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**Datasheet for the decision
of 3 April 2007**

Case Number: T 0864/04 - 3.3.09

Application Number: 96932854.1

Publication Number: 0863710

IPC: A23B 5/005

Language of the proceedings: EN

Title of invention:

A method and a device for treating a liquid egg product

Patentee:

Den Hollander Licenties B.V., et al

Opponent:

Invensys Process Systems A/S APV Unit Systems

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 99(1)
EPC R. 55 c

Keyword:

"Admissibility of opposition - yes"
"Novelty - yes"
"Inventive step - yes"

Decisions cited:

T 0185/88

Catchword:

-



Case Number: T 0864/04 - 3.3.09

DECISION
of the Technical Board of Appeal 3.3.09
of 3 April 2007

Appellant: Invensys Process Systems A/S APV Unit Systems
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Representative: Thierry-Carstensen, Ole Jean
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Respondent: Den Hollander Licenties B.V.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 21 May 2004
rejecting the opposition filed against European
patent No. 0863710 pursuant to Article 102(2)
EPC.**

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Jardón Álvarez
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. The grant of European patent No. 0 863 710 in respect of European patent application No. 96932854.1 in the name of Den Hollander Engineering B.V. (now Den Hollander Licenties B.V.) and Cutler Dairy Products, Inc. which had been filed on 20 September 1996, was announced on 28 November 2001 (Bulletin 2001/48) on the basis of 6 claims, Claim 1 reading as follows:

"1. A method for treating a liquid egg product substantially consisting of egg white and/or egg yolk in order to obtain an extended shell life ("ESL"), wherein said egg product is subjected to a brief heat treatment at a temperature of more than 78 °C, **characterized in that** said brief heat treatment is carried out by means of steam infusion, whereby the egg product is prevented from coming into contact with a hot surface of a piece of solid matter and wherein said egg product afterwards is subjected to a pasteurization treatment, whereby said egg product is maintained at a temperature of more than approx. 60 °C for some time, for example a few minutes."

II. Notice of Opposition requesting the revocation of the patent in its entirety on the grounds of Article 100(a) EPC, was filed by Invensys Process Systems A/S on 19 August 2002.

During the opposition proceedings the following documents were cited:

D1: US - 5 670 198

D1a: US - 5 290 583

D2: EP - B - 0 794 706

D2a: WO - A - 96/16556

D3: EP - B - 0 610 410

D3a: WO - A - 93/08697

D4: EP - B - 0 650 332

D4a: WO - A - 93/12673

III. By its decision orally announced on 1 April 2004 and issued in writing on 21 May 2004, the Opposition Division rejected the opposition.

The Opposition Division, rejecting the Patentee's request, considered the opposition admissible because it met the requirements of Articles 99(1) and 100 EPC, and Rules 1(1) and 55 EPC. In this context it was in particular held that documents D1a, D2a, D3a and D4a were sufficiently cited by virtue of their being referred to in the corresponding later published documents D1, D2, D3 and D4 which were mentioned in the grounds of opposition.

In the opinion of the Opposition Division the patent met the requirements of novelty since there was no disclosure in D1a of the use of a steam infusion treatment at a temperature of 78 °C. Rather, D1a disclosed the treatment of a liquid egg by means of electro heating and provided a general statement about

the possibility of using steam infusion at a temperature of 74 °C.

Concerning inventive step, the Opposition Division considered the problem to be solved as being to provide a liquid egg product having an extended shelf life while preserving its functional properties (i.e. preventing coagulation). The solution to this problem, namely the combination of a rapid heat treatment by means of steam infusion at a temperature of at least 78°C followed by pasteurization at a temperature of more than 60°C for a few minutes was not obvious in the light of the available prior art. In the opinion of the Opposition Division documents D1a and D4 could not be combined in order to reach this solution of the problem because the milk product of D4 was different from a liquid egg product and would react differently under similar conditions. Moreover D1a alone taught away from the invention since steam infusion was not recommended in D1a.

IV. On 5 July 2004 the Appellant (Opponent) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 17 September 2004, the Appellant requested that the decision of the Opposition Division be set aside and the patent be revoked because the subject-matter of the claims lacked novelty and/or inventive step. The Appellant also filed a further document:

D5: AU - 610 233

V. The Respondents (Patent Proprietors) presented their counterstatement in a written submission dated 17 February 2004. The Respondents disputed all the arguments submitted by the Appellant. They requested that the patent be maintained in unamended form and the opposition be rejected as inadmissible.

VI. On 2 October 2006 the Board dispatched the summons to attend oral proceedings on 3 April 2007. In a Communication dated 16 February 2007 with a preliminary opinion, the Board informed the parties that the opposition was considered admissible, the claimed subject-matter was considered novel and that the issue of inventive step would be decided during the oral proceedings.

VII. By letter dated 7 March 2007, the Appellant informed the Board that it would not attend and would not be represented at the oral proceedings.

VIII. The Respondents, in a submission dated 16 March 2007, again requested the maintenance of the patent in unamended form (main request) and filed six sets of claims for auxiliary requests 1 to 6.

The Respondents also asked the Board if it was its intention to maintain the patent on the basis of their main request. In that case the Respondents would also not be represented at the oral proceedings in order to save unnecessary and substantial travel and hotel costs, and professional fees.

- IX. In a communication of the Board dated 29 March 2007, the Parties were informed that in the preliminary opinion of the Board, the claimed subject-matter involved an inventive step.
- X. By letter dated 30 March 2007, the Appellant withdrew its request for oral proceedings.
- XI. In a communication dated 30 March 2007 the Board informed the Parties that the oral proceedings would be held.
- XII. By letter dated 2 April 2007, the Respondents informed the Board that they would not attend the oral proceedings.
- XIII. Oral proceedings before the Board were held on 3 April 2007 in the absence of the Parties.
- XIV. The Appellant's arguments filed in writing with the Grounds of Appeal may be summarised as follows:
- The Appellant denied the novelty of Claim 1 of the patent because all its features were known from the prior art. From D2a it was known to treat various heat sensitive products in a plant comprising an infusion chamber and a vacuum chamber. Although eggs were not mentioned in D2a the Appellant considered for the purposes of its novelty attack that it was obvious to let eggs be treated in the plant of D2a because eggs were also heat sensitive products.

- Also document D1a was considered novelty destroying for Claim 1 of the patent in suit. D1a disclosed a pasteurization and heat treatment of egg products at temperatures which might be at least 82 °C or higher and a further heat treatment at about 60 °C. For liquid egg white the preheating at ≤ 56.6 °C and for liquid egg yolk \leq approx. 61 °C was preferred but preheating temperatures in excess thereof were also acceptable, e.g. ≤ 65 °C. Although in D1a the pasteurization was conducted by way of preheating, nothing was said about whether the brief treatment had to be done before the so-called pasteurization in the patent in suit.

 - Concerning inventive step the Appellant considered that the claimed method did not have any inventive merit over the disclosure of D1a. The examples in D1a showed that using electro heating resulted in extended refrigerated shelf life. D1a recognized that particularly high temperatures necessitated very brief periods of thermal exposure of the liquid egg and no invention could be seen in the replacement of electro heating by steam treatment under similar conditions.
- XV. The arguments of the Respondents were filed in writing with letter dated 16 March 2007. They may be summarised as follows:
- The Respondents contested the conclusion in the attacked decision that the opposition was admissible. The Opposition as originally filed was based on documents which had all been published after the priority date of the patent in suit. In the absence

of support of the opposition by any pre-published document it should be regarded as inadmissible.

- Concerning novelty the Respondents noted that D2a did not disclose a method for treating a liquid egg product and D1a did not disclose a brief heat treatment carried out by means of steam infusion.

- Concerning inventive step they pointed out that none of the cited documents suggested the combination of a first shorter treatment at a higher temperature, followed by a longer treatment at a lower temperature. Documents D3a and D4a concerned methods of treating a milk product at temperatures at which the liquid egg product would coagulate and document D1a even taught away from the claimed invention as it discouraged the skilled person from using steam infusion.

XVI. The Appellant requested in writing that the decision under appeal be set aside and that the European patent No. 0 863 710 be revoked.

