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Datasheet for the decision of 23 November 2010

Case Number: T 1421/07 - 3.2.04

Application Number: 00302752.1

Publication Number: 1138192

IPC: A01J 5/017

Language of the proceedings: EN

Title of invention:
Automatic milking

Patentee:
DeLaval Holding AB

Opponent:
Octrooibureau Van der Lely N.V.

Headword:
Foremilking/DELAVAL

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1421/07 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 23 November 2010

Appellant: (Opponent)
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Respondent: (Patent Proprietor)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 27 June 2007 rejecting the opposition filed against European patent No. 1138192 pursuant to Article 102(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 dated 27 June 2007, rejected the opposition filed against the European patent No. 1 138 192, which contains independent claims 1, 5, 10 and 14.

Granted claim 1 reads as follows:

"1. A method of milking an animal wherein milk extracted from a teat of an animal is directed along a milk path to a container, an initial portion of the milk extracted from the teat being diverted from the milk path, and an optical property of the milk extracted from the teat is sensed, **characterised in that** the optical property is the transparency of the milk to electromagnetic radiation, and the diversion of the initial milk flow from the milk path leading to the container is controlled in dependence upon the sensed optical transparency."

II. The opponent (hereinafter appellant) lodged an appeal against this decision on 27 August 2007 and simultaneously paid the appeal fee. The grounds of appeal were received on 1 November 2007.

III. With the grounds of appeal the appellant filed inter alia WO-A-96/13151 (D5), which was cited in the patent specification but not submitted in the proceedings before the opposition division.

He submitted among other things that the subject-matter of granted claim 1 lacked an inventive step starting

from US-A-4 190 020 (D4) as closest prior art and combining D4 with D5.

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

V. In his reply to the grounds of appeal the respondent recognized that document D5, which is cited and discussed in the patent specification, might be admitted into the proceedings. By letter dated 21 September 2009 the respondent withdrew his request for oral proceedings.

VI. The respondent requested that the appeal be dismissed. He submitted that a skilled person could not be led in an obvious way to the method of claim 1 from the combination of D4 with D5 for the following reasons:

(i) D4 discloses a method having only the features specified in the preamble of claim 1.

(ii) Neither D4 nor D5 suggest the claimed solution based upon the idea that when milk flows from the udder of an animal it is possible to identify a change in the milk quality by a change in transparency of the milk. In particular, none of these citations suggests that the end of flow of foremilk and the start of flow of normal milk can be detected. In particular, in D5 when foremilk is collected in the receiver 24 and its presence is detected by a sensor 26, the colour of foremilk is checked and, depending on the results of this check, the time during which foremilk is removed may be adjusted. D5 does not teach or

suggest that a change from foremilk to normal milk of good quality in a milk flow along a milk path can be identified by a predetermined change in the sensed optical transparency.

(iii) In D5 foremilk is removed using separate foremilking cups in a separate foremilking step before the teat cups are attached to the teats for the main milking. Thus, D5 does not teach or suggest a method in which the diversion of an initial milk flow from a milk path is controlled in dependence upon the sensed optical transparency.

VII. By a communication dated 27 May 2010, the board expressed the view that the submission of document D5 represented a reaction to the reasons given in the decision under appeal and therefore could not be considered as late filed. The board also invited the parties to submit further observations with respect to inventive step and informed them that after expiration of the time limit set in its communication the board could possibly issue a decision on the basis of the written submissions.

No further observations were submitted by the respondent with respect to inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. *Inventive step*

2.1 In is not disputed that D4 represents the closest prior art. This citation discloses a method of milking an animal in which milk extracted from a teat of an animal is directed along a milk path ("main milk line" 8, 7) to a container ("main milk vessel" 5), an initial portion of the milk (i.e. the foremilk) extracted from the teat is diverted from the milk path and an optical property of the milk extracted from the teat is sensed. The sensed optical property is the colour of the milk and is detected by an optical sensing device comprising a light source and a photosensitive component (photodiode) disposed on opposite sides of the milk flow path. Since the detection of the colour of the milk represents the detection of the transparency of the milk to electromagnetic radiation in a particular wave length band, the sensed optical property in D4 is "the transparency of the milk to electromagnetic radiation". The optical sensing device is arranged upstream of a flow diverting device (20), which is controlled to divert the initial milk flow from the milk path leading to the container (5) and to direct this initial milk flow to a branch line (9), whereafter the flow directing device is controlled to terminate flow of milk into the branch line (9) and to direct the milk along the milk path to the container (5) when a predetermined period of time has elapsed.

