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Datasheet for the decision of 15 June 2023

Case Number: T 2035/16 - 3.4.01

Application Number: 07808508.1

Publication Number: 2059834

IPC: G01S17/42, A01J5/017, G01S17/88

Language of the proceedings: EN

Title of invention:
IMPLEMENT FOR AUTOMATICALLY MILKING A DAIRY ANIMAL

Patent Proprietor:
Maasland N.V.

Opponent:
DeLaval International AB

Headword:
Implement for automatically milking / Maasland

Relevant legal provisions:
EPC Art. 100(a), 54(3), 54(2), 56, 84
EPC R. 116, 126(2)
RPBA Art. 12(4)
RPBA 2020 Art. 11, 12(4), 12(6), 13(1), 24(1), 25(1), 25(2)

Keyword:
Novelty - main request - implicit disclosure (no)
Inventive step - main request (no) - auxiliary request II (no)
Amendments - auxiliary request II - allowable (yes)
Claims - clarity - auxiliary request II (yes)
Late-filed evidence - admitted (yes)
Remittal - (no)

Decisions cited:
T 0640/91, T 0148/10, T 0260/10, T 1882/12, T 0960/15, T 1179/16

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Case Number: T 2035/16 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 15 June 2023

Appellant: (Opponent)	DeLaval International AB P O Box 39 147 21 TUMBA (SE)
Representative:	Jennings, Michael John AA Thornton IP LLP Octagon Point 5 Cheapside London EC2V 6AA (GB)
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Representative:	Octrooibureau Van der Lely N.V. Cornelis van der Lelylaan 1 3147 PB Maassluis (NL)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 11 July 2016 rejecting the opposition filed against European patent No. 2059834 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	P. Scriven
Members:	T. Zinke
	C. Almberg

Summary of Facts and Submissions

I. An opposition was filed by DeLaval International AB against European Patent EP-B-2 059 834. The opposition was on grounds of lack of novelty and inventive step (Articles 100(a), 54 and 56 EPC), and of insufficient disclosure (Article 100(b) EPC). The Opposition Division rejected the opposition.

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

III. The proprietor (Maasland N.V.), in its reply to the appeal, requested that the appeal be dismissed, i.e. that the decision to maintain the patent as granted be upheld. The proprietor, in the alternative, requested that the patent be maintained as amended according to claim sets for auxiliary requests I to III. These latter claim sets were identical to auxiliary requests I to III already submitted before the Opposition Division within a time limit set by it.

IV. With a further submission, the opponent filed further arguments against the proprietor's main request and, for the first time, arguments against the auxiliary requests I to III.

V. The Board issued a summons to oral proceedings, with an accompanying preliminary opinion.

VI. Both parties made further written submissions in response to the Board's preliminary opinion.

VII. During oral proceedings before the Board, the proprietor withdrew auxiliary requests I and III. At the end of oral proceedings, the parties confirmed that their final requests were as follows:

- for the opponent, that the appealed decision be set aside and that the patent be revoked;

- for the proprietor, that the appeal be dismissed, or, in the alternative, that the patent be maintained as amended according to the claims of auxiliary request II.

VIII. Independent claim 1 of the main request (claim 1 of the patent) reads:

Implement for automatically milking a dairy animal, such as a cow, comprising
- a milking parlour (1),
- a sensor (100) for observing at least a part of the dairy animal, for example a teat (46), and
- a milking robot (3) for automatically attaching a teat cup (28) to the teat (46), which milking robot (3) comprises a robot control (120) that is operatively connected to the sensor (100),
wherein the sensor (100) comprises:
- a radiation source (108) for emitting electromagnetic radiation, in particular light,
- a receiver (110) for receiving electromagnetic radiation reflected from the dairy animal,

- a lens (106) for imaging the reflected electromagnetic radiation onto the receiver (110), and
- sensor control means, characterized in that
- the sensor (100) comprises a matrix with a plurality of rows and a plurality of columns of receivers (110),
- the sensor control means are operatively connected to the radiation source (108) in order to modulate the electromagnetic radiation,
- the sensor control means are designed to determine for each of the receivers (110) a phase difference between the emitted and the reflected electromagnetic radiation, in order to calculate distances from the sensor (100) to a plurality of points on the dairy animal,
wherein the sensor control means are further designed to determine a phase difference between the emitted and the reflected electromagnetic radiation in order to calculate distances from the sensor (100) to a plurality of points on the teat cup (28).

IX. Independent claim 1 of auxiliary request II is amended as compared to claim 1 of the main request in that

(a) the electromagnetic radiation emitted by the radiation source is further specified as infrared radiation, in particular near infrared radiation, so that the feature reads (emphasis by the Board):

... a radiation source (108) for emitting electromagnetic radiation, ~~in particular light,~~being infrared radiation, in particular near infrared radiation, ...

(b) and that the milking robot comprises a robot arm construction, on which the sensor is provided, the corresponding features of the milking robot reads (emphasis by the Board):

... which milking robot (3) comprises a robot arm construction, and a robot control (120) that is operatively connected to the sensor (100), wherein the sensor is provided on the robot arm construction, ...

Reasons for the Decision

Technical background - Claim interpretation

1. The invention deals with an implement for automatically milking a dairy animal, such as a cow. It comprises a milking parlour, a milking robot, and a sensor. The milking robot comprises a robot control that is operatively connected to the sensor (cf. claim 1 of the patent).

2. It is undisputed that such implements, with a milking parlour, a milking robot, and a sensor that is used to control the milking robot were known in the prior art (as for instance disclosed in D2 (EP-A1-0 360 354) with a laser scanner as sensor, mentioned in [0002] and

[0003] of the patent; or in D18 (WO-A-2005/094565) with a camera pair as the sensor).

3. The patent deals with a particular type of sensor, that includes a matrix of receivers and that can determine distances from the sensor to a plurality of points in its field of view.

4. Such sensors were known at the time the invention was made. Commonly, they were referred to as time-of-flight-(TOF)-sensors, and cameras using them as time-of-flight-(TOF)-cameras.

5. At the time the application was filed, at least two different variants were known for TOF-sensors or TOF-cameras: a first variant evaluated phase differences between emitted and received light, and a second variant evaluated time differences between emitted and received light pulses. This is explained, for instance, at the the start of section II of D20: R Lange and P Seitz, *Solid-State Time-of-flight Range Camera*, IEEE Journal of Quantum Electronics, Vol. 37, No. 3, March 2001, pages 390 - 397. Claim 1 of the patent defines an implement for milking that uses a sensor according to the first variant.

6. Claim 1 does not define where the sensor is located, i.e. whether it is fixed to the milking robot or somewhere in the milking parlour. It is also not defined whether the field of view of the sensor simultaneously includes a part of the animal (e.g. the teats) and the teat cups of the milking robot. It is possible that the teats and the teat cups are imaged separately.

7. Consequently, the Board interprets the features of claim 1 that refer to the sensor as defining inherent features of any TOF-sensor that has a field of view towards the region of interest, i.e. the area where the teat cups meet the teats.

8. With the statement of grounds, the opponent raised another issue with regard to interpretation of claim 1 and paragraph [0071] of the patent. In this paragraph, "light pulses" are mentioned, which the opponent considers to be outside the scope of claim 1, because claim 1 covers the phase-based variant of deriving distances in TOF-sensors, and not the pulse-based variant (statement of grounds, section 7, paragraph bridging pages 30 and 31).

9. The Board, however, interprets the "light pulses" mentioned in paragraph [0071] of the patent as not describing the pulse-based variant of TOF-sensors. In this passage, the light pulses are used to distinguish emitted and received light pulses from different 3D cameras. The individual 3D cameras mentioned in this passage of the specification work with the phase-based variant, but using camera-individual pulses.

Main request - Novelty over D1

10. Document D1 (WO-A-2007/104124) is a document that is relevant only to novelty, since it was filed before, but published after, the priority date of the patent (Articles 54(3) and 56, second sentence, EPC).

11. The parties are in dispute as to whether D1 discloses that the phase difference between the emitted and the reflected electromagnetic radiation is used to

calculate distances. It is not disputed that D1 discloses measuring time-of-flight data to determine locations in three dimensions (D1, claims 1 to 3), and it is also not disputed that D1 does not explicitly mention the phase-based variant.

12. The consistent case law is that, for an invention to lack novelty, the combination of all its features must be clearly and directly derivable from the prior art. The disclosure of a publication is the knowledge and understanding that the person skilled in its technical field would have had, at the publication date for prior art under Article 54(2) EPC, or at the priority date of prior art under Article 54(3) EPC (Case Law of the Boards of Appeal, 10th edition, 2022 ("CLBA"), sections I.C.2.3; I.C.4.1).

13. It is a well-established principle that a specific disclosure is novelty-destroying for a more generic disclosure, but not the other way around (cf. CLBA, 2022, section I.C.5.2.6). Therefore, the generic disclosure of a TOF-camera in D1 does not take away novelty from the specific sensor control means that *are designed to determine for each of the receivers a phase difference between the emitted and the reflected electromagnetic radiation, in order to calculate distances from the sensor (100) to a plurality of points on the dairy animal* or on the teat cup, as defined in claim 1.

14. The opponent alleged that the phase-based alternative is implicit in D1, because D1 also mentions (D1, page 5, lines 26 to 27):

While relatively new, such cameras are available and are known to those skilled in the art of machine vision.

15. The opponent argued that, at 15 March 2006 (the priority date of D1), only TOF-cameras based on evaluating a phase difference were "available". The opponent further argued that the reference to a modulated light source in D1 (page 5, line 18) meant that the skilled person would understand that the phase-based variant was meant and, thus, was implicitly disclosed (statement of grounds, sections 4.3, 5., 6.1, penultimate feature of the table on pages 13 to 15).

16. The opponent, in particular, provided evidence of a commercially available TOF-camera called "Swiss Ranger" (D21: J. Weingarten et al., *A State-of-the-Art 3D Sensor for Robot Navigation*, Proceedings of 2004 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Volume 3, 28 Sept to 2 Oct 2004, pages 2155-2160) at the priority date of D1 (i.e. 15 March 2006). This 3D-camera uses phase-based distance determination. According to the opponent, no camera using the pulse-based alternative was commercially available at that time. Thus, a skilled person reading D1 and intending to put into practise the teaching of D1 would necessarily have used a TOF-sensor or TOF-camera with the phase-based option.

17. This argumentation is not persuasive.

18. The Board concurs with the Opposition Division that other TOF-sensor variants (e.g. a pulse-based variant) were available at that time and, consequently, that the particular choice of the phase-based variant was not

implicit in D1, since a pulse-based variant was also possible.

19. The proprietor filed documents D22 (US-B-6,323,942) and D23 (WO-A-2004/072677), in proceedings before the Opposition Division, to support their argument that pulse-based TOF-sensor variants were also available. The Opposition Division considered these documents, since they were prima facie relevant (decision, reasons, page 6, last two paragraphs).

20. Such a discretionary decision should only be overturned if the department taking it applied the wrong principles, took no account of the right principles, or exercised its discretion in an unreasonable way. Relevance is a well-established criterion for considering late-filed documents, and the opponent never objected to the late introduction of D22 and D23 but left their admission to the discretion of the Opposition Division (see minutes, page 1, fifth paragraph, last sentence). Hence, the Board does not see any reason not to consider these documents (see, for example, T 960/15, reasons 1-9, in particular reason 3; and T 640/91, Headnote III).

21. Documents D22, D23 disclose these other variants for realizing TOF-sensors. So, for that matter, do D3 (US-A1-2001/0048519); D5 (R. Schwarte, *Dynamic 3D-Vision*, Proceedings of EDMO 2001/Vienna); D6 (FR-A-2757640); and D20 to which the proprietor and the Opposition Division variously point (decision, page 8, 4th paragraph; proprietor's reply to the appeal, section 3).

22. While these documents do not provide evidence that TOF-cameras based on these other variants were indeed

available commercially, the term "available" used in D1 is not identical to "commercially available", and there is nothing in D1 itself to suggest such a limitation.

23. In Article 54(2) EPC, the term "publicly available" is used, but it does not mean "commercially available". It reads:

> *The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.*

The subject-matter of a publicly available written or oral description - even a public use - has nothing to do with commercial availability.

24. With regard to the opponent's argument that the use of the phase-based variant in D1 can be derived from the modulated light source mentioned in line 18 on page 5, pulses can be produced by modulating a light source (for example, with an on-off amplitude modulation). Hence, the reference to a modulated light source in D1 does not cover only phase-based, but also pulse-based TOF-cameras or TOF-sensors.

25. There is no clear evidence that the skilled person would necessarily have understood the TOF-camera in D1 to be phase-based. Consequently, a phase-based TOF-sensor or TOF-camera is not implicitly disclosed in D1.

26. Hence, the subject-matter of claim 1 is novel over document D1.

Main request - Inventive step starting from D18

27. Claim 1 of the main request lacks an inventive step, starting from D18, combined with prior art describing phase-based TOF-sensors, like, for example, D3, D20, or D21.

28. D18 discloses an arrangement for determining positions of the teats of an animal in a robot-based milking system (D18, abstract). The sole distinguishing feature, identified by the opponent, the proprietor, and the Opposition Division, lies in the sensor used. Whereas D18 uses a two-camera stereoscopic sensor, claim 1 of the main request defines a phase-based TOF-sensor.

29. As agreed by the parties during oral proceedings, the technical effect of this distinguishing feature is a more compact sensor (or camera), since only one camera is needed instead of two (separated) cameras for stereo-vision. Whether this also results in lower costs or complexity - as contemplated by the Opposition Division (decision, page 10, first paragraph) - is uncertain, since those would depend on features of individual camera systems and the ease or difficulty of their integration into the milking implement.

30. Thus, the objective technical problem is providing a more compact camera or sensor for obtaining 3D-images useful for vision in milking robots.

31. All three documents D3, D20, and D21 provide the skilled person with hints towards using a phase-based TOF-sensor for obtaining 3D-images for robot control. In particular D21 (section VII. Conclusions) mentions its compactness as an advantage:

> *The key advantages of the Swiss Ranger are its ability to generate real 3D range as well as intensity data at high speed in all-solid-state, compact, and light package.*

32. There is no indication that a milking robot and its sensor would need any particular features, as far as optical sensors are concerned, that would distinguish a milking robot from a general purpose robot.

33. Hence, it would have been obvious for a skilled person to use a phase-based TOF-sensor instead of the stereo-camera system of D18.

34. The Opposition Division found (see decision, reasons, page 10, first paragraph) - and the proprietor referred to this in its reply (section 4.2) - that document D18 already provided a different solution to the technical problem defined by the Opposition Division (decreasing cost and complexity). They argued that a skilled person looking for a solution to that problem would revert to the starting point of D18 (laser light and a video camera mounted on the robot arm) and that it would take three steps for the skilled person to arrive at the claimed subject-matter, which implied there was an inventive step.

35. This, however, is not persuasive. First, as mentioned above, the Board considers it doubtful that there is a reduction in cost or complexity when replacing a stereoscopic sensor with a TOF-sensor. Hence, there seems to be no reason for the skilled person to revert to the background art of D18. Second, the Board does not see any reason why the skilled person would prefer a solution that is considered negative in some document

against new solutions, provided by other documents in the same field (robot vision). To the contrary, there will be resistance to considering supposedly negative solutions and it is more persuasive that new solutions will be explored.

36. In a second line of argumentation, discussed during oral proceedings before the Board, it was considered whether no particular technical effect might be present when using a phase-based TOF-camera instead of stereoscopic vision with two cameras, meaning that the objective technical problem might be formulated as providing an alternative sensor. The proprietor argued that, in such a case, there was no hint towards using a particular type of sensor (the phase-based TOF-sensor), so that it would not have been obvious to use that particular sensor.

37. The Board does not agree. It does not require inventive skill to select one out of a plurality of known alternatives (cf. T 1179/16, reasons 3.4.4, T 148/10, reasons 1.9). For 3-D-robot vision, a plurality of known alternatives was available, e.g. the stereoscopic two-camera-system of D18, the laser-scanner-system of D2 (EP-A1-0 360 354) referred to in [0002] and [0003] of the patent) or the TOF-sensor of D3, D20, D21. The skilled person would have been able to consider the respective advantages and disadvantages and would have weighed them against each other. In some cases, this might even have led to the choice of a solution that is technically suboptimal, if indicated by other, for example economical, constraints. Nevertheless such a selection remains obvious.

38. Consequently, claim 1 of the main request lacks an inventive step over D18 in combination with D21 (or in combination with D3 or D20).

Auxiliary request II - Consideration

39. Auxiliary request II was first filed in proceedings before the Opposition Division, then re-filed, in due time, with the proprietor's reply to the opponent's appeal, in 2016. It is convergent with the main request and also otherwise meets the requirements under Article 12(4) RPBA 2007 (applicable under Article 25(2) RPBA 2020) for being taken into account.

Auxiliary request II - Clarity

40. The amendment in claim 1 introduces a possible lack of clarity because "in particular" can be interpreted in two different ways.

41. Firstly, it can be interpreted as meaning an option. In T 1882/12 (point 2 of the Reasons), the deciding Board concluded that, in the case before them, the wording "in particular" had to be understood as an option and that Rule 43(3) EPC neither prohibited optional features nor made it mandatory to draft a separate dependent claim for each particular embodiment.

42. Alternatively, "in particular" can be interpreted as meaning "essential" or "above all" as in T 260/10 (catchword and point 2 of the Reasons). In that decision, the deciding Board held that it generally depended on the specific context whether a feature following the expression "in particular" had to be

regarded as optional. As a rule, an optional feature in the main claim was one which was not essential to the claimed teaching but instead served as an example illustrating other features. The Board in T 260/10 decided that the wording "having at least one optical display unit and in particular at least one operating unit ..." (in the original, "mit zumindest einer optischen Anzeigeeinheit und insbesondere zumindest einer Bedieneinheit") meant that the at least one operating unit was essential and that "in particular" gave special emphasis to the operating unit as part of the appliance.

43. This ambiguity of "in particular" was considered a lack of clarity by the opponent (submission of 14 September 2017, page 8, third paragraph of section "5. Second Auxiliary Request").

44. The description as originally filed describes the use of different types of electromagnetic radiation for the purpose of the sensor in a sole passage, which reads (page 4, lines 23 to 30 of the published application):

> *The radiation source emits electromagnetic radiation. Preferably light is used for this purpose, more preferably infrared radiation, more preferably near-infrared (NIR) radiation. For this purpose, in particular suitable LED's may be used, which can be controlled in a very simple manner by means of an electrically controllable supply current, and which are moreover very compact and efficient and have a long life. Nevertheless, other radiation sources might be used a well. (Near) infrared radiation has the advantage*

of not being annoying for the dairy animals.

45. In some other passages of the original description, reference is made to infrared light, but not to near-infrared light (page 10, lines 29 to 33; page 11, lines 9 to 10; page 17, lines 4 to 6). The description does not provide any hint towards a specific advantage of using near-infrared light instead of other light with a wavelength belonging to the larger infrared spectrum. There is no indication that "in particular near infrared radiation" was considered essential.

46. Consequently, there is no evidence at all that it might be essential to use near infrared radiation. It is thus clear that the term "in particular near infrared radiation" is an optional feature, not an essential feature, and claim 1 is, therefore, clear (Article 84 EPC).

Auxiliary request II - Inventive step starting from D18

47. Starting from D18 it would not have been obvious for the skilled person to arrive at the subject-matter of claim 1 of auxiliary request II. As is made explicitly clear in its introduction, D18 aims at improvement over a camera mounted on a robot arm of a milking system (page 1, lines 19 to 28):

A drawback of such a milking system is that the camera, while being moved close to the milking animal, is exposed to dirt and possibly physical contact with the milking animal since the milking animal can make sudden movements. Further, the video camera

can only be in active mode to seek for the teats when the robot arm already has collected a teat cup and initiated a movement towards the teats since the camera is fixedly mounted on the robot arm. Still further, the video camera occupies a considerable space on the robot arm, which may limit the use of the system.

48. D18 then goes on to present its solution to this problem by providing a stereo camera system (23,24) that is, according to Figures 1 and 2, not provided on the robot arm (reference sign 15 in these figures).

49. Hence, besides the distinguishing feature of the phase-based time-of-flight sensor mentioned above with regard to the main request, D18 also does not disclose that the sensor is provided on the robot arm. Further, by explicitly stating the disadvantages of such a sensor on the robot arm, D18 teaches away from such a solution. Hence, a skilled person would not have combined any document with a sensor on a robot arm with document D18, due to this negative statement in the introduction about such a solution. At least, she would not have done so without some clear indication of some other mitigation of the problems identified in D18 or some countervailing advantages that outweigh them. No such advantages are present here.

50. Claim 1 of auxiliary request II, therefore, involves an inventive step starting from document D18.

Auxiliary request II - Consideration of D25 as starting-point for the problem-solution approach

51. Auxiliary request II was filed for the first time before the Opposition Division (on 4 May 2016), but this was only about one month before oral proceedings were held (on 8 June 2016). It was submitted within the time limit given by the Opposition Division for further submissions (Rule 116 EPC), then forwarded to the opponent (on 13 May 2016). Taking into account the 10-day notification assumption under Rule 126(2) EPC, the opponent was informed of this request, by the EPO, only about two weeks prior to oral proceedings.

52. The proprietor refiled auxiliary request II, in its reply to the appeal. As noted above (paragraph 39.), the Board finds the request admissible.

53. The opponent's inventive step attack on auxiliary request II starting from document D25 (WO-A-2000/04765) was submitted, for the first time, with its rejoinder, about six months later (letter of 14 September 2017, page 8, point 5). The admission of this amendment to the opponent's appeal case is at the Board's discretion under Article 13(1), and also Article 12(4) to (6) RPBA 2020 (for applicability, see Articles 13(1), second sentence in particular, 24(1) and 25(1) RPBA 2020, and Article 25(2) RPBA 2020 *e contrario*).

54. Under Article 13(1) RPBA 2020, any amendment to a party's appeal case, after it has filed its grounds of appeal or reply, is subject to the party's justification and may be admitted only at the discretion of the Board. The party has to provide reasons for submitting the amendment at this stage of

the appeal proceedings and the Board has to exercise its discretion in view of, inter alia, the current state of the proceedings, the suitability of the amendment to resolve the issues which were admissibly raised by another party in the appeal proceedings, and whether the amendment is detrimental to procedural economy.

55. According to Article 12(4), 4th sentence, RPBA 2020, the Board is to consider, for example, the complexity of the amendment, and 12(6), 2nd sentence, RPBA 2020 reads:

> *The Board shall not admit requests, facts, objections or evidence which should have been submitted, or which were no longer maintained, in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance.*

56. In appeal proceedings, the rejoinder was the first opportunity for the opponent to respond to the introduction of auxiliary request II. While it is true that the same request was before the Opposition Division, their decision did not deal with it, and it was not part of appeal proceedings until the proprietor sought to make it so.

57. The amendments to claim 1 of auxiliary request II were based on the description, not on any claim of the patent.

58. The opponent had no reason for addressing auxiliary request II, or the features it introduces, earlier than it did.

59. D25 discloses a sensor arrangement located on the robot arm, and is, therefor, particularly relevant to the amendment concerning this location. Prima facie, it is also more relevant than D18. D25 is also a suitable starting point for the problem-solution approach. It is only 12 pages long, and the sensor arrangement on the robot arm is easily derivable from, for instance, figure 1 and original claims 13 and 14. The opponent's objection based on D25 is thus not complex.

60. During oral proceedings, the proprietor argued that D25 should not be considered as regards auxiliary request II, because that request had already been filed before the Opposition Division, and so the opponent should have submitted D25 before the Opposition Division, too.

61. However, with only about two weeks left to oral proceedings before the Opposition Division, for finding and assessing additional prior art and incorporating it into the case in respect of features taken from the description, the Board disagrees that D25 should have been filed before the Opposition Division.

62. Since the opponent's inventive step attack on auxiliary request II based on D25 has been known for more than five years in appeal proceedings, the proprietor has had enough time to deal with it and to formulate its counter-arguments.

63. For these reasons, the Board admits D25 as the starting-point for assessing inventive step for auxiliary request II.

Auxiliary request II - Remittal due to consideration of D25

64. With its reply to the statement of grounds, the proprietor argued that the case should be remitted to the Opposition Division, if the Board admitted document D25 and the attacks based on it into the proceedings (sections 2.1 and 2.4, respective last paragraphs) with regard to the main request. In its reply to the summons (page 5, - Item 39.) and during oral proceedings, the proprietor also requested remittal if document D25 was admitted with regard to auxiliary request II, in order to provide the parties with the possibility of having the present case decided in two instances.

65. Article 11 RPBA specifies that

> *The Board shall not remit a case to the department whose decision was appealed for further prosecution, unless special reasons present themselves for doing so. As a rule, fundamental deficiencies which are apparent in the proceedings before that department constitute such special reasons.*

66. In the "Explanatory remarks" to Article 11 RPBA published together with the amended RPBA (see OJ 2020, Supplementary publication 2), it is stated

> *The aim of the new provision is to reduce the likelihood of a "ping-pong" effect between the Boards and the departments of first instance, and a consequent undue prolongation of the entire proceedings before the EPO.*

67. It is also stated:

> *Whether "special reasons" present themselves is to be decided on a case-by-case basis. If all issues can be decided without an undue burden, a Board should normally not remit the case.*

68. It is the Boards' settled case law that parties do not have a fundamental right to have their case examined at two levels. Accordingly, they have no absolute right to have every issue examined at two instances (see CLBA, V.A.9.2.1).

69. Further, in the present case, there is no undue burden, either for the parties or for the Board. The attack, and document D25, were known for more than five years, so that counter-arguments could be prepared thoroughly. Further, the issues discussed when considering document D25 are very similar to those discussed with regard to document D18, the only difference being that D25 discloses a sensor arrangement on a robot arm and not elsewhere. Hence, the introduction of D25 does not result in a "fresh case", but only in a discussion of a single additional issue that is well within the technical scope of the former discussion about sensor arrangements for milking robots.

70. Hence, the Board will not remit the case to the Opposition Division (Article 11 RPBA).

Auxiliary request II - Inventive step starting from D25, in combination with D21

71. Document D25 discloses a sensor arrangement, on a robot arm of a milking robot, that detects the teats and the teat cups by projecting a first line onto the teat and and a second line onto the teat cups; and by capturing images of the projected lines with an image capturing device (D25, claims 1, 13, 14, figure 2). The movement of the robot arm is controlled by evaluating the images of the lines (D25, page 5, lines 1 to 2; page 7, lines 1 to 11).

72. D25 does not disclose a sensor arrangement using phase-based time-of-flight measurements with infrared light.

73. During oral proceedings, the opponent argued that a phase-based time-of-flight sensor would be more compact and lighter than a laser scanner and referred to a table in D21 (page 2, right column, Table I) comparing the phase-based TOF sensor "Swiss ranger" with a laser scanner. In this table the weight and the size of the laser scanner are larger than the weight and the size of the TOF-sensor. The proprietor, however, countered that in D25, figure 2, the size of the laser scanner is quite small (when compared with the teat and teat cups also depicted in that figure). The weight and size in the table of D21 referred to a very particular laser scanner and there is no evidence that all laser scanners had similar size and weight.

74. Thus, without any clear evidence that a TOF-sensor was automatically more compact or lighter than a laser scanner, the Board cannot accept the opponent's suggested technical effect.

75. In fact, the Board is in no position to attribute any specific technical effect to the bare use of a phase-based time-of-flight sensor rather than a laser scanner. The opponent's suggestion fails, as noted; and the proprietor did not argue for any specific effect.

76. The objective technical problem can be formulated then - as for the main request - providing an alternative sensor to that of D25.

77. And, as for the main request, the skilled person selects one out of a plurality of known alternatives. As mentioned above already, the skilled person was aware of a plurality of alternatives for robot vision, among them a phase-based TOF-sensor, such as in D21, that uses infrared light ("The modulated illumination is generated by a set of 48 near-infrared LEDs.", D21, page 2, section "B. Implementation", first paragraph). The skilled person would have considered the advantages and disadvantages of their possible selections, and would have picked the most appropriate one for the particular task at hand. As that task was to provide an alternative, and as the skilled person would have recognised that the infrared phase-based time-of-flight sensor was an alternative, that particular selection would have been obvious.

78. During oral proceedings, the proprietor argued that the skilled person had no incentive to look for further adaptations to the system disclosed in D25, since D25 already suggested its own possible improvements e.g. by using a larger number of laser planes (page 7, lines 17 to 20).

79. This is not persuasive. First, the possible improvements in D25 belong to the disclosed subject-

matter and would already have been considered by a skilled person as a starting point to look further for improvements. And second, as discussed above, the task for the skilled person, starting from document D25 as closest prior art, was not looking for an improvement, but merely selecting an alternative from several possible known alternatives.

80. Hence, the subject-matter of claim 1 of auxiliary requests II lacks an inventive step over the combination of D25 with D21 (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chair:

D. Meyfarth P. Scriven

Decision electronically authenticated