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D E C I S I O N
of 4 June 1997

Case Number: T 0436/94 - 3.3.4

Application Number: 88119204.1

Publication Number: 0338121

IPC: A23L 1/19

Language of the proceedings: EN

Title of invention:

An egg-based cream for industrial scale confectionary production

Patentee:

Barilla G. e. R. F.lli - Società per Azioni

Opponent:

Unilever N.V. / Unilever Plc

Headword:

Egg-based cream/BARILLA

Relevant legal provisions:

EPC Art. 56, 83

Keyword:

"Sufficiency of disclosure (yes)"
"Inventive step (yes)"

Decisions cited:

T 0418/89

Catchword:

-



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Boards of Appeal

Chambres de recours

Case Number: T 0436/94 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 4 June 1997

Appellant:
(Opponent)

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Respondent:
(Proprietor of the patent)

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Representative:

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Decision under appeal:

**Interlocutory decision of the Opposition Division
of the European Patent Office posted 5 April 1994
concerning maintenance of European patent
No. 0 338 121 in amended form.**

Composition of the Board:

Chairman: L. Galligani
Members: D. D. Harkness
S. C. Perryman

Summary of Facts and Submissions

I. European patent No. 0 338 121 relating to an egg-based cream for industrial scale confectionery production was granted with eleven claims based on European patent application No. 88 119 204.1. Claims 1 and 3 read:

- "1. A hydrated freshly laid egg-based cream for industrial scale confectionery production, characterized in that it comprises, in parts by weight:
4 to 15 parts of a humectant selected from the group of the monosaccharides;
4 to 6 parts of amylopectin modified with acetic and adipic functional groups; and
3 to 6 parts of proteins from egg yolk and milk;
said cream having a pH within the 4 to 5 range, an Aw (water activity) value within the 0.7 to 0.8 range, and a moisture content of between 16% and 23%.
3. A cream according to Claim 1, characterized in that said modified amylopectin comprises a portion formed of partly hot gelled amylopectin and a portion of cold gelled amylopectin."

II. An opposition was filed against the granted patent raising objections under Article 100(a) and (b) EPC on the grounds that its subject-matter did not involve an inventive step (Article 56 EPC) and that the patent did not disclose the invention in a manner sufficiently clear for it to be carried out by a person skilled in the art (Article 83 EPC).

III. With an interlocutory decision within the meaning of Article 106(3) EPC, the opposition division maintained the patent in amended form on the basis of claims 1 to

7 filed at oral proceedings on 24 February 1994. The amended claim 1, resulting from the incorporation of the features of granted claim 3 (in italics) into granted claim 1, read:

- "1. A hydrated freshly laid egg-based cream for industrial scale confectionery production, characterized in that it comprises, in parts by weight of the total weight of the cream:
- 4 to 15 parts of a humectant selected from the group of the monosaccharides;
 - 4 to 6 parts of amylopectin modified with acetic and adipic functional groups, *said modified amylopectin comprising a portion formed of partly hot gelled amylopectin and a portion of cold gelled amylopectin*; and
 - 3 to 6 parts of proteins from egg yolk and milk;
- said cream having a pH within the 4 to 5 range, an Aw(water activity) value within the 0.7 to 0.8 range, and a moisture content of between 16% and 23%."

Dependent claims 2 to 6 (= claims 2, 4 to 7 as granted) related to preferred creams and claim 7 (= claim 9 as granted) concerned bakery products containing said creams.

Eight documents were cited during the opposition proceedings, among them the following:

- (6) US-A-4 229 489
- (7) Food and Drug Administration, Code of Federal Regulations (CFR), Part 21, Chapter 1, edn. 1 April 1987, paragraph 172.892, pp. 100-101.

(8) Gazzetta Ufficiale Della Repubblica Italiana,
No. 153, 18 June 1971, page 21.

IV. The reasons for the decision were essentially the following:

- None of the citations referred to a cream comprising a combination of a hot- and cold-gelled modified amylopectin. The nearest prior art was document (6) which related to creams which had to be reconstituted with water or milk and not to hydrated creams based on freshly laid eggs. Nor did document (6) disclose creams which contained a mixture of hot- and cold-gelled modified amylopectin.
- Inventive step was acknowledged because the creams of the invention exhibited the advantage of being stable for a longer time at room temperature than those of the prior art.
- Because the specification contained an example showing how to carry out the invention and the nature of modified amylopectin was known from reference documents (7) and (8), there was no reason to believe that the skilled person would not be able to perform the invention.

V. The appellant (opponent) filed an appeal against the decision and submitted a statement of grounds, this being accompanied by a request for oral proceedings. Oral proceedings took place on 4 June 1997. As communicated to the board with a letter dated 29 May 1997, the appellant did not attend the oral proceedings. However, he maintained the written requests and arguments submitted in the statement of grounds of appeal.

VI. The appellant's written arguments may be summarised as follows:

Claim 1 as granted by the opposition division covered products that did not solve the problems that according to patent should be solved (see page 2, lines 17 to 35).

The EPO-doctrine, i.e. applying the problem-solution approach in order to decide about the inventive step, had the consequence that a solution that did not solve the problem(s) should not be part of the granted claims, as such solution did not contribute to the inventive concept and therefore should be considered as technology that lacked inventive step.

The problems set out in the patent at page 2, lines 17 to 35 were solved only if a proper balance between the hot- and cold-gelling modified amylopectins was maintained in the product as was stated at page 2, line 57 of the patent. In recognition of this, granted claim 1 had been amended during the opposition proceedings to include references to hot- and cold-gelled modified amylopectin which were the subject matter of granted claim 3.

However, claim 1 was too broad in respect of the ratio of hot:cold gelling modified amylopectin because it covered any ratio, whereas the description indicated restrictions which at page 3, lines 2 to 4 necessitated as "a fundamental aspect" of the invention a ratio of 2:3. The fact that in the example a ratio of 2,4:3,1 was employed did not mean that the reference to the "fundamental aspect" at page 3, line 2 to 4 was wrong. Since this "fundamental aspect" was indeed a feature created by the respondent-patentee then it was his responsibility to prove that such a feature was not obligatory.

Experiments were carried out which, while confirming the results of the example in the patent, showed that, using the same cooking conditions, at weight ratios hot:cold gelling modified amylopectin of 9:1 and 1:9 the products obtained did not exhibit the required consistency and rheological properties and were unsuitable for solving the problems of the prior art.

VII. The respondent replied to the appeal and requested oral proceedings.

The respondent's arguments both in the written and oral procedure may be summarised as follows:

The appellant's arguments were based on a mis-reading of the patent specification because the introductory clause preceding the sentence containing the word "fundamental" made it clear that this feature was only a preferred embodiment. The experiments performed by the appellant in order to show that the invention included ratios of hot:cold gelling amylopectin which were not solutions to the problem to be solved were based on a false understanding of the patent, namely that the conditions for cooking the cream would be the same in all cases regardless of the weight ratio hot:cold gelled modified amylopectin used. It was well known in the art that by increasing the cooking time and/or the temperature of a mixture containing hot-gelling starch the viscosity and consistency of the final mixture increased. It was thus within the reach of any skilled person to adjust accordingly the cooking time and/or the temperature. To prove that the approach followed by the appellant was wrong tests were submitted which proved that hot:cold ratios of gelling modified amylopectin of from 9:1 to 1:9 were all suitable provided that the skilled person adjusted the time and temperature during cooking to control the viscosity and consistency of the final product.

VIII 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 and that the patent be maintained.

Reasons for the Decision

1. The appellant argues essentially that claim 1 at issue covers products that do not solve the problems as set out in the patent specification and thus, based on the problem-solution analysis commonly applied by the EPO, lacks an inventive step. In support of this contention, the appellant refers to the results of three experiments which show that, while the desired stability, consistency and rheological properties of the cream as recited at page 2, lines 17 to 35 of the patent are achieved when working with the ratio of hot:cold gelling modified amylopectin of the example (2,4:3,1), these properties are not obtained by employing the same cooking conditions (time and temperature) when using different ratios (9,0:1,0 and 1,0:9,0). The latter ratios result in poor machinability and flattening properties due to lack of the necessary consistency and rheological characteristics. For these reasons, the appellant concludes that the ratio 2:3 of hot:cold gelling modified amylopectin, which is indicated at page 3, lines 2 to 4 as being fundamental, has to be included in claim 1.

2. The arguments of the appellant against inventive step, although presented with reference to the problem-solution approach, are not based on any prior art citation as is usual in an inventive step analysis according to said approach. In the board's judgment,

this is not a "classical" inventive step attack in the sense of Article 56 EPC, but rather an attack on the sufficiency of disclosure (Article 83 EPC). The experimental results submitted by the appellant, while confirming that the cream of claim 1 with the desired properties stated in the specification can be prepared by closely following the example in the patent, aim at demonstrating that a cream with the same properties cannot be achieved over the whole range of ratios of the hot:cold gelling modified amylopectin. In the appellant's view, this implies that the teaching of the specification is incomplete, save for the range of 2:3 referred at page 3, line 4.

3. The above appellant's opinion that the disclosure of the invention does not allow the problem to be solved over the whole range of ratios of the hot:cold gelling modified amylopectin is not shared by the board for the following reasons.
4. Claim 1 relates to a hydrated cream based on freshly laid eggs which cream is characterised by comprising the given constituents in specified parts by weight and having a pH value and water content within the specified ranges.

The said cream is manufactured by mixing the required ingredients in the necessary proportions using conventional methods and there is no dispute on this aspect of the invention. The patent is sufficient in the sense that the required constituents of the cream may be mixed together in all of the claimed proportions by conventional means to form it.

The desired stability, consistency and rheological properties of the cream are recited at page 2, lines 17 to 35 of the patent and it is these properties which the appellant doubts the existence of for all ratios of

the hot:cold gelling modified amylopectin constituent. These properties are relevant to the further stability and use of the product in confectionery production.

5. The respondent in reply to the experiments performed by the appellant carried out the same experiments with the exception that the time and temperature for cooking the creams with the ratios 9,0:1,0 and 1,0:9,0 were adjusted to take account of the differing ratios of ingredients. The results obtained were satisfactory in all respects. This proved that the invention was viable for a wide range of hot:cold gelling modified amylopectin.

6. During the opposition procedure, lists of hot- and cold-gelling modified amylopectin products which are known in the art have been provided. Thus, these constituents and their properties are well known to the skilled person. There is no doubt that the problems posed by the respondent's invention have been solved by the use of a mixture of hot- and cold-gelling modified amylopectins in combination with the other specified features as described and exemplified in the patent description. A variation from the particular ratio of hot:cold gelling modified amylopectins used in the example does not in the opinion of the board leave a skilled person in the position of not being able to use the cream composition in the way intended. The respondent's experiments show that the higher the proportion of hot-gelling modified amylopectin in the mixture the higher the cooking temperature and/or the longer the cooking time should be. This in the board's opinion would be self-evident to the skilled person as more heat would be required to cook such a mixture rather than one with a higher proportion of cold-gelling modified amylopectin.

7. The appellant has not filed any technical evidence which contradicts or challenges the respondent's experimentation and in the absence of this the board is of the opinion that, because the respondent has been able to show that the required cream consistency and rheological properties are obtainable using such differing ratios in combination with appropriate cooking conditions, no undue burden would be placed on the skilled person wishing to perform the invention and that he would be able to adjust the cooking conditions such that creams containing any ratio of hot- and cold-gelling modified amylopectin may be employed successfully. In so doing no inventive effort is required to adjust said conditions.
8. Since there is no doubt that the skilled person would be able to carry out the invention the conditions for sufficiency have been complied with. There is therefore no reason to further limit claim 1 by introducing a reference to a specific ratio of hot- and cold-gelling modified amylopectin.
9. This decision is in line with previous board of appeal case law eg., T 418/89 (OJ EPO 1993, 20; point 3.2 of the reasons) in which it was decided that only if the description left the skilled person in doubt, so that he could not carry out the invention on the strength of his own skill and a reasonable amount of experimentation, was the disclosure insufficient.
10. The inventive step of the claimed subject-matter has not been questioned on the basis of any of the cited prior art documents, alone or in combination. Nor does the board see any objection in this respect. Thus, inventive step is acknowledged.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Spigarelli

L. Galligani