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Datasheet for the decision of 7 November 2023

Case Number: T 1200/21 - 3.3.09

Application Number: 15192561.7

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Language of the proceedings: EN

Title of invention:
METHOD FOR DEFROSTING OF RAW FROZEN MEAT-PRODUCTS

Patent Proprietor:
GEA Food Solutions Bakel B.V.

Opponent:
Metalquimia, SAU

Headword:
Method for defrosting meat/GEA

Relevant legal provisions:
EPC Art. 100(a), 56

Keyword:
Inventive step - main request (no) - auxiliary request (no)

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Case Number: T 1200/21 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 7 November 2023

Appellant: (Opponent)	Metalquimia, SAU C/ Sant Ponç de la Barca, s/n 17007 Girona (ES)
Representative:	Juncosa Miró, Jaime Torner, Juncosa i Associats, S.L. C/Pau Claris, 108, 1r 1a 08009 Barcelona (ES)
Respondent: (Patent Proprietor)	GEA Food Solutions Bakel B.V. Beekakker 11 5761 EN Bakel (NL)
Representative:	Kutzenberger Wolff & Partner Waidmarkt 11 50676 Köln (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 28 May 2021 rejecting the opposition filed against European patent No. 3000326 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	A. Haderlein
Members:	F. Rinaldi
	N. Obrovski

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the opponent (appellant) against the opposition division's decision to reject the opposition.

II. In its notice of opposition, the opponent had requested that the patent be revoked based on Article 100(a) EPC (lack of inventive step), among other reasons.

III. The following documents are relevant for the decision:

D1: WO 2004/066742 A1
D2: English translation of JP 2004-357627

IV. With its reply to the statement setting out the grounds of appeal, the patent proprietor (respondent) filed two auxiliary requests.

V. The claims relevant to this decision are:

Claim 1 of the main request (patent as granted), which reads as follows:

"*Method for defrosting of raw frozen meat-products in a tumbler, which comprises a drum, whereas the frozen meat is added to the drum, characterized in, that vacuum is maintained in the drum lower than 300 mbar while steam is injected and that the meat is heated and cooled via the surface of the drum and/or the surface of carriers.*"

Claim 1 of auxiliary request 1, in which the term "and/or" in claim 1 of the main request has been replaced by "and".

Claim 1 of auxiliary requests 2 and 3, which is based on claim 1 of the main request and auxiliary request 1, respectively, to which a feature specifying that the carriers are arranged inside the drum has been added.

VI. The parties' arguments are discussed in the "Reasons for the Decision" below.

VII. The parties' final requests are as follows:

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that the appeal be dismissed or, alternatively, that the patent be maintained in amended form according to auxiliary request 1 as filed in the opposition proceedings by letter dated 15 February 2021, or according to one of auxiliary requests 2 and 3 as filed with the reply to the statement setting out the grounds of appeal.

Reasons for the Decision

1. *Patent in suit*

The patent relates to a method for defrosting raw frozen meat products in a drum. The meat is heated and cooled via the surface of the drum. During the process, steam at reduced pressure is injected into the drum.

2. *Article 100(a) EPC - inventive step*

2.1 In the decision under appeal, the opposition division decided that the subject-matter of claim 1 involved an inventive step. Starting from D1 as the closest prior art, the skilled person would not have had to turn to D2 to solve the technical problem.

2.2 It is uncontested that D1 is the closest prior art. This document relates to a process for thawing frozen meat provided in blocks. The process involves a pre-treatment in which pressure is applied to the frozen meat blocks to break them up. This step is followed by a process of thawing the frozen meat in a conventional rotating container. The container and/or mixer means are provided with a cavity in which hot liquid circulates. To reduce the thawing time, steam at a reduced pressure is introduced into the container during rotation. In the last steps of the process, the container may be subjected to cooling.

2.3 With regard to the distinguishing features of claim 1, the parties had differing opinions. The respondent's view was that D1 did not disclose the following features:

(a) the meat is heated via the surface of the drum or carriers

(b) the vacuum is maintained in the drum at lower than 300 mbar while steam is injected

(c) the meat is cooled via the surface of the drum or carriers

2.4 Feature (a)

2.4.1 The respondent argued that the heating of the container was disclosed in D1 only in the introductory part of the document, where the prior art was discussed. Therefore, the heated container was not a part of the invention of D1.

2.4.2 However, as explained above in point 2.2, D1 discloses a conventional method for thawing meat, to which a pre-treatment step is added. The method for thawing meat of D1 involves the use of a conventional rotating container known from and described in the prior art. The container and the mixer means, i.e. the blades or carriers within the drum, are equipped with a cavity in which hot liquid circulates. In other words, D1 discloses a method for thawing meat, which comprises the step of heating meat via both the surface of a container (i.e. the drum) and the carriers within it.

2.4.3 Thus, feature (a) is not a distinguishing feature.

2.5 Feature (b)

2.5.1 The parties agree that D1 does not mention maintaining the pressure below 300 mbar while steam is injected.

2.5.2 The board notes that D1 teaches supplying steam to the container at a reduced pressure, for example at 200 mbar. However, D1 does not disclose doing so precisely while steam is injected.

2.5.3 Thus, feature (b) is a distinguishing feature.

2.6 Feature (c)

2.6.1 D1 also discloses a cooling step, after the step of applying steam at a reduced pressure. The relevant passage (bridging pages 3 and 4) reads as follows:

"*Brine may moreover be added during the process, as needed. Flavouring agents may be added to the brine, as needed. In the last steps of the process, the container may be subjected to cooling, likewise to prevent the surface temperature of the meat from getting too high*."

2.6.2 The respondent's understanding of this passage was, firstly, that cooling occurred by adding (cold) brine. This meant that cooling did not occur via the surface of the drum. Secondly, this step did not even disclose the cooling of meat. All that the passage described was that the container was subjected to cooling. Yet whether the meat itself was cooled depended on the temperature of the surface of the meat. The passage contained no information in that regard.

2.6.3 The respondent's interpretation of the passage is not persuasive. The passage is positioned within the description of D1 right after the step of treating the meat with steam at reduced pressure. D1 teaches that as a consequence of applying steam, the surface temperature of the meat may become too high and a colour change may occur. Consequently, the skilled reader would readily understand that the last steps of subjecting the container to cooling has the purpose of preventing the surface temperature of the meat from getting too high. Considering this, the reason for subjecting the container of D1 to cooling is manifestly

to cool the meat. In short, D1 also discloses the step of cooling meat.

2.6.4 The cited passage also describes that brine may be added during the process, whereas cooling occurs in the last steps of the process. This indicates that the cooling is not provided by the brine itself. Instead, cooling is apparently provided by other means.

2.6.5 Be that as it may, the board accepts that D1 does not teach that the cooling occurs via the surface of the container. Feature (c) is considered to be a distinguishing feature but only for the reason that D1 does not disclose how the meat is cooled.

2.7 In sum, the distinguishing features of claim 1 are:

- maintaining the pressure below 300 mbar while steam is injected

- cooling via the surface of the drum and/or the surface of the carriers

2.8 Technical effect and technical problem

2.8.1 In the decision under appeal, the opposition division correctly formulated the technical problem as how to provide a method to defrost frozen meat that allows for faster heat transfer without causing cooking or discolouration of the meat.

2.8.2 There is no doubt that the distinguishing features identified above solve this technical problem.

2.8.3 However, the respondent's view was that the features of claim 1 solved a different problem, namely to provide

an increased yield. In its view, during the thawing process of claim 1 the meat picked up water, so that the weight of the meat was increased relative to the initial weight of the frozen meat. This was described in paragraph [0014] of the patent. In the respondent's opinion, the distinguishing features interacted in a synergistic way.

2.8.4 The board fails to see any evidence in the patent of a synergistic effect caused by the two distinguishing features. In particular, there is no explanation, let alone experimental evidence, that cooling the meat via the surface of the container provides an effect that is not observed when meat is cooled by other means.

2.8.5 While it is true that the patent describes that cooling leads to water being picked up by the meat, the effect is described as being caused by the cooling of the meat itself. In other words, picking up water occurs intrinsically and unavoidably during the step of cooling the meat. Considering that this step is also disclosed in D1, the stated effect cannot be considered in the formulation of the technical problem.

2.8.6 In sum, the distinguishing features do not cause the alleged effect of increasing the weight relative to the initial weight of the frozen meat. There is thus no reason to reformulate the technical problem identified above (see point 2.8.1).

2.9 Obviousness

2.9.1 What has to be assessed is whether the skilled person would have provided the solution set out in claim 1 to solve the technical problem.

2.9.2 In D1, the heating of the container and the carriers is achieved by providing cavities therein with hot liquid. D1 also explicitly discloses subjecting the container to cooling and regulating and controlling the supply of energy to the container. Considering that the container and carriers of D1 are equipped with cavities through which liquid is circulated to provide heat, cooling by circulating chilled liquid through the same cavities is a measure the skilled person would readily apply. They would implement the feature stipulated in D1 of cooling the container without having to exercise any inventive skill.

2.9.3 As to the conditions for providing steam into the container at a reduced pressure, the respondent argued that the skilled person would not turn to D2 because the tank in D2 was static, not a drum suitable for rotating as in claim 1.

2.9.4 This is not convincing. The closest prior art already suggests the application of steam at reduced pressure. D2 describes a thawing process using steam and vacuum to produce the condensation of the steam on the surfaces of the meat product at a controlled temperature. Steam is a gas. It expands into the container and reaches all exposed surfaces of the frozen meat pieces. The pressure in the tank of D2 is regulated to be maintained within a predefined range. In the example on page 8 of D2, the pressure is firstly below 22 mbar, then below 18 mbar and finally below 14 mbar when steam is supplied. Such a process is said to be both efficient and mild.

2.9.5 Therefore, when implementing the process disclosed in D1 with a view to solving the problem posed, the skilled person would apply the conditions set out in

D2. No technical difficulty can be seen in applying the conditions used in the static tank of D2 in the rotating container of D1. In this regard it should be noted that the container of D1 is already equipped with means for supplying steam at reduced pressure.

2.9.6 It follows from this that the subject-matter of claim 1 would have been obvious to the skilled person in view of D1 in combination with D2.

2.10 To conclude, the ground for opposition under Article 100(a) EPC prejudices the maintenance of the patent as granted.

3. *Auxiliary requests - inventive step*

3.1 Auxiliary request 1

3.1.1 In claim 1 of auxiliary request 1, heating and cooling via the surface of the drum and the surface of the carriers is a mandatory feature.

3.1.2 With reference to paragraph [0019] of the patent, the appellant argued that claim 1 involved a massaging step, using the surface of the drum and the carriers. During this step, water was taken up by the meat. This led to a further increase in yield.

3.1.3 This is not persuasive, for several reasons.

3.1.4 To begin with, paragraph [0019] discloses specific conditions, such as rotating the drum and reaching a target temperature, and a specific sequence of steps. However, these conditions and this specific sequence are not called for in claim 1. On this basis alone, the

effect, if any, is not achieved over the whole scope of claim 1.

3.1.5 Furthermore, the drum in D1 also comprises carriers, which implicitly lead to a massaging of the meat. The effect, if any, would already be achieved by the features disclosed in D1.

3.1.6 Finally, considering the teaching of D1 and in the absence of a demonstrated technical effect, the skilled person would provide a process in which the meat is cooled via the surface of both the drum and the carriers (see point 2.9.2 above).

3.1.7 Therefore, the subject-matter of claim 1 of auxiliary request 1 does not involve an inventive step.

3.2 Auxiliary requests 2 and 3

3.2.1 The amendments in auxiliary requests 2 and 3 address a possible issue of added subject-matter. These amendments are not suitable for providing an inventive contribution over the prior art.

3.2.2 The respondent did not argue that the added features provided such a contribution. No aspect is apparent that would render the subject-matter of these claims inventive.

3.2.3 Therefore, the subject-matter of claim 1 of auxiliary requests 2 and 3 does not involve an inventive step.

3.3 To conclude, none of the auxiliary requests is allowable under Article 56 EPC.

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:

H. Jenney A. Haderlein

Decision electronically authenticated