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**Datasheet for the decision
of 10 September 2008**

Case Number: T 0447/06 - 3.3.09

Application Number: 95201387.8

Publication Number: 0685171

IPC: A23l 1/187

Language of the proceedings: EN

Title of invention:
Bake-stable custard

Patentee:
CSM Nederland B.V.

Opponent:
Friesland Brands B.V.

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 54, 56, 99, 100(b)
EPC R. 55(c)

Keyword:
"Fresh ground for opposition - not admitted (disapproved by the Patentee)"
"Late-filed documents - admitted"
"Novelty -yes (the additional technical evidence did not accurately reproduce the teaching of the prior art)"
"Inventive step -yes"

Decisions cited:
G 0009/91, G 0010/91

Catchword:

-



Case Number: T 0447/06 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 10 September 2008

Appellant: Friesland Brands B.V.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 31 January 2006
rejecting the opposition filed against European
patent No. 0685171 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Kitzmantel
Members: N. Perakis
W. Sekretaruk

Summary of Facts and Submissions

I. Mention of the grant of European patent No 0 685 171 in respect of European patent application No 95201387.8 in the name of CSM Nederland B.V., which had been filed on 26 May 1995 claiming a EP priority of 31 May 1994 (EP 94201535), was announced on 3 April 2002 (Bulletin 2002/14). The patent, entitled "Bake-stable custard", was granted with nine claims. Independent Claims 1 and 9 read as follows:

"1. Sterilized, bake-stable custard, comprising:

- (a) 0.5 to 8 wt% UHT-stable, modified starch;
- (b) 0.01 - 10 wt% milk proteins;
- (c) 0.05 - 6 wt% of non-gelling thickener
- (d) 0.001 - 5 wt% of a salt that interacts with gelling gums;
- (e) 0.1 - 20 wt% of a gelling thickener that gels under the influence of salt (d)
- (f) 0 - 30 wt% of a sweetener
- (g) 0 - 5 wt% of flavours
- (h) 0 - 5 wt% of colorants
- (i) balance up to 100%: water and optionally other ingredients;

wherein the custard displays a loss modulus, G'' at 90 °C of at least 20 Pa."

"9. Split-stream process for the preparation of a sterilized, bake-stable custard, wherein the custard has the composition according to claims 1-8 by:

- (1) making a premix (I) of the UHT-stable modified starch, the milk-proteins, the non-gelling thickeners, optionally the sweetener, flavour and colorant and the salt that interacts with gelling thickeners, in water;
- (2) making a premix (II) of the gelling thickeners that gels under the influence of the gel-promoting salt and water which preferably is deionized and/or demineralized;
- (3) subjecting the premixes (I) and (II) to independent sterilization treatments at 130-160°C during 0.1-30 sec.
- (4) combining the sterilized premixes (I) and (II) in a weight ration of 1:1 to 8:1 under aseptic conditions."

Claims 2 to 8 were dependent, directly or indirectly, on Claim 1.

II. A Notice of Opposition was filed against the patent by Friesland Brands M.V. on 3 January 2003. The Opponent requested the revocation of the patent in its full scope, relying on Article 100(a) EPC (lack of novelty of Claims 1, 2 and 4 to 7 and lack of inventive step of all Claims 1 to 9).

The opposition was *inter alia* supported by the following documents:

D1 : "The continuous manufacture of ready to use dairy desserts", NDA Conference Paper, The Milky Industry, 1969, 64(6), pp 44-47

- D2 : WO 94/04037
- D3 : Industrial Gums, Polysaccharides and Their Derivatives, 1973, 2nd ed., Ed. R.L. Whistler, Academic Press, pp 58-73
- D4 : GB 2 261 805
- D5 : "The Technology of Dairy Products", Ed. R. Early, Blackie, VCH Publishers Inc, 1992, Table 10.3b and paragraph 10.2.2.3
- D6 : US 3 666 497
- D7 : Test Report submitted by the Opponent dated 15 March 2004
- D9 : Product information leaflet about the use of Clearam and Pregeflo starches in bake custards, Roquette, 05/2002
- D10: GB 1 220 838
- D11: US 2 935 510
- D20: Starch, Chemistry and Technology, R.L. Whistler *et al*, Academic Press, 1967, vol II, pp 176-179, 351-365.

III. By its decision orally announced on 24 November 2005 and issued in writing on 31 January 2006 the Opposition Division rejected the opposition.

The Opposition Division held in the appealed decision that the disclosure of D1 was not novelty destroying. The reason was that, since the custard composition disclosed in Table 4 did not unambiguously disclose the exact type of starch thickener used, the reworking of this composition according to the technical report D7, using the amylopectin food starch Clearam® CR3020, could not be considered an accurate repetition. Thus this evidence was unable to establish that this composition

led to a custard having a loss modulus G'' at 90°C of at least 20 Pa.

With regard to inventive step the Opposition Division considered D2 to represent the closest state of the art. In its view the technical problem underlying the opposed patent was the provision of a sterilized bake-stable custard for bakery products still to be baked, which does not flow away or boil over when heated. The solution to this problem provided by the invention was the composition of Claim 1, which in comparison with the compositions of D2 additionally comprised a gelling thickener which gelled under the influence of a salt, arriving thereby at the required loss modulus G'' . The Division considered that this solution was not obvious for the person skilled in the art. It held that all prior art documents on file were silent on the viscosity and flow behaviour of the custard at baking temperatures and that none explicitly taught baking stability in the sense of the opposed patent. Despite the fact that D1, D4 and D5 disclosed the use of alginates suitable for adapting the viscosity of a dessert and forming thermo-reversible gels, it considered that the skilled person would not turn to those documents since the problem of baking stability was not addressed in D2.

Also the subject-matter of granted Claim 9 was considered to involve an inventive step. According to the Opposition Division the skilled person starting from D1 as closest state of the art and setting as technical problem to avoid the blocking of the production lines during the preparation of a bake-stable custard would not find in the art, including D6,

which concerned a different technical field, any hint at the claimed split-stream process namely to avoid during sterilisation a premature contact between the gelling thickener and the salt interacting therewith.

- IV. On 24 March 2006 the Opponent (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.
- V. In the Statement setting out the Grounds of Appeal filed on 9 June 2006, the Appellant refuted the conclusions of the Opposition Division on the issues of novelty and inventive step and essentially repeated the arguments submitted before the Opposition Division, ie that the subject-matter of Claim 1 lacked novelty over D1 as confirmed by the technical evidence of D7 and also lacked an inventive step in view of the combination of D2 with D3. Concerning the subject-matter of Claim 9 it lacked an inventive step in view of the combination of D1 with D6.

Moreover, the Appellant raised a fresh ground for opposition under Article 100(b) EPC. It argued (i) that the patent lacked an enabling disclosure of the special type of UHT-stable modified starch to be used when carrying out the claimed invention and (ii) that the term bake-stable was unclear if it was not to be understood only in relation to the definition of the loss modulus G'' at 90°C.

The Appellant filed also documents D21 to D28 in order to support the argument that the gelling behaviour of the alginate when heated in the presence of particularly calcium salts was known in the art. The

following *prima facie* relevant documents were introduced into the proceedings (see Reasons for the Decision, section 3):

D21: CA 788 940

D22: A. Imeson, "Application of alginates", Gums and Stabilisers for the Food Industry, 1990, pp 553- 555

D25: A. Vincent and K.O. von Husby, "Alginates for applications in bakery foods, Food Technology in New Zealand, 1992(11), pp 14-18

D26: "Alginates: A Way to Better Stability", Food Engineering Int'l, March 1986, page 60

D27: Kelco Brochure, 1982, p 22-28 and Appendix

D28: T. Eklund, "Spezielle Aspekte der Alginatverwendung", ZFL, 1987(5), pp 430-433

From these documents, D21 was of particular significance. It was submitted in order to support an additional inventive step attack according to the following reasoning: The skilled person considering D2 as the closest state of the art and seeking either an alternative composition to that of D2 or a means to prevent too low a viscosity of the custard of D2 would obviously turn to D21, which disclosed that the combinations of alginates and gel-forming gums provide bakery filling compositions able to withstand baking temperatures. By doing so he would arrive at the claimed subject-matter without inventive effort.

VI. With its letter of reply dated 22 September 2006 the Respondent maintained the granted claims as its main request and filed five auxiliary requests. It also contested the introduction of the fresh ground for

opposition under Article 100(b) EPC and - in accordance with the decision of the Enlarged Board of Appeal G 10/91 (OJ EPO 1993, 420) - expressed its disapproval in that respect.

With regard to the alleged lack of novelty of the subject-matter of Claim 1 in view of the disclosure of D1, it reiterated that the composition of Table 4 did not disclose a loss modulus G'' at 90°C of at least 20 Pa. Furthermore, it contested the accuracy of the experimental data of D7 with regard to the reproduction of the teaching of D1. Not only the use of Clearam® CR3020 [a phosphate cross-linked, hydroxypropyl stabilized starch] did not represent a fair reproduction of D1, but also that specific modified starch did not belong to the state of the art at the filing date of the opposed patent (see D9).

