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Case Number: T 0778/15 - 3.2.04

Application Number: 06824285.8

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IPC: A01J5/007

Language of the proceedings: EN

Title of invention:
A METHOD OF AND AN INSTALLATION FOR MILKING AN ANIMAL HAVING AT LEAST TWO TEATS

Patent Proprietor:
Lely Enterprises AG

Opponents:
GEA Farm Technologies GmbH
DeLaval International AB

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
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Case Number: T 0778/15 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 1 July 2019

Appellant: (Opponent 2)	DeLaval International AB P O Box 39 147 21 TUMBA (SE)
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Representative:	KNH Patentanwälte Neumann Heine Taruttis PartG mbB Postfach 10 33 63 40024 Düsseldorf (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 20 February 2015 concerning maintenance of the European Patent No. 1962579 in amended form.**

Composition of the Board:

Chairman	A. de Vries
Members:	J. Wright
	T. Bokor

Summary of Facts and Submissions

I. The appeal was filed by the appellant-opponent II against the interlocutory decision of the Opposition Division finding that, on the basis of the first auxiliary request, the patent in suit met the requirements of the EPC.

Amongst other things, the Opposition Division decided that the subject matter of this request involved an inventive step.

II. Oral proceedings were duly held before the Board on 1 July 2019 in the absence of the opponent I, party as of right, who had been duly summoned.

III. The appellant-opponent II requests that the decision under appeal be set aside, and that the European patent No. 1 962 579 be revoked.

The respondent-proprietor requests that the appeal be dismissed (main request), or as an auxiliary request, that the decision under appeal be set aside and the patent be maintained on the basis of Claims 1 to 8 of the second auxiliary request filed on 5 November 2014.

The appellant-opponent I has made neither submissions nor any request in appeal.

IV. The independent claims of the main request read as follows:

Claim 1:

" A method of milking an animal having at least two teats, the method comprising:

a stimulation phase in which the teats of the animal are stimulated, a milking phase in which the animal is milked, characterized in that the method comprises the steps of: applying a stimulation phase and a milking phase to one of the teats of the animal,

applying substantially only a milking phase to at least one of the other teats of the animal, and in that the method further comprises:

a determination phase in which the teat with the longest period of time in which the teat is milked out is determined, substantially only the milking phase being applied to the animal's teat with the longest period of time, and

the stimulation phase and the milking phase being applied to at least one of the other teats of the animal, wherein milking takes place by means of connecting a teat cup to a respective teat, and the stimulation phase is applied at least to the teat that is connected first".

Claim 6:

"An installation for milking an animal having at least two teats, the installation comprising:

stimulation means for stimulating the teats of the animal,
milking means for milking the animal, and
control means for controlling the operation of the stimulation means and the milking means,

characterized in that the installation comprises teat cups that are connectable to a teat, the control means controlling the stimulation means and the milking means in such a way that at least the first teat connected will be stimulated and milked, in that the control means are designed to control the stimulation means and the milking means in such a way that one of the teats of the animal will be stimulated and milked, and in that at least one of the other teats of the animal will substantially only be milked, and in that the installation further comprises determination means for determining the teat with the longest period of time in which the teat is milked out, the control means being designed to control the stimulation means and the milking means in such a way that the teat with the longest period of time will substantially only be milked, and that at least one of the other teats of the animal will be stimulated and milked".

V. In the present decision, reference is made to the following documents, whereby D10 to D12 were filed with the appellant-opponent II's grounds of appeal:

E7 : WO 01/19169 A
D10 : E. Kleinschroth and others, "So wird richtig gemolken! Und wie melken Sie?" Mastitis, top agrar extra, 1986, chapter 18, pages 64 to 67.
D11 : US 3 754 532
D12 : A.H. Ipema and others, "Production, duration of machine-milking and teat quality of dairy cows milked 2, 3 or 4 times daily with variable intervals" Proceedings of the International Symposium on Prospects for Automatic Milking, Wageningen, Netherlands, 23-25 November 1992, pages 244 to 251.

VI. The appellant-opponent's arguments can be summarised as follows:

The subject matter of claim 1 lacks an inventive step starting from E7 in combination with the skilled person's general knowledge and/or D10 to D12. Corresponding arguments apply to independent claim 6.

VII. The respondent-proprietor's arguments can be summarised as follows:

The impugned decision was right to consider independent claims 1 and 6 to involve an inventive step starting from document E7, so the appeal should be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. Introduction

The patent relates to a method of milking an animal and to a corresponding installation (see published patent specification, paragraphs [0001] and [0011] and the independent claims).

An aim of the invention is to reduce teat stress, whilst still obtaining a relatively short total milking time (see published patent specification, paragraph [0005]).

During the oral proceedings before the Board, the appellant-opponent II withdrew its objection under Articles 83 and 100(b) EPC (sufficiency of disclosure).

The sole remaining contentious issue with which the present decision is concerned is inventive step.

3. Main request, claim 1, inventive step

3.1 The appellant-opponent II has challenged the Opposition Division's positive finding on inventive step starting from E7.

3.2 E7 (see page 1, lines 5 to 8 and figure 2) discloses a method of milking an animal having at least two teats, namely a cow having four teats.

The milking method (see page 1, lines 15 to 19 and page 3, middle paragraph) has a stimulation and a milking phase. In the stimulation phase (low vacuum) teats are stimulated and in the milking phase (high vacuum) the animal is milked.

As best seen from the example embodiment (see page 6, line 12 to page 7, line 2 with figure 2), E7 also teaches to apply a stimulation phase and a milking phase to one of the teats of the animal, and to apply substantially only a milking phase to at least one of the other teats of the animal. In particular, a stimulation phase and a milking phase are applied to teat cups with vacuums 1 and 2, whereas substantially only a milking phase, with a higher vacuum, is applied to teat cups with vacuums 3 and 4.

Milking takes place by means of connecting a teat cup to a respective teat (see page 2, lines 13 to 14). Furthermore, the stimulation phase is applied at least to the teat that is connected first (see figure 2, teat cup with vacuum 1 is connected first at time A and subjected to the stimulation pulsator).

3.3 However, it is not in dispute that E7 does not disclose the claim steps of :

- a determination phase in which the teat with the longest period of time in which the teat is milked out is determined, substantially only the milking phase being applied to the animal's teat with the longest period of time, and

- the stimulation phase and the milking phase being applied to at least one of the other teats of the animal.

Rather, E7 appears not to disclose any selection criteria for deciding to which teats to apply both stimulation and milking phases and which should get only a milking phase. In this regard, inevitably, the teat connected first will be stimulated as well as milked, since without stimulation no milk will flow (see figure 2 again). But how this teat is chosen is not said. At most, with regard to the prior art, E7 discloses (page 1, lines 26 to 29) that generally the rear teats are connected first as these produce more milk. Whether or not this criteria was applied when connecting the teats as shown in figure 2 (see the milk flow curves at the top), the teat taking the longest to milk out in that figure is number 2 (vacuum 2) and this one is subjected to both stimulation and milking phases, not only milking as claimed.

3.4 According to the patent (see published patent specification, column 1, lines 28 to 42) the technical effect of not stimulating the teat that takes longest to milk out is to not unnecessarily load (stress) this teat during milking.

3.5 E7 already goes some way in solving the problem of reducing teat stress (see for example E7, page 2, lines 28 to 30), namely by applying vacuum to each teat individually and controlling it according to individual teat milk-flow.

3.6 Accordingly, the Board considers that the objective technical problem can be formulated as how to modify the method of milking disclosed in E7 to further reduce teat stress during milking.

3.7 The Board is not convinced that the skilled person would, as a matter of obviousness, modify the E7 method to include a phase of determining the longest teat to milk-out, and applying substantially only the milking phase to this teat, and stimulating and milking another teat as claimed.

3.8 E7 itself gives no hint to such a determining phase, let alone using the result of such a determination as claimed. At most, E7 (see for example page 5, lines 25 to 29) reduces stress by determining the milk-flow from an individual teat and controlling the vacuum to that particular teat accordingly. In particular (see abstract and claims 2 and 3), the vacuum to all teat cups is increased from a low value to a high milking value when, after stimulation, milk starts to flow. The high milking vacuum is reduced for a teat when milk flow from it tails off at the end of milking. This procedure reduces the stress on a teat caused by over-milking, also called blind-milking, that is attempting to milk a teat by exposing it to a (high) milking vacuum after it has finished producing milk (see page 2, lines 3 to 6).

3.9 Moreover, without prejudice to the question of admissibility of the documents D10, D11 and D12, none of them demonstrate that it is known to determine the duration of milking-out for individual teats, let alone compare these times between teats and use this comparison to determine one to be milked but not stimulated and one to be stimulated and milked.

3.9.1 D10 (see page 66, first paragraph) merely confirms that blind milking can stress a teat so should be avoided. Similarly, D11 (see column 1, lines 14 to 40) teaches that the full milking vacuum should not be applied to a teat that is not producing milk, since this can damage (stress) the teat.

3.9.2 D12 (see page 244, first paragraph, page 247, second paragraph and page 250, first paragraph with table 1) describes an experiment in which various milking related parameters were compared for groups of cows milked at different frequencies (low frequency, group F2 to high frequency, group F4). The experiment showed, amongst other things, that more frequently milked cows had more teat stress (page 250, first paragraph).

