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D E C I S I O N
of 28 January 2004

Case Number: T 0262/01 - 3.2.4

Application Number: 93202822.8

Publication Number: 0592043

IPC: A01J 7/00

Language of the proceedings: EN

Title of invention:
A construction for automatically milking animals

Patentee:
MAASLAND N.V.

Opponent:
DeLaval International AB

Headword:
Cleaning/MAASLAND

Relevant legal provisions:
EPC Art. 100(a), 100(c)

Keyword:
"Inventive step"

Decisions cited:
-

Catchword:
-

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Case Number: T 0262/01 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 28 January 2004

Appellant I: (Proprietor of the patent)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 17 January 2001 concerning maintenance of European patent No. 0592043 in amended form.**

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
M. K. S. Aúz Castro

Summary of Facts and Submissions

I. The European patent EP-B-592 043, against which an opposition based upon Articles 100(a), (b) and (c) EPC was filed, was maintained in an amended version by the decision of the opposition division dispatched on 17 January 2001.

This amended version formed the basis of an auxiliary request of the patent proprietor whose main request was based upon the patent as granted.

The opposition division held that the ground for opposition mentioned in Article 100(c) EPC prejudiced the maintenance of the patent on the basis of the independent Claim 1 of the patent as granted and rejected the main request of the patent proprietor.

During the opposition proceedings the parties *inter alia* referred to the following documents:

D2: EP-A-476 771;

D3: Article by R. Artmann et al. *"Automation of milking by using robots and electronics"*, in *"Landtechnik"*, Vol. 9, Dec. 1990, pages 331 to 348.

II. On 22 February 2001 the patent proprietor (hereinafter appellant I) lodged an appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 14 May 2001.

With the statement setting out the grounds of appeal Appellant I filed two sets of amended claims upon which a first and a second auxiliary request were based.

On 16 March 2001 the opponent (hereinafter appellant II) lodged a further appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 14 May 2001.

III. Oral proceedings were held on 28 January 2004.

During the oral proceedings appellant I filed three sets of claims upon which three further auxiliary requests (first auxiliary request bis, first auxiliary request ter and second auxiliary request bis) were based.

During the oral proceedings appellant II withdrew all objections under Article 100(b) EPC.

IV. Appellant I requested that the appealed decision be set aside and, as a **main request**, that the patent be maintained as granted, and auxiliarily

on the basis of Claims 1 to 9 of the **first auxiliary request** filed on 14 May 2001, or

on the basis of Claims 1 to 8,of the **first auxiliary request bis** filed in the oral proceedings, or

on the basis of Claims 1 to 7, of the **first auxiliary request ter** filed in the oral proceedings, or

on the basis of Claims 1 to 7 of the **second auxiliary request** filed on 14 May 2001, or

on the basis of Claims 1 to 4, of the **second auxiliary request bis** filed in the oral proceedings,

or that the appeal of appellant II be dismissed (**third auxiliary request**).

Appellant II requested that the appealed decision be set aside and the patent be revoked.

V. The independent method claims of the main request (i.e. Claim 9 of the patent as granted), the first auxiliary request (i.e. Claim 8), the second auxiliary request (i.e. Claim 6) and the third auxiliary request (i.e. claim 1 as maintained by the opposition division) have the same wording which reads as follows:

"A method of automatically milking animals, in which, prior to connecting the teat cups, the teats of an animal are cleaned with the aid of a cleaning member (58) provided for the purpose, which member (58), however, is only put into action for cleaning the teats when a sensor (67) has ascertained that the contamination of the cleaning member (58) is below a predetermined limit."

VI. The independent apparatus claims of the first auxiliary request bis and the first auxiliary request ter (i.e. Claim 1) have the same wording which reads as follows:

"A construction for automatically milking animals, including a cleaning member (58) for cleaning the teats

of an animal, **characterized in that** a sensor (67) is present for detecting contamination of the surface of the cleaning member (58), while as soon as the sensor (67) has detected that the contamination of the cleaning member (58) has exceeded a predetermined limit, the cleaning member (58) is subjected to a cleansing operation, before being put into action for cleaning the teats, the sensor (67) being of a type that responds to reflection differences caused by differences in the level of contamination of the cleaning member (58)."

The wording of the Claim 1 of the second auxiliary requests bis reads as follows:

"A construction for automatically milking animals, including a cleaning member (58) for cleaning the teats of an animal, characterized in that a sensor (67) is present for detecting contamination of the upper surface of a roller (59) of the cleaning member (58), while as soon as the sensor (67) has detected that the contamination of the cleaning member (58) has exceeded a predetermined limit, the cleaning member (58) is subjected to a cleansing operation, before being put into action for cleaning the teats, the sensor (67) being positioned near the path of one of the rollers (59), which is passed underneath the sensor (67) when the cleaning member (58) is moved from a rest position to an active position, or vice versa, the sensor (67) being of a type that responds to reflection differences caused by differences in the level of contamination of the cleaning member (58)."

VII. Appellant II essentially argued as follows:

(i) The ground for opposition according to Article 100(c) EPC prejudices the maintenance of a patent on the basis of the independent claim 1 of the main request as well as of the first auxiliary request, the first auxiliary requests bis and ter, the second auxiliary request and the second auxiliary request bis.

(ii) The subject-matter of the independent claim 1 of the main request as well as of the first auxiliary request, the first auxiliary requests bis and ter and the second auxiliary request lack inventive step with respect to documents D2 and D3.

(iii) The subject-matter of the independent method claim 9 of the patent as granted, which is identical with Claim 8 of the first auxiliary request, Claim 6 of the second auxiliary request and Claim 1 as maintained by the opposition division, lacks inventive step with respect to documents D2 and D3.

With respect to Claim 1 of the second auxiliary request bis, appellant II did not submit any objection under Article 100(a) EPC.

Appellant I contested the arguments of appellant II.

Reasons for the decision

1. The appeals are admissible.

2. *The claimed subject-matter*

2.1 The independent claim 9 of the patent as granted (**main request**), which is identical with Claim 8 of the **first auxiliary request**, Claim 6 of the **second auxiliary request** and Claim 1 of the **third auxiliary request**, is directed to a method defined by the following features:

E) the method is suitable for automatically milking animals,

F) prior to connecting the teat cups, the teats of an animal are cleaned with the aid of a cleaning member (58) provided for the purpose,

F1) the cleaning member (58) is only put into action for cleaning the teats when a sensor (67) has ascertained that the contamination of the cleaning member (58) is below a predetermined limit.

2.2 The independent claim 1 of the **first auxiliary request bis**, which is identical with claim 1 of the **first auxiliary request ter,** is directed to a construction having the following features:

A) The construction is suitable for automatically milking animals,

B) the construction includes a cleaning member (58),

B1) the cleaning member (58) is suitable for cleaning the teats of an animal,

C) a sensor (67) is present,

C1) the sensor (67) is suitable for detecting contamination of the surface of the cleaning member (58),

C11) as soon as the sensor (67) has detected that the contamination of the cleaning member (58) has exceeded a predetermined limit, the cleaning member (58) is subjected to a cleansing operation, before being put into action for cleaning the teats,

C12) the sensor (67) is of the type that responds to reflection differences caused by differences in the level of contamination of the cleaning member(58).

2.3 Claim 1 of the **second auxiliary request bis** specifies not only the features A, B, B1, C, C1, C11 and C12 but also the following features:

C13) the surface of the cleaning member whose contamination is detected is the **upper** surface **of a roller** (59),

C14) the sensor (67) is positioned near the path of one of the rollers (59), which is passed underneath the sensor (67) when the cleaning member (58) is moved from a rest position to an active position, or vice versa.

2.4 Feature F1 defines explicitly a cleaning member which is **only** put into action if a sensor establishes that a condition is met. This means that the cleaning member is **not** put into action **for cleaning the teats** when the condition is **not** met.

2.5 Features F1 and C11 refer to a "predetermined limit" of contamination. It is clear from the description of the patent (see column 7, lines 53 to 58) that this predetermined limit is a predetermined threshold value.

2.6 Feature C1 defines a general property of the sensor. Feature C12 defines the sensor in a more specific way and implicitly defines a reflecting surface.

2.7 Feature C13 refers to "a roller of the cleaning member" while feature C14 refers to "one of the rollers". These features implicitly define a cleaning member formed by a plurality of rollers.

3. *The prior art*

3.1 Document D2 discloses a construction for automatically milking animals including a cleaning member 33 for cleaning the teats of an animal as well as a method of automatically milking animals in which, prior to connecting the teat cups, the teats of an animal are cleaned with the aid of a cleaning member 33 provided for the purpose (see Figures 1, 3 and 4).

The cleaning member 33 is mounted on a support 32 provided with teat-shaped projections 34 by means of which the support 32 can be placed on the robot arm of

the milking robot, i.e. on the robot arm 1 which carries the teat cups 24. Thus, before milking, the cleaning member can be brought under the teats of the animal by means of the robot arm 1 of the milking robot and, after the cleaning of the teats, the cleaning member can be removed from the space under the animal by means of the robot arm 1.

According to document D2, "before cleaning another animal, **it is possible** to wash the cleaning member" (see column 9, lines 21 and 22; emphasis added). Furthermore, this document suggests that the cleaning tools of the cleaning member be replaced or renewed when they are worn or not cleanable any more (see column 8, lines 10 to 13).

Moreover, document D2 discloses a washing machine 69 in which the cleaning member 33 can be washed before cleaning the teats of another animal. The washing machine 69 is provided with a liquid-quality monitoring sensor 74 with the aid of which the quality of the remaining rinsing liquid can be established, wherein the rinsing liquid is drained off and a fresh rinsing liquid is pumped into the washing machine when the sensor 74 has established that the liquid quality is insufficient.

3.2 Document D3 (see particularly the paragraph "Localization [*sic*] of the teats with a vision system" on pages 345 to 347) relates to an apparatus for automatically milking animals provided with a milking robot and with a vision system suitable not only for localizing the teats of the animal but also for

"recording whether the udder got dirty or was injured" (see page 345).

The vision system consists of a personal computer with an efficient vision card, a CCD-camera and a laser diode.

3.2.1 Appellant II argued that a vision system recording "whether the udder got dirty" as disclosed in document D3 represents a sensor suitable for detecting the surface contamination of an object. Moreover appellant II argued that the vision system as described in document D3 (a CCD-camera associated with a computer and a laser diode) has to be considered as a sensor responding to reflection differences caused by differences in the level of contamination of the surface of the object.

Appellant I contested these arguments of appellant II **only** by arguing that the vision system of document D3 refers to the detection of contamination of the animal's udder and not of a cleaning member.

In these respects, the board considers that the skilled person reading document D3 will immediately understand that the vision system disclosed as being suitable for "recording whether the udder got dirty" can be applied for detecting contamination not only of the udder of an animal but also of other objects.

4. *The independent method claim referred to in the above section 2.1 (main, first auxiliary, second auxiliary and third auxiliary requests)*

4.1 Having regard to the comments in the above section 3.1, document D2 discloses a method comprising features E and F.

The claimed method differs from the method disclosed in document D2 by feature F1. This feature results in providing a method of automatically milking animals in which the contamination of the cleaning member is automatically detected and in which the teats of the animal are not cleaned by means of the cleaning member when the contamination level of the cleaning member is not below a certain predetermined limit.

Document D2 indicates the possibility of either cleaning (or washing) the cleaning member (see column 9, lines 21 and 22: "..it is possible") or renewing it when it is "not cleanable any more" (see column 8, lines 10 and 11) but without indicating how to determine whether it is or not necessary to clean the cleaning means. The skilled person reading document D2 would nevertheless immediately understand that the "possible" cleaning or "renewal" of the cleaning member has a relationship to its contamination level and that the teats of the animal should **not** be cleaned by a cleaning member whose contamination level is above a certain limit.

Starting from the method according to document D2, the skilled person wishing to avoid that the teats of the animal be cleaned by a contaminated cleaning member would have two possibilities of giving instructions with respect to how the cleaning member has to be used. The skilled person would give either the instruction to clean the cleaning member before each teat cleaning (in

order to be sure) or the instruction to check before the teat cleaning whether it is necessary to clean the cleaning member (i.e. whether the cleaning member is clean enough). Each of these possibilities represents an obvious measure.

Having regard to the comments in the above sections 3.2 and 3.2.1, the skilled person would be guided by document D3 - in so far as this document relates to a method of automatically milking animals - to use a sensor for detecting contamination of the cleaning member and would therefore arrive in an obvious way at a method in which the cleaning member is only put into action for cleaning the teats when a sensor has ascertained that the contamination of the cleaning member is below a predetermined limit.

4.1.1 Appellant I argued that document D3 does not relate to cleaning of the teats of an animal but to their localisation with a vision system and that therefore the skilled person starting from document D2 would not take into consideration the teaching of document D3.

The board cannot accept this argument for the following reasons:

(i) The cleaning of the teats by means of a cleaning member is a measure known from document D2 which also indicates the possibility of cleaning the cleaning member.

(ii) Starting from document D2, the skilled person is not confronted with the problem of whether the teats have to be cleaned (or not) but with the

problem how to decide whether it is (or not) necessary to clean the cleaning means. It has to be noted that the skilled person starting from document D2 is aware that the teats of the animal have to be cleaned by a cleaning member which is clean enough and that therefore he would take into consideration document D3 in so far as it teaches how to detect contamination.

4.2 Thus, the subject-matter of the method claim 1 referred to in the above section 2.1 does not involve the inventive step required by Article 56 EPC.

4.3 Therefore, the ground for opposition mentioned in Article 100 (a) EPC prejudices the maintenance of the patent on the basis of each of the main, the first auxiliary, the second auxiliary and the third auxiliary requests.

5. *The independent claim referred to in the above section 2.2 (first auxiliary request bis and first auxiliary request ter)*

5.1 Having regard to the comments in the above section 3.1, document D2 discloses a construction comprising features A, B and B1. Furthermore, this document refers to the possibility of cleaning (or cleansing) the cleaning member without indicating how to determine whether it is (or not) necessary to clean the cleaning means.

The claimed construction differs from this prior art construction by features C, C1, C11 and C12. These features result in providing a construction for

automatically milking animals in which the contamination of the cleaning member can be automatically detected and the teats of the animal are not automatically cleaned by means of the cleaning member when the contamination level of the cleaning member is not below a certain limit.

Having regard to the comments in the above section 4.1, the skilled person, starting from the construction of document D2 and wishing to avoid that the teats of the animal are cleaned by a contaminated cleaning member and/or wanting to know when it is appropriate to make use of the possibility of cleaning the cleaning member or to renew the cleaning member, would consider document D3 in so far as this document discloses the general teaching of detecting contamination of the surface of an object by means of a sensor responding to reflection caused by differences in the level of contamination of the object. The skilled person would apply the teaching of document D3 to the construction known from document D2 and, thus, arrive at a construction in which, when the sensor has detected that contamination of the cleaning member has exceeded a predetermined limit, the cleaning member is subjected to a cleansing operation, before being put into action for cleaning the teats.

5.2 Thus, the subject-matter of the independent claim 1 referred to in the above section 2.2 does not involve the inventive step required by Article 56 EPC.

5.3 Therefore, the ground for opposition mentioned in Article 100(a) EPC prejudices the maintenance of the patent on the basis of the first auxiliary request bis and first auxiliary request ter.

6. *Article 100(c) and 123 EPC with respect to the second auxiliary request bis*

6.1 Claim 1 of this request (see the above sections 2.2. and 2.3) specifies all the features of Claim 1 of the patent as granted (i.e. features A, B, B1, C, C1 and C11) and differs therefrom in that features C12, C13 and C14 have been added.

6.1.1 Thus, Claim 1 does not contravene Article 123(3) EPC.

6.1.2 Feature C12 can be derived from Claim 2 of the application as filed.

Features C13 and C14 can be derived from Claim 6 of the application as filed in conjunction with the description in so far as it refers to the "upper side of a roller … moved to under the sensor" (page 10, lines 30 to 37).

Therefore, Claim 1 does not contravene Article 123(2) EPC.

6.2 Claim 1 of this request was objected to under Article 100(c) EPC with respect to feature C1 according to which a sensor is present "for detecting contamination **of the surface** of the cleaning member" (emphasis added).

Feature C1 has to be read in conjunction with feature C12 which implicitly defines a reflecting surface of the cleaning member. Both features can be derived from Claim 2 of the application as filed.

6.2.1 With respect to feature C1, appellant II essentially argued as follows:

(i) The term "surface" in Claim 1 has to be construed as defining the whole surface of the cleaning member.

(ii) Claim 1 of the application as filed refers to a sensor "for detecting contamination of the cleaning member".

(iii) The description and the claims of the application as filed do not refer to the surface of the cleaning member.

(iv) It has to be understood from the description of the application as filed (page 10, lines 30 to 34) that the sensor only detects contamination of a portion of a roller, namely of its upper side.

(v) Therefore, feature C1 cannot be derived from the application as filed.

6.2.2 The board cannot accept these arguments because appellant II assumed that the term "surface" in feature C1 has to be interpreted as defining the whole surface of the cleaning member. This interpretation has no support in the description of the patent which refers

to a roller whose upper side is moved under the sensor (column 7, lines 45 to 50).

6.3 Claims 2 to 4 of this request correspond to claims 3, 4 (partly) and 8 of the patent as granted which correspond to claims 3, 4 and 8 of the application as filed.

6.4 The amendments to the description represent its adaptation to the amended claims.

6.5 Therefore, the amendments concerning the second auxiliary request bis do not contravene Article 123 EPC and the ground for opposition mentioned in Article 100(c) EPC does not prejudice the maintenance of the patent on the basis of this request.

7. *Inventive step with respect to Claim 1 the second auxiliary request bis*

7.1 The subject-matter of Claim 1 of this request differs from the construction disclosed in document D2 not only by features C, C1, C11 and C12 but also by features C13 and C14.

7.2 Feature C14 results in providing a cleaning member whose contamination level can be detected when it moves to the teats, without requiring extra time.

7.3 Since none of the documents cited by the parties suggests the arrangement according to feature C14, it would not be obvious for a skilled person to arrive at the subject-matter of claim 1 of this request.

7.4 Therefore, the patent can be maintained on the basis of the independent claim 1 and of the dependent claims 2 to 4 of this request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of the first instance with the order to maintain the patent in amended form on the basis of claims 1 to 4 according to second subsidiary request bis and the adapted description both filed in oral proceedings as well as Figures 1 to 4 according to the patent specification.

The Registrar: The Chairman:

G. Magouliotis C. Andries