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**Datasheet for the decision
of 20 January 2011**

Case Number: T 0705/08 - 3.2.04

Application Number: 99946540.4

Publication Number: 1109438

IPC: A01J 5/007

Language of the proceedings: EN

Title of invention:

Method and apparatus for cleaning the teats of a dairy animal's udder

Patentee:

DeLaval Holding AB

Opponent:

Octrooibureau Van der Lely N.V.

Headword:

Order of succession/DELAVAL

Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0705/08 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 20 January 2011

Appellant: Octrooibureau Van der Lely N.V.
(Opponent) Weverskade 110
NL-3147 PA Maassluis (NL)

Representative: -

Respondent: DeLaval Holding AB
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 5 February 2008
rejecting the opposition filed against European
patent No. 1109438 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: P. Petti
T. Bokor

Summary of Facts and Submissions

I. The opposition division, by its decision dispatched on 5 February 2008, rejected the opposition filed against the European patent No. 1 109 438. The opposition was based upon Article 100 (a) EPC, only with respect to lack of inventive step (Article 56 EPC).

Granted claims 1 and 6 read as follows:

A method for cleaning teats (9) of a dairy animal's udder by controlling a robot means (6) to carry and operate a cleaning means (8, 14) for cleaning said teats (9) in succession, characterised by the steps of:

- establishing the degree of healthiness of each separate teat,
- storing data regarding the degree of healthiness of each separate teat,
- using said data for determining said order of succession, so as to first clean one or more healthy teat(s), and then clean one or more teat(s) being subjected to various levels of infection.

An apparatus for cleaning the teats (9) of a dairy animal's udder, comprising:

- a cleaning means (8, 14),
- a control unit (1),
- a robot means (6) controlled by the control unit (1),

- a robot arm (7) arranged on the robot means (6) to carry and operate the cleaning means (8, 14) so as to clean the dairy animal's teats in succession,

characterised in that the control unit (1) comprises:

- a data storing means intended to store data regarding the healthiness of an udder quarter belonging to a teat,
- a data processing unit adopted to use said data for delivering such signals to the robot means (6) as to make the robot means (6) first to clean one or more healthy teat(s) and then to clean one or more teat(s) indicated to be subject to various levels of infection.

II. In its decision, the opposition held that documents "*Efficient milking*", Alfa Laval, pages 35 and 36 (D3), "*Melkwinning*", 1978, pages 20, 21, 157, 160 and 161 (D4), "*Control of Mastitis in "Journal of Dairy Science"*", Vol. 52, No. 5, pages 696 to 707 (D5) and "*Elements of Mastitis Control*", by R. P. Natzke, in "*Journal of Dairy Science*", 64, 1980, pages 1441 to 1442 (D6), which were filed after the nine-months opposition period, were not relevant and rejected them as late filed.

III. The opponent (hereinafter appellant) lodged an appeal against this decision on 7 April 2008 and simultaneously paid the appeal fee. The grounds of appeal were received on 12 June 2008.

With the grounds of appeal the appellant filed a new document, "*Principle of Dairy Science*", by G.H. Schmidt

et al, 1988, pages 122, 125 and 126 (D7) and requested that this new document as well as documents D3 to D6 be admitted into the appeal proceedings.

IV. Oral proceedings before the board were held on 20 January 2011.

By letter dated 15 December 2010 the appellant, who had been duly summoned, withdrew his request for oral proceedings and informed the board that he would not attend the oral proceedings. In accordance with Rule 115 (2) EPC, the oral proceedings were held without him.

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

The respondent requested that the appeal be dismissed.

VI. The appellant essentially submitted

- that D3, D4 and D7 illustrated the common general knowledge, while D5 and D6 were deemed relevant for the inventive step considerations, and
- that the skilled person would have arrived at the claimed subject-matter without exercising any inventive skill,
 - either starting from document EP-A-628 244 (D1) in combination with common general knowledge or with D5,
 - or starting from "any known automatic teat cleaning method" in combination with common general knowledge,

- or starting from a "non-automated teat cleaning system" in combination with common general knowledge.

