

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALVE CORPORATION,
Petitioner,

v.

IRONBURG INVENTIONS LTD.,
Patent Owner.

Case IPR2016-00948
Patent 8,641,525 B2

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

KAUFFMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. OVERVIEW

Valve Corporation (“Petitioner”) filed a corrected Petition (Paper 4, “Pet.”) requesting *inter partes* review of claims 1–20 of U.S. Patent No. 8,641,525 B2 (Ex. 1001, “the ’525 patent”). Pet. 1. Ironburg Inventions Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”) to the Petition. We instituted an *inter partes* review of claims 1–11, 13, 14, and 16–20, and did not institute review of claims 12 and 15. Paper 10 (“Dec.”).

Subsequently, Patent Owner filed a Patent Owner Response (Paper 19, “PO Resp.”), and Petitioner filed a Reply (Paper 23, “Pet. Reply”).

Oral hearing was held on June 5, 2017, and a transcript of the oral hearing is included in the record. Paper 36 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 6, 13, 14, 16, 17, 19, and 20 of the ’525 patent are unpatentable, but has not made such a showing with regard to claims 2–5, 7–11, and 18. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

B. RELATED PROCEEDINGS

The parties indicate that the ’525 patent is at issue in: *Ironburg Inventions Ltd. v. Valve Corp.*, Case No. 1:15-cv-04219-MHC (N.D. Ga.). Pet. 1; Paper 6, 1.

Petitioner also filed a petition against U.S. Patent 9,089,770 B2 (“the ’770 patent”), the subject of *inter partes* review IPR2016-00949 (“the ’949 IPR”). The ’770 patent issued from an application that was a continuation of application 13/162,727, now the ’525 patent. These *inter partes* reviews have proceeded on the same schedule.

Petitioner filed a second petition against both the ’525 patent and the ’770 patent (IPR2017-00136 and IPR2017-00137, respectively), and each petition was accompanied by a Motion for Joinder/Consolidation. In IPR2017-00136, we instituted review of claim 20 and denied the Motion for Joinder/Consolidation. IPR2017-00136, Paper 12. In IPR2017-00137, we denied institution and denied the Motion for Joinder/Consolidation. IPR2017-00137, Paper 10.

II. PRELIMINARY MATTERS

A. PATENT OWNER’S MOTION TO EXCLUDE EVIDENCE

Patent Owner moves to exclude (1) Exhibits 1025–1027 and the associated Paper (Paper 25), and (2) Exhibit 1007. Paper 28. Petitioner filed an opposition to the Motion (Paper 32) and Patent Owner filed a Reply to the Opposition (Paper 33). Patent Owner has the burden of establishing that evidence should be excluded. *See* 37 C.F.R. § 42.20(c), § 42.22. For the reasons that follow, we *deny* Patent Owner’s Motion.

1. Exhibits 1025–1027 and Associated Paper

Petitioner filed Exhibits 1025–1027 with an associated Paper (Paper 25) on April 13, 2017, as supplemental evidence in response to Patent Owner’s second set of objections to Exhibit 1007. *See* Paper 24 (Patent

Owner's second set of objections); Paper 25 (asserting that the subject information was only being used regarding the admissibility of Ex. 1007); Paper 32, 11–12 (acknowledging that the subject information is supplemental evidence only).

These Exhibits and the associated Paper are not evidence on the merits of this case; they are in the record for the limited purpose of the admissibility of Exhibit 1007. Consequently, these Exhibits and the associated Paper are not the proper subject of a Motion to Exclude.

2. *Exhibit 1007*

Exhibit 1007 is a United Kingdom (UK) Search and Examination Report for the counterpart to the application that became the '525 patent. Petitioner submitted Exhibit 1007 in association with the Petition, and as such, it is evidence submitted during a preliminary proceeding.¹ See 37 C.F.R. § 42.2 (defining preliminary proceeding).

A timely objection is a prerequisite to a Motion to Exclude. See 37 C.F.R. § 42.64(b)(1), (c). Patent Owner purports to have made three sets of objections to Exhibit 1007 in the following papers: (1) the Preliminary Response, (2) Paper 15, and (3) Paper 24. Paper 28, 1.

a) *Preliminary Response*

Patent Owner asserted in the Preliminary Response that Exhibit 1007 is “hearsay and is not prior art,” and “should be excluded in its entirety.” Prelim. Resp. 28.

¹ Exhibit 1007 was served on Petitioner in association with Paper 1 (the original Petition) and was not served a second time with Paper 4 (the corrected Petition). See Paper 1, 61; Paper 4, 54. This distinction is immaterial to our analysis.

In our Decision to Institute, we explained that a preliminary response cannot serve as an effective objection for two reasons.² Dec. 4–5 (entered on September 27, 2016). First, objections must be made after institution of trial. *See* 37 C.F.R. § 42.64(b)(1) (objections are due ten days from institution of trial). Second, an objection and a preliminary response may not be combined into a single document. *See* 37 C.F.R. § 42.6(a)(3) (prohibiting combined documents).

b) Paper 15

On Wednesday, October 26, 2016, the Board held a conference call at Patent Owner’s request. Paper 13. During that call, Patent Owner asked again whether the Preliminary Response had served as a timely objection to Exhibit 1007. *See* Paper 13, 2–3. We reiterated that the statements in the Preliminary Response were not an effective objection, and explained that Patent Owner was raising the issue after expiration of the time-period for an objection. *Id.* at 3. Patent Owner maintained the request to object to Exhibit 1007. *Id.* Before ending the call, we informed the parties that we would enter an order shortly.

On Thursday, October 27, 2016, the next business day after the call, the Board entered the anticipated Order. Paper 13. In that Order, we permitted Patent Owner two business days (until Monday, October 31, 2016) to file objections to Exhibit 1007. *See* Paper 13, 4. Entry of that Order triggered an automated email to the email address of record entered by

² In the interest of brevity, we incorporate by reference our analysis at Paper 13 pages 2–4.

Patent Owner. *See* Tr. 41:12–44:5 (summarizing the situation). On Tuesday, November 1, 2016, after the allotted period for filing objections had expired, Patent Owner filed objections. *See* Paper 13, 4; Paper 15, 1.

During the oral hearing, Patent Owner acknowledged filing the objections after the deadline. Tr. 44:15–16. Patent Owner elaborated that he received the email notice, but did not review the content of that notice because he was traveling, and because it was “buried with a whole bunch of other things.” Tr. 44:16–45:15. Patent Owner orally requested that we excuse the late filing of Paper 15 under 37 C.F.R. § 42.5(c)(3). Tr. 45:10–46:4.

Patent Owner knew that the objections were late when filed on November 1, 2016, and took no action until the oral hearing on June 5, 2017. Such lengthy inaction diminishes the persuasiveness of Patent Owner’s request to excuse its late filing of objections. *See* 37 C.F.R. § 42.25(b) (“A party should seek relief promptly after the need for relief is identified. Delay in seeking relief may justify a denial of relief sought.”) Perhaps more importantly, a request to excuse a late action must be in the form of a motion. *See* 37 C.F.R. §§ 42.5(c)(3), 42.20. Patent Owner did not request authorization to file such a motion. Consequently, a proper request for relief is not before us.

Patent Owner did not submit Paper 15 within the allotted time, and consequently that Paper is not an effective set of objections.

c) Paper 24

In response to evidence relied upon in Petitioner’s Reply, Patent Owner filed another set of objections (Paper 24) including objections to Exhibit 1007.

Rule 42.64(b)(1) provides that during trial, objections must be filed within five business days of “service of evidence to which the objection is directed.” Petitioner served Exhibit 1007 on Patent Owner in association with the Petition, not in association with Petitioner’s Reply. Although Paper 24 was filed within five business days of filing of Petitioner’s Reply, it was not served within five business days of service of Exhibit 1007. Thus, by strict application of the rule, Paper 24 was not timely.

We recognize that under the Federal Rules of Evidence the use of evidence may affect the admissibility of that evidence. For example, a single piece of evidence might be capable of a use that would be inadmissible hearsay and a use that would not be hearsay. Thus, if evidence were submitted in association with a petition and relied upon in a first manner, and then relied upon in a second, different manner in a subsequent paper (e.g., petitioner’s reply), the second use could create a potential objection to that evidence that was not present with the use in the petition. Such a situation might warrant permitting the submittal of the subsequent paper (e.g., Petitioner’s Reply) to trigger an opportunity to submit an objection. *See* 37 C.F.R. § 42.5(b) (permitting waiver of requirements of part 42). With this in mind, we compare the objections of Paper 15 to those of Paper 24.

In Paper 24, Patent Owner asserts that Exhibit 1007: contains inadmissible hearsay under Federal Rule of Evidence (Fed. R. Evid.) 802; lacks proper authentication under Fed. R. Evid. 901; is irrelevant under Fed. R. Evid. 401; and, has probative value outweighed by one of the enumerated dangers of Fed. R. Evid. 403. Paper 24, 1–3.

Regarding hearsay, both sets of objections assert that Exhibit 1007 “is not prior art, not from before the application was filed, not sworn testimony, and is therefore hearsay not subject to any hearsay exception.” Paper 15, 3; Paper 24, 2. Further, in Paper 15, Patent Owner asserts that the portion of Exhibit 1007 that is quoted by Petitioner is hearsay because it is offered to prove the truth of the matter asserted, namely, “what was known in the art at the time of the invention.” Paper 15, 2–3 (citing Pet. 10–11 (citing Ex. 1007, 2)). Likewise, in Paper 24, Patent Owner asserts that the same portion of Exhibit 1007 is hearsay because it is offered to prove the truth of the matter asserted, namely, “what was known in the art at the time of the invention.” Paper 24, 2 (citing Pet. Reply, 21 (citing Ex. 1007, 2)). Patent Owner’s hearsay objections in Paper 24 have no meaningful distinction from the objections in Paper 15.

Regarding authentication, Patent Owner’s objections are the same. *Compare* Paper 15, 3 *with* Paper 24, 2–3.

Regarding relevance, in Paper 24, Patent Owner asserts that Exhibit 1007 is irrelevant, misleading, and confusing because the statements were not made in the context of the challenged claims or applicable United States law. Paper 24, 3. Patent Owner elaborates that Petitioner has not sufficiently explained the evidence. *Id.* Patent Owner makes no distinction between reliance on Exhibit 1007 in the Petition and in the Petitioner’s Reply.

Given that Petitioner relies on Exhibit 1007 in the same manner in the Petition as in the Reply,³ and the lack of a meaningful distinction between the two sets of objections, we determine that Rule 42.64(b)(1) set the deadline for objecting to Exhibit 10017 as ten days after institution of trial and that waiver of this rule is not warranted.

In light of this, Patent Owner did not make a timely objection, and consequently we *deny* Patent Owner's Motion to Exclude.

B. EXHIBIT 1028

Petitioner filed Exhibit 1028, a duplicate of Exhibit 1027, in association with Petitioner's opposition to Patent Owner's Motion to Exclude. *See* Paper 32, 12–13. Petitioner did not seek Board authorization for filing a duplicate, and accordingly we expunge this Exhibit. *See* 37 C.F.R. § 42.6(d) (stating that documents already of record in the proceeding may not be filed without express Board Authorization); *see also* 37 C.F.R. § 42.7(a) (authoring the Board to expunge unauthorized papers).

C. SCOPE OF PETITIONER'S REPLY

During the oral hearing, Patent Owner objected to Petitioner's demonstrative exhibits as containing information beyond the scope of a permissible reply. Based on this, we authorized Patent Owner to file a paper identifying such information, and we authorized Petitioner a response.

³ In both the Petition and Petitioner's Reply, Petitioner relies on Mr. Donohoe's opinion as evidence of the state of the video game controller art as of the critical date of the '525 patent. *Compare* Pet. 9–11 *with* Pet. Reply 21.

Paper 37, 3–4 (authorization); Paper 39 (Patent Owner); Paper 41 (Petitioner). In the analysis that follows, we address these contentions with respect to information in Petitioner’s Reply that we rely upon in making this decision, but we do not address information that we did not rely upon.

III. THE CLAIMED SUBJECT MATTER

A. INTRODUCTION

The ’525 patent relates to handheld controllers for video game consoles. Ex. 1001, 1:6–7.

As background, the ’525 patent describes that conventional controllers were intended to be held and operated by the user using both hands, and describes that the plurality of controls were mounted on the front and top edge. *Id.* at 1:8–17; Fig. 1. The drawback of this design was that the user was required to remove his or her thumb from one control to operate another control, causing loss of control, such as aiming. *Id.* at 1:33–40. The ’525 patent was intended to address this problem. *Id.* at 1:41–45.

The controller of the ’525 patent is very similar to controllers of the prior art with respect to the outer case and the front and top controls. *Id.* at 2:15–20; *compare* Fig. 1 (prior art, *id.* at 2:61–62) to Figs 2, 3.

Controller 10 of the ’525 patent includes a plurality of controls on the front and top edge like a conventional controller, and includes additional controls on the back, such as paddles 11, that are operable by fingers other than the thumb. *Id.* at 1:51–58; 3:14–17; Fig. 1 (front of conventional controller and controller 10), 2 (back of controller 10). Figure 2 follows:

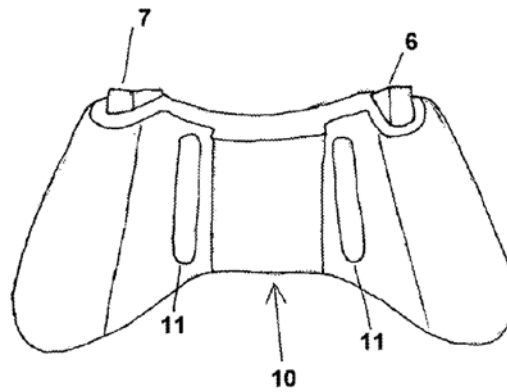


Figure 2

Figure 2 is a schematic illustration of the back of game controller 10. *Id.* at 2:63–64.

