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D E C I S I O N
of 22 May 2003

Case Number: T 0628/00 - 3.2.4

Application Number: 94913203.9

Publication Number: 0693871

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Language of the proceedings: EN

Title of invention:
A construction for automatically milking animals

Patentee:
MAASLAND N.V.

Opponent:
DeLaval International AB

Headword:
Robot arm construction/MAASLAND

Relevant legal provisions:
EPC Art. 56, 100(a), 100(c), 123
EPC R. 89

Keyword:
"Extension of the subject-matter (main request and first auxiliary request"
"Inventive step (yes - second auxiliary request)"

Decisions cited:
-

Catchword:
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Case Number: T 0628/00 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 22 May 2003

Appellant: (Proprietor of the patent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 17 May 2000 revoking European patent No. 0693871 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
H. Preglau

Summary of Facts and Submissions

I. The European patent No. 693 871, against which an opposition (based upon Articles 100(a) and (c) EPC) was filed, was revoked by the decision of the opposition division dispatched on 17 May 2000.

II. On 8 June 2000 the proprietor of the patent (hereinafter appellant) lodged an appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 13 September 2000.

III. Oral proceedings were held on 22 May 2003.

During the oral proceedings the appellant filed four sets of amended claims upon which four requests (a main request and three auxiliary requests) to maintain the patent were based.

IV. The appellant requested that the impugned decision be set aside and the patent be maintained,

as the main request, on the basis *inter alia* of the independent Claim 1 submitted during the oral proceedings on 22 May 2003 which is provided with the indication "main request",

as a first auxiliary request, on the basis *inter alia* of the independent Claim 1 submitted during the oral proceedings on 22 May 2003 which is provided with the indication "first aux. request",

as a second auxiliary request, on the basis of the following documents:

Claims: No. 1 to 17 as submitted during the oral proceedings on 22 May 2003 provided with the indication "second aux. request";

Description: columns 1 and 2 as submitted during the oral proceedings on 22 May 2003 provided with the indication "second aux. request"; columns 3 to 7 as granted;

Drawings: Figures 1 to 14 as granted.

Furthermore, as a third auxiliary request the appellant requested that the patent be maintained on the basis *inter alia* of the independent Claim 1 submitted during the oral proceedings on 22 May 2003 which is provided with the indication "third aux. request",

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

"1. A construction for automatically milking animals, such as cows, comprising a milking box (1) with a milking robot (7) having either two robot arm constructions (8) each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17), or four robot arm constructions (8) each being provided with a supporting element and a carrier for only one teat cup (34; 35; 36; 37), these four teat cups (34; 35; 36; 37) being disposed in a two-by-two relationship on both lateral sides of the milking

box (1), which carriers (13) are movable in a horizontal plane and in an up- and downward direction, the robot arm constructions (8), carrying together all the teat cups, being arranged on both lateral sides of the milking box, so that two teat cups for the left teats of the animal are arranged on the corresponding lateral side and two teat cups for the right teats of the animal are arranged on the other lateral side, the carriers (13) being individually movable from a non-working position sidewards the milking box (1) to a working position under an animal's udder and extending in at least two different directions."

Claim 1 of the first auxiliary request of the appellant reads as follows:

"1. A construction for automatically milking animals, such as cows, comprising a milking box (1) with a milking robot (7) having two robot arm constructions (8) each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17), which carriers (13) are movable in a horizontal plane and in an up- and downward direction, characterised in that the robot arm constructions (8), carrying together all the teat cups, are arranged on both lateral sides of the milking box, so that two teat cups for the left teats of the animal are arranged on the corresponding lateral side and two teat cups for the right teats of the animal are arranged on the other lateral side, the carriers (13) being individually movable from a non-working position sidewards the milking box (1) to a working

position under an animal's udder and extending in at least two different directions."

Claim 1 of the second auxiliary request of the appellant reads as follows:

"1. A construction for automatically milking animals, such as cows, comprising a milking box (1) with a milking robot (7) having either two robot arm constructions (8) each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17), or four robot arm constructions (8) each being provided with a supporting element and a carrier for only one teat cup (34; 35; 36; 37), these four teat cups (34; 35; 36; 37) being disposed in a two-by-two relationship on both lateral sides of the milking box (1), structions (8) with carriers (13) for teat cups (16, 17, 34 - 37), which carriers (13) are movable in a horizontal plane and in an up- and downward direction, characterized in that the robot arm constructions (8), carrying together all the teat cups, are arranged on both lateral sides of the milking box, so that two teat cups for the left teats of the animal are arranged on the corresponding lateral side and two teat cups for the right teats of the animal are arranged on the other lateral side, the carriers (13) being individually movable from a non-working position sidewards the milking box (1) to a working position under an animal's udder and extending in at least two different directions, in which each carrier (13) is disposed in such a manner near a side wall of the milking box (1) that it is

movable in at least two directions which, preferably, are perpendicular to each other, each carrier (13) is pivotal from the non-working position to the working position and, in this working position, is movable in said horizontal plane in two directions which are approximately perpendicular to each other on the supporting element (11) which is pivotal about a predominantly vertical shaft (12), whilst by pivoting it about this shaft (12) the carrier (13) can be moved from the non-working position to the working position, and the supporting element (11) is disposed capably of being moved in height in said up- and downward direction for example by means of a parallelogram construction (10), at the exterior side of and near a side wall of the milking box (1)."

VI. The opponent (hereinafter respondent) requested that the appeal be dismissed.

VII. The appellant argued that each independent Claim 1 of the four requests submitted during the oral proceedings on 22 May 2003 did not contravene the requirements of Articles 100(c) and 123 EPC. Moreover, the appellant argued that the subject-matter of Claim 1 according to the second auxiliary request was novel and involved an inventive step.

VIII. The respondent argued that the ground for opposition mentioned in Article 100(c) EPC prejudiced the maintenance of the patent on the basis of all the requests of the appellant and that the subject-matter

of Claim 1 according to the second auxiliary request did not involve an inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. *Articles 100(c) and 123(2) EPC with respect to the main and the first auxiliary requests*

2.1 Each of the independent Claims 1 of the main request and of the first auxiliary request derives from Claim 1 of the application as filed (hereinafter referred to as the "AAF") which was directed to "a construction for automatically milking animals, such as cows" having the following features:

A1^{AAF}) the construction comprises a milking robot (7) with teat cups (16, 17, 34-37),

A11^{AAF}) a milking box includes at least two carriers (13) with teat cups,

A113^{AAF}) the carriers (13) are movable from a non-working position to a working position,

A114^{AAF}) the carriers (13) extend in at least two different directions.

2.2 Claim 1 of the patent as granted (hereinafter referred to as the "PAG") specifies *inter alia* the following features:

A11^{PAG}) the milking robot (7) has at least two robot arm constructions (8) with carriers (13) for teat cups (16, 17, 34 -37),

A113^{PAG}) the carriers are individually movable from a non-working position sidewards the milking box (1) to a working position under an animal's udder.

2.2.1 The portion of the description of the patent which refers to the drawings relates to three embodiments. Figures 1 to 9 refer to a first embodiment, Figure 10 (in conjunction with Figures 13 and 14) refers to a second embodiment, while Figure 11 (in conjunction with Figures 13 and 14) refers to a third embodiment.

It has to be noted that in the third embodiment (Figure 11) the milking robot is provided with four carriers 13 which are arranged in a two-by-two relationship on both sides of the milking box, wherein both carriers of each side move together (ie not individually) from a non-working position to a working position under an animal's udder. Therefore, Claim 1 of the "PAG" as well as each of the independent Claims 1 of the main request and of the first auxiliary request, due to feature A113^{PAG}, do not cover the embodiment according to Figure 11.

In the first embodiment (Figures 1 to 9) the milking robot is provided with two robot arm constructions, each being provided with a supporting element supporting a carrier for two teat cups, while in the second embodiment (Figure 10) the milking robot is

provided with four carriers, each carrying one teat cup.

2.3 Each of the independent Claims 1 of both the main request and the first auxiliary request differs from Claim 1 of the "AAF" in that feature $A11^{AAF}$ has been replaced by the following feature:

A11) "the milking robot [has] two robot arm constructions (8), each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17)".

2.3.1 With respect to feature A11, the following has to be noted:

(i) This feature relates only to the first embodiment (Figures 1 to 9).

(ii) Neither the claims nor the introductory portion of the description (page 1, line 1 to page 3, line 25) of the "AAF" refer to the expression "robot arm constructions".

This expression can only be found in the portion of the description of the "AAF" which refers to the embodiment according to Figures 1 to 9. The passage bridging pages 4 (from line 29) and 5 (to line 3) of the "AAF", which relates to Figure 1, refers for the first time to "two robot arm constructions" (page 4, lines 30 and 31) and defines the relationship between the robot arm construction, the supporting element and the carrier. According to this passage, each robot arm

construction 8 includes "a vertically arranged pillar 9, to the upper end of which a parallelogram construction 10 is attached, a supporting element 11 being movable in height with the aid of this parallelogram construction 10" and being "pivotal about a vertical shaft 12", wherein "by means of the supporting element 11, a carrier is arranged in such a manner extending in two directions, which are perpendicular to each other, that it is movable in a horizontal plane".

Thus, this portion of the description of the "AAF", in conjunction with Figure 1, refers to the robot arm construction as being a structural element constituted not only by a supporting element and a carrier but also by a pillar and a parallelogram construction and defines the relationships between the constituting components of the robot arm construction.

Therefore, feature A11 defines a robot arm construction in a more general way than the description of the "AAF".

(iii) The expression "supporting element" mentioned in feature A11 is not referred to in the introductory portion of the description of the "AAF" but can be found in dependent Claims 15 to 17 of the "AAF". It has to be noted that Claim 17 cannot represent a basis for the disclosure of a "supporting element" associated with a carrier, because it relates to the embodiment according to Figure 11, which is not covered by Claim 1 of either the main request or the first auxiliary request.

Claims 15 and 16 which refer indirectly, ie via Claims 12 and 13, to Claim 1, concern the embodiment according to Figure 1.

The combination of the features specified in Claims 12, 13 and 15 defines a structural element constituted by a carrier movable in two directions and pivotal from a rest position to a working position by means of a supporting element. Thus, this combination of features can be considered as defining a robot arm construction in a more general way than the description of the "AAF".

However, feature A11 defines the robot arm construction in an even more general way than Claims 12, 13 and 15 of the "AAF".

2.3.2 Having regard to the above comments, feature A11 represents a generalisation of specific features disclosed in the description of the "AAF", without there being a basis for this generalisation in the "AAF".

2.4 Thus, the amendments made to arrive at the subject-matter of both independent Claims 1 of the main and first auxiliary requests contravene Article 123(2) EPC.

For these reasons, the main and the first auxiliary requests of the appellant have to be rejected.

3. *The subject-matter of Claim 1 of the second auxiliary request*

3.1 According to the text of Claim 1 of this request, as submitted by the appellant during the oral proceedings, the construction comprises "a milking box (1) with a milking robot (7) having either two robot arm constructions (8) each being provided with ... a carrier (13) for two teat cups (16, 17), or four robot arm constructions (8) each being provided with ... a carrier for only one teat cup (34; 35; 36; 37), these four teat cups (34; 35; 36; 37) being disposed in a two-by-two relationship on both lateral sides of the milking box (1), **structions (8)** *[sic]* **with carriers (13) for teat cups (16, 17, 34-37),** which carriers (13) are movable in a horizontal plane..." (emphasis added).

It is clear from the wording of this Claim 1 that the terms "structions (8) with carriers (13) for teat cups (16, 17, 34-37)" are meaningless and represent an obvious mistake. It is also obvious from the wording of this Claim 1 that this mistake derives from the uncompleted deletion of the terms of feature $A11^{PAG}$ in Claim 1 of the "PAG" (column 7, line 56 to column 8, line 10) according to which the milking robot (7) has "at least two robot arm con**structions (8) with carriers (13) for teat cups (16, 17, 34 -37)**". On page 5 (columns 7 and 8) of the "PAG", which page was used to draft the amended Claim 1 of the second auxiliary request, feature $A11^{PAG}$ bridges columns 7 and 8, wherein the terms "at least two robot arm con-" in column 7 (last line) were deleted and a passage corresponding to features A11 and A'11, which represent a more specific re-formulation of the feature $A11^{PAG}$, was inserted,

while the terms "structions (8) with carriers (13) for teat cups (16, 17, 34-37)" (column 8, lines 1 and 2) were not deleted.

Thus, it is not only obvious that there is a mistake in the claim but it is also immediately evident how the mistake has to be corrected, namely by completely deleting feature $A11^{PAG}$, ie by deleting the terms "structions (8) with carriers (13) for teat cups (16, 17, 34-37)".

This correction is also consistent with the wording of Claim 1 of the main request as well as that of the first auxiliary request in so far as in these claims feature $A11^{PAG}$ has been completely deleted (see the above sections V, 2.2 and 2.3) and replaced either by features A11 and A'11 (main request) or by feature A11 (first auxiliary request).

3.1.1 Since the present decision is based upon Claim 1 of the second auxiliary request of the appellant, the obvious mistake is corrected according to Rule 89 EPC by deleting the above mentioned terms "structions (8) with carriers (13) for teat cups (16, 17, 34-37)".

3.1.2 The corrected text of Claim 1 of the second auxiliary request reads as follows:

"1. A construction for automatically milking animals, such as cows, comprising a milking box (1) with a milking robot (7) having either two robot arm constructions (8) each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17), or four robot arm

