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**Datasheet for the decision
of 2 December 2022**

Case Number: T 0066/21 - 3.2.04

Application Number: 16195680.0

Publication Number: 3195719

IPC: A01D41/127, A01F25/18

Language of the proceedings: EN

Title of invention:
AGRICULTURAL MACHINE

Patent Proprietor:
CLAAS E-Systems KGaA mbH & Co KG

Opponents:
Deere & Company/John Deere GmbH & Co. KG
CNH Industrial Belgium nv

Headword:

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 13(2)

Keyword:

Inventive step - (no)

Amendment after summons - taken into account (no)

Decisions cited:

Catchword:



Beschwerdekammern

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Chambres de recours

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Case Number: T 0066/21 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 2 December 2022

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
10 December 2020 concerning maintenance of the
European Patent No. 3195719 in amended form.**

Composition of the Board:

Chairman A. de Vries
Members: G. Martin Gonzalez
 T. Bokor

Summary of Facts and Submissions

- I. The appeals were filed by the appellant-opponent 1 and appellant-opponent 2 against the interlocutory decision of the opposition division to maintain the patent in amended form. The division held *inter alia* that the claims filed during oral proceedings were inventive.
- II. The appellant opponent 1 and 2 request that the decision under appeal be set aside, and the European patent No. 3195719 be revoked in its entirety.

The respondent patent proprietor requests the dismissal of the appeal, i.e. maintenance of the patent in the form held allowable by the Opposition Division, auxiliary request 2 in the opposition, alternatively remittal to the opposition division for further prosecution, or further in the alternative the cancellation of the decision under appeal and maintenance of the patent in amended form according to one of auxiliary requests 3 to 5 filed with letter dated 28 September 2022.

- III. In preparation for oral proceedings the board issued a communication setting out its provisional opinion on the relevant issues. Oral proceedings were held by videoconference before the Board on 2 December 2022.
- IV. Independent claim 1 (as upheld) reads as follows:

"Agricultural machine for conducting an agricultural working process with at least one working organ (2-6) and with a driver assistance system (7), in particular for the control of the at least one working organ (2-6), wherein a sensor arrangement (8) is assigned to

the driver assistance system (7), which sensor arrangement (8) comprises at least one radar sensor (9, 10),
wherein the sensor arrangement (8) comprises at least one ground penetrating radar sensor (9-12), which within a running agricultural working process obtains a ground information (D) in a detection area (13, 14) below the surface (15) of the ground (G) and that the driver assistance system (7) data-processes the obtained ground information (D) for the running agricultural working process,
wherein the working process is the process of compacting silo material (31) in a bunker silo (32) by driving the agricultural machine (1, 1a) across the silo material (31) and that the ground information (D) represents the resulting density of the silo material (31) in the detection area (13, 14),
wherein the driver assistance system (7) is configured to store at least one threshold value for the density of the silo material (31),
characterized in that the driver assistance system (7) is configured to generate control commands when the density is exceeding and/or undercutting the threshold value,
wherein the control commands are steering commands for steering the agricultural machine (1, 1a) via an actor based steering system."

V. In the present decision, reference is made to the following document(s):

(D9) Fürll et al: Prinziplösungen für die Dichtemessung in Siliergütern, LANDTECHNIK 02/2008, p. 94-95. <https://doi.org/10.15150/lt.2008.785>

(D22) EP 2 591 659 A1

VI. The appellants' arguments can be summarised as follows:

Claim 1 of the main request lacks an inventive step over D9 in combination with common general knowledge. This attack was in the grounds of appeal of the appellant opponent 2. It was also part of the impugned decision. It is therefore admissible. Remittal to first instance is not appropriate. Respondent's auxiliary requests 3-5 are late filed, without any exceptional circumstances justifying their late filing. They are thus not admissible.

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

The inventive step objections starting from D9 are new and thus outside the framework of the impugned decision. They are therefore not admissible. If they are admitted, the case should be remitted to have these objections examined in two separate instances. Claim 1 of the main request is inventive over the cited prior art. The late filing of auxiliary requests 3-5 is justified by exceptional circumstances, so that these requests should be admitted.

Reasons for the Decision

1. The appeals are admissible.
2. Background

The invention concerns an agricultural machine and corresponding method for compacting silo material in a bunker silo by driving the machine across the material. The purpose of driving the agricultural machine back

and forth across the silo material is to reach a certain density of the material and as a result to reach a predefined filling degree of the bunker silo, see paragraphs [0001] and [0017] of the patent specification. The machine has a ground penetrating radar sensor (GPR). The GPR senses the density of the silo material. The machine also has a driver assistance system that generates control commands. These can be steering commands for steering the machine via an actor (actuator) based steering system, i.e. an autonomous driving system. The driver assistance system generates the control commands in response to the density of the silo material sensed by the GPR sensor, see paragraphs [0007],[0008],[0017] and [0018]. The arrangement improves process efficiency, see paragraph [0004].

3. Admission of lack of inventive step arguments and request for remittal
 - 3.1 Appellant opponent 2 attacks inventive step of the upheld claims using a combination of D9 with common general knowledge of the skilled person, see pages 4-5 of their statement of grounds. The respondent submits in their letter of 28 September 2022, cf. section I "Zum Verfahren", that this argument is new in appeal. It represents an amendment to the appellant's case that should not be admitted, Article 12(4) RPBA 2020. In case the Board admits this attack, the respondent requests remittal to the opposition division in order to have a two instance decision on this matter.
 - 3.2 The Board holds that this combination is part of the impugned decision. Section 4.2.2 addresses various inventive step combinations. It discusses in detail different combinations starting from D13. The last sentence in that section (last sentence of 4.2.2.2)

extends the same arguments to the same combinations with D9 as starting point:

"The same argumentation applies mutatis mutandis starting from document D9 or D10 as closest prior art contrary to the argumentation of Opponent 2".

One such argument is the combination with common general knowledge (see decision, section 4.2.2.1):

"Automatic steering is furthermore well known to the person skilled in the art.

The application of this common technology on an agricultural machine compacting silo material is, according to Opponent 2, obvious and can be done without exercising inventive skills."

3.3 Therefore, the lack of inventive step attack for the upheld claims 1 and 4 starting from D9 in the light of common general knowledge is part of the impugned decision. Hence, it meets the requirements of Article 12(2) RPBA. It was also raised and substantiated in the appellant's grounds of appeal, and is thus also part of the party's complete case (Article 12(3) RPBA), and not an amendment to the appellant's case in the sense of Article 12(4) RPBA. As such, it is part of the appeal proceedings which the Board must consider.

3.4 Since the objection was already considered by the opposition division, the request for remittal for having a two instance decision on the issue becomes moot. The Board does not otherwise see any special reasons to remit. It therefore decided not to remit the case, Article 11 RPBA.

4. Auxiliary request 2 - Inventive step.
 - 4.1 The Board considers that claim 1 is obvious in the light of D9 and common general knowledge.
 - 4.2 Claim 1 is directed to an agricultural machine for compacting silo material in a bunker silo by driving an agricultural machine across it. The purpose is to reach a desired density of the silo material, see specification paragraph [0017]. The claimed machine measures the density of the silo material with a radar sensor. There is agreement that this type of sensor, called *Georadar* (Ground Penetrating Radar) in the technical literature, is as such known technology, see patent specification paragraph [0007]. The machine also has a driver assistance system. This system stores at least a threshold value for the density of the silo material. The system generates control commands when the sensed density exceeds and/or undercuts the threshold value. These are commands for steering the agricultural machine. There is also agreement that the claimed threshold value can be the desired density level of the silo material, paragraphs [0017]-[0018].
 - 4.3 Document D9, a scientific article, is also in the technical field of compacting silo material. Its main focus is density measurement, see title: Principle solutions for the compactness measurement in silo material (see above in point V). It discloses compacting silo material by driving a tractor across it, see page 94, right hand column: to achieve the required minimum densities, compaction must be carried out carefully with tractors or other suitable vehicles ("Zum Erreichen der geforderten Mindestdichten muss sorgfältig mit Traktoren oder anderen geeigneten Fahrzeugen verdichtet werden"). It therefore discloses

compacting using an agricultural machine as claimed. It also discloses the aim of achieving a desired minimum density value ("Zum Erreichen der geforderten Minstdichten", same passage) for the silo material and thus a threshold value as in the claimed machine. It is implicit that the tractor must have at least one working organ in order to compact.

- 4.4 Document D9 is further mainly concerned with continuous density measurement as follows from the indication that it is an "online measurement method", see abstract and page 95, middle column, 2nd paragraph ("Online Messverfahren", resp. "Online-Messwerterfassung"), where "online" is to be understood as continuous, see page 95 last paragraph ("kontinuierliche (Online)"). In this context D9 presents the use of "Georadar" (Ground Penetrating Radar) as the preferred sensing solution, see again abstract and page 95, middle column, second paragraph. Because the Georadar is presented as the preferred solution for its combined ability to directly measure density and continuously acquire measurements in the context of achieving a minimum density, it is evident that the measurements are meant to be used to assist or guide the farmer during the compacting process. Indeed it is meant (as the preferred one of possible solutions) to address a lack of reliable sensing methods that operate online during storage, as felt by the farmer, page 94, right hand column, 1st paragraph, last sentence ("... für den Landwirt keine zuverlässige Dichtmessgeräte ..., die vor allem beim Einlagern online arbeiten"). Such an online direct measurement is only meaningful if the driver compares the sensed values to the desired density (threshold value) and steers the tractor accordingly until the desired density value is reached (the density exceeds the threshold value in the wording of the claim).

- 4.5 The respondent submits that D9 does not disclose a realisable use of georadar, so that the skilled person would not consider the disclosure of D9 to that effect. They refer to the "Versuchsergebnisse" at page 95, middle column, where it is stated that the georadar tests did not yield satisfactory results, because further software and hardware development was required. However, it is immediately evident that the statement is not meant to exclude georadar from consideration, but merely refers to practical constraints and limitations encountered in the comparative tests of various sensing systems considered in the article. Otherwise, D9 does not express any reservations as to the feasibility of georadar for continuous density measurement for silo compacting; it rather presents it as a preferred solution because of its several advantages as described in the previous section of page 95, cited above. Therefore the Board has no doubt that D9 seriously considered georadar for density measurement during compacting and the authors would have studied it but for those practical constraints. This is all the more so as georadar was a well known technology at the time of writing D9, as also recognized in the patent itself, see paragraph [0007] of the patent specification, describing its previous application in the field of agriculture.
- 4.6 The claimed machine differs from the georadar assisted compacting tractor that can be inferred from D9 in that it comprises a driver assistance system that stores the density threshold value, processes the measured density value and generates control commands based on the soil density measurements compared to the threshold value to generate autonomous driving commands.

These differentiating features achieve an automation of the compacting process previously performed by the human driver in D9. The corresponding technical problem can thus be formulated as how to automate the known silo compacting process.

- 4.7 According to the established case law of the boards, the desire to automate human activities is a constant concern of the skilled person. In developing an automated process from a known manual process, apart from simply automating the individual steps of the manual process, the skilled person will also incorporate the facilities that automation typically offers for the monitoring, control and regulation of the individual process steps, provided they fall within the definition of technical skill, see CLBA (10th. edition), I.D.9.21.6.
- 4.8 It is not disputed that a driver assistance system, setting a desired threshold - i.e. a desired density as a threshold value - and autonomous driving controls are commonly available tools for automation purposes. Nor is it disputed that the use of driver assistance systems or autonomous driving systems in agricultural machines is generally known to the skilled person.
- 4.9 The Board is further unconvinced that the manner of automation of the compacting process using a driver assistance system (or autonomous driving system using an automatic navigation system) as claimed goes beyond the routine automation by the skilled person, an engineer involved in the design and development of agricultural machines. Thus it simply replaces those tasks previously performed by the farmer/driver by a machine equivalent: thus where the driver would compare the real time measurements with the minimum threshold

value, the system now carries out the comparison of the measurement with the stored threshold value. Instead of the driver adjusting the path of the tractor in response to measured density below threshold, for example by executing another pass, it is now the system that signals to the tractor control to carry out another pass if the sensed density is below threshold.

4.10 In this context the Board is wholly unconvinced by the decision's argument, taken up by the respondent, that the skilled person would be prevented from automating the known process as a matter of obviousness, due to steering path complexity or the need of constant path updates, see section 4.2.2.2 of the impugned decision. The claim does not give any detail of the vehicle path or indeed, more broadly, of the adaptive strategy or its frequency. Simply repeating the standard predetermined path for compacting the silo material falls therefore within the claimed scope. Such a response - taking another pass - is straightforward to implement in a driver assistance system. Moreover, it is a hallmark of common automatic navigation systems that they are able to continuously update navigational data and make real-time adjustments when necessary. Otherwise, the Board notes that the patent specification gives no particular importance to automation, but rather presents it as an alternative to driver assisted manual control, cf. specification paragraph [0018] and claim 14. The patent's original focus was the use of GPR for compacting, see specification paragraph [0007]. Except for the obvious advantage of replacing manual by automatic steps, human intervention and automatic commands are consistently described as interchangeable alternative options achieving the same effect, see granted dependent claims 7-9 or 14, cited by the respondent, or par. [0052].

4.11 In the light of the above the Board finds that the subject-matter of claim 1 is nothing other than the simple, obvious automation of the individual steps of the known manual process of D9 using commonly available automation tools.

The Board therefore concludes, contrary to the opposition division's findings, that upheld claim 1 lacks inventive step, Article 56 EPC.

5. Auxiliary requests 3-5

5.1 The respondent filed auxiliary requests 3-5 with letter of 30 September 2022, thus after the Board's summons of 10 March 2022 to oral proceedings. They are therefore an amendment to the respondent's case. Such amendments shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons, Article 13(2) RPBA.

5.2 The Board is unable to see in the present case any exceptional circumstance that might justify the filing of auxiliary requests at this stage of the proceedings, nor have these been presented. Inventive step, not only but also starting from D9 in combination with common general knowledge, had been at issue from the outset. An amended set of claims to address this objection should therefore have been filed with the reply to the grounds of appeal.

- 5.3 It is immaterial that a request was filed in first instance proceedings, as put forward by the respondent. As variously stated in case law, any procedural requests or statements made by a party during the first instance proceedings have no effect in a subsequent appeal proceedings unless they had been specifically reiterated and substantiated at the outset in the notice of appeal and the statement of grounds, see CLBA (10th edition), V.A.4.2.2.b). The same applies, logically, in relation to the respondent proprietor's reply to the grounds of appeal, which must therefore also expressly restate and substantiate requests made in first instance for these to be considered.
- 5.4 For the above reasons, the Board decided not to admit auxiliary requests 3-5, Article 13(2) RPBA.
6. Thus the Board reverses the decision's finding on inventive step for the upheld claims. The remaining requests of the respondent have not been admitted. The Board must revoke the patent (Article 101(3)(b) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

1. The patent is revoked.

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated