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**Datasheet for the decision
of 8 February 2011**

Case Number: T 0707/08 - 3.2.04

Application Number: 01203432.8

Publication Number: 1188366

IPC: A01J 5/017

Language of the proceedings: EN

Title of invention:

A construction for automatically milking animals

Patentee:

Lely Enterprises AG

Opponent:

DeLaval International AB

Headword:

Directly supported/LELY

Relevant legal provisions:

EPC Art. 54, 56, 111(1)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Novelty (yes) - inventive step (no)"

Decisions cited:

T 0577/95, T 0024/99

Catchword:

-



Case Number: T 0707/08 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 8 February 2011

Appellant I: DeLaval International AB
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Appellant II: Lely Enterprises AG
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
18 March 2008 concerning maintenance of the
European patent No. 1188366 in amended form.

Composition of the Board:

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

Summary of Facts and Submissions

I. An opposition was filed against the European patent No. 1 188 366. The opposition division by its interlocutory decision dated 18 March 2008 found that the patent in an amended version met the requirements of the EPC.

The opposition division held that the claimed subject-matter was novel and involved an inventive step having regard inter alia to EP-A-188 303 (D2) and "*Future use of robots in agriculture*" by G.W. Krutz et al, in "*Robotics and Intelligent Machine in Agriculture*", 1984, pages 15 to 29 (D5).

II. On 8 April 2008 the opponent (hereinafter Appellant I) lodged an appeal against this decision and paid the appeal fee on 10 April 2008. The grounds of appeal were received on 28 July 2008.

A further appeal against this decision was lodged on 19 May 2008 by the patent proprietor (hereinafter Appellant II) who had paid the appeal fee on 19 May 2008. The grounds of appeal were received on 16 July 2008.

III. Oral proceedings before the board were held on 8 February 2011.

IV. At the oral proceedings appellant II withdrew his previously submitted main, first and second auxiliary requests. He requested that that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 11 of the sole request

filed during oral proceedings. He also requested that the case not be remitted to the department of first instance for consideration of inventive step.

Appellant II essentially submitted that the claimed subject-matter was novel over D2 and involved an inventive step over the combination of D2 with D5.

Claim 1 of the sole request reads as follows:

"A construction for automatically milking animals, said construction comprising a milk box (1) and a milking robot which is provided with at least one teat cup (6) and with means (10, 11) for connecting the teat cup(s) (6) to the teats of an animal (7) to be milked, characterized in that the teat cup(s) (6) is/are disposed on a carrying element (8) which is supported directly by the floor (9) of the milk box (1), provided with propulsion means and suitable for being moved in two dimensions across a two-dimensional part of the floor surface (9) of the milk box (1)".

- V. Appellant I (opponent) requested that the decision under appeal be set aside and that the European patent be revoked. He further requested that the sole request of appellant II not be admitted into the appeal proceedings, and if admitted, the case be remitted to the department of first instance for consideration of inventive step.

Appellant I essentially submitted that the subject-matter of claim 1 lacked either novelty over D2 or inventive step over this document in combination with D5.

Reasons for the Decision

1. The appeals are admissible.
2. *Procedural matter*
 - 2.1 Compared with amended claim 1 held allowable by the opposition division in the decision under appeal, claim 1 of the sole request has been amended to state that the carrying element is "directly" supported by the floor.
 - 2.1.1 This amendment cannot be rejected as late filed since it has been prompted by the board's communication annexed to the summons to oral proceedings in which the construction described in EP-A-188 303 (D2) was said to comprise "a carrying element ... supported (via a frame 16 and legs 17) by the floor on which the milk box is arranged". Moreover, the addition of the word "directly" to claim 1 clearly serves the purpose of meeting the objection of lack of novelty submitted by appellant I so that it cannot be regarded as amounting to an abuse of procedure.
 - 2.1.2 The patent specification refers to a "carrying element, which is supported (directly or indirectly) by the floor" (see paragraph [0003]). Furthermore the patent specification not only describes in relation to the Figures an embodiment in which the carrying element is provided with wheels or rollers and caterpillar tracks but also discloses an alternative embodiment in which there is an air cushion construction by means of which

"the carrier element 8 is still supported by the floor 9 (although without direct contact), but the friction occurring then is small" (see paragraph [0010]). Thus, it is clear from the patent specification that the carrier element may be supported by the floor either indirectly (i.e. without contact) or directly (i.e. with contact).

Thus, this amendment, which limits the claimed subject-matter to a carrier element which is directly supported by the floor, does not raise issues which the board or appellant I could not be expected to deal with without adjournment of the oral proceedings (see Rule 13 (3) RPBA).

It is also observed that the refusal to admit the sole request of appellant II would have resulted in the revocation of the patent on procedural grounds, without a discussion and a decision on its substantive merits. Accordingly, the request in question represents the sole and thus last chance for the patent proprietor to maintain his patent in amended form, which opportunity is normally given to the patent proprietor even at the oral proceedings (see T 24/99 of 5 December 2002 and T 577/95 of 12 December 1995 (both not published)).

2.1.3 Therefore, the board in exercising its discretionary power under Rule 13 (1) RPBA decided to admit the sole request of appellant II into the proceedings.

2.2 Compared with amended claim 1 held allowable by the department of first instance, the amendment made consists in the mere addition of the word "directly". Thus, considering that claim 1 of this sole request

does not create a fresh case which would require the remittal to the department of first instance and considering also that the appealed decision deals with the issue of inventive step, the board in exercising its discretionary power under Article 111 (1) EPC decided not to remit the case to the department of first instance for further prosecution.

3. *Novelty and inventive step*

3.1 D2 discloses (see particularly Figures 1 to 3 as well as Figures 4 and 5) a construction for automatically milking animals, said construction comprising a milk box and a milking robot which is provided with teat cups (23) and with means for connecting the teat cups to the teats of an animal to be milked, the teat cups being disposed on a carrying element ("support" 15). the carrying element being supported (via frame 16 and legs 17) by the floor of the milk box, the carrying element being provided with propulsion means ("electric motor" 29 and "actuating device" 19) and being suitable for being moved in two dimensions across a two-dimensional part of the floor surface of the milk box.

3.1.1 Thus, the movable carrying element of D2, on which the teat cups are disposed - in so far as it is connected via a robot arm arrangement either to a horizontal frame supported (via vertical legs 17) by the floor of the milk box (see Figures 1 to 3) or to a plate (61) attached to the floor (see Figures 4 and 5) - is not **directly** supported by the floor of the milking box.

Therefore, the subject-matter of claim 1 is novel over D2.

3.2 It is not disputed that document D2 represents the closest prior art.

In D2, the carrying element (15) is supported by the floor via a stationarily mounted robot arm arrangement by means of which it is movable in a horizontal plane across the floor surface of the milk box (so that the teat cups can be positioned under the udder of the animal to be milked) and in a vertical direction (so that the teat cups after having been positioned can be connected to the teats of the animal).

3.2.1 Having regard to the considerations in sections 3.1 and 3.1.1, the claimed subject-matter differs from the construction of D2 in that the carrying element on which the teat cups are disposed is **directly supported** by the floor of the milk box.

This distinguishing feature - read in the context of a carrier element movable across the floor surface of the milk box - implies that the carrying element is provided with means, such as wheels, allowing the whole milking robot to be movable across the floor surface (in direct contact with the floor), without being fixed in a particular location.

3.2.2 According to the patent specification, the problem underlying the claimed invention is to improve known constructions with a robot arm arrangement which requires a complex control for realizing the three-dimensional movements necessary to position the teat cups under the udder of the animal and to connect them to the teats, whereby the claimed invention provides

the advantages that the carrying element "can be controlled in a simple manner and be designed as a compact one" (see paragraphs [0002] and [0003]).

However, the claimed invention does not solve this problem since claim 1 does not require that the bi-dimensional movement for positioning the teat cups under the udder of the animal is performed by the carrying element moving across the floor surface (in direct contact with floor) and does not specify any means for upwardly moving the teat cups allowing the teat cups to be connected to the teats only by means of an upward movement relative to the carrying element. Furthermore, the claimed invention does not necessarily provide the advantages referred to in the patent specification, in so far as claim 1 does not exclude that the teat cups are disposed on a "mobile" carrying element via an intermediate robot arm arrangement which is movable relative to the "mobile" carrying element.

3.2.3 Thus, starting from D2, the objective technical problem to be solved by the invention as defined in claim 1 may be seen in providing a further construction for automatically milking animals comprising a milk box and a milking robot.

3.2.4 This problem incontestably confronts the milking robot specialist who has evidently the technical knowledge required in his professional work at his finger tips. He knows in particular robotics i.e. how robots in general are made and used. Consequently, the milking robot specialist knew also at the priority date of the patent in suit that there were in essence two kinds of robots, a first kind where the robot arm is

stationarily mounted in a particular location and a second kind comprising wheeled or caterpillar tracked robots that are not fixed in a particular location. Thus on the basis of this common general knowledge, it would have been obvious for the milking robot specialist to provide the milking robot arm of D2 with a wheeled or caterpillar tracked carrying element which is thus directly supported by the floor of the milk box and capable of being moved outside the milking box, so as to overcome any drawbacks due to the stationary location of the robot arm known from D2. In doing so, he would have arrived at a construction for automatically milking animals, as defined in amended claim 1.