constructions (8) each being provided with a supporting element and a carrier for only one teat cup (34; 35; 36; 37), these four teat cups (34; 35; 36; 37) being disposed in a two-by-two relationship on both lateral sides of the milking box (1), which carriers (13) are movable in a horizontal plane and in an up- and downward direction, characterized in that the robot arm constructions (8), carrying together all the teat cups, are arranged on both lateral sides of the milking box, so that two teat cups for the left teats of the animal are arranged on the corresponding lateral side and two teat cups for the right teats of the animal are arranged on the other lateral side, the carriers (13) being individually movable from a non-working position sidewards the milking box (1) to a working position under an animal's udder and extending in at least two different directions, in which each carrier (13) is disposed in such a manner near a side wall of the milking box (1) that it is movable in at least two directions which, preferably, are perpendicular to each other, each carrier (13) is pivotal from the non-working position to the working position and, in this working position, is movable in said horizontal plane in two directions which are approximately perpendicular to each other on the supporting element (11) which is pivotal about a predominantly vertical shaft (12), whilst by pivoting it about this shaft (12) the carrier (13) can be moved from the non-working position to the working position, and the supporting element (11) is disposed capably of being moved in height in

said up- and downward direction for example by means of a parallelogram construction (10), at the exterior side of and near a side wall of the milking box (1)."

3.2 Claim 1 of the second auxiliary request is directed to "a construction for automatically milking animals, such as cows" and specifies the following features:

A^{PAG}) the construction comprises a milking box (1);

A1^{PAG}) the milking box is provided with a milking robot (7);

A11) **either** the milking robot has two robot arm constructions (8), each being provided with a supporting element (11) and a carrier (13) for two teat cups (16, 17),

A'11) **or** the milking robot has four robot arm constructions (8), each being provided with a supporting element and a carrier for only one teat cup (34, 35, 36, 37), these four teat cups (34, 35, 36, 37) being disposed in a two-by-two relationship on both lateral sides of the milking box (1);

A111^{PAG}) the carriers (13) are movable in a horizontal plane;

A112^{PAG}) the carriers (13) are movable in an up-and-downward direction;

A12) the robot arm constructions, carrying together all the teat cups, are arranged on both lateral sides of the milking box,

A121) the robot arm constructions are arranged so that two teat cups for the left teats of the animal are arranged on the corresponding lateral side and two teat cups for the right teats of the animal are arranged on the other lateral side;

A113[PAG]) the carriers are individually movable from a non-working position sidewards the milking box (1) to a working position under an animal's udder;

A114[PAG]) the carriers extend in at least two different directions;

A115) each carrier (13) is disposed in such a manner near a side wall of the milking box (1) that it is movable in at least two directions which, preferably, are perpendicular to each other;

A116) each carrier (13) is pivotal from the non-working position to the working position and, in this working position, is movable in said horizontal plane in two directions which are approximately perpendicular to each other on the supporting element (11);

A117) the supporting element (11) is pivotal about a predominantly vertical shaft (12), whilst by pivoting it about this shaft (12) the carrier (13) can be moved from the non-working position to the working position;

A118) the supporting element (11) is disposed capably of being moved in height in said up-and-down direction, for example by means of a parallelogram construction (10), at the exterior side of and near a side wall of the milking box (1).

3.2.1 Features A11 and A'11 define two alternatives, the first alternative relating to the first embodiment (Figures 1 to 9), the second alternative relating to the second embodiment (Figure 10).

3.2.2 Feature A113^{PAG} defines a **first movement** of each carrier, which movement allows the positioning of the teat cups under the animal's udder. This feature has to be read in conjunction with features A116 and A117, according to which each carrier is movable in the horizontal plane referred to in feature A111^{PAG} on the supporting element, wherein this first movement of each carrier is arrived at by a pivotal movement of the supporting element 11 about a predominantly vertical shaft 12.

3.2.3 Feature A111^{PAG} defines a **second movement** of each carrier, namely a movement in a horizontal plane **with respect to the milking box**. This feature has to be read in conjunction with features A116 and A117 according to which each carrier is movable in said horizontal plane in two directions which are approximately perpendicular

to each other on the supporting element when the supporting element is in the working position. It can be understood from the description of the patent (see column 4, line 56 to column 5, line 39) that this second movement of the carrier results in precisely positioning the teat cup under the relevant teat of the animal.

In this respect, it has to be noted that according to feature A116 the carrier is movable on the respective supporting member in the horizontal plane. This not only implies a movement of the carrier relative to the supporting element but also makes it clear that the carrier is arranged **on** the supporting element.

3.2.4 Feature A112^{PAG} defines a **third movement** of the carriers, namely a movement in an up-and-down direction with respect to the milking box. This feature has to be read in conjunction with feature A116, according to which each carrier is movable on the supporting element 11 (ie it is arranged on it), and with feature A117 which makes it clear that this third movement of each carrier is arrived at by the fact that the supporting element is movable in height in said up-and-down direction at the exterior side and near the side wall of the milking box. It is understood that this movement of the carrier results in the connection of a teat cup with the relevant teat.

