

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 4 June 2013**

Case Number: T 1144/11 - 3.3.09
Application Number: 95200081.8
Publication Number: 667102
IPC: A23B 4/06, F25D 13/06,
A22C 9/00, A22C 5/00,
A23L 1/318

Language of the proceedings: EN

Title of invention:

Method and device for preserving the meat of a slaughtered
bird

Patent Proprietor:

STORK PMT B.V.

Opponents:

AIR PRODUCTS AND CHEMICAL, INC.
Meyn Food Processing Technology B.V.

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty - yes"
"Inventive step - yes"

Decisions cited:

T 0824/06

Catchword:

-



Case Number: T 1144/11 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 4 June 2013

Appellant: Meyn Food Processing Technology B.V.
(Opponent 02) Noordeinde 68
NL-1511 AE OOSTZAAN (NL)

Representative: Van Breda, Jacobus
Octrooibureau Los & Stigter
P.O. Box 20052
NL-1000 HB Amsterdam (NL)

Respondent: STORK PMT B.V.
(Patent Proprietor) Handelstraat 3
NL-5831 AV Boxmeer (NL)

Representative: Mertens, Hans Victor
Exter Polak & Charlouis B.V. (EP&C)
J.J. Viottastraat 31
NL-1071 JP Amsterdam (NL)

Party as of right: AIR PRODUCTS AND CHEMICALS, INC.
(Opponent 01) 7201 Hamilton Boulevard
Allentown, PA 18195-1501 (US)

Representative: Stones, James Alexander
Beck Greener
Fulwood House
12 Fulwood Place
London WC1V 6HR (GB)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted
19 April 2011 concerning maintenance of
European patent No. 667102 in amended form.**

Composition of the Board:

Chairman: W. Sieber
Members: J. Jardón Álvarez
F. Blumer

Summary of Facts and Submissions

I. This appeal lies from the interlocutory decision of the opposition division dated 19 April 2011 that European patent No. 0 667 102 as amended meets the requirements of the EPC.

II. The patent in the name of STORK PMT B.V. was opposed on the grounds as set forth in Articles 100(a), (b) and (c) EPC by AIR PRODUCTS AND CHEMICALS, INC. (opponent 01) and by Meyn Food Processing Technology B.V. (opponent 02). The documents cited during the opposition proceedings included:

D1: DE 37 27 079 A1;

D2: S. Scholtyssek *et al.*, Geflügel, Eugen Ulmer GmbH & Co., 1987, pages, 421 to 424;

D3: US 2 942 429 A;

D5: R.W.A.W. Mulder *et al.*, "Evaporative air-chilling of poultry". Processing and Quality of Foods, Vol. 3, Ed. P. Zenthen, *et al.*, Elsevier Applied Science, 1990, pages 3.128 to 3.140;

D10: POULTRY PROCESSING international, VIV Sonderheft, November 1990 (3 pages); and

O6: R.A. Lawrie, Meat Science, fifth Edition, Pergamon Press, 1991, pages 58 to 60 and 86 to 88.

- III. The patent was revoked on 29 March 2006 in a first decision of the opposition division on the grounds of added subject-matter and insufficiency of disclosure.
- IV. In the first appeal proceedings, the present board in a different composition decided in decision T 824/06 of 9 December 2008 that the subject-matter of claims 1 to 8 of the first auxiliary request filed by the patent proprietor under cover of a letter dated 3 August 2006 fulfilled the requirements of Articles 123, 83 and 84 EPC. The board also decided to remit the case to the opposition division for further prosecution of the other patentability issues, namely novelty and inventive step.

Claim 1 of the first auxiliary request read as follows:

"1. Method for preserving the meat of a slaughtered chicken or part thereof, characterized by the following successive cooling steps:

- (1) a first cooling step performed in a first cooling zone in which the slaughtered chicken or the part thereof is moistened and placed in a cold air stream for no more than 0.5 hour until the core temperature of the meat is lower than the temperature at which heat shortening occurs; and
- (2) a second cooling step performed in a second cooling zone in which the slaughtered chicken or the part thereof is placed in cold air for no more than 2 hours, in the course of which the core temperature of the meat remains higher than the temperature at which cold-shortening occurs;

during which successive steps the temperature of the surface of the chicken or part thereof is brought to a maximum of 15°C, in particular to a maximum of 12°C, for keeping the germ counts of the decay-causing and pathogenic micro-organisms remain below a predetermined value,

the first and the second cooling steps being in the processing line, the first cooling step following a step of making oven-ready of the chicken, and the second cooling step being followed by a step of jointing the chicken."

Claims 2 to 8 were dependent claims.

- V. In its second decision announced orally on 3 March 2011 and issued in writing on 19 April 2011, the opposition division considered that the subject-matter of the claims remitted by the board of appeal was novel and involved an inventive step.

The opposition division acknowledged the novelty of the claimed subject-matter because there was no specific mention of chicken in D1 and because neither figure 7 of D1 nor figures 1 and 2 of D5 disclosed the essential feature of the claimed process, namely two successive cooling steps performed in two cooling zones.

The opposition division considered D5 to represent the closest prior art document and saw the problem to be solved by the patent as being "the provision of a process for preserving the meat of slaughtered chicken which provides a tender meat product" (emphasis by the opposition division). The opposition division

- acknowledged an inventive step because in its opinion it was not obvious from the cited prior art to carry out a two step cooling process as claimed in order to obtain tender meat.
- VI. On 13 May 2011 opponent 02 (in the following: the appellant) filed an appeal against the second decision of the opposition division and on the same day paid the prescribed fee. The statement setting out the grounds of appeal was filed on 29 July 2011. The appellant requested that the opposition division's decision be set aside and that the patent be revoked.
- VII. In its reply dated 6 February 2012 the patent proprietor (in the following: "the respondent") disputed the arguments submitted by the appellant and requested that the appeal be dismissed.
- VIII. On 14 March 2013 the board dispatched a summons to attend oral proceedings. In the attached communication the board expressed its preliminary opinion that the subject-matter of the claims was novel and indicated that the main issue to be discussed during the oral proceedings would be inventive step.
- IX. Opponent 01, party as of right, took no active part in the appeal proceedings and did not file any request. In its only letter dated 16 May 2013 it indicated that it would not be represented at the oral proceedings.
- X. On 4 June 2013 oral proceedings were held before the board. In accordance with its letter of 16 May 2013, opponent 01 did not attend. The appellant essentially based its inventive step attack on the disclosure of D3

and common general knowledge (common sense approach). As regards its previous inventive step attacks it relied on its written submissions.

After the board had informed the parties of its opinion that the subject-matter of the claims was novel and involved an inventive step, the appellant pointed out that paragraph [0022] on page 3 of the specification was not adapted to the wording of the claims. The respondent then filed an amended page 3 and both parties agreed that the amendment made to paragraph [0022] overcame the objection raised by the appellant.

XI. The arguments presented by the appellant in its written submissions and at the oral proceedings, insofar as they are relevant for the present decision, may be summarised as follows:

- The subject-matter of claim 1 lacked novelty in view of the disclosures of D1 and D5. In fact, claim 1 of the patent did not require the application of different time regimes and different temperature regimes in the two cooling zones. The claim did not exclude the use of one and the same temperature in a first cooling zone which was also applied in a second cooling zone of a single room through which the poultry was moved, provided that the dimensions of the zones were selected at values that caused that the poultry passed the first zone in less than 0.5 hour thereby reducing the core temperature of the meat to a level lower than the temperature at which heat shortening occurs, and that the poultry subsequently passed a second cooling zone in less

than 2 hours, in the course of which the core temperature of the meat remained higher than the temperature at which cold shortening occurs. In view of this interpretation of the claim, the chilling experiments disclosed in figures 1 and 2 of D5 and in claim 1 and in figure 7 of D1 anticipated the subject-matter of claim 1. Concerning D1, the appellant conceded that it did not mention chicken, but maintained that chicken was in any case covered by the broad disclosure of D1 that was not limited to the exemplified embodiments. Moreover meat of poultry did not behave differently from meat of turkeys, and turkeys were specifically disclosed.

