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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEALS BOARD

Inter partes BRITNEY SPEARS, SPEARS KING POLE INC.,
JUSTIN TIMBERLAKE, AND
TENNMAN PRODUCTIONS, LLC.,
Requesters and Cross Appellants

v.

LARGE AUDIENCE DISPLAY SYSTEMS, LLC,
Patent Owner and Appellant

Appeal 2014-007355
Patent 6,669,346 B2
Reexamination Control 95/001,817
Technology Center 3900

Before STEPHEN C. SIU, DENISE M. POTIER, and ANDREW J. DILLON,
Administrative Patent Judges.

POTIER, *Administrative Patent Judge.*

DECISION ON APPEAL

I. STATEMENT OF CASE

Britney Spears, Spears King Pole Inc., Justin Timberlake, Tennman Productions, and The LA Lakers, Inc. made a third party request for *inter partes* reexamination of U.S. Patent No. 6,669,346 B2 (“the ’346 patent”) to Darrell J. Metcalf, entitled *Large-Audience, Positionable Imaging and Display System for Exhibiting Panoramic Imagery, and Multimedia Content Featuring a Circularity of Action*, issued December 30, 2003, and assigned to Large Audience Display Systems, LLC. The LA Lakers, Inc. is no longer a third party requester in these proceedings. Third Party Requesters (3PR) App. Br. 5.

Both Patent Owner and Requesters indicate that the ’346 patent is the subject of litigation, styled as *Large Audience Display Systems, LLC v. Tennman Productions, LLC et al.*, Civil No. 2:11-cv-03398 (C.D. Cal.), which has been stayed. Patent Owner (PO) App. Br. 2; 3PR App. Br. 5.

Patent Owner appeals from the decision in the Examiner’s Right of Appeal Notice (RAN) rejecting claims 1–6, 9–10, 13–15, 17, 24, 28, 31–32, 36–37, 50, 52–54, 56, and 58 of the ’346 patent. Claims 7–8, 11–12, 16, 18–23, 25–27, 29, and 30 are not subject to reexamination, claim 47 has been canceled, and claims 33–35, 38–46, 48–49, 51, 55, and 57 have been found patentable. PO App. Br. 2; RAN 1. Requesters filed a responsive brief disputing the contentions by Patent Owner and supporting the Examiner’s decision. 3PR Resp. Br. 10–15. Patent Owner also filed a rebuttal brief, responding to Requesters’ position. PO Reb. Br. 2–8.

Requesters filed a cross appeal contending the Examiner erred in not adopting various rejections covering claims 1–6, 9–10, 13–15, 17, 24, and 28 based on “the Olympics Prior Art.” 3PR App. Br. 13–30. Patent Owner filed a responsive brief disputing the contentions by Requesters and supporting the

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Examiner's decision. PO Resp. Br. 3–12. Requesters also filed a rebuttal brief, responding to Patent Owner's position. 3PR Reb. Br. 2–15.

The Examiner's Answer relies on the RAN, incorporating it by reference.
See Ans. 1.

An oral hearing was conducted on October 1, 2014. The transcript of the oral hearing will be made of record.

We have jurisdiction under 35 U.S.C. §§ 134(b) and 315.

We AFFIRM.

Illustrative claim 1 on appeal reads as follows:

1. A large-audience, positionable imaging and display system for the imaging and exhibition of visual-media content, comprising:
 - a.) a screen-display configured for the exhibition of panoramic imagery having an interior surface-perimeter and an exterior surface-perimeter, wherein,
each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged;
 - b.) at least one screen support means for supporting the shape of said screen-display;
 - c.) screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide a multitude of vantage points from which to view at least one of said surface-perimeters; and,
 - d.) exhibition means for imaging and controlling said contiguous panoramic visual-media content and said segmented visual-media content on at least one of said surface-perimeters.

PO App. Br. 31, Claims App'x.

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A. Prior Art Relied Upon

The Examiner relies on the following as evidence of unpatentability:

Vallen	US 1,719,574	July 2, 1929
Adams	US 3,107,577	Oct. 22, 1963
Herndon	US 3,872,238	Mar. 18, 1975
Globus	US 4,078,860	Mar. 14, 1978
Fussell	US 4,597,633	July 1, 1986
Wuu	US 4,885,878	Dec. 12, 1989
Brotz	US 5,663,740	Dec. 12, 1989
Shaffron	US 6,253,494 B1	July 3, 2001
Hayashi	US 6,280,341 B1	Aug. 28, 2001
Salesky	US 6,367,934 B1	Apr. 9, 2002

B. The Adopted Proposed Rejections

The Examiner maintains the following proposed rejections:

Reference(s)	Basis	Claims	RAN
Hayashi	§ 102(e)	1, 2, 9, 10, 31, 32, 36, and 56	12-20
Salesky	§ 102(e)	1, 2, 4-6, 14, 15, 17, 28, 31, 32, 50, and 52-54	24-33
Globus	§ 102(b)	1, 2, 14, 31, and 32	47-53
Fussell	§ 102(b)	1, 2, 4-6, and 9	68-72
Adams	§ 102(b)	1, 2, and 10	81-83
Hayashi and Shaffron	§ 103(a)	3	20-22
Hayashi and Wuu	§ 103(a)	3	22-24
Salesky and Globus	§ 103(a)	3	33-35
Salesky and Fussell	§ 103(a)	3	35-37
Salesky and Adams	§ 103(a)	3	37-39

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Salesky and Herndon	§ 103(a)	13	39-40
Salesky and Brotz	§ 103(a)	24	40-41
Salesky, Vallen, and APA ¹	§ 103(a)	24	42-44
Salesky and APA	§ 103(a)	24	44-47
Globus	§ 103(a)	4	90-91
Globus and Saffron	§ 103(a)	3	53-55
Globus and Wuu	§ 103(a)	3	55-56
Globus and Salesky	§ 103(a)	3, 15, 17, and 28	57-60
Globus and Herndon	§ 103(a)	13	60
Globus and APA	§ 103(a)	17, 24, 37, 58	60-68
Fussell and Shaffron	§ 103(a)	3	72-73
Fussell and Wuu	§ 103(a)	3	74-75
Fussell and Salesky	§ 103(a)	3, 15, 17, 28	75-79
Fussell and Herndon	§ 103(a)	13	79
Fussell and APA	§ 103(a)	17	79-80
Adams and Shaffron	§ 103(a)	3	83-85
Adams and Wuu	§ 103(a)	3	85-87
Adams and Salesky	§ 103(a)	3-5, 15, 17, 28	87-90
Adams and Fussell	§ 103(a)	4	91-92
Adams and Herndon	§ 103(a)	13	92-93
Adams and APA	§ 103(a)	17	93-94
Shaffron and Wuu	§ 103(a)	3	94-95

PO App. Br. 5-6.

¹ APA stands for Admitted Prior Art.

C. *The Non-Adopted Rejections*

The Examiner refused to adopt several rejections of claims 1–6, 9–10, 14–15, 17, 24, and 28² appealed by Requesters. The non-adopted rejections follow here:

Reference(s)	Basis	Claims	Request
Olympics ³	§ 102(b)	1–6, 9, and 14	5
Adams and Olympics	§ 103(a)	4, 5, 9, 10	9–10
Olympics and Salesky	§ 103(a)	15, 17, 28	12–13
Olympics and Lichenstein	§ 103(a)	17 and 24	13
Olympics and APA	§ 103(a)	17 and 24	13

See 3PR App. Br. 13; Request 5, 9–10, 12–13.

II. ISSUES ON APPEAL

The main issues on appeal are whether, given its broadest reasonable interpretation in light of the Specification and as would be interpreted by one of ordinary skill in the art, the Examiner has erred in rejecting claim 1 under § 102 by finding that the cited references would have disclosed:

(a) “a screen-display configured for the exhibition of panoramic imagery having an interior surface-perimeter and an exterior surface-perimeter, wherein,

² Requesters include claim 13 in their cross appeal. 3PR App. Br. 13. However, the Request does not include a proposed rejection of claim 13 based on Olympics. *See* Request 10–11.

³ The cited prior art is collectively referred to by Requesters as “Olympics Prior Art.” 3PR App. Br. 1.

each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged” and similarly recited in independent claim 2 and

(b) “screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide a multitude of vantage points from which to view at least one of said surface-perimeters” and similarly recited in independent claims 2–3?

III. ANALYSIS

A. *Claim Construction*

This appeal hinges on how several of the terms in the claims are construed. *See* PO App. Br. 7 and 3PR Resp. Br. 1–2. During reexamination, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (internal citations and quotations omitted). Thus, prior to turning to the cited prior art, we address the broadest, reasonable construction of each disputed term in light of the disclosure as it would be interpreted by an ordinarily skilled artisan.

Claim 1 as well as the other disputed independent claims recite “[a] large-audience, positionable imaging and display system for imaging and exhibition of visual-media content[.]” PO App. Br. 31, Claims App’x. Claim 1 additionally recites “a screen-display,” “screen positioning means,” and “exhibition means.”

Id. These or similar limitations are found in each disputed independent claim on

appeal. *Id.* at 31–37, Claims App’x. For independent claims 2-3, 24, 32, and 38, Patent Owner incorporates arguments by reference (*id.* at 11–12); for independent claim 56, Patent Owner does not present a separate argument. We select claim 1 as representative. For those additional, disputed limitations not found in claim 1 (e.g., “to provide circumnavigable viewing of the screen-display” recited in claim 2), we will be addressed separately.

1. Claim 1

a. Preamble

Patent Owner contends that “the preamble is a fundamental characteristic [of claim 1] as it defines the type of system being claimed and not just the use of the system.” *Id.* at 10 (underlining omitted) (citing the ’346 patent 1:45–49, 5:7–10, 6:8–10, 6:51–8:63; Figs. 1, 9–11). Patent Owner further relies on the declaration of Mr. Clyde Tichenor (“the Tichenor declaration”) in arguing that an ordinarily skilled artisan would have found “a large audience” to mean “an audience of at least several hundred people.” *Id.* (citing Tichenor Decl. ¶¶ 10–11). On the other hand, the Examiner finds that the preamble is intended use (RAN 4) and can be construed as “an imaging and display system that is ‘able to be positioned or placed somewhere’ for the imaging and exhibition ‘to an ample or abundant audience[.]’” RAN 5. The Requesters further contend that there is no support for Patent Owner’s construction in the claims, the prior art, or the Patent Owner’s Specification. *See* 3PR Resp. Br. 2.

We agree with the Examiner that the preamble includes intended use language. For example, the phrase, “for the imaging and exhibition of visual-media content” in claim 1’s preamble, is an intended use limitation. As such, the

cited prior art need only be capable of performing the functions recited in the preamble.

Concerning the specific term, “large-audience” within the phrase, “large-audience, positionable imaging and display system,” we turn to the disclosure for a better understanding. The ’346 patent describes a system that can be configured for close proximity viewing or viewing at a distance. The ’346 patent 1:45–48. The ’346 patent further describes the “viewing at a distance” configuration “can readily be employed in arenas, stadiums and other large audience venues, including venues in indoor or outdoor settings.” *Id.* at 1:48–50. This discussion states the “viewing at a distance” configuration can be used for large audience venues but does not eliminate “close proximity viewing” configurations for large audiences. *See id.* at 1:45–48. That is, there is no language in claim 1 specifically requiring the displaying system is only viewed at a distance.

Additionally, the ’346 patent describes and shows several examples of “close proximity viewing” configurations that are intended for large audiences. One such example (e.g., Figure 11) that has been cited by Patent Owner when discussing the preamble (*see* PO App. Br. 10) is described as “a large-audience, positionable imaging and display system suitable for a retail, educational or research facility, or command-and-control center[.]” The ’346 patent 5:47–49, 17:55–59; Fig. 11. In this embodiment, the seats are arranged for close proximity viewing. *See id.* at 18:13–18, Fig. 11. Additionally, eight seats are shown and arranged around half of a display screen. *See id.* If the seats not shown are added to the eight viewable seats, this described “large-audience” embodiment arguably shows no more than fourteen seats. This is much less than several hundred people, as Patent Owner urges. PO App. Br. 10. Thus, although the ’346 patent describes

embodiments that are viewable at a distance and can be viewed by several hundred people (*see* the '346 patent 5:7–10; Fig. 1), we fail to find the term “large-audience” in light of the disclosure must be limited to at least several hundred people. *Id.* at 10.

Patent Owner further relies upon the Tichenor declaration to support the position that one of ordinary skill in the art would have understood the term, “large-audience,” to mean at least several hundred people. PO App. Br. 10 (citing Tichenor Decl. ¶¶ 10–11). Even presuming that Mr. Tichenor is one of ordinary skill in the art (*see* Tichenor Decl. ¶ 1–2), he provides no supporting evidence for his position. *See* Tichenor Decl. ¶ 10. Mr. Tichenor addresses the '346 patent (citing the '346 patent, Title, the Background of the Invention, 3:23–29, 4:23–29), but does not address the Figure 11 embodiment of the '346 patent. *See id.* at ¶¶ 9–10. As such, Mr. Tichenor has not demonstrated sufficiently how one skilled in the art would have construed the term, “large-audience” when considering the '346 patent in its entirety and, consequently, his declaration addressing this limitation is not persuasive.

Accordingly, we find that the Examiner’s construction that the term limits the claim term “large-audience” to “an ample or abundant audience” (RAN 5) is broad but reasonable in light of the disclosure and as the disclosure would have been interpreted by one of ordinary skill in the art.

b. *a screen-display*

Claim 1 recites “a screen-display configured for the exhibition of panoramic imagery having an interior surface-perimeter and an exterior surface-perimeter, wherein, each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a

panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged.” Patent Owner asserts that the Examiner has “ignored almost all of this claim language.” PO App. Br. 7. We disagree.

First, the Examiner finds that claim 1 requires a screen display with an interior surface-perimeter and an exterior surface perimeter. *See* RAN 5. Second, contrary to Patent Owner’s arguments (PO App. Br. 7; PO Reb. Br. 3), the Examiner additionally states the screen display – not the surface-perimeters – is “configured for the exhibition” and does not state the recitation is intended use. RAN 5. Also, this “configured for” limitation is a functional recitation that requires the screen-display to have the ability to exhibit panoramic imagery. *See In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997).

The Examiner further states that the term “panoramic” has been broadly recited to include images that have “a wide aspect ratio, such as 16:9 aspect ratio” or a “3:1 aspect ratio” in comparison with “a standard image which has a ratio of about 4:3.” RAN 5. Although Patent Owner asserts that the RAN discusses a “resized panorama” rather than “the exhibition of panorama” (*see* PO App. Br. 7 and RAN 6) (bolding omitted), we fail to find claim 1 excludes resizing an image to exhibit panoramic imagery. Furthermore, the ’346 patent does not define “panoramic” or “panoramic imagery.” *See generally* the ’346 patent. Given the above, we find the Examiner’s position reasonable that the “panoramic imagery” limits claim 1 to a screen display capable of exhibiting imagery having a wide aspect ratio or covering a field of view greater than that of the human eye.

Moreover, the ’346 patent’s disclosure describes projectors that project an array of adjacent panoramic segments (e.g., 20). The ’346 patent 10:22–27, Fig. 1;

see also the '346 patent 11:31, 50–52, 12:21–22, 14:15–17, 41–45; Figs. 1, 2, 6.

The '346 patent also describes “panoramic display screens” (the '346 patent 11:22) and a “laterally-aligned camera array” that is a “panoramic image-capturing apparatus” on flat surfaces (the '346 patent 13:60–65, 15:1–8; Fig. 6). As such, when considering the disclosure, we find that “panoramic imagery” includes even panoramic segments exhibiting imagery having a wide aspect ratio or covering a field of view greater than that of the human eye on flat surfaces.

Claim 1 further recites that “each of said surface-perimeters is shaped and sized . . . to have a display-surface viewing area being capable of a panoramic imagery over a wide-angle field extending up to a full 360° of azimuth.” Patent Owner urges that the proper construction

requires the system to include a display surface with a viewing area that allows at least one person at all of the angles between 0 degrees and up to a full 360 degrees of azimuth to see both of the viewing surfaces (i.e., the interior viewing surface perimeter and the exterior viewing surface perimeter). To do otherwise would not provide a proper interpretation to “up to a full 360 degrees of azimuth.” In other words, “full” means and includes all of the angles from 0 to 360 degrees of azimuth, and not just one of them.

PO App. Br. 8; *see also* PO Reb. Br. 4. Patent Owner further cites to the Tichenor declaration to support this position. *See* PO App. Br. 9 (citing Tichenor Decl. ¶¶ 13–16). We disagree.

Claim 1 recites each surface-perimeter is sized to have a viewing area “being capable of panoramic imagery over a wide-angle field” Notably, the disclosure of the '346 patent has no definition for this claim language. *See generally* the '346 patent. Moreover, we will not import a particular embodiment into a claim that is broader in scope than that embodiment. *See* Tichenor Decl. ¶ 13–14. That is, we will not read into claim 1 a particular embodiment (e.g., Figure

1), when as is the case here, the claim may be construed broader than the Figure 1 embodiment. *See* PO App. Br. 8–9 (discussing Fig. 1 in the '346 patent); *see also* *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

Because the surface-perimeters need to be capable of panoramic imagery over a wide-angle field as recited, we disagree that the surface perimeter includes “all of the angles” or those that would not be capable of panoramic imagery “over a wide-angle field,” such as those at zero degrees or those that fail to generate the correct aspect ratio. PO App. Br. 8. Thus, we are not persuaded that the recited viewing area extends from 0 to 360 degrees or requires all angles. *See* Tichenor Decl. ¶ 13. Additionally, we disagree that the phrase, “extending up to a full 360° of azimuth” must include *all* of the angles up to a full 360° of azimuth. Claim 1 does not require each of said surface-perimeters is shaped and sized to have a display-surface viewing area *having* the full 360° of azimuth. As such, we view this limitation similar to claiming a range, and the plain meaning of the limitation “extending *up to* a full 360° of azimuth” (emphasis added) is a recitation of a range over which the viewing area can cover but does not require the viewing area to encompass all the angles in the recited range, including 360 degrees. 3PR Resp. Br. 5.

For example, as the Requesters indicate, this viewing area includes various wide-angle fields, including only 120°, 270°, or 300° degrees, or “a wide angle field less than the full 360 degrees.” 3PR Resp. Br. 5. We thus disagree that a viewing area of 180° of azimuth would not have a “display surface viewing area of panoramic type, over a wide-angle field extending up to a full 360 degrees of azimuth” as broadly recited. *See* Tichenor ¶ 16. Also, the use of the word, “full,” in front of “360° of azimuth” does not require that the wide angle field must

include 360 degrees. Nor do we agree that our construction of a “full 360” degrees fails to give “real meaning” to this term. *See id.* at ¶ 15. Rather, this claim limitation of “up to full 360” degrees describes the top end of the wide angle field range on which the prior art can read. Furthermore, even in the cylindrical screen embodiments of the ’346 patent, none of the viewers are able to view the entire 360 degrees of a screen’s interior or exterior surface at one time or from a single vantage point. Accordingly, like the Examiner, we construe this limitation as having a “viewing area [that] can extend from ranges less than 360°” RAN 6.

Lastly, concerning the recitation, “each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type . . . on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged,”⁴ Patent Owner argues that this phrase requires that the surface-perimeters are “substantially continuous in appearance” or “largely continuous.” The Examiner has not disagreed with this construction stating the limitation of “substantially contiguous” means “largely” continuous. *See id.* at 6.

Although the Examiner does not state that “substantially contiguous” means a “majority,” Patent Owner asserts that the language, “substantially contiguous” does not include “a system that merely has a majority of the surface perimeters shaped and sized to be continuous.” PO App. Br. 9. The phrase, “substantially contiguous,” is not defined in the disclosure of the ’346 patent, nor is there a clear disavowal of this phrase. The ’346 patent describes the Figure 1 embodiment as

⁴ Patent Owner misquotes this claim language in claim 1 as “each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance on which panoramic visual-media content and segmented visual-media content can be imaged.” PO App. Br. 9.

having screen-display 32 “preferably substantially contiguous and seamless in appearance” or the viewing area having “a substantially seamless appearance.” The ’346 patent 7:18–19, 7:67–8:1. Yet, the word “seamless” is noticeably absent from claim 1. Also, the Tichenor declaration states that the “substantially contiguous” includes surface perimeters that “are shaped and sized to be continuous in appearance, or shaped and sized to be mostly continuously in appearance.” PO App. Br. 9 (citing Tichenor ¶ 17). Similarly, the Examiner further states this means “‘for the most’ part contiguous.” RAN 6. This construction does not exclude gaps in the surface-perimeters. *See* 3PR Resp. Br. 14. We thus find the Examiner’s construction of this phrase reasonable and consistent with Patent Owner’s position.

c. *screen positioning means*

Claim 1 additionally recites, “screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide a multitude of vantage points from which to view at least one of said surface-perimeters.” Patent Owner asserts for this limitation that the Examiner has improperly ignored the prosecution history and how this limitation should be construed in light of the disclosure. PO App. Br. 10–11; PO Reb. Br. 4–5. In particular, Patent Owner argues that this limitation means that “there is a system to move the screen to a height relative to the audience.” PO App. Br. 11. Yet, we agree with the Requesters that the phrases, “moving,” and “two or more heights,” are not found in claim 1. 3PR Resp. Br. 15 (bolding and underlining omitted). Rather, the claim merely recites “screen *positioning means to position* said screen-display *to at least one height . . .*” *Id.* at, Claims App’x (emphasis added).

Turning to the disclosure for better understanding, we find various passages discussing the positioning means. Some include motion-control actuators. *See* the '346 patent 6:63–7:3. Others do not. *See id.* at 19:58–60, 20:56–21:38; Figs. 12–16. For example, the Figure 12 embodiment shows the building itself serving as the primary positioning means. *See RAN 7; see also* the '346 patent 21:13–14, 19–24; Fig. 12. We therefore disagree that “the embodiment of using a building as a positioning means is irrelevant to the interpretation of the claims.” PO App. Br. 11. Other examples describe a screen positioning means 56 that position a screen at one height relative to the viewing audience. *See RAN 7; see also* the '346 patent 21:34–39; Figs. 14–16. Thus, even when we consider the disclosure, we do not find that the recited positioning means requires *movement* of the screen to a height relative to the audience.

Regarding the prosecution history, the quoted portion of the prosecution does not define or provide a meaning for the recited “screen positioning means.” PO App. Br. 11 (quoting the April 2003 Response to an Office Action noting Hayashi “doesn’t move his screens, he moves his audiences” (bolding omitted) and quoting the Examiner’s reasons for allowance with bolding and underlining added by Patent Owner); PO Reb. Br. 4–5. Rather, the statements merely are arguments and indicate what one Examiner found that the cited prior art failed to show. *See id.* These statements do not provide evidence of how the inventor limited the meaning of the recited “screen positioning means” during prosecution. *See id.* “Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when those sources expressly disclaim the broader definition.” *In re Bigio*, 381 F.3d 1320, 1325 (Fed.

Cir. 2004). As indicated above, the provided prosecution history fails to disclaim expressly a broader definition of “screen positioning means.”

Accordingly, we find the Examiner’s construction that the “screen positioning means” includes “anything that maintains, locates or moves the screen-display at one or more heights” reasonable. RAN 7.

d. *exhibition means*

Lastly, claim 1 recites, “exhibition means for imaging and controlling said contiguous panoramic visual-media content and said segmented visual-media content on at least one of said surface-perimeters.” Patent Owner contends that the limitation, “at least one of” in this phrase requires both the interior and exterior surface-perimeters to be capable of being viewed, when reading the claim as a whole. PO App. Br. 11. The Examiner construes this phrase to mean the content is “on only one (reasonable interpretation of “at least one”) surface perimeter.” RAN 8. We agree with the Examiner that a broad, but reasonable construction of the phrase, “at least one of said surface-perimeters,” includes only one surface-perimeter.

As for construing claim 1 as whole, claim 1 also recites “a screen-display . . . having an interior surface-perimeter and an exterior surface-perimeter, wherein, each of said surface-perimeter is shaped and sized . . . to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged.” PO App. Br. 31, Claims App’x. We agree that the immediately above recitation recites that both surface-perimeters must be capable of (e.g., are “shaped and sized”) having viewing area for visual-media content. However, the separately recited exhibition

means images and controls visual-media content on “at least one of said surface-perimeters.” For example, in the Figure 1 embodiment, exhibition means 28 images and controls the visual-media content on the interior surface, while the content is viewable on both surfaces. The ’346 patent 7:12–15, 10:15–30; Fig. 1. Other embodiments show the exhibition means imaging on either the interior (e.g., Figs. 5, 8) or the exterior surface (e.g., Figs. 4, 7), and yet others disclose both. The ’346 patent 10:15–33, 16:5–8; Figs. 4–5, 7–8.

2. *Claim 2*

For those limitations in independent claim 2 similar to independent claim 1, we refer to the above discussion. Claim 2 additionally recites the “screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide circumnavigable viewing of the screen-display, and to provide a multitude of vantage points exterior to an outermost perimeter of said display, from which to view at least one of said surface-perimeters.” Patent Owner argues that the Examiner has improperly construed the phrase, “circumnavigable” to mean “‘a viewing audience can see or can move to see a substantial portion of the substantially contiguous screen-display, they would be provided circumnavigable viewing.’ This is not the same as being able to walk around the screen.” PO App. Br. 11 (bolding and underlining omitted).

At the outset, we note that there is no precise language in the recitation that permits viewers to walk around the screen from all angles between 0 and up to the full 360 degrees of azimuth as asserted. *See id.* at 11–12. Nor do we find precise language in claim 2 of “the same viewing areas allow viewers (e.g., at different heights), walking around an exterior of, or ‘circumnavigating,’ the system’s screen-display from all angles” on the surface perimeters. *Id.* at 12. Concerning

how to construe the phrase, “circumnavigable,” Requesters address two possible definitions. 3PR Resp. Br. 9 (citing the ’346 patent 6:24–28, 16:16–19). Yet, turning to these passages in the ’346 patent’s disclosure, we agree with the Requesters that there is inadequate guidance regarding how this term is defined.

See id.

Other passages assist us a little more in understanding this term. For example, the ’346 patent describes the Figure 2 (e.g., a cylindrical screen) and Figure 3 (e.g., a dome screen) embodiments as display screens having surface-perimeters that are “circumnavigably, exteriorly, and/or interiorly, viewable.” The ’346 patent 5:15–16. When discussing the Figure 7, 8, 10, and 12–16 embodiments, screen-display 32 is described as “a substantially contiguous circumferential surface that is circumnavigably viewable in close proximity or from a distance, and is exteriorly, and/or interiorly, viewable,” “substantially contiguous, panoramic and circumnavigably viewable,” or “circumnavigably viewable screens.” *Id.* at 16:16–19, 17:36–37, 19:63–64. Each of these screens has a substantially cylindrical or octagonal shape.

However, we further note that the ’346 patent describes a partial cylindrical, or arced, segment of the display can also achieve benefits similar to the Figure 1 embodiment, including “locat[ing] the arced-display for dual-perspective viewing such that the display segment is exteriorly, and/or interiorly, viewable, or circumnavigably viewable.” *Id.* at 11:64–66; *see also id.* at 11:58–64. Claim 3 also recites a panoramic arced-screen segment with a screen positioning means that provides circumnavigable viewing. PO App. Br. 31, Claims App’x. Therefore, although an ordinary understanding of the term, “circumnavigable,” includes

“capable of being sailed round,”⁵ which implies a circumferential or cylindrical shape, the ’346 patent envisions “a partial cylindrical or arced, segment of the display” also provides circumnavigable viewing.

We therefore find the phrase, “screen positioning means . . . to provide circumnavigable viewing of the screen-display” does not require the viewer to be able to walk around a screen display from all angles between 0 and up to the full 360 degrees of azimuth, and can include partial-cylindrical or arced-shaped screens in accordance with the disclosure. Given the ordinary understanding of “circumnavigable,” we further find that the Examiner’s position that the “circumnavigable viewing” includes when “a viewing audience can see or can move to see a substantial portion of the contiguous screen-display” reasonable. RAN 9. Additionally, as claim 2 further recites “screen positioning means . . . to provide a multitude of vantage points . . . from which to view at least one of said surface-perimeters,” we also find that the Examiner’s position that “there must be more than one vantage point . . . to see one of the surface perimeters” reasonable. *Id.* at 9.

Lastly, Patent Owner argues that the screen-height positioning provides “significant new and unexpected outcomes.” PO App. Br. 12. However, Patent Owner points to insufficient evidence to support this proposition. *See id; see also* 3PR Resp. Br. 15.

⁵ WEBSTER’S REVISED UNABRIDGED DICTIONARY (1913), available at <http://machaut.uchicago.edu/?resource=Webster%27s&word=circumnavigable&use1913=on> (last visited October 7, 2014).

3. Claim 3

Independent claim 3 does not recite a limitation in which the “screen-display” has surface-perimeters shaped and sized “to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth.” Additionally, claim 3 recites “a panoramic arced-screen segment configured for the imaging of arced-panoramic imagery having an interior surface-perimeter and an exterior surface-perimeter” and not a display having 360° of viewing area. *See* PO App. Br. 31-32, Claims App’x. Thus, the arguments related to the claim construction of the recitation of “a full 360° of azimuth” are not applicable to claim 3. *See id.* at 12 (referring to parts 1–4 of the argument).

Patent Owner also argues that the Examiner did not construe the interior and exterior perimeters as being arced. *Id.* at 12. We disagree. The Examiner states that “there must be some arc or curve to the shape [of the screen] thereof.” RAN 9. Additionally, the Examiner finds that the screen-display further has both an interior and exterior surface-perimeters. *Id.* at 10. Taken in total, the Examiner has found that the interior and exterior perimeters have some arc or curve.

4. Remaining Claims

Patent Owner refers to parts 1–4 of the Appeal Brief for independent claims 24, 32, and 38. PO App. Br. 12. To the extent these claim include the same limitations as those discussed in parts 1–4, we refer to our previous discussions.

B. Art Rejections

The Tichenor declaration addressing evidence of secondary consideration has no effect to the following anticipation rejections. The declaration has been considered for the obviousness rejections.

1. Anticipation Rejections

Except as noted below, we adopt the Examiner's findings in the Answer and reference to the RAN as our own. Ans. 1 (incorporating the RAN).

A. Hayashi

Based on the evidence of record and the above claim construction, we conclude that the Examiner has not erred in rejecting claims 1- 2, 9-10, 31-32, 36, and 56 under § 102(e) based on Hayashi. RAN 12-20. Other than claims 1 and 2, Patent Owner has not argued the claims separately. PO App. Br. 12-14. We select independent claims 1 and 2 as representative.

Patent Owner argues that Hayashi fails to disclose a screen display as recited. PO App. Br. 12. In particular, Patent Owner argues that Hayashi fails to disclose "a display surface with a viewing area that allows at least one person at all of the angles between 0 degrees and up to a full 360 degrees of azimuth to see both of the viewing surfaces (i.e., the interior viewing surface perimeter and the exterior viewing surface perimeter)," because the screen is attached to a supporting structure, preventing "two-sided screen "viewability" or viewing of both surface-perimeters. PO App. Br. 12-13. Given the breadth of claim 1, we are not persuaded.

As a preliminary matter, claim 1 recites "screen-display . . . having an interior surface-perimeter and an exterior surface-perimeter, wherein, each of said surface-perimeters is shaped and sized . . . to have a display-surface viewing area of a panoramic type over a wide-angle field" and "exhibition means for imaging and controlling said contiguous panoramic visual-media content and said segmented visual-media content on at least one of said surface-perimeters." Thus, even though claim 1 requires an interior and exterior surface-perimeter and each

has a viewing area, the claim only requires the exhibition means to image visual-media content on “at least one of said surface-perimeters.” There is no limitation in claim 1 requiring the viewer to be able to view both surfaces at once.

Turning to Hayashi, Figures 48 and 49 show a cylindrical screen display (e.g., 22H) having interior and exterior surface-perimeters over a wide-angle field (e.g., the right and left surfaces of screen 22H in Fig. 48 respectively). Hayashi 7:56–63, Fig. 48; *see RAN 13*. Although viewers 30 do not face the interior surface-perimeter, Hayashi still has an interior surface-perimeter shaped and sized to have a display-surface viewing area of a panoramic type over a wide-angle field as broadly as recited. *See Hayashi, Figs. 48–49*. Moreover, even though not required by claim 1 as discussed above, Hayashi’s display-surface viewing areas for both the interior and exterior include all of the angles between 0 degrees and up to a full 360 degrees of azimuth. *See Hayashi 7:56–63, Fig. 48*.

We additionally note that the ’346 patent states that projections “rendered onto an interior-surface 14 would also appear on exterior surface-perimeter 16.” *Id.* at 13:29–32. Similarly, Hayashi has internal projectors that render images on the interior surface which also appear on the exterior surface. *See Hayashi 7:58–63, Figs. 48–49*. This further demonstrates Hayashi’s display screen has an interior and exterior surface-perimeters shaped and sized to have a viewable area, even though the viewer may not face a particular surface.

Patent Owner further contends that Hayashi fails to disclose a screen positioning means “to position said screen-display to at least one height relative to a viewing audience to provide a multitude of vantage points from which to view at least one of said surface-perimeters.” We disagree. Contrary to Patent Owner’s assertions (PO App. Br. 13), Hayashi shows floor 6 and building 3 with ceiling 2

provide a screen positioning means that positions screen 22H. Hayashi, Figs. 48-49; *see also* RAN 13. Additionally, Hayashi describes and shows screen 22H at one height relative to the viewing audience (e.g., viewers at chairs 30) providing a position of the screen-display relative to the viewing audience and multiple vantage points from which to view at least one surface-perimeter (e.g., the exterior surface-perimeter). Hayashi 7:57–63, Figs. 48–49. Notably, the part of Hayashi quoted by Patent Owner describes an alternative embodiment (i.e., Fig. 1) where the screen is positioned on the building’s cylindrical surface and the viewers are located in the center of the building. PO App. Br. 13 (citing Hayashi 4:4–6). Thus, because the Examiner focused on Figures 48 and 49, we find this discussion unpersuasive. RAN 14.

To the extent Patent Owner is asserting that Hayashi fails to move the screen relative to the viewing audience (*see* PO App. Br. 13), we disagree and refer to our above discussion under the Claim Construction section. In particular, we stated that this limitation in claim 1 does not require the screen positioning means to move the screen relative to the viewing audience.

Patent Owner separately discusses independent claim 2. First, Patent Owner refers to the previous arguments presented for claim 1. We are not persuaded. Second, Patent Owner argues Hayashi does not disclose “screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide circumnavigable viewing of the screen-display, and to provide a multitude of vantage points exterior to an outermost perimeter of said display, from which to view at least one of said surface-perimeters.” PO App. Br. 13. To support this argument, Patent Owner repeats the contentions above in connection with claim 1, arguing there is no “two-sided screen viewability” in Hayashi, and

contending Hayashi does not disclose a system that moves a screen to a height relative to an audience. *Id.* at 13. For the above reasons, we disagree.

For the foregoing reasons, Patent Owner has not persuaded us of error in the rejection of (1) independent claims 1 and 2 and (2) claims 9-10, 31-32, 36, and 56 not separately argued with particularity.

B. Salesky

Based on the evidence of record and the above claim construction, we conclude that the Examiner has not erred in rejecting claims 1- 2, 4–6, 14-15, 17, 28, 31-32, 50, and 52–54 under § 102(e) based on Salesky. RAN 24-33. Claims 1 and 14 are separately argued, and we select them as representative. PO App. Br. 14-17.

Patent Owner asserts that Salesky fails to disclose “a screen-display configured for the exhibition of panoramic imagery having an interior surface-perimeter and an exterior surface-perimeter, wherein, each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged.” *Id.* at 14. In particular, Patent Owner contends that Salesky’s screens are flat, failing to mention panoramic-type imaging, and do not show or describe surface-perimeters that are “substantially contiguous in appearance” as recited, because the screen are “distinctly separated from each other by significant structures where no picture would be viewable.” *Id.* (citing Tichenor Decl. ¶ 18).

As stated above, we find the Examiner’s position reasonable that the “panoramic imagery” language in claim 1 limits to a screen display to one capable

of being used to exhibit imagery having a wide aspect ratio and does not require the prior art to have the full 360° of azimuth. Also, claim 1 fails to require the display to be curved and can be flat while providing a panoramic view over wide-angle field. Salesky describes projectors that project images with a certain height H and width W that can spread or widen an image optically. RAN 24–25 (citing Salesky Figs. 1–4); *see also* Salesky 7:24–41 (describing Fig. 1). Thus, we disagree with Mr. Tichenor that the Salesky does not disclose panoramic-type imaging as recited. *See* PO App. Br. 14–15. Also, regarding the “substantially-contiguous arced-panoramic” comments, we note that claim 3 has not been rejected using Salesky and, once again, we find the declaration addressing this limitation unpersuasive. *Id.* at 14 (citing Tichenor Decl. ¶ 18).

Salesky states that multi-display system 300 may leave the top and bottom surfaces open to form a viewable image surface. Salesky 9:28–32; Fig. 3. Similarly, the Figure 1 embodiment in Salesky has its top and bottom surfaces open and thus permits viewing on its interior. *See* Salesky, Figs. 1–2. That is, depending on the height the display is positioned relative to the Salesky’s viewing audience, the screen-display has both exterior and interior surface-perimeters shaped and sized to have a display-surface viewing area of a panoramic type over a wide-angle field as broadly as recited. We thus are not persuaded by Mr. Tichenor’s position that “it would be very difficult to exhibit panoramic imagery” based on the arrangements disclosed in Salesky. PO App. Br. 15 (citing Tichenor Decl. ¶ 19). Furthermore, as previously noted, none of the viewers are able to see the entire 360 degrees of a screen’s surface at one time in the embodiments of the ’346 patent.

Patent Owner argues that the imagery must be contiguous to create a panoramic type viewing area. PO App. Br. 15. However, for reasons discussed above when addressing how to construe the claims, we disagree. First, when addressing the limitation in claim 1 reciting the surface-perimeters are sized and shaped to be “substantially contiguous in appearance,” we explained this limitation requires the surfaces to be largely or for the most part contiguous and does not exclude gaps. *See* 3PR Resp. Br. 14. Thus, although Salesky discloses screens that contain gaps (e.g., Figs. 1, 2, or 4), we find that the screens (e.g., inner surfaces 121–123 or those created by projectors 411–414) are largely or for the most part are contiguous. *See* Salesky 5:54–57, 10:11–40, Figs. 1 and 4. We further note that Salesky teaches further embodiments that have polygonal shapes, including five, seven, or more sides. *See* Salesky 9:63–10:10. As such, we disagree that Salesky fails to teach each surface-perimeter is shaped and sized to be substantially contiguous in appearance as recited.

Next, Patent Owner argues that Salesky fails to disclose a screen positioning means as recited. PO App. Br. 15–16. Patent Owner admits Salesky’s screen can be attached or suspending by the ceiling using cables, positioned on a floor, or in a box or cube. PO App. Br. 15 (citing Salesky 8:37–39); *see also* RAN 25–26 (citing Salesky 8:32–39). However, Patent Owner asserts this disclosure fails to teach the screen is positioned to at least one height relative to a viewing audience. We disagree that the discussed cables fail to meet this claim limitation of a positioning means that positions the screen at one height relative to a viewing audience.

Patent Owner further contends that Salesky does not disclose an exhibition means, once again focusing on the “contiguous panoramic” claim language. PO App. Br. 16. We are not persuaded for the above-stated reasons.

As for claim 14, Patent Owner additionally asserts Salesky fails to teach “‘said screen-display having a circularity-of-action’ in combination with the other features of the claims.” *Id.* at 16–17. Patent Owner focuses on Salesky disclosing only disrupted display surfaces and not a panoramic display to conclude that Salesky fails to provide “a circularity-of-action.” *Id.* at 16. For the above reasons, we disagree that Salesky fails to teach a panoramic display and note the claim only requires the surface-perimeters to be “substantially contiguous in appearance.” Moreover, as noted above, viewers of Salesky’s display can see both the exterior and interior surface-perimeters depending on the position of the display’s height relative to the viewing audience (e.g., viewers can view both surface-perimeters from below when screen is suspended from the ceiling), such that an object can be seen to travel from left to right on an exterior surface-perimeter and right to left on an interior surface-perimeter as recited. *See also* RAN 28 (citing Salesky 8:32–39, 9:20–32; Fig. 4). We therefore disagree that display shapes other than a circle cannot create “circularity-of-action.” *See* PO App. Br. 17.

For the foregoing reasons, Patent Owner has not persuaded us of error in the rejection of (1) claims 1 and 14 and (2) claims 2, 4–6, 14–15, 17, 28, 31–32, 50, and 52–54 not separately argued with particularity.

C. *Globus*

Based on the evidence of record and the above claim construction, we conclude that the Examiner has not erred in rejecting claims 1–2, 9, 14, 31, and 32 under § 102(b) based on Globus. RAN 47–53. Patent Owner argues claims 1–2, 14, and 31 separately (PO App. Br. 19–22), and we select them as representative.

Patent Owner asserts that Globus fails to disclose “a screen-display configured for the exhibition of panoramic imagery having an interior surface-

perimeter and an exterior surface-perimeter, wherein, each of said surface-perimeters is shaped and sized to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type, over a wide-angle field extending up to a full 360° of azimuth, on which, substantially contiguous panoramic visual-media content and segmented visual-media content can be imaged.” PO App. Br. 19–20. Patent Owner once again asserts that only one surface-perimeter (i.e., the interior surface) is shaped and sized to have a viewing area over 360 degrees of wide-angle field. *Id.* at 19–20. However, as noted previously, claim 1 only requires an exhibition means for imaging visual-media content on at least one of the surface-perimeter, which Patent Owner admits Globus does. *See id.* at 19 (discussing a 360 degree screen on the inner periphery and citing Globus 2:50–54). Additionally, Globus teaches that screen 2 can be made from reflective *or* transmittive rear screen material. Globus 4:1-3; *see also* RAN 50 and PO App. Br. 20 (quoting this passage). As such, we disagree with Patent Owner that Globus has no description that the exterior surface-perimeter is suitable for imaging and cannot create a viewing area as recited. *Id.* at 19.

Patent Owner further argues that Globus fails to teach a display system for large audiences, only showing a few people viewing the screen. *Id.* at 20. Based on the record, we disagree. First, we note our construction of the recitation to a “large-audience” in the preamble at best limits the claim to “an ample or abundant audience” but does not require a viewing audience of several hundred. Additionally, although Patent Owner points to Globus’ disclosure of a viewing room having a seventeen foot diameter (Globus 3:37–39), this is merely an *example* of the screen size. Patent Owner also argues that Globus is “in a small room of a building” (PO App. Br. 20), but we fail to find this discussion in Globus.

Patent Owner next argues that Globus does not disclose a screen positioning means that provides multiple vantage points, because the legs are not adjustable. *Id.* at 20. We disagree based on the above discussion and our claim construction of positioning means, which requires means to position the screen to one height relative to a viewing audience and does not require movement.

Finally, Patent Owner contends Globus fails to disclose a screen support means for supporting the shape of the screen-display. *Id.* at 20. Although Patent Owner focuses on the screen material (*see id.*), the Examiner states that one of the legs supporting screen drum 2 maps to this recitation. RAN 48. Additionally, Globus discloses other structures located above the screen and supporting housing 3, which also provide a screen support means. *See Globus, Fig. 1.*

As for claim 2, Patent Owner argues Globus fails to disclose “screen positioning means to position said screen-display to at least one height relative to a viewing audience to provide circumnavigable viewing of the screen-display, and to provide a multitude of vantage points exterior to an outermost perimeter of said display, from which to view at least one of said surface-perimeters.” PO App. Br. 21. Many the arguments with respect to claim 2 merely repeat those for claim 1 (*see id.*), and we refer to our findings above for details. Also depending on how the viewing audience is positioned (e.g., sitting underneath but outside drum 2), Globus screen-display’s height relative to the viewing audience is such that the viewing audience can have multiple vantage points exterior to an outermost perimeter and still provide circumnavigable viewing, such as the interior surface’s display. Notably, as discussed above, we found that “circumnavigable” includes partial-cylindrical or arced-shaped screens in accordance with the disclosure.

Regarding claim 14, Patent Owner refers to section D1 and claim 1. *Id.* at 21. As stated above, we are not persuaded. Patent Owner also contends that light transmittive feature in Globus fails to teach the “circularity-of-action” limitation in claim 14, because one of ordinary skill in the art would interpret this arrangement as having the image projected from the outside and into the drum’s center. *Id.* at 22. Although this is mere attorney argument with no supporting evidence, we find, even if presumed true, that there would be images on both the interior and exterior of Globus’ screen-display having a circularity of action as recited. That is, as stated above, Globus has a positioning means which can position the display at one height relative to an audience which provide a dual-perspective vantage points of an object seen to travel from left to right on the exterior surface-perimeter and right to left on the interior surface-perimeter, depending on where the audience is sitting (e.g., one sitting on the ground outside the dome).

Lastly, concerning claim 31, Patent Owner refers section D1 and claim 1. *Id.* at 22. We are not persuaded for the reasons previously set forth.

For the foregoing reasons, Patent Owner has not persuaded us of error in the rejection of (1) claims 1, 2, 14, and 31 and (2) claim 32 not separately argued.

D. Fussell

Based on the evidence of record and the above claim construction, we conclude that the Examiner has not erred in rejecting claims 1-2, 4-6, and 9 under § 102(b) based on Fussell. RAN 68-72. Patent Owner argues claim 1, which we select as representative. PO App. Br. 24-25.

At the outset, we note the remarkable similarity between Fussell’s Figure 3 and Figure 14 of the ’346 patent. *Compare* Fussell, Fig. 3 with the ’346 patent, Fig. 14. Additionally, Figure 13 of the ’346 patent has a balloon display similar to

Fussell's Figure 3. *See id.* Patent Owner attempts to argue that the Figure 13 and 14 embodiments of the '346 patent are excluded by the claim language in claim 1, because one would not be able to see the display-surface viewing area of the interior surface-perimeter. PO App. Br. 24. However, as discussed above, claim 1 recites each surface-perimeter is shaped and sized to have a display-surface viewing area over a wide-angle field but does not require that the viewer be able to *see* each viewing area. Rather, claim 1 recites the screen positioning means positions the screen-display to provide multiple vantage points to view *at least one* of the surface-perimeters (e.g., the exterior surface). As such, we find this argument is not commensurate with the scope of claim 1.

Even so, given that Fussell has a spheroid-shaped translucent screen, Fussell discloses a screen-display having both interior and exterior surface-perimeters to be substantially contiguous in appearance and to have a display-surface viewing area of a panoramic type over a wide-angle field extending up to a full 360 degrees of azimuth based on our above construction of this limitation. *See* Fussell 2:56–67, 3:14–18; Fig. 1 (Figure 1 cited in RAN 68–70). For example, Fussell states that the material of the panels 12–14 that form the spheroid are translucent, permitting the projected image on the interior surface to be viewable on the outside and also permitting the interior surface-perimeter to have a display-surface viewing area over a wide-angle field that can be seen when the spheroid is at a position of at least one height relative to the large viewing audience (e.g., positioned such that the viewer is above or below the spheroid). *See id.* at 2:57–61, Fig. 1. Similarly, the Figure 3 balloon embodiment has openings above and below buoyant body 70, permitting viewers to be able to see both the interior and exterior surface-perimeters over a wide angle field. *See id.* at 4:63–5:1, Fig. 3. Moreover, even

though the viewers may be positioned outside the inflated volume or screen (PO App. Br. 24 (citing Fussell 5:48– 6:2)), this does not prevent viewers from viewing the display’s inside surface.

We also are not persuaded that Patent Owner has provided sufficient evidence that the interior portion of Fussell’s screen is not viewable, because Fussell’s structures are filled with heated exhaust gas. PO App. Br. 24. If this is true, then the Figure 13 embodiment of the ’346 patent, which has been described as having “pressurized balloon-shaped commercial display,” would not have display 32, which is both exteriorly and interiorly viewable as stated in the ’346 patent. The ’346 patent 21:21–22; *see also id.* at 21:26–31.

Lastly, Patent Owner argues that Fussell’s surface-perimeters are not “substantially contiguous in appearance and sized and shaped as a display on which, substantially-contiguous panoramic visual-media content and segmented visual-media content can be imaged.” PO App. Br. 24 (citing Fussell 3:14–18, 5:48–6:2). Specifically, Patent Owner contends that Fussell only displays panoramic visual-media content and not panoramic visual-media content and segmented visual-media content. A review of these passages in Fussell fails to disclose that segmented visual-media content cannot be imaged. *See* Fussell 3:14–18, 5:48–6:2. On the other hand, Fussell states that its video projection screens have reception screens for circumferential viewing for a full 360° of viewing area. RAN 68 (citing Fussell 1:5–9); Fussell 3:14–18. Thus, Fussell discloses an exhibition means for imaging contiguous panoramic visual-media content. Moreover, each projector individually (e.g., 30, 31, 42 in Fig. 1 or 73 in Fig. 3) provides segmented visual-media content that collectively create circumferential or panoramic visual-media content. Fussell 3:12–21, 5:4–8; Figs. 1, 3.

For the foregoing reasons, Patent Owner has not persuaded us of error in the rejection of (1) independent claim 1 and (2) claims 2, 4–6, and 9 not separately argued with particularity.

2. *Obviousness Rejections*

A. *Salesky and Herndon*

Claim 13 is rejected under § 103 as obvious based on Salesky and Herndon. RAN 39–40. Patent Owner refers to “the reasons set forth herein” to argue that Salesky does not teach or suggest the features in claims 1 and 13. PO App. Br. 17. For claim 1, we disagree for the above reasons. Additionally, Patent Owner contends that Herndon does not cure the purported deficiencies. *Id.* Specifically, Patent Owner argues Herndon cannot just use a ring of cameras and relies on an optic system interposed between the cameras and scene 20 exteriorly to the camera ring. *Id.*

Notably, claim 13 recites “consisting of” language but also recites “said exhibition means is *comprised* of a panoramic image-capturing apparatus consisting of a ring of inward-facing cameras” (emphasis added). Thus, claim 13 requires the specifically recited panoramic image-capturing apparatus to be the ring of cameras, but the exhibition means can comprise more elements. Herndon describes the scene being depicted by cameras 11A–F through the medium of six optic systems or channels for image collection. Herndon 2:11–15; Fig. 1. As such, these components collectively form the exhibition means for imaging and controlling the media-content that comprises components (e.g., an optic system) and a panoramic image-capturing apparatus consisting a “ring of inward-facing cameras.” Alternatively, Herndon discusses the cameras have “associated optic systems.” RAN 40 (citing Herndon 2:64-3:2). Based on Herndon’s discussions,

one skilled in the art would have recognized the optic system media or channels described separately in Herndon are a part of the cameras and thus these components collectively form the panoramic image-capturing apparatus consisting of the ring of inwardly-facing cameras.

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations in claim 13. PO App. Br. 30. *Id.*; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claim 13.

B. Salesky and Brotz

Claim 24 is rejected under § 103 as obvious based on Salesky and Brotz. RAN 40–41. Claim 24 is similar in scope to claim 1 and adds a limitation of “the positioning means comprises at least one computer-automated stepper motor.” PO App. Br. 33, Claims App’x. Patent Owner refers to “the reasons stated in C1,” arguing that claim 24 is patentable over Salesky. PO App. Br. 18. For previously stated reasons, we disagree.

Additionally, Patent Owner contends that Brotz does not cure the purported deficiencies, disputing the combination because Salesky only teaches a screen attached or suspending from a ceiling or positioned on a floor and would only teach rotating the screen not positioning the screen to a height. *Id.* We are not persuaded. As discussed above when addressing claim 1, claim 24 similarly recites “screen positioning means to position said screen-display to at least one height relative to the large viewing audience” and Salesky teaches this recitation using the cables. Salesky 8:37–39 (citing by PO App. Br. 18). The Examiner explains that Brotz assists in obtaining the desired level (e.g., a height) for the viewing audience by using computer-automated stepper motor. RAN 41 (citing

Brotz 4:54-5:15; Fig. 6). Using a stepper motor rather than a cable to obtain the desired viewing level for an audience is no more than mere substitution of one known element for another and does no more than yield a predictable result. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

We further disagree with Mr. Tichenor that an ordinary skilled artisan would not look to a computer-automated stepper motor for suspending or attaching screens to a ceiling so that the screens are set in place. PO App. Br. 18 (citing Tichenor Decl. ¶ 21). We note that automatically retractable screens, such as in movie theaters, were commonly known. Moreover, even assuming, without agreeing, that Brotz's motor is used only to rotate the screen in Salesky (*see* PO App. Br. 18 (discussing the Figure 4 embodiment)), the substitution still achieves the recited means “to position said screen-display to *at least one height* relative to the large viewing audience” (emphasis added) as recited.

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations in claim 24. PO App. Br. 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claim 24.

C. Globus and APA

Claims 17, 24, 37, and 58 are obvious over Globus and APA under 35 U.S.C. § 103(a). RAN 60–68. For claim 17, Patent Owner refers to “the reasons set forth in D1” in arguing claim 1 is patentable over Globus. PO App. Br. 23. We disagree for reasons already discussed and need not address how APA cures any alleged deficiency. Additionally, we disagree that APA in combination with Globus fails to teach the features in claim 17 and especially “the quoted features of claim 17,” which have not been discussed in any particularity. *Id.*

Lastly, below, we address the secondary considerations of long felt need, failure of others, and commercial success but the arguments do not address the recitations in claim 17. *Id.* at 30. The weight of the evidence taken as a whole supports the Examiner’s conclusion of obviousness under the law for claim 17.

As for claims 24, 37, and 58, Patent Owner argues that the section of the ’346 patent cited by the Examiner is not admitted prior art. *Id.* at 23. Specifically, Patent Owner argues that the cited section is “merely a description of motion-controlled actuators, and not AAPA.” *Id.* Patent Owner further argues that Globus does not disclose its legs are adjustable and one skilled in the art would not use a computer-automated stepper motor to position a screen, such as Globus’. *Id.* (citing Tichenor Decl. ¶ 21). We are not persuaded.

First, as emphasized by the Examiner (RAN 63), the ’346 patent states that there are “known and/or available motion-control actuators” used in combination with connecting arms. The ’346 patent 6:63–7:11. Second, concerning the Tichenor declaration, there is inadequate supporting evidence that one skilled in the art would not use a computer-automated stepper motor. We further repeat that automatically retractable screens were known in the art. Third, combining this familiar or known actuator with Globus’s legs does no more than yield a predictable and improved result (*see* RAN 64 (discussing providing a means that assists in raising and lowering a screen)). *See KSR*, 550 U.S. at 416–417.

Regarding claims 37 and 58, Patent Owner refers to “the reasons stated in D1” and that APA fails to cure the deficiencies. PO App. Br. 23. We disagree for the above-stated reasons. As to claim 37, Patent Owner also refers to (1) the arguments proffered with respect to claim 24, for which we are not persuaded by and (2) “quoted features of claim 37,” for which Patent Owner fails to articulate

with any specificity. *Id.* Concerning claim 58, Patent Owner essentially repeats the argument made for claim 24.

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations in claims 17, 24, 37, and 58. PO App. Br. 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claims 17, 24, 37, and 58.

D. Fussell and Shaffron

Claim 3 is obvious over Fussell and Shaffron under 35 U.S.C. § 103(a). RAN 72–74. Patent Owner argues neither Fussell nor Shaffron teaches features of claim 3. PO App. Br. 25. Notably, the Examiner relies on the combination of Fussell and Shaffron to teach the features of claim 3. Additionally, Patent Owner refers to “the reasons set forth in E1” and repeats some of the argument to contend that the claim 3 is patentable over Fussell. *Id.* To the extent Patent Owner is referring to the features in claims 1 and 2 (i.e., section E1) and the anticipation rejection, we disagree for reasons previously stated. Additionally, we disagree that claim 3 requires “both the surface-perimeters have to be viewable by an audience” given that claim 3 recites a screen positioning means to provide multiple vantage points from which to view *at least one* surface-perimeter. Lastly, Shaffron is relied upon to teach the speaker feature of claim 3, which Patent Owner admits is taught, and not the other features in the claim. PO App. Br. 25.

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations of claim 3. PO App. Br. 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claim 3.

E. Fussell and Salesky

Claims 3, 15, 17, and 28 are rejected based on Fussell and Salesky. RAN 75–79. When discussing claim 3, Patent Owner refers to “the reasons set forth above” and section C4. PO App. Br. 26. We disagree for the previously-stated reasons. Additionally, the Examiner has not relied upon Salesky to teach the arced-panoramic screen segment with the interior and exterior surface-perimeter. *See* RAN 76–77. Thus, we are not persuaded by Patent Owner’s reference to the Tichenor declaration and addressing how Salesky cannot provide these recited features. PO App. Br. 17 (citing Tichenor Decl. ¶¶ 18–19). Furthermore, we disagree for the above reasons when addressing Fussell and for the reasons set forth by the Examiner (RAN 76–77) that Fussell does not remedy the purported deficiencies of Salesky. *Id.* Lastly, the Examiner has not proposed modifying Salesky as asserted. *Id.* (citing Tichenor Decl. ¶ 20).

Concerning claims 15, 17, and 28, Patent Owner refers to “the Office Action Responses.” *Id.* at 26. However, without any further details, we are unsure as to which Office Action Responses and which arguments Patent Owner is referring. Any argument not included in the brief will be refused consideration. *See* 37 C.F.R. § 41.67(c)(1)(vii).

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations set forth in claims 3, 15, 17, and 28. PO App. Br. 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claims 3, 15, 17, and 28.

F. Fussell and Herndon

Claims 13 is rejected based on Fussell and Herndon. RAN 79. Patent Owner refers to section E1 in arguing claim 1 is patentable over Fussell. PO App.

Br. 26. As previously stated, we are not persuaded. Additionally, Patent Owner argues claim 13 is not obvious over the cited art “based on the reasons set forth in D8.” *Id.* Section D8 addresses the rejection of Globus and Herndon and further refers to section “C7.” PO App. Br. 22-23. To the extent that these arguments are applicable to the rejection of Fussell and Herndon, we are not persuaded. As stated above when addressing claim 13 rejected based on Salesky and Herndon, we disagree that Herndon fails to teach the recited panoramic image-capturing apparatus. Moreover, the arguments concerning “Globus’ intent of using one projector” are not applicable to Fussell. PO App. Br. 23.

Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations in claim 13. PO App. Br. 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claim 13.

G. Fussell and APA

Claim 17 is rejected based on Fussell and APA. RAN 79–80. Patent Owner refers to section E1 in arguing claim 1 is patentable over Fussell. PO App. Br. 26. As previously stated, we are not persuaded. Additionally, Patent Owner argues claim 13 is not obvious over the cited art “based on the reasons set forth in D11.” *Id.* Section D11 argues that Metcalf is not admitted prior art. *Id.* at 23. For the reasons previously discussed, we disagree and refer above for details. Moreover, the arguments concerning Globus are not applicable to Fussell. *Id.* Below, we address the secondary considerations but note the arguments do not address or relate to the specific limitations in claim 17. *Id.* at 30; Tichenor Decl. ¶¶ 22–30. The weight of the evidence taken as a whole supports the conclusion of obviousness for claim 17.

H. Secondary Considerations

Secondary considerations, including satisfaction of a long-felt need and commercial success can have a significant impact on an obviousness analysis. *See, e.g., Washburn & Moen Manuf'g Co. vs. Beat'em All Barbed Wire Co.*, 143 U.S. 275, 282 (1892); *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litigation*, 676 F.3d 1063, 1075-1080 (Fed. Cir. 2012) (long-felt need and commercial success should be considered before ultimate decision made on obviousness); *In re Tiffin*, 443 F.2d 394 (CCPA 1971), modified on reh'*'g*, 448 F.2d 791 (CCPA 1971) (per curiam); *Ex parte Artsana USA, Inc.*, 2014 WL 4090808 (PTAB Aug. 18, 2014) (finding commercial success to be entitled to considerable weight); *Murata Mfg. Co., Ltd. v. Synqor, Inc.*, 2014 WL 1397381 *11–14 (PTAB Apr. 10, 2014).

Patent Owner present arguments concerning secondary considerations of long felt need, failure of others, and commercial success set forth in the Tichenor declaration. PO App. Br. 30. Notably, the portions of the Tichenor declaration addressing secondary considerations have no persuasive value against the anticipation rejections. In determining nonobviousness, evidence of secondary considerations must be relevant to the claimed subject matter, and there must be a determination of whether there is a nexus between the claimed invention and evidence to be probative. *See Ashland Oil, Inc., v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 305 n. 42 (Fed. Cir. 1985). The Tichenor declaration only discusses claims 1–3, and thus this evidence has less probative value for the remaining claims.

Concerning claims 1–3, Patent Owner argues that there is evidence of commercial success. *Id.* at 30. Beyond the general statement, Patent Owner does

not provide evidence of a nexus between the claimed features and the commercial success. *Id.* Additionally, the Tichenor Declaration has provided insufficient proof to establish a nexus between the claimed features and the commercial success. For example, the evidence of licensing with the Los Angeles Lakers may be unrelated to the features of the claimed products in the '346 patent, such as the license is mutually beneficial to both parties or less expensive than defending an infringement suit. *See* Tichenor Decl. ¶ 29; *Hybritech Inc. v. Monclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986). Additionally, although Mr. Tichenor states that the claimed systems have been used by Justin Timberlake, Britney Spears, and the Los Angeles Lakers to generate “hundreds of millions of dollars in revenue,” this statement is inadequate to demonstrate that these individuals’ or entities’ commercial success was attributable to the claimed product of claims 1–3. Tichenor Decl. ¶ 28.

Patent Owner also contends that there was a long felt need for the systems recited in claims 1–3 and that others failed to address this need. Tichenor Decl. ¶¶ 22–27. As evidenced by the above-discussed prior art, we fail to find sufficient evidence that an art recognized problem “for audience, positionable imaging and display systems for the imaging and exhibition of visual-media content” or “for better screen displays” or “for better screen-display systems” existed for a long time without solution. PO App. Br. 30; Tichenor Decl. ¶¶ 23–24. Moreover, contrary to Mr. Tichenor’s assertions (*see* Tichenor Decl. ¶ 23), some of the cited art, such as Fussell, has no “fixed seating capacity” and other cited art, such as Salesky and Fussell, allows all viewers to view the event.

Mr. Tichenor further argues that the system of claims 1–3 yield unexpected results. Tichenor Decl. ¶ 25. However, the evidence of the energy and cost

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savings is conclusory without underlying support for the findings and is insufficient evidence of superiority over the prior art or a greater than expected result.

I. Remaining Adopted and Non-Adopted Rejections

Our conclusion that the Examiner did not err in rejecting claims 1–6, 9–10, 13–15, 17, 24, 28, 31–32, 36–37, 50, 52–54, 56, and 58 based on the adopted rejections discussed above renders it unnecessary to reach the propriety of the remaining rejections of those claims. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984); *cf. In re Gleave*, 560 F.3d 1331, 1338 (Fed. Cir. 2009). We further decline to reach the non-adopted rejections. *See* 37 C.F.R. 41.77 (a) (“The Patent Trial and Appeal Board . . . may affirm or reverse each decision of the examiner on all issues raised on each appealed claim”) and *Gleave*, 560 F.3d at 1338.

IV. CONCLUSION

The Examiner’s decision to reject claims 1–6, 9–10, 13–15, 17, 24, 28, 31–32, 36–37, 50, 52–54, 56, and 58 is affirmed.

V. TIME PERIOD FOR RESPONSE

Requests for extensions of time in this proceeding are governed by 37 C.F.R. §§ 1.956 and 41.79(e). In the event neither party files a request for rehearing within the time provided in 37 C.F.R. § 41.79, and this decision becomes final and appealable under 37 C.F.R. § 41.81, a party seeking judicial review must timely serve notice on the Director of the United States Patent and Trademark Office. *See* 37 C.F.R. §§ 90.1 and 1.983.

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AFFIRMED

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