

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

This opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

JAN 15 1997

Ex parte JOHN A. LANGAN,
THOMAS J. POTEREK and JAMES L. BROSEGHINI

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 95-1479
Application 07/962,560¹

ON BRIEF

Before KRASS, BARRETT and FLEMING, *Administrative Patent Judges*.

FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application for patent filed October 19, 1992.

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DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 23.

The invention is directed to a method and apparatus for unstacking registers in a data processing system.

The independent claim 1 is reproduced as follows:

1. A method for unstacking a plurality of registers in a data processing system, the method comprising the steps of:

(A) unstacking a first portion of the plurality of registers;

(B) determining whether to accept a first interrupt;

(C) if the first interrupt is accepted, changing a stack pointer value without performing any stacking; and

(D) if the first interrupt is not accepted, unstacking a second portion of the plurality of registers.

The Examiner relies on the following reference:

Bannai

4,517,643

May 14, 1985

Claims 1 through 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bannai.

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Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief and answer for the respective details thereof.

OPINION

We will not sustain the rejection of claims 1 through 23 under 35 U.S.C. § 103.

The Examiner has failed to set forth a *prima facie* case. 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). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." *Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), citing *W. L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d

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1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469
U.S. 851 (1984).

Appellants argue on page 9 of the brief that Bannai does not teach or suggest the step of "(A) unstacking a first portion of the plurality of registers" as recited in Appellants' claim 1. In addition, Appellants argue that Bannai does not teach or suggest the step of "(C) if the first interrupt is accepted, changing a stack pointer value without performing any stacking" as recited in claim 1. Appellants also argue that Bannai does not teach or suggest the step of "(D) if the first interrupt is not accepted, unstacking a second portion of the plurality of registers" as recited in claim 1.

The Examiner states on page 3 of the answer the following:

Bannai does not specifically teach unstacking a first portion of a plurality of registers nor does Bannai show part (c) of claim 1, changing a stack pointer value without performing any stacking. However, at step 51, Bannai "reads the PSW stored in the main memory as addressed by the stack pointer" (col 4 lines 10-12). Because Bannai only reads the PSW and does not unstack it, there would have subsequently been no need, in step 55 of Bannai, to change the stack pointer value without performing any stacking. The steps of unstacking the stack pointer and then adjusting the stack pointer to make it appear as if there had been no

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unstacking is equivalent to the step of simply reading from the stack. Therefore, the substitution of either method would have been an obvious modification to one of ordinary skill in the art at the time of the invention.

The Examiner has failed to show any teaching or suggestion for unstacking a first portion of the plurality of registers and if the first interrupt is accepted, changing a stack pointer value without performing any stacking as recited in Appellants' claim 1. Bannai teaches simply reading the first data entry, PSW, in the stack. We agree that a pop-and-push operation of the stack would have accomplished the same result as reading the first data entry. In other words, the system would pop the PSW from the stack by fetching the PSW from the location stored at the address stored in the stack pointer and the stack pointer would be incremented by one. This is an unstacking step. The system would then push the PSW word back onto the stack and then the stack pointer would be decremented by one. This is the stacking step. The net result of a pop and push stack operation is the same as a simple read operation of the first data entry.

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However, this is not the method which the Appellants have claimed. Appellants claim unstacking a first portion of the plurality of registers, a pop operation, and then changing a stack pointer value without performing any stacking. We fail to find that Bannai teaches or suggests changing a stack pointer value without performing any stacking.

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).

We fail to find any suggestion in Bannai that would have led one of ordinary skill in the art to modify a pop and push operation to obtain a method for unstacking a plurality of registers having the steps of unstacking a first portion of the plurality of registers and changing a stack pointer value without performing any stacking. The Examiner argues that one of

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ordinary skill in the art would have been led to modify the Bannai method to obtain the Appellants' method because the Appellants' method of unstacking the stack pointer and then adjusting the stack pointer to make it appear as if it had not been unstacked produces the same results as if one had employed the Bannai method of simply reading the register where the stack pointer is not changed. However, the Examiner's observation that the two methods reach the same computer state is not a suggestion or a teaching of Appellants' method. Our reviewing court has held that "[o]bviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor."

Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d at 1087, 37 USPQ2d at 1239, *citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13.

Furthermore, we are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge, or capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a *prima facie* case. *In re*

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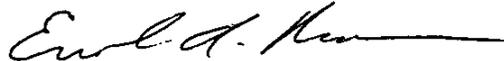
Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961).
In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

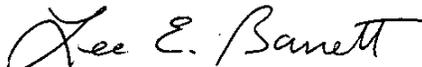
Thus, we will not sustain the rejection as to claim 1.

The remaining claims on appeal also contain the above limitations discussed in regard to claim 1 and, thereby, we will not sustain the rejection as to these claims as well.

We have not sustained the rejection of claims 1 through 23 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

REVERSED


ERROL A. KRASS)
Administrative Patent Judge)


LEE E. BARRETT) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
INTERFERENCES)


MICHAEL R. FLEMING)
Administrative Patent Judge)

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