

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 34

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JON B. MILLIKEN, RICHARD J. VANDERAH and
DENNIS G. SICKELS

Appeal No. 95-3498
Application 08/176,330¹

ON BRIEF

Before THOMAS, HAIRSTON and FLEMING, **Administrative Patent
Judges.**

FLEMING, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the final rejection of
claims 8, 10, 11 and 22. Claim 14 has been allowed. Claims 1

¹Application for patent filed January 3, 1994. According to appellants,
this application is a continuation of application 07/622,936, filed
December 11, 1990, now abandoned.

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through 7, 9, 12, 13, 15 through 21 and 23 through 25 have been canceled.

The invention relates to a process controller having a plurality of modular input/output units.

The only independent claims 8 and 10 present in the application are reproduced in Appendix A of this decision.

The reference relied on by the Examiner is as follows:

Shah et al. (Shah)	4,589,063	May 13, 1986
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Claims 8, 10, 11 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shah and the admitted prior art. Rather than repeat the arguments of Appellants or the Examiner, we make reference to the briefs² and the answer for the details thereof.

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claims 8, 10, 11 and 22 are properly rejected under 35 U.S.C. § 103.

²Appellants filed an appeal brief on December 1, 1994. We will refer to this appeal brief as simply the brief. Appellants filed a reply appeal brief on February 21, 1995. We will refer to this reply appeal brief as the reply brief. The Examiner stated in the Examiner's letter dated March 2, 1995 that the reply brief has been entered and considered but no further response by the Examiner is deemed necessary.

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Appellants argue on pages 4 through 6 of the brief that there is not the slightest suggestion in either Shah or the admitted prior art that either the Shah I/O boards or the process

controller boards be modified to incorporate a single I/O circuit, as recited in claim 8. Appellants argue that Shah teaches a number of different types of I/O boards each of which has a different type of controller disposed thereon and that the admitted prior art teaches a conventional process controller having a number of internal slots into which a number of I/O boards having a fixed number of I/O circuits may be inserted. Appellants argue that the prior art does not suggest a process controller having a number of internal slots into which a number of I/O boards each having a single I/O circuit may be inserted as recited in Appellants' claim 8. In the reply brief, Appellants agree that Shah suggests to those skilled in the art to use analog-to-digital interfaces but argue that Shah does not suggest providing a single I/O circuit of the four specific types as recited in Appellants'

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claim 8.

It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained

in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). In addition, the Federal

Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). However, the Federal Circuit reasons in ***Para-Ordnance Mfg.***, 73 F.3d at 1087-88, 37 USPQ2d at 1239-40, that for the determination of obviousness, the court must

answer whether one of ordinary skill in the art who sets out to solve the problem, and who had before him in his workshop the prior art, would have been reasonably expected to use the solution that is claimed by the Appellants.

We note that Shah teaches in column 3, lines 26-43, that Figure 2 shows an example of the dedicated I/O boards for various peripheral devices. Furthermore, we note that those skilled in the art in view of the Shah teachings would have recognized that only the required I/O circuits are placed on these boards. Furthermore, we note that the admitted prior art on page 2 of Appellants' specification teaches that the basic types of I/O circuits (a digital input circuit, a digital output circuit, an

analog input circuit and an analog output circuit) are well known in the art. Furthermore, we find that Shah teaches in column 3, lines 15-25, that any type of I/O board may be placed in one of the identical slots 20 (A-E). In column 3, lines 44-52, Shah suggests that any number of variations of

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I/O boards for any type of peripheral device can be connected into these slots.

We agree that Shah does not expressly teach that these I/O boards contain only one of the type of I/O circuit (a digital input circuit, a digital output circuit, an analog input circuit and an analog output circuit). However, Shah does suggest that the Shah system can connect any type of I/O board for a particular type peripheral device. We note that there are many particular types of peripheral device that would require only one type of I/O circuit. For instance, audio speakers are a well-known peripheral device that only require an analog output circuit and LED displays are another well-known peripheral device that only require a digital output circuit. A temperature probe is a well-known peripheral device that only requires an analog input circuit or a digital input circuit depending upon the type of probe. Thus, we find that Shah would have suggested to those skilled in the art to provide a I/O board to be connected into one of the identical slots 20 that would only have a single

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I/O circuit being each of the four specific types as recited in claim 8. Therefore, we find that it would have been obvious to one skilled in the art to provide a I/O board to be connected into one of the Shah identical slots that would only have a single I/O circuit which could be one of the four types of admitted prior art I/O circuits as recited in Appellants' claim 8.

Appellants also argue on pages 6 through 8 of the brief that there is no suggestion in either Shah or the admitted prior art to provide separate housing for the Shah I/O boards. Appellants admit on page 1 of the specification that a conventional process controller typically contains a plurality of printed circuit boards within a housing. On pages 9 and 10, Appellants disclose that for their embodiment each of the I/O circuits 60 is provided within a separate housing 66, which may be plastic housing for example. Appellants do not disclose that providing the separate housing 66 solves any particular problem that cannot be solved by the conventional admitted housing.

In *In re Kuhle*, 526 F.2d 553,555, 188 USPQ 7,9 (CCPA 1975), the court held that the test for design choice depends

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on whether

the use of the arrangement solves a stated problem.

Appellants have not argued or disclosed that the separate housing provides a

solution to a problem not solved by the conventional housing. Whether the I/O circuit is protected by the housing provided for the controller or whether the I/O circuit is protected by a separate housing is a matter of choice by a particular designer but does not affect the functionality of the housing or the I/O circuits. Therefore, we will sustain the Examiner's rejection of Appellants' claim 8.

On pages 8 and 9 of the brief, Appellants argue that claim 10 would not have been obvious for the reasons set forth for Appellants' claim 8. Therefore, we will sustain the Examiner's rejection of Appellants' claim 10 for the same reasons set forth above.

On page 9 of the brief, Appellants argue that there is no suggestion in either Shah or the admitted prior art to modify the Shah I/O boards to provide a single I/O circuit in each

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module and to have each module include its own housing and its own connector. As pointed out above, we find that the prior art does suggest the modification to the Shah I/O boards. Therefore, we will sustain the Examiner's rejection of Appellants' claim 11 for the same reasons as set forth above.

On pages 9 and 10 of the brief, Appellants argue that there is no disclosure or suggestion of Appellants' transmitting means

for transmitting a code-request signal from the processor to one of the circuit modules, receiving means for receiving a code signal from said one circuit module in response to said code-request signal and means for determining the type of one circuit module based upon the code signal received from the one circuit module. Appellants argue that the Examiner has not indicated what portion of the Shah autoconfiguration means is structurally equivalent to each of Appellants' claimed means as required by *In re Donaldson Co. Inc.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994).

Our reviewing court has stated in *In re Donaldson Co.*

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Inc., 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) that the "plain and unambiguous meaning of paragraph six is that one construing means-plus-function language in a claim must look to the specification and interpret that language in light of the corresponding structure, material, or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure." However, our reviewing court also has stated that "[i]t is applicant's burden to precisely define the invention, not the PTO's." **In re Morris**, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997).

Appellants have not pointed to the structure or structures as disclosed in their specification which correspond to these claimed means. Without Appellants precisely defining the corresponding disclosed structure, we find that the Examiner reasonably interpreted the claim. In the absence of such input by Appellants, the claims are given the broadest reasonable interpretation. **In re Zletz**, 893 F.2d

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319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Turning to Shah, we find that Shah discloses in column 4, line 51, through column 5, line 10, a transmitting means, a receiving means and a means for determining the type of the one circuit module as recited in Appellants' claim 22. In particular, Shah discloses that a linking routine polls all of the motherboard slots to determine which I/O devices are plugged into the slot. The linking routine transmits a code-request signal to the slot. If a I/O device is plugged into the slot, the linking routine receives identifying codes signals from the I/O device and determines the type of circuit module plugged into each slot. Therefore, we find that the Examiner has met the burden of showing that the prior art meets Appellants' claim limitations and thereby we will sustain the rejection of Appellants' claim 22.

In view of the foregoing, the decision of the Examiner rejecting claims 1 8, 10, 11 and 22 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in

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connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	
)	BOARD OF PATENT
KENNETH W. HAIRSTON)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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