- The claimed process was obvious for the skilled person, it was merely the logical consequence of the developments in the field. Old prior art methods as disclosed in D3 already used two cooling regimes for the chilling of poultry. Such processes were done using a water bath under adequate conditions for avoiding heat and cold shortening. In view of the prohibition of water chilling due to hygienic considerations (cf. for instance D5), it would have been obvious for the skilled person to adapt the process of D3 replacing water chilling by air chilling. The skilled person would know from its general common knowledge (e.g. from the teaching of O6) which temperatures he had to use in order to avoid heat and cold-shortening, and would therefore automatically arrive at the claimed process. The exact times for both cooling steps were only a matter of routine experimentation and could not justify the finding of an inventive step.

- Alternatively, the claimed subject-matter also lacked inventive step over D1 alone or in combination with either D2 or D5 or over any of D1, D5 or D10 in combination with common general knowledge.

XII. The arguments of the respondent may be summarised as follows:

- D5 did not directly and unambiguously disclose the method of claim 1, namely neither the successive cooling steps in two cooling zones nor the inline processing of the chicken. D1 was not directed to the cooling of chickens and also did not disclose the claimed two successive cooling steps in two cooling zones.
- Concerning inventive step, the respondent pointed to the importance of the claimed two different cooling regimes. The cited prior art did not contain any hint for the skilled person to the claimed method. In fact the documents were silent on a relationship between the cooling process and "heat shortening" and/or "cold shortening". They did not recognize any relationship between these effects and they did not provide any information that would link the claimed cooling steps to meat tenderness.

XIII. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 667 102 be revoked, or, if the claims 1 to 8 as maintained by the opposition division were found to be allowable by the board, that paragraph [0022] of the patent specification be adapted.

XIV. The respondent requested that the patent be maintained on the basis of the following documents:

- claims 1-8 as filed with the letter dated 3 August 2006 as first auxiliary request (and as maintained by the opposition division);
- specification page 2 as filed during the oral proceedings before the board on 9 December 2008;
- specification page 3 as filed during the oral proceedings before the board on 4 June 2013;
- figure (page 6 of the specification) as published.

Reasons for the Decision

1. The appeal is admissible.
2. Claim 1 is directed to a method for preserving the meat of a slaughtered chicken or a part thereof (feature (a)) characterized by the following successive cooling steps:
 - 1) a first cooling step performed in a first cooling zone in which the slaughtered chicken or the part thereof is moistened and placed in a cold air stream for no more than 0.5 hour until the core temperature of the meat is lower than the temperature at which heat shortening occurs (feature (b)); and
 - 2) a second cooling step performed in a second cooling zone in which the slaughtered chicken or the part thereof is placed in cold air for no more than 2 hours, in the course of which the core temperature of the meat remains higher than the temperature at which cold-shortening occurs (feature (c));

during which successive steps the temperature of the surface of the chicken or part thereof is brought to a maximum of 15°C, in particular to a maximum of 12°C, for keeping the germ counts of decay-causing and pathogenic micro-organisms remain below a predetermined value (feature (d)),

the first and the second cooling steps being in the processing line, the first cooling step following a step of making oven-ready of the chicken, and the second cooling step being followed by a step of jointing the chicken (feature (e)).

- 2.1 The key characteristic of the method of claim 1 is the use of successive cooling steps performed in two cooling zones under two different cooling regimes (features (b) and (c)).
 - 2.1.1 The first cooling according to feature (b) is made for no more than 0.5 hours in order to avoid heat shortening. In effect, this first cooling is a quick cooling using evaporative air-chilling until the core temperature of the meat is lower than ca. 25°C, this temperature being approximately the temperature at which the occurrence of heat-shortening is avoided (see paragraph [0013] of the patent specification).
 - 2.1.2 This first cooling is followed by a second cooling for no more than 2 hours keeping the core temperature higher than the temperature at which cold-shortening occurs. This cooling is a slower cooling wherein an undesirable muscle contraction (cold-shortening) is prevented through taking sufficient cooling time for a

fall in the acidity of the meat below a critical value (see [0010]).

2.2 The cooling regimes used in both steps are therefore different. The use of a single cooling regime is not embraced by the scope of the claim.

