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D E C I S I O N
of 8 July 2003

Case Number: T 0997/01 - 3.2.3

Application Number: 95937041.2

Publication Number: 0857091

IPC: B08B 9/08, A01J 7/02

Language of the proceedings: EN

Title of invention:

Milk tank cleaning method and storage facility for carrying out that method

Patentee:

Alfa Laval Agri AB

Opponent:

Maasland N.V.

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step - (yes) after amendment"

Decisions cited:

-

Catchword:

-



Case Number: T 0997/01 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 8 July 2003

Appellant: Alfa Laval Agri AB
(Proprietor of the patent) Farm Center
P.O. Box 39
S-14721 Tumba (SE)

Representative: Smulders, Theodorus A.H.J., Ir.
Vereenigde
Postbus 87930
NL-2508 DH Den Haag (NL)

Respondent: Maasland N.V.
(Opponent) Weverskade 10
NL-3155 PD Maasland (NL)

Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 16 May 2001,
posted on 6 June 2001, revoking European patent
No. 0857091 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle
J. P. Seitz

Summary of Facts and Submissions

I. In the oral proceedings of 16 May 2001 the opposition division revoked European patent No. 0 857 091 particularly in the light of the documents filed by the opponent - respondent in the following - namely

(D6) Leaflet "Milk Coolers" Kryos/The well thought innovation, printing date February 1994

(D7) FR-A-2 676 187 and

(D8) Leaflet "Fullwood" / Fullwood Quality Cooling, printing date April 1995; handed out at the Royal Show, 3-6 July 1995, Warwickshire.

The following document was also filed by the opponent (D5) leaflet "Kilkenny Bulk Milk Coolers", handed out at the Dairy event in September 1995.

The written decision was issued on 6 June 2001.

II. Against the above decision of the opposition division the patentee - appellant in the following - lodged an appeal on 16 August 2001 having paid the fee on 15 August 2001 and filing the statement of grounds of appeal on 15 October 2001.

III. Following the board's Communication pursuant to Article 11(2) RPBA in which the board expressed its provisional opinion on the case, particularly its doubts as to the public availability of the documents (D5), (D6) and (D8) the respondent filed the following affidavits:

(D9): Affidavit of Mr Smee of 4 June 2003.

(D10) Affidavit of Mr Jackson of 5 June 2003.

(D11) Affidavit of Mr Thomas of 3 June 2003.

IV. Oral proceedings were held on 8 July 2003 in which the appellant submitted new claims 1 to 15.

The independent claims 1 and 9 thereof read as follows:

"1. A method for cleaning the inside of a milk tank (1), including the stages of rinsing the tank (1) with rinsing water and subsequently washing the tank (1) with a warm washing liquid containing at least one cleaning agent, wherein the water supplied to the tank (1) during rinsing is directly drained and wherein the washing liquid supplied to the tank for washing is collected in a lower part of the tank, characterized in that, during said rinsing stage, the tank (1) is finally rinsed with substantially warmer water than the rinsing water with which the tank (1) is initially rinsed during said rinsing stage, which rinsing water is cold, said cold rinsing water with which the tank (1) is initially rinsed being cold enough to remove milk residues, such as proteins, from the milk tank (1)."

"9. A dairy farm milk storage facility comprising a tank (1) and a cleaning system (2), said cleaning system comprising a water supply structure (3) communicating with the tank (1) for supplying warm and cold water to the tank (1) and a dispensing device (4) for admixing a cleaning agent to the water, said

storage facility being programmed for conducting a cleaning program comprising the stages of rinsing the tank (1) with rinsing water, the water supplied to the tank being directly drained, and subsequently washing the tank (1) with a washing liquid comprising hot water and at least one cleaning agent, hot water of the washing liquid being collected in a lower part of the tank, characterized by a control unit (5) operatively connected to said water supply structure (3) and to said dispensing device (4) for controlling the water supply structure (3) and the dispensing device (4), the control unit (5) being programmed for controlling the water supply structure (3), in such a manner that, during the rinsing stage, finally rinsing water is supplied which is substantially warmer than the rinsing water with which the tank (1) is initially rinsed, which water is cold, the dispensing device (4) communicating with the water supply structure (3)."

V. In the oral proceedings before the board the parties essentially argued as follows:

(a) appellant:

- with respect to the requirements of Article 100(c) EPC it is observed that originally filed page 12, lines 6 and 7, and page 10, lines 17 and 18, can serve as a basis of claiming that rinsing water is directly drained and is not linked to the treatment of the washing liquid; from originally filed page 2, lines 6 to 8, and page 12, lines 6 to 9 and 19 to 22, it is derivable that thermal stresses are caused by introducing large amounts of warm water to the tank instantaneously;

- the feature that hot washing liquid is collected in a lower part of the tank is part of the description of a preferred embodiment of the invention without any obligation to incorporate this feature into the independent claims 1 and 9;
- the alleged prior art in form of (D5), (D6) and (D8) and its related affidavits was not made publicly available since the affidavits are so unclear and give no answers to the questions when, what and where the prior art was disclosed so that these documents cannot be considered in the appeal proceedings;
- the nearest prior art is therefore (D7) which document discloses cold, lukewarm and hot water but does not teach the gradual heating of a milk tank to completely overcome the building of thermal cracks in the tank's inner surface; even if in (D7) draining of the water is mentioned no warm water is directly drained after its application; from Figure 3 of (D7) it can be seen that contrary to what is claimed only a small stream of hot water is applied which is very disadvantageous with respect to thermal stresses;
- in contrast to the claimed subject-matter from (D8) it is not derivable that in all steps the applied water to the tank is directly drained;
- a skilled person looking to the prior art (D6) would be led away from the claimed invention since again the possibility to apply gradually warmer

water to rinse/wash the tank in combination with a direct drainage is not derivable therefrom so that even a combination of documents could not render obvious the claimed invention.

(b) respondent

- the feature "directly drained" is taken out of the context of originally filed claim 3 and has been generalized in a way not allowed by Article 100(c) EPC; this is also true for the omission of the feature that the hot washing liquid is "collected in a lower part of the tank" disclosed in the description originally filed;
- the problem of thermal stress of milk tanks is generally known and considered by a skilled person so that it was known that a direct application of warm/hot water/washing liquid could lead to thermal cracks in the inner wall of the tank;
- before this background a skilled person would avoid recirculation of hot/warm water/washing liquid and would directly drain it; from (D7) and its Figure 3 it was known to the skilled person to apply water to the tank via outlet "60" and to directly drain it;
- from (D6) a skilled person was also aware that in the rinsing/washing steps water/washing liquid could be directly drained without being recirculated, see paragraph headed "Principle" of (D6);

- irrespective of the starting point (D6), (D7) or (D8) a combination thereof rendered obvious the subject-matter of claims 1 to 9, the latter claim being based on a facility comprising such widely known features as a control unit, a dispensing device and a reservoir.

VI. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 15 filed during the oral proceedings in combination with an amended description.

VII. The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Claim 1 is based on originally filed claims 1 and 3 as well as on the originally filed description, see page 10, lines 16 to 20, page 12, lines 6 to 22, and page 2, lines 6 to 10 thereof teaching that the rinsing water is directly drained and is not linked to the washing liquid which is supplied at a later stage to the tank. The board can therefore not follow respondent's statement that an inadmissible generalisation of one of the features of originally filed claim 3 has been carried out.

2.2 In the introductory part of the originally filed description, see for instance page 2, lines 6 to 8 and also from page 12, lines 6 to 9 and 19 to 22, it is clearly outlined that large amounts of warm water may not be introduced to the tank instantaneously since otherwise thermal stresses could be caused in the tank.

2.3 The feature that during hot washing the washing liquid is collected in a lower part of the tank is part of the description of a **preferred embodiment** of the invention and it is therefore not obligatory to incorporate this feature into the independent claims 1 to 9.

2.4 Summarising the above considerations, the board cannot see a violation of the requirements of Articles 123(2) and 100(c) EPC with respect to claims 1 and 9; the dependent claims were not questioned by the respondent and are considered to be formally in order by the board so that no detailed discussion with respect to Articles 123(2) and 100(c) EPC is necessary.

3. *Prior art*

3.1 In the oral proceedings the board accepted (D6) and (D8) as prior art, not, however, (D5). The leaflet attached to the Affidavit of M. Smee of 4 June 2003 was seen to be different from that filed as (D5) leading to the situation that the appellant was confronted with a new prior use only four weeks before the oral proceedings. By executing the power under Article 114(2) EPC the board did not allow (D5) nor the new leaflet as prior art.

3.2 Contrary to appellant's findings in respect of (D6) and (D8) - both documents bearing printing dates **before** the filing date of the contested patent - the board accepted the Affidavits of M. Jackson dated 5 June 2003 and M. Thomas dated 3 June 2003 as evidence that (D6) and (D8) have to be considered as prior art. Under these circumstances appellant's doubts about the individual circumstances of "what, where, when" could not be followed.

4. *Novelty*

The issue of novelty at the end of the oral proceedings was not disputed by the parties (and the board) so that it is not necessary to deal with it in detail. The crucial issue to be decided is therefore inventive step.

