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Datasheet for the decision of 29 November 2012

Case Number: T 0585/10 - 3.2.04

Application Number: 01201620.0

Publication Number: 1163843

IPC: A01K 29/00, A01K 1/12, A01K 15/02

Language of the proceedings: EN

Title of invention:
An implement for successively receiving and/or treating individual animals out of a group of animals and a method of increasing the utilization capacity of the implement

Patent Proprietor:
Lely Enterprises AG

Opponent:
DeLaval International AB
Patent & Trademark Department

Headword:
Time interval/LELY

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (yes) - Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0585/10 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 29 November 2012

Appellant I: (Patent Proprietor)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 15 January 2010 concerning maintenance of European patent No. 1163843 in amended form.

Composition of the Board:

Chairman: A. de Vries
Members: P. Petti
T. Bokor

Summary of Facts and Submissions

I. The opposition division in its interlocutory decision dated 15 January 2010 found that the European patent EP-B-1 163 843, against which an opposition based upon Article 100(a) EPC has been filed, met the requirements of the EPC in an amended version submitted by the patent proprietor.

II. In its decision the opposition division found that the subject-matter of granted claims 1 and 2 lacked novelty but that the subject-matter of granted claims 3 to 6 and 14, which correspond to claims 1 to 4 and 14 of the allowed amended version involved an inventive step having regard to the prior art disclosed in documents:

D1: C. Ketelaar-de Lauwere, "*Cow behaviuor and managerial aspects of fully automatic milking in loose housing systems*", pages 13 and 15 to 22 of Chapter 2 ("*Social hierarchy under fully automatic milking conditions*") and pages 155 to 169 of Chapter 8 ("*General discussion*"),

D2: WO-A-96/19917,

D4: EP-A-189 954.

III. On 2 March 2010 the patent proprietor (hereinafter appellant I) lodged an appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 25 May 2010.

On 10 March 2010 the opponent (hereinafter appellant II) lodged a further appeal against this decision and paid

the appeal fee on 11 March 2012. A statement setting out the grounds of appeal was received on 25 May 2010.

IV. Oral proceedings before the board were held on 29 November 2012.

V. Appellant I requests that the decision under appeal be set aside and the patent be maintained on the basis of an amended version filed as a new main request during oral proceedings before the board.

The independent claims 1 to 4 of this request are identical to granted claims 1, 2, 5 and 6, respectively, and read as follows:

Claims

"1. An implement for successively receiving and/or treating individual animals out of a group of animals which are allowed to move about freely in an area intended therefor and which are allowed individually to visit the implement, such as for example a concentrate feeding station and/or a milking robot, said implement being provided with means for stimulating the animals to visit said implement, **characterized in that** the implement is provided with means for recording and/or determining a possibly periodically recurring time interval in which the expected visiting frequency of the group of animals to the implement is below a low threshold value, and with means for activating, during said time interval, means for extra stimulation of the animals to visit the implement.

2. An implement, for successively receiving and/or treating individual animals out of a group of animals which are allowed to move about freely in an area intended therefor and which are allowed individually to visit the implement, such as a concentrate feeding station and/or a milking robot, said implement being provided with means for stimulating the animals to visit said implement, **characterized in that** the implement is provided with means for recording and/or determining a possibly periodically recurring time interval in which the expected visiting frequency of the group of animals to the implement is above a high threshold value, and with means for activating, during said time interval, means for less stimulation of the animals to visit the implement.

3. An implement for successively receiving and/or treating individual animals out of a group of animals which are allowed to move about freely in an area intended therefor and which are allowed individually to visit the implement, such as a concentrate feeding station and/or a milking robot, said implement being provided with means for stimulating the animals to visit said implement, characterized in that the implement is provided with means for determining the visiting frequency pattern of the group of animals to the implement in the course of time, means for determining a possibly periodically recurring time interval in which the visiting frequency of the animals to the implement is lower than a low threshold value, and means for activating, during

the predetermined time interval, means for extra stimulation of the animals to visit the implement.

4. An implement for successively receiving and/or treating individual animals out of a group of animals which are allowed to move about freely in an area intended therefor and which are allowed individually to visit the implement, such as a concentrate feeding station and/or a milking robot, said implement being provided with means for stimulating the animals to visit said implement, characterized in that the implement is provided with means for determining the visiting frequency pattern of the group of animals to the implement in the course of time, means for determining a possibly periodically recurring time interval in which the visiting frequency of the animals to the implement is higher than a high threshold value, and means for activating, during the predetermined time interval, means for less stimulation of the animals to visit the implement."

VI. Appellant II requests that the decision under appeal be set aside and the patent be revoked.

VII. Appellant II submitted that the claimed subject-matter (claims 1 to 4) lacked novelty over document D1. Moreover, the claimed subject-matter would not involve an inventive step over either D1 or D2 or D4.