The Respondents requested in writing that the opposition be declared inadmissible and that the appeal be dismissed (main request), alternatively that the patent be maintained on the basis of any of the auxiliary requests 1 to 6 filed with letter dated 16 March 2007.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility of the opposition.*
 - 2.1 The Respondents in their first written submissions, without giving further details, "repeated" their request that the opposition be rejected on the same grounds as filed in writing during the opposition procedure. At that instance they had raised the objection that the opposition was inadmissible because the Notice of Opposition solely relied on evidence that was not as a matter of law able to support the objections made because it did not form state of the art under Article 54(1) or 56 EPC. Later reliance on corresponding evidence whose identification required some investigation could not cure this defect.
 - 2.2 Assuming that such a request is admissible in respect of Article 10 a) RPBoA, it is at least clear when referring to the Respondents' later written submissions that they have no further arguments in support of the inadmissibility than those submitted before the Opposition Division. They explain in these later submissions that the Opposition Division was wrong when it regarded D1a as "cited" in the Notice of Opposition as there was not a "clear reference to the relevant previous publication", "apparent at first sight" in the meaning of T 185/88 (OJ EPO, 1990, 451). Thus, according to the Respondents there was an undue burden on them to find out which application had been published before their patent application.

2.3 However, the Board notes that the cited case law, T 185/88, is an application of Article 99(1) EPC and Rule 55c) EPC to the specific circumstances of the case where there was a confusion of documents, ie a document had been erroneously cited instead of the corresponding unexamined application. It is clear that the facts of the current case with respect to the situation of D1a are totally different and the question does not arise therefore in the same terms.

Rather, the point to assess here with regard to the question whether document D1a was appropriately identifiable evidence is whether its express mention in the Notice of Opposition in relation to D1 by the statement: "(divided out inter alia of US-PS No. 5,290,583)" is sufficiently precise to enable the reader (here the Patentee) to find out the date of the publication of this precise document. In the Board's view, this was indeed the case because no undue burden was involved to discover D1a's publication date, D1a being the parent patent of D1. The reference of the Patentee to other US patents of the same family is of no relevance at all, because it was clear from the grounds of opposition themselves which was the parent patent into which it was necessary to look.

2.4 Apart from these considerations concerning D1a, the admissibility of the opposition is also established, in direct analogy to T 185/88, by the fact that the further documents D2, D3 and D4 cited in the Notice of Opposition contain a reference to the corresponding pre-published international publications, D2a, D3a and D4a, including their publication dates, making it immediately clear that the wrong document was cited as

evidence in the Notice of Opposition and which was the document that should have been cited.

2.5 For these reasons, the opposition is admissible.

MAIN REQUEST

3. *Novelty (Article 54 EPC).*

3.1 Claim 1 of the patent is essentially directed to a method for treating a liquid egg product wherein:

- the egg product is subjected to a brief heat treatment by means of steam infusion at a temperature of more than 78 °C and
- it is afterwards subjected to a pasteurization treatment at a temperature of more than approx. 60°C.

3.2 The novelty of this claim was contested by the Appellant having regard to documents D2a and D1a.

3.3 Document D2a, filed on 14 November 1995 and claiming a priority date of 28 November 1994, was published on 6 June 1996, after the priority date of the present patent (21 September 1995). It is therefore to be considered as state of the art according to Article 54(3), (4) EPC.

Document D2a discloses a plant for treating heat-sensitive fluid foodstuffs using steam (see Claim 1). As heat sensitive foodstuffs, D2a mentions a whey protein concentrate, which is a product with a high content of whey protein used for the production of baby

food (page 5, lines 18 - 21) and "cheese milk", which is ordinary milk to be used for the production of cheese (page 6, lines 2 - 3).

However, document D2a does not mention the use of eggs as fluid foodstuffs. The subject-matter of Claim 1 of the patent differs from the disclosure of D2a in that it is directed to a method for treating liquid eggs, which are not disclosed in D2a.

The Respondent acknowledged in its Statement setting out the Grounds of Appeal (page 2, second paragraph) that eggs were not disclosed in D2a and argued that it would have been obvious to treat eggs in the plant of D2a. However, obviousness is a question of inventive step and not of novelty.

- 3.4 Document D1a discloses essentially a method of pasteurizing liquid egg by electro heating with electric current having a frequency effective to heat the egg without electrolysis (see Claim 1).

There is in D1a no disclosure of a steam infusion treatment at temperatures higher than 78 °C. There is also no disclosure of a further pasteurization treatment.

The Appellant noted that in the introduction of D1a (column 1, lines 31 - 36) reference was made to the use of steam infusion for pasteurizing eggs and considered this disclosure an anticipation of Claim 1 of the patent. However, in this passage, which merely acknowledges the prior art, a lower temperature

(73,8 °C) is mentioned and no further pasteurization step is described.

3.5 The Appellant also based its novelty attack on the fact that the single features of the claimed process were known from different documents. However, in order to anticipate the subject-matter of a claim, all the features must be disclosed in only one document.

3.6 For these reasons the subject-matter of Claim 1 of the patent in suit is novel (Article 54 EPC).

4. *Inventive step (Article 56 EPC).*

4.1 Closest prior art.

4.1.1 The patent relates to a method for treating a liquid egg in order to obtain an extended shelf life.

There are a number of techniques which are known for pasteurizing and processing liquid eggs, including the use of heat exchangers, steam infusion or combination of both.

4.1.2 Document D1a, which is considered the closest prior art, discloses in Claim 1 a method of pasteurizing liquid egg which includes electroheating a liquid egg using electric current having a frequency which is effective to heat the liquid egg without electrolysis. By using electroheating it is possible to pasteurize liquid egg at temperatures "up to at least about 180°F [82,2 °C] or higher" (column 11, lines 39 - 50).

4.2 Problem to be solved and its solution.

4.2.1 The technical problem underlying the patent vis-à-vis D1a is the provision of an alternative method for treating liquid egg to obtain an egg product having an extended shelf life which meets the standard quality requirements.

4.2.2 This technical problem is solved by the method of Claim 1, which includes a brief heat treatment at a temperature of more than 78 °C by means of steam infusion followed by a pasteurization treatment at a temperature of more than approximately 60 °C.

4.2.3 The results of the examples show that this problem has been credibly solved. After the brief heat treatment at a relatively high temperature the quality and/or quantity of the remaining microbial life is such that this remainder can be effectively killed by applying a low temperature pasteurization step. The method yields an egg product with the required long shell life and excellent taste properties, whilst high bacteria extermination is achieved. The functional and physical properties of the treated egg remain practically unchanged after a period of at least ten weeks (see [0035] - [0037]).

Moreover, the Respondents stated in their letter dated 16 March 2007 that such beneficial results could not be achieved if the short heat treatment was carried out after the pasteurization treatment. This reversed sequence does not kill microbial life as effectively as the claimed method, resulting in a shorter shell life.

4.3 Obviousness.

4.3.1 It remains to be decided whether, in view of the available prior art documents, it would have been obvious for the skilled person to solve this technical problem by the means claimed, namely by using a short steam infusion at relatively high temperatures followed by a pasteurization step.

4.3.2 From the documents cited during the opposition proceedings only document D1a deals with the treatment of eggs and uses electro heating for the pasteurization of the eggs. D1a advises against the use of steam infusion as the use of steam requires the separation of the condensed steam and residual water from the liquid egg during processing and thus requires expensive and elaborate equipment (col. 1, lines 31 - 36). Consequently D1a cannot as such suggest the claimed method.

The further documents cited in the opposition proceedings relate mainly to the sterilization of milk by using treatments different from the one now claimed (see D3a, abstract; D4a Claim 1 and page 10, lines 8 - 19) and carried out under temperatures at which a liquid egg product would coagulate.

4.3.3 Hence, the Board considers that, in the light of the cited prior art, it would not have been obvious to a person skilled in the art, starting from the process of D1a, to arrive at the process as claimed in Claim 1. The subject-matter of Claim 1 thus involves an inventive step within the meaning of Article 56 EPC.

4.3.4 Claims 2 to 6 are dependent on Claim 1 and therefore also satisfy the requirements of Article 56 EPC.

5. As the main request of the Respondents is allowed, there is no need for the Board to deal with the auxiliary requests 1 to 6.

6. The patent in suit is accordingly maintained in the form as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

G. Röhn

P. Kitzmantel