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D E C I S I O N
of 9 November 2005

Case Number: T 0141/04 - 3.4.03

Application Number: 99117026.7

Publication Number: 989525

IPC: G07C 5/00

Language of the proceedings: EN

Title of invention:

Management system for construction machines

Applicant:

KABUSHIKI KAISHA KOBE SEIKO SHO

Opponent:

-

Headword:

Management System/KOBE SEIKO

Relevant legal provisions:

EPC Art. 56, 92(1), 123(1), 111(1)

EPC R. 86(4)

Guidelines C-VI, 5.2(ii)

Keyword:

"Intentive step (no)"

"Rule 86(4) does not apply if a feature originally disclosed in the description is added to an originally-filed claim in order to meet an objection raised"

"Remittal for further prosecution"

Decisions cited:

T 0708/00, T 0377/01, T 0274/03, T 0915/03

Catchword:

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Case Number: T 0141/04 - 3.4.03

D E C I S I O N
of the Technical Board of Appeal 3.4.03
of 9 November 2005

Appellant: KABUSHIKI KAISHA KOBE SEIKO SHO
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 30 July 2003
refusing European application No. 99117026.7
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: R. G. O'Connell
Members: G. Eliasson
T. Bokor

Summary of Facts and Submissions

I. This is an appeal against the decision of the examining division refusing European patent application 99 117 026.7 on the ground that the subject matter of claim 1 of a main request and a first auxiliary request did not involve an inventive step. A further set of claims of a second auxiliary request was found to be impermissibly amended in contravention of Rule 86(4) EPC.

II. The following prior art documents were cited in the above decision:

D1: US 5 714 946 A;

D2: US 5 719 563 A; and

D4: US 5 646 845 A.

III. Claim 1 of auxiliary request II which was not admitted by the examining division under Rule 86(4) EPC has the following wording (labelling of the paragraphs introduced by the board):

"1. A management system for construction machines comprising:

- (i) a construction machine (1) and a management center (20), each of which having installed communication means (18, 188; 213 to 215) for carrying out transmission and reception of management information through a

communication satellite (30) and a base station (32), wherein

(ii) said construction machine further comprises memory means (124) for storing the management information, the management information being operating information including time of operation of said construction machine,

(iii) read-out means (128) for reading out the operating information stored in said memory means for the purpose of transmitting it to said management center, and

(iv) discrimination means (127) for discriminating, whether said read-out means fulfills readable conditions of the operating information stored in said memory means, and

said management center further comprises

(v) management means (201) for managing the operation of said construction machine using the operating information,

(vi) wherein said read-out means is adapted to read out the operating information in case said discrimination means discriminates that said read-out means fulfills the readable conditions,

(vii) wherein the base station (32) comprises a memory for storing the operating information transmitted via the satellite, and

(viii) wherein the operating information stored in said memory of the base station (32) is read out to the management means (201) when a request signal is sent from the management center (20) to the base station (32)."

IV. The examining division gave the following reasons for not permitting the amendment underlying the second auxiliary request:

"The Second Auxiliary Request deals with subject-matter which has not been searched (even having been indicated as unimportant in the description) and does not have a single general inventive concept in common with the originally filed claims, relating as it does to the split in location of two parts of the system originally claimed.

The search had not covered implementation involving any base station and thus Rule 86(4) EPC applies, the subject-matter addressed by the claim having changed such that it now primarily concerns data-handling rather than recording usage of construction machines."

V. At the oral proceedings before the board, the appellant applicant requested that the decision under appeal be set aside and a patent be granted on the basis of the following requests:

Main request

Claims 1 to 7 filed with letter of 5 October 2005
as main request;

Auxiliary request I

Claims 1 to 5 filed with letter of 5 October 2005
as auxiliary request I;

Auxiliary request II

Claims 1 to 7 filed with letter of 5 October 2005
as auxiliary request II;

Auxiliary request III

Claims 1 to 5 filed with letter of 5 October 2005
as auxiliary request III.

VI. Claim 1 of the main request reads as follows (labelling
of the paragraphs introduced by the board):

"1. A management system for construction machines
comprising:

- (i) a construction machine (1) and a management center (20), each of which having installed communication means (18, 188; 213 to 215) for carrying out transmission and reception of management information between the construction machine (1) and the management center (20), wherein
- (ii) said construction machine further comprises memory means (124) for storing the management information, the management information being operating information

including engine total operating time of an engine of said construction machine,

- (iii) read-out means (128) for reading out the operating information stored in said memory means for the purpose of transmitting it to said management center, and
- (iv) discrimination means (127) for discriminating, irrespective of command information transmitted from the management center, whether said read-out means fulfills readable conditions of the operating information stored in said memory means, and

said management center further comprises

- (v) management means (201) for managing the operation of said construction machine using the operating information,
- (vi) wherein said read-out means is adapted to read out the operating information, irrespective of command information transmitted from the management center, in case said discrimination means discriminates that said read-out means fulfills the readable conditions, and also to read out the operating information in case said communication means (18, 188) receives command information transmitted from the management center."

VII. Claim 1 of auxiliary request I differs from the main request in that the following passage is added at the end:

(vii) "wherein the readable conditions mean that the operating information stored in said memory means (124) assumes a fixed amount, or the time reaches a fixed time."

VIII. Claim 1 of auxiliary request II differs from the main request in that paragraph (ii) reads as follows (emphasis added):

(ii') "said construction machine further comprises **detection means for detecting operating information including engine total operating time of an engine of said construction machine**, memory means (124) for storing the management information, the management information being the operating information,"

IX. Claim 1 of auxiliary request III reads as follows (emphasis added):

"1. A management system for construction machines comprising:

(i) a construction machine (1) and a management center (20), each of which having installed communication means (18, 188; 213 to 215) for carrying out transmission and reception

of management information **through a base station (32)**, wherein

- (ii) said construction machine further comprises memory means (124) for storing the management information, the management information being operating information including engine total operating time of an engine of said construction machine,
 - (iii) read-out means (128) for reading out the operating information stored in said memory means for the purpose of transmitting it to said management center, and
 - (iv) discrimination means (127) for discriminating, irrespective of command information transmitted from the management center, whether said read-out means fulfills readable conditions of the operating information stored in said memory means, and
- said management center further comprises
- (v) management means (201) for managing the operation of said construction machine using the operating information,
 - (vi) wherein said read-out means is adapted to read out the operating information, irrespective of command information transmitted from the management center, in case said discrimination means discriminates that said read-out means fulfills the

readable conditions, and also to read out the operating information in case said communication means (18, 188) receives command information transmitted from the management center,

(vii) wherein the base station (32) comprises a memory for storing the operating information transmitted from the construction machine, and

(viii) wherein the operating information stored in said memory of the base station is read out to the management means (201) when a request signal is sent from the management center (20) to the base station (32)."

X. The appellant's arguments in support of his requests can be summarized as follows:

(a) The claimed management system for construction machines comprises memory means for storing the operating information including engine total operating time. The stored operating information is subsequently read out and transmitted to the management centre. This information is transmitted either in response to a command transmitted from the management centre, or in case the discrimination means discriminates that the read-out conditions fulfil the readable conditions. In the latter case, the stored operating information is read-out and transmitted irrespective of command information transmitted from the management centre.

- (b) Document D1 discloses a system for monitoring the status of a machine, such as a truck or a ship, from a management centre even when the machine ignition is turned off. Document D1 is neither related to a construction machine, nor does it disclose provision of a discrimination means on board the machine. Therefore, in the system of document D1, sensed engine parameters are only transmitted to the remote location upon receiving a request from the remote location. Furthermore, although document D1 discloses a memory, it discloses that the "sensed engine parameter" is transmitted (cf column 2, lines 2 to 6 and column 3, lines 42 to 45), which has to be interpreted as meaning that the machine transmits the *instantaneous* operating information and does not store any operating information before transmitting it to the management centre.

Document D1 mentions at column 4, lines 39 to 43 that the fleet manager should be immediately apprised of any abnormality in any of the operating information without however disclosing how this would be achieved.

- (c) Document D2 discloses a fixed site monitor using a location-based communication network in which remote site operating information can be monitored and controlled. According to column 4, lines 25 to 62, the remote site may send a monitoring request at predetermined intervals or in emergency situations. Thus, document D2 does not disclose that the operating information may be transmitted

without a request from the management centre. Therefore, even if a skilled person would contemplate a combination of the teaching of document D1 with that of document D2, the resulting system would not have the discriminating means as specified in claim 1 of the main request.

- (d) Claim 1 of auxiliary request III corresponds essentially to the request which was not admitted by the examining division because it allegedly involved an amendment which contravened Rule 86(4) EPC. It is the conventional duty of the search division to consider not only the claims but also the disclosure of the description when carrying out the search. This also takes account of the fact that an applicant customarily introduces new features into the claims which were taken from the description in order to overcome objections raised by the examining division.

Reasons for the Decision

1. The appeal is admissible.
2. *Novelty and inventive step - Main request*
 - 2.1 Document D1 undisputedly represents the closest prior art and discloses a management system for a remote machine, such as a truck or a ship, where a management centre 16 (called "remote location" in document D1) communicates with the remote machine 12 via a communication satellite 14 on a regular basis (cf Figure 1, abstract). Operating information such as

speed, engine temperature, etc is communicated from the remote machine 12 via a communication unit 18 to the management centre 16 in response to a request signal from the management centre (cf column 1, line 52 to column 2, line 6). The machine comprises a memory means 30 for storing the operating information, and read-out means 28, 29 (bus 29 and microprocessor 28) for reading out the operating information with the purpose of transmitting it to the management centre (cf Figure 2; column 2, line 49 to column 3, line 7). Operating information is read out in response to a request signal from the management centre even when the power of the machine is switched off (column 4, lines 4 to 15). It is also possible to download information from the management centre ("remote location") to the machine when the ignition switch remains in the off position (cf column 4, lines 11 to 15).

2.2 The appellant argued that in the system of document D1, the machine sends upon request only the instantaneously sensed engine parameters, in contrast to the claimed system which sends *stored* operating information (cf item X(b) above).

2.2.1 The board is not persuaded by this argument. Document D1 discloses a memory device 30 for storing software instructions and data (cf column 2, lines 51 to 67). This memory 30 is connected to an electronic controller (a microprocessor) 28 via a bus 29 which has the task of collecting the sensed operating information from the sensors 40 and forwarding the sensed operating information for transmission to the management centre. When the electronic controller shuts down, all data being processed is properly stored (cf column 3,

lines 42 to 45). Therefore, the skilled person would deduce from the disclosure of document D1 that the memory device 30 in the system of document D1 stores the sensed engine parameters.

Furthermore, the system of document D1 allows the management centre to access operating information even when the machine is turned off. In such a case the instantaneous operating information would merely indicate that the machine is turned off. Such a limitation on the accessible information about the machine would not warrant the rather sophisticated solution disclosed in document D1 for enabling a transmission of operating information at any time.

Finally, document D1 discloses that the system allows the manager to monitor the progress of each machine in the fleet for maintenance purposes among others (cf column 4, lines 27 to 30), a use which presupposes the storage of operational information in order to record how much the machine has been in use.

- 2.2.2 Therefore the board comes to the conclusion that document D1 discloses memory means for storing the operational information.
- 2.3 The subject matter of claim 1 of the main request thus differs from the system disclosed in document D1 in that:
- (i) The machine is a construction machine, whereas in document D1 the machine in question is a truck or a ship (cf D1, column 1, lines 16 to 18);

(ii) discrimination means are provided for discriminating whether the read-out means fulfils readable conditions of the stored operating information, and read-out means adapted to read out the operating information in case the discrimination means discriminates that the read-out means fulfils the readable condition. Document D1 discloses only the possibility of reading out the stored operating information in response to a communication signal received from the management centre (cf D1, column 4, lines 4 to 20); and

(iii) the operating information includes engine total operating time of an engine of the construction machine. In document D1, operating information such as speed, engine temperature, oil pressure is sensed (cf column 4, lines 27 to 30).

2.4 Document D1 mentions several possible tasks for the management system such as alerting the management centre in case of any abnormality in any of the operating information and as an aid for scheduling maintenance (cf column 4, lines 39 to 42). As pointed out by the appellant, it is not disclosed in document D1 how the management system should be configured in order to carry out these tasks (cf item X(b) above). It is however immediately apparent to the reader that the task of alerting the management centre in case of an abnormal state in a machine presupposes that the machine is capable of initiating communication with the management centre. Secondly, if the system of document D1 is to be used for scheduling maintenance, operating information which relates to how much a machine has

been in use has to be recorded in the machine and transmitted to the management centre.

It follows from the above discussion that the distinguishing features (ii) and (iii) provide the known management system with the respective functions of alerting the management centre whenever necessary and aiding the management centre for the purpose of scheduling maintenance.

- 2.5 Having regard to document D1, the technical problem solved by features (i) to (iii) relates to implementing the system of document D1 in a construction machine such that it can be used for alerting the management centre whenever a predetermined or abnormal condition is detected in the operating information and aiding the management centre in scheduling maintenance.
- 2.6 The problem suggested by the appellant in relation to feature (ii), viz to increase the reliability of transmitting operating information to the management centre, cannot be accepted, since the presence of discrimination means does not solve the problem of increasing the reliability of transmitting the operating information.
- 2.7 Regarding feature (i), document D1 suggests that the management system could be implemented for a fleet of trucks or ships (cf column 1, lines 14 to 16). The system of document D1 would therefore be adapted for managing other vehicles or large machines, such as construction machines, as the need arose without employing inventive skills.

- 2.8 Document D2, which also relates to a management system for monitoring and controlling remote machines via a communications network (cf abstract), discloses that operating information may be transmitted to the managing centre at pre-determined intervals or in emergency situations (cf column 4, lines 26 to 62). Thus a discriminating means in the remote machine discriminates whether the management centre has to be contacted. If this is the case, the remote machine 12 transmits a monitoring request to the management centre 18 and the management centre responds by returning a request to the remote machine 12 for data to be transmitted.
- 2.9 The skilled person faced with the task of enabling the management system of document D1 to be used for alerting the management centre in case of an abnormal condition in a machine would thus use the teaching of document D2 and equip the machine with a discriminating means which determines whether or not predetermined criteria for alerting the management centre are met, or stated differently, whether the read-out means fulfils readable conditions of the operating information. When this is the case, a process is initiated in which the management centre is alerted and prompted to receive data from the machine.
- 2.10 Claim 1 specifies in paragraph (vi) that the read-out means are adapted to read out the operating information, *irrespective of command information transmitted from the management centre*, in case said discrimination means discriminates that said read-out means fulfils the readable conditions. This feature, however, has to be seen in the light of the fact that in case the read-

out means fulfils the readable conditions, the machine which is about to transmit operational information has to make sure that the management centre is ready to receive data, so that no data is lost in transmission. In other words, before any operational information is transmitted, contact has to be established with the management centre, and the management centre has to respond that it is ready to receive data from the machine in question. Therefore, the expression "irrespective of command information transmitted from the management centre" in paragraph (iv) of claim 1 has to be understood as meaning that the read-out means is able to read out operating information "irrespective of" whether the management centre or the machine initiated the process of transmitting operational information. Such a procedure is disclosed in document D2 when the machine eg in case of an emergency, calls the management centre and waits for the management centre to respond before operational information is transmitted (cf D2, column 4, lines 29 to 40).

Consequently, contrary to the appellant's argument, the skilled person combining the teachings of documents D1 and D2 would arrive at a management system having feature (ii) (cf item X(c) above).

- 2.11 Regarding feature (iii) -the selection of engine total operating time as an operating parameter to be transmitted- this parameter would routinely be considered by the skilled person as a relevant parameter for determining when future maintenance of a construction machine is to be scheduled.

2.12 For the above reasons, the subject matter of claim 1 of the main request does not, in the judgement of the board, involve an inventive step within the meaning of Article 56 EPC.

3. *Inventive step - Auxiliary request I*

Since document D2 discloses that the machine can be set to initiate transmission of data at fixed time intervals (cf column 4, lines 27 to 32), the subject matter of claim 1 of auxiliary request I does not involve an inventive step within the meaning of Article 56 EPC for the same reasons as for the main request.

4. *Inventive step - Auxiliary request II*

With respect to claim 1 of the main request, claim 1 of auxiliary request II further specifies "detection means for detecting operating information including engine total operating time".

The machine in the system of document D1 includes detection means 40 (sensors) for sensing operating information (cf Figure 1). In case engine total operating time is to be detected, the system of document D1 would then have to be equipped with a corresponding detection means. Therefore, the subject matter of claim 1 of auxiliary request II does not involve an inventive step within the meaning of Article 56 EPC for the same reasons as for the main request.

5. *Auxiliary request III*

5.1 With respect to the preceding requests, claim 1 of auxiliary request III further specifies a base station having a memory (paragraphs vii and viii). The examining division found that a set of claims having the corresponding feature had been impermissibly amended in contravention of Rule 86(4) EPC for the reason that its subject matter did not have a single general inventive concept in common with the originally filed claims, as it related to the split in location of two parts of the system originally claimed, and the search did not cover implementation involving any base station (cf item IV above).

5.2 Rule 86(4) EPC stipulates that amended claims may not relate to unsearched subject matter which does not combine with the originally claimed invention or group of inventions to form a single general inventive concept. In a notice published by the European Patent Office on 1 June 1995 (OJ EPO 1995, 409), it was stated that Rule 86(4) EPC was introduced to give the EPO the means to react appropriately when the applicant dropped his existing claims and replaced them with originally non-unitary subject matter extracted from the description. Following G 2/92 - Non-payment of further search fees (OJ EPO 1993, 591), the introduction of Rule 86(4) EPC made it clear that a search fee must be paid for each invention presented for examination.

5.3 The board concurs with the reasoning developed in T 708/00 - Transmission frame/ALCATEL (OJ EPO 2004, 160) in which it was held that Rule 86(4) EPC is to be interpreted so as to fairly balance the primary purpose

of this rule, namely to safeguard the legitimate interest of the EPO in collecting, in return for services rendered, search and examination fees, with the fundamental right conferred by Article 123(1) EPC on the applicant to amend at least once the description, claims and drawings as proves necessary during the examination procedure. Under Article 164(2) EPC, this right must prevail over an interpretation of a provision, such as Rule 86(4) EPC, in the implementing regulations.

- 5.4 The European search report is normally drawn up for all claims as originally filed, unless specifically indicated pursuant to Rule 45 or 46 EPC. As pointed out in T 708/00, should the description as filed disclose subject matter not covered by the originally filed claims, the applicant is not informed of the extent of the search. Article 92(1) EPC however stipulates that the search report shall be drawn up on the basis of the claims, with due regard to the description and any drawings. This is developed further in the Guidelines for Examination in the EPO (Guidelines) at B-III, 3.5 where it is stated that in principle, and insofar as possible and reasonable, the search should cover the entire subject matter to which the claims are directed or to which they might reasonably be expected to be directed after they have been amended. An applicant who attempts to overcome an objection raised during the examination of the application by including features disclosed in the description has accordingly good reason to expect - but no certainty - that these features were taken into account when the search report was drawn up. The applicant has therefore no way of

knowing whether or not the amended claim would contravene Rule 86(4) EPC.

It follows from the above that the right to amend under Article 123(1) EPC is denied the applicant if Rule 86(4) EPC is invoked to prevent him overcoming the objection of lack of novelty or inventive step by giving more concrete expression to his invention. Therefore - as held in T 708/00, reasons 7 and in other decisions, eg T 377/01, reasons 3.1; T 274/03, reasons 6; T 915/03, reasons 4 - Rule 86(4) EPC is not to be applied in such cases.

- 5.5 Since the decision under appeal was issued the Guidelines have been amended at C-VI, 5.2(ii) to make clear that Rule 86(4) EPC should not be applied if a feature originally disclosed in the description is added to an originally-filed claim in order to meet an objection raised. The Guidelines are accordingly in line with the above-mentioned jurisprudence of the boards of appeal.
- 5.6 In the present case, claim 1 of auxiliary request III includes the features of original claims 1 to 3 and 6 with the exception of an originally claimed feature specifying a communication satellite, and further comprises the additional features in paragraphs (vii) and (viii) relating to the base station, which were taken from the description. The latter features were added in order to meet objections of lack of inventive step. Hence claim 1 falls into the category where Rule 86(4) EPC should not be applied.

- It should also be added that the omission of the originally claimed feature of using a communications satellite for the transmission of operating information is not relevant in the context of lack of unity, since this feature is known from document D1 (cf D1, column 2, lines 41 and 42).
- 5.7 The board thus comes to the conclusion that the claims of auxiliary request III cannot be regarded as impermissibly amended in contravention of Rule 86(4) EPC.
- 5.8 Notwithstanding the applicant's right to introduce subject-matter from the description into the claims, the exercise of such a right is not without restrictions, as indicated by Article 123(1) and Rule 86(3) EPC. Therefore, the examining division could possibly have exercised its discretion under Rule 86(3) EPC, last sentence, to refuse to admit this request, as it was filed for the first time during the oral proceedings before the examining division and apparently comprised unsearched subject matter. As such, the request could not reasonably be considered as clearly allowable, this latter being a usually applied requirement for admissibility of a request at such a late stage of the proceedings. On the contrary, the potential requirement for an additional search would have represented an unreasonable protraction of the examination procedure.
- 5.9 However, this objection of procedural nature against auxiliary request III no longer applies. By virtue of the suspensive effect of the appeal the oral proceedings before the examining division ceased to be

the final stage of the examination procedure *sensu lato*. A rejection on grounds of belatedness would not be appropriate in the present appeal procedure either given that the request was timely filed prior to oral proceedings before the board. Having regard to these circumstances and to the fact that the invocation of Rule 86(4) EPC by the examining division was not in accord with the interpretation of this rule by the established jurisprudence of the EPO Boards of Appeal, the board admits auxiliary request III into the procedure.

6. A substantive examination has not yet been carried out on the claims of auxiliary request III. Since, as mentioned above, the claims contain subject matter which apparently was not taken into consideration when drawing up the search report, the question arises whether an additional search as provided for in the Guidelines B-II, 4.2(i) and C-VI, 8.5 should be carried out or not. The answer to this question lies however within the discretion of the examining division. It is therefore appropriate pursuant to Article 111(1) EPC to remit the case to the examining division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution on the basis of the third auxiliary request.

Registrar:

Chair:

C. Moser

R. G. O'Connell