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Datasheet for the decision of 28 January 2010

Case Number: T 1038/07 - 3.3.09

Application Number: 99103772.2

Publication Number: 0941666

IPC: A23G 1/00

Language of the proceedings: EN

Title of invention:
Reduced fat agglomerated chocolate

Patentee:
SOCIETE DES PRODUITS NESTLE S.A.

Opponent:
Ferrero oHG mbH

Headword:
-

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (no: obvious to try)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1038/07 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 28 January 2010

Appellant: (Opponent)
Ferrero oHG mbH
Hainer Weg 120
D-60599 Frankfurt/Main (DE)

Representative:
Kindler, Matthias
Hoffmann Eitle
Patent- und Rechtsanwälte
Postfach 81 04 20
D-81904 München (DE)

Respondent: (Patent Proprietor)
SOCIETE DES PRODUITS NESTLE S.A.
Case postale 353
CH-1800 Vevey (CH)

Representative:
Marchant, James Ian
Elkington and Fife LLP
Prospect House
8 Pembroke Road
Sevenoaks
Kent TN13 1XR (GB)

Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 2 April 2007 concerning maintenance of European patent No. 0941666 in amended form.

Composition of the Board:

Chairman: N. Perakis
Members: J. Jardón Álvarez
M-B. Tardo-Dino

Summary of Facts and Submissions

I. Mention of the grant of European patent No 0 941 666 in respect of European patent application No 99103772.2 in the name of Société des Produits Nestlé S.A., which had been filed on 26 February 1999 claiming a US priority of 12 March 1998 (US 42687), was announced on 2 May 2003 (Bulletin 2003/18). The patent entitled "Reduced fat agglomerated chocolate" was granted with twenty-one claims. Product independent claim 1 and process independent claim 4 read as follows:

"1. A reduced fat agglomerated chocolate having an average particle size of from 1 to 5mm and containing from 18 to 24% by weight fat based on the total weight of the chocolate."

"4. A process for preparing a reduced fat agglomerated chocolate having an average particle size of from 1 to 5mm and containing from 18 to 24% by weight fat based on the total weight of the chocolate which comprises preparing a powdered premix of substantially all the non-fat ingredients, adding the fat containing ingredients to the powdered premix and mixing to give a mass containing from 18 to 24% by weight fat based on the total weight of the mass, refining the mass on refining rollers to give a particle size of from 25 to 35 microns, adding water to the refined mass and mixing to form a homogeneous mass, freezing the mass, grinding the frozen mass into pieces having an average particle size of up to 30mm, and freeze drying the pieces to give the low fat agglomerated chocolate."

II. A notice of opposition was filed against the patent by Ferrero oHG mBH on 2 February 2004. The opponent requested the revocation of the patent in its entirety, relying on Article 100(a) EPC, as the claimed subject-matter did not involve an inventive step, on Article 100(b) EPC, as the European patent did not disclose the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, and on Article 100(c) EPC, as the European patent application had been amended in such a way that it contained subject-matter which extended beyond the content of the application as filed.

During the opposition proceedings the following documents *inter alia* were cited:

D2: WO-A-94/09649

D3: A Fincke *et al*, Handbuch der Kakaoerzeugnisse, Springer Verlag, 1965, pages 104-105, 194-195, 208-235, 326-329, 360-363

D6: WO-A-92/19112

D7: WO-A-96/19923

D8: J Kleinert, Handbuch der Kakaoverarbeitung und Schokoladenherstellung, B. Behr's Verlag GmbH & Co, 1997, pages 152-153, 156-157, 252-255, 262-265

D13: J G P Verhey, "Physical properties of dried milk in relation to chocolate manufacture", *Neth. Milk Dairy J*, 40, 1986, pages 261-268

D14: K Dewettinck *et al*, "The free fat content of dried milk products and flow properties of milk chocolate", *Milchwissenschaft*, 51(1), 1996, pages 25-28

D17: R D Cadle, Particle Size Determination, Interscience Publishers Inc, 1955, pages 92-103

D22: The Concise Oxford Dictionary, Oxford University Press, 1999, page 25

D23: International Wire Cloth Sieve Comparison Table, 9 July 2002, taken from the internet page www.wovenwire.com

D24: Dialer *et al*, Grundzüge der Verfahrenstechnik und Reaktionstechnik, Carl Hanser Verlag München Wien, 1986, pages 46-53

D25: Expert statement (Gutachtliche Stellungnahme) of Professor Dr. Tscheuschner dated 12 February 2007 accompanied by Annexes L1, L2, L3, and Annexes 1 and 2

D26: WO-A-94/27447

D27: IFI No 5 1996, page 47

D28: EP-A-0 423 650

D29: JP-A-01 144 927

D30: JP-A-01 144 926

D31: M Brennan *et al*, "Spiced Mushroom Snacks", *Farm & Food*, Spring 1998, pages 6-8

D32: DE-A-28 41 067

D33: DE-A-27 12 551

III. By an interlocutory decision announced orally at the oral proceedings of 13 March 2007 and issued in writing on 2 April 2007 the opposition division maintained the patent in amended form: claims 1 to 13 and 14 (partly) submitted at the oral proceedings and claims 14 (partly), 15 to 21 submitted previously with letter dated 9 November 2004.

Claim 1 of the amended patent read as follows:

"1. A reduced fat agglomerated **freeze dried** chocolate having an average particle size of from 1 to 5mm and

containing from 18 to 24% by weight fat based on the total weight of the chocolate." *(emphasis added by the Board in order to highlight the additional feature inserted into the granted subject-matter)*

The opposition division considered that the deletion in originally filed claim 4 of the phrase "up to 96%" (which phrase on the one hand introduced lack of clarity and on the other hand was meaningless and superfluous) did not contravene the requirements of Article 123(2) EPC. The skilled person would have understood that the original application implicitly disclosed the amended broader scope.

The opposition division also considered that the claimed invention did not contravene the requirements of Article 83 EPC and was thus sufficiently disclosed for it to be carried out by a skilled person in the art because:

- he would gather from the originally filed application that the average particle size was to be measured by sieving,
- he would apply sieving under conditions which would not be detrimental to the particle size,
- he would be able to apply freeze drying under conditions which would lead to an agglomerated chocolate,
- he would be able to reproduce example 1 and obtain the claimed agglomerated chocolate - the technical evidence filed by the opponent being irrelevant since it did not follow the experimental protocol set out in that example.

Finally the opposition division considered that the claimed subject-matter fulfilled the requirements of Article 56 EPC since the skilled person would not have considered it obvious over the submitted state of the art, with the consequence that it involved an inventive step. In agreement with the parties, the opposition division considered D7 to represent the closest state of the art from which the subject-matter of claim 1 differed only in that the product was freeze dried. The opposition division reasoned that the skilled person seeking to provide a low fat chocolate with improved texture - which was acknowledged to be the technical problem to be solved in view of D7 - would not find it obvious to apply the freeze drying known from D26 to D33 because these documents did not relate to chocolate.

IV. On 8 June 2007 the opponent (appellant) lodged an appeal against the decision of the opposition division and paid the appeal fee on the same day.

In the statement setting out the grounds of appeal filed on 10 August 2007, the appellant maintained all the objections raised before the opposition division. In support of its arguments it filed additional documents, *inter alia* D35-D37.

D35: Expert statement (Gutachtliche Stellungnahme) of Dr Bindrich (DIL), dated 7 August 2007, accompanied by Annexes 1 and 2

D36: Experimental Report (Gefriertrocknungsversuche), Dr Suwelack, dated 6 August 2007

D37: B W Minifie, Chocolate, Cocoa and Confectionary: Science and Technology, 3rd edition, Van Nostrand Reinhold New York, 1989, pages 188, 189

V. With a subsequent letter dated 30 September 2008 the appellant filed further arguments and submitted additional documents, *inter alia* D38 and D39.

D38: Dr W Rostagno, "Chocolate particle size and its organoleptic influence", *The Manufacturing Confectioner*, May 1969, pages 81-85
D39: Lebensmitteltechnik, VEB Fachbuchverlag Leipzig, 1986, page 222

VI. With a letter dated 3 March 2008 the respondent (patent proprietor) filed observations in reply to the statement setting out the grounds of appeal. It essentially contested all arguments of the appellant and agreed with the findings of the opposition division on all raised issues.

VII. Oral proceedings were held on 28 January 2010 in the absence of the respondent, who had informed the Board by letter of 13 November 2009 of its intention not to be represented at them.

VIII. The arguments put forward by the appellant (opponent) in its written submissions and at the oral proceedings can be summarized as follows:

Amendments

– Claim 4 of the request maintained by the opposition division comprised an amendment introduced during examination of the patent application which consisted in the deletion from the following process step of the underlined feature "which comprises preparing a powdered premix of substantially all the

non-fat ingredients, adding up to 96% of the fat containing ingredients to the powdered premix".

- By this deletion the amended wording of the claim meant that 100% of the fat was added to the premix. This was, however, an unallowable amendment which did not find support in the originally filed application.
- In fact the application taken as a whole - claim 4, its corresponding part in the description and example 1 - disclosed that only a portion of the fat ingredients was added to the powdered premix.
- Furthermore, nothing in the originally filed application would lead one to think that the deleted feature was meaningless or that the skilled person would have considered this feature as being deprived of meaning or superfluous.
- On the contrary it was common practice in the manufacture of chocolate to add the fat components successively and not in one and the same step in order to adjust its fluidity (D2, D3, D6, D13 and D14).
- The fact that the originally filed application did not specify at which stage the remaining 4% of the fat should be added amounted to lack of clarity and lack of sufficient disclosure; however, these deficiencies could not be overcome by introducing another deficiency.
- As to the deleted feature itself, it was clear and meant that only 96% out of 100% of the fat was added to the powdered premix. With regard to the remaining 4%, it was not technically plausible that it could be thrown away; on the contrary the skilled person would have expected that this amount would be introduced to the chocolate mass in a later step.

Sufficiency of disclosure

- The claimed invention was not sufficiently disclosed because the opposed patent did not disclose (i) the method according to which the particle size should be measured, (ii) the conditions of sieving if sieving was acknowledged to be the measuring method, and (iii) how the claimed "agglomerated" particles could be manufactured.
- The patent did not indicate that the average particle size should be determined by sieving. D17 was not relevant since it did not disclose any method for the determination of particle size in the claimed range; it disclosed sieving for particles of less than 1 mm. Anyway, at the priority date of the opposed patent sieving was not the only method used for particle size measurements in the food industry (D24, D38). Moreover, sieving was not the appropriate method for determining the chocolate particle size because the particles did not have a regular spherical surface.
- Additionally, the particle size disclosed in example 2 of the opposed patent (2,36 mm to 3,36 mm) did not unambiguously relate to standard mesh sizes which would immediately make the skilled person aware of the fact that sieving was used for the determination of the particle size. Notwithstanding the fact that the value of 3,36 mm deviated from a British standard mesh size (D23 disclosed 3,35 mm), the skilled person in the field of chocolate manufacture would not have directly and unambiguously considered the British mesh sizes, because the opposed patent was a European and not a national one, and he would

not have assumed that sieving was meant to be used for the particle size measurement.

- Furthermore, the skilled person would have avoided sieving, being aware of the fact that when such method was used, the particles would be submitted to repeated mechanical friction which would modify their size. Indeed, the sieving conditions had an impact on the particle size, as was shown by the technical evidence submitted before the opposition division with the letter dated 13 February 2007. Sieving would only make sense if accompanied by the conditions used. Such conditions were, however, not disclosed in the contested patent.
- An additional consequence of the modification of the particle size during sieving was that the skilled person could not know what the particle size was before sieving. This meant that he could not be sure when using such particles if he was working within or outside the forbidden range of the claimed invention, ie if his chocolate product fell within the scope of the claims.
- The term "agglomerated" as used in the opposed patent should not be given the definition provided in standard dictionaries (D22). Such a definition did not take into consideration the specificity of the technical field of sweet goods, for which a much more precise definition was required (D25/L1, D35, D39). In fact the meaning of this term in the present technical field was that the chocolate particles were joined together by specific connection mechanisms, namely short bridges of solid material. Nevertheless, such agglomerated particles were not obtained when example 1 of the opposed patent was repeated by the appellant (D25, D35, D36),

ie the manufactured chocolate particles were not linked by short, solid material bridges; on the contrary these particles were dispersed in a continuous phase. On the basis of this evidence, the patent specification did not give the skilled person the necessary information enabling him to manufacture a reduced fat, agglomerated, freeze dried chocolate.

