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Datasheet for the decision of 26 May 2020

Case Number: T 2675/17 - 3.2.04

Application Number: 06820104.5

Publication Number: 1954931

IPC: F02D29/00, A01G23/08, B60W10/06

Language of the proceedings: EN

Title of invention:
METHOD FOR CONTROLLING A POWER SOURCE OF A FORESTRY MACHINE

Applicant:
Ponsse Oyj

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 111(1)

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

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 2675/17 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 26 May 2020

Appellant: (Applicant)	Ponsse Oyj Vieremä 74200 Vieremä (FI)
Representative:	Kolster Oy Ab (Salmisaarenaukio 1) P.O. Box 204 00181 Helsinki (FI)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 11 July 2017 refusing European patent application No. 06820104.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Martin Gonzalez
Members:	C. Kujat
	T. Bokor

Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division of the European Patent Office, posted on 11 July 2017, refusing the European Patent Application No. 06820104.5 pursuant to Article 97(2) EPC.

II. The applicant as appellant lodged an appeal against this decision, which was received on 12 September 2017, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 15 November 2017.

III. The examining division held that the subject-matter of claim 1 of the main request filed during oral proceedings on 22 June 2017 was not novel. It concluded that the application and the invention to which it related, did not meet the requirements of the EPC, having regard to the following pieces of evidence:

D1: WO 03/096 794 A1
D2: DE 101 15 045 A1
D3: US 5 046 924 A1

IV. The appellant requests that the decision be set aside and that a patent be granted based on the main request, or, auxiliarily, on the basis of the first or second auxiliary requests, all filed with the statement setting out the grounds of appeal.

V. Independent claim 1 according to the relevant main request reads as follows (additions and deletions with regard to the main request underlying the impugned decision highlighted by the Board):

"A control method of a power source (1, 10) of a forestry machine, in which the power source operates directly or indirectly one or more work devices (3) and/or handling devices (4, 7, 8) positioned in said forestry machine
these devices are controlled by a control means (2), whereby
the control means (2) gives a control command affecting the state of the function to one or more work or handling devices, which
control command is also transmitted to the power source,
characterized by following steps:
simultaneously transmitting the control command of the control means (2) ~~as such~~ to said one or more work devices (3) and/or handling devices (4, 7, 8) and to the power source (1, 10) or a control unit controlling the same, whereby,
the control command transmitted to the power source of the forestry machine or a control unit controlling the same
starts the effect on control parameters directed at the power source
to prepare the power source (1, 10) of the forestry machine for the increasing power demand that the power source is subjected to
before the power or torque request presented to the power source by the work device (3) and/or handling device (4, 7, 8) function started by the control command."

VI. The appellant argued as follows:

The subject matter of independent claim 1 is novel over document D1, and also involves an inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. *Background*

The invention concerns a control method of a power source of a forestry machine, in which the power source operates directly or indirectly one or more work devices and/or handling devices positioned in said forestry machine. In that method, a control means gives a control command affecting the state of the function to one or more work or handling devices. According to the invention, the control command is simultaneously transmitted to the one or more work devices and/or handling devices and to the power source or a control unit controlling the same. Thereupon, the power source of the forestry is prepared for the increasing power demand before the power or torque request from the work device and/or handling device function is presented to the power source. Thus, a dip in the rotative speed of the power source due to its momentary performance being too small can be avoided (application, paragraph 9).

3. *Amendments*

Independent claim 1 filed with the statement setting out the grounds for appeal differs from claim 1 of the main request underlying the impugned decision by the deletion of "as such" in its characterizing portion. The amendments in said claim were not objected to by the examining division, and the Board is also satisfied that the claim does not contain any unallowable amendment. In particular, claim 1 of the main request is based on original claim 1, with further features

taken from paragraphs 28, 29 and 31 of the original description.

The amendments therefore meet the requirements of Article 123(2) EPC.

4. *Novelty*.

4.1 Apart from the deletion of "as such", claim 1 of the present main request is identical with claim 1 of the main request underlying the impugned decision. The appellant did not argue that this minor difference establishes novelty. Therefore, the finding of the impugned decision that the subject-matter of claim 1 lacks novelty over the disclosure of document D1 is also presumed to hold for the corresponding features of claim 1 according to the main request in appeal. The appellant disputes this finding, by pointing out which features are not known from the prior art.

4.2 D1 undisputedly discloses a control method of a power source, i.e. engine 10, of a forestry machine, in which the power source operates directly or indirectly a plurality of work or handling devices H_1 to H_n positioned in said forestry machine, which are controlled by a control means, i.e. control means 22, whereby the control means gives a control command affecting the state of the function to one or more of these work or handling devices (reference numerals apply to the forestry machine shown in figure 2).

4.3 The appellant disputes that D1 also discloses the remaining features of claim 1, and in particular that the control command is also transmitted to the power source, whereby the same control command is simultaneously transmitted to said one or more work

devices and/or handling devices and to the power source or a control unit controlling the same.

The Board therefore must examine which type of commands is transmitted to the power source of D1.

4.4 In the forestry machine according to D1, a measuring and control system 22 transmits control commands in the form of control signals 23 to the plurality of work or handling devices H_1 to H_n (page 11, lines 10-12 and 23 to 25). In addition to that, a power control system 30 is connected through a data transmission connection 31 to the measuring and control system 22 (page 13, lines 11-13). During operation of the forestry machine according to D1, the measuring and control system 22 draws up a trunk prognosis (page 11, line 28), and based on that prognosis, a sawing layout (page 12, line 37 to page 13, line 1). This information is then used by the power control system 30 to estimate the power levels required for the manipulating operations before they are started (page 13, lines 13-22).

4.5 Due to the definite article in the term "transmitting the control command", the features "which control command is also transmitted to the power source" and "simultaneously transmitting the control command of the control means ... to the power source", as well as the remaining features of claim 1, relate to the same control command which is transmitted to the power source and also the one or more work or handling devices. The decision on novelty therefore hinges on whether or not the same control command is given in D1 to the handling devices H_1 to H_n, and also to the power control system 30.

In the Board's view, that is not the case.

4.5.1 The impugned decision has correctly identified control signal 23 as the control command which is given to the handling devices (reasons, page 3, line 13: "(see 23 in Fig. 2)"). The decision has also correctly identified the information transmitted to the power source or to its control unit (reasons, page 3, line 14: "(see 31 in Fig. 2)").

4.5.2 However, the information transmitted via control signal 23 is not the same as the information transmitted via data transmission connection 31 to the power source or to its control unit. In D1, control signal 23 is transmitted to control valve V_1-V_n for the actuators H_1 -H_n, whereupon the control valve controls the volume flow and pressure of hydraulic fluid to the respective actuator on the basis of that signal, (page 11, lines 10-14). Further, the results of the tree prognosis are transmitted via the data transmission connection 31 to the power control system 30. In the skilled person's view, a control signal for controlling a valve in terms of its volume flow and hydraulic pressure is a signal which relates to the opening degree or to the timing of the operation of the valve. In contrast to that, the results of the tree prognosis are specified in D1 as the properties of a given tree trunk and also the sawing layout (page 7, line 36; page 11, lines 28 to 32). The impugned decision does not contain any explanation as to why these two control signals are the same, and the Board is not convinced that this is the case.

4.6 For these reasons, D1 does not disclose that the control command is also transmitted to the power source, whereby the control command is simultaneously transmitted to said one or more work devices and/or handling devices and to the power source or a control unit controlling the same, whereby, the control command transmitted to the power source of the forestry machine or a control unit controlling the same starts the effect on control parameters directed at the power source to prepare the power source of the forestry machine for the increasing power demand that the power source is subjected to before the power or torque request presented to the power source by the work device and/or handling device function started by the control command.

4.7 The examining division cited the further documents D2 and D3 in its communications. D2 discloses a control method of a car engine which drives auxiliary devices such as a compressor of an air conditioning unit, a pump of a power steering or an electric generator (paragraph 11). D3 discloses a control method of a car engine which drives the compressor of an air-conditioning unit (column 1, lines 64-66).

4.8 As none of these documents discloses all features of claim 1, its subject-matter is novel, Article 54 EPC.

5. *Inventive step*

The only reason given in the impugned decision for not allowing the main request was lack of novelty of the subject matter of claim 1 with respect to D1. In the interest of overall procedural efficiency, the Board considers it expedient to exercise the power within the

competence of the examining division and to examine the requirements of Articles 52(1) and 56 EPC, Article 111(1) EPC.

5.1 The subject-matter of claim 1 differs from the control method of a power source of a forestry machine according to D1 by the features indicated in paragraph 4.6 of the present decision.

5.2 The objective technical problem underlying these features may be regarded as preventing that the performance of the power source is momentarily too small, or as preventing a dip in the rotative speed of the power source (application, paragraphs 9 and 20).

5.3 For the reasons given in paragraph 4.5 of the present decision, D1 prevents a dip in the rotative speed of the power source by transmitting the results of the tree prognosis and also the sawing layout, i.e. data other than a control command, to the power source or a control unit controlling the same. The use of the same control command is therefore not suggested by document D1.

5.4 Turning now to D2 and D3, these documents disclose methods of controlling car engines coupled to an air conditioning unit, a power steering or to an electric generator (see paragraph 4.7 of the present decision).

5.4.1 The Board considers that the skilled person, starting from a control method of a power source of a forestry machine, would not look to the solution to the objective technical problem in the technical field of car engines, i.e. in documents D2 or D3. It is true that the car engines disclosed in D2 or D3 are power sources which operate work devices such as an air

conditioning unit, a power steering or an electric generator. However, D1 is concerned (as is the application in suit) with large forestry machines such as forwarders and harvesters which saw, delimb and handle tree trunks, or which haul the pieces of a trunk. In such machines, a strong power source in the form of a diesel engine transmits power hydraulically or electrically to the work devices and/or handling devices (application, paragraph 7; D1, page 10, lines 24-33). By contrast D2 and D3 relate to a car engine without such hydraulic or electric power transmission to the work devices (D2, column 3, lines 35-37; D3, column 3, lines 28-31). Such car engines are not only a much smaller power source but also belong to a different technical field of application.

5.4.2 Even if the skilled person were to consider D2 or D3, these documents do not disclose that the same control command is transmitted to the work device and to the power source. In D2, there is no control command for the work device, since the power steering pump is switched on/off automatically once the steering wheel is turned (column 3, lines 27-33). Turning to D3, the control command for the air conditioning unit switches the compressor on (column 4, lines 41-43), while a different type of control command for the engine increases the fed air quantity, adjusts the ignition or enriches the fuel/air mixture (column 4, lines 60-65).

5.4.3 Thus, in the Board's view, the technical fields of D1 and D2/D3 are too remote for the skilled person to contemplate combining their teachings to solve the objective technical problem as a matter of obviousness. Further, even a combination of D1 and D2 or D3 would not disclose all features of claim 1. Moreover, it is not apparent to the Board that at least the feature

relating to the simultaneous transmission of the same control command to the one or more work devices and to the power source might be obvious *per se* in the light of common general knowledge.

5.5 Therefore, the Board holds that the subject-matter of claim 1 involves an inventive step, Article 56 EPC.

6. The Board is furthermore satisfied that the adapted description filed by the applicant with letter of 15. Mai 2017 is in conformity with the claims of the main request and overcomes the clarity objections raised by the Examining Division during substantive examination.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examining division with the order to grant a patent in the following version:

Claims:
Claims 1 - 14 according to the Main Request filed with the statement of the grounds of appeal dated 15 November 2017,

Description:
Description pages 1-8 filed with letter of 15 May 2017,

Drawings:
Drawing sheets 1/2-2/2 as originally filed.

The Registrar: The Chairman:

G. Magouliotis G. Martin Gonzalez

Decision electronically authenticated