3.10 In the absence of any disclosure in the cited documents of the idea of a determination of milk-out time of individual teats as claimed and of using this as a criterion to decide to milk but not stimulate a teat and to milk and stimulate another, the Board considers that from these documents alone, however obvious their combination might be, the skilled person would not arrive at these features, without prior knowledge of the claim.

3.11 Nor, in the Board's opinion, does the prior art with the skilled person's general knowledge render the differing features obvious.

3.11.1 The appellant-opponent II has argued that, starting from E7 and faced with the problem of further reducing teat stress, the skilled person would immediately realise that different teats suffer different stresses according to the cumulative time for which they are stimulated and milked and, knowing it is not necessary to stimulate all teats (see E7, page 3, lines 10 to 12), they would apply their general knowledge to measure individual teat milk-out time, compare it for different teats and choose to apply only the milking phase to the teat with the longest milking out time. The Board disagrees.

3.11.2 It is not in dispute that teat stress as such is known to be caused by machine milking. However, the appellant-opponent's chain of argument is predicated on the skilled person realising that teat stress is related to the accumulation of teat stimulation time and milking time and that, since stimulating can be dispensed with for one teat, the longest milk-out time is an appropriate parameter for choosing a teat which should be milked but not stimulated.

In the Board's view, arriving at these realisations goes far beyond the routine or the mere application of general knowledge for the skilled person.

3.11.3 As already explained, E7 teaches that the time for which a high milking vacuum is applied causes teat stress (cf. page 2, lines 1 to 6). With this mind-set, the skilled person would not realise that exposing a teat to stimulation (under a low vacuum) caused teat

stress. By the same token, and as already explained, D10 and D11 teach not to apply a full milking vacuum level when not milking but give no hint that stimulation prior to milking can also cause teat stress.

3.11.4 Nor, in the Board's view, would the skilled person make this realisation in the light of D12. D12 teaches that higher milking frequency leads to more teat stress (page 250, first paragraph), but the skilled person would not know from D12 (see page 251, first full paragraph) whether this was due to the milking time being increased or there being insufficient time between milking for teats to recover, much less would they attribute teat stress to teat stimulation, which is not given a mention.

Therefore, when facing the objective technical problem (further reducing teat stress) the skilled person, having no knowledge of the patent, would not consider stimulation time as being a cause of teat stress. Nor, therefore, would they take steps to avoid stimulating a particular teat, let alone based on a teat-by-teat comparison of milk-out times.

3.11.5 Additionally, the comparison of milk-out time between individual teats itself is not a parameter known from the cited prior art. With this in mind, the realisation that this parameter would be useful for solving the problem posed likewise appears to go well beyond the routine for the skilled person.

In particular, although E7, figure 2, graphically shows times for milking out each of the four teats, there is no disclosure that these are actually measured, let

alone compared. Rather, only milk flow is measured and compared to thresholds.

Furthermore, although, as the appellant-opponent II has speculated, it might be known to compare milk-out time for a particular teat to its past value to detect a blockage or illness, this is not the same as comparing milk-out times between different teats.

3.11.6 Nor does the Board read claim 1 any differently in the light of dependent claim 5. Claim 5 has the teat to which the stimulation phase is applied alternate after a certain number of milkings. This means that all the steps of the method of claim 1 are applied a certain number of times (whether once or more) before alternating begins. In other words it is not so that the steps of claim 5 replace certain steps defined in claim 1. Therefore, the subject matter of claim 1 is not modified by reading it in the light of claim 5 and the discussion of obviousness of its subject matter is unchanged by the presence of claim 5.

3.12 For all these reasons, the Board is not convinced by the appellant-opponent II's arguments that the subject matter of claim 1 lacks an inventive step.

4. Inventive step of claim 6

Claim 6 defines an installation for milking having the same features as claim 1, except for being expressed in terms of device features (similarly, dependent installation claim 10 corresponds to dependent method claim 5).

Therefore, for corresponding reasons as apply to claim 1, the Board finds the appellant-opponent's arguments

that the subject matter of claim 6 lacks an inventive step not convincing.

5. In summary, the arguments presented by the appellant-opponent II fail to demonstrate that the claims according to the respondent-proprietor's main request (as maintained) lack inventive step. The Board therefore confirms the decision's positive finding in this respect, Articles 52(1) and 56 EPC. This is the only remaining challenge to the impugned decision. Therefore, there is no need to consider the respondent-proprietor's auxiliary request and the Board must dismiss the appeal.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl A. de Vries

Decision electronically authenticated