VII. The respondent essentially contested the appellant's arguments with respect to inventive step. During oral proceedings, the respondent agreed with the board that documents D3 to D7 - in so far as they illustrate common general knowledge in the field of milking of animals - could not be rejected as late filed.

Reasons for the Decision

1. The appeal is admissible.

2. *Inventive step*

2.1 D1, which reflects the closest prior art, discloses a method for milking a dairy animal, comprising the steps of

- cleaning the teats of the dairy animal's udder (see particularly column 5, line 56 to column 6, line 12: "teat cleaning system",)
- automatically milking the dairy animal by means of a milking robot capable of automatically connecting the teat cups to the teats of the dairy animal (see particularly column 2, lines 54 to 58),
- measuring the quality of the milk extracted from each teat of the dairy animal (see particularly Figure 2),

- storing data regarding the quality of the milk (see particularly column 3, line 54 to column 4, line 1),

as well as an apparatus for automatically milking animals comprising

- a cleaning means for cleaning the teats of the animal (see particularly column 5, line 56 to column 6, line 12),
- a control unit (see particularly column 6, lines 7 to 12),
- a robot means controlled by the control unit and capable of automatically connecting the teat cups to the teats of the dairy animal,
- measuring means for measuring the quality of the milk extracted from each teat of the dairy animal (see particularly Figure 2: "measuring unit" 11),
- data storing means capable of storing data regarding the quality of the milk, wherein the control unit is adapted to use these data to control a valve (12) capable of guiding the milk extracted from the dairy animal either to a first storage means or to a second storage means (see particularly column 3, line 54 to column 4, line 1).

D1 refers to a "teat cleaning system" without specifying the features of the system and is silent as to how the cleaning of the teats is performed.

In D1, the quality of the milk can be determined inter alia by establishing the somatic cell count of the

milk, which is also representative of the degree of healthiness of each separate teat.

2.1.1 The subject-matter of claim 1 differs from the method of D1 at least in that

- (a) a robot arm is controlled to carry and operate the cleaning means for cleaning the teats,
- (b) the teats are cleaned in succession, and
- (c) the stored data are used for determining the order of cleaning the teats in succession, so as to first clean one or more healthy teat(s), and then clean one or more teat(s) being subjected to various levels of infection.

The subject-matter of claim 6 differs from the apparatus of D1 in that

- (a') the apparatus comprises a robot arm arranged on the robot means which is controlled by the control unit to carry and operate the cleaning means so as to clean the dairy animal's teats
- (b') the teats are cleaned in succession,
- (c') the data processing unit is adapted to use said data for delivering such signals to the robot means as to make the robot means first to clean one or one or more healthy teat(s), and then clean one or more teat(s) indicated to be subjected to various levels of infection.

2.1.2 Feature (a) or (a') has the effect of increasing the automation level of the claimed method and apparatus.

Feature (b) or (b') is linked to feature (a) or (a'), respectively, in so far as it defines the operation mode of the cleaning means.

Feature (c) or (c') provides the effect of reducing the transfer of infection by means of the cleaning means from infected teats to healthy teats of an animal (cross contamination between teats), when cleaning the teats in succession as required by feature (b) or (b').

2.1.3 Thus, starting from D1 as closest prior art the problem underlying the present invention may be seen in how to automate the cleaning process of the teats of dairy animals, while avoiding or reducing the transfer of infection during cleaning.

Reducing the transfer of infections or contaminations during milking or manual cleaning is a well known problem. According to D7, "[t]he major ways [of spreading pathogens to non-infected glands] are the hands of the milker, the washcloth or towel used to clean the teats, and the teat cup cluster" (see page 126). According to D6, "[t]he milking unit may be involved in transfer of organisms from quarter to quarter or from cow to cow" (see page 1437). D5 refers to "the transfer of bacteria from one teat to another of the cow during milking" (see page 699, paragraph headed "Weaknesses in the Full Hygiene Routine").

