the same features as claim 1 as granted. The fact that claim 9 as granted does not verbatim repeat the wording of paragraph [0029] does not change this finding.

3.6 *Dependent claims 10 and 11*

In view of the conclusion reached for claim 9, it is sufficient to merely make reference to the arguments provided for claims 2 and 3 under point 3.4 above.

3.7 The ground of opposition under Article 100(c) in conjunction with Article 123(2) EPC does not prejudice the maintenance of the patent.

4. *Sufficiency of disclosure*

4.1 *Particle size determination*

4.1.1 It is common general knowledge that particle size determination is influenced by many parameters. Among these parameters are shape factor, mathematical approach for calculating and interpreting particle size distributions, optical model, and wavelength of the light employed for the measurement (when using laser

diffraction). Further factors concern the sample itself and sample preparations (e.g. when the sample is completely solid).

4.1.2 The patent in suit merely discloses the fact that a "Horiba particle size analyzer" is used (paragraph [0054]). Horiba provides various instruments for analysing particle sizes (document (12)). Documents (12), (12a) and (12b) were submitted by the appellant to show that the mere mentioning of the use of a "Horiba particle size analyzer" would not have enabled the skilled person to determine the required particle size distribution as what type of Horiba instrument was to be used was not disclosed and the analysis of the particle size distribution depended on various details of the measurement.

Documents (12), (12a) and (12b), which are post-published, provide information on which measurement methods are suitable for determination of the particle sizes under consideration. However, even though the information given in these documents was not available before the effective date of the patent in suit, it must be concluded that in fact the company provides some guidance as to which instrument based on certain principles of measurement is to be employed for certain particle sizes. Such guidance is, furthermore, common practice. Consequently, the person skilled in the art would have had guidance as to which instrument to choose for the measurements to be effected in the patent in suit. In addition, there is no reason to assume that the person skilled in the art would not have been in a position to prepare the samples in such a way that particle size determination with the Horiba instrument(s) would have been possible.

The appellant has stressed the importance of shape effects. According to the appellant, Figure 5 of the patent in suit clearly shows that the particles are not spherical. The board cannot accept this argument. Figure 5 depicts agglomerated particles. The primary particles have a spherical character.

It may be highly likely that using different (Horiba) instruments and protocols of particle size determination will lead to different values for the particle sizes determined. However, this is a matter of clarity and does not as such lead to a lack of sufficiency of disclosure.

In sum, the person skilled in the art would have been in a position to determine particle sizes for compositions according to claim 1 of the patent as granted.

4.1.3 The patent specification furthermore teaches the use of a Dyno®-Mill KDL Pilot with a gap setting at 0.5 mm to co-mill certain ingredients to form the defined bimodal particle size distribution (Examples 1 to 3). The selection of further appropriate parameters for the milling might require several test runs until the required results are achieved. However, this would have been routine for the person skilled in the art. No research programme would have been required.

The appellant has pointed to document (8), which depicts results of milling an unknown active pharmaceutical ingredient with a Dyno®-Mill to monomodal particles having a d_{50} of 13 nanometers. This example application of a Dyno®-Mill of an unknown model and gap setting cannot throw any doubts on the conclusion reached in the preceding paragraph for a

certain model of the Dyno®-Mill in combination with an indication for a certain initial parameter in the form of the gap setting.

In addition, the appellant has alleged that the initial size of the materials might influence the outcome. The board cannot accept this argument. Since particle size determination would have been possible, the milling could and would have been adapted by the person skilled in the art to lead to the required particle size distribution.

4.1.4 In its communication pursuant to Article 15(1) RPBA, the board pointed to the fact that for the assessment of sufficiency of disclosure the relationship between particle sizes, particle size distribution and the results to be achieved as defined in the claims was crucial. The result to be achieved in the claims is bake stability under certain conditions. However, the appellant has not shown that certain methods of determination of particle sizes would lead to particle sizes falling nominally within the claimed ranges without leading to the required bake stability.

4.1.5 In conclusion, the following has been found. The particle sizes can be determined for the claimed creamy food filling. Routine tests would have led the skilled person to appropriate milling conditions. No doubts have been substantiated that these creamy food fillings would not have the required bake stability.

