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D E C I S I O N
of 11 January 1996

Case Number: T 0664/93 - 3.2.4

Application Number: 86200099.9

Publication Number: 0191517

IPC: A01J 7/00

Language of the proceedings: EN

Title of invention:
Implement for milking animals, such as cows

Patentee:
C. van der Lely N.V.

Opponent:
Prolion Development B.V.
Gascoigne-Melotte B.V.

Headword:
Milking/VAN DER LELY

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0664/93 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 11 January 1996

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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 17 May 1993 concerning maintenance of the European patent No. 0 191 517 in amended form.**

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
J. P. B. Seitz

Summary of Facts and Submissions

I. The European patent No. 191 517, against which two oppositions were filed, was maintained in amended form by the interlocutory decision of the opposition division dispatched on 17 May 1993.

II. On 8 July 1993 the first opponent (appellant) lodged an appeal against this decision and paid the appeal fee. A statement setting out the grounds of appeal was received on 27 September 1993.

III. With the letter dated 13 December 1995 the respondent (patent proprietor) filed amended Claims 1 and 2 upon which a main request was based and an amended Claim 1 upon which an auxiliary request was based.

IV. Oral proceedings were held on 11 January 1996. The second opponent, who is a party to the proceedings as of right according to Article 107 EPC, although duly summoned, did not appear. According to Rule 71 (2) EPC the proceedings was continued in its absence.

During the oral proceedings the respondent submitted a new main request based upon amended Claims 1 to 5 and replacing the main request submitted with the letter dated 13 December 1995.

V. Claim 1 of the main request of the appellant reads as follows:

"1. A device for milking animals, such as cows, comprising a milking parlour, means for positioning (2, 3, 12, 13, 16, 17, 27) an animal in the milking parlour, a milking machine with a milking cluster (18), and control means (35, 36), the milking cluster (18) being

provided with at least one first sensor (33) connected to said control means (35, 36) for measuring whether the milking cluster (16) is attached to the teats of the udder in a correct way for milking, characterized in that the device includes at least one second sensor (34) for measuring whether the animal is in the appropriate position in the milking parlour to automatically connect the teat cups of the milking cluster to the teats of said animal by detecting whether the hind legs of said animal are in the correct position, said second sensor (34) being connected to said control means (35, 36) in order to prevent the milking operation to be started if the animal is not in the above-mentioned appropriate position."

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

No request was filed by the party as of right.

VII. As a main request the respondent requested that the decision under appeal be set aside and the patent be maintained on the basis of the following documents:

Claims: 1 to 5 as filed during the oral proceedings;
Description: Columns 1 to 7 as filed during the oral proceedings;
Drawings: Figures 1 to 6 as filed during the oral proceedings.

VIII. With respect to the independent Claim 1 of the main request of the respondent, the appellant essentially argued that its subject-matter did not involve an inventive step having regard to the combination of the

content of the document US-A-4 010 714 (D1) with that of either document EP-A-91 892 (D3) or the article of W. Rossing, "De melkrobot komt eraan", published in "Boerderij/Veehouderij", No. 69, 1984, pp. 18ff (D4).

The respondent contested the arguments of the appellant.

Reasons for the Decision

1. The appeal is admissible.

2. *Admissibility of the amendments (main request)*

2.1 Claim 1 according to the main request differs from Claim 1 of the patent as granted substantially in that the features:

(a) "at least one first sensor for measuring whether the animal is in the appropriate position in the milking parlour",

(b) "at least one second sensor for measuring whether the milking cluster is attached to the teats of the udder in a correct way" and

(c) "[the first sensor is] connected to the control means for controlling the milking operation"

have been changed respectively to:

(a') "at least one second sensor for measuring whether the animal is in the appropriate position in the milking parlour to automatically connect the teat cups of the milking cluster to the teats of said animal by detecting whether the hindlegs of said animal are in the correct position,

(b') "at least one first sensor for measuring whether the milking cluster is attached to the teats of the udder in a correct way for milking" and

(c') "said second sensor being connected to the control means in order to prevent the milking operation to be started if the animal is not in the above-mentioned appropriate position".

These amendments can be derived from the description and the drawings of the patent both as granted and as originally filed. In particular, the following passages of the application as filed represent a basis for these amendments:

- for feature (a'): page 2, line 33 to page 3, line 14; page 17, lines 7 to 9;
- for feature (b'): page 2, lines 4 to 7; page 13, lines 6 to 11;
- for feature (c'): page 13, lines 17 to 24.

The amendments according to features (a') to (c') result in a further limitation of the matter defined by Claim 1 with respect to that defined by Claim 1 of the patent as granted such that no extension of the scope of the claim results.

2.2 The further amendments to the patent consist of the adaptation of dependent Claims 2 to 5 and of the description to the amended Claim 1.

2.3 The Board is satisfied that these amendments do not contravene Article 123 EPC.

3. *Novelty (main request)*

The subject-matter of Claim 1 is novel in the meaning of Article 54 EPC with respect to each of the documents referred to in the appeal proceedings. In fact, novelty has not been disputed.

4. *The closest prior art (main request)*

4.1 The board, the appellant and the respondent all consider document D1 as being the closest prior art.

4.2 Document D1 discloses a device for milking cows comprising a milking parlour, means for positioning (1, 3; 101, 103) a cow in the milking parlour, a milking machine (5; 105) with a milking cluster (15; 115), see particularly Figure 1 or Figure 5. A control means for controlling the milking operation - although not explicitly mentioned in document D1 - is implicitly disclosed in so far as the aim of the system according to document D1 is to have a totally automatic control of the milking operation, see column 1, lines 14 to 18 and 26 to 35. Moreover the milking cluster is provided with at least a detecting means (sensor) connected to the control means and capable of detecting whether the milking cluster is attached to the teats of the udder in a correct way for milking, see Claim 5 (column 8, lines 24 to 29).

5. *Problem and solution (main request)*

5.1 The milking device according to document D1 is provided with positioning means restricting the movement of the cow, "so that the cow is settled on the floor in a prearranged position, with her body being fixed and standing with her legs apart" (see column 6, lines 57 to 66). This allows the udder of the cow to be situated in a prearranged place (see column 2, lines 43 to 49; column 5, lines 61 to 63).

According to each party present at the oral proceedings, said prearranged position defined in document D1 can in practice not always be taken as the position appropriate to connect the teat cups of the milking cluster to the teats of the cow, in so far as a hindleg of the cow may be in a location which is disadvantageous for the milking operation. Moreover, the position of the hindlegs of the animal, and particularly their position relative to the udder, can influence not only the position of the udder with respect to the milking cluster but also the accessibility of the milking cluster to the udder.

Thus, the milking device according to document D1 suffers from the drawback that the prearranged position of the animal defined by the positioning means may be inappropriate with regard to the application of the milking cluster.

The technical problem to be solved can be seen as being to increase the efficiency and reliability of the milking device with respect to the automatic application of the milking cluster.

5.2 The milking device according to Claim 1 differs from the milking device according to document D1 in that it includes a sensor for measuring whether the animal is in the appropriate position in the milking parlour to automatically connect the teat cups of the milking cluster to the teats of said animal by detecting whether the hindlegs of said animal are in the correct position, said sensor being connected to the control means in order to prevent the milking operation from starting if the animal is not in the above-mentioned appropriate position.

The Board is satisfied that the combination of features defined in Claim 1 solves the above mentioned technical problem.

6. *Inventive step (main request)*

6.1 According to the features which distinguish the subject-matter of Claim 1 from the closest prior art, the (second) sensor provides a feedback information of whether the position of the cow is appropriate for the application of the milking cluster by detecting whether the hindlegs of the cow are in a correct position. This feedback information is used to prevent the milking operation, i.e. the application of the milking cluster, from starting if the position detected by the sensor is not an appropriate position. During the oral proceedings the parties and the board agreed that the expression "milking operation" had to be construed in the context of Claim 1 as "application of the milking cluster".

6.2 Document D3 discloses a milking device provided with a robot assembly (8, 13) for automatic application of the milking cluster (6) to the udder of the cow. According to this document, in order to permit automatic application of the milking cluster in an appropriate and

reliable manner, the cow is retained and brought by mechanical means to take up a predetermined position in the milking parlour (see page 7, line 33 to page 8, line 3; page 9, line 34 to page 10, line 1). A first sensor means (14) is provided on the robot assembly (13) for sensing the lateral and longitudinal position of the teats of the udder of the cow such that the robot assembly is controlled for displacing the milking cluster to a position directly under the cow's udder. A second sensor means (18) is furthermore provided on the robot assembly for sensing the vertical position of the teats such that the robot assembly is controlled for moving the milking cluster upwardly to connect the teat cups with the teats of the udder.

In the milking device according to document D3, the sensor means (14 and 18) perform the function of directly detecting the position of the teats in the lateral, longitudinal and vertical directions, irrespective of a specific predetermined position of the teats, which position - it should be emphasized - results from the fixed position that the cow has already taken up (see page 5, lines 32 to 35; page 7, line 35 to page 8, line 3). The information concerning the position of the teats is used by the control means to guide the robot assembly and the milking cluster towards the udder of the cow. This means that the sensor means do not provide the information of whether the cow's udder is in a position appropriate for connection of the milking cluster to the teats but only indicate a position. In other words, in the milking system according to document D3, there is no need to detect whether the cow is in the appropriate position in the milking parlour to automatically connect the teat cups of the milking

cluster to the teats, because when the cow's body is retained in the predetermined position defined by the mechanical means the robot assembly is capable of searching the teats of the udder and moving the milking cluster towards them.

Furthermore, it is not suggested in document D3 - either explicitly or implicitly - to verify the position of the cow's hind legs.

6.2.1 According to the appellant, if the first sensor means (14) provided on the robot assembly (13) of the device according to the document D3 - which sensor means is described as being suitable for sensing the lateral and longitudinal position of the teats of the udder of the cow - does not sense any teat, the milking cluster will not move towards the cow's udder. In other words, the appellant interpreted the passage in document D3 from page 10, line 31 to page 11, line 1 as implicitly describing a sensor means which is also suitable for measuring whether the animal is in an appropriate position for connecting the teat cups of the milking cluster to the teats of the cow.

The Board considers this argument of the appellant as being based on a ex post facto analysis of the prior art. Having regard to section 6.2 above, it is clear that the sensor means (14), whose only function is to determine the coordinates of the teats of the cow's udder, cannot be compared with a sensor whose function is to detect whether a part of the animal is a particular position. Indeed, apart from the probable constructional differences between the sensor according to document D3 and the sensor according to the patent in suit, there is a functional difference therebetween, in so far as the former sensor continuously provides the control means with much information, whereas the latter

sensor provides the control means only with an ON-OFF signal in order to serve the disclosed purpose.

6.3 Document D4 also concerns a milking robot provided with a sensor which detects the position of one of the teats of the animal and which is connected with a computer controlling the robot in such a way that it is able to move and apply a teat cup to the detected teat.

This document which describes a milking system analogous to that disclosed in document D3 is not considered as being more relevant than document D3 with regard to the subject-matter of Claim 1.

6.4 The skilled person therefore would not find in the available prior art a suggestion of a sensor which detects whether the hindlegs of the animal are in a particular position. Moreover, there is no indication in the prior art that the information provided by the sensor can be used to prevent the start of the milking operation.

Thus, it would not be possible to arrive at the subject-matter of Claim 1 through a logical reasoning, i.e. in an obvious way. Therefore, having regard to the above mentioned state of the art, the subject-matter of Claim 1 involves an inventive step in the meaning of Article 56 EPC.

6.5 Dependent Claims 2 to 5 define particular embodiments of the invention defined in Claim 1.

7. The patent can therefore be maintained according to the main request of the respondent. Therefore there is no need to consider the auxiliary request.

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 in the version as filed during the oral proceedings:

Claims: 1 to 5,
Description: columns 1 to 7,
Figures: 1 to 6.

The Registrar: The Chairman:

N. Maslin C. Andries