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Datasheet for the decision of 13 January 2017

Case Number: T 1552/12 - 3.2.04

Application Number: 02076614.3

Publication Number: 1264538

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Language of the proceedings: EN

Title of invention:
A device for and a method of cleaning a milking machine, and a milking machine

Patent Proprietor:
Lely Enterprises AG

Opponent:
DeLaval International AB

Headword:

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
Novelty - (yes)
Inventive step - (yes)

Decisions cited:
T 1099/08, T 0438/06

Catchword:

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Case Number: T 1552/12 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 13 January 2017

Appellant: (Opponent)	DeLaval International AB P O Box 39 147 21 TUMBA (SE)
Representative:	Bennett, Adrian Robert J. A.A. Thornton & Co. 10 Old Bailey London EC4M 7NG (GB)
Respondent: (Patent Proprietor)	Lely Enterprises AG Bützenweg 20 6300 Zug (CH)
Representative:	Octrooibureau Van der Lely N.V. Cornelis van der Lelylaan 1 3147 PB Maassluis (NL)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 10 May 2012 concerning maintenance of the European Patent No. 1264538 in amended form.**

Composition of the Board:

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

Summary of Facts and Submissions

I. The appeal is directed against the Interlocutory decision of the opposition division posted on 10 May 2012 concerning maintenance of the European Patent No. 1264538 in amended form. The appellant-opponent filed a notice of appeal on 21 June 2012 and paid the appeal fee on 2 July 2012. The grounds of appeal were filed on 23 August 2012.

II. The opposition was based, inter alia, on Article 100(a) together with Articles 52(1) and 54(1) EPC for lack of novelty and Article 56 EPC for lack of inventive step.

The patent in suit was revoked by an earlier decision of the opposition division which was set aside by this Board in a different composition in decision T 1099/08 of 15 March 2011. The Board decided, amongst other things, that the claims of the sole request (now the main request), filed as claims 1 to 16 of the second auxiliary request on 31 July 2008, complied with the requirements of Article 123(2) EPC and that claim 1 as amended complied with Article 84 EPC. The Board also decided to remit the case to the department of first instance for consideration of novelty and inventive step.

The opposition division subsequently held that the patent as amended according to the present main request met all the requirements of the EPC, in particular because the novelty and inventive step grounds for opposition mentioned in Article 100(a) EPC did not prejudice maintenance of the patent as amended having regard to the following documents, amongst others:

D1 : EP1046336 A
D2 : WO01/19173 A
D4 : EP0091892 A
D6 : W094/16552 A
D7 : W094/16553 A
D12: O. Lind et al. "Automatic milking: reality, challenges and opportunities", Robotic Milking, proceedings of the international symposium, 17-19 August 2000, edited by H. Hogeveen et al., Lelystad, The Netherlands: Wageningen Pers, 2000, pages 19 to 31.

III. Oral proceedings before the Board were duly held on 13 January 2017.

IV. The appellant-opponent requests that the decision under appeal be set aside and that the patent be revoked.

The respondent-proprietor requests that the appeal be dismissed, or in the alternative that the decision under appeal be set aside and that the patent be maintained on the basis of a set of claims according to an auxiliary request filed with letter of 19 March 2013.

V. The wording of claim 1 of the main request is as follows:

"A device (1) for milking animals, said device (1) being provided with:
a cleaning device (42) for cleaning at least a part of a milking machine (33), said cleaning device (42) comprising a cleaning start device (35) for starting the cleaning, and
a milking machine (33) provided with a computer having a memory (37), the computer being adapted to store the

points of time of the visits of the animals to the milking machine (33) in the memory (37), characterized in that the cleaning start device (35) is activated by means of a cleaning start signal issued by the computer, on the basis of historical data in relation to the points of time of the visits of the animals stored in the memory (37), and in that the computer comprises an analysis-unit (38) for determining the off-peak periods in the visits to the milking machine (33), wherein the computer, with the aid of the historical data, issues an off-peak signal indicating that an off-peak period is expected."

VI. The appellant-opponent argued as follows:

The cleaning signal and off-peak signal in claim 1 of the main request can be the same signal, therefore the feature relating to generating an off-peak signal is not limiting for the claim. It is only necessary to use the time of a single visit of an animal to the milking parlour from the historical data in order to generate a cleaning start signal, as granted claim 17 makes clear. This feature, together with the remaining claim features, including, at least implicitly, the feature of recording times of visits of animals to the milking parlour is known from any of D1, D2, D6, D7 and D12.

Farmers have always routinely cleaned during off-peak periods. The subject matter of claim 1 then lacks inventive step starting from a robotic milking parlour at which animals voluntarily present themselves for milking, the parlour having a manually started automated cleaning device. Such prior art is based for example on D4, which leaves open the possibility for a cleaning routine to be manually initiated, and thus suggests this. Automated milking parlours already

record times of visits of animals to the milking parlour. Since it is obvious to clean during quiet periods, the farmer, as a matter of routine practice, observes the times of visits of animals and identifies off-peak periods, that is any time that is not a peak period, to manually initiate cleaning. The difference between this prior art is that the analysis of off-peak periods and initiation of cleaning corresponding to these periods by generating off-peak signal and a cleaning start signal is automatic. The mere automation of functions previously performed manually cannot be considered as inventive, as an appeal decision in the same technical field has already decided in T 0438/06, reasons 2.5.

Furthermore, if, following a discussion of novelty, all claim features were to be considered known from D1, D2, D6, D7 and D12 except the feature of recording animal visiting times, the subject matter of claim 1 would lack inventive step starting from D2, D6 or D7 combined with D12 or starting from D1, D2, D6 D7 or D12 combined with the idea of recording times of visits of animals to an automatic milking parlour, which belongs to the skilled person's general knowledge, and in any case is known from D4 (see page 2, lines 10 to 20).

VII. The respondent-proprietor argued as follows:

The cleaning start signal and off-peak signals may be the same, but this does not mean that the off-peak signal feature can be ignored, rather it limits the cleaning start signal to one generated at the start of an off-peak period. Granted claim 17 cannot be used to interpret present claim 1 since it merely defines an additional way of generating a cleaning signal to that of present claim 1. In any case granted claim 1 did not

involve an off-peak signal which is a limiting feature of present claim 1. Since the off-peak signal predicts, rather than detects an off-peak period, the historical data used to generate it and the cleaning start signal must include more than one recorded animal visiting time. Given this reading of the signals features of claim 1, which are not disclosed by D1, D2, D6, D7 or D12, the subject matter of claim 1 is new.

With respect to inventive step, known automated milking parlours are not cleaned by manually starting a cleaning device, rather they are automatically cleaned as all the cited prior art shows. Therefore arriving at the invention from the prior art is not simply a matter of automating something previously done manually.

None of the prior art considered for novelty, nor D4, suggests using multiple times of animal visits to generate a cleaning start signal or an off-peak signal, therefore, however these documents are combined, the resulting combination will not lead the skilled person to the subject matter of claim 1 in an obvious manner. Therefore, the available prior art does not prejudice inventive step of claim 1 as maintained.

Reasons for the Decision

1. The appeal is admissible.

2. Background

The patent concerns a device for milking animals with a milking machine and a cleaning device for cleaning the milking machine (see claim 1 as granted and as maintained). In particular the cleaning device comprises a computer that is arranged to initiate

cleaning by issuing a cleaning start signal (patent specification, paragraph [0004] and claim 1 as granted and as maintained). In addition, the computer determines off-peak periods in animal visits to the milking machine (specification paragraphs [0006] and [0007] and claim 1 as maintained). This allows cleaning to be planned for simply and automatically at a favourable time, paragraph [0004].

3. Interpretation of the claim of the main request

3.1 According to claim 1 the cleaning start signal is issued by a computer, on the basis of historical data in relation to the points of time of the visits of animals stored in the memory (37) of the computer. Furthermore, the computer comprises an analysis unit for determining off-peak periods in the visits to the milking machine. With the aid of the historical data, the computer issues an off-peak signal indicating that an off-peak period is expected.

3.2 In the impugned decision's consideration of novelty and inventive step (reasons 2.2 and 2.3), the opposition division consistently underlined the "s" at the end of the words "points" "visits" and "animals" when discussing "historical data" in the claim context. In doing so, the division emphasised that it considered that the computer generated the claimed cleaning start signal and off-peak signal on the basis of historical data comprising more than one point of time of more than one animal's visits.

3.3 Whilst it is not in dispute that the claimed "historical data" is defined in terms of points of time, visits and animals in their plural forms, the appellant-opponent has argued that both the cleaning-

start and off-peak signals could be generated by analysing only a single point of time of a single visit of a single animal to the milking parlour selected from the available "historical data", and that therefore the division erred in not reading the claim with this broad scope.

3.4 An issue the Board must consider is therefore how the claim is to be interpreted in regard to what "historical data" is used to generate the cleaning start signal and the off-peak signal.

3.4.1 In the Board's view, given that the claimed "historical data" explicitly refers to times of visits and animals in the plural, and the cleaning start and off-peak signals are obtained therefrom, the skilled person would normally consider that these signals were derived from multiple times of visits of animals.

That said, it is true that the claim does not define whether all or only a part of the "historical data" is used to generate the two signals. Furthermore, whereas the cleaning start signal has the stated purpose of activating a cleaning start device for starting cleaning, the claim does not explicitly define what the off-peak signal does. In other words, the claim gives no explicit reason for generating an indication that an off-peak period is expected. Therefore, from the claim itself, the skilled person might have doubts as to what historical data was used to generate the two signals, and as to the significance of the off-peak signal.

3.4.2 The skilled person, with their mind willing to understand, will always seek a technically meaningful interpretation of the claim. Where they experience difficulties, they will read the claim in the context

of the whole specification, including the description and the remaining claims.

3.4.3 In the present case, the description first uses the term "historical data" in paragraph [0004]. There it is explained that the invention is based on the insight that in a prior art device [timing of] cleaning did not take actual visits of animals spread over the whole day into account, whereas the invention uses historical data in relation to the points of time of the visits of animals to select a favourable point of time to clean. In the Board's understanding of this paragraph, by contrasting the implicitly disadvantageous prior art, which does not consider animal visits over the whole day, to the situation where recorded animal visit times are used to decide on cleaning, the patent presents the idea of selecting a suitable cleaning time by analysing multiple times of visits of animals spread over a period, referred to as "historical data", as an important insight of the invention. It is with this mind-set that the skilled person reads the detailed description of the invention.

3.4.4 The following paragraph ([0005]) explains that the computer stores points of time of visits of animals. Paragraph [0006] then clarifies the relationship between the off-peak and cleaning signals. The computer has an analysis unit for determining the off-peak periods in the visits to the milking machine with the aid of the historical data (column 1, lines 42-43, cf. claim 1). As already established by this Board in a different composition in T 1099/08, reasons 2.1.2, claim 1 leaves open whether the off-peak signal and cleaning start signal are separate signals or not. In other words they may be the same signal. Where they are one and the same, cleaning start and off-peak signal

are by definition simultaneous. Where however they are not, the off-peak signal is issued a predetermined time before an expected off peak period, allowing preparation before cleaning proper (column 1, lines 50 to 55). In other words the cleaning start follows the off-peak signal with no delay or with a fixed delay. Thus, in both cases cleaning takes place at an off-peak period, in the words of paragraph [0006], "those periods when the milking machine is hardly visited" (column 1, lines 48 to 49). Thus, when attempting to make technical sense of the claim, the skilled person reads it such that, far from playing no role in the claim, the off-peak signal feature is linked to the cleaning start signal feature as the latter results from the analysis to establish off-peak periods.

3.4.5 The use of historical data to determine off-peak periods also leads the skilled person to read the final feature of claim 1 of indicating that an off-peak signal is "expected" as meaning that the computer predicts or forecasts an occurrence of an off-peak period on the basis of the historical data. Whether or not the skilled person considers an off-peak period in negative terms as periods where animal visits to the milking parlour do not fall in some higher band, or peak, of animal visits over time, the Board is not convinced that an off-peak period could be predicted from a single time of visit of an animal, by waiting to see whether another animal visited the milking parlour within a threshold time, as the appellant-opponent has argued. Whilst the absence of such a subsequent visit within the threshold time might suggest a time of lower use (an off-peak period), had already begun, such an analysis could never predict a future off-peak period that had not yet started.

Rather, in the Board's view, predicting an off-peak period and issuing a signal that one was expected with the aid of historical data (claim 1 as maintained), as well as the cleaning start signal simultaneously or a predetermined time later, can but require a statistical analysis of a plurality of previous animal visiting times, spread over a period, and therefore giving an indication of visiting frequency, in order to decide times of day when fewer animal visits occurred in the past and thus when such periods are to be expected in the future.

3.4.6 The description continues (paragraph [0007]) by discussing selecting an off-peak period particularly suitable for starting cleaning according to the estimated durations of several off-peak periods (column 2, lines 1 to 6). Analysing the duration of an off-peak period would likewise imply an analysis of plural animal visits, spread over time, rather than considering a single visit, which, at best, might indicate that an off-peak period was on-going, but not its duration.

3.4.7 Nor would it be necessary to initiate the system by having the farmer guess and manually input future off-peak periods (see specification, paragraph [0030]) were such off-peak periods to be derivable merely by calculating elapsed time since a single visit of an animal.

3.4.8 The Board also does not agree with the appellant-opponent that claim 1 of the present request should be interpreted in the light of, now deleted, claim 17 as granted. It is true that that claim, dependent on granted claim 1, defined generating a cleaning start

signal on the basis of a period of time elapsed since the latest visit of a single animal exceeding a threshold.

Granted claim 1 differed from present claim 1 in that it did not define an off-peak signal, with which the Board considers the cleaning-signal as presently claimed to be temporally linked by a fixed delay or no delay (see above, point 3.4.4). In the Board's view, the "cleaning start signal" feature of granted claims 1 and 17, being claimed without any off-peak signal has a broader scope than it has in present claim 1, therefore an interpretation of this feature in that claim cannot be used to interpret the same feature in present claim 1.

The Board notes that the subject matter of granted claim 17 was described in paragraphs [0015] and [0041] of the specification as granted (both paragraphs being deleted according to the present request). It might be that this subject matter represented an additional ad-hoc way of initiating cleaning, as the respondent-proprietor has speculated. On the other hand, it might be that it represented a separate embodiment for initiating cleaning, as the description (published specification, paragraph [0015], line 1), with its opening words "In a further preferred embodiment..." might seem to suggest. Either way, as the "cleaning start signal" is decoupled from any mention of off-peak periods, that require analysis of times of multiple animal visits, the "cleaning start signal" feature of granted claims 1 and 17 cannot be used to give a broader interpretation of the present claim 1.

3.5 From the above, the Board concludes that the skilled person will understand that the off-peak signal and its

associated cleaning start signal as claimed in claim 1 of the present main request (as upheld) are generated by analysing a plurality of points of time of visiting animals over time, rather than by storing the time of just one visit and determining the absence of a further visit during a predetermined time thereafter.

4. Novelty of claim 1 of the main request with respect to D1, D2, D6, D7 and D12

4.1 With the above interpretation of the claim's "signal" features in mind (cleaning start and off-peak signals both generated by analysing a plurality of points of time of animal visits), a document would only take away the novelty of claim 1 if, inter alia, it disclosed these "signal" features. In the Board's view none of the documents D1, D2, D6, D7 and D12 does so, nor has the appellant-opponent argued this in the light of the above interpretation of the claim.

4.2 All these documents disclose automated milking devices, see D1, D2, D6 and D7, abstracts and D12, page 19, introduction.

Document D1 discloses a cleaning regime whereby cleaning is effected when, after an animal has been milked, a fixed period of time has elapsed without a next animal having presented itself to be milked (see paragraph [0003]). Thus, leaving aside the question as to whether or not this regime implies storing the time of the animal's visit, it only involves the computer issuing a cleaning start signal on the basis of historical data relating to a single visit of an animal. Nor do the remaining ways in which D1 discloses to initiate cleaning involve data on a plurality of animal visits. Rather, the computer may issue a

cleaning start signal after a fixed period has elapsed following a previous cleaning (column 1, lines 50 to 56), or on the basis of a degree of contamination (column 1, lines 40 to 45). In this last case, although such cleaning is said to be preferably carried out in periods of time during which the milking implement is used less intensively, D1 is silent as to how this might be achieved, let alone state that times of less intensive use might be identified by analysing times of visits of a plurality of animals.

Therefore the Board considers that D1 does not disclose the feature of generating a cleaning start signal and an off-peak signal from a plurality of points of time of visiting animals (historical data) as claimed.

