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

Paper 14
Entered: Sept. 24, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY CORPORATION
Petitioner

v.

YISSUM RESEARCH DEVELOPMENT COMPANY OF THE HEBREW UNIVERSITY OF JERUSALEM
Patent Owner

Case IPR2013-00326 (SCM)
Patent 6,665,003 B1

Before SALLY C. MEDLEY, KARL D. EASTHOM, and JAMES B. ARPIN, *Administrative Patent Judges.*

EASTHOM, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Sony Corporation, filed a Petition requesting an *inter partes* review of claims 4, 5, and 34 of Patent No. U.S. 6,665,003 B1. Paper 10 ("Pet."). In response, Patent Owner, Yissum Research Development Company of the Hebrew University of Jerusalem, filed a Patent Owner Preliminary Response. Paper 13 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a):

> THRESHOLD – The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Pursuant to the defined threshold under 35 U.S.C. § 314(a), the Board institutes an *inter partes* review of claims 4, 5, and 34 of the '003 Patent.

Petitioner separately has moved to join this proceeding with the IPR2013-00218 proceeding. Paper 4. In a separate decision entered today, we grant Petitioner's motion and join this proceeding with the '218 proceeding.

A. Related Proceedings

The '003 Patent and a related patent, Patent No. US 7,477,284 B2, are involved in litigation in the District Court of Delaware. *See* Pet. (citing *HumanEyes Technologies Ltd. v. Sony Electronics Inc. et al*., 1-12-cv-00398 (D. Del. March 29, 2013)). Petitioner describes the Delaware litigation as an infringement action currently based on at least claims 1-5, 22, and 34 of the '003 Patent. Paper 10, 2-3. In addition to the '218 proceeding, related *inter partes* review proceedings before the Patent Trial and Appeal Board involving the same parties and the related patent include IPR2013-00219 and IPR2013-00327.

B. The '003 Patent

The '003 Patent describes generating and displaying stereoscopic panoramic images by using a rotating camera. *See* Ex. 1101, Abstract, Fig. 2. The '003 Patent is described more fully in the IPR2013-00218 Decision to Institute, Paper 16 ("'218 Decision"), in which the Board institutes *inter partes* review for claims 1-3 and 22 in the '003 Patent. For purposes of the instant Decision to Institute ("Decision"), we adopt and rely upon the '218 Decision, including the description of the '003 Patent in the '218 Decision at 3-5.

C. Claims

Unchallenged independent claim 1, challenged claims 4 and 5 dependent therefrom, and challenged independent claim 34, follow:

> 1. A system for generating a stereoscopic panoramic mosaic image pair comprising:
>
> > A. a strip generator module configured to generate two series of image strips, all of said image strips in each series comprising strips of a series of images of a scene as would be recorded by a camera from a respective series of positions relative to the scene, the image strips of the respective series representing strips of the respective images displaced from one another by at least one selected displacement; and
> >
> > B. a mosaic image generator module configured to mosaic the respective series of images strips together thereby to construct two panoramic mosaic images, the panoramic mosaic images comprising the stereoscopic panoramic mosaic image pair providing a stereoscopic image of the scene as recorded over the path.
>
> 4. A system as defined in claim 1 in which the series of positions define a translation relative to the scene.
>
> 5. A system as defined in claim 1 in which the series of positions define a change in angular orientation relative to the scene.

34. A method of generating a stereoscopic panoramic mosaic image pair comprising the steps of:

A. a strip generation step of generating two series of image strips, all of said image strips in each series comprising strips of a series of images of a scene as would be recorded by a camera from a respective series of positions relative to the scene, the image strips of the respective series representing strips of the respective images displaced from one another by at least one selected displacement; and

B. a mosaic image generation step of mosaicing the respective series of images strips together thereby to construct two panoramic mosaic images, the panoramic mosaic images comprising the stereoscopic panoramic mosaic image pair providing a stereoscopic image of the scene as recorded over the path.

D. References Relied Upon

Petitioner relies upon the following references:

Inoue, JP 8-159762 (June 21, 1996) (Ex. 1107, "Asahi");[1]

Hofmann, *A Digital Three Line Stereo Scanner System*, ISPRS International Archives of Photogrammetry and Remote Sensing, Kyoto, 16th Congress, V. 27, Part B2, Com. II, 206-13 (1988) (Ex. 1108, "Hofmann");

Ishiguro et al., *Acquiring Omnidirectional Range Information*, Systems and Computers in Japan, V. 23, No. 4, 47-56 (1992) (Ex. 1105, "Ishiguro"); and

Kawakita et al., *Generation of Panoramic Stereo Images from Monocular Moving Images*, SIG-CyberSpace ,Virtual Reality Society of Japan (VRSJ) Research Report, V. 2, No. 1, ISSN 1343-0572, VCR 97-12, pp. 13-19 (Nov. 27, 1997) (Ex. 1104, "Kawakita").

[1] Unless otherwise noted, all references herein refer to a certified English translation or to the original English version provided by Petitioner.

E. The Asserted Grounds

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. § 102:

Claims 4, 5, and 34 as anticipated under 35 U.S.C. § 102(a) by Kawakita;

Claims 4, 5, and 34 as anticipated under 35 U.S.C. § 102(b) by Ishiguro;

Claims 4, 5, and 34 as anticipated under 35 U.S.C. § 102(b) by Asahi; and

Claims 4, 5, and 34 as anticipated under 35 U.S.C. § 102(b) by Hofmann.

Pet. 12.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, "[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears." 37 C.F.R. § 42.100(b); *see also Office Patent Trial Practice Guide*, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012) (*Claim Construction*).

Petitioner and Patent Owner propose several definitions for certain claim terms. For purposes of this Decision, the Board adopts and relies upon the claim constructions outlined in the '218 Decision at 7-12.

B. Asserted Grounds of Unpatentability

I. Kawakita – Anticipation, Claims 4, 5, and 34

A. Public Dissemination

Patent Owner challenges the prior art status of Kawakita, Ex. 1104, in particular, its public accessibility prior to the effective filing date of the '003 Patent. *See* Prelim. Resp. 17-18. Petitioner presents declaration evidence that the original Japanese version of Kawakita was published at a conference and available thereafter, with an English abstract and title, as part of a five-article booklet, entitled "Virtual Reality Society [("VRS")] of Japan Research Report." *See* Pet.

42-44.

For purposes of this Decision, the Board adopts and relies upon the analysis of this same public accessibility issue, which is discussed in the ’218 Decision at 12-17. Based on the foregoing discussion, Petitioner has established a reasonable likelihood of prevailing on the issue of whether the Kawakita reference was publically accessible prior to the effective date of the invention.

B. Claims 4, 5, and 34

Petitioner contends that Kawakita “discloses a system that uses the same technique for generating a stereoscopic panoramic mosaic image pair as the technique described in the ’003 Patent.” Pet. 18. Petitioner also reads the elements of claims 4, 5, and 34 onto Kawakita. Pet. 19-23. In response, Patent Owner focuses on claim 1, a subject of the ’218 Decision, and which Patent Owner correctly notes is similar to claim 34 at issue here. Prelim. Resp. 23, 23-28. In response to the parties, the Board hereby adopts and relies upon the discussion of the anticipation of claims 1 and 2 by Kawakita, which appears in the ’218 Decision at 17-22.

Patent Owner does not present separate arguments to distinguish claims 4, 5 and 34 over Kawakita. In other words, similar to arguments presented in the ’218 proceeding, Patent Owner’s arguments here are directed solely to alleged deficiencies in Kawakita with respect to independent claim 1, and Patent Owner does not contest the specific limitations in challenged claims 4, 5, and 34 with separate arguments. As the two preliminary responses show, Patent Owner makes the same or similar arguments here to those made in the ’218 proceeding. Petitioner shows persuasively that Kawakita discloses the additional recited limitations in claims 4 and 5, which are similar to those recited in claim 2, and the limitations in claim 34, which are similar to those recited in claim 1. *See* Pet. 18-

23.

Similar to claim 2, claims 4 and 5 read on Kawakita's rotating camera, because the different positions in the rotation define a translation and a change in angular orientation relative to a scene, as claims 4 and 5 require. *See* Pet. 21-22; '218 Dec. 22 (Petitioner explains that claim 2 reads on Kawakita's rotating camera, because the different rotating camera positions "correspond[] to a curved arc," as claim 2 recites.). Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground of unpatentability of claims 4, 5, and 34 as anticipated by Kawakita.

2. Ishiguro – Anticipation, Claims 4, 5, and 34

Ishiguro discloses an "[o]mnidirectional stereo method," Ex. 1105, 49, to create "[t]wo omnidirectional views for stereo method," *id*. at Fig. 5, having a "panoramic representation," *id*. at 47. Similar to the method disclosed in the '003 Patent, Ishiguro's system uses a rotating camera to capture images through slits over a series of positions. *Id*. at 51, 53, Figs. 4, 5, and 6; '218 Dec. 22-23.

Focusing on independent claim 1, a primary subject of the '218 Decision as noted above, Patent Owner argues that Ishiguro does not disclose "the claimed ***stereoscopic panoramic mosaic image pair*** that can be displayed to or viewed simultaneously by a person to provide a perception of depth." Prelim. Resp. 31. Patent Owner makes additional similar arguments to those made in its preliminary response in the '218 proceeding. In response to the parties, the Board hereby adopts and relies upon the discussion of the anticipation of claim 1 by Ishiguro, which appears in the '218 Decision at 22-24.

Patent Owner does not present separate arguments to distinguish claims 4, 5, and 34 over Ishiguro. In other words, Patent Owner's arguments are directed solely to alleged deficiencies in Ishiguro with respect to independent claim 1, and

Patent Owner does not contest the specific limitations in challenged claims 4, 5, and 34 with separate arguments. Petitioner shows persuasively that Ishiguro discloses the additional recited limitations in claim 4 and 5, which are similar to those recited in claim 2, and the limitations in claim 34, which are similar to those recited in claim 1. *See* Pet. 23-28. Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground of unpatentability of claims 4, 5, and 34 as anticipated by Ishiguro.

3. Asahi – Anticipation, Claims 4, 5, and 34

Asahi discloses that "stereoscopic viewing is possible using this forward view image, this nadir view image, and this rearward view image." Ex. 1107, ¶ 35. Asahi states that the workstation "can obtain image data . . . after going through the various processing . . . [to generate] continuous mosaic image formation." Ex. 1107, ¶ 28. Relying on these and similar disclosures, Petitioner explains how claims 4, 5, and 34 read on Asahi's aerial camera system.

Patent Owner focuses on claim 1 and argues that Asahi does not disclose or suggest "a stereoscopic image that can be viewed by the eyes of a person to provide a perception of depth." Prelim. Resp. 34. Patent Owner makes similar arguments to those made in its preliminary response in the '218 proceeding. In response to the parties, the Board hereby adopts and relies upon the discussion of the anticipation of claim 1 by Asahi, which appears in the '218 Decision at 24-26.

Patent Owner does not present separate arguments to distinguish claims 4, 5 and 34 over Asahi. In other words, Patent Owner's arguments are directed solely to alleged deficiencies in Asahi with respect to independent claim 1, and Patent Owner does not contest the specific limitations in challenged claims 4, 5, and 34 with separate arguments. Petitioner shows persuasively that Asahi discloses the additional recited limitations in claim 4 and 5, which are similar to those recited in

claim 2, and the limitations in claim 34, which are similar to those recited in claim 1. *See* Pet. 28-35. Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground of unpatentability of claims 4, 5, and 34 as anticipated by Asahi.

4. Remaining Asserted Grounds of Unpatentability

Petitioner asserts an additional ground of unpatentability, based on Hofmann, with respect to claims 4, 5, and 34 as listed in Section I.E., *supra*. That additional ground is denied as redundant in light of the determination that there is a reasonable likelihood that the challenged claims are unpatentable based on the grounds of unpatentability on which we institute an *inter partes* review. *See* 37 C.F.R. § 42.108(a).

III. CONCLUSION

The Petition demonstrates a reasonable likelihood of prevailing on the following grounds of unpatentability: a) anticipation of claims 4, 5, and 34 by Kawakita; b) anticipation of claims 4, 5, and 34 by Ishiguro; and c) anticipation of claims 4, 5, and 34 by Asahi.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 4, 5, and 34 of the ’003 Patent for the following grounds of unpatentability:

1. Claims 4, 5, and 34 for anticipation by Kawakita;
2. Claims 4, 5, and 34 for anticipation by Ishiguro; and
3. Claims 4, 5, and 34 for anticipation by Asahi;

FURTHER ORDERED that no other grounds of unpatentability set forth in the Petition are authorized for the *inter partes* review as to claims 4, 5, and 34 of the '003 Patent;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which will commence on the entry date of this Decision; and

FURTHER ORDERED that in light of the joinder of this proceeding with the IPR2013-00218 proceeding, the Scheduling Order and time for the initial conference call set forth in that proceeding shall set forth the schedule and initial conference call for the joined proceeding.

For Petitioner:
Walter Hanley
Michelle Carniaux
Kenyon & Kenyon, LLP
Petitioner-humaneyes@kenyon.com
whanley@kenyon.com
mccarniaux@kenyon.com

For Patent Owner:
David L. McCombs
David O'Dell
Haynes and Boone, LLP
David.mccombs.ipr@haynesboone.com
David.odell.ipr@haynesboone.com

Robert Gerrity
William Nelson
Tensegrity Law Group, LLP
Robert.gerrity@tensegritylawgroup.com
William.nelson@tensegritylawgroup.com