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**D E C I S I O N**  
**of 15 December 1998**

**Case Number:** T 1074/93 - 3.3.4

**Application Number:** 88200283.5

**Publication Number:** 0279499

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**Language of the proceedings:** EN

**Title of invention:**  
Edible plastified dispersion

**Patentee:**  
Unilever N.V., et al

**Opponent:**  
Kraye, Warner Dirk

**Headword:**  
Edible dispersion/UNILEVER

**Relevant legal provisions:**  
EPC Art. 54, 56

**Keyword:**  
"Novelty - yes"  
"Inventive step - yes"

**Decisions cited:**  
T 0092/92

**Catchword:**  
-



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Boards of Appeal

Chambres de recours

Case Number: T 1074/93 - 3.3.4

**D E C I S I O N**  
**of the Technical Board of Appeal 3.3.4**  
**of 15 December 1998**

**Appellant:** Krayner, Warner Dirk  
(Opponent) c/o Koninklijke Nederlandse Zuivelbond FNZ  
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**Representative:** Smulders, Theodorus A.H.J., Ir.  
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**Respondent:** Unilever N.V.  
(Proprietor of the patent) Weena 455  
3013 AL Rotterdam (NL)

**Representative:** Dries, Antonius Johannes Maria  
Unilever N.V. Patent Division  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 14 October 1993  
rejecting the opposition filed against European  
patent No. 0 279 499 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** U. M. Kinkeldey  
**Members:** D. D. Harkness  
W. Moser

## Summary of Facts and Submissions

I. European patent No. 0 279 499 having the title "Edible plastified dispersion" was granted with eleven claims, claims two to eleven being appendant to claim 1.

Claims 1 and 3 read as follows:

"1. Edible plastified dispersion having a fat content of less than 30% by weight and comprising a continuous fat phase, which includes an aqueous phase that contains protein or hydrocolloid or a mixture thereof, wherein the composition constituting the aqueous phase has a viscosity of less than 400 cps (400 mPa.s) at a temperature of 35° and a shear rate of 1000s<sup>-1</sup>, and wherein the content of amino acid residues is less than 200 ppm calculated on the weight of the aqueous phase."

"3. Dispersion according to claim 1 or claim 2, wherein the composition constituting the aqueous phase has a viscosity of less than 100 cps at 35°C and 1000 s<sup>-1</sup>."

II. The patent was opposed on the grounds of lack of novelty and inventive step and that it 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(a) and (b) EPC.

III. In view of the grounds for opposition under Article 100 EPC, and having regard to the disclosures in documents:

(1) EP-A-0 237 120

- (2) GB-A-1 094 268
- (3) GB-A-1 564 800
- (4) Phillips, G.O., et al. "Gums and Stabilisers for the Food Industry 3" 1986, Elsevier Applied Science Publishers, London and New York, page V, 79-86

the opposition division decided that the grounds for opposition mentioned in Article 100 EPC did not prejudice the maintenance of the patent unamended and rejected the opposition. The reasons for this decision were that:

Sufficiency, Article 83 EPC

There was no sustainable insufficiency objection because the patent contained 13 examples which specified the use of commercially available gums which would lead to an aqueous phase containing less than 200 ppm amino acid residues. The gum needed only be purified if it did not contain the required amount of amino acids.

Novelty, Article 54 EPC

None of the prior art documents (1),(2),(3) and (4) disclosed an edible plastified dispersion having a fat content of less than 30 %wt, comprising an aqueous phase which contains protein and/or hydrocolloid, which aqueous phase has a viscosity of less than 400mPas measured at a temperature of 35°C and a shear rate of 1000 s<sup>-1</sup>, and an amino acid content of less than

200 ppm.

Inventive step, Article 56 EPC

The subject-matter of claim 1 was not obviously derivable from document (1) which was silent in respect of the amino acid content in the aqueous phase. Document (2) was also silent in respect of the viscosity and amino acid content of the aqueous phase. Prior art document (3) referred to fat spreads having 0.01 to 8%wt of protein based on the weight of the fat spread. Therefore a combination of documents (2) and (3) did not lead to the solution of the problem of the patent in suit, namely the combination of specific values of viscosity and quantity of amino acid contained in the aqueous phase.

- IV. The appellant (opponent) filed an appeal, paid the appeal fee and submitted a statement of grounds. He appealed on the grounds of lack of novelty in view of document (1), and lack of inventive step having regard to documents (2) and (3).
- V. The respondent (patentee) filed a new claim request comprising one independent claim 1 and nine dependent claims 2 to 10 on 9 September 1994.

Claim 1 reads as follows:

"1. Edible plastified dispersion having a fat content of less than 30% by weight and comprising a continuous fat phase, which includes an aqueous phase that contains protein or hydrocolloid or a mixture thereof, wherein the composition constituting the aqueous phase

has a viscosity of less than 100 cps (100 mPa.s) at a temperature of 35°C and a shear rate of 1000 s<sup>-1</sup>, and wherein the content of amino acid residues is less than 200 ppm calculated on the weight of the aqueous phase."

VI. In a letter dated 1 October 1998 the appellant stated that he would not attend oral proceedings arranged for 15 December 1998.

VII. The appellant's written arguments can be summarised essentially as follows:

Document (1) was published on 16 September 1987 and lay in the Article 54(3) field for novelty purposes.

Example 7 described a fat spread having an aqueous phase with the same constituents as those of comparative example 4c of the patent in suit. According to the appellant the viscosity value of 430 cps in example 4c was too high, and tests were carried out by NIZO on samples using differing samples of iota-carragenan which showed viscosity values well below the 400 cps limit in the granted main claim. Accordingly, the claimed subject-matter was not novel.

Document (3) was regarded as the closest prior art because it related to the same problem as the patent in suit.

There was no inventive step because the two elements of the solution to the problem, namely, the amount of amino acids and the viscosity level were derivable from the prior art:

Document (3) taught that the use of proteins in the

aqueous phase improves the organoleptic properties of the spread. By the addition of a good quality commercial gelling agent (hydrocolloid) to the protein-containing aqueous phase, the amino acid content required by the patent in suit would be automatically achieved.

The viscosity upper limit of 100 cps was not inventive in view of document (2), which described fat spreads having an aqueous phase of viscosity in the range of 20 centipoise to 200 poise, which range overlapped with that of the patent in suit. Accordingly, a combination of documents (3) and (2) rendered the subject-matter of the patent in suit obvious.

VIII. The respondent's written and oral submissions can be summarised as follows:

A novelty objection was not substantiated by document (1) because it did not disclose all the parameters of claim 1. This disclosure put emphasis on the high viscosity of the aqueous phase, eg, as described in example 7, referred to in a comparative example in the patent in suit. Said aqueous phase contained iota-carragenan gum which was of variable protein content which was not specified. In fact, no values at all for amino acid content of the aqueous phase were given in this document.

The tests carried out by NIZO to support the appellant's case were unreliable as an unsuitable viscosity meter of maximum measurable value 310 cps was used. The results were not complete as no details were given of the sample in which the aqueous phase broke up

into particles. None of these results showed a viscosity of less than 100 cps which was a feature of claim 1 of the patent in suit.

In dealing with the problems which arise as a result of incorporating protein in the aqueous phase, document (3) had taken a different approach from that adopted in the patent in suit. Whereas this prior art had overcome the destabilising effects of protein by employing gelling agents in amounts which gave high viscosity, amino acid contents above 200 ppm and which resulted in a thick mouthfeel, ie, poorer organoleptic properties, the patent in suit attained improved organoleptic properties by reducing both the viscosity and protein content of the aqueous phase.

The disclosure of document (4) only confirmed that if conventional commercial gelling agents were used in standard quantities, then, because of their normal content of amino acids, the limit of 200 ppm of amino acids in the aqueous phase was exceeded.

There was no connection disclosed in the prior art between the steps taken by the respondent and the advantages resulting from them.

Accordingly an inventive step should be recognised.

- IX. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 279 499 be revoked.

The respondent requested that the decision under appeal be set aside and that the patent be maintained on the



basis of claims 1 to 10 filed on 9 September 1994.

### **Reasons for the Decision**

1. The appeal is admissible.

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

The amendment to claim 1 as granted constitutes the inclusion of a feature taken from the description of the patent application as filed (page 10 lines 1 to 4), claim 3 as filed and claim 3 as granted, and represents a restriction to the subject matter claimed. There is therefore no objection under this Article of the EPC because the patent does not contain any subject-matter which extends beyond the content of the application as filed, nor have the claims been amended in such a way as to extend the protection conferred.

3. *Novelty, Article 54 EPC*

The only document cited in respect of novelty was document (1) which disclosed a fat spread in example 7 having an aqueous phase which corresponded in terms of its ingredients with the aqueous phase of comparative example 4c in the patent in suit. Although this comparative example was said by the respondent not to be an example of the invention in that it displayed a viscosity much higher than that required by the invention, the appellant tried to show by experiments conducted by NIZO that this aqueous phase of the prior art did fall within the terms of the patent in suit.

However the appellant did not prove that this was the case as the results from NIZO did not comply with the viscosity requirement of claim 1, ie, less than 100 cps measured at 35°C and at a shear rate of 1000 s<sup>-1</sup>, nor did the appellant file any other evidence which conclusively showed that the prior art had used aqueous phases having the required viscosity. Further to this, document (1) did not disclose the amino acid content of iota-carragenan and, therefore, the feature of claim 1 of the patent in suit relating to less than 200 ppm of amino acid residues was also not previously disclosed. Accordingly, the subject-matter of the main claim and, consequently, of all other claims appendant to it is novel.

4. *Inventive step, Article 56 EPC*

The prior art

Document (2) acknowledges the difficulty of water separation during the preparation and spreading of low fat (20-50%wt) spreads (water in oil emulsion) having increased water content. The spreads may be formulated to take into account spreadability, long shelf life, flavour and melting of fat in the mouth. The problem was solved by using a thickening agent in the aqueous phase and an emulsifier in the fat phase, both of these contribute to high stability and improved flavour. Thickeners were used as 0.1 to 5.0% based on the water to give viscosity values of 20 centipoise-200 poise, a wide range. There is no reference to protein or amino acid content in the aqueous phase.

Document (3) relates to low fat (25-65% wt) water in oil emulsion spreads which contain from 0.01-8% wt or more (based on the low fat spread) of proteins in the aqueous phase, which proteins have unacceptable lipophilic properties and may lead to destabilisation of the emulsion. In order to solve this problem the aqueous protein phase is gelled using a gelling agent of slip melting point of 25-35°C. The aqueous phase is made by combining aqueous gelling agent with an aqueous protein solution after which the whole aqueous phase is blended with the fat phase. The intention of this disclosure is to stabilise the protein within a gelled system (see page 1, lines 35 to 38 and page 2, line 107).

Document (4) relates to the protein content of gums

conventionally used in the food industry. This is the document referred to on page 3, line 35 of the patent in suit which, however, then goes on to say that the protein content of the hydrocolloid has to be determined before use so that an appropriate amount of gum may be calculated bearing the 200 ppm limit in mind.

The nearest prior art

Document (3) represents the nearest prior art document as it is concerned with the problem of destabilisation which arises from incorporating 0,01-8% wt of protein in the aqueous phase of a water in oil low fat spread.

The problem to be solved

Having regard to document (3), the problem to be solved is to improve the organoleptic properties of a water in oil low-fat spread which contains protein in the aqueous phase, whilst also avoiding water separation during manufacture of the spread.

Solution to the problem

The solution to the problem is that the water in oil low-fat spread contains less than 30% wt of fat and has an aqueous phase which has a viscosity of less than 100cps measured at 35°C at a shear rate of 1000s<sup>-1</sup>, and contains less than 200 ppm of amino acids calculated on the weight of the aqueous phase.

Assessment of inventive step

Document (3) is the only prior art which concerns the problems which arise when protein is present in the aqueous phase of a water in oil low-fat spread emulsion. The amount of protein may be 0.01 to 8% wt based on the low fat spread. In particular, it seeks to improve the stability of the aqueous phase as a result of destabilisation caused by the lipophilic properties of the protein. This was effected by gelling the phase using 0.2 to 6% wt of specific gelling agents having a slip melting point of 25 to 35°C.

The Board is satisfied that document (3), while dealing with the same problem as the patent in suit, comes to a different solution. An aqueous phase having the combination of a low viscosity (less than 100 cps) and less than 200 ppm of amino acids is not derivable from document (3).

Further to this, it is not derivable from this prior art that improved organoleptic properties would be obtained or that water separation would be reduced during the process of manufacture or spreading. Thus, the subject-matter of the patent in suit is not obvious in the light of this document alone.

Document (2) solved the problem of water separation from low-fat spreads during manufacture or spreading by incorporating a thickening agent in the aqueous phase and an emulsifier in the fat phase which gave improved flavour and high stability. This was done without reference to content of protein or amino acid in the aqueous phase and therefore its disclosure does not add anything to that of document (3).

The disclosure of document (4) concerns gums used in the food industry and is referred to on page 3, line 35 et seq of the patent in suit. It shows that in general good quality commercial gums, when used in normal amounts, contain levels of amino acids which would lead to quantities in excess of the 200 ppm referred to in claim 1 of the patent in suit. Thus a content of less than 200 ppm is not automatically achieved by including normal quantities of the gum in the spread. The patent in suit overcomes this problem by an analysis and a purification of the gum before use.

The Board considers therefore, that the subject-matter of the claims meets the requirements of Article 56 EPC.

This decision is in keeping with the established jurisprudence of the Boards of Appeal, and in particular with Technical Board of Appeal Decision T 92/92 of 21 September 1993, in which it was decided that if the subject-matter of the patent represents a novel alternative solution to a problem already solved by the prior art then there was no reason to exclude this solution from patentability for lack of inventive step on the ground that the problem had already been solved in a different manner.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:
  - (a) Claims 1 to 10 filed on 9 September 1994,
  - (b) Description, pages 2 to 4 submitted during the oral proceedings,
  - (c) Description pages 5 to 11 as granted and page 12, lines 1 to 50 as granted.

The Registrar:

The Chairwoman:

U. Bultmann

U. Kinkeldey