Inventive step

- D7 should be considered to represent the closest state of the art. It disclosed a reduced fat vermicelli chocolate, which was in agglomerated form (technical report in Annex 1 of D25), had a particle size within the range of 1-5 mm (D8) and a water content of 6% by weight (D37), which chocolate melted easily and was smooth in the mouth. The agglomerated chocolate of D7 was not freeze dried, this technical feature being responsible for the chocolate crunchiness.
- The technical problem to be solved in view of D7 was to render the texture of the chocolate crunchy.
- The solution to that problem was obvious to the person skilled in the art. The skilled person who had to remove the remaining water content from the vermicelli towards the end of its manufacture, which was an ordinary process step in vermicelli manufacture, would contemplate the use of freeze drying as an obvious drying process among other drying alternatives. He would do so particularly because freeze drying had been known in the art for providing a product with a crunchy texture (D26 to D33) and because it would be a simple routine measure within his ordinary technical capabilities.

The fact that freeze drying of the vermicelli according to D7, in the light of D8, would indeed lead to the provision of a crunchy product, was technically demonstrated by the submitted evidence (D35).

- The state of the art disclosed that by the application of freeze drying the compounds, which were previously solubilised in water, solidified. This solidification, created a system of solid bridges among the particles of the foodstuff. This particular system provided the sensation of crunchiness in the mouth when the foodstuff was bitten.
- The crunchiness was not a property specific only to chocolate. The specificity as regards chocolate was that the crunchiness was related to the solubility of sugar in water, which by freezing became partly sugar glass, partly crystalline sugar. When drying the foodstuff and following the sublimation of ice, the structure made up of sugar glass and crystalline sugar played the role of the solid material bridging the chocolate particles responsible for the crunchy texture.
- Furthermore, as the respondent did not cite any technical prejudice against the use of freeze drying for the development of a crunchy texture in chocolate, it was plausible to assume that the skilled person would at least try it.
- The skilled person would not need to put additional water in the chocolate mass in order to be able to use freeze drying. The chocolate vermicelli already contained 6% by weight water in order to fluidise the chocolate mass and enable it to pass through the perforated disk for the formation of the vermicelli.

This was in agreement with the teaching of the prior art, according to which no water addition was required before freeze drying. In fact the freeze drying method had been developed in order to dry humid foodstuffs and obviously could not be applied to totally dry foodstuffs. The main advantage of freeze drying was that it preserved the temperature sensitive components of the humid foodstuff.

– Furthermore the argument of the respondent, that the disclosure of the vermicelli chocolate in D7 did not relate to the central invention claimed but constituted a peripheral disclosure, was irrelevant. Such an alleged different weighting of parts of a disclosure did not find support in the EPC.

– Moreover, the skilled person, aware of the different extrusion methods for producing chocolate vermicelli (D8 and D37), some involving water addition and some avoiding water in the chocolate mass, would obviously select the extrusion method involving water addition since he knew that by doing so he would obtain agglomerates with liquid bridges among the chocolate particles, these becoming solid bridges after drying. These solid bridges were responsible for the crunchy texture and the crunchy feeling upon breaking.

IX. The arguments put forward by the respondent (patent proprietor) in its written submissions can be summarized as follows:

Amendments

– The amendments made during prosecution of the application did not contravene the requirements of Article 123(2) EPC. The opposition division was

perfectly correct in rejecting the arguments of the appellant. Indeed the amendment to claim 4 during prosecution of the application by deleting in the process step "adding up to 96% of the fat-containing ingredients to the powdered premix" the feature "up to 96% of" was allowable. The claim made no reference to the remaining 4% fat containing ingredients and by doing so it made clear to the skilled reader that this 4% fat-containing ingredients did not play any role in the process.

– The opposition division pointed out quite rightly that the feature "up to 96% of" did not make sense and that it was confusing since the remaining fat ingredients were not added. Actually the deletion of this feature rendered the process step clear. The skilled person reading the application as filed would have understood the subject-matter of claim 4 in the manner as amended. Indeed, the application (page 2, lines 24-33), which disclosed the wording of original claim 4, made no further reference to the remainder of the fat and provided no explanation of any possible role it could play in the process. In example 1 (an example according to the process of claim 4) a fat blend was prepared in a first step and then 77% of it was added to a powdered premix. No addition of the remainder of the fat was disclosed at a later step. This experimental evidence confirmed the meaning of original claim 4, namely that the fat was added to a premix of the non-fat ingredients, something that the amended wording stated in clear terms.

– The opposition division was correct in stating that the contested deletion had no effect on the scope of protection. The skilled person would directly and

unambiguously recognise that the feature in question not only was not essential for the claimed invention but even more it was not a feature of it at all. In fact, all that mattered was how much of the component in question was used in proportion to the other ingredients. It was implicit that the skilled person carrying out the process would use 100% of what ended up in the composition. Whether or not this happened to originate from a larger batch was completely irrelevant.

- The suggestion of the appellant that there was a possibility that the remaining part of the fat be added later in the process, as in other chocolate manufacturing processes, was a speculation. The claimed process was a different one since the application nowhere disclosed a later addition of fat or gave any reason why such a later addition should take place.
- Finally, claim 4 had been amended to comply with the clear teaching of the whole of the application as filed and this amendment happened to involve deletion of the unclear feature.

Sufficiency of disclosure

- It would be apparent to the skilled person that the average particle size up to 5 mm was to be determined by sieving (see D17). This was a common and well understood procedure in the confectionery field and there was no need for the European patent to describe it in more detail. D17 did not recommend any other method for use in particle size range that came close to 1 mm.

- The fact that standard sieves have mesh sizes in the mm range means that sieving is applicable to the claimed particle size.
- It would be apparent from example 2 that the disclosed particle size values corresponded to British Standard sieve mesh sizes. It was realistic to expect from the skilled person to be familiar with all common sieve size standards. Furthermore, it was immediately apparent that the upper limit of the range 2.36 to 3.36 mm in example 2 was a clerical error (it should be 3.35 mm: see D23). This error did not affect the fact that the range expressed clearly a British sieve size and, anyway, it had no significant impact on the teaching of the example.
- The other methods to which reference was made, such as counting, sedimentation and flow separation showed practical drawbacks on the basis of which the skilled person would avoid their use.
- It was not denied that sieving energetically could reduce the particle size; however the ordinary person skilled in the art would apply sieving conditions which would cause as little damage to the products as possible. But even if not, the reduction of the particles size was immaterial since the product should have an average particle size in the range of 1-5 mm after sieving. This actually meant that the output of the freeze dryer would be subjected to screening and only the particles within the desired range would be collected and used.
- The appellant misinterpreted the meaning of the term "agglomerated" and therefore its arguments and its experimental work were irrelevant. With regard to the first experimental work filed before the

opposition division, it was not carried out according to the example of the opposed patent. With regard to the further experiments (D35), they were accepted to have been carried out according to the claimed process. However the fact that the appellant was able to carry out the claimed process bluntly confirmed that the opposed patent disclosed the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

– With regard to the meaning of the term "agglomerated", the appellant gave it a very precise and limited interpretation (D35), namely that the particles must be held together by solid bridges. However, this was not the intention of the respondent, for whom the term "agglomerated" had the definition found in standard dictionaries (D22), namely a product made up of solid particles brought together into a mass or group, which definition might imply some form of bonding between the particles. Hence the fact that the opposed patent did not describe how to make a product according to the appellant's definition was not surprising since it was beyond the intention of the respondent.

Inventive step

– D7 could be acknowledged to represent the closest prior art. The product of claim 1 differed from that of D7 in that it was freeze dried.

– The aim of the claimed invention was to provide a low fat chocolate with its own unique character distinct from that of conventional character; this resided in its light crunchy texture and was

achieved by the differentiating feature of freeze drying.

- The light and crunchy texture of the chocolate should not be part of the technical problem to be solved because it pointed partly to the solution. The opposition division was right to consider that the technical problem was to provide a low fat chocolate with improved texture, provided that this was understood to mean an improved texture distinct from that of conventional chocolate and not to mean a better mimic of conventional chocolate.
- The solution to the problem was provided by freeze drying a low fat chocolate to which water had been added beforehand since only a water containing product could be subjected to freeze drying.
- The skilled person, when seeking to solve the set technical problem, would not find in the state of the art any hint towards the use of freeze frying. D7 neither suggested nor implied freeze drying as it warned against adding water to the product and taught away from water addition.
- Furthermore the state of the art did not disclose the application of freeze drying to chocolate. Documents D26 to D33, which disclosed freeze drying, related to completely different types of products and they did not provide the skilled person with any motivation to apply freeze drying to the chocolate product of D7.
- Additionally , the disclosure of chocolate vermicelli in D7 did not relate to the heart of the invention of that document but to a peripheral disclosure of a possible alternative use of the low fat chocolate. Anyway, such chocolate vermicelli were usually made by an extrusion method which did

not involve water (D37) and therefore the skilled person using that method and applying the instructions given in D7 would not add water. But even if he did, he would not think of using freeze drying to remove the added water because there was no precedent in the art for applying freeze drying to chocolate.

– The experimental work carried out by the appellant in which vermicelli were made by first adding 6% water to the chocolate mass and then freeze drying the extruded vermicelli related to something which was not disclosed in or suggested by D7. Thus, whatever the results might be, they were completely irrelevant to the opposed patent.

X. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No 0 941 666 be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed and the patent maintained as amended according to the decision of the opposition division.

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal is admissible.

2. *Amendments and sufficiency of disclosure*

There is no need for the Board to elaborate on these issues because, as set out below, it came to the conclusion that the patent was to be revoked for lack of inventive step.

3. *Inventive step*

3.1 The claimed invention

3.1.1 The subject-matter of claim 1 concerns a freeze dried chocolate. This is characterised by the following structural features:
(i) the chocolate is low fat chocolate, namely it contains from 18 to 24% by weight of fat based on the total weight of the chocolate,
(ii) the chocolate is agglomerated, and
(iii) the chocolate has an average particle size of from 1 to 5 mm.

In this context the Board notes that the term "agglomerated", which has not been specifically defined in the patent and whose definition has been objected to by the appellant, has to be given the normal meaning in the relevant art of chocolate manufacture. In the circumstances of the present case the Board concurs with the respondent that this term should not be given the very narrow definition argued by the appellant for which no support was provided in the patent specification but the broader definition provided by D22, a standard dictionary. According to D22 "agglomerate" means "collect or form into a mass or group" which applied to chocolate products defines

products made up of solid chocolate particles brought together into a mass.

3.1.2 Additionally, the claimed chocolate is defined by a product by process feature, namely
(iv) that it has been freeze dried.

Concerning this feature the Board remarks that the use of a process feature to define a product is only used if the product cannot be otherwise distinguished from the state of the art. In the present case the freeze drying should lead to a product which has a crunchy and light texture as well as a unique eating sensation and which melts easily and is smooth in the mouth (see paragraphs [0005], [0018], [0029] and [0033]). To the Board's understanding, it is this property of the chocolate product that is defined by the product by process feature.

3.2 Closest state of the art

3.2.1 The appellant did not dispute the novelty of the subject-matter of claim 1 and the Board is satisfied that the claimed chocolate differs from all chocolates disclosed in the documents submitted at least in that it is freeze dried.

3.2.2 Furthermore the Board concurs with the parties that D7 should be considered to represent the closest state of the art. D7 (abstract; claim 1; page 4, lines 5-11; page 6, lines 21-26) discloses a vermicelli chocolate which has a fat content ranging between 18 and 24.9% by weight and which on the basis of its manufacture by extrusion is agglomerated. In the light of D8 (page 263,

section 14.7) the vermicelli chocolate is 1mm thick and 3-5mm long. Though vermicelli are normally expected to be dried (see D8 *supra*) D7 does not disclose that drying is carried out by freeze drying.

3.2.3 Therefore the subject-matter of claim 1 differs from the disclosure of D7 interpreted in the light of D8 only in that the low fat agglomerated chocolate is freeze dried, the latter providing the chocolate with its unique crunchy light texture.

3.2.4 The Board does not concur with the respondent, who argued that the chocolate vermicelli should not be considered as a relevant disclosure of D7 because it does not relate to the central invention of it but to a peripheral one. The Board, in agreement with the appellant, considers the respondent's argument not convincing because the EPC nowhere gives a definition of the prior art, and according to the established case law of the boards of appeal, the Board has to determine what the skilled person would understand when reading the available teaching disclosed. What matters in the present case is the fact that D7 discloses chocolate vermicelli. Qualifying this factual disclosure as central or peripheral is immaterial when comparing the features of the claimed product with those of the disclosed product.

3.3 The technical problem to be solved

3.3.1 The patent specification (paragraph [0005]) identifies as the technical problem to be solved the preparation of a chocolate product which has a crunchy and light texture as well as a unique eating sensation, which

chocolate melts easily and is smooth in the mouth. The vermicelli chocolate of D7, which has a fat content and an average agglomerated particle size falling within the range of the claimed chocolate product, has a light texture, melts easily at the mouth temperature and is smooth in the mouth. Therefore the technical problem to be solved should be limited to the provision of a chocolate product with a unique eating sensation due to its crunchy texture.

3.3.2 This is technically achieved by freeze drying the chocolate during its manufacture, which freeze drying - and both parties agree on that - sublimates the water in the chocolate mass, leaving the sugar structure unmodified - this sugar structure being responsible for the chocolate crunchiness.

3.3.3 The experimental part of the patent specification (examples 1 and 2) convincingly demonstrates that the set technical problem has been solved. This has been confirmed by the appellant, who reproduced example 1 of the opposed patent (D35 and D36) and acknowledged that the chocolate products obtained by freeze drying were crunchy (cf the statement setting out the grounds of appeal, page 13, first full paragraph).

3.3.4 The Board does not concur with the respondent, who argued that the provision of a crunchy texture should not be part of the technical problem to be solved for the reason that it points to the solution. The Board remarks that the patent specification clearly mentions that the product, object of the claimed invention, has to be crunchy (paragraphs [0005] and [00018]). Hence, crunchiness is undeniably an essential property of the

claimed product to be obtained. It appears that in view of the closest state of the art the provision of such a property is the technical problem to be solved. The argument that the technical problem should not point to the solution has no basis in the present case since the technical problem, to make the chocolate of D7 crunchy, does not contain any part of the solution, which is the application of freeze drying, and does not point to it. The Board notes that according to the state of the art other drying methods besides freeze drying could be applied for the provision of crunchiness (D31: page 8, right column, first paragraph; D32: page 4, lines 29-32; D33: page 4, lines 12-18). Under these circumstances this argument of the respondent must fail.

3.4 Obviousness

3.4.1 The question which remains to be answered is whether the skilled person starting from D7 and aiming at providing the known chocolate vermicelli with crunchiness would find in the state of the art the motivation to apply freeze drying.

3.4.2 The Board considers that the skilled person would find in the state of the art ample information on rendering a large palette of foodstuff crunchy, which is a sensorial property of the foodstuff revealed when it is bitten in the mouth, by using freeze drying. The state of the art discloses use of freeze drying in order to remove water and to manufacture crunchy foodstuff such as fish snacks (D26: abstract; page 5, lines 15-22), granulates (D27: middle column), cheese on popcorn (D28: abstract; column 6, lines 7-18), carrot chips (D29: abstract), onion chips (D30: abstract), mushrooms (D31:

page 8, middle column, section with title "The freeze-drying step"), fruit pieces and potato chips (D32: claim 2; page 4, lines 23-29 and D33: page 4, lines 13-18). The Board recognises that the state of the art does not disclose the use of freeze drying on chocolate foodstuff. However, to the Board's understanding the skilled person would find in these documents a clear hint at least to try freeze drying on other water containing foodstuffs, such as the chocolate vermicelli of D7, with a reasonable expectation of success in order to render this foodstuff crunchy. He would do so particularly because chocolate vermicelli manufacture, which usually involves extrusion of a water containing chocolate mass (D8: page 263, section 14.7; D37: page 189, lines 12-17), is followed by drying in order to remove water (D8: *supra*). He would thus arrive at the claimed subject-matter without the exercise of inventive skill.

3.4.3 The Board does not concur with the respondent, who argued (i) that the use of freeze drying requires the previous addition of water in the chocolate mass before extrusion of the vermicelli and (ii) that such a water addition goes against the disclosure of D7, which requires that water addition be avoided. With regard to the first point the Board makes reference to D8 (see *supra*) and D37 (see *supra*), which illustrate the common general knowledge of the skilled person in the art regarding chocolate vermicelli preparation and which disclose that the chocolate vermicelli is dried since the chocolate paste, extruded in order to provide the vermicelli, contains water - D37 discloses a 6% water content. Thus no extra water addition to the chocolate paste of D7 is required. With regard to the second

point the Board remarks that D7 discloses that water is not needed to dissolve the ultrafine particles, this being totally different from and unrelated to the water addition in the chocolate paste required to carry out the paste extrusion. Under these circumstances these arguments of the respondent must fail.

3.5 On the basis of the above considerations the Board comes to the conclusion that the subject-matter of claim 1 does not involve an inventive step.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar: The Chairman:

C. Eickhoff N. Perakis