Trials@uspto.gov
Tel: 571-272-7822

Paper 80
Entered: April 11, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ABB INC.
Petitioner

v.

ROY-G-BIV CORPORATION
Patent Owner

Cases IPR2013-00074 & IPR2013-00286
Patent 8,073,557 B2

Before THOMAS L. GIANNETTI, JENNIFER S. BISK, and JEREMY M. PLENZLER, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

ABB Inc. ("Petitioner") filed a Petition (IPR2013-00074) requesting an *inter partes* review of claims 16-30 and 46-59 of U.S. Patent No. 8,073,557 B2 (Ex. 1001 ("the '557 patent")). Paper 8.[1] On April 18, 2013, the Board granted the Petition and instituted trial for claims 16-25, 27, and 28. Paper 17. On May 17, 2013, Petitioner filed a second Petition requesting an *inter partes* review of claims 16-30 and 46-59 of the '557 patent. IPR2013-00286, Paper 1. With the second Petition, Petitioner filed a motion requesting joinder with IPR2013-00074. IPR2013-00286, Paper 4. On June 10, 2013, Petitioner filed a motion limiting its second Petition to claims 26, 29, 30, and 46-59. IPR2013-00286, Paper 10. On August 9, 2013, the Board granted the second Petition and instituted a trial as to claims 26, 29, 30, and 46-59. IPR2013-00286, Paper 13. On the same day, the Board granted the motion for joinder and joined IPR2013-00074 and IPR2013-00286. IPR2013-00286, Paper 14.

During trial, ROY-G-BIV Corp. ("Patent Owner") filed a Patent Owner Response ("PO Resp."), addressing the challenges from the first Petition, and a Supplemental Patent Owner Response ("Supp. PO Resp."), addressing the challenges from the second Petition. Papers 24, 27. The Patent Owner Response was accompanied by an expert declaration from David B. Stewart, Ph.D. (Ex. 2014), author of the Stewart thesis relied upon by Petitioner. Petitioner filed a Reply ("Pet. Reply") and, for the first time in this proceeding, presented expert testimony, namely declarations from

[1] Citations to the record refer to IPR2013-00074 unless otherwise noted.

Richard Voyles, Ph.D. (Ex. 1130), and Nikolaos Papanikolopoulos, Ph.D. (Ex. 1132). Paper 44. Drs. Voyles and Papanikolopoulos worked in the same laboratory at Carnegie Mellon University as Dr. Stewart and their testimony was presented by Petitioner to rebut Dr. Stewart's expert testimony. Patent Owner also filed a motion to exclude evidence ("Mot."). Paper 50. Oral hearing was held on January 23, 2014. This hearing included four proceedings: IPR2013-00062, IPR2013-00074, IPR2013-00282, and IPR2013-00286. A transcript of the hearing is included in the record as Paper 70 ("Transcript"). This final decision addresses two of the four proceedings: IPR2013-00074 and IPR 2013-00286. A separate final decision ("the '062 Decision") addresses the remaining two proceedings, IPR2013-00062 and IPR2013-00282 ("IPR2013-00062/282"). This decision will refer to the '062 Decision and will, in places, rely on the analysis therein.

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons discussed below, we determine that Petitioner has not met its burden to prove by a preponderance of the evidence that claims 16-30 and 46-59 of the '557 patent are unpatentable.

B. The '557 Patent

The technology of the '557 patent is identical to that described in the '062 Decision. The patent at issue there, U.S. Patent No. 6,516,236 ("the

’236 patent”), is related to the ’557 patent.[2] For the purposes of this decision, therefore, we rely upon that prior description in the ’062 Decision.

C. Illustrative Claim

Claim 16 is reproduced below:

16. A motion control system, comprising:

an application program comprising at least one call to at least one component function;

a plurality of motion control devices, where

a plurality of unique controller languages are associated with the plurality of motion control devices,

each controller language comprises at least some control commands for processing information associated with motion control devices, and

each of the motion control devices comprises

a controller capable of generating electrical signals based on at least one control command of the controller language associated with the motion control device, and

a mechanical system capable of causing a motion control operation based on electrical signals generated by the controller,

a set of software drivers each comprising driver code, where

each software driver is associated with at least one of the plurality of controller languages, and

each software driver exposes a service provider interface defining a set of driver functions, where

the driver functions are independent of the plurality of controller languages,

[2] The ’557 patent is a continuation of U.S. Patent Application No. 10/316,451 (now abandoned), which is a continuation-in-part of the ’236 patent.