B. CHALLENGED CLAIMS

Of the challenged claims, 1 and 20 are independent. Claim 1 follows:

1. A hand held controller for a game console comprising:
an outer case comprising
 - a front, a back, a top edge, and a bottom edge,
wherein the back of the controller is opposite the front of
the controller and the top edge is opposite the bottom edge;
and
 - a front control located on the front of the controller;
wherein the controller is shaped to be held in the
hand of a user such that the user's thumb is positioned to
operate the front control; and
 - a first back control and a second back control, each
back control being located on the back of the controller
and each back control including an elongate member that
extends substantially the full distance between the top
edge and the bottom edge and is inherently resilient and
flexible.⁴

⁴ A line break was added for readability.

C. CLAIM INTERPRETATION

The Board interprets claims of an unexpired patent using the broadest reasonable interpretation. *See* 37 C.F.R. § 42.100(b).

For the purposes of this decision, and on this record, we determine that only the following claim terms require express interpretation. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only those terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy).⁵

1. *Directional References*

The claims recite words indicating relative position or direction such as “front,” “back,” “top,” and “bottom” without expressly stating a frame of reference for interpreting these words. In the Institution Decision, we interpreted directional words in the claims to be terms that merely distinguish one feature from another and define positions relative to each other. Dec. 8–9. For example, “front” is opposite the “back,” and the “top” is opposite the “bottom.” This is true because the ’525 patent explicitly states that directional words, such as front, back, top, and bottom, merely serve to distinguish those features from one another and do not limit the respective features to a particular static orientation. *Id.* at 8 (citing Pet. 11–12; Ex. 1001, 4:28–32). The parties do not challenge this interpretation, and we adopt it here.

⁵ Some aspects of claim construction, such as Patent Owner’s assertions regarding “flexible,” are addressed in the patentability analysis below.

2. *Thickness*

In the Institution Decision, we determined that the broadest reasonable interpretation of “thickness” as used in claims 9–11 is the dimension of the elongate member perpendicular to the surface of the elongate member (i.e., also the direction of displacement when the user activates the control function). Dec. 10–11. The parties do not challenge this interpretation, and we adopt it here.

3. *Extension of Elongate Members*

Independent claims 1 and 20 recite that each elongate member on the back of the controller “extends substantially the full distance between the top edge and the bottom edge” of the outer case of the controller. Claims 2–19 include this limitation by virtue of dependence from claim 1.

In the Institution Decision, we determined that the claims require that the elongate members extend largely but not necessarily the entire distance between the top and the bottom edges. Dec. 11–13. The parties do not challenge this interpretation, and we adopt it here.

4. *Recess*

Claim 7 recites “[t]he controller of claim 1, wherein each elongate member is mounted with a recess located in the case of the controller.”

Claim 8 recites, “[t]he controller of claim 7, wherein each elongate member comprises an outermost surface which is disposed in close proximity to the outermost surface of the controller such that a user’s fingers may be received in said respective recess.”

We address two aspects of the claimed “recess:” one, the direction of the recess, and two, whether the user’s fingers must be received in the recess.

a) Direction of the Recessed Portion

In the Petition, Petitioner asserted that, “any region between a first and second handle that is recessed *towards the front* of the video game controller can qualify as a ‘recess’” as claimed. Pet. 15 (emphasis added). In the Institution Decision, we determined that a “recess” as claimed is not limited to be recessed towards the front of the controller. Dec. 14–15. The parties do not contest this determination, and we adopt it here.

b) User’s Fingers

Patent Owner contends that a “recess” as claimed is required to receive a user’s finger and Petitioner argues the claims are not limited in that manner. PO Resp. 15–20; Pet. Reply 2–5. We disagree with Patent Owner’s assertion for several reasons.

First, in the Preliminary Response, Patent Owner asserted that the claim term “recess” should be given its ordinary meaning. Prelim. Resp. 9, 13; *see also* Pet. Reply 5 (pointing out this earlier statement). In the Response, Patent Owner asserts that a recess as claimed must receive the user’s fingers based on claim scope disavowal. PO Resp. 15–20. Patent Owner’s change in interpretation significantly undermines Patent Owner’s position.

Second, Patent Owner’s analogy to *AVX Corporation* is not persuasive because the claim interpretation to which Patent Owner analogizes was changed on rehearing. *See* PO Resp. 16–17 (citing *AVX*

Corp. v. Greatbatch Ltd., Case No. IPR2015-00710, slip op. at 5–12, (PTAB Aug. 12, 2015) (Paper 9)); *AVX*, Paper 13 (PTAB Jan. 13, 2016) (rehearing).

Third, for the reasons that follow, claim 8 undermines rather than supports Patent Owner’s position. Claim 1 requires that the elongate members are located on the back of the controller, and dependent claim 7 adds that the elongate members are mounted in “a recess” located in the case of the controller. Ex. 1001, 4:40–55, 5:4–6. Claim 8 depends from claim 7 and adds that each elongate member includes an outermost surface that is disposed in close proximity to the outermost surface of the controller so that a user’s finger may be received in the recess. The presence of the explicit requirement in claim 8 that the recess receives the user’s fingers suggests that a recess as recited in claim 7 does not include such a requirement. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed.Cir. 2004) (the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim).⁶ In other words, if, as Patent Owner contends, a recess as claimed must receive the user’s fingers, such interpretation would render the explicit requirement in claim 8 superfluous. *Bicon Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[C]laims are interpreted with an eye toward giving effect to all terms in the claim.”); *Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (denouncing claim constructions that render phrases in claims superfluous).

⁶ We presume this principle applies to claim 8 by virtue of dependence from claim 7 even though claim 7 is not independent.

The '525 patent does not include a lexicographical definition of “recess.” An ordinary meaning of a “recess” is “an indentation in a line or a surface (as an alcove in a room).” See Ex. 2005, 435⁷ (defining recess); see also PO Resp. 16 (asserting that this definition of recess is the ordinary meaning, but contending such meaning does not apply due to claim scope disavowal). The claims recite that a recess as claimed is included in the back of the outer case of the controller (a surface). This suggests that the claims require the back of the outer case of the controller to include an indentation. We consider this ordinary meaning in light of the Specification.⁸

The '525 patent describes that

Preferably, each elongate member is mounted within a respective recess located in the case of the controller.

Preferably, each elongate member comprises an outermost surface which is disposed in close proximity to the outermost surface of the controller such that the user's finger's may be received in said respective recess.

Ex. 1001, 1:62–67. The '525 patent describes that the

controller of the present invention is particularly advantageous over controllers according to the prior art as it comprises one or more additional controls located on the back of the controller in a position to be operated by middle fingers of a user.

Id. at 2:21–25. The '525 patent describes that

The paddles 11 are mounted within recesses located on the case of the controller 10; and are disposed in close proximity to the outer surface of the controller body. In this way a user may engage the paddles 11 with the tips of the fingers, preferably the

⁷ This refers to the native page number of the Exhibit.

⁸ The disclosures that follow are those portions of the '525 patent cited by Patent Owner as evidencing disavowal.

middle fingers, without compromising the user's grip on the controller 10.

Id. at 3:39–44. Figure 3 of the '525 patent, as annotated by Patent Owner, follows.

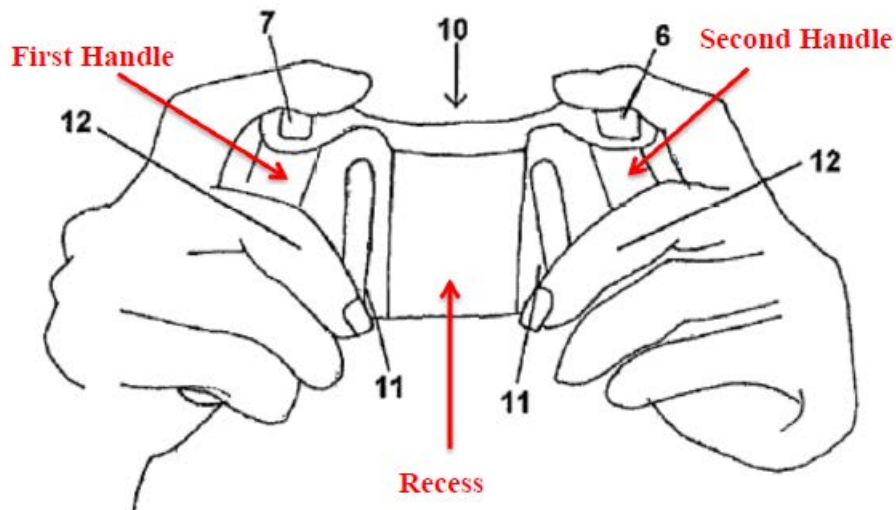


Figure 3

Annotated Figure 3 depicts the back of a game controller as held and operated by a user, and includes Patent Owner's identification of the first and second handle and the recess. See PO Resp. 19; Ex. 1001, 2:65–67.

Patent Owner's argument is that the '525 patent expresses a clear intent to disavow controllers having a recess that does not receive a user's fingers. See PO Resp. 17–22. Stated in a positive sense, Patent Owner argues that the '525 patent expresses a clear intent to cover only recesses that receive a user's fingers. Patent Owner does not identify, nor do we discern, any explicit disclosure in the '525 patent that the invention includes only recessed portions that receive a user's fingers. The description that “preferably” each elongate member is mounted in a recess such that a user's finger may be received in the recess is an exemplary disclosure of a

preferred embodiment. *See* Ex. 1001, 1:62–67. Likewise, the disclosures that the elongate members (e.g., paddles 11) are mounted within recesses so that a user may engage the elongate members with the tips of the fingers are exemplary. *See id.* at 2:21–25, 3:39–44, Fig. 3. Consequently, the '525 patent does not express a clear intent to limit the claimed invention to recessed portions that receive a user's fingers. *See e.g., SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed.Cir. 2001); *see also Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed.Cir. 1988) (“Although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.”).

In light of the disclosures above, the ordinary meaning that a recess is an indentation is consistent with the Specification.

The claims require that the outer case of the controller includes a recess (indentation), and the claims are not limited to a recess that permits receipt of a user's fingers.

5. *Handheld Controller*

Patent Owner contends that a “handheld controller” as recited in independent claims 1 and 20 requires that the controller must be “held in and operated by both hands of a user.” PO Resp. 9. Our inquiry focuses on two aspects of Patent Owner's contention: one, whether the device must be held in a single hand or in both, and two, whether the operability requirement precludes support of the controller from other than the user's hands. We address these contentions in turn.

a) Single Hand or Both Hands

In support of the argument that claims 1 and 20 each require the controller to be held in and operated by both hands of a user, Patent Owner contends that the preamble is limiting, that a controller that may be held in one hand has been disavowed, and that the ordinary meaning supports such an interpretation. PO Resp. 9–14, 23–26, Paper 38, 1–2.

As detailed below in the analysis of the ground of unpatentability based on anticipation by Tosaki, Petitioner has demonstrated adequately that Tosaki’s controller may be held in and operated by one or both hands. Consequently, we need not determine if the claims are limited as Patent Owner asserts. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (Claim terms need only be construed to the extent necessary to resolve the controversy).

b) Preclusion of Other Support

We begin by clarifying Patent Owner’s contention. Patent Owner contends that Tosaki’s controller is not “handheld” as claimed because it is held between a player’s thighs. PO Resp. 23–26; Tr. 107:11–14. This contention implies the underlying claim interpretation that the claims preclude support by anything other than a player’s hands. During the oral argument, we asked Patent Owner if their argument was that the claims preclude support from other than a user’s hands. Tr. 107:15–19. Patent Owner replied, “No, your honor. My argument is that it must be – must be held by the hand and operated while being held in the hand.” *Id.* at 107:20–22; *see also* 112:8–9 (stating “We’re not saying no to other support other than the hands.”). Patent Owner elaborated that Tosaki’s device would not be operable for its intended purpose when supported only by a user’s hands

because without such support the steering wheel would not be able to move relative to the steering wheel base. *Id.* at 108:18–111:16. In other words, the steering wheel only operates properly with support other than the user’s hands (e.g., the base resting on a table or held between a user’s thighs). Although Patent Owner disagrees, Patent Owner’s argument is premised on the interpretation that the claims require the device to be fully operable when supported only by the user’s hands, which precludes support from other than the user’s hands.

The preamble of claims 1 and 20 each recite, “A handheld controller for a game console comprising.” The body of each claim recites that, “the controller is shaped to be held in the hand of a user such that the user’s thumb is positioned to operate the front control.” The language of claims 1 and 20 requires the controller to be handheld and requires the controller to have a particular shape (i.e., a shape permitting the user’s thumb to be positioned to operate the front control).

The language of the claims does not support Patent Owner’s argument. *See Renishaw PLC*, 158 F.3d 1243, 1248. Neither claim explicitly recites that the controller is (1) supported only by the user’s hands or (2) is operable only when supported only by the user’s hands alone. Further, claims 1 and 20 each use the open-ended term “comprising,” so that other support (e.g., a user’s thighs or a steering wheel base) is not precluded. *See Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (“Comprising” is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.).

Patent Owner repeatedly emphasizes that the proffered interpretation is the ordinary meaning of “handheld.”⁹ *See, e.g.*, Tr. 106:15–22; 112:8–16; 116:10–12. In support, Patent Owner contends the ordinary meaning of “handheld” is, “held in the hand; *esp* to be operated while being held in the hand.” PO Resp. 14 (citing Ex. 2004, p. 526). This definition does not preclude support other than a user’s hands; rather, it means that the device must be held in the hand and operable when so held. With this ordinary meaning in mind, we turn to the claims.

The ordinary meaning of “handheld” as being held in the hand and operable when so held is consistent with the Specification. *See, e.g.*, Ex. 1001, Abstract, 1:49–56, 3:14–15, Fig. 3. That ordinary meaning does not preclude support from other than a user’s hands.

Patent Owner’s argument is unpersuasive for other reasons. First, Patent Owner contends that Tosaki’s steering function is inoperable when the device is held only in the hands, but Patent Owner makes no such assertion regarding operation of Tosaki’s controls that correspond to claimed controls (i.e., the front control and first and second back controls). In other words, Patent Owner does not contest that the controls corresponding to the claimed controls are operable when Tosaki’s device is held in and operated by both hands without other support. *See generally*, Tr. 138:17–151:19. Patent Owner’s contention regarding an additional unclaimed function (steering) is inapposite.

⁹ Patent Owner does not allege, nor do we discern, a lexicographical definition of “handheld” in the ’525 patent.

Second, claims 1 and 20 are apparatus claims, and consequently cover what the device is and not what the device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990) (“[A]pparatus claims cover what a device *is*, not what a device *does*.”). Patent Owner’s argument is to some degree based on a use of the device and not the structure of the device. Petitioner illustrated this point well by pointing out that a video controller user might rest the controller on their lap (providing support other than the hands), yet this does not change the structure of the device. *See* Tr. 67:18–69:2; *see also* 115:1–117:14 (questioning Patent Owner on this point).

Patent Owner has not persuaded us that a “handheld” controller as claimed must be operable when supported only by the hands of a user. In other words, the claims do not preclude support of the controller from other than the user’s hands.

6. *Claim 13*

Claim 13 depends from claim 1 and recites, “wherein the elongate members converge towards the front end of the controller with respect to one another.”

In our Institution Decision, we asked the parties to further address proper interpretation of this claim. Dec. 9.

Patent Owner contends that claim 13 requires two types of convergence: one, each of the elongate members converge towards the front of the controller, and two, the elongate members converge towards one

another towards the front end of the controller.¹⁰ PO Resp. 20–23; *see generally* Tr. 138:17–151:19 (discussing this limitation). We address these contentions in turn.

a) Convergence Between Each Elongate Member and the Front

Claim 13 recites that the elongate members come closer together (“converge. . . with respect to one another”) in a specified direction (“towards the front end of the controller”). Claim 13 only requires convergence between the elongate members without requiring convergence between each of the elongate members and the front of the outer case. Consistent with that interpretation, the ’525 patent does not contain any description of convergence between each elongate member and the front of the controller. Accordingly, Patent Owner’s assertion that claim 13 requires the elongate members to converge towards the front of the controller is not persuasive.

b) Convergence Between the Elongate Members

The claim term “the front end” lacks an antecedent basis. Patent Owner asks that we read “front end” to mean “front” so that “a front” is the antecedent basis for “the front end.” PO Resp. 20–23; *see also* Tr. 144:10–14 (indicating that “front end” and “front” are synonymous in claim 13). Yet Patent Owner does not identify, nor do we discern, any disclosure in the ’525 patent indicating that the terms “front end” and “front” refer to the same portion of the controller. We agree with Petitioner that Patent Owner’s interpretation is disfavored because it effectively reads out the term “end.”

¹⁰ Patent Owner does not contend that claim 13 contains a typographical error.

See PO Resp. 20–23; Pet. Reply 5–7; *Bicon Inc.*, 441 F.3d at 950; *Stumbo*, 508 F.3d at 1362; Patent Owner cites no persuasive authority for such an interpretation.

We further analyze claim 13 by looking at the structure of the apparatus in light of claim language and the Specification.

Claim 13, by virtue of dependence from claim 1, recites that the front of the outer case of the controller is opposite the back, and the top edge of the outer case of the controller is opposite the bottom edge. Figures 1 and 2 of the '525 patent follow.

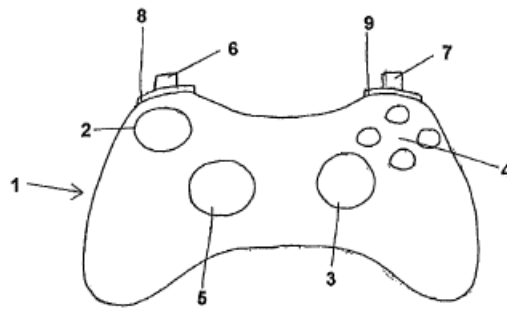


Figure 1

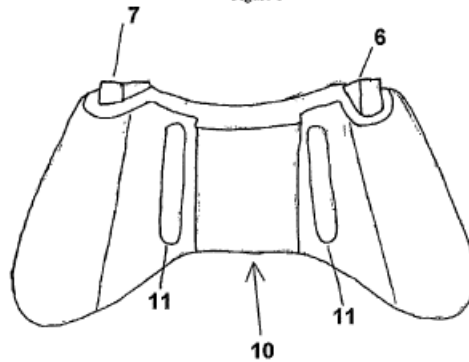


Figure 2

Figure 1 depicts the front of the controller, and Figure 2 depicts the back of the controller.¹¹ Ex. 1001, 2:61–64.

In parity with the claim language, the '525 patent describes that the top edge of the controller is the portion of the front and the back of the controller near the top as oriented in Figures 1 and 2. *Id.* at 1:27–29 (describing that left bumper 8 and right bumper 9 are located on the top edge of controller 1); 1:29–30, 52–56 (describing left and right triggers 6 and 7 as operated by a user's index fingers and located at the top edge of the controller). Because claim 13 recites that the bottom edge is opposite the top edge, the bottom edge is then the portion of the front and back of the controller near the bottom as oriented in Figures 1 and 2.

The '525 patent defines directional references as terms for distinguishing one feature from another. Ex. 1001, 4:26–31. In particular, the '525 patent identifies several terms in pairs to set the relationship between those elements, such as: top and bottom, front and back, end and side, inner and outer, and upper and lower. *Id.* Given these associations, and assuming the terms carry their ordinary meaning, the sides (left and right in Figure 1) of the controller would be orthogonal to the ends (top and bottom in Figure 1). From this perspective, the controller has two “front ends:” the portion of the front near the bottom edge, and the portion of the front near the top edge.

¹¹ Figure 1 depicts a controller of the prior art, but it is the same as the controller of the '525 patent, except that two paddle levers 11 have been added to the back. Ex. 1001, 2:15–20, 3:13–24.

Outside of the claims, the '525 patent uses the term “converge” twice. First, it describes in the *Summary of the Invention* that,

Preferably, there are two additional controls which are elongate members that are parallel to each another. In another embodiment, the elongate members *converge* towards the front end of the controller with respect to one another.

Ex. 1001, 2:4–7 (emphasis added). Second, it describes in the *Detailed Description of the Invention* that,

In one embodiment the paddles are orientated parallel with each other. In an alternative embodiment the paddles are orientated such that they *converge* towards the top edge with respect to each other.

Id. at 3:53–56 (emphasis added).

In each use of the term, the '525 patent contrasts the relationship between the elongate members as parallel to each other or as converging towards each other. That is, the elongate members become nearer to each other in a specified direction (i.e., towards either the front end of the controller or the top edge of the controller).¹²

Therefore, the '525 patent describes that the elongate members may converge towards the “top edge” of the controller (the top in Figures 1 and 2) or towards the “front end” of the controller (the top or the bottom of Figures 1 and 2).

¹² We considered the '770 patent because, as detailed above, it is related. It describes, in claim 15, convergence between the elongate members “towards one another in a direction pointing from the bottom edge to the top edge.” This use is consistent with our analysis of “top edge,” but sheds no light on the meaning of “front end.”

Petitioner contends that we should reject Patent Owner’s assertion that “front end” means “front” because it is more plausible that “front end” means “top edge.” Pet. Reply 5–7. In making this assertion, Petitioner addresses the disclosure in the ’525 patent regarding the elongate members converging towards the top edge (Ex. 1001, 3:53–56), but does not address the disclosure regarding convergence towards the front end (Ex. 1001, 2:4–7). Consequently, Petitioner’s assertion does not persuade us “front end” means “front.”

A person of ordinary skill would understand claim 13 to require the elongate members to converge towards the front end, which may be either the portion of the front towards the top or the portion of the front towards the bottom. That is, claim 13 requires the elongate members to converge towards each other either in a direction from the top to the bottom or in a direction from the bottom to the top.

IV. PATENTABILITY

A. EVIDENCE AND ASSERTED GROUNDS OF UNPATENTABILITY¹³

We instituted *inter partes* review on the following grounds of unpatentability:

¹³ Our analysis of each ground of unpatentability should be viewed from the perspective that arguments not made by Patent Owner are waived. See Paper 11 ¶ 3 (cautioning Patent Owner that arguments not raised are waived).

Claims Challenged	§	References(s)
1, 6, 13, 14, 16, 17, 19, and 20	102(b)	Tosaki ¹⁴
1–11, 13, 16, 17, and 20	103(a)	Enright ¹⁵ and Tosaki
18	102(a)	Enright, Tosaki, and Oelsch ¹⁶

Dec. 30.

Petitioner relies on the Declarations of Dr. David Rempel. Ex. 1012; Ex. 1021 (reply declaration); *see also* Ex. 1009 (curriculum vitae);

Patent Owner relies on the Declaration of Dr. Glen Stevick. Ex. 2002; *see also* Ex. 2003 (curriculum vitae).

B. ANTICIPATION BY TOSAKI

Petitioner contends that claims 1, 6, 13, 14, 16, 17, 19, and 20 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Tosaki (Ex. 1002). Pet. 18–29.

1. *Independent claim 1*

a) *Ground of Unpatentability*

Tosaki discloses a video game controller that may be held in and operated by both hands, and includes an outer case comprised of a front (outer surface of front casing 120a) opposite a back (outer surface of back casing 120b) as called for in claim 1 of the '525 patent. Pet. 19; Ex. 1002, 8:63–64 (steering wheel 14 includes left and right hand grips 14a), Figs. 6, 7, 23, 24; Ex. 1008 ¶ 15 (opining that Tosaki's steering wheel is handheld); Pet. Reply 7–9; *see also* Ex. 1002, 10:64–67 (steering wheel 14 is comprised

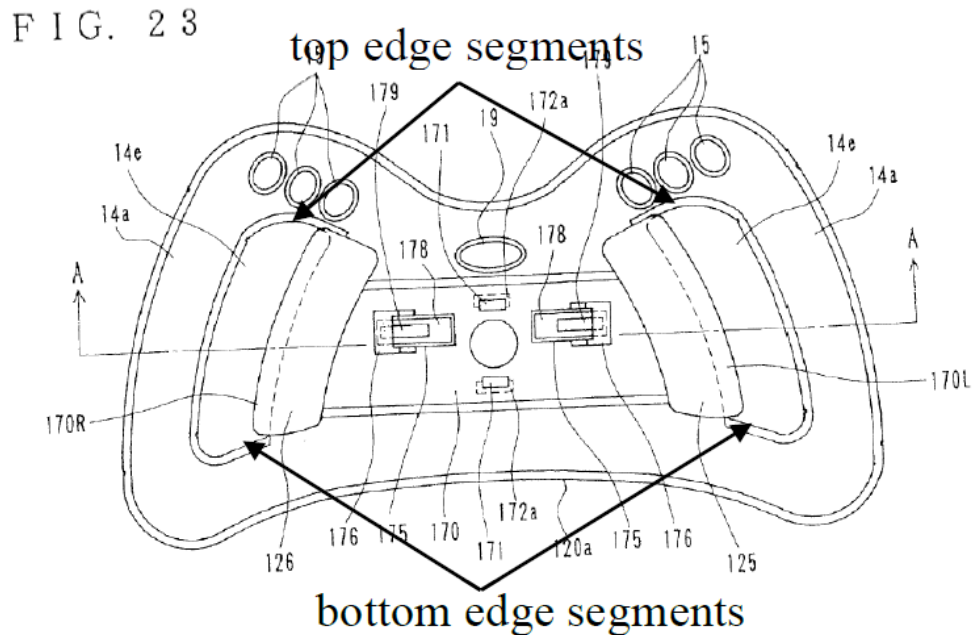
¹⁴ U.S. Patent 5,989,123, published Nov. 23, 1999 (Ex. 1002).

¹⁵ U.S. Pub. 2010/0073283 A1, published Mar. 25, 2010 (Ex. 1003).

¹⁶ U.S. Patent 4,032,728, published June 28, 1977 (Ex. 1006).

of casings 120a, 120b), 13:6–17 (left and right shift levers 125, 126 may be operated to shift), Fig. 1 (depicting steering wheel held in and operated by both hands).

Tosaki's controller includes a top edge opposite a bottom edge as claimed. Pet. 19–20. An annotated version of Tosaki's Figure 23 follows.



Annotated Figure 23 is a diagram of the steering wheel of Tosaki's controller with Petitioner's arrows and labels identifying "top edge segments" and "bottom edge segments" as corresponding to a top edge and a bottom edge as claimed. Pet. 19–20; Ex. 1002, Fig. 23.

Tosaki's front control (push button switch 15) is located on the front of the outer case of the controller, and Tosaki's controller is shaped so that the front control is operable by the user's thumb. Pet. 20; Ex. 1002, 3:25–34; 9:47–53; Ex. 1002, Fig. 23.

Tosaki discloses first and second back controls (shift levers 125, 126) that are each located on the back of the controller (i.e., the side of steering

wheel 14 opposite the front side). Pet. 21; Ex. 1002, 9:1–3, 13:11–15, 62–65; 12:61–53; Figs. 2, 3, 23, and 24. Each back control (shift levers 125, 126) includes an elongate member that extends substantially the full distance between the top and the bottom edge of the controller as claimed. Pet 21–22; Ex. 1002, 13:24; Figs. 2, 3, 23.

Toaski's first and second back controls are inherently resilient and flexible as claimed in that shift levers 125 and 126 may be displaced and return to their original position and may be elastically deformed. Pet. 23; Ex. 1002 12:61–63, 14:19–24, Figs 23, 24; Ex. 1008 ¶ 18.

b) Patent Owner Contentions

Patent Owner challenges three aspects of Petitioner's ground of unpatentability.¹⁷

(1) Handheld

Patent Owner contends that Tosaki does not disclose a handheld controller that is held in and operated by both hands of a user. PO Resp. 23–26, 30. As detailed above, Tosaki's device can be held in and operated by both hands of the user. Pet. 19; Ex. 1002, 8:63–64 (steering wheel 14 includes left and right hand grips 14a), Figs. 6, 7, 23, 24; Ex. 1008 ¶ 15 (opining that Tosaki's steering wheel is handheld); Pet. Reply 7–9; *see also* Ex. 1002, 10:64–67 (steering wheel 14 is comprised of casings 120a, 120b), 13:6–17 (left and right shift levers 125, 126 may be operated to shift), Fig. 1 (depicting steering wheel held in and operated by both hands). Further, as detailed in our claim construction above, claim 1 does not preclude support

¹⁷ We cautioned Patent Owner that arguments not raised are waived. *See* Paper 11 ¶ 3.

other than the hands. For these reasons, Patent Owner's contention is unpersuasive.

(2) First and Second Handles

Patent Owner contends that Tosaki does not include first and second handles as required by claim 1. PO Resp. 27. Although claim 1 of the '770 patent recites first and second handles, claim 1 of the '525 patent does not. Patent Owner's argument is unpersuasive because it is not commensurate in scope with the claim. Pet. 17.

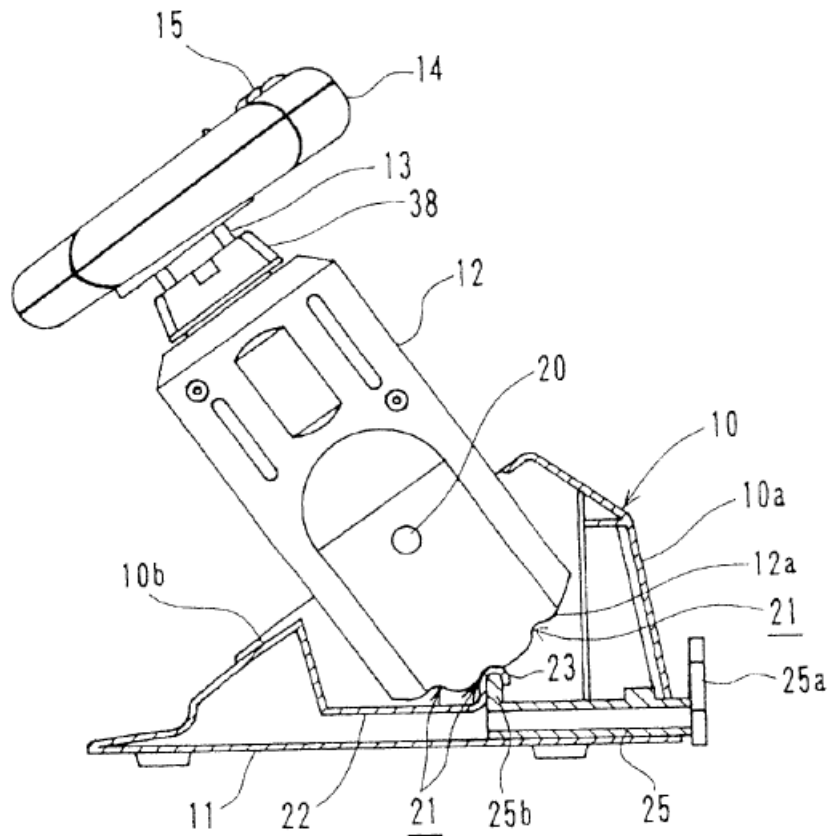
Regarding this argument and the one immediately preceding, Patent Owner argues that Petitioner's contention that hand grips 14 are "handles" is new argument and beyond the scope of a permissible reply. Paper 39, 1 (citing Pet. Reply 9). Patent Owner's argument implies that Tosaki is not handheld. We agree with Petitioner that the argument in Petitioner's Reply is not new (*see* Pet. 19 asserting that the "Tosaki controller is handheld"), and is properly proffered in response to Patent Owner's argument (*see* PO Resp. 27 asserting that Tosaki does not disclose the handles of claim 1). *See* Paper 41, 1.

(3) Back of the Controller

Patent Owner argues that Tosaki's gear shift levers 125 and 126 do not correspond to elongate members located on the back of the controller as claimed because the back of Tosaki's controller is bottom plate 11 of base casing 10, not the back of steering wheel 14. PO Resp. 27–29.

Tosaki's Figure 10 follows.

FIG. 10



Tosaki's Figure 10 is a side view of the steering wheel control apparatus. Ex. 1002, 7:25–28. Tosaki's steering wheel control apparatus includes a steering wheel 14, base casing 10, and bottom plate 11. Ex. 1002, 8:28–31, 8:41–56.

We agree with Petitioner (Pet. Reply 9–10) that nothing in claim 1 precludes the back of Tosaki’s steering wheel 14 from corresponding to the back of the controller as claimed. As detailed in our claim construction

above, claim 1 is open-ended, so that additional components like base casing 10 with its bottom plate 11 are not precluded. Patent Owner's argument is not persuasive because it is not commensurate in scope with claim 1.

c) Conclusion

Petitioner has demonstrated by a preponderance of the evidence that Tosaki anticipates independent claim 1.

2. Claims 6, 14, 16, 17, and 19

Claims 6, 14, 16, 17, and 19 each depend from claim 1. Patent Owner does not present separate argument for these claims.

Claim 6 recites, "wherein each of the back controls is positioned to be operated by a middle finger of a user." Tosaki's back controls (shift levers 125 and 126) are positioned to be operated by a middle finger of a user. Pet. 23; Ex. 1002, 13:11–15; Ex. 1008 ¶ 19; *see also* Pet. 21 (discussing disclosures in Tosaki regarding fingers other than the thumb operating shift levers 125 and 126); Ex. 1002, Fig. 5 (depicting fingers, to include the middle finger as reaching the back of steering wheel 14), Figs. 1, 9.

Claim 14 recites, "wherein a portion of at least one of the first back control and the second back control is in registry with a switch mechanism disposed within the controller, such that displacement of the at least one back control activates the switch mechanism." Tosaki's shift levers 125 and 126 are in registry with first and second switch mechanisms (switch manipulation portion 176 of one of the operating portions 170R and 170L presses the operating piece 179 of the corresponding limit switch 178) to activate those mechanisms. Pet. 24; Ex. 1002, 13:47–58, Fig. 24; *see also*

Ex. 1002, 10:60–63 (describing that shift levers 125 and 126 are used to shift up and down).

Claim 16 recites, “wherein at least one of the back controls is a paddle lever.” Petitioner explains that, Tosaki’s “shift levers 126, 125 are paddle levers.” Pet. 24 (citing Ex. 1008 ¶ 14). The switch associated with Tosaki’s shift lever 126 is operated by pressure at distal end portion 126e that causes shift lever 126 to pivot about rotary shaft 127. Ex. 1002, 12:7–13:6, Figs. 6, 7.¹⁸

Claim 17 recites, “wherein at least one of the back controls is substantially parallel to the front of the controller.” Tosaki’s shift levers 125 and 126 are substantially parallel to the front of the controller (casing 120a of steering wheel 14). Pet. 25; Ex. 1002, Fig. 24; *see also* Ex. 1002, 7:65–8:2, 10:64–67 (steering wheel 14 is comprised of casings 120a and 120b), Fig. 6.

Claim 19 recites, “wherein at least one of the back controls is formed separate from the outer case of the controller.” Figures 23 and 24 of Tosaki depict shift levers 125, 126 as formed separate from outer case 120a, 120b. Pet. 25; Ex. 1002, Figs. 23, 24.

We conclude that Petitioner has demonstrated, by a preponderance of the evidence, that claims 6, 14, 16, 17, and 19 are anticipated by Tosaki.

¹⁸ Note that Patent Owner’s argument regarding paddle levers is only made against the ground of unpatentability based on Enright and Tosaki, not the ground at issue here. *See* PO Resp. 57–58.

