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D E C I S I O N
of 22 November 2002

Case Number: T 0217/00 - 3.2.4

Application Number: 91203326.3

Publication Number: 0479397

IPC: A01J 7/00

Language of the proceedings: EN

Title of invention:

An implement for milking an animal

Patentee:

MAASLAND N.V.

Opponent:

Alfa Laval AB

Headword:

Laser/MAASLAND

Relevant legal provisions:

EPC Art. 100(c), 123, 111(1)

Keyword:

"Added subject-matter (no)"
"Remittal"

Decisions cited:

-

Catchword:

-



Case Number: T 0217/00 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 22 November 2002

Appellant: MAASLAND N.V.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 20 December 1999
revoking European patent No. 0 479 397 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
C. Holtz

Summary of Facts of Submissions

- I. An opposition based upon Articles 100(a), (b) and (c) EPC was filed against the European patent No. 479 397.

This patent is based upon the European patent application No. 91 203 326.3 filed as a divisional application (hereinafter "DA as filed") of the earlier European patent application No. 89 202 372.2 published under the publication number EP-A-360 354 (hereinafter "EA as filed").

The patent was revoked by the decision of the opposition division dispatched on 20 December 1999. In the decision, the opposition division found that the ground for opposition mentioned in Article 100(c) EPC prejudiced the maintenance of the patent.

- II. On 15 February 2000 the patent proprietor (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 27 April 2000.

- III. Oral proceedings were held on 22 November 2002.

During the oral proceedings the appellant filed an amended Claim 1 (hereinafter "present Claim 1") which reads as follows:

- "1. An implement for milking an animal, such as a cow, comprising a robot arm (6) carrying four teat cups (45 to 48) at the end of the robot arm (6) and coupling means (50) for applying each teat cup to a relevant teat of the animal, while there are

further provided sensor means (51), with the aid of which the position of the teats can be determined, as well as control means (36, 40) comprising servo-pneumatic positioning elements constituted by a pneumatic cylinder with associated control electronics, which control means (36, 40) are suitable for conveying, on the basis of the teat position as determined by the sensor means (51), the robot arm end portion (34) carrying said teat cups (45 to 48) in such a position under the animal's udder that a teat cup (45 to 48) can be applied to the relevant teat, **characterized in that** the sensor means (51) are constituted by a laser sensor, the transmitter beam of which being able to perform a scanning movement in order to subsequently determine the position of the teats."

- IV. The appellant requested that the impugned decision be set aside and that the patent be maintained on the basis of Claim 1 (only request) as submitted in the oral proceedings on 22 November 2002, and Claims 2 to 10 as granted, with the reference numeral 32 deleted from Claim 10.

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

- V. The appellant essentially argued that the present Claim 1 did not contravene the requirements of Articles 100(c) and 123 EPC.

The respondent essentially argued that the opposition ground according to Article 100(c) EPC prejudiced the maintenance of the patent on the basis of Claim 1.

Reasons for the Decision

1. The appeal is admissible.

2. *The relationship of the present Claim 1 to the patent as granted (Articles 76(1) and 123 EPC)*

- 2.1 **Claim 1 of the patent as granted** is interpreted as defining an implement for milking an animal, such as a cow, having the following features:
 - A_G) the implement comprises a robot arm (6),
 - A1_G) the robot arm carries one or more teat cups (45 to 48),
 - All_G) said one or more teat cups are carried by a robot arm portion (34),
 - A2_G) the robot arm carries coupling means (50) for applying each teat cup to a teat of the animal,
 - B_G) sensor means (51) are provided,
 - B1_G) with the aid of the sensor means the position of the teats can be determined,
 - C_G) control means (36, 40) are provided;
 - C1_G) the control means comprise servo-pneumatic positioning elements,
 - C2_G) the control means are suitable for conveying, on the basis of the teat position as determined by the sensor means, the robot arm portion (34) in such a position under the animal's udder that a teat cup can be applied to a relevant teat,
 - B2_G) the sensor means are constituted by a laser sensor,
 - B21_G) the transmitter beam of the laser sensor is able to perform a scanning movement in order to subsequently determine the position of the

teats.

- 2.1.1 Claim 1 of the patent as granted refers to "an implement ... comprising a robot arm (6) carrying one or more teat cups (45 to 48) **and** coupling means (50) for applying each teat cup to a teat of the animal" (column 11, lines 54 to 56; emphasis added).

This statement is ambiguous in so far as the term "coupling means" can be considered as (syntactically) relating either to the word "carrying" or to the word "comprising". However, having regard to the description of the patent which only refers to coupling means carried by a robot arm, the term "coupling means" has to be considered as relating to the word "carrying". In other words, Claim 1 has to be interpreted as defining coupling means carried by the robot arm (see feature A2_G).

- 2.1.2 Claim 1 of the patent as granted refers to "control means (36, 40) comprising servo-pneumatic positioning elements **for conveying ... the robot arm portion (34)** ... in such a position under the animal's udder that a teat cup (45 to 48) can be applied to a relevant teat" (column 11, line 59 to column 12, line 6; emphasis added).

The expression "for conveying ... the robot arm portion (34) ..." has been considered as relating to the expression "control means" and not to the expression "servo-pneumatic positioning elements", (see feature C2_G).

This is consistent with the description and the drawings of the patent (see particularly Figures 7 and

9 and the passages of the description relating to these Figures), according to which the robot arm end portion is controlled not only by means of cylinders 18, 22, 36 and 40 (which are provided with control electronics) but also by means of micro-processors 80 and 76 on the basis of the signals provided by the sensor means 51.

- 2.1.3 Feature B_{2G} means that there is a laser in the sensor means, ie that a laser is used for the sensor means (see description of the patent: column 6, lines 11 to 14 and column 9, lines 30 to 36).
- 2.1.4 The expression "laser sensor" implies that there is a laser beam emitted by a transmitter element. Feature B_{21G} explicitly defines this laser beam in so far as it refers to the transmitter beam of the laser sensor. Moreover, feature B_{21G} specifies that the laser beam is able to perform a scanning movement, ie that the laser beam is a scanning beam.
- 2.2 **The present Claim 1** is directed to an implement for milking an animal, such as a cow and specifies the following features:

- A_G) the implement comprises a robot arm,
- A1)** the robot arm carries **four** teat cups,
- A11)** said teat cups are carried by a robot arm **end** portion,
- A12)** the robot arm carries said teat cups **at the end of the robot arm;**
- A2)** the robot arm carries coupling means for applying each teat cup to a **relevant** teat of the animal,
- B_G) sensor means are provided,
- B_{1G}) with the aid of the sensor means the position of

- the teats can be determined,
- C_G) control means are provided;
- C1_G) the control means comprise servo-pneumatic positioning elements;
- C11) the servo-pneumatic positioning elements are constituted by a pneumatic cylinder with associated control electronics;**
- C2) the control means are suitable for conveying, on the basis of the teat position as determined by the sensor means, the robot arm end portion (34) in such a position under the animal's udder that a teat cup can be applied to **the** relevant teat;**
- B2_G) the sensor means are constituted by a laser sensor,
- B21_G) the transmitter beam of the laser sensor is able to perform a scanning movement in order to subsequently determine the position of the teats.

2.3 The present Claim 1 differs from Claim 1 of the patent as granted in that

- (i) feature A1 has replaced feature A1_G and feature A12 has been added;
- (ii) feature A11 has replaced feature A11_G;
- (iii) feature A2 and C2 have replaced features A2_G and C2_G, respectively;
- (iv) feature C11 has been added;

2.3.1 The amendments according to item 2.3(i) above can be derived from a passage on page 8 (lines 1 to 6) of the description of the DA as filed ("teat cups 45, 46, 47

and 48 are provided at the end of the robot arm 6 ..."). Since this passage is identical with a passage in column 9 (lines 3 to 8) of the EA as filed, these amendments also have a basis in the EA as filed.

2.3.2 The amendment according to item 2.3(ii) above makes it clear that the robot arm portion carrying the teat cups is the end portion. This amendment can be derived from the passages in the description of the DA as filed and of the EA as filed which are referred to in section 2.3.1 above.

2.3.3 The amendments according to item 2.3(iii) above have a basis in Claim 1 of the DA as filed as well as in Claim 1 of the EA as filed.

2.3.4 Feature C11 is referred to *expressis verbis* in the description of the DA as filed (page 14, lines 24 to 29) as well as in the description of the EA as filed (column 14, lines 10 to 17).

In this respect, it has to be understood that the wording "servo-pneumatic positioning elements, constituted by a pneumatic cylinder ..." means that **each** servo-pneumatic positioning element is constituted by a pneumatic cylinder.

2.3.5 The respondent argued that the statement in Claim 1 of the patent as granted according to which the implement comprises "a robot arm (6) carrying one or more teat cups (45 to 48) and coupling means (50) for applying each teat cup to a teat of the animal" was ambiguous with respect to the relationship between robot arm and coupling means (see section 2.1.1 above), that the corresponding statement in the present Claim 1

according to which the implement ... comprises "a robot arm (6) carrying four teat cups (45 to 48) at the end of the robot arm (6) and coupling means (50) for applying each teat cup to a relevant teat of the animal" introduced even a greater ambiguity into the claim due to the presence of the expression "at the end of the robot arm (6)" between the words "cups" and "and", and that the amendment consisting in the addition of feature A12 (see item 2.3(i) above) resulted in a lack of clarity of the present Claim 1 (Article 84 EPC).

The board cannot accept this argument, because the added expression "at the end of the robot arm (6)" does not influence the already present ambiguity (see section 2.1.1 above). Thus, this objection of the respondent relates to the clarity of Claim 1 as granted and not to the clarity of the amendments.

- 2.4 Having regard to the above comments, the present Claim 1 does not contravene the requirements of Articles 76(1) and 123(2) EPC.

Moreover, since the amendments mentioned in section 2.3 above consist either of the addition of a feature or of the replacement of a feature by a more specific one, the amendments do not contravene the requirements of Article 123(3) EPC.

3. *The objections under Article 100(c) EPC*

- 3.1 The respondent asserted that the subject-matter of the present Claim 1 extends beyond the content of the EA as filed in so far as this claim does not specify the feature that "the sensor means (51) are arranged on a

movable member (43) provided near and movably in respect of the robot arm end (34)" (hereinafter the "missing feature"), which was specified in the independent Claim 1 of the EA as filed and was essential for the solution of the technical problem stated in the description of the EA as filed.

According to the respondent, the EA as filed does not disclose an implement in which the sensor means is not arranged on a movable member provided near and movably in respect of the robot arm end. In this respect, the arguments of the respondent can be summarized as follows:

- (i) In the description of the patent in suit the problem to be solved is stated in column 1, lines 19 to 26. According to this statement it is important that the application of the teat cups to the teats of the animal is effected reliably and efficiently and that the sensor means is able to determine the position of the teats in a sufficiently accurate and rapid way.
- (ii) The description of the EA as filed refers to this problem in column 1, lines 14 to 21 and makes it clear that the feature concerning the location of the sensor means on the movable member is essential for the solution of this problem (column 1, lines 38 to 45; column 2, lines 1 to 5).
- (iii) Independent claim 26 of the EA as filed does not contain any teaching regarding the location of the sensor means with respect to the robot arm because it does not mention the robot arm.

Independent Claim 31 of the EA as filed is not directed to the solution of the technical problem stated in column 1 of the description of the EA as filed. Thus, these claims cannot represent a basis for the suppression of the missing feature.

- 3.1.1 These arguments of the respondent are based upon the assumption that Claim 1 of the patent as granted, from which the present Claim 1 has been derived, can be derived only from Claim 1 of the EA as filed.

Having regard to the following comments, this assumption is not correct:

- (i) An independent claim of a patent application defines the invention, ie the matter for which protection is sought, in terms of technical features and normally represents a generalisation of a specific example described in the detailed description of the application. Moreover, a claim itself represents a source of information.

The problem to be solved by the invention defined by a claim either can be expressly stated as such in the description of the application or can be understood from it.

- (ii) In the present case, the EA as filed contains not only the independent Claim 1 but also the independent Claim 31 which is also directed to an implement for milking an animal and which has a pre-characterising portion identical with that of Claim 1.

The pre-characterising portions of both Claims 1 and 31 recite the following features:

- A_{EA}) the implement includes a robot arm,
- A1_G) the robot arm carries one or more teat cups,
- A12_{EA}) the teat cups are carried near the end of the robot arm,
- A2) the robot arm carries coupling means for applying each teat cup to a relevant teat of the animal,
- B_G) sensor means are provided,
- B1_G) with the aid of the sensor means the position of the teats can be determined,
- C_G) control means are provided;
- C2_{EA}**) the control means are suitable for conveying, on the basis of the teat position as determined by the sensor means, the robot arm into such a position under the animal's udder that a teat cup can be applied to the relevant teat.

The characterising portion of Claim 31 refers to servo-pneumatic positioning elements in so far as it recites the feature that

- C1_{EA}) the control means comprise cylinders which are constituted by servo-pneumatic positioning elements.

Furthermore, the description of the EA as filed contains a passage having a very general information content and referring to servo-pneumatic positioning elements constituted by a pneumatic cylinder and stating that "they render it possible for the teat cups to be connected to the teats in an extremely fast and efficient manner" (column 14, lines 10 to 17). This

passage of the description makes it clear that the combination of servo-pneumatic positioning elements constituted by pneumatic cylinders - on the one hand - and sensor means constituted by a laser sensor - on the other hand - permits the solution of a problem concerning the application of the teat cups to the teats of the animal. Thus, this passage of the description can be put in relationship to Claim 31 in so far as this claim refers to servo-pneumatic cylinders. Thus, Claim 31 of the EA as filed in conjunction with the above mentioned passage in column 14 of the description of the EA as filed represents a source of information disclosing an implement which is provided *inter alia* with control means comprising servo-pneumatic positioning elements constituted by pneumatic cylinders and with a sensor means constituted by a laser sensor, without specifying the location of the sensor means.

In other words, Claim 1 of DA as filed, Claim 1 of the patent as granted as well as the present Claim 1 can be derived from Claim 31 of the EA as filed in combination with the above mentioned passage in column 14 (lines 10 to 17).

- 3.1.2 Therefore, the present Claim 1 can be considered as having been arrived at by amending Claim 1 of the DA as filed and Claim 1 of the DA as filed can be considered as having been arrived at by amending Claim 31 of the EA as filed. Since neither Claim 1 of the DA as filed nor Claim 31 of the EA as filed specify the location of the sensor means on the robot arm, the fact that the present Claim 1 does not specify the "missing feature" does not represent an extension of the subject-matter in the meaning of Article 100(c) EPC.

3.2 Moreover, the respondent asserted that the subject-matter of the present Claim 1 extends beyond the content of the EA as filed and beyond the content of the DA as filed in so far as there is no general disclosure of feature B21_G either in the EA as filed or in the DA as filed. According to the respondent, the descriptions of both the EA as filed and the DA as filed only refer to a sensor means which is rotatably mounted on the robot arm so that its scanning beam extends substantially horizontally. In other words, the respondent argued that neither the EA as filed nor the DA as filed suggests a non-rotating laser sensor which is able to transmit a scanning beam.

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

Feature B21_G relates to the determination of the position of the teats.

It is generally stated by feature B1_G that the position of the teats is determined with the aid of the sensor means without defining the sensor means.

In this respect, the sensor means is defined more specifically by feature B2_G in so far as this feature makes it clear that the sensor means uses a laser.

Feature B21_G clearly indicates that the laser sensor defined by feature B2_G, with the aid of which the position of the teats can be determined, is suitable for transmitting **a laser beam which is able to perform a scanning movement**. In other words, feature B21_G adds with respect to feature B2_G the information that the laser sensor has a scanning beam, ie a beam able to

perform a scanning movement.

Features B2_G and B21_G are not specified either in Claim 1 of the DA as filed or in Claim 31 of the EA as filed.

The information that a laser sensor (feature B2_G) can be used as sensor means - in combination with servo-pneumatic elements constituted by pneumatic cylinders with associated electronics - can be derived from a passage which can be found in the description of both the DA as filed (page 14, lines 24 to 29) and the EA as filed (column 14, lines 10 to 17). This passage has a very general information content in so far as it generally defines the nature of the sensor (laser sensor) without referring either to the particular structure of the sensor or to its location.

The information that the laser beam is able to perform a scanning movement can be derived from a sentence in the description of the DA as filed stating that "with **lasers** a very narrow **scanning beam** can be obtained ..." (page 3, lines 4 to 6: emphasis added) corresponding to the sentence in the description of the EA as filed stating that "using **lasers**, a very narrow **scanning beam** can be obtained ..." (column 2, lines 45 to 47; emphasis added). Also this sentence has a very general information content in so far as it generally defines the scanning beam of the laser sensor without indicating how the scanning movement is performed.

Therefore, features B2_G and B21_G do not extend the subject-matter of the present Claim 1 over the content of either the DA as filed or the EA as filed.

3.3 Having regard to the comments above, the objections under Article 100(c) EPC as raised by the respondent do not lead to the dismissal of the appeal.

4. *Remittal*

The respondent also referred in the notice of opposition to the grounds for opposition according to Articles 100(a) and (b) EPC. These grounds however have not been dealt with in the decision under appeal.

Therefore, the Board - exercising its discretionary power according to Article 111(1) EPC - remits the case to the opposition division for further prosecution on the basis of Claim 1 as submitted in the oral proceedings.

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 for further prosecution based on Claim 1 as submitted in the oral proceedings on 22 November 2002, and Claims 2 to 10 as granted, with the reference numeral 32 deleted from Claim 10.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries