

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL A. FETTERMAN GLENN J. HINTON
ROBERT W. MARTELL and DAVID B. PAPWORTH

Appeal No. 1999-0498
Application 08/532,225

ON BRIEF

Before THOMAS, JERRY SMITH and LALL, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-10, 12, 13 and 29-36, which constitute all the claims remaining in the application. An amendment after final rejection was filed on June 16, 1997 and was entered by the examiner.

The disclosed invention pertains to a method and

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IEEE Micro, June 1991, pages 10-13 and 63-73.

Claims 1-10, 12 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Shebanow in view of Popescu and further in view of Nguyen. Claims 29, 30 and 34 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Popescu in view of Nguyen. Claims 31-33, 35 and 36 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Popescu in view of Nguyen and further in view of Shebanow.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

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It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-10, 12, 13 and 29-36. Accordingly, we reverse.

Appellants have nominally indicated that for purposes of this appeal the claims will stand or fall together in the following two groups: Group I has claims 1-10, 12 and 13, and Group II has claims 29-36 [brief, pages 5-6]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims within each group. Accordingly, all the claims within each group will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against claims 1 and 29 as representative of all the claims on appeal.

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,

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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), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of 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

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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, 1039, 228 USPQ 685, 686 (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, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

We consider first the rejection of claims 1-10, 12 and 13 based on the teachings of Shebanow, Popescu and Nguyen. With respect to representative, independent claim 1, the examiner asserts that the invention of claim 1 is obvious in view of the collective teachings of the applied prior art [answer, pages 4-5]. Appellants argue that none of the applied prior art references teach the concept of scheduling instruction dispatch prior to the actual computation of the actual source data [brief, pages 6-10]. Specifically, appellants argue that Nguyen is concerned with resource

availability rather than source data availability like the present invention. The examiner points to page 113 of Nguyen and disagrees with this argument [answer, pages 8-9].

We agree with the position argued by appellants. The portion of Nguyen relied on by the examiner only suggests that Nguyen determines when functional execution units (a resource) will become available. The examiner equates this with source operand availability, but we do not see the connection. Although the availability of a functional unit in Nguyen means that all the instructions have been completed by that unit, there is no teaching or suggestion that these instructions have any relationship to the instruction that the microprocessor currently wishes to execute. In other words, the availability of the functional unit in Nguyen does not mean that an instruction is scheduled for dispatch prior to the source operand being computed. Nguyen saves time by dispatching instructions just before the functional unit becomes available, but Nguyen does not teach or suggest that instructions can be dispatched before a needed source operand is computed. The lack of a needed source operand being computed would appear to stall the processing in Nguyen in the

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same manner it stalls the processing in Shebanow and Popescu.

Each of the appealed claims recites that validity information associated with an instruction is established during a first clock cycle while instruction dispatch is scheduled during a second clock cycle based on this stored validity information and prior to data corresponding to said source operand being computed as a result of the execution of another instruction. Notwithstanding the examiner's assertions, Nguyen does not teach this recitation of the claimed invention. Since we find that Nguyen does not support the examiner's findings, we are constrained to find that the examiner has not established a prima facie case of obviousness. Therefore, we do not sustain the examiner's rejection of claims 1-10, 12 and 13.

We now consider the rejection of claims 29-36. With respect to representative, independent claim 29, the examiner asserts the obviousness of this claim based on the collective teachings of Popescu and Nguyen [answer, pages 5-6].

Appellants repeat their argument that neither Popescu nor Nguyen teaches or suggests indicating the availability of a source operand before the source operand is actually computed

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as the result of another instruction [brief, pages 13-14].

We again agree with the position argued by appellants. Representative claim 29 recites the same feature discussed above. Specifically, claim 29 recites that a first bit indicates the availability of a source operand before said operand is actually computed as a result of the execution of another instruction. For reasons discussed above, none of the applied prior art references teach or suggest this aspect of the claimed invention. Therefore, we do not sustain the examiner's rejection of claims 29-36 for reasons already discussed.

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In summary, we have not sustained any of the examiner's rejections of the appealed claims. Therefore, the decision of the examiner rejecting claims 1-10, 12, 13 and 29-36 is reversed.

REVERSED

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JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JERRY SMITH)	
Administrative Patent Judge)	APPEALS AND
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PARSHOTAM S. LALL)	
Administrative Patent Judge)	

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