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Datasheet for the decision of 2 October 2024

Case Number: T 1909/22 - 3.3.09

Application Number: 16714285.0

Publication Number: 3270716

IPC: A23P30/20, A23J3/14, A23J3/16, A23J3/18, A23J3/22, A23J3/26

Language of the proceedings: EN

Title of invention:
A PROCESS FOR PREPARING A MEAT-ANALOGUE FOOD PRODUCT

Patent Proprietor:
Société des Produits Nestlé S.A.

Opponents:
Coperion GmbH
Mars Incorporated

Headword:
Process for preparing a meat-analogue food product/NESTLÉ

Relevant legal provisions:
EPC Art. 56, 100(a)
RPBA 2020 Art. 12(3), 12(5), 13(2)

Keyword:
Inventive step (main request) - (no)
Discretion not to admit submission (auxiliary requests 3-9) - requirements of Art. 12(3) RPBA 2020 met (no)
Amendment after summons (auxiliary requests 1 and 2) - exceptional circumstances (no)

Decisions cited:
T 2872/19, T 1041/21, T 1220/21, T 1615/22

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

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Case Number: T 1909/22 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 2 October 2024

Appellant: (Opponent 1)	Coperion GmbH Theodorstrasse 10 70469 Stuttgart (DE)
Representative:	Rau, Schneck & Hübner Patentanwälte Rechtsanwälte PartGmbB Königstraße 2 90402 Nürnberg (DE)
Appellant: (Opponent 2)	Mars Incorporated 6885 Elm Street McLean, Virginia 22101-3883 (US)
Representative:	Haseltine Lake Kempner LLP One Portwall Square Portwall Lane Bristol BS1 6BH (GB)
Respondent: (Patent Proprietor)	Société des Produits Nestlé S.A. Entre-deux-Villes 1800 Vevey (CH)
Representative:	Vossius & Partner Patentanwälte Rechtsanwälte mbB Siebertstraße 3 81675 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 22 June 2022 rejecting the opposition filed against European patent No. 3270716 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	A. Haderlein
Members:	M. Ansorge
	R. Romandini

Summary of Facts and Submissions

I. The appellants (opponents 1 and 2) lodged an appeal against the opposition division's decision rejecting their oppositions.

II. With their notices of opposition, the opponents had requested that the patent be revoked, *inter alia* on the grounds for opposition of a lack of novelty and a lack of inventive step under Article 100(a) EPC.

III. The opposition division decided, *inter alia,* that the subject-matter of claim 1 of the patent as granted was novel over D2 and involved an inventive step in view of D2 as the closest prior art.

IV. With its reply to the statements setting out the grounds of appeal, the respondent (proprietor) requested that the appeals be dismissed (main request). The reply also contained the following statement:

"- as an auxiliary request, we ask the Board of Appeal to continue the appeal proceedings by arranging for oral proceedings considering also the auxiliary request (sic) filed during the opposition procedure".

By letter of 2 August 2024, the respondent announced its intention to pursue auxiliary requests 3 to 9 (which correspond to the auxiliary requests filed in the proceedings before the opposition division) and filed (new) auxiliary requests 1 and 2.

V. Claim 1 of the patent as granted (main request) reads as follows:

"A process for preparing a meat-analogue food product, the process comprising the steps of:

a) feeding an extruder barrel (4) with 0-4wt% starch and/or flour, 40-70wt% water and 15-35wt% plant protein;
b) injecting 2-15wt%, preferably 2-10wt%, liquid oil, fat or a combination thereof into the extruder barrel (4) at a location down-stream of the feeding location of step a);
c) extruding the mixture through a cooling die (7)."

The wording of the claims of auxiliary requests 1 to 9 is not relevant to the present decision.

VI. The following document was cited in the case at hand:

D2: WO 2012/158023 A1

VII. The relevant arguments made by the parties during both the written and oral proceedings are reflected in the reasons for the decision below.

VIII. Requests

The appellants requested that the decision be set aside and that the patent be revoked.

The respondent requested that the appeals be dismissed (main request) or, as an auxiliary measure, that the patent be maintained on the basis of one of auxiliary requests 1 to 9 as filed with the letter of 2 August 2024.

