

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALVE CORPORATION,
Petitioner,

v.

IRONBURG INVENTIONS LTD.,
Patent Owner.

Case IPR2017-00858
Patent 9,289,688 B2

Before PHILLIP J. KAUFFMAN, MEREDITH C. PETRAVICK, and
MITCHELL G. WEATHERLY, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. BACKGROUND

Valve Corporation (“Valve”) filed a petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1–3, 9, 10, 18–22, and 26–30 (the “challenged claims”) of U.S. Patent No. 9,289,688 B2 (Ex. 1001, “the ‘688 patent”). 35 U.S.C. § 311. Petitioner supported the Petition with a Declaration from David Rempel, M.D. (Ex. 1009). Ironburg Inventions Ltd.

(“Ironburg”) timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). On September 1, 2017, based on the record before us at the time, we instituted an *inter partes* review of claims 1–3, 9, 10, 20, 22, and 26–30. Paper 7 (“Institution Decision” or “Dec.”). On May 7, 2018, pursuant to *SAS Institute, Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we modified our Institution Decision and reintroduced into this proceeding all challenges to the patentability of claims 1–3, 9, 10, 18–22, and 26–30 alleged in the Petition. Paper 28 (“SAS Order”). Accordingly, we conducted a trial on all challenges to the claims as summarized below:

References	Basis	Claims challenged
U.S. Patent App. Pub. 2015/0238855 A1 (Ex. 1002, “Uy”)	§ 102(a)(2)	1–3, 9, 10, 20, 22, and 26–30
U.S. Patent No. D711,881 S (Ex. 1003, “Bellinghausen”) and Burns, David, Review: Scuf Xbox 360 Controller, https://www.xboxer360/features/review-scuf-xbox-360-controller/ (Ex. 1004, “Burns”)	§ 103	1, 26, and 30
Burns and U.S. Patent No. D419,985 (Ex. 1005, “LaCelle”)	§ 103	1, 2, 18, 19, 21, 26, and 28–30
Burns and U.S. Patent No. D502,468 S (Ex. 1007, “Knight”)	§ 103	1, 2, 9, 10, 21, and 30
Butler, Harry, Razer Sabertooth Review, http://www.bit-tech.net/hardware/2013/03/11/razer-sabertooth-review/1 (Ex. 1008, “Butler”)	§ 102(a)(1)	1, 2, 9, 10, 20, 26, and 28–30

After we instituted this review, Ironburg filed a Patent Owner Response in opposition to the Petition (Paper 14, “PO Resp.”) that was

supported by a Declaration from Glen Stevick, Ph.D. (Ex. 2001). Valve filed a Reply in support of the Petition. (Paper 19, “Reply”). With our authorization, Ironburg filed a Supplemental Patent Owner Response (Paper 39, “Supp. PO Resp.”) to address the challenges to claims reintroduced pursuant to the SAS Order. Valve filed a Supplemental Reply in support of the Petition and responding to the Supplemental Patent Owner Response (Paper 43, “Supp. Reply”), which was supported by another Declaration of Dr. Rempel (Ex. 1019). With our authorization, Ironburg filed a Surreply addressing arguments set forth in Valve’s Supplemental Reply. (Paper 50, “Ironburg Surreply”). Also with our authorization, Valve filed a brief responding to the Ironburg Surreply. (Paper 52, the “Valve Surreply”). Each party also submitted a brief addressing the relevance of deposition testimony from Simon Burgess (Exhibit 1046). Paper 59 (the “Burgess Brief”); Paper 62 (the “Burgess Resp.”). Ironburg did not move to amend any claim of the ’688 patent.

Ironburg filed three motions to exclude evidence (Papers 25, 48, 63), each of which was opposed by Valve (Papers 27, 51, 64) and supported by Ironburg with reply briefs (Papers 29, 53, 65).

We heard oral argument on September 7, 2018, a transcript of which has been entered in the record (Paper 66, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons expressed below, we conclude that Valve has demonstrated that claims 1, 2, 9, 10, 20, 22, 27, 28, and 30 of the '688 patent are unpatentable, but has failed to do so for claims 3, 18, 19, 21, 26, and 29.

B. RELATED PROCEEDINGS

The parties have identified as a related proceeding the co-pending district court litigation of *Ironburg Inventions Ltd. v. Valve Corporation*, Case No. 1:15-cv-04219-MHC (N.D. Ga.). Paper 3, 1; Pet. 1. Valve also identifies *Ironburg Inventions Ltd. v. Collective Minds Gaming Co. Ltd.*, Case No. 1:16-cv-04110-MHC (N.D. Ga.). Pet. 2. Valve also identifies *inter partes* review proceedings IPR2016-00948, IPR2016-00949, IPR2017-00136, IPR2017-00137 as related because they collectively address related U.S. Patent No. 9,089,770 B2 (collectively, the “Related IPRs”).¹ *Id.* We have issued final written decisions in IPR2016-00948 and IPR2016-00949. We terminated IPR2017-00136 and IPR2017-00137 without issuing final written decisions in response to the joint motions of the parties after they settled their disputes.

C. THE '688 PATENT

The '688 patent relates to “controllers for controlling the play of computerized games; more particularly, . . . to an actuator system of a game controller for a gaming console.” Ex. 1001, 1:13–17. The Specification describes conventional controllers as having controls such as buttons, analog control sticks, bumpers, and triggers mounted to the top and front surfaces of the controller that are intended to be actuated by the user’s thumbs or index fingers. *Id.* at 1:27–54. A user may grip these conventional controllers by

¹ Valve mistakenly refers to IPR2016-00136 and IPR2016-00137 rather than IPR2017-00136 and IPR2017-00137. Pet. 1–2.

wrapping the middle, ring, and little fingers around two spaced-apart grip portions. *Id.* at 1:55–58.

The Specification describes one embodiment in which controller 10 includes allegedly novel paddle levers 11A–D that a user may actuate with the middle, ring, and/or little fingers on the “rear” or underside of controller body 14 as shown in Figure 5, which we reproduce below.

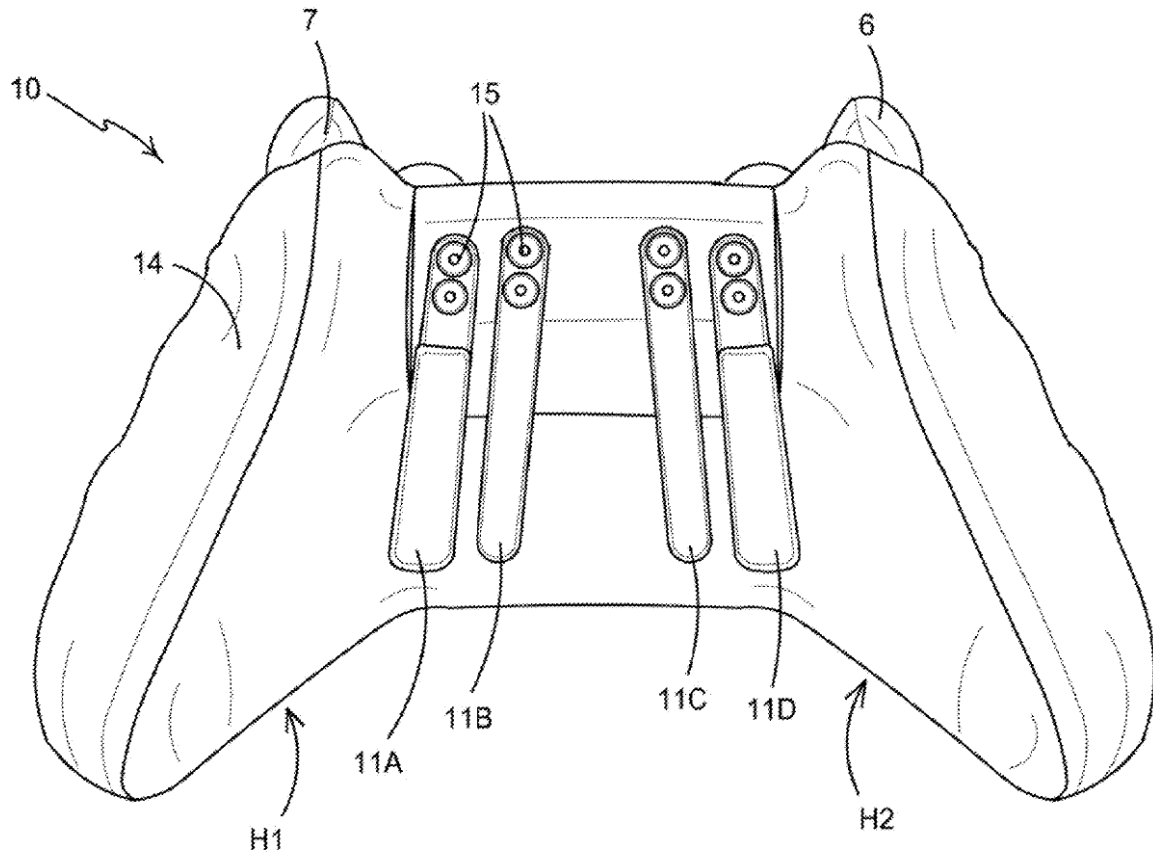


FIGURE 5

Figure 5 is “a plan view from below of the rear panel of the games controller of FIG. 1.” *Id.* at 4:28–29.

In one embodiment, the lower surface of outermost paddle levers 11A, 11D are oriented at an angle β relative to surface S_B of controller 10, as shown in Figure 7, which we reproduce below. *Id.* at 8:12–16.

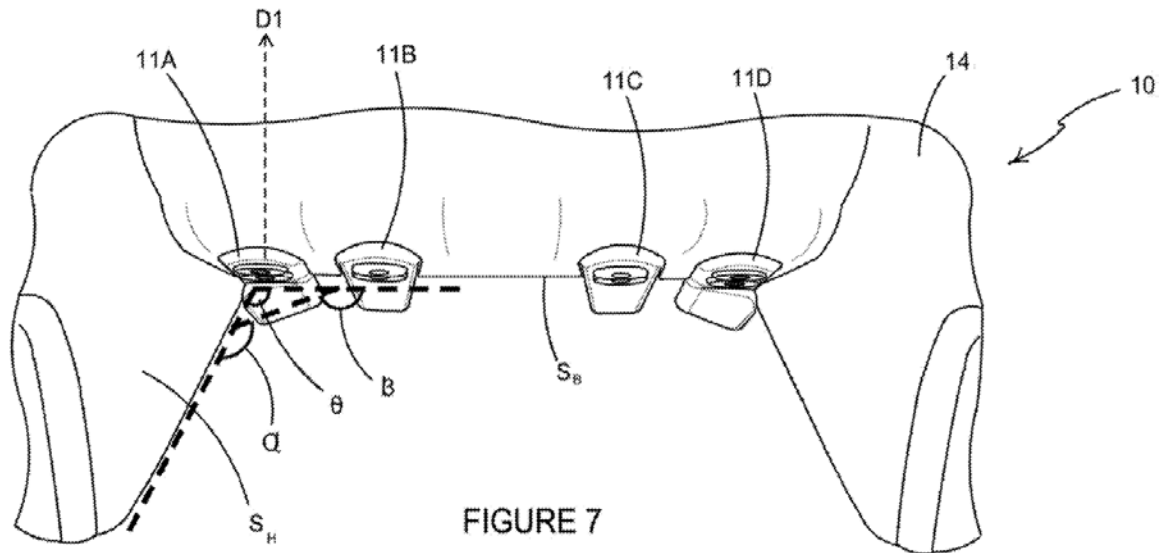


FIGURE 7

Figure 7 is an enlarged front view of the games controller of Figure 1 showing the relationship among paddles 11A–D, the rear of controller body 14, and handles H1, H2.

The configuration and arrangement of paddle levers 11A, 11D as compared to adjacent paddle levers 11B, 11C enables the user (1) to “readily find the adjacent paddle 11B, 11C” without needing to “disengage or lift off the outermost paddle 11A, 11D” and (2) to “maintain touching contact therewith whilst actuating one of the inner paddles 11B, 11C.” *Id.* at 7:56–60.

Claims 1 and 30, the only independent claims among those challenged, recite:

1. A games controller comprising:
a case; and
a plurality of controls located on a front end and a top of the case;
the case being shaped to be held in both hands of a user such that the user’s thumbs are positioned to operate controls located on the top of the case and the user’s index fingers are positioned to operate controls located on the front end of the case; wherein

the games controller further comprises at least one first additional control located on a back of the case in a position operable by a middle, ring or little finger of the user,

the first additional control comprising a first elongate member displaceable by the user to activate a control function, wherein

the first elongate member comprises a first surface disposed proximate an outer surface of the case and

the first elongate member comprises a second surface opposing the first surface, the second surface being configured and arranged to be non-parallel with a portion of the outer surface of the back of the case to which the first elongate member is mounted.

Id. at 9:28–48 (with line breaks added for clarity).

30. A control actuator for use with a games controller comprising a case and

a plurality of controls located on a front end and a top of case,

the case being shaped to be held in both hands of a user such that the user's thumbs are positioned to operate controls located on the top of the case and the user's index fingers are positioned to operate controls located on the front end of the case,

the control actuator being mountable on a base of the games controller in a position operable by a middle, ring or little finger of the user, the control actuator comprising:

an elongate member displaceable by the user to activate a control function,

wherein the elongate member comprises a first surface for being disposed proximate an outer surface of the base of the games controller, and

wherein the elongate member comprises a second surface opposing the first surface,

the second surface being configured and arranged to be non-parallel with a portion of the outer surface of the base of the games controller adjacent to which the elongate member is to be mounted.

Id. at 12:9–28 (with line breaks added for clarity).

II. ANALYSIS

A. CLAIM INTERPRETATION

“A claim in an unexpired patent that will not expire before a final written decision is issued 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) (2016);² *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (affirming that USPTO has statutory authority to construe claims according to Rule 42.100(b)). When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification, and absent any special definition, we give claim terms their ordinary and customary meaning. *See In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.” (internal quotation marks omitted)). Only terms that are in controversy need to be construed, and then only to the extent

² Our recently changed version of this Rule, which requires that we interpret claims in the same manner used in a civil action under 35 U.S.C. § 282(b), does not apply here because the Petition was filed before the effective date of the new Rule, November 13, 2018. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,344 (Oct. 11, 2018).

necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

1. First surface disposed proximate an outer surface of the case

Claim 1 recites that the “games controller further comprises at least one first additional control located on a back of the case” with the “additional control comprising a first elongate member . . . wherein the first elongate member comprises a first surface *disposed proximate an outer surface* of the case.” Ex. 1001, 10:37–44 (emphasis added). Claim 30 similarly recites a “control actuator comprising: an elongate member . . . compris[ing] a first surface for being *disposed proximate an outer surface* of the base of the games controller.” *Id.* at 12:17–22 (emphasis added). We instructed the parties to address expressly the meaning of “disposed proximate” as recited in these claims. Dec. 18.

Ironburg argues that “disposed proximate” means “positioned to face.” PO Resp. 12–14. In arguing that neither Uy nor Butler meets the “disposed proximate” requirement, Ironburg implies that the “first surface” being “positioned to face” the “outer surface” also requires that the “first surface” is not only positioned outside the “outer surface” but also oriented toward the “outer surface.” *Id.* at 1–2, 27–30. Valve responds that “disposed proximate” merely requires that the first surface be located “close” to the “outer surface” without having to “face” the “outer surface.” Reply 3–4. As explained in Parts II.D and E below, we find that Uy meets the limitation and Butler does not, even if we were to adopt Ironburg’s narrower interpretation. Accordingly, we need not resolve the parties’ dispute about the precise meaning of “disposed proximate.”

2. Paddle lever

Claim 26 depends directly from claim 1 and further recites that “the first additional control is a paddle lever.” Ex. 1001, 11:29–30. Claim 1 specifies that the “first additional control” comprises “a first elongate member.” *Id.* at 9:37–41.

Ironburg argues that “paddle lever” means “a thin elongated lever with a blade portion having substantially flat opposing surfaces.” PO Resp. 17. Ironburg first quotes one of a dozen definitions set forth in a lay dictionary, which defines a “paddle” as “an instrument with a flat blade or surface.” *Id.* (quoting Ex. 2013, 3–4). Ironburg then relies upon Dr. Stevick’s testimony in which he presents Ironburg’s proposed definition of “paddle lever” as the way in which an ordinarily skilled artisan would “readily understand” the term “in the context of the ’688 Patent.” Dr. Stevick focuses on the way in which the Figures in the ’688 patent illustrate “paddles 11A, 11B, 11C, and 11D,” specifically relying upon Figure 9A and annotated versions of Figures 9B, and 9C, which we reproduce below.

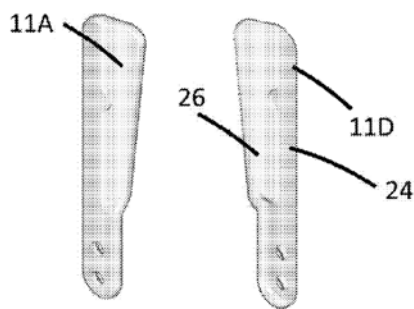


Figure 9A

Figure 9A is a perspective view of the lower surfaces of paddles 11A, 11D

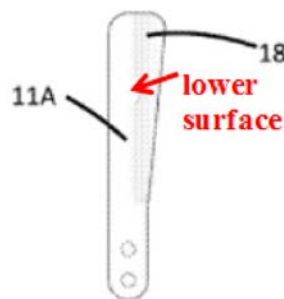


Figure 9B

Annotated Figures 9B and 9C are plan views of lower surface 18 and upper surface 20 of paddle 11A respectively.

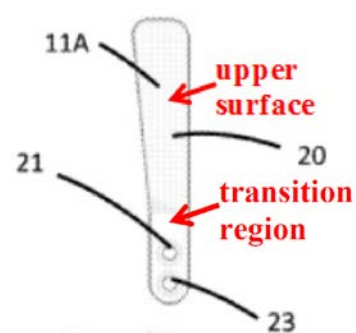


Figure 9C

Dr. Stevick considers these Figures to illustrate uniplanar and angled portions that “are shaped in the form of a blade having substantially flat opposing surfaces,” Ex. 2010 ¶ 66, with upper surface 20 being “curved at a transition region between the uniplanar portion and the angled portion,” *id.* ¶ 67. Dr. Stevick then concludes that the claimed “paddle levers” must have “substantially flat opposing surfaces.” *Id.* ¶ 67.

Valve responds that the “paddle lever” does not require “substantially flat opposing surfaces” without proposing a definition of its own. Reply 7–9. Valve also fails to analyze any particular figure or text from the Specification, but merely cites extrinsic evidence including two published patent applications and an internet article that use “paddle” to refer to shapes that are curved. *Id.* at 8 (citing Exs. 1014, 1015, 1016). Valve also points out that the lay dictionary cited by Ironburg includes at least seven definitions of “paddle” that do not require flat blades. *Id.* Valve concedes that the Specification discloses “certain embodiments” of paddles that “have substantially flat opposing surfaces” but argues that such disclosure “is not a legally sufficient basis to narrow the BRI of a claim term.” *Id.* (citing *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007)). Valve’s citation to *Elbex* is inapposite because the cited portion relates only to when it is appropriate to find that a claim is narrowed because the patent owner unambiguously disavowed subject matter that would otherwise be within the ordinary and customary meaning of the claim.

Our analysis of “paddle lever” is more appropriately informed by the standards recently reiterated by the Federal Circuit, which explained:

The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad

reading of the claim term adopted by the examiner. And it is not simply an interpretation that is not inconsistent with the specification. It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, i.e., an interpretation that is “consistent with the specification.”

In re Smith Int’l, Inc., 871 F.3d 1375, 1382–83 (Fed. Cir. 2017).

The Specification describes six different types of controls: thumb sticks 2, 3, buttons 4, direction pad 5, triggers 6, 7, bumpers 8, 9, and paddles 11A, 11B, 11C, 11D. Triggers 6, 7 and bumpers 8, 9, which are configured and positioned to be operated by one of the user’s index fingers, are shown in Figure 2, reproduced below. Ex. 1001, 5:23–26.

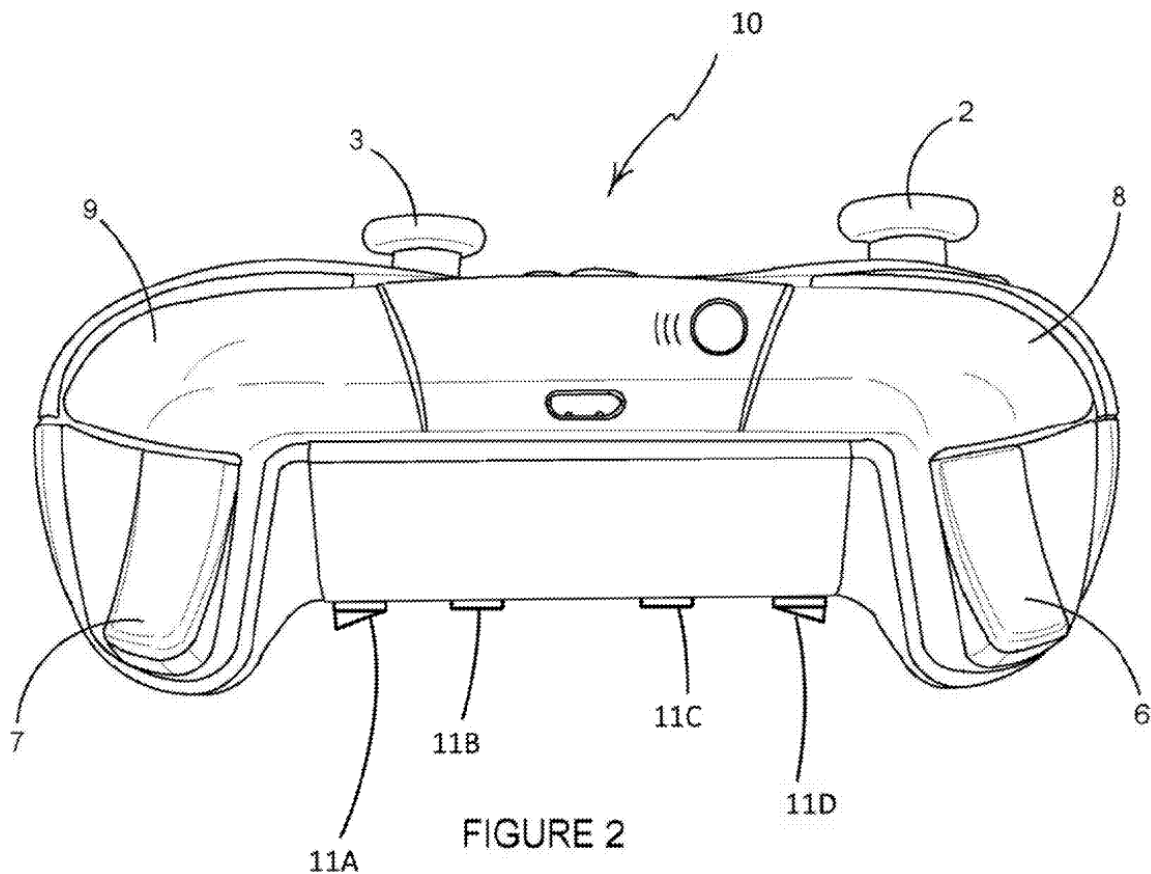


Figure 2 of the '688 patent is a perspective view of controller 10 illustrating the location of thumb sticks 2, 3, triggers 6, 7, bumpers 8, 9, and paddles 11A–D.

Thumb sticks 2, 3, buttons 4, direction pad 5, each of which is configured and positioned to be operated by one of the user's thumbs, are shown in Figure 1 on the "top" side of controller 10. Ex. 1001, 5:6–26. Figure 5, reproduced below, is a perspective view of the underside of controller 10 depicting triggers 6, 7 and paddles 11A–D.

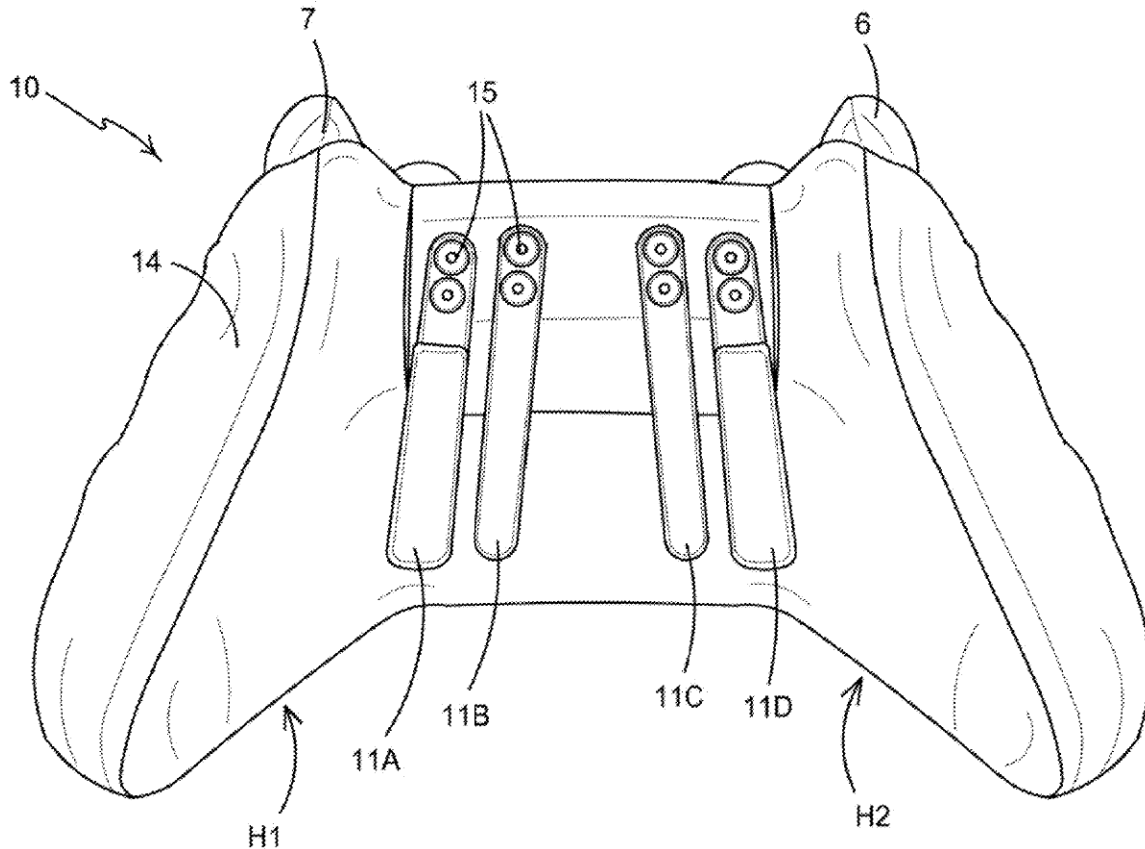


FIGURE 5

Paddles 11A–D "are elongate in shape" to permit a "user to engage the paddles with any of the middle, ring or little fingers." *Id.* at 7:9–20. Paddles 11A–D are also formed from "thin, flexible material," *id.* at 5:59–60, and a pair of screws 15 secures one end of each of paddles 11A–D such that the other end of each paddle is moveable by bending the paddle, *id.* at 6:15–23.

Based on our review of the Specification, of all six types of controls illustrated in the '688 patent, only the paddles are shaped to accommodate

operation by more than one finger, a feature resulting from their “elongate” shape. Each paddle is also necessarily thin and formed of a flexible material to enable a user to activate a control function by pressing the unsecured end of the paddle, which bends the paddle such that its unsecured end moves toward controller body 14, and depresses an underlying switch mechanism. *Id.* at 5:59–6:4. No other type of “paddle lever” is described by the Specification.

However, the Specification describes paddles that meet all these functional requirements without being “substantially flat.” Paddles 11A, 11D illustrated in Figure 9A include first portion 24 and second portion 26 “oriented at a non-zero angle to the first portion 24.” *Id.* at 8:61–63. While each portion 24 and portion 26 individually appear to be flat, paddles 11A and 11D are not flat as a whole. *Id.*, *see also* Figure 9A. The Specification also contemplates other embodiments of paddles that are “formed with a twist or helical shape such that the upper surface is at least in part oriented at a non-zero angle with respect to the mounting portion of the lower surface 18.” *Id.* at 8:55–58. Thus, the Specification expressly describes paddles that are not “substantially flat” and we must reject Ironburg’s interpretation of “paddle lever” as requiring “substantially flat opposing surfaces.”

Nevertheless, based on our review of the Specification, we conclude that “paddle lever” must be long enough to accommodate the user’s middle, ring, and little fingers. Because the “paddle lever” is also a “first additional control,” which is “displaceable by the user to activate a control function” as set forth in claim 1, the “paddle lever” must also be displaceable to activate a control. *Id.* at 9:37–42. The Specification indicates that the “displaceable”

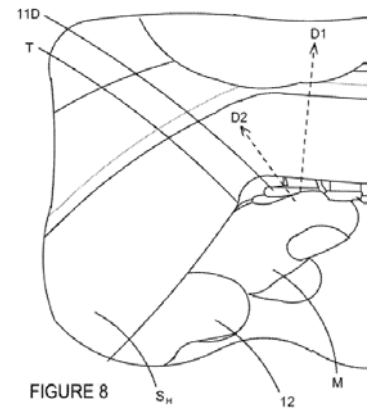
nature of the “paddle lever” results from its thin, elongated shape, the flexible material from which it is formed, and being secured at one end to the body of the controller. *Id.* at 5:59–6:23. Accordingly, we conclude that the “paddle lever” must also be long enough to accommodate the user’s middle, ring, or little fingers and flexible enough so that its unsecured end may be displaced to actuate a control function.

3. Second surface opposing the first surface

Independent claims 1 and 30 require that the elongate member comprises a “first surface” and a “second surface opposing the first surface.” Ex. 1001, 9:43–45 (claim 1), 12:21–24 (claim 30). Ironburg argues that “second surface opposing the first surface” refers to a “long, thin member with substantially flat opposing surfaces.” Valve argues that the first and second surfaces of the elongate member need not be “substantially flat,” but otherwise fails to interpret “second surface opposing the first surface.” For the reasons expressed below, we agree that the first and second surfaces need not be “substantially flat,” and we conclude that they must face generally opposite directions.

Ironburg relies upon a lay dictionary defining “opposing” as “facing, fronting, or opposite; (of two or more things) facing or opposite each other.” PO Resp. 25–26 (quoting Ex. 2014, 1). The Specification uses “opposing” in two passages that we find to be relevant for deciding whether Ironburg’s lay definition of “opposing” informs the meaning of “opposing” as used in the claims. Ex. 1001, 8:4–6, 9:4–6.

First, the Specification states: “The user 12 engages the paddle 11C with the fingertip or end and engages the paddle 11D with the finger pad (the region *opposing* the finger nail).” *Id.* at 8:4–6 (emphasis added). The relationship between the finger pad and finger nail is illustrated in the pertinent portion of Figure 8, which we reproduce at right. As is apparent from the Figure, the Specification refers to two surfaces of the user’s finger, the pad and the nail, located on opposite sides of the finger as “opposing” each other. Neither of these opposing surfaces of the finger are “substantially flat.” They are, however, oriented in primarily different directions.



Second, the Specification describes an optional form of the paddles as “tapered along their longitudinal axis, such that the paddles 11A, 11D are thinner towards a second end, the second end *opposing* the first end.” *Id.* at 9:4–6 (emphasis added). Here too, the Specification refers to two longitudinal ends of the paddle oriented in two completely different directions as “opposing” each other.

As discussed in Part II.A.2 above, paddles 11A, 11D and alternate forms of those paddles do not have “substantially flat” surfaces. Rather, the surfaces of paddles 11A, 11D as shown in Figure 9A have surfaces that include angled portions such that neither opposing surface is flat. *Id.* at 8:48–55. The Specification also describes an alternative form of these paddles as having a “twist or helical shape.” *Id.* at 8:55–58.

Based on our review of the claim language, relevant portions of the Specification, and the lay definition of “opposing” provided by Ironburg, we conclude that “second surface opposing the first surface” does not require

that the “opposing” surfaces are “substantially flat” as Ironburg argues. Instead, the claimed “second surface opposing the first surface” refers to two surfaces that face in generally opposite directions.

4. *First elongate member is inherently resilient and flexible so as to be sufficiently displaceable to active[at]e the control function*

Claim 1 recites that the “games controller further comprises at least one first additional control located on a back of the case” with the “additional control comprising a first elongate member displaceable by the user to activate a control function.” Ex. 1001, 10:37–42. The “elongate member” is therefore one of potentially a plurality of components of the “additional control.” Claim 29, which depends directly from claim 1, narrows the “elongate member” by requiring that it “is inherently resilient and flexible so as to be sufficiently displaceable to activ[at]e³ the control function.” *Id.* at 12:6–8. Claim 29 thus expressly ties the ability to displace the elongate member to the inherent resilience and flexibility of the elongate member itself. In contrast, claim 1 places no limits on the manner in which the “elongate member” of the “first additional control” is configured to be displaceable. The contrast between the language used in claims 1 and 29 further indicates that “inherently resilient and flexible” as recited in claim 29 refers to a characteristic of the “elongate member” itself and that the recited

³ Claim 29 mistakenly recites “active the control function.” Ex. 1001, 12:8. Neither party contends that it is wrong to read this phrase as “activate the control function,” which would be consistent with the phrasing of claim 1, which recites that the first elongate member is “displaceable by the user to activate a control function.” *Id.* at 9:40–42.

resilience and flexibility leads directly to the elongate member being “displaceable.”

The Specification is consistent with this conclusion. For example, the Specification describes the elongate member as being “*formed from a thin, flexible material* such as a plastics material, for example polyethylene.”

Ex. 1001, 5:59–61 (emphasis added). The Specification also describes that a member “formed from a thin, flexible material” is “inherently resilient” because it returns to its starting position after a user displaces its free end as follows:

A screw 15, having an external screw thread, is received in each of a pair of apertures provided in each of the paddles 11A, 11B, 11C, 11D. The apertures for receiving the screws are provided at one end of the paddles 11A, 11B, 11C, 11D; this is a fixed end. The other end of the paddles 11A, 11B, 11C, 11D is moveable. In this way, the paddles 11A, 11B, 11C, 11D can be bent or deformed temporarily. *The inherent resilience of the paddles 11A, 11B, 11C, 11D returns the paddles 11A, 11B, 11C, 11D substantially to their starting position when released,*

Ex. 1001, 6:16–25 (emphasis added).

Based on these portions of the Specification and the plain language of the claim, we determine that “inherently resilient and flexible so as to be sufficiently displaceable to active[at]e the control function” refers to inherent characteristics of the elongate member itself rather than components assembled to form the “first additional control.”

5. *Other terms*

We also instructed the parties to expressly address the meaning of “front end” and “triangular cross section.” Dec. 18. However, we determine that we need not expressly interpret either phrase to resolve disputed issues

in this proceeding. We read these terms according to the standards set forth above.

B. THE PARTIES' POST-INSTITUTION ARGUMENTS

In our Institution Decision, we concluded that the argument and evidence adduced by Petitioner demonstrated a reasonable likelihood that claims 1–3, 9, 10, 20, 22, and 26–30 were unpatentable as anticipated. Dec. 18. We modified our Institution Decision and reintroduced into this proceeding all challenges to the patentability of claims 1–3, 9, 10, 18–22, and 26–30 based on the challenges identified in the table in Part I.A above. *SAS Order*. We must now determine whether Petitioner has established by a preponderance of the evidence that the specified claims are unpatentable over the cited prior art. 35 U.S.C. § 316(e). We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 8, 6; *see also In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (holding that patent owner’s failure to proffer argument at trial as instructed in scheduling order constitutes waiver). Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

C. LEGAL STANDARDS

Valve challenges the patentability of the ’688 patent claims as being anticipated and/or obvious. To prevail in its challenges to the patentability of the claims, Petitioner must establish facts supporting its challenges by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to

show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

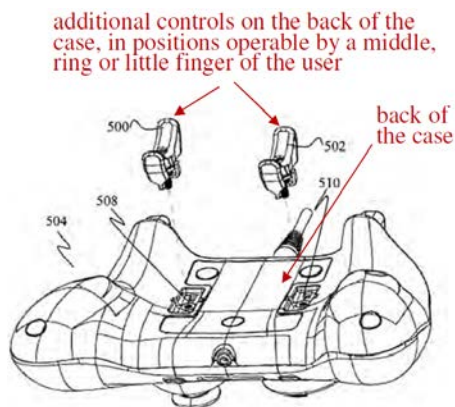
“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the framework for determining obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* that we apply in determining whether a claim is reasonably likely to be unpatentable as obvious under 35 U.S.C. § 103(a) as follows:

(1) determining the scope and content of the prior art, (2) ascertaining the differences between the prior art and the claims at issue, (3) resolving the level of ordinary skill in the pertinent art, and (4) considering objective evidence indicating obviousness or nonobviousness. *KSR*, 550 U.S. at 406 (citing *Graham*, 383 U.S. at 17–18). In an *inter partes* review, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Thus, to prevail Petitioner must explain how the

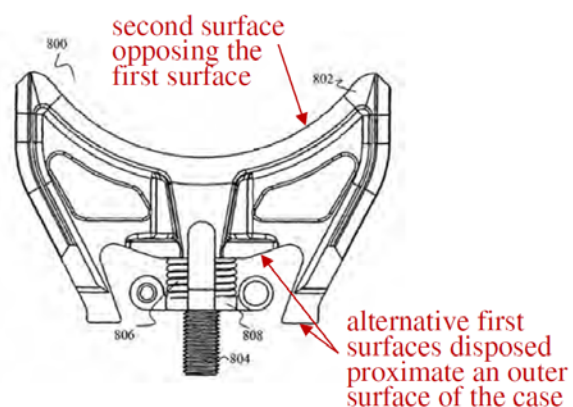
proposed combinations of prior art would have rendered the challenged claims unpatentable. With these standards in mind, we address each challenge below.

D. CLAIMS 1–3, 9, 10, 20, 22, AND 26–30: ANTICIPATION BY UY

Valve argues that Uy anticipates claims 1–3, 9, 10, 20, 22, and 26–30. Pet. 11–23. Valve cites the portions of Uy that allegedly describe every element of these claims. *Id.* at 12–23 (citing Ex. 1002 ¶¶ 98, 104–09, 112–14, Figures 1A, 5B, 5C, 6A, 6B, 8C, 8H). Valve also cites testimony from David Rempel, M.D. in support of its contentions that Uy describes the claimed “additional control” including a “first elongate member” having a “first surface” and opposing “second surface.” *Id.* (citing Ex. 1009 ¶¶ 14–20). Valve also identifies two alternative locations for the claimed “first surface disposed proximate an outer surface” of the controller. In connection with this contention, Dr. Rempel provides the annotated versions of Uy’s Figures 5B and 8H that we reproduce below.



The annotated version of Uy’s Fig. 5B is a partially exploded bottom perspective view showing additional controls alleged to be the “first elongate member”



The annotated version of Uy’s Fig. 8H is a side view of the alleged “first elongated member” having a “first surface” and an opposing “second surface”

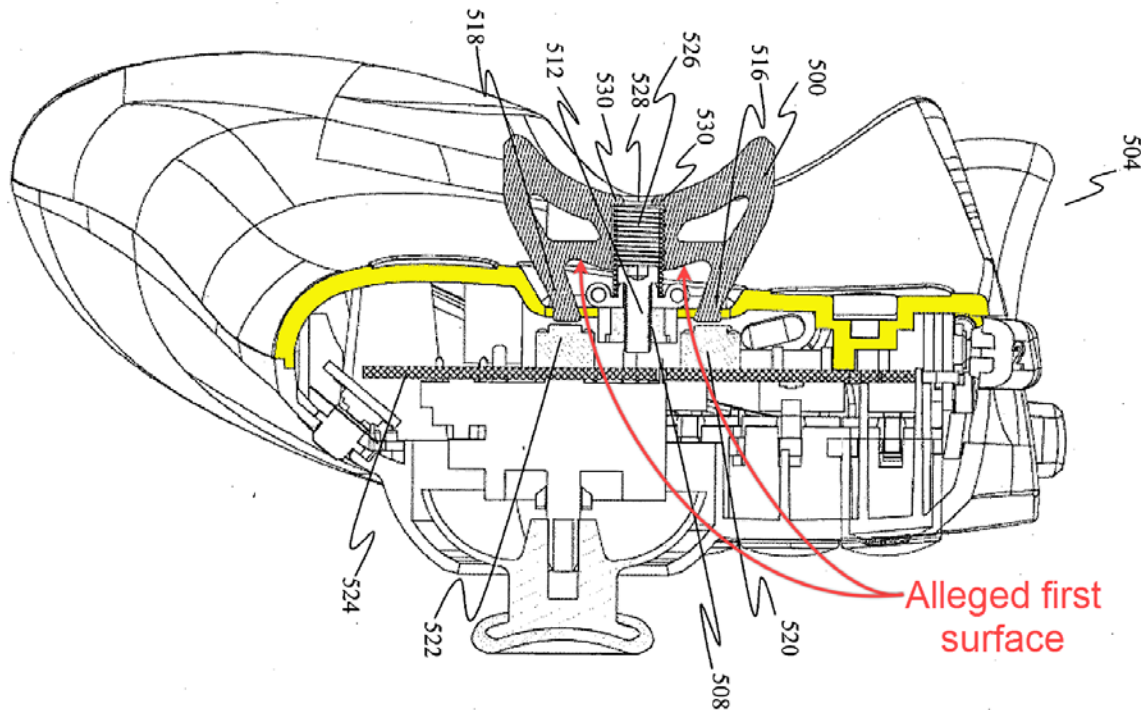
1. Independent Claims 1 and 30

Ironburg argues that Uy fails to anticipate all challenged claims for two reasons. First, Ironburg contends that Uy fails to describe a “first surface disposed proximate an outer surface” of the controller. PO Resp. 27–29. Second, Ironburg contends that Uy fails to describe the “second surface opposing the first surface.” *Id.* at 30–31. We address each argument below.

a) Disposed proximate

Ironburg argues that Uy fails to describe a “first surface disposed proximate an outer surface of the case” as recited in independent claim 1 and a “first surface . . . disposed proximate an outer surface of the base” as recited in independent claim 30. PO Resp. 27–29. More specifically, Ironburg argues that none of the “first surfaces” that Valve identifies in the annotated version of Uy’s Figure 8H are “first surfaces [that] are *positioned to face* an outer surface of the base of the games controller.” *Id.* at 28.

Valve identifies two different surfaces as the claimed “first surface” in the annotated version of Uy’s Figure 8H. The relationship between the uppermost of the alternative “first surfaces” and the outer surface of Uy’s case is shown in our annotated version of Uy’s Figure 5C below.



Uy's Figure 5C is a cross sectional view of lever 500 secured by screw 512 to controller 504 within recess 508. Ex. 1002 ¶ 98.

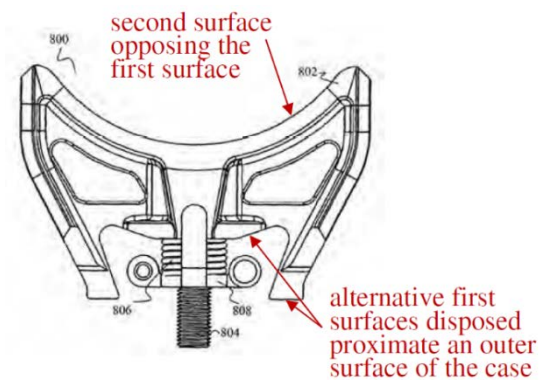
Recess 508 is formed in the “underneath side of the game controller 504,” which we highlight in yellow in our annotated figure above. *Id.* ¶ 96. Lever 500 is detachably secured within recess 508 by screw 512. *Id.* We have highlighted yellow the relevant cut portion of the case of controller 504. The Figure reveals that the alleged “first surface” is located both outside and facing the outer surface of Uy's case within recess 508. The location of this alleged “first surface” meets even Ironburg's narrower interpretation of “disposed proximate” the outer surface of the case because the first surface is “positioned to face” that outer surface. Accordingly, we find that Valve has proven by a preponderance of evidence that Uy describes a “first surface disposed proximate an outer surface” of the case or base as required by claims 1 and 30.

b) Second surface opposing the first surface

Ironburg contends that Uy fails to describe the “second surface opposing the first surface” because Uy’s lever 500 is not a “long thin member with substantially flat opposing surfaces.” *Id.* at 30–31. As explained in Part II.A.3 above, we reject Ironburg’s argument that the first and second surfaces of the elongate member must be “substantially flat opposing surfaces.” Instead, the first and second surfaces need not be substantially flat and must merely face in generally opposite directions.

The alleged second surface and the uppermost alleged first surface that Valve identifies in the annotated version of Uy’s Figure 8H, reproduced at right, meet these requirements.

Accordingly, we conclude that Valve has proven by a preponderance of evidence that Uy describes a “second surface opposing the first surface” as required in each of independent claims 1 and 30.



c) Remaining Elements of Claims 1 and 30

Except as discussed above, Ironburg presents no other argument that Uy fails to anticipate independent claims 1 and 30. *See* PO Resp. 27–38 (contending only that Uy fails to describe a “first surface disposed proximate an outer surface” and a “second surface opposing the first surface”). As explained in Part II.B above, Ironburg has waived any argument for the continued patentability of these claims based upon other elements in these claims. We determine that Valve persuasively identifies the manner in which Uy describes the remaining elements of claims 1 and 30 and cites portions of Uy to support its contentions. Pet. 12–23 (citing Ex. 1002 ¶¶ 98,

104–09, 112–14, Figures 1A, 5B, 5C, 6A, 6B, 8C, 8H; Ex. 1009 ¶¶ 14–20).

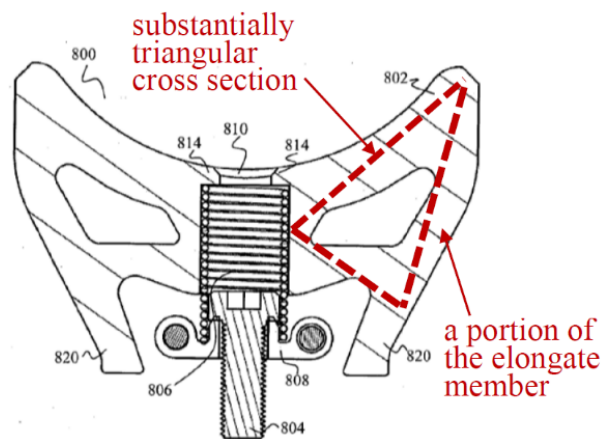
We adopt Valve’s argument and evidence as our own and determine that Valve has proven by a preponderance of evidence that Uy describes all other elements of claims 1 and 30.

d) Conclusion

Based on our review of the entire record developed at trial, we determine that Valve has proven by a preponderance of evidence that Uy anticipates independent claims 1 and 30.

2. *Dependent Claim 3*

Claim 3 depends directly from claim 1 and further recites “at least a portion of the first elongate member is configured and arranged to have a substantially triangular cross section.” Ex. 1001, 9:53–55. Valve argues that a “portion” of Uy’s lever 800 (the alleged “elongate member”) has the required “substantially triangular cross section” as indicated with a dotted red line in Valve’s annotated version of Uy’s Figure 8C, which we reproduce at right. Valve’s argument is unpersuasive.



Ironburg correctly points out that Valve “improperly equates the claimed ‘portion of elongate member having a substantially triangular cross section’ to a *portion of the cross section* of the elongate member.” PO Resp. 31. The shape of the cross section of the portion of Uy’s lever 800 depicted in Figure 8C, which is defined by its outer perimeter, is not triangular at all, substantially or otherwise. Valve’s random designation of a

triangle within a portion of the cross section of the portion of lever 800 shown in the Figure therefore fails to meet the limitation as written in claim 3. Accordingly, we determine that Valve has failed to prove by a preponderance of evidence that Uy anticipates claim 3.

3. Dependent Claim 26

Claim 26 depends directly from claim 1 and further recites that the “first additional control is a paddle lever.” Ex. 1001, 11:29–30. Valve argues that Uy’s lever 802 constitutes the claimed “paddle lever” because it “pivots about a bracket 808 that acts as a fulcrum.” Pet. 18–19 (citing Uy ¶¶ 112–114, Figure 8C).

Ironburg argues that Uy fails to describe a “paddle lever” even if it refers to element 802 as a lever because Uy’s lever 802 is not a “paddle,” which Ironburg argues to be “a thin elongated lever with a blade portion having substantially flat opposing surfaces.” PO Resp. 33–34. Ironburg also argues that Valve’s position “effectively read[s] out the term ‘paddle’ from ‘paddle lever.’” We agree with the latter argument.

As explained in Part II.A.2 above, we reject Ironburg’s argument that the claimed “paddle lever” must have “substantially flat opposing surfaces.” However, we agree that the claimed paddle lever must be long enough to accommodate the user’s middle, ring, or little fingers and flexible enough so that its unsecured end may be displaced to actuate a control function. Valve fails to demonstrate sufficiently how Uy’s lever 802 is a “paddle lever” as claimed.

Uy describes the levers like 802 as one of “another set of triggers placed on [the controller’s] underside (or bottom), designed specifically for triggering by a user’s middle finger.” Uy thus considers lever 802 to be a

trigger for the middle finger, not a paddle that can accommodate the user's middle, ring, or little fingers like paddles 11A–D described in the Specification of the '688 patent. Uy also describes the shape of its levers, of which lever 802 is an example, as follows: “In various embodiments, the lever 206 (for example, the lever 300 of FIGS. 3A to 3C) may be an arc-shaped lever having a concave part 318.”⁴ Ex. 1002 ¶ 52. Thus, Uy refers to levers like lever 802 as “arc-shaped” with a concave part, not as paddle-shaped. Uy elaborates:

In the context of various embodiments, the phrase “concave part” may be but is not limited to being interchangeably referred to as a groove, a sunken area or a sunken part, a caved part, a curved part, a dip, a dish, a crescent part/feature, a moon-shaped part/feature, or a recessed portion relative to the top edge of the leg/extension/protrusion.

Id. ¶ 54. Uy's detailed description of the shape of its levers further demonstrates that Valve's contention that Uy's arc-shaped triggers that act as levers are not paddle-shaped as the “paddle lever” of claim 26 must be.

For all these reasons, we determine that Valve has failed to prove by a preponderance of evidence that Uy anticipates claim 26.

4. Dependent Claim 29

Claim 29 depends directly from claim 1 and further recites “the first elongate member is inherently resilient and flexible so as to be sufficiently displaceable to activ[at]e the control function.” Ex. 1001, 12:6–8. Valve

⁴ Just before describing lever 802 in detail, Uy indicates that the term “lever,” . . . may be defined as above” as in the quoted passage relating to levers 206 and 300. Ex. 1002 ¶ 106. Later, Uy indicates that “lever 802 may be . . . the lever 300 of FIGS. 3A to 3C.” *Id.* ¶ 116.

contends that biasing spring 526 or 806 provides the claimed resilience and flexibility. Pet. 19.

As explained in Part II.A.4 above, we have interpreted claim 29 to require that “inherently resilient and flexible” refers to characteristics of the elongate member itself and not other components that may be assembled into a “first additional control.” Valve identifies an assembly of components including at least a lever and a spring as the “additional control comprising a first elongate member.” Pet. 14. Based on our interpretation of claim 29, spring 526 or 806 may be a component of the “first additional control,” but the spring is not the claimed elongate member. Therefore, the flexibility and resilience of Uy’s springs 526 or 806 fail to meet the requirement that the elongate member itself is “inherently resilient and flexible so as to be sufficiently displaceable to activ[at]e the control function.” For these reasons, we determine that Valve has failed to prove by a preponderance of evidence that Uy anticipates claim 29.

5. Dependent Claims 2, 9, 10, 20, 22, 27, and 28

Ironburg does not separately address the merits of Valve’s argument that Uy discloses the limitations introduced in dependent claims 2, 9, 10, 20, 22, 27, and 28, all of which depend directly from claim 1. *See* PO Resp. 27–38 (contending only that Uy fails to describe a “first surface disposed proximate an outer surface” and a “second surface opposing the first surface” as recited in claim 1). We have already determined that Uy anticipates claim 1. *See* Part II.D.1. As explained in Part II.B above, Ironburg has waived any argument that Valve’s challenges to the patentability of these claims fail based upon elements introduced in these dependent claims. We determine that Valve persuasively identifies the

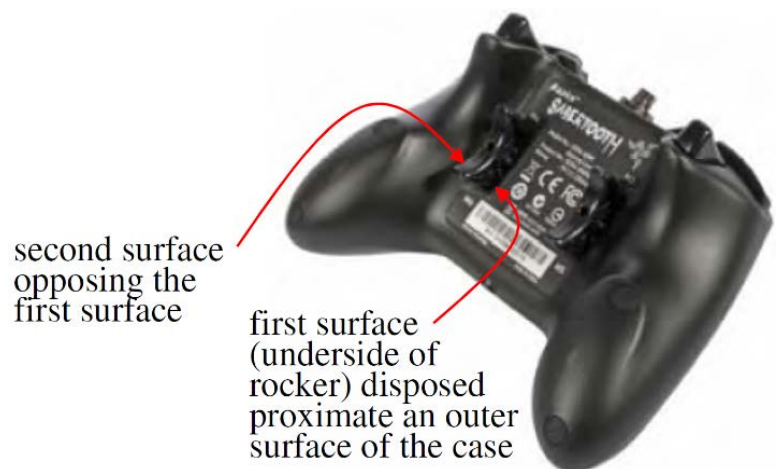
manner in which Uy describes each element introduced in dependent claims 2, 9, 10, 20, 22, 27, and 28 and cites portions of Uy to support its contentions. Pet. 16–19 (citing Ex. 1002 ¶¶ 98, 104–109, 112–114, Figures 5B, 5C, 6A, 8C, 8H; Ex. 1009 ¶¶ 15, 18–20). We adopt Valve’s argument and evidence as our own and determine that Valve has proven by a preponderance of evidence that Uy anticipates dependent claims 2, 9, 10, 20, 22, 27, and 28.

6. Summary

For all the reasons expressed above, we conclude that Valve has proven by a preponderance of evidence that Uy anticipates claims 1, 2, 9, 10, 20, 22, 27, 28, and 30, but failed to do so for claims 3, 26, and 29.

E. CLAIMS 1, 2, 9, 10, 20, 26, AND 28–30: ANTICIPATION BY BUTLER

Valve argues that Butler, which appears to describe a commercially sold version of Uy’s controller,⁵ anticipates claims 1, 2, 9, 10, 20, 26, and 28–30. Pet. 61–70. Valve identifies the manner in which Butler allegedly describes every element of these claims in its claim charts. *Id.* Regarding Butler’s alleged description of the claimed “first surface” and “second surface,” Valve relies upon Dr. Rempel’s annotated version of one of Butler’s photos, which we reproduce at right. The photo



⁵ See Prelim. Resp. 11 (asserting that Butler contains images of Uy’s controller).

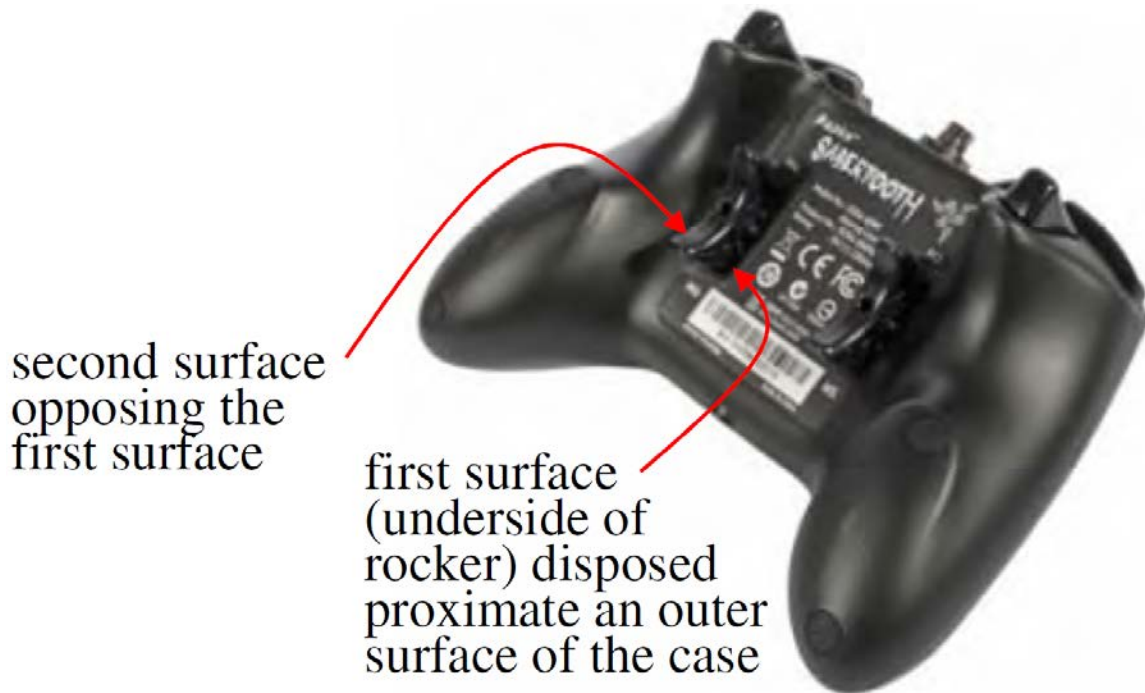
from Butler illustrates the underside of Butler's controller and includes Dr. Rempel's annotations identifying the first and second surfaces of the lever controls on the underside. Pet. 64 (citing Ex. 1009 ¶ 39).

Independent claims 1 and 30 both recite an "elongate member compris[ing] a first surface disposed proximate an outer surface of the case." Ex. 1001, 9:37–44 (claim 1), 12:17–22 (claim 30). Both claims also recite a "second surface opposing the first surface," which we have interpreted to require the first and second surface to be facing "in generally opposite directions." Although we determined in the Institution Decision that Valve had demonstrated a reasonable likelihood of establishing that Butler met these limitations, Dec. 14, we now decide these issues on the full record.

Despite the apparent similarity between the controllers of Uy and Butler, we must examine the Butler reference independently and without reference to Uy. Unlike Uy, which includes detailed drawings of the shape of the controls on the underside of its controller, Butler includes only the photograph reproduced above. Dr. Rempel testifies that based on this photograph, "the elongate members of the back controls of Butler include[] a first surface disposed proximate an outer surface of the case and a second surface opposing the first surface." Ex. 1009 ¶ 39.

Our close examination of that photo as it appears in Dr. Rempel's Declaration does not comport with Dr. Rempel's annotation of the photo. Instead, we are unable to determine from the photo whether it is more likely than not that Butler's additional controls include the claimed "first surface disposed proximate the outer surface" of the case (claim 1) or base (claim 30) and the "second surface opposing the first surface." Dr. Rempel provides no explanation for his conclusion that an alleged "first surface" is

on the “underside of rocker.” The enlarged version of the photograph upon which Valve relies reproduced below demonstrates that the photograph is inconclusive on this point.



The enlarged portion of the photograph on which Valve relies depicts just the alleged elongate members on the underside of the controller shown in Butler.

Dr. Rempel indicates clearly that the top surface of the triggers on the underside of the Butler controller is the “second surface.” Dr. Rempel posits that the “underside of rocker” is the claimed “first surface.” However, because an “underside” of the trigger is not visible in the photograph, we determine that Dr. Rempel’s conclusion is not supported by evidence. The photograph also fails to illustrate whether the alleged first surface faces in a generally opposite direction from the second surface.

At most, Valve had established with its Petition that a reasonable likelihood existed that Butler discloses the claimed first surface. Valve has not, however, demonstrated by a preponderance of evidence that Butler

describes the “first surface” of independent claims 1 and 30. This failure flows through to claims 2, 9, 10, 20, 26, 28, and 29 by their dependency upon claim 1. Accordingly, we conclude that Valve has failed to prove by a preponderance of evidence that Butler anticipates claims 1, 2, 9, 10, 20, 26, and 28–30.⁶

F. CLAIMS 1, 2, 9, 10, 18, 19, 21, 26, AND 28–30: OBVIOUSNESS IN VIEW OF BURNS WITH BELLINGHAUSEN, LACELLE, OR KNIGHT

For the reasons expressed below, we conclude that Valve has failed to prove by a preponderance of evidence that Burns (Exhibit 1004) is a printed publication that qualifies as prior art to any claim of the ’688 patent.

Valve’s challenges based on Exhibit 1004 therefore fail. Briefly, we find that Valve has failed to meet its evidentiary burden to prove that the version of an article purportedly authored by David Burns that it submits as alleged prior art, Exhibit 1004, was sufficiently accessible to the persons of ordinary skill before the earliest priority date of the ’688 patent, April 14, 2014.

Valve’s entire showing that Exhibit 1004 qualifies as prior art as set forth in the Petition reads: “Burns qualifies as prior art to the ’688 Patent, at least under 35 U.S.C. §102(a)(1) and 35 U.S.C. §103, because Burns was published on 2010-10-20, more than one year before the earliest purported priority date of the ’688 Patent (2014-04-14).” Pet. 5.

Valve must prove that Exhibit 1004 is a prior art printed publication by a preponderance of evidence. 35 U.S.C. § 316(e); *Dynamic Drinkware*,

⁶ We also conclude that Valve has failed to prove by a preponderance of evidence that Butler anticipates dependent claims 26 and 29 for reasons similar to those expressed in connection with our analysis of those claims in view of Uy. Butler describes even less than Uy in connection with the limitations introduced in these dependent claims.

800 F.3d at 1378–80. “Whether a reference qualifies as a prior art printed publication is a legal conclusion based upon underlying factual determinations.” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016). For a reference retrieved from the internet to qualify as prior art, it must have been made accessible in a way that persons of ordinary skill in the art exercising reasonable diligence could have located it during the relevant time. *Id.* at 1348–49. Ironburg argues that the admissible evidence proffered by Valve falls short of these standards. PO Resp. 6–10. For the reasons that follow, we agree.

Valve responded to Ironburg’s contention that Valve had failed to demonstrate that Exhibit 1004 was prior art in three papers: the Reply, the Valve Surreply, and the Burgess Brief. Exhibit 1004 purports to be a review of a game controller authored by David Burns “6 years ago.” Ex. 1004, 1. Exhibit 1004 also includes a number of “comments,” which are indicated with labels such as “6 years ago” and “5 years ago” among others. *Id.* at 4–5. In the upper left corner of each page, Exhibit 1004 is marked with “2/6/2017.”⁷ *Id.* at 1–10. The lower left corner of each page of Exhibit 1004 is marked with the following uniform resource locator (“URL”), which is commonly understood to be an internet address: <http://www.xboxer360.com/features/review-scuf-xbox-360-controller/>. *Id.* at 1–10.

Valve argues that evidence submitted with the Petition establishes that Exhibit 1004 is prior art and submits additional evidence attempting to

⁷ Valve provides no evidence explaining the significance of this date or establishing who downloaded Exhibit 1004 or when the Exhibit was downloaded.

bolster its showing with its Supplemental Reply, the Valve Surreply, and the Burgess Brief. We analyze each item of evidence below.

1. Evidence Supplied with the Petition

a) The Face of the '688 Patent

Valve argues that the '688 patent itself proves that Exhibit 1004 is a printed publication because the patent lists the “Burns publication” under “Other Publications” along with a publication date of “Oct. 20, 2010.” Supp. Reply 5–6 (citing Ex. 1001). The '688 patent describes the “Burns publication” as follows: “‘Review: ScufXbox 360 Controller’ by Dave Burns, published Oct. 20, 2010. Source: <https://www.xboxer360/features/review-scuf-xbox-360-controller/>, 16 pages.”⁸ Ex. 1001, cover page. The listing on the '688 patent relates to a document cited by the Examiner during prosecution of the '688 patent, which is a different document from Exhibit 1004. *See* Ex. 1001, p. 2 (stating that asterisk after listing of article indicates “cited by examiner”). Consequently, Valve fails to adduce credible evidence that the article described on the face of the '688 patent could have been accessed by an ordinarily skilled artisan in the relevant time frame or that the article is the same as Exhibit 1004.

b) Markings on Exhibit 1004

Valve next argues that “public comments that were dated approximately ‘6 years ago’ as of the download date shown as 06 February 2017”⁹ prove that Exhibit 1004 was “published years before the

⁸ We note that the URL listed on the face of the '688 patent fails to include a top level domain and thus appears to be incomplete.

⁹ Exhibit 1004 is marked on each page with “02/06/2017,” not “06 February 2017.” Ex. 1004, *passim*.

'688 patent's earliest priority date.” Supp. Reply 6. Valve contends that one of the comments was posted by Simon Burgess, one of the inventors named on the '688 patent. *Id.*

Valve, however, cites no admissible evidence to prove any of these facts. *Id.* Rather, Ironburg objects, and we agree, that Valve merely relies on markings on Exhibit 1004 itself, all of which are hearsay to prove the truth of the facts that Valve seeks to prove. Paper 37, 1–2. Ironburg failed to preserve its objection because it failed to move to exclude the use of these markings. Nevertheless, we agree that the markings of “2/6/2017,” “6 years ago,” and “Simon Burgess” on Exhibit 1004 are inadmissible hearsay if offered to prove the date of publication or the identity of any commenter to the article.

Even if these markings were not excluded as inadmissible hearsay, they would still fail to establish that an ordinarily skilled artisan exercising reasonable diligence could have located the article during the relevant time frame. Instead, they would establish only that Mr. Burns posted an article on the internet and that some people, including a person claiming to be named Simon Burgess, which is the same name one of the inventors identified on the '688 patent, commented on the article. Petitioner has not established that Exhibit 1004 is the article allegedly posted and accessible by interested persons in 2010.

c) Applicants' Prosecution Assertions

Valve contends that applicants for the '688 patent, through prosecution counsel, “explained differences between the claimed invention and the *prior art*” when commenting upon the “Burns reference.” Supp. Reply 6–7 (citing Ex. 1006). Exhibit 1006 is a copy of the Notice of

Allowability written by the Examiner during prosecution of the '688 patent and it contains an "Interview Summary" containing statements that Valve attempts to attribute to the applicants. Ex. 1006, 1–2. Although Valve accurately quotes the Examiner's summary of the interview, Valve's argument fails sufficiently to link the "Burns reference" being discussed with Exhibit 1004. The images appearing in Exhibit 1006 are from prior art called "Scuf XBOX 360 Controller." *Id.* at 3. Even presuming that "Scuf XBOX 360 Controller" was simply an alternative name for the "Burns reference" described in the interview summary section, Valve provides insufficient evidence establishing that the subject matter of the interview summary was Exhibit 1004.

d) The URL as Evidence of Public Accessibility

Valve argues that the presence of the following internet address on Exhibit 1004—"http://www.xboxer360.com/features/review-scuf-xbox-360-controller/"—proves that Exhibit 1004 was publicly accessible during the relevant timeframe because the "modern public is adroit at finding and accessing publications of interest using internet addresses." Supp. Reply 7. Valve cites no evidence to support this contention. *Id.*

Valve thus argues that an internet address alone establishes sufficient accessibility by "an interested person" during the relevant timeframe. Supp. Reply 7–8. We disagree. The Federal Circuit has found that an address for an online reference alone does not prove sufficient accessibility to justify a finding that the reference is a printed publication. *Blue Calypso*, 815 F.3d at 1348–50. The *Blue Calypso* decision dealt with a reference that was "available via a hyperlink" on the personal webpage of the author. *Id.* at 1348. The Federal Circuit agreed with the Board's conclusion that the

petitioner failed to establish that “an interested party exercising reasonable diligence would have located” the reference. *Id.* at 1349–50. The analysis focused on whether the evidence proved that interested parties either downloaded the reference or could have found the reference via a search query, index, or other means. *Id.*

After careful consideration of the evidence adduced by Valve, we determine that the presence of the URL shown on Exhibit 1004 does not demonstrate sufficiently that an ordinarily skilled artisan who exercised reasonable diligence would have located Exhibit 1004 during the relevant timeframe.

2. Evidence Supplied After the Petition

Valve argues that “Mr. Burgess’ recognition of the fact of Burns’ publication carries considerable weight, because Mr. Burgess was a contributor with first-hand knowledge of the Burns article.” Supp. Reply 8–9 (citing Ex. 1035, 2). The evidence relied upon is a declaration from Mr. Burgess submitted during prosecution of the commonly owned ’525 patent, Exhibit 1035. It is unclear what Valve means by “recognition of the fact of Burns’ publication.” Regardless, we reject any implication that Exhibit 1035 demonstrates that Mr. Burgess admitted that the Burns article was a prior art printed publication. Exhibit 1035 establishes only that, in November 2011, Mr. Burgess had reviewed a copy of the Burns article that the Office cited as prior art under pre-AIA § 102(e).¹⁰ Ex. 1035 ¶ 2.

¹⁰ It is unclear how Burns could have qualified as prior art under pre-AIA § 102(e) as indicated by the Examiner, Ex. 1040, 159, because Burns was neither a patent nor a published patent application but instead was characterized as an “NPL document,” *id.* at 158. Rather, Burns may have been prior art as a printed publication under pre-AIA § 102(a). However,

However, Mr. Burgess did not testify that the cited article was published on October 20, 2010. Instead, Mr. Burgess testified that he had supplied the controller that was the subject of that review and that he was in possession of his invention before the alleged date of publication of the Burns article. *Id.* ¶ 7. At no point in his declaration did Mr. Burgess testify about the accessibility of the version of the Burns article that was the basis of the rejection of claims or admit that the article was a prior art printed publication. To the contrary, Mr. Burgess merely supplied testimony sufficient to establish that the version of the Burns article before the Office at the time was not prior art to the invention at issue under pre-AIA § 102(a). Mr. Burgess offered no testimony on the degree to which the Burns article relied upon by the Examiner was disseminated publicly or could have been located by an ordinarily skilled artisan. Accordingly, we find that Mr. Burgess’s testimony in Exhibit 1035 does not establish that Exhibit 1004 was a printed publication.

Valve also argues that Mr. Burgess “recognizes the 10/20/2010 publication by David Burns in Xboxer360 (Exhibit 64 of the Burns deposition) as being the same reference that is cited on the first page of the ’525 patent.” Burgess Brief 3 (citing Ex. 1046, 161:16–162:5). We disagree that Mr. Burgess recognizing “the 10/20/2010 publication by David Burns” is the same as recognizing “Exhibit 1004.” Instead, Mr. Burgess testified about deposition Exhibit 64, which is also marked as Exhibit 1048 in this

the applicant supplied the Office with the Burgess Declaration to overcome the rejection posed by the Examiner by demonstrating that Burgess had possession of the invention before the alleged publication of the Burns article. *Id.* at 190.

proceeding. Ex. 1048, 1. Exhibit 1004 was not presented to Mr. Burgess at his deposition. No evidence of record establishes that Mr. Burgess has ever seen or testified about Exhibit 1004 or whether an ordinarily skilled artisan using reasonable diligence could have found Exhibit 1004 during the relevant timeframe. Accordingly, we find that Mr. Burgess's testimony does not establish that Exhibit 1004 was a printed publication.

3. Conclusion

Based upon our careful review of each argument and item of evidence submitted by Valve and Ironburg's countervailing arguments, we conclude that Valve has failed to establish by a preponderance of evidence that Exhibit 1004 is a printed publication. Without Exhibit 1004 (Burns) as a prior art reference, Valve's various challenges to claims 1, 2, 9, 10, 18, 19, 21, 26, and 28–30 as being obvious over the combination of Burns in view of one of Bellinghausen, LaCelle, or Knight fail.

III. MOTIONS TO EXCLUDE

A. THE BUTLER MOTION AND BUTLER'S STATUS AS A PRINTED PUBLICATION

Ironburg moves to exclude Exhibit 1008, Butler, from evidence because Exhibit 1008 is: unauthenticated, hearsay to the extent that it is used to establish a date of publication, and irrelevant. Paper 25, 3–6 (“Butler Mot.” or “Butler Motion”). Valve opposed the Butler Motion. Paper 27 (the “Butler Opp.” or “Butler Opposition”). Ironburg filed a reply in support of the Butler Motion. Paper 29 (the “Butler Reply”).

None of Ironburg's arguments is ultimately persuasive because Valve supplies the Declaration of Harry Butler (Exhibit 1011 “Butler Declaration”) containing testimony that either cures or renders moot Ironburg's evidentiary

objections to Exhibit 1008. The Butler Declaration also proves that Butler is a prior art printed publication.

Ironburg argues that we should ignore Mr. Butler's testimony because it was not timely served. Butler Reply 1. Although technically true, for the reasons that follow, we excuse Valve's late service of Exhibits 1011 and 1012 in the interests of justice under 37 C.F.R. § 42.5(c)(3).

Ironburg filed its objections to Exhibit 1008 as being inadmissible on September 18, 2017, seventeen days after we instituted trial. Paper 9. Rule 42.64(b)(1) requires that "[a]ny objection to evidence submitted during a preliminary proceeding must be filed within ten business days of the institution of the trial." 37 C.F.R. § 42.64(b)(1). Exhibit 1008 was evidence submitted during a preliminary proceeding; Valve submitted it with the Petition. We instituted trial on Friday, September 1, 2017. Therefore, the ten-day period for objecting to Exhibit 1008 expired on Friday, September 15, 2017, one business day before Ironburg filed its objections on Monday, September 18, 2017. The Butler Motion is therefore based upon an untimely objection and could be dismissed on this basis alone. However, we excuse Ironburg's late filing of its objection in the interests of justice under Rule 42.5(c)(3) so that we address the evidentiary arguments raised in the Butler Motion on the merits, some of which we consider to be persuasive.

Valve filed the Butler Declaration, on September 29, 2017, in response to Ironburg's evidentiary objections to Butler. Valve's filing was within ten business days of Ironburg's objections as required by Rule 42.64(b)(2). However, Valve did not separately serve the Butler Declaration, but relied upon its September 29 filing as being service on

Ironburg, which was consistent with the parties' practices in the proceeding up until that time. Tr. 37:3–38:18.

In our Order entered October 10, 2017, we expunged the Butler Declaration as having been prematurely filed. Paper 13 (the "Expungement Order"). We explained that "Rule 42.64(b)(2) plainly authorizes Petitioner to serve, but not file, 'supplement evidence' that responds to Patent Owner's evidentiary objections to [Exhibit 1008]." *Id.* at 2. We also instructed the parties that "[i]f Patent Owner later files a motion to exclude Butler, Petitioner may refile [the Butler Declaration] and/or Exhibit 1012 concurrently with its opposition if Petitioner considers either or both of these exhibits to address Patent Owner's objections." *Id.* We also instructed the parties to use Rule 42.64 "to address and resolve most, if not all, evidentiary objections without using the panel's resources. While the parties work to resolve evidentiary objections, the record shall contain only that evidence that is necessary to resolve disputes that cannot otherwise be resolved." *Id.* Accordingly, we expunged the Butler Declaration from the record eleven days after Valve filed it.

Ironburg's counsel neither downloaded the Butler Declaration while it was of record the first time nor asked Valve about the contents of the Butler Declaration contrary to our instructions in the Expungement Order to resolve the evidentiary objections to Butler without resort to unnecessary motion practice. Nevertheless, Ironburg moved to exclude Butler and placed its evidentiary objections before us for a ruling. For the reasons expressed below, we determine that Ironburg's objections are resolved or rendered moot by Mr. Butler's testimony in the Butler Declaration. Ironburg's

counsel had no sufficient explanation for its failure to consider the substance of the Butler Declaration. Tr. 13:10–23.

On April 14, 2018, about six months after Ironburg filed its objections to Butler, Valve again supplied the Butler Declaration to Ironburg by filing it as an Exhibit to the Butler Opposition and by sending it via e-mail. Butler Opp. iii; Tr. 49:4–16. Rule 42.64(b)(2) required service within ten business days. Thus Valve’s service of the Butler Declaration was untimely.

Under Rule 42.5(c)(3), we may excuse a late action if “consideration on the merits would be in the interests of justice.” 37 C.F.R. § 42.5(c)(3). Because Valve timely attempted service of the Butler Declaration, eventually did effect service of the Butler Declaration, and the Butler Declaration either directly cures Ironburg’s evidentiary objections or renders them moot, we determine that the interests of justice are served best by excusing Valve’s late action. We also analyze whether the Butler Declaration demonstrates that Butler is a printed publication.

1. Authentication

Ironburg objects that Valve has not demonstrated that Butler is what it purports to be as required under Federal Rule of Evidence 901, i.e., the “Razer Sabertooth Review” by Harry Butler. Butler Mot. 3. Ironburg chastises Valve for failing to serve “*any* supplemental evidence” to cure this objection. *Id.* at 3–4. We disagree. Mr. Butler testifies based on his personal knowledge that: he wrote Butler, Butler was published on March 11, 2013, and Butler was “widely disseminated” via the following URL: <http://www.bit-tech.net/hardware/2013/03/11/razer-sabertooth-review/1>. Ex. 1011 ¶ 1. Ironburg did not cross examine Mr. Butler, Tr. 16:3–5, so his testimony is uncontroverted. We determine that Mr.

Butler's testimony authenticates Butler pursuant to Federal Rule of Evidence 901(b)(1) because he is a person with personal knowledge of the publication of Butler. Ironburg's objection that Valve has failed to authenticate Butler is overruled.

2. Hearsay

Ironburg argues that Valve may not rely upon the date of "11 March 2013" that appears on Butler to establish that Butler was published on March 11, 2013, because that marking is hearsay when offered for that purpose. Butler Mot. 4–5. We agree and sustain Ironburg's objection and grant in part the Butler Motion on this narrow point only.

However, Mr. Butler testifies that he was personally aware that Butler was published via the internet on March 11, 2013. Ex. 1011 ¶¶ 1, 4. To the extent that Ironburg also argues that we cannot consider Mr. Butler's testimony as evidence of publication, we reject any such argument and find that Butler was published on March 11, 2013.

Ironburg also argues that statements and photos in the Butler article are "hearsay" if offered to prove that Butler discloses elements of the challenged claims. Butler Mot. 4–5. At the outset, we reject such an argument because accepting it would categorically eliminate the substantive disclosure of a large percentage of printed publications. Butler, like any other written document, discloses what it discloses to an ordinarily skilled artisan, and we overrule Ironburg's hearsay objection on this basis alone. Moreover, Mr. Butler's testimony establishes that the business records exception set forth in Federal Rule of Evidence 803(6) applies to Butler as an opinion of Mr. Butler's that he reported while working as a contractor for bit-tech in 2013, a business that regularly published online articles reviewing

personal computer components to tech enthusiasts, early adopters, modders, and gamers. Ex. 1011 ¶¶ 3–4. For all these reasons, we overrule Ironburg’s objection that Butler’s substantive description of a game controller is inadmissible hearsay for proving that elements of the claimed controllers were known prior art.

3. *Relevance*

Ironburg argues that Butler is irrelevant because Valve fails to prove that Butler is a printed publication. Butler Mot. 5–6. Such an argument is directed to the sufficiency rather than the admissibility of evidence and is improperly advanced in a motion to exclude. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (August 14, 2012) (stating that a motion to exclude may not be used to challenge the sufficiency of the evidence to prove a particular fact). We reject this argument on this ground alone.

We also determine that Mr. Butler’s uncontroverted testimony establishes by a preponderance of evidence that Butler was published on March 11, 2013, Ex. 1011 ¶¶ 1, 4, and that an ordinarily skilled artisan would have found it using reasonable diligence, *id.* ¶¶ 2–4. Mr. Butler testifies that bit-tech was “a fully professional online publication that regularly created and published (via www.bit-tech.net) records of opinions of interest to tech enthusiasts, early adopters, modders, and gamers.” *Id.* ¶ 3. He further testifies that “[b]y 11 March 2013, on-line publications by bit-tech were widely read by many people in many different countries including the USA, and were considered to be a reliable authority on game and hardware reviews.” *Id.* ¶ 4. Based on this evidence, we conclude that an ordinarily skilled artisan in the field of game controller design would have

known of or easily could have found Butler because it was from a well-known and authoritative source of game and hardware reviews.

Accordingly, we overrule Ironburg's objection to Butler as irrelevant and find that Valve has proven by a preponderance of evidence that Butler is a printed publication.

4. Conclusion

Except as otherwise noted above, we deny Ironburg's Motion to Exclude Butler.

B. OTHER MOTIONS TO EXCLUDE (PAPERS 48 AND 63)

Ironburg moves to exclude numerous other exhibits, all of which relate to either (1) the degree to which Exhibit 1004 allegedly describes an "elongate member" that is "inherently resilient and flexible" as required in claim 29 or (2) whether Exhibit 1004 is a printed publication. Paper 48 (seeking to exclude Exhibits 1017 and 1019–1042 (relating to first issue); Paper 63 (seeking to exclude Exhibit 1048 (relating to both issues)). We have considered all the evidence that is subject to these motions and found that the evidence fails to establish that Exhibit 1004 (Burns) is a prior art printed publication. In its challenge to claim 29 based on the combination of Burns and LaCelle, Valve relies solely upon Burns as describing the claimed "elongate member." Pet. 36. We find it unnecessary to decide these motions because Valve has failed to prove that Burns is prior art. Therefore, we dismiss without prejudice as moot Ironburg's motions made in Papers 48 and 63.

IV. CONCLUSION

For the reasons expressed above, we conclude the following:

1. Valve has proven by a preponderance of evidence that Uy anticipates claims 1, 2, 9, 10, 20, 22, and 27, 28, and 30 of the '688 patent, but has failed to do so for claims 3, 26, and 29;
2. Valve has failed to prove by a preponderance of evidence that Butler anticipates any claim of the '688 patent;
3. Valve has failed to prove by a preponderance of evidence that Burns in view of any one of Bellinghausen, LaCelle, or Knight renders any claim of the '688 patent unpatentable as obvious.

V. ORDER

For the reasons given, it is:

ORDERED that Valve has proven by a preponderance of evidence that claims 1, 2, 9, 10, 20, 22, and 27, 28, and 30 of U.S. Patent 9,289,688 B2 are *unpatentable*;

FURTHER ORDERED that Valve has not established by preponderance of evidence that claims 3, 18, 19, 21, 26, and 29 of U.S. Patent 9,289,688 B2 are *unpatentable*;

FURTHER ORDERED that Ironburg's Motion to Exclude Exhibit 1008 is *granted-in-part* and *denied-in-part* as described above;

FURTHER ORDERED that Ironburg's motions to exclude Exhibits 1017, 1019–1042, and 1048 are *dismissed* without prejudice as moot; and

FURTHER ORDERED because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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