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Datasheet for the decision of 23 September 2020

Case Number: T 0381/15 - 3.3.09

Application Number: 05757958.3

Publication Number: 1769682

IPC: A23C9/18, A23C9/16

Language of the proceedings: EN

Title of invention:
SOLID MILK AND METHOD OF PRODUCING THE SAME

Patent Proprietor:
Meiji Co., Ltd.

Opponents:
Eurotab
N.V. Nutricia

Headword:
Solid milk and method of production the same/MEIJI

Relevant legal provisions:
EPC Art. 54, 56, 83

Keyword:
Sufficiency of disclosure - (yes)
Novelty - (yes)
Inventive step - (yes)

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

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Case Number: T 0381/15 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 23 September 2020

Appellant: (Patent Proprietor)	Meiji Co., Ltd. 2-1, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8306 (JP)
Representative:	TBK Bavariaring 4-6 80336 München (DE)
Respondent: (Opponent 1)	Eurotab ZAC des Peyrardes 42170 Saint Just Saint Rambert (FR) (withdrawn)
Representative:	Derambure, Christian Derambure Conseil 66, rue de la Chaussée d'Antin 75009 Paris (FR)
Respondent: (Opponent 2)	N.V. Nutricia Eerste Stationsstraat 186 2712 HM Zoetermeer (NL) (withdrawn)
Representative:	Schrell, Andreas Gleiss Große Schrell und Partner mbB Patentanwälte Rechtsanwälte Leitzstrasse 45 70469 Stuttgart (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 23 December 2014 revoking European patent No. 1769682 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	A. Haderlein
Members:	F. Rinaldi
	D. Rogers

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the patent proprietor (appellant) against the opposition division's decision to revoke European patent No. EP 1 769 682.

II. In the notices of opposition, opponents 1 and 2 had requested revocation of the patent in its entirety under Article 100(a) EPC (lack of novelty and lack of inventive step) and 100(b) EPC.

III. The documents submitted during the proceedings before the opposition division included:

D1: EP 1 048 216 A1
D2: WO 2004/023896 A1
D5: GB 1 286 249
D34: Declaration by Maarten Valk (22 May 2012)

IV. The opposition division revoked the patent. It decided, among other things, that the invention was sufficiently disclosed but that claim 1 as granted lacked novelty over D2 and D5. It also decided that claim 1 of the seventh auxiliary request, which is identical to claim 9 as granted, lacked inventive step over D1.

V. Claims 1 and 9 as granted read:

"1. Solid milk with a porosity of 30% to 50%, characterized in that the solid milk comprises emulsified fat and free fat as fat, the content ratio of said free fat is 0.5 wt% to 4 wt%."

"9. A method for manufacturing solid milk, comprising:
a compacting process for compacting powdered milk and obtaining a solid compacted body of powdered milk;
a humidifying process for wetting the compacted body of powdered milk obtained in said compacting process; and
a drying process for drying the compacted body of powdered milk humidified in said humidification process,
characterized in that,
the content ratio of free fat in the compacted body of powdered milk is 0.5 wt% to 4 wt%,
the powdered milk used in the compacting process has a moisture content ratio of 1 wt% to 4 wt%,
the amount of moisture added to the compacted body of powdered milk in the humidifying process is 0.5% to 3%."

VI. Together with the statement setting out the grounds of appeal, the appellant filed several auxiliary requests (see below) and, *inter alia*, document D37, a revised version of which was filed by letter dated 4 May 2018.

D37: Experimental protocol (revised version)

VII. Opponents 1 and 2 filed replies to the statement setting out the grounds of appeal. Opponent 2 additionally filed the following document:

D39: Second declaration by Maarten Valk (18 November 2015)

VIII. Subsequently, the two oppositions were withdrawn.

IX. The board issued a communication addressing substantive issues. Under cover of a letter dated 31 July 2020, the appellant replied to the communication and filed a further request: auxiliary request 1A.

X. The objections raised by former opponents 1 and 2 relevant to the present decision may be summarised as follows:

- Former opponent 1 raised an objection under Article 100(c) EPC.
- Former opponent 1 argued that the method for establishing the content ratio of free fat was not sufficiently described in the patent and that the method may not be reproducible.
- The subject-matter of claim 1 as granted lacked novelty over D2 and D5. The content ratio of free fat and the porosity had to be regarded as implicitly disclosed. This was derivable from the experimental results in D34. In addition, former opponent 1 argued that, in view of D34, D1 implicitly disclosed all features of claim 1 as granted.
- Former opponent 2 contended that the subject-matter of claim 1 as granted lacked inventive step over D1. Using whole milk powder instead of skimmed milk powder in example 2 of D1 would automatically lead to the solid milk in claim 1 as granted. This was confirmed by D34.
- The subject-matter of claim 9 as granted lacked inventive step over D1 (former opponent 2) or D2 (former opponent 1) as the closest prior art.

XI. The appellant's arguments relevant to the present decision may be summarised as follows:

- The fresh ground for opposition under Article 100(c) EPC should not be admitted into the proceedings.
- The patent in suit disclosed how to measure the content ratio of free fat.
- The subject-matter of claim 1 was novel. D1 and D5 did not disclose one specific composition which disclosed both the porosity and the content ratio of free fat recited in claim 1. Example I of D2 had not been reworked with the milk powder mentioned in that document, and therefore no conclusion could be drawn from the rework in D34.
- The subject-matter of both claim 1 and claim 9 involved an inventive step. The test results in D37 showed that the technical problem of providing solid milk with suitable solubility and strength had been solved. There was no suggestion that would lead to the claimed product or the claimed process.

XII. The appellant's final request was that the decision under appeal be set aside and that the patent be maintained as granted (main request) or on the basis of:

- auxiliary request 1A (filed under cover of a letter dated 31 July 2020) or
- the 1st to 20th auxiliary requests (filed with the statement setting out the grounds of appeal).

Reasons for the Decision

1. *The patent*

The patent in suit relates to solid milk which upon dissolution in warm water is ready for drinking, and to a method for manufacturing such solid milk (paragraph [0001]).

Solid milk is obtained by moulding a powdered milk into a desired shape and size (paragraph [0037]). When powdered milk is converted into a solid state by applying a pressure, the emulsification state of the powdered milk is destroyed. As a result, fat oozes from the powdered milk. This fat, referred to as the free fat, is generally undesired because free fat easily oxidises and spoils the taste of powdered milk (paragraph [0003]). Moreover, an issue with hard solid milk is that it is difficult to dissolve, whereas solid milk having high solubility is brittle (paragraph [0019]).

The invention is aimed at manufacturing solid milk with suitable solubility and strength (i.e. hardness) and at a method for its manufacture (paragraph [0011]).

This aim is achieved by controlling both the porosity (compacting force) and the amount of free fat during the manufacture of the solid milk (paragraph [0019]).

2. *Article 100(c) EPC*

2.1 In its reply, former opponent 1 had raised objections under Article 100(c) EPC.

2.2 None of the former opponents had invoked this article in their respective notice of opposition. Therefore, this objection represents a fresh ground for opposition. According to G 9/91 and G 10/91, such grounds may not be introduced on appeal unless the patent proprietor agrees.

2.3 Since the patent proprietor has not given its consent to this objection being considered, it has not been examined by the board.

3. *Sufficiency of disclosure*

3.1 In the decision under appeal, the opposition division decided that the requirement of sufficiency of disclosure was met.

3.2 In its reply, former opponent 1 argued that the method for establishing the content ratio of free fat was not sufficiently described in the patent and that the method may not be reproducible.

3.3 However, paragraph [0096] of the patent in suit describes how to measure the content ratio of free fat. The board agrees with the opposition division's decision that this information is sufficient to carry out the measurement. Moreover, as the opposition division correctly noted, former opponents 1 and 2 had been able to perform tests and measure the content ratio of free fat as set out in the patent in suit. This confirms that the measurement method can be repeated.

3.4 Thus, the invention as defined in the claims as granted complies with the requirement set out in Article 83 EPC.

4. *Novelty*

4.1 The appellant contested the opposition division's decision that the subject-matter of claim 1 as granted lacked novelty over D2 and D5, taking into account the content of D34. Moreover, the appellant disputed the objection raised by former opponent 1 that claim 1 as granted lacked novelty over D1.

4.2 Novelty over D2

4.2.1 D2 relates to infant formula compressed into tablets which are dissolved prior to administration to the infant (page 1, lines 5 and 6). In example I of D2, tablets are prepared according to a process in which a powdered infant formula sold under the brand name "Isomil®" is used. According to the process, one scoop of the formula (8.7 g) is placed in a die having an internal diameter of 28.6 mm and tablets are prepared using an appropriate punch at various pressures.

However, there is in example I no explicit disclosure of a porosity or a content ratio of free fat of these tablets.

4.2.2 The issue to be decided on is whether these tablets implicitly disclose the porosity and the content ratio of free fat in claim 1. If so, these tablets would anticipate the subject-matter of claim 1.

4.2.3 Former opponent 2 referred to its tests described in D34 (pages 17 to 22), in which example I was reworked.

In its view, these tests demonstrated that a tablet produced according to example I of D2 implicitly disclosed the porosity and the content ratio of free fat in claim 1.

4.2.4 However, the powdered infant formula used in example I (the product "Isomil®") is identified by a trademark. There is no disclosure in D2 regarding the composition of this product, nor did former opponents 1 and 2 present any such information to the board. Even if "Isomil®" described a single product as opposed to a family of products, the possibility that the product's composition may have changed over time cannot be ruled out; the board notes that D34 is dated about eight years after the publication date of D2.

4.2.5 In addition, in D34 products having a different name were used to reproduce example I, namely "Isomil 1" and "Isomil 2", but it has not been shown that either of these two products corresponds to the product originally used in example I.

4.2.6 On this basis alone, the results given in D34 do not convincingly demonstrate that the composition in example I implicitly discloses the porosity and the content ratio of free fat recited in claim 1.

4.2.7 Thus, the subject-matter of claim 1 as granted is novel over D2.

4.3 Novelty over D5

4.3.1 The opposition division concluded that D5 implicitly disclosed the subject-matter of claim 1 in view of D34.

4.3.2 D5 relates to solid products containing milk (page 1, lines 15 and 16). Examples 1 to 4 (page 2, lines 10 to 59) illustrate product compositions which comprise defined amounts of dextrose, instant skim milk powder and whole milk powder. Page 3 (lines 17 and 44) describes parameters for preparing the solid products. D5 makes no reference to a porosity or a content ratio of free fat.

4.3.3 The board agrees with the appellant's argument that D5 contains no explicit disclosure combining a specific composition with specific manufacturing conditions: according to D5, the example milk powder/sugar compositions may be processed in various ways and under various conditions.

4.3.4 Furthermore, the appellant reworked D5 (D37, pages 18 to 22). In these tests, the appellant used the materials according to examples 1 to 4 and applied preferred conditions specified in D5. Nevertheless, the resulting products did not have the porosity and the content ratio of free fat mentioned in claim 1.

These results demonstrate that the skilled person carrying out the teaching of D5 would not inevitably arrive at a product falling under claim 1. Therefore, it cannot be concluded that D5 implicitly discloses the subject-matter of claim 1.

The test results filed by former opponent 2, those in both D34 and D39, do not change the assessment that D5 does not clearly and unambiguously disclose solid milk products having the porosity and the content ratio of free fat recited in claim 1.

4.3.5 Thus, D5 does not anticipate the subject-matter of claim 1 as granted.

4.4 Novelty over D1

4.4.1 D1 relates to a densified dry milk product comprising milk particles. It is characterised, among other features, in that it contains between 0 and 50% fat and has a porosity between 0.35 and 0.65 (claim 1). However, D1 does not give any information with regard to the content ratio of free fat.

4.4.2 Former opponent 1 had alleged that D1 implicitly disclosed the features of claim 1 as granted, including the content ratio of free fat. It argued that according to D1 whole milk powder or infant milk formula could be used as the milk powder, and that replacing the skimmed milk in example 2 of D1 with a whole milk powder or infant milk formula would lead to a product according to claim 1 as granted. To support this argument, former opponent 1 referred to the results of the tests carried out in D34 (points 2.3.1 and 2.3.2), in which example 2 of D1 had been reworked with whole milk powder (fat percentage of 26%) or infant milk formula (fat percentage of 25.5%).

4.4.3 However, the only densified milk in the examples of D1 has been obtained using skimmed milk and has a porosity of 0.56 (example 2). A densified product produced by the combination of

(i) the process of example 2 and
(ii) whole milk powder (in particular a powder having a fat percentage of 26%) or infant milk formula (in particular having a fat percentage of 25.5%)

cannot be considered to be clearly and unambiguously disclosed in D1.

4.4.4 Irrespective of what may be considered clearly and unambiguously disclosed in D1, the appellant also reworked example 2 of D1, again using whole milk powder having a fat percentage of 26%. The results presented in D37 (pages 2 to 13) show that the product obtained did not have the content ratio of free fat mentioned in claim 1 as granted.

As discussed above in the context of D5 (point 4.3.4), D37 demonstrates that the skilled person carrying out the teaching of D1 would not inevitably arrive at a densified milk which satisfies the requirements of claim 1. The test results in D34 filed by former opponent 2 do not change this assessment.

4.4.5 Therefore, D1 does not anticipate the subject-matter of claim 1 as granted.

4.5 Thus, it can be concluded that the subject-matter of claim 1 as granted is novel (Article 54 EPC).

5. *Inventive step - claim 1 as granted*

5.1 Former opponent 2 argued that the subject-matter of claim 1 as granted lacked inventive step over example 2 of D1.

5.2 As discussed above in points 4.4.1 and 4.4.3, claim 1 as granted differs from example 2 of D1 in that

- the solid milk has a porosity of 30% to 50% and
- the content ratio of free fat is 0.5 wt% to 4 wt%.

5.3 According to the patent in suit, the problem to be solved is to produce solid milk which has suitable solubility and strength (paragraph [0011]).

5.4 As to the success of the solution called for in claim 1, it is noted that the solid milk according to example 2 of D1 already has a suitable solubility (30 seconds) and a suitable strength (breaking strength of 50 N), comparable with those disclosed in the patent in suit (solubility: 120 seconds or less, and strength (hardness): at least about 30 N; paragraphs [0105] and [0107]). The appellant also argued that there were further advantages relating to the distinguishing features.

However, the question of whether the claimed subject-matter solves a more ambitious problem than the provision of a further (alternative) solid milk need not be addressed since the solid milk in claim 1 is not obvious even when the problem to be solved is considered to be the provision of an alternative solid milk of this kind. The reasons are as follows.

5.5 The argument put forward by former opponent 2 was that the content ratio of free fat (and the porosity) in claim 1 was automatically obtained when densified milk is produced according to example 2 of D1 but using whole milk powder instead of skimmed milk. In this context, former opponent 2 referred to D34.

However, as explained above in point 4.4.4, D37 demonstrates that when example 2 of D1 is reworked with whole milk powder, the content ratio of free fat in claim 1 is not reached. The results in D37 also show that the solid milk obtained in the reworked example

does not have a suitable solubility, dissolving too slowly (400 seconds).

While it may be considered obvious to arrive at the porosity of claim 1 because the porosity disclosed in D1 ranges from 0.35 to 0.65, the argument made by former opponent 2 that the skilled person would automatically arrive at the solid milk as defined in claim 1, including the content ratio of free fat, fails to convince.

5.6 Thus, the subject-matter of claim 1 as granted involves an inventive step (Article 56 EPC).

6. *Inventive step - claim 9 as granted*

6.1 The opposition division decided that claim 1 of the seventh auxiliary request filed during the opposition proceedings, which is identical to claim 9 as granted, lacked inventive step over D1 alone.

Like the opposition division, former opponent 2 took D1 as the closest prior art, whereas former opponent 1 opted for D2.

6.2 The closest prior art

6.2.1 D2 is more remote from the subject-matter of claim 9 as granted because it does not describe a humidifying step or moisture content.

6.2.2 Thus, the closest prior art is D1, as was also the case in the decision under appeal.

6.3 Distinguishing features

6.3.1 The process for manufacturing the densified product in D1, as described in claim 7, comprises the following steps:

- milk-based particles are wetted and agglomerated with a fluid
- the wetted particles are sieved through a sieve
- the sieved particles are densified and
- the product is dried to reach a moisture level of around 3%.

6.3.2 Claim 9 as granted differs from the process in D1 in that

- the content ratio of free fat in the compacted body of powdered milk is 0.5 wt% to 4 wt%
- a humidification step occurs in which a defined amount of moisture is added to the compacted body of powdered milk before the drying step.

6.4 As already discussed above in point 5.4, even if the problem to be solved was the provision of a further (alternative) solid milk, it was not obvious to adjust the content ratio of free fat within the claimed range. This reasoning applies *mutatis mutandis* to claim 9 irrespective of the appellant's argument that an improvement is achieved by the claimed process. In other words, the process in claim 9 is at least a non-obvious alternative to the process disclosed in D1. The question whether the further distinguishing feature provides an inventive contribution need not be addressed.

6.5 Thus, the subject-matter of claim 9 as granted involves an inventive step (Article 56 EPC).

7. Since the claims of the patent as granted are allowable, there is no need to address the auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is maintained as granted.

The Registrar: The Chairman:

A. Nielsen-Hannerup A. Haderlein

Decision electronically authenticated