5. *Inventive step*

5.1 In the opening part of the patent specification, see column 1, line 36, to column 2, line 15 of EP-B1-0 857 091 the problems of cleaning the inside of a milk tank are discussed, namely to avoid coagulation of milk residues while cleaning the tank and secondly to obviate a substantial thermal stress in the tank leading to the formation of cracks in the tank.

5.2 Against this background it is the object of the invention, see EP-B1-0 857 091 column 2, lines 34 to 40, to provide a cleaning method by which the tank can be washed at a given temperature with less washing water of a given (higher) entry temperature, without increasing the extent to which coagulation of milk

residues occurs during the rinsing stage and which causes less thermal stress in the tank.

5.3 Starting from the nearest prior art (D7) over which document claims 1 and 9 are clearly delimited the above object of the invention is solved with the features of claims 1 (method) and 9 (facility) basically by prescribing the temperature of the first amount of rinsing water and the temperatures of further amounts of rinsing water (claim 1) and the structural elements necessary to carry out such a cleaning method (claim 9).

5.4 With the subject-matter of claims 1 and 9 it is achieved that coagulation of milk residues is prevented and that the tank is gradually, evenly and effectively prewarmed by the repeatedly applied amounts of rinsing water. As an additional effect thereof it is possible to use less washing water and cleaning agent to achieve the desired effective washing temperature, see EP-B1-0 857 091, column 2, line 48 to column 3, line 26.

The assessment of the technical contribution by the teaching of claims 1 (and 9) to the prior art leads to the following result:

5.5 From (D7) a cleaning method and device for cleaning a milk tank is known in which cold, lukewarm and hot water is used. As a first step (D7) discloses in its Figure 3 and the corresponding text according to its page 6, lines 27 to 34, a cleaning action of the tank's bottom by applying a small stream of water to it to remove any solids or the like from the tank's bottom. Nothing is, however, said in (D7) of how a tank could be gradually warmed by applying several amounts of

- rinsing water which amounts are not only intended to gather on the tank's bottom but act as a rinsing step throughout the tank to overcome the building of thermal cracks in the tank.
- 5.6 The respondent argued that a combination of (D7) with further pieces of prior art, namely (D6) and (D8) rendered obvious the claimed invention. In this context even the respondent admitted in the oral proceedings that from (D6) it could not be derived to apply several amounts of rinsing water which amounts are each directly drained so that the problem to be solved by the claimed invention is unknown from (D6) since according to its second figure from top of the page headed "Original A.E.D. Washing System" **a recirculation** of water can be seen.
- 5.7 (D8), see page 7 with the title "The Cleaning Cycle" at the bottom thereof, teaches the application of cold and hot media - but not of a lukewarm medium - so that from this document again no information could be derived of how thermal stress of the tank's inner surface could be overcome.
- 5.8 Since none of the three relevant documents of the prior art, namely (D6), (D7) and (D8), presented a clear teaching to the skilled person confronted with solving the above object of the invention, see remark 5.2, even a combination thereof could not arrive at the claimed invention.
- 5.9 Under these circumstances the respondent's line of arguments presented in the oral proceedings is the result of an inadmissible **ex post facto analysis**. The

crucial question to be answered in the present case is not what a skilled person knowing the above prior art **could** have derived therefrom, but rather what he **would** have derived therefrom not knowing the claimed invention.

5.10 Claims 1 and 9 are both restricted to features which achieve the technical effect of a **gradual warming** of the tank starting with **cold** rinsing water - to avoid coagulation of any milk residues - and continuing with the application of further, however, warmer amounts of rinsing water, in all cases these amounts being not recycled but drained from the tank. Any other treatment of the tank, namely applying warm/hot water or washing liquid at a too early stage, could be harmful to the tank and had to be avoided by the skilled person. This shows that it is not convincing when the respondent points to method steps *per se* known like rinsing, washing, direct draining and concludes that their rearrangement would lead a skilled person directly to the claimed invention.

5.11 Summarising, the subject-matter of claim 1 (method) and of claim 9 (facility suited to carry out the claimed method) is not only new but also not rendered obvious by (D6), (D7) and (D8) singly or in combination so that these independent claims meet the requirements of Articles 54, 56 and 100(a) EPC and are valid.

5.12 This is also true for claims 2 to 8 and 10 to 15 relating to embodiments of the subject-matter of claims 1 and 9.

5.13 The description submitted in the oral proceedings meets the basic requirements of the EPC and is therefore suited for maintaining the European patent No. 0 857 091 in amended form.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent with the following documents:
 - Claims 1 to 15 filed during the oral proceedings.
 - Description columns 1 to 10 filed during the oral proceedings.
 - Figure 1 filed during the oral proceedings.

The Registrar:

The Chairman:

G. Magouliotis

C. T. Wilson