Reasons for the Decision

Main request (claims of the patent as granted)

1. Inventive step

1.1 The appellants argued that the subject-matter of claim 1 of the main request lacked an inventive step in view of D2 as the closest prior art.

1.2 As outlined below, the board shares this view.

1.2.1 There was agreement among the parties that D2 qualifies as a suitable closest prior-art document in the present case.

1.2.2 D2 discloses a process for the preparation of a structured vegetable protein extrudate, comprising the steps of:
(a) providing an aqueous protein composition comprising vegetable protein, wherein the protein content based on dry matter is below 90% by weight,
(b) subjecting the aqueous protein composition to one or more kneading steps so as to form a dough,
(c) subjecting the dough to heating to above the denaturation temperature of the protein,
(d) subjecting the dough to shear forces and pressure in an extruder, so as to form a fibrous protein composition,
(e) allowing the fibrous protein composition to exit the extruder through an extruder die,
wherein the water content of the aqueous protein composition is at least 50% by weight, and wherein the fibrous protein composition is subjected to limited

cooling so as to exit the extruder at a temperature, of the composition, of at least the boiling temperature of water in the first outside environment (see claim 1 of D2).

According to claim 3 of D2, the aqueous (protein) compositions may be provided to an extruder and the kneading and denaturing steps, i.e. steps (b) and (c), are conducted in the extruder. As described on page 10, lines 15 to 22, of D2, it can be desirable to include fat in the composition and fat can be added to the product via the dough, via the infusion liquid, or both. Moreover, it is explicitly mentioned in D2 that an advantage of the method of the invention is that, particularly by virtue of the use of an infusion liquid, an amount of fat can be included, e.g. 0.1-20% by weight, preferably 0.2-10% by weight.

Claim 10 of D2 discloses a structured vegetable protein product obtainable by a process according to any one of claims 6 to 9, comprising 0.1-20 wt.% of fat, preferably 0.2-10 wt.% of fat. Claim 6 of D2 relates to a process for the preparation of a structured vegetable protein composition, comprising preparing a structured vegetable protein extrudate in accordance with claim 1 or 5, and allowing the extrudate to be infused with an aqueous liquid.

1.2.3 There was disagreement among the parties with respect to the starting point within D2 to be used for identifying the differences between the claimed subject-matter and D2.

The respondent was of the opinion that the embodiment in D2 relating to the addition of fat via the infusion liquid should be considered the most relevant

embodiment in D2 when identifying the differences between the claimed subject-matter and D2, since D2 allegedly clearly focused on this embodiment. The appellants, however, were of the opinion that the embodiment in which fat is added via the dough should be chosen.

Insofar as the addition of fat is concerned, it is correct that D2 mentions that an advantage of the method according to D2 is that an amount of fat in the range of 0.1 to 20% by weight, for example, can be included, particularly by virtue of the use of an infusion liquid (see page 10, lines 18 to 22, of D2). However, in the sentence directly preceding this there is an unambiguous disclosure that fat can be added via the dough (see page 10, lines 16 to 18, of D2). Thus, the amount of fat disclosed in D2 undoubtedly also relates to the embodiment in which fat is added via the dough. The board considers this embodiment, in which fat is added to the product via the dough, to be a suitable starting point. Even if the embodiment directed to the addition of fat via infusion were preferred, this would not mean that the other explicitly disclosed embodiment is not a suitable starting point.

In this context, the respondent argued that it is clear from claim 10 of D2 (which also mentions the identical fat content of 0.1 to 20 wt.% referenced on page 10 of D2), which refers back to the claim containing the feature "allowing the extrudate to be infused with an aqueous liquid", i.e. claim 6, that in D2 fat is only added via infusion, i.e. with the aqueous liquid mentioned in claim 6 of D2.

The board does not agree with the respondent's interpretation in this respect. It cannot be derived from claim 10 of D2 that fat is to be added via infusion. On the contrary, claim 10 merely defines the amount of fat in the claimed structured vegetable protein product and a specific way of adding it is not mentioned. This interpretation is in line with the disclosure on page 10, lines 15 to 22, of D2, which unambiguously discloses that fat can be added to the product via the dough or via the infusion liquid. In addition, it is noted that claim 6, to which claim 10 refers, only mentions an infusion with an aqueous liquid, not an infusion of fat.

In view of the above, the board concludes that the embodiment disclosed in D2 in which fat is added to the product via the dough represents the most suitable starting point for identifying the differences between the claimed subject-matter and D2.

1.2.4 There was also disagreement among the parties with respect to the distinguishing features of the claimed subject-matter over D2.

1.2.5 The appellants argued that only the feature "injecting liquid oil, fat or a combination thereof into the extruder barrel at a location down-stream of the feeding location of step a)" was a difference over the process of D2; all of the other features were disclosed in D2.

1.2.6 The respondent argued that in addition to the difference acknowledged by the appellants there were in fact further differences over D2, such as the combination of the numerical ranges of the ingredients defined in claim 1.

1.2.7 In this context, the respondent's arguments in the appeal proceedings relating to the differences over D2 can be summarised as follows.

(a) Under point "3.3 Novelty" of its reply to the statement of grounds of appeal, the respondent stated that it agreed with the opposition division's conclusion in the decision and explicitly referred to points 17.4 to 17.6 of the decision. From point 17.4 of the decision it is apparent that the respondent argued in the first-instance opposition proceedings that "there is no disclosure of injection of fat in the extruder" in D2. The board thus concludes that it cannot be derived from point 17.4 of the decision or from point 17.5.3 of the decision that, in the first-instance proceedings, the respondent considered other features to constitute differences over the process of D2.

(b) In addition, the respondent argued under point "3.4 Inventive step" of its reply to the statement of grounds of appeal that it agreed with the opposition division's conclusion in the decision and it explicitly referred to points 18.5 and 18.6 of the decision. As is apparent from point 18.5.3 of the decision, the opposition division concluded that the subject-matter of claim 1 differed from the process of D2 at least in that it comprised the step of injecting 2-15 wt% liquid oil, fat or a combination thereof into the extruder barrel at a location downstream of the feeding location of water and plant protein. No other differences over D2 were specified by the opposition division.

(c) In its letter dated 2 August 2024, the respondent argued - for the first time during the entirety of the opposition and appeal proceedings - that the appellants only asserted that D2 disclosed a range for the starch and/or flour content, a range for the water content, a range for the plant protein content and a range for the oil and/or fat content, wherein each one of these ranges allegedly partially overlapped with the corresponding ranges of claim 1; this, however, did not imply that the skilled person would directly and unambiguously derive the claimed combination, wherein each one of the values disclosed was within the corresponding ranges of claim 1.

The board notes that this new argument that was made in the respondent's letter of 2 August 2024 represents an amendment to the respondent's appeal case. The respondent merely asserted that the combination of the numerical ranges for the ingredients in claim 1 represents a further difference, without explaining this assertion in any detail. Moreover, they did not submit any exceptional circumstances in this respect. As a consequence, the board has not taken this new argument into account (Article 13(2) RPBA) since there are no exceptional circumstances justifying its admittance.

1.2.8 In view of the above, the board concludes that the opposition division correctly decided that the subject-matter of claim 1 of the main request differs from D2 in the step of injecting 2-15 wt% liquid oil, fat or a combination thereof into the extruder barrel at a location downstream of the feeding location of step a). In this context, the board agrees with the opposition

division that the amount of oil or fat represents a difference over D2 as well, since a selection needs to be made in the preferred range of "0.2-10 wt.%" in order to arrive at a value falling within the claimed range of oil/fat in claim 1. This was also submitted by the respondent at the oral proceedings before the board.

1.2.9 With respect to the effect resulting from these distinguishing features over D2, the board comments as follows.

The respondent considered the technical effect resulting from the above distinguishing features to be an improved meat-analogue product obtained by using a simplified process. In the respondent's view, paragraphs [0010] and [0011] and the examples of the patent provided evidence of the latter improvement (see paragraph [0052] of the patent). In particular, the respondent referred to a "commercial product", mentioned in paragraph [0052] of the patent, "which is as described in WO 2012/158023" (D2), and argued that the product obtained by the claimed process was less fatty, less moist and less rubbery. In addition, the process was allegedly simplified by avoiding additional steps.

The board agrees with the appellants that an improvement cannot be acknowledged since it has not been convincingly shown that the alleged effect has its origins in the distinguishing features over D2.
In this context, it is of importance that it is unclear what exactly the "commercial product" mentioned in paragraph [0052] of the patent which is said to be in accordance with D2 and which is used as a reference in the examples of the patent is, what ingredients it

contains and how it is produced. It is unclear what differences exist between the claimed subject-matter and the process for producing this commercial product. There is no indication in the examples of the patent that this "commercial product" according to D2 (as mentioned in paragraph [0052] of the patent) is to be produced by the addition of fat via the infusion liquid, as argued by the respondent. While the only example of D2 discloses that the extrudate is infused with water or a mixture of water and flavours, it does not contain any fat. Similarly, claim 6 of D2, which was cited by the respondent numerous times, only mentions "allowing the extrudate to be infused with an aqueous liquid". There is no disclosure in claim 6 or claim 10 of D2 that fat is to be infused into the extrudate.

While it is mentioned in paragraph [0010] of the patent that "it has now been found by the inventors that injecting oil (5) into the extruder barrel (4) at a location down-stream of the feeding location of the plant protein and water has certain desirable and surprising characteristics", this does not constitute evidence that there is an improvement over the embodiment disclosed in D2 in which fat is added via the dough, let alone that an improvement might exist which results from the distinguishing features over D2. D2 also allows the production of a meat-analogue food product that resembles meat and also has the appearance, texture and taste of meat.

Although paragraph [0011] of the patent mentions that "through the oil injection down-stream of the feeding location of the plant protein and water high shear within the extruder barrel is resulting in a better texturized product", there is no evidence that the

claimed process leads to a better texturised product than the one disclosed in D2. Moreover, it is not credible that the claimed process is simpler compared to D2, where the fat is already added via the dough.

The respondent further argued that the patent provided a comprehensible explanation of the effects achieved by the claimed process (see paragraphs [0010] and [0011] of the patent). However, what is decisive is not whether an explanation in the patent is comprehensible but whether it is credible that there is an effect over D2 which results from the distinguishing features. As outlined above, this has to be denied in the case at hand.

In view of the above, an improvement over D2 cannot be acknowledged.

1.2.10 The objective technical problem is therefore the provision of an alternative process for producing a meat-analogue food product.

1.2.11 Regarding the question of obviousness, the board agrees with the appellants that it is obvious for a skilled person to inject an amount of 2 to 15 wt% liquid oil or fat into the extruder barrel. This injection would occur at a point downstream of the feeding location.

In the process of D2, fat may be added via the dough, as disclosed on page 10, lines 16 to 28, of D2. A dough does not represent the unmixed and unkneaded ingredients but an intermediate product of the process in which the ingredients have already been mixed and kneaded. The process of D2 comprises a kneading step in which the dough is formed (see step (b) of claim 1 of D2) and steps in which the dough is heated and

subjected to shear forces (see steps (c) and (d) of claim 1 of D2). As explicitly taught in claim 3 of D2, the aqueous composition (the starting ingredients) may be provided to an extruder and the kneading and denaturing steps, steps (b) and (c), are conducted in the extruder. Thus, the location at which the dough is produced is already downstream of the feeding location of the ingredients.

The term "via the dough" is somewhat vague and open to interpretation. There is, however, no clear teaching in D2 that fat must be added to the product only at the stage of adding the other ingredients at the location of feeding the extruder barrel. If this were the intention of the inventors of D2, they would have mentioned that fat may be added in the step of providing an aqueous protein composition (the other ingredients). No indication of this can be derived from D2.

In this context, the respondent also referred to page 11, lines 8 to 11, of D2, where it is mentioned that the aqueous protein composition can also be in the form of a pre-mixed dough that is pumped into the extruder. However, this is only one of various embodiments described in D2. As outlined above, claim 3 of D2 explicitly teaches that the aqueous protein composition may be provided to an extruder and the kneading and denaturing steps, steps (b) and (c), are conducted in the extruder, thus leading to the formation of the dough in the extruder. A skilled person would consider this option when seeking a solution to the above problem. Thus, this line of argument of the respondent is not convincing either.

In view of the above, the teaching provided in D2 that fat can be added "via the dough" renders it obvious to add fat into the extruder barrel at a location downstream of the feeding location. D2 also specifies adding an amount of oil or fat within the claimed range (see page 10, lines 16 to 22, of D2).

In view of the above, the subject-matter of claim 1 of the main request does not involve an inventive step in view of D2 alone.

Auxiliary requests

2. Admittance of auxiliary request 1 to 9

2.1 The appellants argued that the auxiliary requests should not be admitted into the appeal proceedings.

2.2 As outlined below, the board concurs with this view.

2.3 Auxiliary requests 1 and 2

2.3.1 The respondent filed auxiliary requests 1 and 2 by letter of 2 August 2024. They are an amendment to the respondent's appeal case made after notification of the communication under Article 15(1) RPBA. Accordingly, they shall not be taken into account unless there are exceptional circumstances which have been justified with cogent reasons by the party concerned (Article 13(2) RPBA).

2.3.2 The respondent argued that there were indeed exceptional circumstances justifying the admittance of these claim requests. More precisely, it argued that auxiliary requests 1 and 2 were filed as a direct response to the board’s new argument that the

expression "via the dough" in D2 disclosed an injection of fat into the extruder barrel downstream of the protein feeding location and that the claimed subject-matter was not novel over D2.

However, this novelty objection was raised by appellant-opponent 1 in its statement setting out the grounds of appeal (see point V. on pages 6 to 10 thereof), and not by the board. Appellant-opponent 1 explicitly argued that a dough is formed in the extruder barrel at a location downstream of the feeding location of the ingredients. Thus, when adding fat via the dough, the location of adding fat is downstream of the feeding location of step a).

2.3.3 Moreover, the respondent argued that the board introduced a new inventive-step objection in view of D2 alone. It claimed that the appellants had only raised objections concerning inventive step in view of D2 as the closest prior art in combination with other documents.

The board disagrees with this argument. Appellant-opponent 1 raised a novelty objection based on D2; both appellants raised inventive-step objections in view of D2 in combination with other documents. The board notes that it assessed the same passages of D2 as those cited by the appellants. Nothing new was introduced; at most, the board refined the appellants' arguments. In essence, the core issue prior to the board's communication concerned delimitation *vis-à-vis* D2 with respect to step b) of claim 1, whether under novelty or inventive step. Therefore, the board's preliminary opinion, citing a lack of inventive step over D2, cannot qualify as exceptional circumstances within the meaning of Article 13(2) RPBA.

In the absence of exceptional circumstances, auxiliary requests 1 and 2 cannot be taken into account.

2.4 Auxiliary requests 3 to 9

2.4.1 Auxiliary requests 3 to 9 correspond to the auxiliary requests filed in the first-instance opposition proceedings.

2.4.2 According to Article 12(3) RPBA, the statement of grounds of appeal and the reply shall contain a party's complete appeal case. They shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the requests, facts, objections, arguments and evidence relied on.

2.4.3 With respect to auxiliary requests 3 to 9, the respondent, in its reply to the grounds of appeal (see page 1, fifth to seventh lines from the bottom), only made general references to the first-instance proceedings (cf. "considering also the auxiliary request (sic) filed during the opposition procedure") without giving any explanations or arguments. A mere reference to the first-instance proceedings is not sufficient as a proper substantiation of the requests. In this context, it is of no relevance that the opposition division did not have to decide on these auxiliary requests and that they were not discussed during the oral proceedings before the opposition division.

2.4.4 Pursuant to Article 12(5) RPBA, the board has discretion not to admit any part of a submission by a party which does not meet the requirements of

Article 12(3) RPBA. In exercising this discretion, the board has decided not to admit auxiliary requests 3 to 9 into the appeal proceedings owing to a lack of substantiation (see T 2872/19, Reasons 4; T 1041/21, Reasons 5; T 1220/21, Reasons4; and T 1615/22, Reasons 4).

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:

K. Götz-Wein A. Haderlein

Decision electronically authenticated