VIII. Appellant I contested appellant II's arguments.

Reasons for the Decision

1. The appeals are admissible.

2. *Admissibility of the new main request*

The new main request filed during oral proceedings excises independent claims 3, 4 and 16 from the claims as granted leaving four independent claims 1 to 4 which correspond to claims 1, 2, 5 and 6 as granted, respectively. Their excision, which was made in response to the discussion of novelty of their subject-matter at the oral proceedings before the board, meant that further discussion need focus only on the remaining claims and thus benefited overall procedural economy. The board therefore decided to admit this request using its discretion under Article 13(3) RPBA.

3. *Allowability of the amendments*

The remaining independent claims (after excision) are as granted as are the dependent claims which have merely been renumbered. The amendments to the description concern its adaptation to the amended claims.

The board is satisfied that these amendments do not contravene the requirements of Article 123 EPC.

4. *Background*

4.1 Claims 1 to 4 require the presence of either means for activating means for extra stimulation of the animals to visit the implement *during a time interval* in which

the visiting frequency of the animals to the implement is below or lower than a low threshold value (claims 1 and 3) or means for activating means for less stimulation of the animals *during a time interval* in which the visiting frequency of the group of animals to the implement is above or higher than a high threshold value (claims 2 and 4).

Stated otherwise, the different solutions defined by claims 1 to 4 are based upon the common idea of regulating (i.e. either increasing or decreasing) the stimulation of the animals *in a time resolved manner*, by providing the implement with means by which *during a selected time interval* the animals of the group are stimulated more or less.

5. *Novelty*

5.1 It is not disputed that document D1 discloses an implement according to the common preamble of claims 1 to 4.

This document discloses, see particularly Chapter 2, paragraph 2.1 headed *"Materials"* on page 15 and Figure 1 on page 16, an implement for successively receiving and treating animals out of a group of animals which are allowed to move freely in an area intended therefor (said area comprises a lying area and a feeding area connected by two open passages), wherein the animals are allowed individually to visit the implement. The implement is provided with means for stimulating the animals to visit the implement in the form of a concentrate feeding station associated with each of two selection units (SU) and a milking robot

(MU) and which the animals can only access by entering the selection units and then the milking robot.

The implement of D1 was used to carry out experiments, with the aim of studying the influence of social dominance on visits to the implement, see the abstract. At least during an experimental phase B the visiting frequency of the group of animals was determined by means of a computer and recorded in the computer for individual animals, see particularly Chapter 2, paragraph 2.3 headed "*Data collection and behavioural observations*", point 3 on page 18. Table 2 on page 21 of D1 shows the percentage of visits to the implement during four days in four time intervals of 6 hours. Therefore, the implement of D1 is provided with means for determining and recording the visiting frequency of the animals to the implement in four periodically recurring time intervals as well as with means for establishing the visiting frequency pattern of the group of animals over four predetermined periods of time.

Furthermore, during the experimental phase B the animals which visited the implement according to their planned milking frequency received concentrate in the selection unit only on milking visits and on the first non-milking visit within a feeding period, while those animals which visited the AMS less than needed according to their planned milking frequency received concentrate in the selection unit on each visit, see particularly Chapter 2, paragraph 2.2.2 headed *"Phase B"* on pages 17 and 18. This corresponds to the animals being stimulated less when they visit according to plan, and more, when they do not. Thus, the

implement of D1 is provided with means for activating means for extra or less stimulation of the animals to visit the implement.

However, there is no indication in D1 to provide more or less stimulation of the animals to visit the implement *during a time interval in which the visiting frequency is below a low (or above a high) threshold value*, as required by claims 1 to 4. The feature of these claims to that effect, that the means for activating the stimulation means more or less does so during these intervals, represents the sole difference of the claimed subject-matter over D1.

5.1.1 In this respect, appellant II substantially submitted the following arguments:

It can be derived from Table 2 on page 21 of D1 that by means of the computer a time interval is determined in which the visiting frequency of the group of animals is relatively low (e.g. between midnight and 6:00 a.m. in the experimental phase A2), that is below the daily average visiting frequency. Furthermore, it is stated in D1 that a new concentrate dispensing cycle starts every day at midnight, which would imply extra stimulation of the animals in the first period from midnight to 6:00 a.m., when the visiting frequency is below threshold.

Moreover, the claims may require means for activating means for extra or less stimulation in a period of time, they do not limit extra or less stimulation to the particular period of time. Furthermore, paragraph [0013] of the patent specification would allow extra (or less)

stimulation that is not dependent on the visiting frequency. Finally, since the computer of the implement of D1 has the capability of not only determining a period of time in which the visiting frequency of the group of animals is below a low threshold value but also activating the means for extra (or less) stimulation during said period of time, D1 would then deprive the claimed subject-matter of novelty.

5.1.2 The board does not find these arguments convincing for the following reasons:

The statement in D1 "A new concentrate dispensing cycle started every day at midnight" does not necessarily mean that dispensing actually starts at midnight. Dispensing is as described in sections 2.2.1 and 2.2.2, i.e. when the cow visits the selection or milking unit, and (in part) depending on the balance of its daily allowance left. Starting a new cycle means nothing more than that the balance is reset to the daily allowance at midnight. This is not immediately dispensed but metered out as described in sections 2.2.1 and 2.2.2. Importantly D1 does not differentiate between different intervals in the way it dispenses concentrate. Thus, it does not teach to select one or more periods of time in which the stimulation of the animals may be increased or decreased.

Each of claims 1 to 4 defines a means for activating the means for extra (or less) stimulation which is arranged to do it *during a particular period of time*. The computer of the implement of D1 could be conceivably configured to provide extra or less

stimulation during a particular period of time, it is however not described as *actually* being so configured.

Furthermore, the board can find no basis in paragraph [0013] of the patent specification that might allow claims 1 to 4 to be construed as not requiring that stimulating more or less depends on the visiting frequency during the selected period of time.

5.2 Therefore, the subject-matter of each of claims 1 to 4 is novel over D1.

6. *Inventive step*

6.1 The board considers document D1 as the closest prior art.

6.1.1 Having regard to the considerations in the above section 5, the subject-matter of claim 1 differs from D1 in that

i) the implement is provided with means for activating the means for extra stimulation of the animals to visit the implement during a time interval in which the expected visiting frequency of the group of animals is below a low threshold value,

while the subject-matter of claim 2 differs therefrom in that

ii) the implement is provided with means for activating the means for less stimulation of the animals to visit the implement during a time

interval in which the expected visiting frequency of the group of animals is above a high threshold value.

The subject-matter of claim 3 differs therefrom in that

iii) the implement is provided with means for activating the means for extra stimulation of the animals to visit the implement during a time interval in which the visiting frequency of the animals is lower that a low threshold value,

while the subject-matter of claim 4 differs therefrom in that

iv) the implement is provided with means for activating the means for less stimulation of the animals to visit the implement during a time interval in which the visiting frequency of the animals is higher than a high threshold value.

6.1.2 The different solutions defined by claims 1 to 4 require the selection of a particular time interval in which the visiting frequency is lower than a low threshold value, as required by claims 1 and 3, or higher than a high threshold value, as required by claims 2 and 4, and to provide for extra stimulation as required by claims 1 and 3 (or less stimulation, as required by claims 2 and 4) of the animals *during said selected time interval*. Thus, as explained in section 4 above, the concept common to these different solutions is the regulation (increase or decrease) of the stimulation of the animals *in a time resolved manner*.

6.1.3 These distinguishing features have the effect of raising the visiting frequency in intervals where it is found to be lower and lowering it in intervals where it is found to be higher vis-à-vis respective thresholds. Variations in visiting frequency can thus be reduced.

The corresponding common technical problem to be solved can be formulated accordingly as to how to modify an implement for successively receiving and/or treating animals out of a group of animals as described in D1 so as to achieve a more uniform visiting frequency of the animals to the implement in the course of time, see also patent specification, paragraph [0002].

6.1.4 Appellant II submitted that this problem is not a technical problem in so far as the claimed subject-matter is concerned with influencing the behaviour of animals to suit the operation of the implement being used by the animals better.

In the board's view the aim of spreading visits more evenly is clearly technical. A more even spread avoids congestion and loss of (milk) yield, leading to improved efficiency of the implement. This technical aim or problem is moreover undoubtedly achieved by technical means.

6.1.5 The available prior art does not disclose or suggest any such regulation of the stimulation of the animals in a time resolved manner so as to spread their visits more evenly over time. Moreover, no evidence has been presented that such solutions might form part of common general knowledge.

6.1.6 Appellant II submitted the following arguments:

Document D1 already recognizes the need of spreading the visits of the animals evenly over the day, see the paragraph bridging pages 159 and 160 or point 6 of page 165. The skilled person who knows from D1 that "[t]he success of an AMS largely depends on the cows that have to visit the system at regular intervals", see page 159, would therefore immediately consider extra stimulation for the animals to visit the implement more between midnight and 6:00 a.m. when the visits are less frequent and do so by configuring the computer to activate the means for extra stimulation during said time interval.

