

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(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES A. PICARD
and MORRIS E. JONES, JR.

Appeal No. 95-3800
Application 08/046,109¹

ON BRIEF

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

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed April 9, 1993. According to appellants,
this application is a continuation of application 07/762,630, filed September
19, 1991.

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This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 13-22, which constitute all the claims remaining in the application. An amendment after final rejection was filed on August 24, 1994 and was entered by the examiner.

The disclosed invention pertains to a data processing system having a microprocessor and a memory. The memory stores special input/output control code for controlling input and output between the microprocessor and input/output devices. The microprocessor causes the special input/output control code to be executed each time an input/output instruction is executed by the microprocessor.

Representative claim 13 is reproduced as follows:

13. A system including a microprocessor and a memory, said microprocessor having means for executing a series of instructions, said microprocessor having a plurality of input/output ports, said series of instructions including input and output instructions:

special input/output control code stored at addresses beginning at a particular address in said memory for controlling input and output between said microprocessor and said ports;

special register means for storing said particular address of the beginning of said special input/output control code;

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means operative each time said microprocessor encounters an input or an output instruction in said series of instructions for causing said microprocessor to access said special register means and to execute said special input/output code beginning at said particular address;

whereby said special input/output code is executed by said microprocessor each time an I/O instruction is executed.

The examiner relied on the following reference in the final rejection:

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| Konopik et al. (Konopik) 1988 | 4,768,149 | Aug. 30, |
|----------------------------------|-----------|----------|

The examiner cited the following additional references in

the examiner's answer:

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|------------------------------------|-----------|----------|
| Albright et al. (Albright) 1988 | 4,727,480 | Feb. 23, |
| Letwin 1991 | 5,027,273 | June 25, |

Although the examiner only discusses claim 13 in the answer, it is clear that the examiner's rejections apply against all the claims. Claims 13 and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Konopik as set forth in the final rejection. Claims 15-22 stand rejected under 35 U.S.C. § 103 as unpatentable over the teachings of Konopik taken alone as set forth in the final

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rejection. Claims 13-22 have been additionally rejected in the answer under 35 U.S.C.

§ 102(b) as being anticipated by the disclosure of Albright².

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answers 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 briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answers.

It is our view, after consideration of the record before us, that the invention of claims 13-22 is neither

² Since Letwin was not included in the statement of any of the rejections of the claims, we have not considered the disclosure or the teachings of Letwin in this decision. Note In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

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anticipated nor rendered obvious by the teachings of Konopik. We reach the opposite conclusion with respect to the disclosure and teachings of Albright. Accordingly, we affirm.

Appellants have indicated that for purposes of this appeal the claims will all stand or fall together as a single group [brief, page 4]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal. Accordingly, all the claims before us 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 independent claim 13 as representative of all the claims on appeal.

We consider first the rejection of claims 13 and 14 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Konopik. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385,

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388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner indicates how he reads representative claim 13 on the disclosure of Konopik [answer, page 3]. Although the examiner admits that Konopik only discusses the handling of input/output requests which originate at the I/O devices, the examiner asserts that interrupts which originate at the processor, or software interrupts, are inherently performed by the Konopik system [id., page 4].

Appellants argue that their invention has nothing to do with interrupts which originate at the I/O devices. Appellants argue that Konopik's system does not execute special I/O control code each time that an I/O instruction is executed as recited in claim 13 [brief, pages 4-7]. We agree with appellants.

Claim 13 recites that the special input/output control code is executed whenever an instruction in the instruction sequence is an input or an output instruction. As the examiner admits, Konopik only describes an interrupt system in

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which I/O code is executed in response to an external request from the I/O device. An I/O instruction in the Konopik system does not have to result in an I/O interrupt. Although an I/O instruction in Konopik may lead to an I/O interrupt which would execute I/O code in Konopik, such result is not required. As appellants point out, such I/O instructions would be ignored in Konopik if the I/O devices are not connected. Thus, the operation of claim 13 is not inherent in the operation of Konopik as argued by the examiner.

Since the recitations of claim 13 are not fully met by the disclosure of Konopik, we do not sustain the rejection of claims 13 and 14 as anticipated by the disclosure of Konopik.

We now consider the rejection of claims 15-22 under 35 U.S.C. § 103 as unpatentable over the teachings of Konopik taken alone. Claims 15-21 depend from claim 13 while independent claim 22 has recitations similar to independent claim 13. Since we have determined that Konopik does not disclose the operative means of claim 13, and since the examiner has failed to address the obviousness of this recitation, the examiner has failed to establish a prima facie

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case for the obviousness of claims 15-22. Therefore, we do not sustain this rejection of claims 15-22.

We now consider the new rejection of claims 13-22 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Albright. The examiner indicates how he reads representative claim 13 on the disclosure of Albright [answer, page 5]. Appellants argue that the operative means of claim 13 is not fully met by the disclosure of Albright. Appellants note that only "foreign" I/O requests generate an interrupt in Albright, whereas, the claimed invention branches to special code each time an I/O instruction is encountered [reply brief, pages 2-4]. The examiner insists that the operative means of claim 13 reads on the first interrupt means of Albright's claim 11 [supplemental answer, pages 2-3].

Although appellants are correct in their discussion of the operation of Albright's system, we find that claim 13 reads on the device disclosed by Albright. As appellants point out, Albright executes special I/O code whenever a "foreign" I/O request is received. These I/O requests are described as occurring in programs (that is, part of an instruction sequence) [column 2, line 68 to column 3, line 6].

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An I/O request in Albright is considered to be "foreign" if it occurs in a program originally written for a second system but is being run on a first system. Since a program in Albright is either written for the first system or is not written for the first system, all the I/O instructions within a given program would be foreign or not foreign as far as Albright's system is concerned. Therefore, if a program written for the second system is run on Albright's first system, all the I/O requests would be treated as "foreign" requests and would lead to the execution of special I/O code each time such an I/O instruction is executed. In our view, this operation of Albright is sufficient to fully meet the invention as recited in claim 13. The fact that Albright can also execute programs which are not "foreign" does not alter the fact that once a "foreign" program is loaded into Albright's system, the invention as recited in claim 13 is fully met.

Therefore, we sustain the examiner's rejection of claim 13 as anticipated by the disclosure of Albright. Since appellants have not separately argued any of claims 14-22, these claims fall with claim 13.

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In summary, we have not sustained the examiner's rejection of the claims based on Konopik, however, we have sustained the examiner's rejection of the claims based on Albright. Therefore, the decision of the examiner rejecting claims 13-22 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

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| | JAMES D. THOMAS |) | |
| | Administrative Patent Judge |) | |
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| | JERRY SMITH |) | BOARD OF |
| PATENT | Administrative Patent Judge |) | APPEALS AND |
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| | ERIC S. FRAHM |) | |
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JS/cam

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