These documents refer to various methods of preventing spread of pathogens, such as use of disinfectants,

paper towels or boiled cloths for washing each individual udder (see D5 and D7), sterilisation of teat cup clusters before each cow is milked (see D5), post-milking disinfectant teat dips (see D5, D6 and D7).

None of documents D3 to D7 however suggests the claimed solution to the problem of how to automate the cleaning process of the teats of dairy animals, while avoiding or reducing the transfer of infection during cleaning.

Accordingly, it would not have been obvious for the skilled person to implement a method of controlling a robot means to carry and operate a cleaning means for cleaning the teats in a specific succession as claimed, when the manual processes in these prior art citations do not involve or require any such succession order. Therefore, the skilled person starting from D1 would not have arrived at the claimed solution on the basis of common general knowledge as illustrated by D3 to D7.

2.2 In this respect, the appellant essentially submitted that starting from D1 the skilled person - in order to prevent contamination between udder quarters - would have arrived at the claimed subject-matter on the basis of three "common general knowledge principles" which are illustrated by D3 to D7, namely that

- i) *non-healthy cows should be milked last to prevent cross contamination between cows (known from D3 or D4),*
- ii) *udder quarters are independent from each other (known from D4, D5 or D6) and*
- iii) *cross contamination between udder quarters should be avoided in so far as it may cause infection in*

previously healthy quarters (known from D5, D6 or D7).

The appellant also submitted that the skilled person - in order to prevent cross contamination between udder quarters - would have combined D1 with D5, in so far as D5 refers to cross contamination ("If a cow already infected in one or more quarters ..., the routine does not prevent the transfer of bacteria from one teat to another of the cow during milking") and discloses that "teats must be kept free of pathogens" and "pathogens are distributed over the surface of udder and teats ...".

2.2.1 The board does not find the appellant's arguments convincing because neither the three above mentioned principles nor the passages of D5 cited by the appellant suggest the idea upon which the claimed invention is based, i.e. that of determining in an automated cleaning process a specific order of succession for cleaning the teats on the basis of the degree of healthiness of each teat. In this respect, it is observed that the first principle "*non-healthy cows should be milked last ...*", even in combination with the further two principles, does not necessarily imply that *non-healthy teats of a cow should be cleaned last*.

2.3 Furthermore, the appellant submitted that applying the three above mentioned common general knowledge principles to "any known automated teat cleaning method" cannot involve an inventive step.

2.3.1 The board does not find this argument convincing for the same reasons given in section 2.2.1 above. It is

also observed that the appellant in the grounds of appeal referred to D1 as disclosing an automated teat cleaning method without referring to any further document disclosing the technical features of a known automated teat cleaning method.

2.4 The appellant also submitted that in a non-automated system a skilled person, if he already uses a single cleaning would first clean the cleanest or healthiest teats, and then the dirtier or infected teats. Thus, the claimed subject-matter represents nothing more than the mere automation of an obvious non-automated method and does not involve an inventive step.

2.4.1 The board does not find this argument convincing since most infection is not visible by the farmer. That is when manually cleaning a cow's teat the farmer does not have the required information about the degree of healthiness of each teat, so that he cannot determine the claimed order of succession for cleaning. If a farmer intends to use the same cleaning towel per udder he may start with the cleanest teat but there is no correlation between external cleanliness and the degree of healthiness of the teats. As has been explained, if a skilled person were to consider the problem of how to automate the cleaning process of the teats of dairy animals, while avoiding or reducing the transfer of infection during this automated process, it cannot be obvious to operate a cleaning means for cleaning teats in an order of succession as claimed if the manual processes disclosed in the prior art documents do not involve or require any such succession order.

2.5 Therefore, the ground for opposition according to Article 100 (a) EPC does not prejudice the maintenance of the patent as granted in so far as the subject-matter of claim 1 as well that of claim 6 involve an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte