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**Datasheet for the decision
of 20 April 2021**

Case Number: T 1325/18 - 3.2.04

Application Number: 12820977.2

Publication Number: 2806733

IPC: A01K1/10, A01K5/02

Language of the proceedings: EN

Title of invention:

FEED CONTROL SYSTEM, FEEDING SYSTEM AND METHOD FOR FEEDING
ANIMALS

Patent Proprietor:

Lely Patent N.V.

Opponent:

DeLaval International AB

Headword:

Relevant legal provisions:

EPC Art. 54(2), 56

Keyword:

Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1325/18 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 20 April 2021

Appellant: DeLaval International AB
(Opponent) P O Box 39
147 21 TUMBA (SE)

Representative: Gray, Helen Mary
Zacco GmbH
Bayerstrasse 83
80335 München (DE)

Respondent: Lely Patent N.V.
(Patent Proprietor) Cornelis van der Lelylaan 1
3147 PB Maassluis (NL)

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 20 April 2018
rejecting the opposition filed against European
patent No. 2806733 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman T. Bokor
Members: G. Martin Gonzalez
S. Oechsner de Coninck

Summary of Facts and Submissions

- I. The appellant-opponent lodged an appeal, received on 24 May 2018, against the decision of the Opposition Division posted on 20 April 2018 rejecting the opposition filed against European patent No. 2806733 pursuant to Article 101(2) EPC, and on the same day paid the appeal fee. The statement setting out the grounds of appeal was received on 28 August 2018.
- II. Opposition was filed under the ground of Article 100(a) EPC for lack of novelty and lack of inventive step and under Article 100(b) EPC for insufficiency of disclosure.

The Opposition Division held that the patent was sufficiently disclosed and independent claims 1 and 20 were new and involved an inventive step having regard *inter alia* to the following documents

| | |
|----|-------------------|
| D1 | WO 2008/097080 A1 |
| D2 | WO 2007/120036 A1 |
| D3 | WO 2007/040388 A1 |
| D4 | WO 2008/123820 A1 |
| D5 | DE 203 14 986 U1 |
| D6 | WO 2010/044656 A1 |
| D7 | WO 2009/125390 A2 |
| D8 | AT 006 016 U1 |

The appellant-opponent further cited the following evidence in appeal:

D9 Wikipedia entry for "ultrasonic transducer" as on 17 November 2010, link to this version <https://>

en.wikipedia.org/w/index.php?
title=Ultrasonic_transducer&oldid=397362494

- III. The appellant-opponent requests that the decision under appeal be set aside, and that the European patent No. 2806733 be revoked.

The respondent-proprietor requests that the appeal be dismissed. Alternatively the decision under appeal should be set aside and the patent be maintained on the basis of the auxiliary request, filed before the Opposition Division with letter dated 16 December 2016.

- IV. In preparation for the oral proceedings the Board issued a communication, dated 26 August 2020, setting out its provisional opinion on the relevant issues.

Oral proceedings before the Board were held in agreement with the parties by videoconference on 20 April 2021.

- V. The wording of the independent claims according to the main request is as follows.

"1. Feed control system (1), comprising:
- an autonomous feed displacer (3') which can be displaced in a desired direction of displacement which is configured to displace said animal feed at right angles to the direction of displacement when passing a site containing animal feed (4) provided on the ground, characterized in that the system further comprises:
- a feed level meter (8) which is configured to measure a feed level of the animal feed (5) displaced by the feed displacer and to emit a feed level signal on the basis of the measured feed level."

"20. Method for feeding animals (7), comprising displacing animal feed in a direction towards the animals using a feed control system which moves substantially at right angles to said direction according to one of Claims 1-18, and measuring the feed level of the displaced animal feed within a predetermined distance and/or time after the feed control system has passed."

VI. The appellant-opponent argued as follows:

The subject-matter of the independent claims of the main request lacks novelty over D1. It also lacks an inventive step in the light of the teachings of D1, in combination with common general knowledge of the skilled person, or the teachings of D1-D6, D9 in respect of level sensing and ultrasonic sensors. It also lacks an inventive step when starting from D4 in combination with D7 or D8.

VII. The respondent-proprietor argued as follows:

The independent claims of the main request are new and involve an inventive step over the cited prior art.

Reasons for the Decision

1. The appeal is admissible.
2. Background

The invention is related to a feed control system and method for feeding animals, see specification description paragraph [0001]. When eating, animals tend to spread their feed out of their reach. The invention is provided with an autonomous feed displacer that

automatically pushes back the animal feed while it travels parallel to the animals feeding table or feeding fence, see paragraph [0002]. The claimed invention is further aimed at obtaining accurate and reliable information of the amount of animal feed still available to the animals at their feeding place, see paragraphs [0002]-[0005]. To this end the autonomous feed displacer is configured to displace said animal feed at right angles when passing a site containing the animal feed on the ground and to measure a feed level of the displaced feed. The profile of the feed displaced at right angles has virtually always the same shape. As a result of the displaced feed having virtually always the same shape, only measuring its level provides a simple, inexpensive and reliable method to determine the amount of feed, see specification paragraphs [0006] and [0007].

3. Main request - Novelty

As held by the Opposition Division, see section 2 of the written decision, granted claim 1 is new over D1. The appellant-opponent contests this finding.

3.1 In this regard, the characterising portion of claim 1 requires a feed level meter configured to measure a feed level of the animal feed displaced by the feed displacer. The interpretation of these features and their anticipation by D1 is in dispute.

3.1.1 Regarding the interpretation of the claimed term "level", claim 1 requires measurement of a feed level of the animal feed, while its pre-characterising part defines that the animal feed is provided on the ground. The independent claim thus requires measuring the level of loose matter (animal feed) disposed on the ground.

The skilled person, reading these terms and interrelated features with the intent of making technical sense of them, would thus readily understand measuring the level of loose matter (animal feed) displaced on the ground as nothing else than measuring its height with respect to the ground. Indeed, while the term "level" may have different meanings, such as a magnitude or amount in relation to a reference value or point on a scale - for instance a person's cholesterol level or a filling level, as put forward by the appellant-opponent - in the context of the present claim there is no such identifiable reference to a value or scale, since according to the claim the animal feed is provided on the ground. The skilled person would thus exclude this meaning from granted claim 1.

Nothing else is suggested by the detailed description and figures. The above interpretation fully corresponds to the detailed described embodiments, see paragraphs [0038]-[0040] with figures 2a,2b and [0044] with figures 3,4, which description furthermore in its general part explicitly describes that the invention relates to measuring the height of feed, see paragraph [0007]: "...less expensive and more reliable to determine the amount of feed by only measuring the height thereof".

- 3.1.2 Claim 1 also requires that the above level measurement is carried out on displaced feed, excluding measurements on feed lying on the ground and thus before it has been displaced at right angles, i.e. pushed back by the displacer. After displacement the feed occupies about the same width on the floor and the only "level" left to be measured is indeed height with respect to the ground.

3.2 Turning to D1, this document describes a feed wagon 1 in the form of an autonomous vehicle. The feed wagon 1 comprises a slide element 60 for displacing feed on the ground, at right angles, closer to the feeding gate 8 or for redistributing it over the floor. It also describes detection means mounted on the wagon 1. The detection means may be a 3D camera or an ultrasonic sensor for determining the amount and/or distribution of feed on or over the ground, see page 4, lines 23-32.

3.2.1 D1 is however silent as to where the measurement is made and thus whether before the feed has been displaced by the slide element 60, while being displaced or rather after displacing it. That the measurement is performed on displaced feed is therefore not derivable from the disclosure of D1. The appellant-opponent submits that this claimed feature is implicitly disclosed for being the only plausible option. The distribution of the feed at the feed gate, so the argument of the appellant-opponent goes, would be less accurate if measured in front of the vehicle, since part of the feed lying right in front of the vehicle, may not be properly displaced towards the feed gate. The Board is not convinced by this argument. The above possible disadvantage does not make such implementation unplausible. It can be easily avoided or accounted for, for instance by choosing a proper area of measurement. Absent any indication in D1, whether this document describes or even suggests a measurement on undisplaced or on displaced feed is in the Board's view a matter of speculation. It is not a direct and unambiguous disclosure, which is the standard required for denying novelty.

3.2.2 D1 does also not disclose measuring level of feed. D1 describes detection means that could be a "3D-camera or an ultrasonic sensor", see page 4, lines 31-32. While it is possible to use 3D cameras and ultrasonic sensors for a level measurement, as mentioned in D9 "for liquid level measurement" in industry, there is no indication, let alone an unambiguous disclosure, that this might be the case in D1. Indeed, these types of detection means are customarily used for more complex measurements such as capturing 3D surfaces or shapes and distances, see for ultrasonic transducers their described use in medicine and in industry in D9. Thus in the Board's view this will also be the case for the type of detection means in D1. By a mathematical or numerical volume integral, the described feed volume or quantity might be then obtained. It appears unlikely, much less is there a direct and unambiguous disclosure, that simpler level measurements, for which simpler detectors could be used, is the intention of the inventor in D1. The Board is also not convinced by the appellant-opponent's argument that any signal generated by the 3D camera or the ultrasonic sensor would include at least a component of the feed height or level. The detection of a 3D surface or a shape is a collection of points sensed or acquired by the 3D camera or ultrasonic sensor in their local coordinate systems. These systems are not necessarily coincident with the XYZ system of the room. They might be a different type of coordinate system or, if Cartesian, not necessarily aligned with the room system. There is thus also no unambiguous disclosure that a measurement including at least a component of feed level is generated by the sensors described in D1.

3.3 The Board thus concludes that D1 neither discloses a measurement of feed level nor that the detection in D1

is performed on displaced feed. The subject-matter of granted claims 1, 19 and 20 is therefore new over D1, and the Board thus confirms the Opposition Division's positive assessment on novelty.

4. Main request - Inventive step

4.1 The appellant-opponent argues lack of inventive step of claim 1 starting from D1.

As explained above for novelty, the claimed feed control and method differ from that of D1 in that the detection means is configured to measure a feed level of the animal feed displaced by the feed displacer and to emit a feed level signal on the basis of the measured feed level.

4.1.1 The feed displaced at right angle on the ground has virtually always the same shape. As a result, only measuring its height can provide a simple and reliable method to determine the amount of feed, see paragraphs [0006] and [0007] of the patent specification. The claimed system and method uses that particular measurement to emit a corresponding feed level signal.

The appellant-opponent submits that the claimed invention does not always show this effect because the presence of a feeding gate is not claimed. The above effect is based on displacing the feed towards an area of smaller and fixed width, see patent specification paragraph [0007]. This would only be obtained if feed were always displaced against a feeding gate or similar, such that the gate builds the side limit of that width at the opposite side of the displacer. Since the claim does not include the feature that the feed is displaced against a feeding gate or fence, no such

opposite side limit exists and thus no fixed width. Thus no simple and reliable measurement can always be said to be obtained. The Board is not persuaded by this argument. The Board considers that a feeding gate or feeding fence is always present under normal use of the claimed subject-matter, which is how technical effects and the objective technical problem for the assessment of inventive step should be considered and formulated. Indeed, claims 1, 19 and 20 call for an autonomous feed displacer to displace feed when passing a site containing animal feed. In normal usage this is at animal feeding gates for feeding animals. Nothing else is suggested in the patent specification. The above technical effect is thus always achieved by the claimed invention when used under its intended or regular use. The argument of lack of technical effect of the appellant-opponent thus fails.

The associated technical problem can thus be formulated as how to provide a system with a simple and reliable arrangement for the determination of the amount of food.

- 4.1.2 The appellant-opponent submits that the skilled person, drawing on their common general knowledge, and seeking to simplify the measurement in D1, would as a matter of obviousness choose to realize it as a measurement of the level of feed or height. The skilled person would also find the relevant teaching in D3, page 8, lines 4-7; D4, page 7, lines 1-4; D5, paragraph [0018]; or also in the same document D1, page 15, lines 7-10 that a level sensor, which is known to them to be simpler, is also suitable for measuring feed quantity. The appellant-opponent also cites D2, D6 and D9 as further examples of ultrasonic sensors use.

In the opinion of the Board, these lines of attack overlook the inventive insight that the displaced feed at right angles has virtually always the same shape and allows a simple and reliable feed quantity evaluation only using a feed level measurement. This teaching or any equivalent teaching suggesting the necessary step of choosing to measure the displaced feed is neither taught nor suggested by common general knowledge or by the cited prior art documents. Indeed, document D1 does not suggest measuring displaced feed, see novelty discussion in point 3.2.1 above. D1, D3 and D5 teach to measure a level in closed and delimited containers or chutes, not feed displaced openly on the ground. The ultrasonic sensors of D2, D6 or D9 are not even used to measure level, in D2 and D6 the ultrasonic sensor senses distance of the vehicle to the feeding rack (see D2, page 4; D6, page 6); and D9 teaches ultrasonic sensor uses in general in medicine and in industry, so that no mention of measuring feed or loose material on the ground can be found in D9. D4 teaches to continuously or rather "repeatedly" measure amount of feed at feeding gates, see page 2, lines 7-10 and 17-26. There is no mention of feed displacement by a displacer or similar.

In sum, the necessary step for arriving at the subject-matter of claims 1, 19 or 20 of choosing to measure displaced feed is neither taught nor suggested by common general knowledge or the cited prior art. Consequently, the further step of specifically only measuring feed level in a system as that of D1 is also not rendered obvious by any of these teachings.

- 4.1.3 The Board thus concludes that the subject-matter of these claims is not obvious when starting from D1.

- 4.2 The appellant-opponent also objects lack of inventive step starting from D4. They merely referred during the oral proceedings before the Board to their written submissions. They refrained from further comment.

As noted by the Board in its written communication, *"D4 teaches the use of a level detector for continuously measuring the amount of feed at feed tables, see above. The system of D4 has no displacer or vehicle to slide spread feed back towards the animals. The skilled person may modify the system of D4 by providing one of the arrangements of D7 or D8 for automatically sliding feed back towards the animals in order to improve system efficiency. However, similar observations as provided above for the combinations starting with D1 apply, i.e. neither document D4, D7, D8 appears to teach or suggest to measure specifically displaced feed or that through measurement of only the level of displaced feed useful information can be obtained and used, that may lead the skilled person to modify the continuous measurement of D4 as a matter of obviousness."*

Absent any further submissions from the appellant-opponent the Board sees no reason to change its point of view. It thus holds that the subject-matter of claims 1, 19 and 20 is also not rendered obvious by the prior art teachings when starting from D4.

5. As the appellant-opponent's arguments against the findings in the Opposition Division's decision fail to convince the Board, it upholds the Opposition Division's decision to reject the opposition pursuant to Article 101(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Magouliotis

T. Bokor

Decision electronically authenticated