3.2.5 Having regard to the comments in the above sections 3.2.2 to 3.2.4, it has to be assumed that each teat cup moves from its non-operative position sidewards the milking box into its operative position (ie the position in which it is connected to the respective

teat) by three steps. The first step is a rotation caused by the pivotal movement of the supporting element 11 about the predominantly vertical shaft 12 which movement brings the carrier in the working position. The second step is a movement the carrier makes on the supporting element when it is in said working position and has two movement components in two directions which are approximately perpendicular to each other. The third step is a vertical movement (up-and-down) caused by the movement in height of the supporting element.

3.2.6 Feature A114^{PAG} has to be interpreted having regard to the passage in column 3, lines 47 to 57 and in column 6, lines 33 to 35 of the description of the patent and to Figures 1 and 10. According to the first passage which refers to Figure 1, "that portion of the carrier 13 that is connected to the supporting element 11 extends ... transversely to the longitudinal direction of the milking box 1, whereas the other end of the carrier 13 extends in a horizontal plane obliquely rearwardly and inwardly". Thus, feature A114^{PAG} defines the shape of the carrier. In other words, according to this feature each carrier has at least two portions extending each in a different direction.

The description of the patent states that "such a construction of the carriers 13 allows an easy access to the teats ... without the carriers 13 of the teat cups interfering with each other" (column 3, lines 53 to 57). However, it is clear that this effect is obtained by feature A114^{PAG} in combination with all the features in Claim 1 which relate to the movements of the carriers.

4. *Articles 100(c) and 123(2) EPC with respect to the second auxiliary request*

4.1 Claim 1 of the second auxiliary request differs from Claim 1 of the "PAG" in that:

(i) features A11 and A'11 have replaced feature $A11^{PAG}$;

(ii) features A12 and A121 have replaced the feature in Claim 1 of the "PAG" (hereinafter feature $A12^{PAG}$) according to which "the robot arm constructions, carrying together all the teat cups, are arranged on at least two sides of the milking box";

(iii) features A115, A116, A117 and A118 have been added.

4.1.1 The amendments made to Claim 1 of the "PAG" to arrive at Claim 1 of the second auxiliary request consist either in the addition of features (item 4.1.iii) or in the substitution of generic features by more specific ones (items 4.1.i and 4.1.ii). Therefore, these amendments do not extend the protection conferred to the PAG and do not contravene Article 123(3) EPC.

4.2 Claim 1 of the second auxiliary request essentially differs from Claim 1 of the "AAF" (see the above section 2.1) in that

(i) Features A^{PAG}, $A1^{PAG}$, A11 and A'11 have replaced features $A1^{AAF}$ and $A11^{AAF}$;

(ii) feature A12 and A121 have been added;

(iii) features $A111^{PAG}$, $A112^{PAG}$, A115, A116, A117 and A118 have been added;

(iv) feature $A113^{PAG}$ has replaced feature $A113^{AAF}$.

4.3 In the following sections 4.3.1 to 4.3.6.1 the admissibility of the amendments made to Claim 1 of the PAG to arrive at Claim 1 of the second auxiliary request (Article 123 EPC) will be examined together with the issue of whether the ground for opposition mentioned in Article 100(c) EPC prejudices the maintenance of the patent on the basis of this Claim 1.

4.3.1 With respect to features A^{PAG} and $A1^{PAG}$ (item 4.2.i), it has to be noted that these features clarify the features $A1^{AAF}$ and $A11^{AAF}$ of the "AAF". A basis for this clarification can be found in the portion of the description of the "AAF" relating to the first embodiment is so far as it refers to "a milking box [which] is provided with a milking robot ..." (see page 4, lines 29 to 32).

4.3.2 With respect to feature A11 (items 4.1.i and 4.2.i) which relates to the first embodiment (Figures 1 to 9), it has to be noted

(i) that the portion of the description of the "AAF" which relates to the first embodiment refers to a milking robot comprising "two robot arm constructions...", each of these robot arm constructions being defined as a structural element including "a vertically arranged pillar 9, to the upper end of which a parallelogram

construction 10 is attached, a supporting element 11 being movable in height with the aid of this parallelogram construction 10", wherein "by means of the supporting element 11, a carrier 13 is arranged..." (see page 4, lines 19 to page 5, line 3);

(ii) and that the combination of the features specified in the dependent Claims 15 and 16, which refer to Claims 12 and 13, implicitly define a structural element including "a carrier ... disposed ... a supporting element (11) which is pivotal about a predominantly vertical shaft (12)" (Claim 15), wherein "the supporting element (11) is disposed capably of being moved in height..." (Claim 16).

Thus, Claim 15 or even Claims 15 and 16 in conjunction with Claims 12 and 13 of the "AAF" represent a generalisation of the above mentioned specific features in the description of the "AAF" (page 4, line 19 to page 5, line 3) and, therefore, constitute a basis for feature A11.

4.3.3 Feature A'11 (items 4.1.i and 4.2.i), which relates to the second embodiment, has a basis in that portion of the description of the "AAF" which refers to Figure 10 (page 9, lines 12 to 33), according to which each carrier carries only one teat cup and there are four carriers each for one teat cup, arranged - in a two-by-two relationship - on both lateral sides of the milking box, in so far as this portion contains the statement "As is also the case in Figure 1, the carriers may again have been disposed such that they are movable in two directions and moreover are arranged pivotally near

the exterior wall of the milking box 1. **A similar construction as shown in Figure 1 is then possible**" (page 9, lines 29 to 33; emphasis added).

In this respect, the respondent argued that there is no disclosure in the "AAF" for the alternative according to feature A'11, in so far as the reference to Figure 1 in the portion of the description of the "AAF" (page 9, lines 12 to 33) which relates to the second embodiment does not represent an unambiguously disclosure of a construction for milking animals having four robot arm constructions as defined by feature A'11 in combination with the remaining features of Claim 1.

The board cannot accept this argument of the respondent because the statement on page 9 of the "AAF" (lines 29 to 33) implies in a clear and unequivocal way that each of the four carriers shown in Figure 10 can be connected to a carrier construction as shown in Figure 1.

4.3.4 Features A12 and A121 (items 4.1.ii and 4.2.ii) which define the positional relationship of the robot arm constructions with respect to the milking box and the relationship of the teat cups to the teats of the animals can unequivocally be derived from the drawings of the "AAF", in particular from Figure 1 in combination with the sentence on page 4, lines 29 to 32: "... two robot arm constructions ... arranged on either side of the milking box" of the description of the "AAF" and from Figure 10 in combination with the passage on page 9, lines 29 to 33: "A similar construction as shown in Figure 1 is then possible".

With respect to the expression "lateral sides" in feature A12, the respondent essentially argued as follows:

– This expression does not unambiguously define which sides of the milking box are meant. Thus, feature A12 can for instance encompass a milking box having a rectangular basis in which both entrance and exit doors are arranged on a long side of the rectangle and the robot arm constructions are arranged, respectively, on both short sides of the rectangle, which short sides can be considered as being the "lateral sides" of the milking box. Therefore, this feature goes beyond the content of the "AAF" (page 4, lines 19 to 24) in which it is clearly stated that the milking box is formed by a frame 2, which constitutes the two sides of the milking box, an entrance (rear) door and an exit (front) door.

The board cannot accept this argument of the respondent for the following reasons:

– The expression "arranged on at least two sides of the milking box" can be found in Claim 1 of the "PAG" (feature $A12^{PAG}$). It is clear from the description and the drawings of the patent (see column 3, lines 9 to 14; Figure 1 as well as Figure 10) that there is a relationship between the sides of the milking box which are constituted by the frame 2 and the animal present in the milking box. The term "lateral sides" has to be related to the morphology of the animal in so far as the animal is arranged in the milking box so as

to have its head on the front side of the milking box, its hind legs on the rear side of the milking box and its flanks on the lateral sides. This relationship of the lateral sides of the milking box to the morphology of the animal can also be understood from feature A121 in so far as this feature refers to the right and to the left teats of the animal.

4.3.5 With respect to items 4.1.iii and 4.2.iii, it has to be noted that features $A111^{PAG}$ and $A112^{PAG}$ represent generalisations of features A115 and A116 and that these features as well as features A117 and A118 have a basis in dependent Claims 12, 13, 15 and 16 of the "AAF".

4.3.6 Feature $A113^{PAG}$ (item 4.2.iv) differs from feature $A113^{AAF}$ in that

(i) that the carrier is **individually** movable,

(ii) that the non-working position is **sidewards the milking box**;

(iii) and that the working position is **under the animal's udder**.

These amendments only represents clarifications of feature $A113^{AAF}$ which can unambiguously be derived from the drawings (see particularly Figures 1 and 10).

With respect to the expression "sidewards the milking box", the respondent argued that this expression in not mentioned in the "AAF" and that, due to this

expression, Claim 1 may also encompass a carrier which in the non-working position is not completely outside the milking box, while the description (page 7, lines 9 to 11) and the drawings (Figure 3) of the "AAF" relate to carriers which are located completely outside the milking box.

The board cannot accept this argument of the respondent for the following reasons:

(i) Feature A113^{PAG} has to be read in conjunction with feature A116 , A117 and A118 which make it clear that the movement of the carrier from the non-working position to the working position is obtained thanks to the pivotal movement of the supporting element 11 and that the supporting element is disposed "at the exterior side of and near a side wall of the milking box". Thus, the term "sidewards" can also be derived from Claims 13, 15 and 16 of the "AAF".

(ii) Moreover, the introductory part of the description of the "AAF" refers to a carrier for one or more teat cups which is "capable of being moved from both a rest position, **preferably outside the milking box**, to a working position ..." (see page 2, lines 20 to 26; emphasis added). Thus, it can be understood from the "AAF" that the carriers in their non-working position can assume a position in which they are not completely outside.

4.4 Dependent Claims 2 to 17 correspond to Claims 4 to 6, 9 and 14 to 25 of the "PAG".

4.5 The amendments of the description constitute its adaptation to the amended claims and make it clear that the embodiment according to Figure 11 does not relate to the invention.

4.6 The respondent asserted that the ground for opposition mentioned in Article 100(c) EPC prejudiced the maintenance of the patent in so far as the paragraph in column 1 of the "PAG" (from line 9 to line 22) refers to an alleged disadvantage of the prior art disclosed in the document EP-A-532 066 (D1) which disadvantage cannot be directly and unambiguously derived from the "AAF".

In this respect the respondent argued as follows:

(i) The alleged disadvantage is described in the "PAG" as being due to the fact that in the device according to document D1 the teat cups are moved through the hind legs of the animal causing the animal to be in a rather unnatural position.

(ii) The application of the teat cups through the hind legs of the animal cannot be a disadvantage of the device according to D1 with respect to the invention disclosed in the "AAF" because in the embodiment according to Figure 10 of the "AAF" as well as of the "PAG" the teat cups are also applied through the hind legs of the animal. Therefore, the mention of this disadvantage in the introductory portion of description of the patent is inconsistent with the description of the embodiment according to Figure 10 and constitutes added subject-matter.

4.6.1 The board cannot accept this argument for the following reasons:

(i) Document D1 relates to a device for applying a cluster of teat cups in which each teat cup is associated with a bearing arm and in which **all four** bearing arms are moved through the hind legs of the animal (see column 1, lines 1 to 11). Document D1 also indicates the aim of limiting the overall width of the device in order to facilitate the insertion of the teat cups through the hind legs of the animal (see column 2, lines 5 to 8). Thus, the above mentioned disadvantage can be easily derived from document D1 taken alone.

(ii) In the embodiment according to Figure 10 of the "AAF" and of the "PAG", **only two** teat cups are inserted between the hind legs of the animal, while the remaining teat cups are inserted from the sides. Therefore, there is no inconsistency between the above mentioned disadvantage and the embodiment according to Figure 10 in so far as in this embodiment there are two teat cups which are not inserted between the hind legs of the animal.

4.7 Having regard to the above comments, the ground for opposition mentioned in Article 100(c) EPC does not prejudice the maintenance of the patent on the basis of Claim 1 of the second auxiliary request and the subject-matter of this claim does not contravene the requirements of Article 123 EPC.

5. *Novelty (second auxiliary request)*

The subject-matter of Claim 1 of the second auxiliary request is novel. Novelty was not objected to by the respondent.

6. *Inventive step (second auxiliary request)*

6.1 The respondent considered document EP-A-306 579 (D4) as reflecting the closest prior art and essentially argued as follows:

(i) Document D4 discloses a construction for automatically milking animals comprising a milking box 10, with a milking robot having two lateral robot arm constructions 20 and two lower robot arm constructions 40. Each lateral robot arm construction 20 is constituted by three articulated links ("tiges") 22, 23 and 24, wherein the link 24 represents a supporting element and the further links 22 and 23 constitute a carrier for only one teat cup. The teat cups carried by the robot arm constructions 20 are disposed on both lateral sides of the milking box 10, while the remaining two teat cups carried by the robot arm constructions 40 are disposed in a pit 60 underneath the milking box. The lateral robot arm constructions 20 carry the teat cups for the front teats of the animal, while the lower robot arm constructions 40 carry the teat cups for the rear teats of the animal. The articulated links 22, 23 and 24 are connected to rams ("vérins") 26, 27 and 28 so that the link 22 constituting the supporting element can rotate by means of the ram 28 about a

vertical axis 33, while the link 23 can rotate by means of the ram 27 relative to the supporting element 24 and the link 22 can rotate by means of the ram 26 relative to the link 23. Due to this three rotation movements each carrier has three degrees of freedom, so that it can be assumed that at least the two carriers associated with the robot arm constructions 20 can move as defined by features $A111^{PAG}$. $A112^{PAG}$, $A113^{PAG}$, A115, A116 and A117.

(ii) The subject-matter of Claim 1, when defining the second alternative (feature A'11), differs from the construction disclosed in document D1 essentially in that

(a) all the carriers (ie the four carriers) are arranged on both lateral sides of the milking box (feature A12) and

(b) the supporting element is disposed capably of being moved in height in the up-and-down direction (feature A118).

(iii) The distinguishing feature (a) results in the avoidance of the presence of a pit underneath the milking box so that the costs of the construction are reduced, while the distinguishing feature (b) represents a mere constructive detail. It would be obvious for a skilled person starting from the construction according to document D4 to arrive at the subject-matter of Claim 1.

6.2 The board cannot accept these arguments of the appellant for the following reasons:

(i) In the construction according to document D4 (see column 8, line 9 to column 9, line 25; Figures 4 to 6) there are two lateral robot arm constructions 20 arranged on the lateral sides of the milking box, each construction being constituted by three links 22, 23 and 24 and carrying one teat cup. The first link 24 of each lateral robot arm construction 20 rotates about the axis 33 in order to bring the teat cup from its non-operative position outside the milking box into a position inside the milking box (see column 9, lines 16 and 17). The second link 23 rotates about the axis 32 relative to the first link 24 and the third link 22 rotates about the axis 31 relative to the second link. The rotations about the axes 31 and 32 allow the adjustments of the length of the unity consisting of the two links 22 and 23 and of the height of the teat cup carried by the link 22 (see particularly column 9, lines 21 to 23).

Thus, according to document D4, a teat cup can be brought into the desired position by means of three rotating movements (around the three axes 31, 32 and 33).

According to the wording of Claim 1 (in the alternative according to feature A'11) the teat cup carried by a carrier 13 can be brought into the desired position by means of a first rotating movement of the supporting element 11 about the

shaft 12, a second movement of the carrier in the horizontal plane defined by the supporting element 11 in its working position and a third vertical movement of the supporting element (see the above sections 3.2.2 to 3.2.5).

Therefore, the subject-matter of Claim 1 differs from the construction according to document D4 not only in that the supporting element is disposed capably of being moved in height in the up-and down direction but also in that each carrier is movable on the supporting element 11 in a horizontal plane in two directions which are approximately perpendicular to each other, the horizontal plane being defined by the supporting element 11 when it is in the working position.

In other words, the features which distinguish the robot arm constructions defined in Claim 1 from the robot arm constructions 20 of document D4 do not relate only to constructional details but also represent a completely different concept of movement, according to which each teat cup moves from its non-operative position to its operative position (ie to the position in which it is connected to the relevant teat) by means of three subsequent steps (see section 3.2.5 above).

Therefore, if the skilled person were to try to modify the structure of the robot arm constructions 20, he would have to completely redesign them in order to arrive at a robot arm construction as defined in Claim 1.

(ii) In document D4 (see column 5, lines 3 and 4; column 11, lines 9 to 11) it is indicated that the robot arm constructions may be arranged in different way as shown in the drawings. However, document D4 (see column 5, lines 5 to 21; column 11, lines 11 to 15) suggests that all four robot arm constructions are arranged in a pit underneath the floor of the milking box. Therefore, the skilled person finds in document D4 a suggestion leading him rather in a different direction.

(iii) The feature relating to the arrangement of four robot arm constructions in a two-by-two relationship on both lateral sides of the milking box (ie features A'11 and A12) and the features defining the specific moving mode of the carriers (ie features $A111^{PAG}$. $A112^{PAG}$, $A113^{PAG}$, A115, A116 and A117) in combination with feature $A114^{PAG}$ which defines the shape of the carriers interact with each other to provide a rather compact construction in which the carriers have an easy access to the teats of the animal without interfering with each other (see also section 3.2.6 above).

It is clear from document D4 that the four robot arm constructions are independent from each other and have to move without interfering with each other (see column 3, lines 48 to 53). However, it can be clearly derived from Figures 1, 6 and 7 that each of the robot arm constructions because of its structure (due to the presence of the links

22/23 or 42/43) needs a big space for its movements.

Therefore, if the skilled person were to modify the construction of document D4 so as to arrange four robot arm constructions on the lateral sides of the milking box, he would arrive at a construction which needs even more space. This would also discourage the skilled person to do so.

6.3 Having regard to the above comments, it would not be obvious for a skilled person starting from the prior art known from document D4 to arrive at the subject-matter of Claim 1 of the second auxiliary request.

Thus, the ground for opposition mentioned in Article 100(a) EPC does not prejudice the maintenance of a patent on the basis of this claim since the subject-matter of this claim involves the inventive step required by Article 56 EPC.

6.4 The patent can therefore be maintained on the basis of the second auxiliary request of the appellant. Therefore, there is no need to consider the third auxiliary request of the appellant.

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 following version:

Claims: No. 1 as submitted during the oral proceeding on 22 May 2003 and corrected as in the above section 3.1.2 of the "Reasons for the Decision";

No. 2 to 17 as submitted during the oral proceedings on 22 May 2003 and provided with the indication "second aux. request";

Description: columns 1 and 2 as submitted during the oral proceedings on 22 May 2003 and provided with the indication "second aux. request";

columns 3 to 7 as granted;

Drawings: Figures 1 to 14 as granted.

The Registrar: The Chairman:

G. Magouliotis C. Andries