2.1.1 Furthermore, during milking, in response to the signal from the optical sensing device, i.e. in dependence upon the sensed optical transparency, the milk flowing the milk path (main milk line 8, 7) to the container (5) may be diverted from the milk path and directed through

the branch line (9) into a by-pass tank in case of any change in colour due to the presence of blood or pus, whereafter the milk flow is re-directed to flow through the main milk line when the normal colour returns again (see column 2, lines 32 to 39 and 59 to 64).

2.2 The method of claim 1 differs from this prior art in that the diversion of the initial milk flow, i.e. the segregation of the foremilk, is controlled **in dependence upon the sensed optical transparency**.

2.3 In D4, the segregation of the foremilk is carried out according to a preset time length. The amount of foremilk separated is defined by setting this time length, which needs to be chosen to ensure that all the low quality foremilk is separated in all cases. Thus, the amount of foremilk separated and discarded is substantially the same for all animals. However, since the amount of foremilk to be separated is not always the same, this method has the drawback that some good quality milk can be lost with the separated foremilk.

Thus, the technical problem to be solved by the invention as claimed in claim 1 may be formulated as to provide a method which takes account of fluctuations in the amount of foremilk so as to reduce the wastage of good quality milk when separating the foremilk while still ensuring effective separation of all the foremilk.

2.4 D5 discloses (see page 8, line 21 to page 9, line 9; Figures 2, 4A, 4B and 5) a method of milking an animal in which the pre-milking is performed to remove foremilk prior to the main milking stage, wherein the

foremilk is removed by means of two cleaning rollers (20) under which a receiver (24) is arranged. The foremilk is directed to a waste tank (18) via a line (25) arranged at the bottom of the receiver (24). In the receiver (24) there is an optical sensor (26) which senses by light absorption the presence of foremilk. D5 also teaches that the time during which foremilk is removed can be adjusted for the separate animals individually (see particularly page 8, lines 38 and 39).

Furthermore, according to claim 28 and page 9, lines 2 to 9, there are provided means to check the colour, i.e. an optical property of the foremilk, wherein in dependence upon the results of this check the time during which foremilk is removed is determined or adjusted. Therefore, D5 teaches to control the time length during which foremilk is removed in dependence of the sensed optical property in order to individually adjust this time length for the separate animals.

2.5 Starting from D4, the skilled person seeking for a solution to the technical problem of providing a method which takes account of fluctuations in the amount of foremilk so as to allow a reduction of the wastage of good quality milk when separating foremilk would consider D5 and apply its teaching to the method according to D4, which is carried out by an apparatus provided with a device for sensing the transparency of the milk and with a flow diverting device adapted to be controlled in dependence of the sensed optical transparency of the milk, and arrive - without exercising any inventive skill - at a method in which the period of time is adjusted in dependence on the results of the sensed optical property of the foremilk,

i.e. at method in which the diversion of the initial milk from the milk path leading to container is controlled in dependence upon the sensed optical transparency. Thereby, the skilled person would arrive at a method falling within the terms of claim 1.

2.6 The board is unable to accept the respondent's arguments (see section VI) for the following reasons:

(i) As has been explained above, detecting the colour of milk represents the detection of the transparency of the milk to electromagnetic radiation in a particular wave length band. The patent specification (see claims 6 and 7) refers to a transparency sensor 4 adapted to sense the transparency of the milk to transmission of light through the milk flow, the sensor 4 comprising a light source 5 and a photosensitive component 6 disposed on opposite sides of the milk flow, without referring to the wave length band of the electromagnetic radiation. Analogously, D4 discloses an optical sensor constituted by a light source and a photodiode disposed on opposite sides of the milk flow.

Moreover, in D4 the diversion of the foremilk from the milk path leading to the milk container is controlled on the basis of a preset time length, so as to terminate flow of milk to the waste tank for the foremilk when the preset time period has elapsed.

Thus, the subject-matter of claim 1 differs from D4 only in that the separation of foremilk is

performed in dependence upon the sensed transparency of the milk.

(ii) D5 clearly teaches to check the colour of the foremilk in order to adjust the time during which foremilk is removed. This implies that foremilk has a different colour with respect to milk of good quality and that a change in the colour, i.e. in the transparency, of the liquid collected in the receiver (24) is detected in order to establish whether this liquid is foremilk or milk of good quality.

(iii) The fact that in the method of D5 foremilking is performed in a separate foremilking step is not relevant in so far as D4 discloses a method in which an initial milk flow is diverted from a milk path by means of a diverting valve (20) and D5 suggests removing the foremilk in dependence upon the sensed colour, i.e. the optical transparency, of the foremilk.

2.7 Therefore, the subject-matter of granted claim 1 lacks an inventive step (Article 56 EPC).

3. Consequently, the ground for opposition according to Article 100(a) prejudices the maintenance of the granted patent in so far as granted claim 1 is not patentable. Thus, there is no need to deal with the independent claims 5, 10 and 14.

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:

V. Commare M. Ceyte