4.3 Nor do the remaining documents cited against novelty disclose this feature. All disclose, like D1, to automatically clean after milking has not taken place for a predetermined time, thus on the basis of a single visit of an animal (see D2, page 6, lines 7 and 8; D6, page 28, lines 34 to 38; D7, page 28, lines 7 to 12, D12, page 26, end of 4th paragraph). They also disclose further automatic cleaning regimes that do not involve monitoring the time of an animal's visit. For example, cleaning at regular intervals (see D2, page 5, line 21; D6, page 29, lines 5 to 7, D7, page 28, lines 16 to 18, D12, page 26, third paragraph), after milking a diseased animal (D2, page 5, line 29 to page 6, line 1, D12, page 26, penultimate paragraph), after each animal has been milked, see D2, page 6, line 5), or after a pre-programmed number of milkings (see D12, page 26, end of 4th paragraph). Therefore, also these further cleaning regimes do not involve generating a cleaning start signal as claimed.

4.4 Therefore the arguments of the appellant-opponent have not convinced the Board that the subject matter of claim 1 of the main request lacks novelty vis-à-vis D1, D2, D6, D7 or D12.

5. Inventive step of claim 1 of the main request

5.1 The appellant-opponent's principal argument in reference to T 0438/06 is that the invention is the mere automation of past practice of carrying out cleaning in observed off-peak periods. However, such a starting point is not substantiated by the prior art on file. Nor does the Board have reason to believe that such a starting point would be common general knowledge. Furthermore, it starts from the premise that milking parlours at which animals voluntarily present themselves for milking have an automated cleaning device that is manually started.

5.1.1 Insofar as traditional, purely manual milking systems (manual milking and cleaning) are concerned, in the Board's view, such systems would typically involve the farmer following a daily regular schedule of milkings and manual or manually initiated cleaning routines. As for automatic milking systems, where animals voluntarily arrive to be milked, these have an automatic cleaning device. The Board finds it implausible that the latter system would have a manually initiated cleaning routine, because such an arrangement would require round the clock supervision and hygiene monitoring by the farmer, thus negating any advantages derived from having automated the milking process.

5.1.2 As explained above (see point 4.2 and 4.3), documents D1, D2, D6, D7 and D12 all disclose automated milking

systems with fully automatic rather than manually started cleaning devices. Irrespective of the conditions leading to cleaning, cleaning is always started automatically, in the manner indicated above in section 4.3, not manually by the farmer.

5.1.3 Nor, in the Board's view, does document D4 suggest an automatic milking system where cleaning is started manually. The only reference to cleaning the milking appliance states that it is automatically cleaned after milking, in response to a signal from the computer (page 5, lines 7 to 12).

5.1.4 The Board concludes that the appellant-opponent has not proven that cleaning during observed off-peak periods, whether in pre-scheduled manual or automatic milking arrangements, belongs to the prior art. Therefore it cannot be used as a starting point from which to prove that the claimed invention lacks inventive step. Consequently, the argument that the invention is the obvious automation of a past manual practice must fail.

5.2 The Board is likewise not convinced that the subject matter of claim 1 lacks inventive step starting from D2, D6 or D7 combined with D12 or starting from D1, D2, D6 D7 or D12 combined with the idea of recording times of visits of animals to an automatic milking parlour, which the appellant-opponent argues belongs to the skilled person's general knowledge or from D4 (see page 2, lines 10 to 20).

5.3 Following on from the discussion of novelty (see section 4), and bearing in mind how the claim is to be interpreted (see above, section 3), documents D1, D2, D6, D7 and D12 do not disclose the feature of issuing a

cleaning start signal on the basis of historical data (based on a plurality of times of visits of animals) as claimed, nor do they disclose the feature of a computer arranged to issue an off-peak signal from the same historical data as claimed, be these signals the same or not. Likewise, document D4 does not disclose generating such signals, but merely proposes automatically cleaning milking means (page 5, lines 9 to 12) without further detail. As these features, which allow favourable planning of cleaning to be effected simply and automatically, are lacking in these documents, their combination (irrespective of how obvious the proposed combinations may be), will not result in the claimed subject-matter. Therefore, the Board holds that the skilled person will not arrive at the subject matter of claim 1 in an obvious manner.

6. In conclusion, the arguments presented by the appellant-opponent have failed to demonstrate a lack of novelty or lack of inventive step of the subject matter of claim 1 of the main request. The Board therefore confirms the findings of the impugned decision in these respects (decision, reasons, points 2.2 and 2.3) and concludes that the appeal must be dismissed. Therefore the Board does not need to consider the proprietor-respondent's auxiliary request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated