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T 48 191 - 332

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Anmeldung Nr. / Patent Nr.:

Application No. / Patent No.:

Demande n° / Brevet n°:

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D E C I S I O N
of 18 November 1993

Case Number: T 0048/91 - 3.3.2

Application Number: 83200990.6

Publication Number: 0098663

IPC: A23C 15/16

Language of the proceedings: EN

Title of invention:
Process for the production of a reduced fat spread

Patentee:
Unilever N.V., et al

Opponent:
Krayner, Warner Dirk

Headword:
Reduced fat spread/UNILEVER

Relevant legal norms:
EPC Art. 54

Keyword:
"Late filed requests at oral proceedings - inadmissible"
"Novelty (no) - difference in wording not sufficient to
establish novelty"

Decisions cited:
T 0095/83, T 0153/85, T 0198/84, T 0248/85

Catchword:
-



Case Number: T 0048/91 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 18 November 1993

Appellant: Kraye, Warner Dirk
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Patent Division
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 16 October 1990,
posted on 9 November 1990 rejecting the opposition
filed against European patent No. 0098663 pursuant
to Article 102(2) EPC.

Composition of the Board:

Chairman: P.A.M. Lançon
Members: A.J. Nuss
S.C. Perryman

Summary of Facts and Submissions

- I. European patent No. 0 098 663 was granted with 14 process claims on European patent application No. 83 200 990.6.

Claim 1 reads as follows:

"1. A process for producing a spread, comprising:

(a) producing an oil-in-water emulsion-cream containing 35-75% of an aqueous phase and 25-65 wt% of a fat with the following fat solids profile:

$$N_5=40-75, N_{15}=20-60, N_{25}=5-45, N_{35}=0-10;$$

(b) subjecting said cream to shear-churning in the absence of an air/water interface at a temperature at which 5-50 wt.% of crystallized fat is present, to increase its viscosity up to a value close to or equal to the peak viscosity whereby partial phase inversion is achieved, to obtain a spread with substantially the same level of fat as the starting cream, said spread comprising a network of aggregated fat and both encapsulated and free aqueous phase."

- II. Opposition was filed against the granted patent by the Appellant (Opponent) citing *inter alia* the following document:

(3) NL-A-7 209 063 corresponding with (3') DD-WPA23d/160 369 published in 1972.

- III. The Opposition Division rejected the opposition, taking the view that the invention as claimed was novel and also involved an inventive step.

In its decision, the Opposition Division considered in particular that the novelty objection raised against Claim 1 on the basis of document (3') was unfounded for the reason that the claimed subject-matter was not directly and unambiguously derivable from the said disclosure. This conclusion was based on the finding that this document did not disclose a process for preparing a spread having a network of aggregated fat and both encapsulated and free aqueous phase. The feature "die Phasenumkehr zum Emulsionstyp Wasser-in-Fett vollzogen wird" (the phase reversal is accomplished to the water-in-fat emulsion type) mentioned there did not suggest carrying out the churning process by increasing the viscosity up to a value close to or equal to the peak viscosity whereby partial phase inversion is achieved. On the contrary, document (3') taught to churn until phase inversion to a water-in-oil emulsion was accomplished and butter obtained.

IV. The Appellant lodged an appeal against this decision.

Oral proceedings were held on 18 November 1993.

In their written submissions and at the oral proceedings before the Board, the Appellant argued in essence that the product obtained by the process described in document (3') could not be regarded as being "butter" in the usual sense, because its fat content was much lower than that of conventional butter, namely only from 35 to 65%, a reduced fat content thus corresponding to that of the products obtained by the claimed process. In this document, cream was cooled to ensure partial fat crystallisation before, under exclusion of air and whilst avoiding the separation of buttermilk, it was mechanically treated until phase inversion occurred. However, the skilled man would realize that buttermilk separation would be unavoidable if complete phase

inversion had really been accomplished because with the fat phase becoming continuous in that case there would not be sufficient "space" available for retaining all the water originally present in the fat-in-water emulsion (cream). Consequently, the expression "phase inversion" (Phasenumkehr) used in document (3') could only be interpreted as meaning that at a given moment the fat phase had become continuous to a certain extent in the sense that although the fat phase contained some entrapped or encapsulated water, the rest of the water was necessarily still present as continuous phase. Therefore, the stated "phase inversion" could not be regarded as being essentially different from the "partial phase inversion" mentioned in the claimed process, especially since the feature in the main claim according to which the viscosity of the cream should be increased "up to a value close or equal to the peak viscosity whereby partial phase inversion is achieved" had not been shown to lead to a different "intermediate product" to that described in (3'). The fact that in this prior document partial crystallisation of the fat was the result of a "shock cooling" could not change the above conclusion for the reason that it was also a requirement of the claimed process to have the fat in partially crystallised form. It was clearly stated in the patent-in-suit that this could be achieved for example by feeding the cream through a Votator A unit cooled to -10 to -25°C. The claimed process therefore lacked novelty over that described in document (3').

- V. The Respondent argued at all stages of the proceedings that the claimed subject-matter was novel over that disclosed in document (3') because the teaching of the latter was different from that of the patent in suit. In contrast to the known churning process, the claimed process did not result in accomplishing phase inversion of a fat-in-water emulsion to a water-in-fat emulsion

type as the product obtained was required to comprise a network of aggregated fat and both encapsulated and free aqueous phase in accordance with Claim 1 of the patent in suit. In support of this, reference was made to photographs earlier submitted in the proceedings. In (3') the object was to obtain a well dispersed emulsion without the expense or inconvenience of adding emulsifiers, which required "shock cooling" of the starting emulsion, involving deep and sudden "crash" cooling and heavy mechanical working achieved by passing the emulsion (cream) through a tubular cooler with a scraping-off device. In Example 1, the starting material was heated to 95-120°C, a quite high temperature, before it was subsequently cooled to a much lower working temperature. In particular as regards the shear forces, the patent in suit stated "that one should ensure that during cooling and after having reached the required fat solids level, the amount of shear should be kept to a minimum until the last phase of the churning operation is allowed to take place", making clear that this process was actually milder than the known one. Moreover, in document (3') no end point measurement comparable to the peak viscosity measurement carried out in the patent in suit could be found in connection with the churning step.

To sum up, the whole point of the known process was to hurl the starting emulsion through a phase change from water-continuous to fat-continuous and avoid the formation of an alternative or intermediate state of matter. In the claimed process however merely **partial** phase inversion was achieved by a careful and delicate treatment.

VI. In the course of the hearing before the Board, the Respondent submitted two further sets of claims forming the basis of a first and a second auxiliary request to be considered in case the Board would not accept that Claim 1 as granted was novel.

The newly amended version of Claim 1 of the two auxiliary requests reads as follows, the parts identical with Claim 1 as granted being reproduced in fragmentary form and the amendments emphasised:

Auxiliary request 1

Claim 1:

"A process for producing a spread ... to increase its viscosity up to a value close to or equal to the peak viscosity whereby partial phase inversion is achieved **with the exclusion of shock cooling**, to obtain a spread with ..."

Auxiliary request 2

Claim 1:

"A process for producing a spread ... said spread comprising a network of aggregated fat and both encapsulated and free aqueous phase **and having an electric conductivity ranging from 1000 to 6000 micro S cm⁻¹ and a hardness expressed in C-value, measured at 5°C, ranging from 70 to 2000 g/cm².**"

VII. The Appellant protested against the filing of new alternative sets of claims at such a late stage of the proceedings for the reason that novelty was a point at issue already for a long time as could be seen from the contested decision dated 1990 and that, therefore, the Respondent should have been aware of the risk of refusal

of late-filed amendments, in particular when - as was the case here - it was not clear whether or not these amendments conferred novelty over the disclosure of document (3'). The disclaimer "with the exclusion of shock cooling" introduced in Claim 1 of auxiliary request 1 could indeed not be regarded as a distinguishing feature for novelty in the absence of a proper definition of the said "shock cooling" which, *prima facie*, could not be said to be basically different from the efficient cooling measures described in the patent in suit (e.g. feeding the cream through a Votator A unit cooled to -10 to -25°C). In Claim 1 of auxiliary request 2, two further parameters corresponding to the subject-matter of Claims 13 and 14 as granted were used for characterising the spread obtained by the claimed process. However, apart from the fact that these features had never been discussed before in terms of their relevance for distinguishing the product prepared in the patent in suit from that in document (3'), it should be clear that without being afforded an opportunity to carry out corresponding measurements on the products to be compared, the Appellant would be unable to assess the impact of the two parameters on the novelty issue. In particular, if the Board decided to accept the second alternative sets of claims, the case should be remitted to the Opposition Division for further prosecution in order to give the Appellant opportunity to bring additional evidence in support of their plea.

VIII. The Appellant requested that the patent be revoked and that the auxiliary requests be rejected as inadmissible, but that if the second auxiliary request is admitted, the matter be referred to the first instance so that further evidence can be submitted.

The Respondent requested as main request that the appeal be dismissed and that the European patent No. 0 098 663 be maintained, and as auxiliary requests, that the decision under appeal be set aside and that the patent be maintained on the basis of the first or second auxiliary request respectively submitted at the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

Procedural matters

2. *Admissibility of auxiliary requests 1 and 2*

- 2.1 As is apparent from paragraph VI above, two alternative sets of claims were submitted by the Respondent for the first time at the oral proceedings on 18 November 1993, that is more than two years after their written response to Appellant's Statement of Grounds of Appeal. The subject-matter of Claim 1 of each of these sets differs from Claim 1 as granted in that (an) additional feature(s) had been introduced in order to confer novelty over the prior art disclosure (3'). As indicated during the oral proceedings, the Board was not prepared to accept these late-filed alternative sets of claims at such a late stage of the proceedings in the present case. The reasons therefore are the following.

- 2.2 As stated in Article 11(3) of the Rules of Procedure of the Boards of Appeal "if oral proceedings take place, the Board shall endeavour to ensure that each case is ready for decision at the conclusion of the oral proceedings, unless there are special reasons to the

contrary". It is clear that this aim cannot normally be reached if at the oral proceedings, i.e. at the very last moment before a final decision is taken, new claims are submitted which contain one or more additional features the impact of which is either unclear or impossible to assess without further investigations such as carrying out proper comparison tests. Therefore, the filing of amendments, as pointed out in the "Guidance for Appellants and their Representatives", OJ EPO 1984, 376 at paragraph 2.2 'Submission of amendments', "should be done at the earliest possible moment ... the Board concerned may, for example, disregard amendments which ... when a date for oral proceedings has been given, are not submitted in good time before the proceedings".

In decision T 95/83, OJ EPO 1985, 75, the Board of Appeal stated "that it is only in the most exceptional circumstances, where there is some clear justification both for the amendment and for its late submission, that it is likely that an amendment not submitted in good time before oral proceedings will be considered on its merits in those proceedings by a Board of Appeal" (see point 8 of the Reasons). In the present procedure, the amended claims were **not** received by the Board prior to the oral proceedings and **no good reason** was advanced at that hearing as to why the amended claims were filed so late. Moreover, in decision T 153/85, OJ EPO 1988, 1, the Board of Appeal considered that "when deciding on an appeal during oral proceedings, a Board may justifiably refuse to consider alternative claims which have been filed at a very late stage, for example during the oral proceedings, if such alternative claims are not clearly allowable (see point 2.1 of the Reasons).

2.3 In view of the above and on the basis of the convincing reasoning put forward by the Appellant at the oral proceedings (see point VII above), with which the Board fully agrees and adopts as its own, none of the main claims of the alternative sets of claims could be regarded as containing (an) additional feature(s) on the basis of which the novelty of the claimed process could be assessed in a straightforward way. In the absence of conclusive evidence that any distinction over the prior art has been introduced by the said feature(s), it is too late in the proceedings for the case to be remitted to the first instance for the new issues raised by the auxiliary requests to be examined in a situation where the Respondent had ample time to do so but did not put forward the request raising the new issues earlier, so that evidence could have been available from all parties on these issues at the oral proceedings before the Board. The auxiliary requests are thus **rejected as inadmissible.**

Patentability of the main request

3. *Novelty*

3.1 In the present appeal proceedings, the novelty discussion concerned mainly the question whether document (3') contains a disclosure of feature (b) mentioned in the granted Claim 1. The Respondent has not contested that the definition of the starting "oil-in-water emulsion-cream" required for carrying out the shear-churning step in accordance with feature (a) of the claimed process covers starting materials such as those described in the prior art document and which comprise for example cream or butter which has been emulsified in the aqueous phase, or a mixture of cream and melted butter, to which - if desired - other animal fats or vegetable fats have been added, the final

emulsion being adjusted to a fat content in the region of 35 to 65%. In view of the fact that it is clearly stated in the patent in suit that the starting cream may consist of a dairy cream or a reconstituted cream produced from an aqueous phase and a fat comprising hydrogenated and/or non-hydrogenated fats or fractions thereof, selected from tallow fat, palm oil, palm kernel oil, babassu oil, coconut oil, butter oil and liquid oils wherein at least 60% of the fatty acid residues contain 18 or more carbon atoms, such as soybean oil, sunflower oil, cotton seed oil, maize oil, rapeseed oil and the like (see page 3, lines 33 to 37), no difference can indeed be seen between these starting materials and those mentioned in document (3'). In the absence of evidence to the contrary, the Board has thus no reason to suppose that any difference in their fat solids profile exists.

- 3.2 As far as the actual shear-churning step (b) is concerned, it is certainly true that in (3') there is no explicit mention of increasing the viscosity of the cream "up to a value close to or equal to the peak viscosity", i.e. the point at which shear-churning is to be stopped in accordance with the teaching in the patent in suit. As explained in the latter, if churning is continued beyond that point, the fat granules formed during the churning stage coalesce and become very large and lose the ability to entrap serum with the consequence that serum drains away and a phase separation of fat and aqueous phase (e.g. buttermilk) takes place (see page 2, lines 46 to 53). Therefore, all that is to be observed in the claimed process is to stop churning in any case before the beginning of separation of an aqueous phase (buttermilk) and that the right moment to stop is not necessarily at a precise stopping

"point" but, as it were, "somewhere" in its vicinity. However, this makes clear that there exists quite a range of possibilities for stopping churning before any separation of buttermilk occurs.

In document (3') the purpose of the invention is also stated to consist in the manufacture of a fat-reduced spreadable fat **in which the separation of a fat-containing aqueous phase is avoided**. The process as such consists in adjusting the fat emulsion (35-65% fat content) without the addition of any emulsifying agents to a temperature above the clear melting point, and shock cooling, under exclusion of air, to a temperature below 25°C with simultaneous mechanical treatment whilst flowing through a cooler, so that phase inversion is accomplished to a water-in-fat emulsion type. In connection with this churning process, it is then once again clearly stated that losses, associated with the separating-out of an excess aqueous phase, which consequently reduce the product yield, are avoided (see page 3, paragraphs 1 to 3 and page 4, second paragraph). In view of this disclosure the Board must agree with the Appellant that a skilled man would indeed realise that buttermilk separation would be unavoidable if complete phase inversion had really occurred in this known process. This phenomenon is generally known and also explained in detail in the patent in suit, so that the question necessarily arises why it is then stated in (3') that "the phase inversion is accomplished to the water-in-fat emulsion type". However, despite the wording used there the above discussed technical reality is such that for the Board the only plausible explanation for this statement is seen in the difficulty to describe in proper words the change of physical state of the fat when transforming cream into a spreadable product without the draining away of serum, a rather complex process. As convincingly explained by the

Appellant at the oral proceedings and not challenged by the Respondent, churning has the effect that at a given moment the **fat phase becomes continuous to a certain extent, namely in the sense that although the fat phase contains some encapsulated (entrapped) water, the rest of the water is still present as continuous phase.** In view of this, it is not inappropriate to consider "phase inversion" to be accomplished in the known product, although the expression "partial phase inversion" would have been more precise and easier to understand. The Respondent's contention that photographs submitted earlier in the proceedings showed that in document (3') complete phase inversion was achieved must be rejected for the reason that the only photographs available are those submitted during examination of the application: they merely show the products obtained in accordance with a different state of the art, namely FR-A-2 315 856 as well as those according to the claimed invention. There is thus no reason to believe that in (3') a different product is obtained to that in the patent in suit.

- 3.3 In respect of the Respondent's argument that the claimed process differs from the known one in that it is a much "milder" treatment than the "shock cooling" described in (3'), the Board sees nothing in the claim put forward, or in the description of the present process that would justify making such a distinction. The Board agrees with the submission by the Appellant that there is no reason to believe that passing the cream through a Votator unit cooled to -10 to -25°C should be substantially different from the cooling carried out in the said prior document, especially since both ensure the required **partial crystallisation of the fat** during churning of the cream (see document (3'), page 3, last paragraph and Claim 1 of the patent in suit). The Board can also see no specific processing steps in terms of a control of the

shear forces, as the measure mentioned by the Respondent, namely "that one should ensure that during cooling and after having reached the required fat solids level, the amount of shear should be kept to a minimum until the last phase of the churning operation is allowed to take place", is not a feature of Claim 1 as granted.

3.4 It follows from the above considerations that, except from the different wording used in the prior document, neither the known process nor the product resulting therefrom can be regarded as being different from what is claimed, as there is no novel technical teaching. Under the EPC a mere difference in wording between the alleged invention and the prior art is not sufficient to establish novelty (see T 198/84, OJ EPO 1985, 209, in particular paragraph 4 of the Reasons and T 248/85, OJ EPO 1986, 261, in particular paragraph 6.4 of the Reasons).

Consequently, Claim 1 as granted does not meet the requirements of Article 54 EPC.

3.5 Dependent Claims 2 to 14 must fall with Claim 1, since the main request can only be considered as a whole.

The only admissible request, the main request has thus to be rejected.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

P. Martorana

P.A.M. Lançon