3.2.5 Moreover, D5 depicts in Figures 10 and 11 some possible applications of robots in agriculture. Among the possible applications there are suspended robot arm arrangements which are indirectly supported by the floor (such as the greenhouse robot and the meat processing robot shown in Figures 11 (a) and 11 (g), respectively; see page 26) as well as robots in which the robot arm arrangement is mounted on a carrying element provided with wheels and thus directly supported by the floor (such as the crop harvesting robot, the spraying robot and the milking robot shown in Figures 10(a), 10(e) and 10(f), respectively, see page 25). Thus, D5 refers to different types of robots, among them to robots with a robot arm arrangement mounted on a wheeled carriage capable of moving around.

It would have been obvious for the skilled person seeking for a solution to the above mentioned technical problem to replace the stationarily mounted robot arm

arrangement of D2 by a mobile arrangement as depicted in Figures 10(a), 10(e) or 10(f) of D5 and thus to arrive at a construction with a wheeled carrying element directly supported by the floor of the milking box, i.e. at a construction for automatically milking animals as defined in amended claim 1.

3.2.6 With respect to inventive step, appellant II submitted that even if the skilled person were to combine D2 with D5, he would only arrive at a construction in which all the elements of the robot arm (i.e. those elements ensuring the movement in a horizontal plane for positioning the teat cups under the udder as well as the element ensuring the movement in a upward direction for connecting the teat cups to the teats of the animal) are movable relative to a wheeled carrying element. Therefore, the skilled person would not arrive at the claimed construction in which the carrying element is a compact one in so far it only carries the means for lifting the teat cups and connecting them to the teats, while the positioning of the teat cups under the udder is ensured by the bi-dimensional movement of the carrier element.

3.2.7 Having regard to the considerations in section 3.2.2, the board does not find this argument convincing. In this respect, it is also observed that the features that "the carrying element (8) is provided with a lifting device (10) for the teat cup(s) (6)" and that the construction comprises "means for positioning the carrying element under the udder ... in such a manner that the teat cup(s) (6) can be connected ... by means of an almost vertical ... movement" are not defined in claim 1 but in dependent claims 8 and 11, respectively.

3.2.8 Appellant II also submitted the following arguments:

- D5, which was published in 1984, only suggests possible ideas for the future use of robots without describing any concrete application of the robots. In particular, Figure 10 (f) only shows a wheeled carriage carrying two sets of teat cups which are not suitable for being automatically connected to the teats of an animal and does not show a milk box.
- In D2 the robot arm is stationarily affixed to the milk box. The skilled person, even if he could do it, would not replace the stationarily mounted robot arm of D2 by a mobile one, because the construction of D2 is a working system which does not need to be modified. Moreover, in D5 there is no disclosure or suggestion of using a robot mounted on a vehicle in a construction for automatically milking animals comprising a milk box as disclosed in D2. Therefore, the combination of D2 with D5 would only be possible with hindsight knowledge of the invention (ex post facto analysis).

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

- Figure 10(f) of D5 is referred to as a possible application of a robot for "reducing labor and controlling the milking process" (see page 25). Therefore, the milking robot specialist seeking for a solution to the above technical problem would consider D5 and find in it the suggestion of using

a milking robot mounted on a wheeled carrying element directly supported by the floor.

- The fact that D5 does not disclose the specific features of a milking robot and does not show a milk box is irrelevant since the starting point of the invention is the construction for automatically milking animals of D2 which comprises a milking robot and a milk box. As has been explained, wheeled or caterpillar tracked robots form part of the common general knowledge of the skilled person, here the milking robot specialist.
- The use of a milk box is trivial, even in manual or in semi-automatic milking.
- The construction of D2, which is based upon the use of a stationarily mounted robot, represents the solution to a problem concerning how to reduce manual intervention in the milking process. This does not preclude later attempts to find alternative solutions.
- In the present case, in which the technical problem to be solved is to provide a further (alternative) construction for automatically milking animals comprising a milk box and a milking robot, appellant II did not submit that the claimed invention provided additional advantages other than those referred to in the patent specification, which are not actually provided by the invention as claimed (see section 4.3 above). Thus, the question of whether the skilled would have combined D2 and D5 in

the expectation of the advantages actually achieved,
is irrelevant.

Consequently, the subject-matter of amended claim 1
according to the sole request does not involve an
inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The European patent is revoked.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte