

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte DOUGLAS R. WYLIE, JOHN JOSEPH BAIER,
and DAVID MICHAEL CALLAGHAN

Appeal No. 2006-2518
Application No. 10/162,342

HEARD: October 19, 2006

Before KRASS, MACDONALD, and HOMERE, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

Decision on Appeal

This is a decision on appeal from the final rejection of claims 1-40.

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The invention relates to industrial control systems, best illustrated by reference to representative independent claim 1, reproduced as follows:

1. An industrial control system, comprising:

an industrial controller that communicates with a network;

an event component associated with the industrial controller to detect at least one maintenance event;

at least one schema to interface with the industrial controller in accordance with the maintenance event; and

an action component that maps the maintenance event to an action to facilitate remote maintenance of the industrial control system over the network, the action provides temporal data that describes a sequence of occurrences leading up to the maintenance event.

The examiner relies on the following references:

| | | |
|------------------------|-----------|---------------|
| Hoth et al. (Hoth) | 5,710,723 | Jan. 20, 1998 |
| Crater et al. (Crater) | 5,805,442 | Sep. 08, 1998 |
| Lim et al. (Lim | 6,370,582 | Apr. 09, 2002 |
| Ogushi et al. (Ogushi) | 6,385,497 | May 07, 2002 |

Claims 1-40 stand rejected under 35 U.S.C. § 103 As evidence of obviousness, the examiner offers Ogushi and Crater with regard to claims 1-11, 16, 19, 20, 22, 23, 39, and 40,¹

adding Lim with regard to claims 24-38. With regard to claims 12-15, 17, and 18, the examiner offers Ogushi, Crater and Hoth,

¹ The examiner's statement of rejection, at page 3 of the answer, omits claims 5 and 20, but it is clear from pages 6 and 7 of the answer that the examiner

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while the examiner offers only Ogushi and Crater with regard to claim 21.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The examiner must articulate reasons for the examiner's decision. In re Lee, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). In particular, the examiner must show that there is a teaching, motivation, or suggestion of a motivation to combine references relied on as evidence of obviousness. Id. at 1343, 61 USPQ2d at 1433-34. The examiner cannot simply reach conclusions based on the examiner's own understanding or experience - or on his or her assessment of what would be basic

intended to include these claims in the statement of the rejection.

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knowledge or common sense. Rather, the examiner must point to some concrete evidence in the record in support of these findings. In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Thus the examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the examiner's conclusion. However, a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kahn, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) citing In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). See also In re Thrift, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). These showings by the examiner are an essential part of complying with the burden of

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presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii) (2004)].

Taking independent claim 1 as exemplary of independent claims 1, 39, and 40, the examiner indicates (answer-page 3) that Ogushi teaches the claimed subject matter but for an action providing temporal data that describes a sequence of occurrences leading to the maintenance event. The examiner relies on Crater for a teaching of a controller capable of gathering sequences of control function data in which control decisions are made or

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shifting in states occurs (column 2, lines 57-61) and the display of a variety of formats (temporal data) (column 4, lines 60-67).

The examiner concludes that it would have been obvious to incorporate displaying of control function data, as in Crater, with the system of Ogushi "because it would provide for the purpose of monitoring the efficiency or overall behavior of the equipment and/or performing diagnostic checks leading to certain maintenance operations" (answer-pages 3-4).

Appellants argue that the instant claimed subject matter relates to an event-driven system for facilitating remote maintenance in an industrial control environment. Specifically, appellants point to providing temporal data that describes a sequence of occurrences leading up to a maintenance event, schema that describes a sequence of occurrences that caused the maintenance event, and schema that describes a sequence of occurrences prior to the maintenance event. It is appellants' position that neither Ogushi nor Crater describes these features.

Appellants concede that Ogushi teaches a system that notifies a product vendor when a problem occurs and provides the vendor with status information, and agree with the examiner that Ogushi fails to provide temporal data that describes a sequence of occurrences leading up to the maintenance event.

But, argue appellants, Crater does not provide for the deficiency of Ogushi because Crater does not teach an action that provides temporal data that describes a sequence of occurrences leading up to the maintenance event. In fact, contend appellants, Crater relates to facilitating communication between multiple programmable controllers for operating industrial processes, and that the reference allows for a remote controller to collect primarily sensor data after a control function occurs for analysis (column 2, line 58, through column 3, line 26). Appellants also assert that Crater displays images of temperature and pressure sensor changes to the controller, but does not additionally provide information to the controller regarding the occurrences that caused such a change in the temperature and pressure.

At pages 5-6 of the principal brief, appellants state that this deficiency of Crater "fails to provide the controller with a comprehensive data set of the surrounding circumstances of an adverse event-a deficiency that the claimed invention strives to mitigate by providing temporal data to a remote controller that describes **a sequence of occurrences leading up to a maintenance event.**"

Appellants also take issue with the examiner's position that the skilled artisan would have known that the sensor information

provided by Crater entails describing a sequence of occurrences leading up to an event. In particular, appellants assert that the sensor data described in Crater provides information to the controller about the end result of a possible series of unfavorable events in the form of a graphical representation of a thermometer or pressure gauge that show the resulting changes to the temperature or pressure (column 7, lines 35-42). "Since these graphical representations portray consequences of a series of occurrences, but not the actual occurrences themselves, the claimed feature of providing temporal data describing **a sequence of occurrences leading up to a maintenance event** would not be apparent to one of ordinary skill in the art" (principal brief-page 6).

We agree with appellants for the reasons supra given by appellants. That is, the examiner has not convincingly pointed to anything in Crater that indicates temporal data that describes a sequence of occurrences leading up to a maintenance event. Crater does allow an operator at a remote terminal to collect and analyze relevant data upon which control decisions are made from a current chemical synthesis process, but we agree with appellants that while the operator can generally analyze control data from these processes in Crater, the operator is not allowed to analyze the specific failure/event that caused the resultant process outputs from the synthesis and previous processes. That

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is, an operator monitoring the industrial controller in Crater is not fully informed of what specifically caused an output reading, while the instant claimed invention mitigates this deficiency by providing an operator with a sequence of occurrences leading up to a maintenance event in the form of temporal data, as defined at page 4, line 8a, of the instant specification.

Thus, we will not sustain the rejection of claims 1-11, 16, 19, 20, 22, 23, 39, and 40 under 35 U.S.C. § 103.

Turning to the rejection of independent claim 28, the examiner contends that Ogushi teaches the claimed subject matter but for the schema describing a series of incidents immediately prior to the maintenance events, and that the schema is in an XML format. The examiner indicates column 2, lines 57-61, column 4, lines 60-67, and column 3, lines 36-40, of Crater for the limitations mentioned supra. In addition, the examiner turns to Lim, at column 5, lines 4-9, for a teaching of remote computers

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including languages which permit cross-platform operation over the internet, including XML, for the purpose of operating at least one remote controlling and monitoring computer linked to the cross-platform network computers.

The examiner concludes that it would have been obvious to incorporate displaying of control function data, as in Crater, with the system of Ogushi because it would provide for the purpose of monitoring the efficiency or overall behavior of the equipment and/or performing diagnostic checks leading to certain maintenance operations. Further, the examiner concludes that it would have been obvious to incorporate the communication of Lim with the system of Ogushi "because it would provide for the purpose of operating at least one remote controlling and monitoring computer which linked to the cross-platform network computers" (answer-page 10).

We will also not sustain the rejection of independent claim 28, and of claims 24-27 and 29-38, under 35 U.S.C. § 103 because these claims contain the same limitations regarding data that describes a sequence of occurrences leading up to the maintenance event, as supra, and Lim does not provide for the deficiencies of Ogushi and Crater noted supra.

Similarly, since Hoth also does not provide for these deficiencies, we also will not sustain the rejection of claims

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12-15, 17, and 18 under 35 U.S.C. § 103.

We also will not sustain the rejection of claim 21 under 35 U.S.C. § 103 over Ogushi and Crater for the reasons supra.

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Accordingly, the examiner's decision rejecting claims 1-40 under 35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS)
Administrative Patent Judge)
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) BOARD OF PATENT
ALLEN R. MACDONALD)
Administrative Patent Judge) APPEALS AND
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) INTERFERENCES
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JEAN R. HOMERE)
Administrative Patent Judge)

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ROCKWELL AUTOMATION, INC./ (AT)
ATTENTION: SUSAN M. DONAHUE
1201 SOUTH SECOND STREET
MILWAUKEE, WI 53204