Furthermore, the results (see section 3.2, first paragraph) show that in the first experimental phase A1, in which the amount of concentrate fed in the selection unit was unrestricted, high ranking and middle ranking cows paid more visits to the implement than in the second experimental phase A2, in which the amount of concentrate was limited to a daily ration, see paragraph 2.2.1 on page 17. On the basis of this teaching, it would be obvious for the skilled person confronted with the problem of improving the uniformity of the visits to configure the computer of the implement of D1 so that the means for stimulating, i.e. the means for dispensing concentrate, is activated to dispense more concentrate (extra stimulation), while the extra stimulation is not actuated during the time periods in which the implement is busy. In this manner, the skilled person would arrive at the claimed subject-matter without exercising any inventive skill.

6.1.7 The board does not find these arguments convincing for the following reasons:

Chapter 8 of D1, see particularly the sections headed *"Consequences of the AMS in terms of milking frequency, AMS capacity and AMS design"*, and *"Main Conclusions"*, , pages 159 to 161, 164 and 165, may recognize that visits are not as evenly spread as is desired, yet it attributes this in part to the group-wise behaviour of the cows, which is the main subject of the study. In this respect, it suggests that the calculation of the (nominal) capacity of the implement "should not be based on the assumption that cows will report to the system continuously throughout the 24-hours period", see page 165. This would suggest a different solution to the problem, namely basing calculation of the AMS capacity on the more correct assumption that visits are not spread uniformly. Rather than suggesting to improve the utilisation capacity of the implement by adjusting stimulation of the animals in a time resolved manner, D1 suggests calculating capacity more precisely by taking unevenly spread visits into account. Finally, while D1 records frequency and visits for each animal on selected days in each of the phases A1, A2 and B, see page 18, paragraph 2.3.3, it also indicates that the animals were stimulated by concentrate feeding more during the phase A1 than during the phase A2, and it would seem from the results that the group of animals paid more visits to the implement during the phase A1 than during the phase A2. However, there is no information how these visits were distributed over the day, which might have suggested to the skilled person a correlation between stimulation and visit distribution.

6.1.8 Therefore, the skilled person starting from D1 would not arrive at the claimed subject-matter without exercising any inventive skill.

6.2 With respect to inventive step appellant II also presented two additional argumentation lines based upon documents D2 and D4, respectively. He submitted that the skilled person starting from an implement as described in either D2 or D4 would arrive at the claimed subject-matter without exercising any inventive skill.

6.2.1 Document D2 discloses an automatic milking stall in a larger arrangement in which the cows are allowed to move freely into the stall. The implement comprises a milking station (1) provided with a milking robot (7) and with a feeding device (4) for feeding the animal during milking with concentrate. It also has enticing means which lead an animal to and from the implement in accordance with the preferences of the individual animal, see page 16, line 28 to page 17, line 2, in particular to improve throughflow, see also page 4, lines 10 to 25.

D4 discloses a similar automatic milking system which uses sound to entice animals to enter and leave from the milking stall. A computer activates appropriate means in dependence on the identity of the individual animal, see particularly page 19, line 23 to page 21, line 22, Figure 6.

However, documents D2 and D4 do not disclose or suggest controlling the stimulation of the animals *in a time resolved manner* as defined by each of the features

which distinguish the claimed subject-matter from D1 (see features i to iv referred to in section 6.1.1 above). Moreover, these documents do not disclose any means for recording or determining a time interval in which the visiting frequency of the animals to the implement is lower than a low threshold value or higher than a high threshold value. Thus, these documents are clearly less relevant than document D1. Therefore, the considerations in the above sections 6.1 to 6.1.7, also apply to these additional argumentation lines.

6.2.2 With respect to these documents appellant II essentially submitted that it would be obvious for the skilled person who knows from professional literature - as acknowledged in the patent specification (column 2, lines 9 to 12) - the time interval in which the visiting frequency is lower than a desirable value to activate the enticing means of D2 or the additional means for stimulation of D4 to encourage animals to visit the implement during that time interval and to discourage them from visiting the implement during a time interval in which the visiting frequency is higher.

The board does not find this argument convincing because the fact that the time interval with the lower (or higher) visiting frequency may be known from tests of from professional literature would not necessarily lead the skilled person to correlate the visiting frequency during said known time interval to how much the animals are stimulated to visit the implement during said interval. In this respect, it observed that the visiting frequency may depend on many other factors, such as e.g. the distance between the area in which the animals rest, access to the implement, the animals'

social behaviour (e.g. dominance, see P1), etc. Thus, even if the skilled person were to know such a time interval from the professional literature, he would not immediately arrive at the idea of stimulating the animals more or less during such time intervals.

6.2.3 Therefore, the skilled person starting from either D2 or D4 would not arrive at the claimed subject-matter without exercising any inventive skill.

6.3 Consequently, the board concludes that the subject-matter of each of claims 1 to 4 involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent with the following documents:

   Claims: 1 to 13 filed during oral proceedings.

   Description: pages 2 and 3 filed during oral proceedings.

The Registrar: The Chairman:

G. Magouliotis A. de Vries