4.2 *Comparative Example 4*

The board notes that Comparative Example 4 is clearly marked as a comparative example. It stresses the small amount of high-melting lipid in its composition. The

patent specification gives clear guidance that this small amount may not be sufficient to render the product bake stable (see paragraphs [0021] to [0023] and [0035] of the patent in suit). The appellant has not provided any data showing that Comparative Example 4 has the particle size distribution defined in claim 1 of the patent as granted. Thus, it has not shown that Comparative Example 4 falls, apart from the lack of bake stability, within the scope of claim 1. The patent specification provides explanations why Comparative Example 4 was indeed comparative (see above). Consequently, the failure of Comparative Example 4 to exhibit the required bake stability cannot render the disclosure of the patent in suit insufficient.

4.3 The ground of opposition under Article 100(b) EPC does not prejudice the maintenance of the patent.

5. *Inventive step*

The patent in suit relates to lipid-based, bake-stable creamy food fillings. The creamy food filling comprises a continuous lipid phase having a solid phase dispersed in it. The particle size distribution of the solid phase renders the filling bake stable (paragraphs [0001], [0008] and [0011]).

5.1 The decision under appeal considers either document (1) or document (6) as the closest prior art. Both approaches can also be found in the statement of grounds of appeal.

Document (1) relates to an oven-stable edible moisture barrier comprising a low-melting oil and a high-melting fat which, after co-milling, result in a composition

having "unique thermal and mechanical properties" (paragraph [0001]). The particle size of the high-melting fat is reduced by the milling to 1 to 10 microns (paragraph [0008]). Particle size distributions are not discussed. The moisture barrier compositions should have organoleptic properties of taste, aftertaste and mouthfeel that are essentially imperceptible so that the consumer is unaware of the presence of the barrier when the product is consumed (paragraph [0009]). Example 1 relates to a barrier composition obtained by co-milling in a Dyno®-Mill. The composition comprises calcium glyceryl monostearate, coconut oil and palm kernel oil. The average particle size was about 8 microns. When heated to 80°C, the material remained non-flowing.

Document (6) has been presented as an alternative closest prior art document. It relates to a bake-stable, low water activity filling (paragraph [0001]). The filling comprises a globulin protein with a dispersion of oil. The oil may contain a high-melting-point oil and a low-melting-point oil (claims 1, 3 and 4). The protein is denatured to form a gel that prevents oil leaking from the filling during subsequent baking (paragraph [0013]). Document (6) is silent on particle sizes.

Both documents deal with the bake stability of lipid containing compositions and thus can be considered to represent a valid starting point for the person skilled in the art.

5.2 *Document (1) as closest prior art*

5.2.1 Both parties agree that the addition of a hydrophilic powder to the bake-stable composition constitutes a

difference between the subject-matter of claim 1 and the disclosure of document (1).

There is no data on file comparing the bake stability of compositions falling within claim 1 and the compositions of document (1).

5.2.2 Consequently, the problem to be solved may be seen in the provision of an alternative bake-stable composition.

The problem is solved by a composition having the technical features of claim 1. This has not been contested.

5.2.3 The appellant has argued that the person skilled in the art would have considered adding a hydrophilic powder to the compositions of document (1) in view of document (1) itself or in view of the disclosure of documents (2), (3), (5) or (6).

The board cannot accept this argument.

Document (1) teaches away from employing hydrophilic powders. The compositions of document (1) are moisture barriers aiming at preventing moisture migration within a multi-component food product at elevated temperatures (paragraphs [0001] and [0008]). When discussing the background of its invention, document (1) analyses in detail barrier compositions based on an association of hydrocolloids in the form of cellulose derivatives, starch, starch hydrolysates and/or gelatin, i.e. substances that fall under the definition of hydrophilic powders, and lipids. Document (1) stresses that the inclusion of hydrocolloids, which, due to their hydrophilic nature, tend to absorb water (with

this absorption being accelerated at elevated temperatures), renders the barrier ineffective when exposed to heat (paragraph [0006]). Thus, by discussing the negative consequences of the addition of hydrophilic agents in its background section, document (1) explicitly teaches away from adding hydrophilic powders to its moisture barrier compositions. Consequently, the skilled person would have refrained from adding these agents when trying to provide alternative bake-stable compositions.

The further documents invoked by the appellant cannot change these findings. Document (2) does not relate to bake-stable compositions and thus cannot provide any further guidance. Document (3) describes thermostable edible compositions based on a far removed concept. A non-aqueous hydrophilic liquid and an ultrahigh surface area cellulose are responsible for the heat stability, whereas the total lipid content is kept low (claim 1). In particular, document (3) prefers fat-free fillings (column 10, lines 37 to 62). The skilled person would thus not have considered document (3) when starting from the lipid-based barrier composition of document (1). Document (5) relies on co-melting a lipid having a low melting point and a lipid having a high-melting point (column 11, lines 42 to 44; column 17, lines 30 to 41). The high-melting-point oil is used as a crystal seeding substance to cause crystals to grow as the filling is cooled during the manufacturing of the filling (column 5, lines 2 to 6). The person skilled in the art, when starting from a document relying on co-milling its lipids and clearly teaching away from adding hydrophilic agents, would not have considered the further disclosure of a document relying on co-melting its lipids. Finally, document (6) relies on a system in which a protein, as a hydrophilic agent,

is denatured to form a gel that prevents oil leaking from the filling during subsequent baking ([0013]). The person skilled in the art, when starting from a document relying on co-milling its lipids and clearly teaching away from adding hydrophilic agents, would not have considered the further disclosure of a document that is silent on particle sizes and teaches that a completely different ingredient is responsible for the bake stability.

Furthermore, as pointed out in the decision under appeal (see point 2.3.3.5), document (1) aims at providing an imperceptible composition. Thus, the person skilled in the art would not have turned to documents (3), (5) and (6), which all focus on flavoured compositions.

The subject-matter of claim 1 would not have been obvious from document (1) alone or from the combination of document (1) with any of documents (2), (3), (5) and (6).

5.2.4 *Further arguments*

(a) The appellant has referred to document (4) for support for presence of a certain particle size distribution in the barrier compositions of document (1). It stated that since document (4) disclosed that micro-milling a high-melting lipid like calcium stearate resulted in particles having a particle size of 0.1 microns or less, such particles would also be present in Example 1 of document (1) which had an average particle size of about 8 microns.

The board cannot accept this argument.

Document (4), page 5, lines 51 to 58, relates to the milling of a single compound. Furthermore, it is silent on the shape of the particle size distribution obtained. While it is known that larger particles are also present (see line 53 to 56), it is not disclosed whether the particle size distribution is mono- or bimodal. In addition, it has not been established that the milling conditions of documents (1) and (4) are comparable. Reference is made to point 4.1.3 relating to the selection of appropriate milling parameters. In conclusion, the reference to document (4) is not sufficient to prove that the barrier compositions of document (1) indeed have a bimodal particle size distribution.

(b) The appellant has stressed that it was common general knowledge that bimodal particle size distributions were intrinsically associated with temperature characteristics of a composition (see document (11), page 49, lines 5 to 10). Therefore, the skilled person would have expected that the bimodal particle size distribution of document (1) would be linked to improved temperature characteristics.

The board fails to see how the disclosure of document (11) could influence the assessment of inventive step starting from document (1). Firstly, document (1) does not explicitly disclose a bimodal particle size distribution. The presence of a bimodal particle size distribution in the barrier compositions of document (1) has been alleged by the appellant but not conclusively established. Secondly, assuming that the compositions of document (1), which relate to a bake(or "oven")-

stable edible moisture barrier, have a bimodal particle size distribution, the skilled person would not have had to look any further since bake (or temperature) stability is at the core of the teaching of document (1). Finally, even if the skilled person would have considered document (11), they would not have taken its disclosure into account for issues related to bake stability. Document (11) relates to chocolate technology. The known effects of particle size distributions in chocolate, mainly relating to palatability and process efficiency, are discussed in section 3.5. In this section, five lines are dedicated to other products, such as apple sauces or mustard, in which a bimodal particle size distribution yielded improvements in temperature (not bake) stability. Reduced fat nut spreads are also mentioned. However, no reference is made to temperature stability for this product. In sum, document (11) does not mention bake stability and seems to relate to products far removed from the filling compositions under consideration. Consequently, the skilled person would not have taken document (11) into account.

(c) The cream cheese used in document (1) as a filler that may be considered a hydrophilic powder according to the patent in suit (see paragraph [0042] which mentions cheese powders) is covered by the moisture barrier (Example 3). It does not form part of the moisture barrier. The person skilled in the art would thus not have mixed, or co-milled, this cream cheese and the ingredients of the moisture barrier.

5.3 *Document (6) as closest prior art*

5.3.1 Alternatively, document (6) can be considered to represent the closest prior art.

The appellant has pointed to paragraph [0011] which discloses a combination of whey protein, higher melting point shortening and low melting point shortening, generally having a melting temperature of not greater than 100°F. Furthermore, it has stressed that document (6) utilises high-shear mixing, which, according to the appellant, produces a similar particle size as the co-milling described by the patent in suit.

However, there is no support to be found in any of the documents on file that the compositions of document (6) have a particle size distribution similar to the creamy food filling under consideration.

The particle size distribution is thus a clear difference between the subject-matter of claim 1 and the disclosure of document (6).

There is no data on file comparing the bake stability of compositions falling within claim 1 and the compositions of document (6).

5.3.2 The problem to be solved is the provision of an alternative bake-stable composition.

The formulation of the problem as suggested by the appellant (provision of an alternative composition by using co-milling as a different production method or provision of a filling having a bimodal particle size distribution, with this being achievable by co-milling the ingredients) cannot be accepted as it clearly uses

hindsight to point to the solution of the patent.

The problem is solved by a composition having the technical features of claim 1. This has not been contested.

5.3.3 The appellant has argued that the person skilled in the art would have replaced the high-shear mixing of document (6) with the co-milling step of document (1).

The board cannot accept this argument. First of all, the appellant has not explained why the skilled person, in an effort to provide an alternative bake-stable composition, would have looked for a different production method of the filling leading to a particular particle size distribution. Furthermore, documents (6) and (1) rely on fundamentally different concepts. Document (1) teaches that its bake stability is due to the fact that a low-melting oil and a high-melting fat are co-milled until particles of the high-melting fat are reduced to a particle size of below about 25 microns (see paragraph [0008]). Document (6) bases its bake stability on the formation of a proteinaceous gel that prevents oil leaking from the filling during subsequent baking (see paragraphs [0011] and [0013]). Since document (6) relies on a protein based gel or network, i.e. a macromolecular system of proteinaceous matter, the skilled person would not have considered a document which bases its effect on a purely lipid-based structure obtainable by comminution (i.e. by destroying larger entities/particles) in the form of milling. Document (1) furthermore teaches away from hydrophilic matter (such as the whey proteins of document (6), see point 5.2.3 above). Therefore, the person skilled in the art would not have combined documents (6) and (1).

The subject-matter of claim 1 would not have been obvious from the combination of document (6) with document (1).

5.4 *Claim 9*

No arguments in addition to aspects relating to the milling step and the particle size distribution have been brought forward by the appellant for the subject-matter of claim 9.

These aspects have already been discussed in the context of claim 1.

The reasoning for claim 1 given under points 5.1 to 5.3 above thus applies *mutatis mutandis* to the subject-matter of claim 9.

5.5 In addition, the problem as formulated by the appellant in the context of document (6) as representing the closest prior art (the provision of an alternative homogenising method in the production of the filling) cannot be accepted because the filling of document (6) does not have the features of the filling of claim 9, in particular no particle size distribution is mentioned (see point 5.3.1). The problem is therefore not just the provision of an alternative homogenising method but the provision of a method of forming the bake-stable filling with the particular features as mentioned in claim 9.

Consequently, the subject-matter of claim 9 involves an inventive step over the prior art at hand.

5.6 The ground of opposition under Article 100(a) in conjunction with Article 56 EPC does not prejudice the maintenance of the patent.

6. In sum, none of the grounds of opposition under Article 100 EPC prejudices the maintenance of the European patent.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairwoman:

M. Schalow T. Sommerfeld

Decision electronically authenticated