at least one driver function is an extended driver function that is associated with a non-primitive motion operation that can be performed using at least one primitive motion operation, where the at least one primitive motion operation cannot be performed using a combination of primitive or non-primitive motion operations,

at least one driver function is a core driver function that is associated with a primitive motion operation,

the driver code of at least one software driver associates at least one driver function with at least one control command of the at least one controller language associated with at least one of the software drivers, and

at least one selected software driver is associated with at least one selected motion control device;

a motion component comprising component code, where the motion component exposes an application programming interface comprising a set of component functions, where;

each component function is implemented by component code,

at least the component code is independent of the plurality of controller languages, and

the component code associates at least one of the component functions with at least one of the driver functions;

wherein

the at least one selected software driver generates at least one control command in the controller language associated with the at least one selected motion control device based on the calls to component functions of the application program, the component code, and the driver code of the at least one selected software driver.

D. The Prior Art References Supporting the Alleged Unpatentability of Claims 16-30 and 46-59

The following references are relied upon by Petitioner:

Gertz	Matthew Wayne Gertz, A Visual Programming Environment for Real-Time Control Systems (Ph.D. dissertation, Carnegie Mellon University)	Nov. 22, 1994	Ex. 1002
Stewart	David Bernard Stewart, Real-Time Software Design and Analysis of Reconfigurable Multi-Sensor Based Systems (Ph.D. dissertation, Carnegie Mellon University)	Apr. 1, 1994	Ex. 1004
Morrow	J. Dan Morrow, Bradley J. Nelson, & Pradeep Khosla, *Vision and Force Driven Sensorimotor Primitives for Robotic Assembly Skills*, INST. FOR SOFTWARE RES., paper 574	Jan. 1, 1995	Ex. 1005
Brockschmidt	KRAIG BROCKSCHMIDT, INSIDE OLE 2	1994	Ex. 1006
Architect	Compumotor Division, Parker Hannifin Corporation, *Motion Architect User Guide*	1994	Ex. 1008

E. The Pending Grounds of Unpatentability

The following challenges to patentability under 35 U.S.C. § 103 were considered:

References	Claims
Gertz, Stewart, and Morrow	16-25, 27, and 28
Gertz, Stewart, Morrow, Brockschmidt, and Architect	26, 29, 30, and 46-59

II. DISCUSSION

A. Antedating Gertz and Morrow

1. Background

Gertz is dated November 22, 1994 and Morrow is dated January 1, 1995. PO Resp. 6. As in IPR2013-00062/282, Patent Owner contends that the claimed invention of the ’557 patent was conceived prior to the earliest possible publication date for the references, namely November 22, 1994, and constructively reduced to practice on May 30, 1995, the filing date of the “priority application” (serial no. 08/454,736) that led to the ’557 patent. PO Resp. 6. Patent Owner further contends that the inventors were reasonably diligent from November 21, 1994, to the date of the constructive reduction to practice. *Id.* at 7. Patent Owner contends that, as a consequence, neither Gertz nor Morrow qualifies as prior art. *See* 35 U.S.C. § 102(g) (2011); *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1576 (Fed. Cir. 1996) (“Thus, under section 102(a), a document is prior art only when published before the invention date.”).

Patent Owner relies here on the same declaration testimony of its founder, chairman, and chief technical officer, David W. Brown, and evidence that was relied on in IPR2013-00062/282. *See* Exs. 2013 through 2013-6.

2. Discussion

For the reasons discussed in the ’062 Decision, we determine that the testimony and documents offered by Patent Owner are not sufficient to establish that the invention date of claims 16-25, 27, and 28 is prior to the publication date of Gertz and Morrow.

We conclude, therefore, that Patent Owner has not antedated Gertz and Morrow; therefore, these references are prior art under 35 U.S.C. § 102(a).

B. Claim Construction

Consistent with the statute and the legislative history of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011), the Board will interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent. 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). Claims are to be given their broadest reasonable interpretation consistent with the specification, reading the claim in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

For purposes of this decision, we expressly construe only the terms "component function" and "component code" because these terms are determinative for the same reasons explained in the '062 Decision.