3. *Novelty*

3.1 The appellant contests the novelty of the subject-matter of claim 1 having regard to the disclosures of documents D5 and D1.

3.2 *Document D5*

3.2.1 Document D5 gives a short survey on the development of chilling processes for poultry starting with water-chilling processes followed by air-chilling and new evaporative air-chilling processes (see Summary and Introduction). In the experimental part it provides a comparison between various chilling methods, namely air-chilling in a chilling tunnel, evaporative air-chilling in an experimental installation and water chilling in a counter-flow immersion chiller (page 3.134, 2. Chilling methods).

3.2.2 The appellant relies on the chilling experiments carried out in a pilot-plant air-chiller. Cross-sections of the evaporative air-chiller for low scalded broilers are shown in figure 1, the results of temperature measurements are given in figure 2. Although D5 does not disclose a method including two successive cooling steps in a first and in a second cooling zone as required by claim 1, the appellant

nevertheless regards its disclosure as novelty destroying essentially because in its opinion it is possible to "make an arbitrary division within a single cooling room to imaginary construe the two adjacent cooling zones" (page 5 of the statement of grounds of appeal, paragraph 14).

3.2.3 The board notes, however, that figures 1 and 2 of D5 relate to a cooling process using evaporative air-chilling. As indicated by the respondent, this cooling method is made under conditions wherein the water activity of the surface is kept close to its "maximum value during the entire chilling operation" (D5, page 3.131, lines 6 to 8 from the bottom). Thus, the cooling method of D5 relates to a method using a single cooling regime, which is not embraced by the scope of the claim (see also points 2.1 and 2.2 above).

3.2.4 Concerning the appellant's argument that it would be possible imaginarily to construe the two adjacent cooling zones, the board notes that there is no information in D5 where the 'imaginary' separation point of the zones could be found and whether in such zones the further requirements of features (b) and (c), namely that heat-shortening and cold shortening do not occur, are satisfied or not. D5 is silent about this aspect and the appellant has not provided any evidence or given any convincing reason why these requirements would be satisfied.

3.2.5 For these reasons D5 does not anticipate the subject-matter of claim 1.

3.3 *Document D1*

3.3.1 D1 discloses a process and device for precooling meat joints and/or dressed carcass meat, in particular from large poultry as well as from pigs, cattle and sheep. The process is carried out in two cooling sections to prevent mould growth and to keep a low level of pathogenic microorganisms (see abstract and claims 1 and 12). Figure 7 of D1 shows the cooling curve of a turkey of ca. 12 kg ("Gigantpute") in the first cooling section.

3.3.2 Undisputedly D1 does not mention the cooling of chicken as required by the method of claim 1 (feature (a)). The appellant argues that the meat of poultry does not behave differently when subjected to a cooling process than the meat of turkeys. The appellant further maintains that the skilled person when reading D1 will immediately and implicitly read D1 as also relating to chicken, the teaching of D1 not being limited to the specified examples.

3.3.3 According to EPO practice in considering novelty a generic disclosure (here: large poultry) does not take away the novelty of any specific example falling within the terms of that disclosure (here: chicken). The case law of the boards of appeal is based on a narrow concept of novelty, *i.e.* the disclosure of a prior document does not include equivalents of the features which are explicitly or implicitly disclosed. Equivalents can only be taken into account when it comes to considering inventive step. Thus, the disclosure of turkey in D1 does not anticipate

feature (a) of the method of claim 1 directed to preserving the meat of chicken.

3.3.4 Moreover figure 7 of D1, on which the appellant relies, does not describe a cooling method using two cooling regimes as required by features (b) and (c) of claim 1. Although the disclosure of D1 indeed relates to a cooling method carried out in two zones using two different cooling regimes (claim 1), D1 does not disclose features (b) and (c) required in present claim 1. As regards figure 7 the cooling described in this figure corresponds only to the first cooling regime used in D1 (cf. D1 column 22, line 20). This single cooling regime is not covered by claim 1 as explained above for D5.

3.3.5 For these reasons, the disclosure of D1 is also not novelty destroying for the subject-matter of claim 1.

4. *Inventive step*

4.1 The patent in suit relates to a method for preserving the meat of slaughtered chickens. According to paragraphs [0002] to [0006] of the specification prior art cooling processes present some drawbacks such as long cooling periods and/or lack of sufficient tenderness of the meat.

4.2 The opposition division considered D5 to represent the closest prior art and saw the problem to be solved as the provision of a process for preserving slaughtered chicken, by means of which tenderness of the meat is obtained.

The opposition division acknowledged an inventive step because the use of successive cooling steps performed in two cooling zones under two different cooling regimes as set out in claim 1 was not obvious from the cited prior art.

4.3 The appellant contests this finding and maintains that the claimed process is obvious in view of the prior art cited in the proceedings. During the oral proceedings the appellant essentially argued inventive step starting from D3 as closest prior art ("common sense approach"). As regards its other inventive step attacks starting from D1, D5 and D10, the opponent relied on its written submissions.

4.4 *D3 as closest prior art*

4.4.1 D3 is a document from 1960 and relates to a method and apparatus for water-chilling poultry or other animal carcasses, wherein the carcasses are passed through baths holding cold water (immersion cooling). According to D3 the quality of the carcasses is greatly improved if their temperature is reduced as quickly as possible after dressing and eviscerating (column 1, lines 24 to 28). This is achieved by carrying out the chilling in at least two steps in two separate baths. In a first step a cooling fluid is applied to the carcasses of the birds, with the fluid having a temperature well below the body heat of 90°/95°F (32.2°/35°C) and not below 45°F (7.2°C) (column 2, lines 15 to 20). After removal from the first bath, the carcasses are contacted with a second fluid in a second bath having a temperature substantially lower than 45°F (7.2°C) (column 2, lines 34 to 36). In the preferred embodiment the

carcasses are maintained 10 minutes in each cooling fluid (column 2, lines 49 to 72). By use of a second separate bath the contamination of the water therein is limited. This reduces the need to replace soiled water by cold fresh water.

4.4.2 If one accepts D3 as representing the closest prior art, the board agrees with the appellant that the problem to be solved over this document has to be seen in the provision of a method for preserving the meat of slaughtered chicken or parts thereof, which avoids the hygienic problems associated with water-chilling and provides tender meat (according to the appellant always an objective in this field).

4.4.3 As a solution to this problem the patent proposes a cooling method essentially characterized by the use of successive air cooling steps performed in two cooling zones under two different cooling regimes as described in claim 1 (see points 2.1 and 2.2 above).

4.4.4 Neither D3 itself nor any other cited prior art document suggests the two specific cooling regimes of claim 1.

4.4.5 Nevertheless the appellant argued that the subject-matter of claim 1 was not inventive. In view of the restrictions imposed on the water-cooling process by the legislation (in this context reference was made to the summary of D5), it was obvious to replace the cooling medium water in the two-step process of D3 by air, so that the skilled person would have arrived at the claimed process. As regards the temperatures at which heat- and cold-shortening could be avoided, these

temperatures could be determined by the skilled person by routine experimentation. These effects were well known in the art as shown for instance in document O6 wherein a temperature of 15° to 20°C was recommended for avoiding muscle shortening (page 60, left column, third paragraph).

- 4.4.6 The board does not find these arguments convincing. In fact the appellant's argument that the claimed method is basically the result of a replacement of the cooling medium appears to be an oversimplification of the case and based on an unallowable *ex post facto* analysis.

As pointed out by the respondent the method of D3 is not comparable to the method of claim 1. The water cooling in D3 causes an extremely rapid cooling of the carcasses due to the direct and intense contact with the cold water; the total process is completed in about 20 minutes. Thus the process of D3 has a completely different cooling regime. D3 is also completely silent on the phenomena of "heat-shortening" and "cold-shortening" and is also silent on any relationship between the cooling process and these phenomena. It does not discuss any relationship between these phenomena, or the way in which the temperature of the product is lowered over time during the cooling process, and meat tenderness. In fact the appellant has not shown that the process of cooling in successive cooling steps in two cooling zones according to features (b) and (c) of claim 1 is disclosed in any of the cited documents or would be part of the common general knowledge.

The skilled person would also not find any hint to the claimed method in document O6. O6 discuss the patterns of rigor mortis for horse muscles and concludes that there is a minimum (of shortening) at temperatures between 15° to 20°C (page 60, left column, lines 8 to 19). O6 does not make any link between the cooling regimes and the tenderness of the meat. The skilled person would not find in O6 any suggestion of how to modify the process of D3 in order to arrive at the process according to claim 1.

4.4.7 For these reasons, the board concludes that the skilled person would not arrive at the claimed invention starting from D3 as closet prior art document.

4.5 *D1, D5 or D10 as closest prior art*

4.5.1 No other conclusion on inventive step can be reached when starting from D1, D5 or D10 as the closest prior art. As set out above, D1 discloses a process and device for precooling meat joints and/or dressed carcass meat, in particular from large poultry as well as from pigs, cattle and sheep, which is carried out in two cooling sections (point 3.3 above). D5, and in particular figures 1 and 2, describes evaporative air-chilling of low scalded broilers (point 3.2 above). Document D10 gives on page 2 an overview of cooling methods for poultry. It mentions the water-chilling process, the evaporative air-chilling and the air chilling processes already discussed in this decision.

4.5.2 The problem to be solved over each of these documents can be seen in the provision of a method for preserving the meat of slaughtered chicken, by means of which

tender meat of good microbiological quality is obtained in a short period of time (in this context see also paragraph [0007] of the patent specification).

4.5.3 It was not contested by the appellant that this problem is solved by the cooling regime of claim 1.

4.5.4 Taking D1 as the closest prior art, this attack is flawed from the beginning as it is based on the incorrect assumption that the only difference between D1 and the patent is the use of chicken instead of bigger animals (feature (a)). As already explained in point 3.3 above in relation to novelty, the specific cooling regime of claim 1 is not disclosed in D1 and in particular not in figure 7, which describes only the first cooling but not two different cooling zones. In addition the allegation that there is no difference between big animals as used in D1 and chickens as used in the patent is not substantiated. The difference in size, weight and composition between a "Gigantpute" of 12 kg to which figure 7 of D1 relates and a chicken is quite big and the skilled person would not consider them to be somehow comparable.

Nor does combining D1 with D2 or with D5 result in the claimed method. D2 and D5 were cited by the appellant to demonstrate that chicken is comparable to other poultry. But again, this argument is moot as it assumes that the only distinction between the process of claim 1 and the process of D1 lies in the use of chicken.

4.5.5 D5 has also been discussed above in relation to novelty (see point 3.2). The inventive step arguments of the

appellant starting from D5 as closest prior art are based on the assumption that the cooling method of D5 is embraced by the method of claim 1. As this is not the case as already explained in detail in the discussion of novelty, the arguments of the appellant starting from D5 fail for the same reasons as the arguments starting from D3 or D1, namely that the prior art is silent on the relationship between the cooling regime and the phenomena of heat-shortening and cold-shortening in conjunction with meat tenderness.

4.5.6 Document D10, an article from the magazine "Poultry Processing" gives an overview of cooling methods for poultry. Although a two-step cooling process is - very briefly - mentioned, D1 does not mention features (b) and (c) of claim 1. Again the appellant has failed to identify a prior art document or the source of the alleged common general knowledge which would provide the hint to these features. In the board's view D10 does not represent a closer prior art document than the other documents and the attack based on D10 fails essentially for the same reasons given for the other attacks.

4.6 The board concludes from the reasoning set out above that none of the arguments brought forward by the appellant can question the finding in the appealed decision that the subject-matter of the claims involves an inventive step.

5. During the oral proceedings, the respondent filed an amended page 3 of the description and the appellant agreed to the amendments made. This amendment adapts the description to the wording of the claim.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent with the following documents:
 - claims 1 to 8 as filed with letter dated 3 August 2006 as first auxiliary request (and as maintained by the opposition division);
 - specification page 2 filed during the oral proceedings before the board on 9 December 2008;
 - specification page 3 as filed during the oral proceedings before the board on 4 June 2013;
 - figure (page 6 of the specification) as published.

The Registrar:

The Chairman:

S. Sánchez Chiquero

W. Sieber