With regard to the alleged lack of inventive step, it argued that the skilled person starting from D2 as the closest state of the art and facing the technical problem of providing a sterilized bake-stable custard would not find the claimed solution, namely a specific custard composition with a specific loss modulus and manufactured following a specific split-stream process, in the state of the art, even if the late filed documents D21 to D28 were taken into consideration. Undoubtedly these documents disclosed that heat-stable gelled products could be based on alginate/guar gum combinations, however, such heat-stable gelled products when subjected to sterilisation treatment would lead to a firm gel that could not be pumped. Furthermore, these documents neither addressed the problem of providing a custard which is both bake-stable and sterilized nor

disclosed how the heat-stable alginate-based products could be produced in a sterilized form.

Concerning the process of Claim 9, the Respondent contested that it lacked an inventive step over the combination of D1 with D6. Its main argument was that none of these documents addressed the problem of providing a process for the manufacture of a sterilized, bake-stable custard and did not lend themselves therefore to a combination of their disclosures in that respect.

VII. On 10 September 2008 oral proceedings were held before the Board.

The Appellant maintained its objections and the arguments raised in the written procedure. During the debate on the issue of inventive step of the subject-matter of Claim 1 it considered D1 to represent the closest state of the art.

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

- A fresh ground for opposition under Article 100(b) EPC should be exceptionally allowed at this stage in view of G 9/91 (OJ EPO 1993, 408).
- This ground concerned the very special type of starch to be used in the claimed invention and the concept of baking stability in the sense given in the opposed patent.
- None of these features was disclosed in the opposed patent in a manner sufficiently clear and complete

for the claimed invention to be carried out by a person skilled in the art.

- The reason for the late introduction of this ground for opposition was the unforeseeable interpretation by the Patentee of the mentioned features at the oral proceedings before the Opposition Division as these were ultimately reflected in the Opposition Division's decision.
- The subject-matter of Claim 1 lacked novelty in view of the disclosure of D1.
- This document disclosed a sterilized, bake-proof custard, whose composition comprised the same ingredients in the same weight percentages as the claimed custard.
- The general term "bake-proof" could not be distinguished from the claimed, also general, term "bake-stable". Baking-proof also related to baking and meant that the custard did not liquefy during baking.
- Concerning the claimed "gelling thickener", it could not be distinguished from the "gelling agent" of D1, in view of the disclosure therein of alginates, which was a preferred gelling thickener according to the claimed invention. In fact, D1 disclosed alginates as one of only two alternatives for the gelling agent. Their selection could not therefore be considered to provide novelty.
- With regard to the feature concerning the loss modulus G", this was not disclosed in D1. However, this parameter did not add a new element to the claimed subject-matter because it was inherent to the composition of D1, Table 4, as shown by the test report D7, already filed before the Opposition

Division, reproducing the composition of Table 4 of D1.

- Contrary to the allegation of the Respondent, the accuracy of this reproduction could not be contested simply on the ground that the amylopectin food starch Clearam® CR3020 (a UHT-stable modified starch), used in that test report, became available only after the publication of D1 (see D9). Indeed, the starch used in D7 was a starch according to the opposed patent (see paragraph [0004] and was similar to starches known since the early 1960's (see D10-D20).
- Finally, D1 should not be interpreted taking into account the process it disclosed. The subject-matter of Claim 1 was a product claim which did not comprise any process features. Therefore it should only be compared with the product of D1, leaving aside the process used for its manufacture.
- With regard to the inventive step of the subject-matter of Claim 1, it lacked an inventive step in view of the obvious combination of D1, considered as closest state of the art, with D21.
- The technical problem to be solved in view of D1 was to render a sterilized custard bake-stable in such a way that it did not liquefy.
- The skilled person would find the solution to this problem in D21, which disclosed that fillings for bakery products, which comprised an alginate, a gum and a salt, withstood baking temperatures.
- The combination was possible because the fillings of D21 corresponded to a very general type of hydrocolloids, which to the understanding of the skilled person included custards. But even if it were assumed that it did not, the skilled person

would have no difficulty to transfer the teaching of the hydrocolloid system of D21 (fillings) to the hydrocolloid system of D1 (custards).

- Anyway, the gelling of the alginate of D21 if added to the composition of D1, a process feature, which would prevent the sterilized product to be pumpable, should not be considered in the examination of the inventive step of a custard, a product claim.
- Finally the feature of loss modulus G'' was the direct result of the combination of D1 with D21.
- With regard to the subject-matter of process Claim 9, it lacked an inventive step over the obvious combination of D1, considered as the closest state of the art, with D6.
- The technical problem in view of D1 was to avoid blocking of the production lines by the gelling of the gelling thickeners in the presence of salts when the composition was subjected to a sterilization treatment.
- The claimed solution of separately sterilizing two premixes followed by their subsequent combination, avoiding in this manner to gel the gelling thickener under the influence of a salt in the production lines of the custard, was available to the skilled person since it was disclosed in D6.
- D6 concerned the use of a split-stream process to avoid the coagulation and sedimentation of proteins in the presence of calcium sensitive thickening agents during sterilization. That split-stream process solved a problem similar to that set out by D1. Consequently the skilled person would have considered the solution disclosed in D6.

- The additional feature of the weight ratio of the two premixes was not of any particular relevance, since it did not solve any particular technical problem.

IX. The arguments put forward by the Respondent in its written submissions and at the oral proceedings can be summarized as follows:

- The fresh ground for opposition raised by the Appellant for the first time in the Statement setting out the Grounds of Appeal should not be admitted in the appeal proceedings in accordance with G 10/91.
- The Respondent (Patentee) refuses its approval for its introduction. The circumstances of the case at issue do not justify deviating from this jurisprudence.
- The subject-matter of Claim 1 was novel over D1.
- D1 did not disclose a sterilized, bake-stable custard, having the composition comprising the claimed ingredients and displaying a loss modulus G" at 90°C of at least 20 Pa.
- With regard to the term "bake-stable", this was narrower compared with the term "bake-proof" used in D1. It related to the resistance of the custard to liquefaction when put on top of bakery products to be baked.
- D1, Table 4, did not disclose the gelling agent used, let alone that it could be an alginate. The allegation that alginates corresponded to a non novel selection from a list of two components was not supported by the general disclosure of D1. Actually alginates were also disclosed to be

combined with agar-agar, let alone the disclosure of gelatin as a further gelling agent alternative.

- Anyway, the skilled person would not consider the use of alginates as technically feasible for the preparation of the sterilized custards of Table 4. The reason was, that alginates would gel in the presence of calcium salts present in the milk - the interaction of alginates with calcium salts being known from D21 - and would block the production lines of the apparatus during the sterilization treatment of the custard.
- Contrary to the argument of the Appellant, the preparation method of D1 should be taken into consideration because it was relevant for the claimed sterilized custard.
- Finally, D1 did not disclose that the custard displayed a loss modulus G'' according to the claimed subject-matter. This feature corresponded to a further narrowing down of the property "bake-stable".
- Contrary to the assertions of the Appellant, the test report D7 did not provide the necessary proof that the composition of Table 4 of D1 inherently included that feature. In reality the reproduction of that composition was inaccurate. Not only because it used as gelling agent an alginate, whereas D1 did not specify any gelling agent and because - in view of the afore-mentioned sterilization problem - the skilled person would not have used alginates, but also because it used a UHT-stable, modified starch which had not been made publicly available at the publication date of D1.
- The Appellant by using alginate and Clearam[®] CR3020, it reproduced in D7 the teaching of D1 based on the disclosure of the opposed patent, *ie* with hindsight.

- The subject-matter of Claim 1 was not only novel but also involved an inventive step. D1, which made reference to a bake-proof custard was considered to represent the closest state of the art.
- The technical problem to be solved was how to provide a sterilized custard which could be applied on bakery products that still had to be baked, whereby the custard did not flow away or boil over when heated.
- The skilled person did not find the solution given by the claimed subject-matter in D21. This document did not disclose that the fillings for bakery product could be custards or that they were sterilized.
- D21 did not motivate the skilled person to use the alginates, which provide bake-stability, in the composition of D1, for the simple reason that its use, which would lead to gelling, would make the sterilized custard unpumpable.
- Even if the skilled person was to combine D21 with D1, the combination would not deliver the feature concerning the loss modulus.
- The subject-matter of the process Claim 9 involved an inventive step. The skilled person had no incentive to combine D1 with D6.
- Concretely, the skilled person starting from D1 as the closest state of the art would not find in the state of the art the claimed solution of the existing problem, namely the avoidance of the blocking of the production lines occurring as a result of the sterilization treatment of the specified custard composition. The skilled person would not consider D6 in this context, because it

related to a different technical field and disclosed the solution of a different technical problem, namely the blocking of dairy product production lines during sterilization due to protein coagulation in the presence of a calcium sensitive thickener.

- Furthermore, the combination of D1 with D6 did not deliver the weight ratio of the two premixes.

- X. The Appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

- XI. The Respondent requested that the appeal be dismissed or alternatively that the patent be maintained in amended form in accordance with one of the auxiliary requests I to V filed with the letter dated 22 September 2006.

Reasons for the Decision

1. The appeal is admissible.

2. *Fresh ground for opposition under Article 100(b) EPC*
 - 2.1 The Appellant raised for the first time in the Statement setting out the Grounds of Appeal a fresh ground for opposition, namely that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

The Board considers that the case law of the boards of appeal is unambiguous on the matter concerning the submission of fresh grounds for opposition, ie grounds raised after the expiry of the nine month period set out in Article 99 EPC in conjunction with Rule 55(c) EPC 1973. The Board makes reference to the opinion of the Enlarged Board of Appeal G 10/91 (OJ EPO 1993, 420, Headnotes I and III) which sets as a principle that "a Board of Appeal is not obliged to consider all grounds for opposition referred to in Article 100 EPC, going beyond the grounds covered by the statement under Rule 55(c) EPC 1973". This opinion further stipulates that if it does, then such a "fresh ground for opposition may be considered in appeal proceedings only with the approval of the patentee".

In the present situation, the Patentee (Respondent) clearly stated (see letter dated 22 September 2006, paragraph bridging pages 1 and 2) that it did not intend to give its approval for the introduction of this ground in the appeal proceedings.

Under these circumstances the Board has to reject this request of the Appellant.

- 2.2 The Board does not concur with the Appellant, who argued that this fresh ground should be admitted because its late submission was caused by the unforeseeable interpretation of the Patentee at the oral proceedings before the Opposition Division of the features concerning the UHT-stable starch and the term bake-stable, as ultimately reflected in the Opposition Division's decision. According to the Appellant, as a consequence of that interpretation at that stage it was

not in a position to address the ground under Article 100(b) until this very late stage of proceedings.

- 2.3 Irrespective of whether or not there was indeed an element of surprise in the reasoning of the decision of the Opposition Division (which the Appellant abstained from criticising as substantial procedural error before the Opposition Division as well as before the Board), there is no room for the Appellant's argument that this would entitle him to have the new ground for opposition admitted. Decision G 10/91 is entirely clear that the only exception to the principle of non-admittance of new grounds at the appeal stage is the Patentee's approval thereto. The Appellant's reference to the Enlarged Board's decision G 9/91 is to no avail as this decision deals with the different matter of the extent to which the patent is opposed.

3. *Late filed documents D21-D28*

The Appellant filed documents D21-D28 with the Statement setting out the Grounds of Appeal. The Board considers documents D21-D22 and D25-D28 to be *prima facie* relevant for the issues of novelty and inventive step. The Respondent at the oral proceedings also gave its agreement for their consideration. Consequently these documents are introduced in the proceedings.

4. *Claim 1 - Novelty over D1*

- 4.1 The Board concurs with the Respondent who argued that the subject-matter of independent Claim 1, relating to

a sterilized, bake-stable custard is novel over the disclosure of D1.

4.2 The Board acknowledges, in agreement with the Appellant, that Table 4 of this document (see page 4) discloses a custard composition for bakery products which from the point of view of ingredients is very similar to the custard composition claimed. According to the submissions of the Appellant (see the Statement setting out the Grounds of Appeal: page 10, line 14 to page 11, line 7; and the notice of opposition: page 2), which have not been contested by the Respondent and the Board has no reasons to contest, Table 4 discloses a custard composition which comprises the following ingredients in the following wt% (calculated on the basis of a total amount of the composition varying between 1313,9 and 1363 Kg and the milk density being of 1 g/cm³):

- (a) 3,7-3,8 wt% of a modified starch, which is a UHT-stable (third page, left column, "Basic materials", second paragraph) special type of amylopectin food starch (see Tables 2 and 3)
- (b) 3,0-3,3 wt% of milk proteins (considering that the disclosed milk is skimmed milk whose milk protein content is 3,4 wt%, and that the disclosed skimmed milk powder has a moisture content of less than 4 wt% thus containing 35-37 wt% of milk protein)
- (c) 0,14-0,23 wt% of locust bean gum (a non gelling thickener according to the opposed patent)
- (d) calcium salts which interact with the gelling gums are contained in the milk as acknowledged in the patent (page 2, line 50) whose amount is expected to fall within the claimed range, and

(e) 0,11-0,23 wt% of gelling agents.

4.2.1 In view of the disclosure of D1 the Board in agreement with the Respondent considers that this document does not disclose:

- (i) that the custard composition is bake-stable
- (ii) that the gelling agent corresponds to the gelling thickener of the claim which gels under the influence of salt (d), and
- (iii) that the custard composition displays a loss modulus G'' at 90°C of at least 20 Pa.

4.2.2 With regard to the first difference, the Board bases its conclusion on the fact that D1 does not disclose any direct reference to the term "bake-stable" but specifies the custard as "bake-proof". Considering these two different terms, the Board concurs with the Respondent who explained that "bake-proof" should be understood to mean that the custard is resistant to destruction at manufacturing temperatures or at the temperature of already baked products on which the custard is applied, though it may liquefy at such temperatures to some extent. In contrast, the term "bake-stable" in the context of the opposed patent (patent specification: page 2, lines 4-5) has a narrower scope and defines a custard resistant to the temperatures at which the bakery product carrying/containing it is baked without liquefaction of the custard. This is particularly critical when the custard is applied on the upper surface of a bakery product. Therefore the bake-proof property of the known custards cannot be construed to unambiguously

correspond to the bake-stable property of the custards claimed.

- 4.2.3 With regard to the second difference, it is remarked that Table 4 of D1, does not explicitly disclose that the custard composition contains a gelling thickener which gels under the influence of a salt. The composition of Table 4 is simply disclosed to comprise "gelling agents" - a very general term. To the Board's understanding the skilled person in order to interpret the definition of this term would look for assistance into D1's general disclosure concerning the definition of the gelling agents to be used.

By doing so, he will realize that the compositions exemplified in Tables 2 and 3, comprise gelling agents which are special carrageenans or alginates (Table 2) or a combination of carrageenans and agar-agar or a combination of gelatin and agar-agar (Table 3). These concrete examples of the gelling agents cover all the possibilities disclosed by D1 (page 3, middle column) concerning the general definition of the gelling agents. All these specific examples of the gelling agents of D1 apart from alginates correspond, however, to the non-gelling thickener of the opposed patent (see Claims 5 and 7). Moreover, the Board considers that even alginates, the only ingredient which belongs to the gelling thickeners of the opposed patent, would not be considered by the skilled reader of D1 as an appropriate gelling agent for the composition of Table 4. The Board bases this conclusion on the fact that D1 concerns a continuous manufacture of ready to use dairy desserts, such as custards to be used for bakery products (page 4, left column). A critical step

of their processing is the sterilization which provides them with a longer shelf life (page 1, middle column, paragraph under "Processing methods"). However, performing the sterilization step under these conditions would lead to the blocking of the production lines due to the firm gelling of the alginates when such a custard formulation is submitted to sterilization temperatures. As the Respondent explained at the oral proceedings, uncontested by the Appellant, the gelling of alginates in the presence of calcium salts was known to the skilled person in the art (see D21: page 3, lines 11 to page 4, line 4) to take place when alginates and calcium salts satisfy the necessary concentration requirements (see D22: Figure 1, page 555, first full paragraph). Thus it belonged to the general technical knowledge of the skilled person that the use of alginates in the composition of Table 4 of D1 would lead to an undesirable blocking of the production lines and the skilled person would thus exclude their use from the manufacture of the sterilized custards disclosed in that table. In this context it is noted that Table 2 of D1, which is the only example comprising alginates as gelling agent, concerns pouring custards, *ie* custards of low consistency (see page 3, right column, paragraph under "Types of dairy desserts and formulations") which apparently do not block the production lines during the sterilization treatment. In fact, the Board remarks that these pouring custards require an amount of gelling agent that is ten times less than that of the blancmange of Table 3 and of the thicker custard of Table 4.

4.2.4 Finally, the Board has not found any reference in D1 to a loss modulus G'' at 90°C of at least 20 Pa. Nor has the Appellant shown that the particular value of this property is beyond any reasonable doubt inherent to the custard composition of Table 4 of D1.

4.2.5 In this context, the technical evidence filed by the Appellant in order to support the assertion of inherency of that feature (test report D7) cannot be considered an accurate reproduction of the custard composition of Table 4 for two reasons.

The first reason is that the disclosure of Table 4 of D1 is not enabling. This is so, not only because the gelling agent is not specified, but also because Table 4 fails to give the skilled reader a clear and unambiguous definition of the "special type of amylopectin food starch" used. This definition is necessary for the accurate reproduction of the custard. This deficiency does not concern only the disclosure of Table 4 but equally the general disclosure of "amylopectin food starch" in D1 (page 3, left column penultimate paragraph to middle column first paragraph). This disclosure neither provides any specific example of the concerned amylopectin food starch nor defines which special type of amylopectin food starch is used in the examples. Thus the skilled person is at a loss when attempting to reproduce that specific part of the disclosure.

The other reason is that the Appellant in its reworking experiment (test report D7 submitted on 15 March 2004) used a UHT-starch which admittedly was not in the public domain before the publication date of D1 in 1969.

According to D9 that starch, the specific phosphate cross-linked, hydroxypropyl stabilised starch Clearam[®] CR3020, became available only considerably later (D9 dates from 2002).

Moreover, Clearam[®] CR3020 is only an example for a phosphate cross-linked, hydroxypropyl stabilized starch and could not unmistakably be taken to correspond to a type of phosphate cross-linked, hydroxypropyl stabilized starch known at the publication date of D1. In this context reference is made to D9, which refers to different levels and types of modification tailored to the required viscosity and texture of the product.

Finally, amylopectin type modified starches in the 1960s did not comprise only phosphate cross-linked, hydroxypropyl stabilized starches, a category to which the used Clearam[®] CR3020 belongs. Further categories were known as disclosed by D11 and D20. Thus D11 (column 1, line 70 to column 2, line 9; column 2, lines 20-43) discloses amylopectin food starches (ie waxy maize, waxy sorghum starch) which are modified using epichlorohydrin or phosphorous oxychloride as cross-linking etherification or esterification reagents and D20 (pages 176-177, paragraph "c. Cross-Linked Starches"; page 364, second and third paragraphs) discloses that amylopectin food starches (ie waxy cereal starches) could be cross-linked by reaction with epichlorohydrin, phosphorus oxychloride, water-soluble metaphosphates or acrolein in combination with acetyl or propionyl groups and used safely in food.

Under these circumstances the Board concludes, in agreement with the Respondent, that the test report (D7)

was carried out after having taken into account the disclosure of the claimed invention, ie involving hindsight. In consequence the loss modulus G'' at 90°C of at least 20 Pa cannot be considered to derive directly and unambiguously from the disclosure of D1.

4.3 Thus, the Board acknowledges that the claimed subject-matter fulfils the requirements of Article 54 EPC 1973.

5. *Claim 1 - Inventive step*

5.1 Closest state of the art

The Appellant for the first time at the oral proceedings considered D1, instead of D2, as the closest state of the art. The Board agrees to this position of the Appellant as it is set out below.

5.1.1 As already acknowledged (see section 4.2 above) the disclosure of D1 relates to sterilized, bake-proof bakery custards with long shelf-life, whose composition is very close to the claimed custard.

The technical differences of the claimed subject-matter over the disclosure of D1 (see section 4.2.1 above) are identified by the features relating to the bake-stability, expressed in a more concrete manner by a specific value range of the loss modulus G'' and the ingredients of the custard composition relating to the gelling thickener which gels under the influence of a salt (see patent, page 2, lines 45-46).

5.1.2 D2 (page 2, lines 4-31; page 3, line 25 to page 4, line 22; claims 1 and 13), also discloses sterilized, ready-to-use bakery custards, with long self-life, whose composition is also very close to the claimed custard. D2, like D1, does not disclose a gelling thickener that gels under the influence of salt. Moreover, and this contrary to D1, it does not make any reference to the properties of the custards under baking conditions. It is therefore more remote than D1 from the claimed subject-matter. Reference is made in this context to the use according to D2 of the custard for the preparation of vanilla slices, like mille-feuilles and tompoes, products where the custard is applied after baking.

5.2 The technical problem to be solved

The Board concurs with the Respondent that the technical problem to be solved over the disclosure of D1 is the same problem as disclosed in the opposed patent (page 2, lines 4-6) namely to provide a sterilized custard which can be applied to bakery products that have still to be baked, whereby the custard does not flow away or boil over during heating.

This technical problem is solved by the distinguishing features identified in previous paragraph 4.2.1. The Board is satisfied that the opposed patent (examples I and II) provides evidence that the set technical problem has indeed been solved.

5.3 Obviousness

5.3.1 Account being taken of all the arguments of the Appellant, the Board does not consider that the skilled person starting from D1 and seeking to improve the bake-stability of the disclosed sterilized, bake-proof custard would find any pointer in the state of the art leading him in the direction of the claimed invention, namely to add a specific gelling agent in a specific concentration that gels under the influence of specific salts in order to achieve a loss modulus G'' at 90°C of at least 20Pa.

5.3.2 The Appellant has referred to D21 (page 2, lines 18-23; page 3, line 3 to page 4, line 7; page 4, lines 19-24; Claims 1 and 2) which discloses a bakery filling method and a product comprising a gel filling including in combination a water-soluble alginate, a gel-inducing agent for said alginate including a salt whose cation forms a water-soluble salt with alginic acid, said gel-inducing agent having the property of producing therewith a normally heat-liquefiable water-insoluble gel and a water-dispersible gel-forming gum.