1. "component function"

The parties present the same opposing views on the construction of "component function" as those discussed in the '062 Decision. *See* Ex. 2021, 36-37; Pet. Reply 9-10 (citing Ex. 1130 ¶¶ 39, 42-46); Transcript 41-42. For the reasons set forth in the '062 Decision, we conclude that the broadest reasonable interpretation of the term "component function" requires an action carried out by a program or routine, regardless of whether the

action is defined by executable code. This is consistent with the specification of the ’557 patent, which explains that “[t]he application program 26 comprises a sequence of component functions arranged to define the motion control operations necessary to control a motion control device to move an object in a desired manner.” Ex. 1001, col. 9, ll. 15-19.

2. “component code”

The parties have the same disagreement on the construction of “component code” as that discussed in the ’062 Decision. *See* Pet. Reply 9; PO Resp. 21. For the reasons discussed in the ’062 Decision, we determine that the term “component code” requires program instructions. This is consistent with the specification of the ’557 patent, which explains that “the software system designer writes component code that associates at least some of the component functions with at least some of the driver functions.” Ex. 1001, col. 8, ll. 45-48.

C. Summary of Expert Testimony

As in IPR2013-00062/282, three experts—Drs. Stewart, Voyles, and Papanikolopoulos—testified in this case. These declarations are similar to those submitted in IPR2013-00062/282, which are discussed in the ’062 Decision. As the issues raised here relative to the component function and component code limitations are the same, we rely on that analysis for the purposes of this decision.

D. Obviousness Ground Based on Gertz, Stewart, and Morrow

Petitioner challenges claims 16-25, 27, and 28 as being unpatentable under 35 U.S.C. § 103(a) based on the combination of Gertz, Stewart, and

Morrow. Claims 17-25, 27, and 28 depend, either directly or indirectly, from claim 16.

As discussed in the ’062 Decision, we give significant weight to the testimony of Patent Owner’s expert, Dr. Stewart, that actions in Gertz are not the same as the claimed component functions, and that Gertz does not describe any code (i.e., the claimed component code) that associates component functions with driver functions as claimed. Petitioner does not provide sufficient evidence to rebut this testimony. Thus, as described below, we are not persuaded that Petitioner has established, by a preponderance of the evidence, that the combination of Gertz, Stewart, and Morrow renders claims 16-25, 27, and 28 unpatentable under 35 U.S.C. § 103(a).

Similar to Petitioner’s challenge to the patentability of claim 1 in IPR2013-00062/282, Petitioner’s challenge here relies on Gertz alone for the claimed component function and component code features. Pet. 30-31, 45, 51-52; Pet. Reply 12-13. Stewart and Morrow are relied upon for additional features of the claims. Because Petitioner’s challenge fails with respect to the component function and component code features of the claims, we do not need to address issues regarding Stewart and Morrow. Therefore, the discussion below focuses on Gertz.

1. “component function”

The contentions presented on this claim feature are similar to those in IPR2013-00062/282. Petitioner relies on Gertz’s “actions” to meet this claim limitation. Pet. 31, 45; Transcript 15. Patent Owner contends that

Gertz's "actions" are not component functions. PO Resp. 27 (citing Ex. 2014 ¶ 40).

For the reasons set forth in the '062 Decision, we agree with Patent Owner, and determine that Petitioner has not explained persuasively why information regarding the arrangement of control tasks defines an "action carried out by a program or routine," as required by a component function. Thus, Petitioner has not established, by a preponderance of the evidence, that Gertz teaches the claimed component functions.

2. "component code"

The contentions presented on this claim feature are similar to those in IPR2013-00062/282. Again, Petitioner does not point to any specific element or feature disclosed in Gertz as teaching the claimed component code and, instead, explains that "ordinary artisans would recognize . . . that the configuration files that [Gertz] creates comprise software code that binds various components together into a programming sequence (including Turing equivalents) that have been the basis of computer programming for over a century." Pet. Reply 12-13 (citing Ex. 1030 ¶¶ 37-39, 42-46).[3] Patent Owner responds that Gertz's configuration files do not connect the control tasks and configurations to actions using code. PO Resp. 29-30 (citing Ex. 2014 ¶ 44).

For the reasons set forth in the '062 Decision, we agree with Patent Owner and determine that Petitioner has not explained persuasively why the configuration information in Gertz includes an "action statement in a

[3] It appears that Petitioner's citation should be to Exhibit 1130 rather than Exhibit 1030.

computer language." Thus, Petitioner has not established, by a preponderance of the evidence, that Gertz teaches or suggests the claimed component code.

Petitioner's challenge with respect to dependent claims 17-25, 27, and 28 fails for the reasons set forth regarding claim 16.

E. Obviousness Ground Based on Gertz, Stewart, Morrow, Brockschmidt, and Architect

1. Claims 26, 29, and 30

Claims 26, 29, and 30 depend, either directly or indirectly, from claim 16 and, therefore, include the "component function" and "component code" limitations we have determined are missing from Gertz. Petitioner's challenge to claims 26, 29, and 30 does not cure these deficiencies in Gertz, and the other references (Brockschmidt and Architect) are not relied upon to meet these elements. We, therefore, determine that Petitioner has not established that the combination of Gertz, Stewart, Morrow, Brockschmidt, and Architect renders claims 26, 29, and 30 unpatentable under 35 U.S.C. § 103(a) for the reason set forth above regarding claim 16.

2. Claims 46-59

Claims 46-59 each recite the "component function" and "component code" features. Petitioner relies on Gertz as disclosing these features in claims 46-59 and presents the same arguments as presented above for the challenge to claims 16-25, 27, and 28. *See* IPR2013-00286 Pet. 30-31, 57-59; Pet. Reply 12-13. Petitioner does not rely on the additional references (Brockschmidt and Architect) to meet the component function and component code elements. As explained above, we do not find these

arguments persuasive. Thus, Petitioner has not established, by a preponderance of the evidence, that Gertz teaches or suggests the claimed component function and component code. We, therefore, determine that Petitioner has not established that the combination of Gertz, Stewart, Morrow, Brockschmidt, and Architect renders claims 46-59 unpatentable under 35 U.S.C. § 103(a).

F. Motion to Exclude

Patent Owner's Motion filed on December 19, 2013 ("Mot.") seeks to exclude certain arguments made in Petitioner's Reply (Mot. 8) and portions of Petitioner's expert testimony (Mot. 9-14). For example, Patent Owner alleges that the contention related to Gertz teaching the claimed core driver function as a result of the cycle function in the method of a port-based object raises a new argument (Mot. 8) and that testimony of Petitioner's expert, Dr. Papanikolopoulos, advances a new position on driver functions (Mot. 12-13). Because we have not relied upon these arguments, they do not affect our decision. The issues raised in Patent Owner's Motion are moot, and the Motion is, therefore, *dismissed*.

Although we ultimately do not rely on these arguments for our decision, we note that a motion to exclude evidence is not the proper vehicle for resolution of a dispute regarding reply arguments and evidence exceeding the proper scope of a reply. A motion to exclude "must identify the objections in the record." 37 C.F.R. §42.64(c). In the Motion, Patent Owner does not identify where in the record an objection originally was made. If an issue arises regarding whether a reply argument or evidence in

support of a reply exceeds the scope of a proper reply, the parties should contact the Board to discuss the issue.

III. CONCLUSION

We conclude that Petitioner has failed to meet its burden of proof, by a preponderance of the evidence, that claims 16-25, 27, and 28 are unpatentable under 35 U.S.C. § 103 as obvious over Gertz, Stewart, and Morrow and that claims 26, 29, 30, and 46-59 are unpatentable under 35 U.S.C. § 103 as obvious over Gertz, Stewart, Morrow, Brockschmidt, and Architect.

This is a final written decision of the Board under 35 U.S.C. § 318(a). Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that Petitioner has failed to prove by a preponderance of the evidence that claims 16-30 and 46-59 of U.S. Patent No. 8,073,557 B2 are unpatentable; and

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed*.

For PETITIONER:

Rick McLeod
Michael Jones
KLARQUIST SPARKMAN LLP
john.vandenberg@klarquist.com
michael.jones@klarquist.com

Steve Auvil
SQUIRE SANDERS (US) LLP
Steven.Auvil@squiresanders.com

For PATENT OWNER:

Richard Black
FOSTER PEPPER PLLC
blacr@foster.com

Richard S. Meyer
BOIES, SCHILLER & FLEXNER LLP
meyer@BSFLLP.com

Douglas R. Wilson
HEIM, PAYNE & CHORUSH LLP
dwilson@hpcllp.com