

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BMW OF NORTH AMERICA, LLC,

Petitioner,

v.

FORAS TECHNOLOGIES LTD.,

Patent Owner.

Case IPR2024-01346
U.S. Patent No. 7,627,781

PATENT OWNER'S PRELIMINARY RESPONSE

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
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TABLE OF CONTENTS

I.	The Board Should Exercise Its Discretion to Deny Institution Under Section 325(d).....	1
A.	<i>Becton, Dickinson</i> Factors (a), (b), and (d) Support Denial Because the Petition Relies on the Same or Substantially the Same Art and Arguments Considered During Prosecution	3
B.	<i>Becton, Dickinson</i> Factors (c), (e), and (f) Support Denial Because the Petition Does Not Show Any Material Error by the Office	7

TABLE OF AUTHORITIES

Cases

<i>Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH,</i> IPR2019-01469, Paper 6 (PTAB Feb. 6, 2020) (precedential)	2, 3
<i>Becton, Dickinson & Co. v. B. Braun Melsungen AG,</i> IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential)	2, 3, 7
<i>Billerud Aktiebolag (publ) v. WestRock MWV, LLC,</i> IPR2023-01206, Paper 14 at 16 (PTAB Mar. 13, 2024)	8

Statutes

35 U.S.C. § 325	1, 7, 10
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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	U.S. Patent No. 7,251,746 (“Fox”), dated July 31, 2007
2002	U.S. Patent No. 7,085,959 (“Safford”), dated August 1, 2006
2003	U.S. Patent No. 6,438,687 (“Klein”), dated August 20, 2002

Patent Owner respectfully requests that the Board deny institution of *inter partes* review by exercising its discretion under 35 U.S.C. § 325(d). As detailed below, the Petition relies on prior art and arguments that were already presented to the Patent Office and expressly considered during prosecution.

I. The Board Should Exercise Its Discretion to Deny Institution Under Section 325(d)

The Board should deny institution under 35 U.S.C. § 325(d) because the Petition is based on art and arguments that are the same and/or substantially similar to the art and arguments considered by the USPTO during prosecution. Petitioner acknowledges that its primary reference under each Ground, Fox (EX1005), was relied upon by the Examiner and discussed during prosecution of the application leading to the '781 patent. Pet. 68. Petitioner also acknowledges that its secondary reference, US 2004/0006722 (“Safford”) was also extensively discussed and relied upon by the Examiner. Pet. 67.¹ Additional references cited in the Petition were

¹ The Petition cites page 106-112 of the file history (EX1004) as relevant to its admission that Fox (EX1005) was cited by the Examiner in an office action rejecting claims 1-17. For clarity of the record, Patent Owner notes that the cited office action refers to “Fox et al. (U.S. patent 7,251,749).” EX1004 at 106 (top of page). It appears that there is a typographic error in the patent number for the cited Fox patent. In the Notice of References Cited (EX1004 at 80), the correct patent number for the Fox patent (“7,251,746”) is listed for a reference “Fox et al.” The publication number of EX1005 in this proceeding, US 2005/0172164 is listed on the face of U.S. Patent No. 7,251,746 (EX2001 at 1 (item 65)) and referred to by Petitioner as “Fox.” Similarly, the Petition cites pages 58-75 and 101-105 of the file history in acknowledging that Safford (EX1006) was repeatedly relied upon by

either previously considered by the Examiner or are duplicative of art already considered.

In *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, the PTAB denied institution under Section 325(d) after evaluating the petition under a two-part test:

- 1) whether the petition presents to the Office the same or substantially the same art or arguments previously presented to the Office; and,
- 2) if either condition is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to patentability of the challenged claims.

IPR2019-01469, Paper 6 (PTAB Feb. 6, 2020) (precedential). As part of this analysis, the Board considers the non-exclusive *Becton, Dickinson* factors:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination [or any proceeding];
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination [or any proceeding];

the Examiner in rejections by the Examiner. Pet. 67-68. During an office action rejection, the Examiner refers to “Safford et al. (U.S. patent 7,085,959 hereafter referred to as Safford).” The publication number of EX1006 (Safford) in this proceeding, US 2004/0006722, is listed on the face of U.S. Patent No. 7,085,959 (EX2002 at 1 (item 65)), and referred to by Petitioner as “Safford.”

- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential); *Advanced Bionics* at 10.

A. *Becton, Dickinson* Factors (a), (b), and (d) Support Denial Because the Petition Relies on the Same or Substantially the Same Art and Arguments Considered During Prosecution

Every Ground presented in the Petition relies on Fox as the primary reference and Safford as a secondary reference. Pet. 2. And each Ground presents essentially the same argument: (1) Fox teaches of detection of a processor failure in a multi-processor system and responsively replaces the failing processor with a spare processor without interrupting the operating system, and (2) Safford teaches a multiprocessor system in which loss of lockstep is detected and the lockstep pair of processors is replaced with a spare processor pair. Pet. 2, 8. The Petition argues that

it would be obvious to “implement the processors of Fox’s multiprocessor system as a lockstep processor pair with error detection logic, taught in Safford.” Pet. 9, 14. The Petition further contends that “a POSITA would have understood that when Fox’s processors are implemented as lockstep processors, a loss of lockstep indicates processor failure to be detected and handled” and that “a POSITA would have understood how to add the error detection logics (well known and taught by Safford) to improve system fault tolerance.” Pet. 11-12. But, as Petitioner admits, the Patent Office already considered, and in fact extensively relied upon, each of Fox and Safford. Petitioner also acknowledges that the Bigbee reference, relied upon in the Petition only as to dependent claims 8 and 24 (*see* Pet. 2), was cited in an IDS submitted by the Applicant and signed by the Examiner. Pet. 68. Thus, the principal references relied upon in the Petition were substantively considered during prosecution.

Petitioner contends that three references cited in the Petition—Arai (EX1007), Landry (EX1011), and Jin (EX1025)—were not before the Examiner and states that “[n]one of the grounds presented in this Petition were addressed during prosecution of the ’781 Patent.” Pet. 67. Yet Petitioner’s assertion is not sufficient to tip these factors in Petitioner’s favor because it (1) ignores the substantial similarities between the arguments presented to the Office and (2) disregards the significant overlap between these three references and the art relied upon during prosecution.

Grounds 1-6 rely on Arai in a very limited role. Petitioner contends that Arai provides “implementation details for switching the failing processor and the spare processors, as suggested by Fox.” Pet. 10. In particular, Petitioner alleges that while Fox discloses a system memory for storing the BIOS, it does not expressly disclose the processor register or table is stored in the system memory and that Arai does disclose storing a table of each processor’s designated operational state in main memory. Pet. 23. But prior art considered by the Examiner already included similar disclosures to those of Arai regarding storing configuration information in memory. For example, U.S. Patent No. 6,438,687 (“Klein”), which was cited by the Examiner (EX1004 at 80), discloses:

A computer system and method is described for improved storage of computer system configuration information. A ROM module includes both a BIOS ROM portion and a configuration ROM portion. The configuration ROM includes a backup copy of the system configuration parameters stored in a battery-powered configuration CMOS RAM. If the configuration CMOS RAM fails to provide valid configuration data, the contents of the configuration ROM are used to configure the computer system. If the contents of the configuration ROM are also invalid, default configuration values are provided by the BIOS ROM.

EX2003 (Klein) at Abstract. Klein also discloses:

Unlike prior art PCs, the computer system **10** includes a non-volatile ROM module **40** having a BIOS ROM portion **42** and a configuration ROM portion **44**. The ROM module **40** is preferably a flash electrically erasable programmable read-only memory (flash EEPROM). The BIOS ROM portion **42** and the configuration ROM portion **44** are preferably included in a single ROM chip; however, separate BIOS ROM and configuration ROM chips are acceptable.

EX2003 (Klein) at 4:7-14. Thus, the Examiner already considered references disclosing configuration parameters stored in programmable memory, and the disclosures in Arai are substantially similar and cumulative.

As to Landry, Petitioner relies on this reference for designation of a functional CPU as logical CPU0 that performs the functions of a boot processor. Pet. 33-34. Petitioner alleges that logical CPU0 was a “known and conventional identification of the boot processor.” Pet. 34. But Petitioner presents no argument that the Examiner overlooked this “known and conventional” design choice. The Examiner already considered Fox and considered the argument that it disclosed that “the operating system recognizes the spare processor as the boot processor.” EX1004 at 110. The Examiner also expressly considered the argument that Safford demonstrated a re-boot processor and recovering from loss of lockstep in a boot processor. *Id.* at 105.

Petitioner's contention that Jin is relevant to the Board's analysis under § 325(d) is flawed on its face. Petitioner relies on Jin only for the "user interface" limitation in dependent claims 3-4, 19-21, and 27-28. Jin is thus irrelevant each of the underlying challenges to the independent claims and the substantial similarity between those challenges and the arguments considered during prosecution.

B. *Becton, Dickinson* Factors (c), (e), and (f) Support Denial Because the Petition Does Not Show Any Material Error by the Office

None of Petitioner's allegations of material error by the Patent Office have merit. First, Petitioner argues that the Examiner was in error for not reapplying Safford after the Applicant mistakenly stated (and later corrected) that Safford was not prior art under § 103. Pet. 69. This is incorrect. The Applicant did mistakenly argue that Safford was not prior art in a December 12, 2007 response. EX1004 at 96. However, in that same response, Applicant distinguished Safford on substantive grounds. EX1004 at 93-94. On March 19, 2008, the Examiner responded, and rejected the claims again based on Safford. EX1004 at 101-105. And the Examiner also expressly considered and discussed Fox after Applicant's misstatement regarding Safford's availability as prior art. *See* EX1004 at 106-112. The Examiner also considered Safford and Fox during a phone interview. EX1004 at 155 (noting that "Safford, Fox, and Quach" were discussed and agreement was reached).

It is not a material error for the Examiner not to have expressly articulated every combination of references relied upon (e.g., a Fox-Safford combination versus a discussion of these references separately). In *Billerud Aktiebolag (publ) v. WestRock MWV, LLC*, cited by Petitioner, the Board determined that the Examiner should not have accepted Applicant's statement that its amendment to include a specific temperature limitation that Applicant said was "significantly hotter than traditional temperatures." The parties in that case agreed that this limitation was critical to patentability, and it was the "primary reason" the Examiner allowed the claim. *Billerud Aktiebolag (publ) v. WestRock MWV, LLC*, IPR2023-01206, Paper 14 at 16 (PTAB Mar. 13, 2024). In the present *inter partes* review, Petitioner makes only a broad criticism of the Examiner for not combining two references already discussed in detail during prosecution and presents no argument as to **any** particular feature missed by the Examiner, let alone one "at the heart of the Examiner's reasons for allowance," as was the case in *Billerud*. Pet. 69.

Second, Petitioner argues that the Examiner erred by "overlooking that Fox's spare processor would be used for replacing the boot processor in which a failure is detected." Pet. 69. But the Examiner considered Fox in detail and already addressed the argument that Fox discloses the "system response to processor failure in a multi-processor system," "dynamically activate spare processor when processor failure is detected," and "the role of boot processor to said spare processor." EX1004 at 106.

Indeed, the only limitation of claim 1 that the Examiner did not address as allegedly being present in Fox was “logic operable, responsive to detecting loss of lockstep for said boot processor,” which is a limitation that Petitioner concedes is not present in Fox. *Id.*; see Pet. 24 (“Fox does not expressly disclose that its processors are lockstep processors or detecting loss of lockstep.”).

Third, Petitioner contends that the Examiner erred by not “apply[ing] Fox and Safford to the claims that were amended after the phone interview.” Pet. 69. But both Safford and Fox were expressly discussed during the phone interview, and the amendment after that interview was simply to add a previously considered dependent claim limitation to independent claims 1 and 10. EX1004 at 134-135, 139, 155.

Fourth, Petitioner alleges that it was material error for the Office not to use Bigbee in a rejection of any claims. This is wrong. Petitioner cannot show material error based on an allegation that the Examiner should have relied on a reference that the Examiner expressly considered. This is especially true when Petitioner has not pointed to any disclosure in Bigbee that the Examiner overlooked that is relevant to patentability. Pet. 69. In addition, the Petition relies on Bigbee only for limitations within dependent claims 8 and 24. Pet. 2. Thus, Bigbee cannot even plausibly be relied upon to indicate material error in the Examiner’s determination that the underlying independent claims were patentable.

Accordingly, each of Petitioner's assertions as to material error by the Patent Office is unsupported. The Board should use its discretion to deny institution under § 325(d).

Date: December 24, 2024

Respectfully submitted,

/Brett Cooper/

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CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

The undersigned hereby certifies that the word count in this Patent Owner Preliminary Response is 2,168 words, as counted by the word-processing program Microsoft Word that was used to generate this Patent Owner Preliminary Response, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, claim listing, and this certificate of word count. This Patent Owner Preliminary Response is in compliance with the 14,000-word limit set forth in 37 C.F.R. § 42.24(b)(1).

Date: December 24, 2024

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on December 24, 2024, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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