However, the Board, in agreement with the Respondent, considers that the teaching of D21 cannot be combined with the teaching of D1 because of the previously disclosed technical incompatibility (section 4.2.3 above) concerning the undesirable blocking of the production lines at the sterilization step of the custard manufacture which would result from such a combination.

5.4 Under these circumstances the Board considers that the subject-matter of Claim 1 is not obvious and thus involves an inventive step.

6. *Claim 9 - Inventive step*

6.1 The closest state of the art

For the reasons set out above (section 5.1.1) D1, which further discloses a continuous process for the production of sterilized, bake-proof custards (page 1, left column, last paragraph to page 3, left column, second full paragraph) should be considered to represent the closest state of the art.

However, D1 discloses a one-stream process and solely on this basis the split-stream process of Claim 9 is novel over D1. It is noted that the Appellant has not challenged the novelty of the process claim and the Board has no reasons to contest it.

6.2 The technical problem to be solved

The opposed patent discloses in paragraph [0009] that the gelling thickeners and the salt that interacts with them should not be present simultaneously when the phases, containing them, are subjected to a sterilization treatment. Otherwise, this could lead to a blocking of the production lines.

This is also the problem of D1 when specific gelling agents, such as alginates, in specific concentrations are used for the preparation of sterilized custards.

The solution proposed by the claimed process is to use a split-stream process which avoids the above problem but still results in the required products.

6.3 Obviousness

The Board considers, in agreement with the Respondent, that the skilled person starting from D1 and seeking to avoid the blocking of the production lines during the sterilization treatment of the custard does not find in the state of the art any suggestion to provide two premixes to be separately sterilized, one of them comprising the gelling thickener and the other one comprising the salt which interacts with the thickener under gel formation, and to only subsequently mix the two premixes in a specific weight ratio. The Board concurs with the Respondent that the skilled person would not turn to D6.

D6 (column 1, abstract; column 2, summary of the invention; column 6, example 4) discloses the split-stream preparation of high viscosity sterilized protein solutions according to which the thickening agent is added to the dairy product after this product is sterilized. In this way generation of undesirable protein coagulation and sedimentation is avoided. However, D6 attributes the blocking of the production lines to a different source of nuisance, namely the protein coagulation and sedimentation.

Therefore the Board considers that the skilled person finds in D6 no incentive to apply the split-stream principle in the preparation of bake-stable, sterilized custards of D1 in order to avoid premature gelling of

the gelling agent under the influence of a salt. It thus concludes that the claimed subject-matter is not obvious and that it consequently involves an inventive step.

7. *Conclusion*

In the circumstances, the sterilized bake-stable custard of Claim 1 and the split-stream process of Claim 9 for the preparation of that custard are novel and involve an inventive step. As a corollary, the subject-matter of dependent claims 2 to 8, which relate to specific embodiments of the subject-matter of Claim 1, also involve an inventive step.

Hence, the ground of opposition under Article 100(a) EPC does not prejudice the maintenance of the patent as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Röhn

P. Kitzmantel

Internal distribution code:

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

**Datasheet for the decision
of 10 September 2008**

Case Number: T 0447/06 - 3.3.09

Application Number: 95201387.8

Publication Number: 0685171

IPC: A23l 1/187

Language of the proceedings: EN

Title of invention:
Bake-stable custard

Patentee:
CSM Nederland B.V.

Opponent:
Friesland Brands B.V.

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 54, 56, 99, 100(b)
EPC R. 55(c)

Keyword:
"Fresh ground for opposition - not admitted (disapproved by the Patentee)"
"Late-filed documents - admitted"
"Novelty -yes (the additional technical evidence did not accurately reproduce the teaching of the prior art)"
"Inventive step -yes"

Decisions cited:
G 0009/91, G 0010/91

Catchword:

-



Case Number: T 0447/06 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 10 September 2008

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 31 January 2006
rejecting the opposition filed against European
patent No. 0685171 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Kitzmantel
Members: N. Perakis
W. Sekretaruk

Corrigendum

The decision of the Technical Board of Appeal 3.3.09 dispatched with EPO Form 3032 on 27 October 2008 contains two obvious mistakes which are corrected according to Rule 140 EPC as follows:

1. The date of the decision mentioned on the cover sheet of the decision is not "10 September 2008" but "11 September 2008".
2. The date of the oral proceedings mentioned on page 8 of the decision in chapter Vu is not "10 September 2008" but "11 September 2008".

The Registrar:

The Chairman:

G. Röhn

P. Kitzmantel