3. *Claim 13*

Claim 13 depends from claim 1 and recites, “wherein the elongate members converge towards the front end of the controller with respect to one another.” As detailed in our claim construction above, claim 13 requires the elongate members to converge towards each other either towards the top of the controller or towards the bottom, but claim 13 does not require each elongate member to converge only towards the front of the controller

Petitioner cites to the reference and provides an annotated version of Tosaki’s Figure 23 to illustrate the limitation at issue. *See* Pet. 23–24 (citing Ex. 1002, Figs 2, 3, and 23). These Figures illustrate the Tosaki’s elongate members (shift levers 125, 126) converge in a direction towards the front end (the portion of the front near the top as depicted in Figure 23). This assertion is supported adequately by the cited portions of Tosaki. Thus, contrary to Patent Owner’s argument, Petitioner’s assertion is supported by evidence. *See* PO Resp. 31.

Patent Owner argues that Tosaki does not disclose convergence between the pair of elongate members (gear shift levers 125, 126) and the front of the controller. PO Resp. 31–32. Such argument is unpersuasive because it is not commensurate in scope with claim 13.

We conclude that Petitioner has demonstrated, by a preponderance of the evidence, that claim 13 is anticipated by Tosaki.

4. *Independent claim 20*

Claim 20 is similar to independent claim 1 except that claim 20 does not require that the elongate members are inherently resilient and flexible. With the exception of that aspect of the elongate members, Petitioner relies on Tosaki in essentially the same manner as claim 1. *See* Pet. 25–29. Patent

Owner asserts the same arguments for patentability of claim 20 as those it asserts for patentability of claim 1. *See* PO Resp. 23–31. Thus, our analysis of claim 1 also applies to Petitioner’s challenge to claim 20.

Petitioner has demonstrated, by a preponderance of the evidence, that claim 20 is anticipated by Tosaki.

5. *Summary*

Petitioner has shown by a preponderance of the evidence that claims 1, 6, 13, 14, 16, 17, 19, and 20 are anticipated by Tosaki.

C. OBVIOUSNESS OVER ENRIGHT AND TOSAKI

Petitioner contends that claims 1–11, 13, 16, 17, and 20 are unpatentable under 35 U.S.C. § 103 as obvious over Enright and Tosaki. Pet. 29–41.

1. *Claims 1–11, 13, 16, and 17*

Independent claim 1 includes the requirement that each elongate member is “inherently resilient and flexible.” Consequently, each elongate member has two characteristics: it must be inherently resilient and it must be flexible. *See Bicon Inc.*, 441 F.3d at 950; *Stumbo*, 508 F.3d at 1362. Claims 2–11, 13, 16, and 17 include this limitation by virtue of dependence from claim 1.

In the Institution Decision, we determined that the ’525 patent expressly defines “inherently resilient” as returning from a loaded position to the unloaded position, and we determined that the ordinary meaning of “flexible” as “capable of being bent or flexed” is consistent with both the

context of the claim and the specification.¹⁹ Dec. 14 (Ex. 1001, 3:34–35; Ex. 3001, 1 (adj., def. 1.a.)). In light of this, we determined that the claims require each elongate member to be inherently resilient and flexible in that it may be bent or flexed by a load, such as that from a user’s finger, and will then return to the unloaded position.

In the Petition, Petitioner relies on Enright as disclosing elongate members as claimed. Pet. 34–35. Specifically, Petitioner contends that Enright’s elongate members (mode switches 32, 34) return to normal after being released. *Id.* (citing Ex. 1003 ¶ 35; Ex. 1008 ¶ 22). This portion of Enright and Dr. Rempel’s Declaration address the ability of Enright’s elongate members to return to an unloaded position (i.e., inherently resilient as claimed) but do not address whether the elongate members may be bend or flex (i.e., flexible as claimed).

In the Reply, Petitioner argues that paragraph 35 of Enright would have suggested to a person of ordinary skill that “mode switches 32, 34 are or include some flexible element such as a spring, to provide the ubiquitous function that is described therein (i.e. depressing to a biased position, and releasing to return).” Pet. Reply 15 (citing Ex. 1021 ¶ 12). Petitioner elaborates that a flexible elongate member is obvious over Enright because Patent Owner did not invent flexible materials, and because a person of ordinary skill would have recognized that the functionality of mode switches

¹⁹ In the Institution Decision we used the term “unbiased position” rather than the term “unloaded position.” It is possible the elongate member is biased by a spring to the unloaded position so that the term “unloaded position” is a better choice than “unbiased.” This change does not impact our analysis.

32, 34 could have been obtained by making the elongate member flexible. *Id.* (citing Ex. 1021 ¶ 12).

The Petition fails to address a claimed characteristic of the elongate members (flexibility). See PO Resp. 39–41 (arguing that Enright does not disclose elongate members that are flexible as claimed). This cannot be corrected in Petitioner’s Reply. See Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,767 (Aug. 14, 2012) (a reply may not raise a new issue or belatedly present evidence); 35 U.S.C. § 312 (a)(3) (requiring petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”); 37 C.F.R. § 42.104(b)(4) (a petition for *inter partes* review must identify how the construed claim is unpatentable under the statutory grounds on which the petitioner challenges the claim and must specify where each element of the claim is found in the prior art patents or printed publications relied upon); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015); see also Paper 39, 2 (pointing out that Petitioner is making a new argument).²⁰

Petitioner has not demonstrated by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over Enright and Tosaki. The same is true of claims 2–11, 13, 16, and 17 by virtue of their dependence from claim 1.

²⁰ Petitioner argues that Patent Owner’s contention could not have been addressed earlier because the Board did not explicitly construe this claim limitation. Petitioner’s burden is not alleviated by the lack of a claim construction by the Board.

2. *Claim 20*

In contrast to independent claim 1, independent claim 20 does not include the requirement that the elongate members are inherently resilient and flexible.

a) *Level of Skill in the Art*

Before addressing the level of skill in the art, we address Mr. Donohoe's statement.

(1) *Mr. Donohoe's statement*

In the Petition, Petitioner asserted that Brendan Donohoe, a patent examiner from the United Kingdom (UK), was a person of ordinary skill in the art. Pet. 9–11 (submitting as Exhibit 1007 the UK Search and Examination Report prepared by Mr. Donohoe regarding the UK counterpart to the application that became the '525 patent).

In our Institution Decision, we observed that the Petition does not explain persuasively how observations from a UK patent examiner, which presumably are based on UK law and not United States law, are of use in our proceeding. Dec. 4. Petitioner asserts that Mr. Donohoe must be a person of ordinary skill because the level of ordinary skill is low, and because the UK Intellectual Property Office employed Mr. Donohoe to examine the video game controller art. Pet. Reply 16–17. Petitioner chose not to address our concern regarding the distinctions between United States and UK law. Because of those distinctions, Petitioner's assertions and evidence with regard to Mr. Donohoe are entitled to little or no weight. This shortcoming is not fatal to this ground of unpatentability because, as explained below, the prior art of record is reflective of the level of skill in the art.

(2) Level of Skill in the Art

In our Institution Decision, we determined that the prior art of record was indicative of the level of skill in the art. Dec. 4–5. We asked that if the parties further develop this issue, the focus should be on the role the level of skill in the art plays in an obviousness analysis. *Id.* 5.

Patent Owner contends that the level of skill in the art is relatively low and that “less than a year of experience or other training in controller assembly or tooling is required.” PO Resp. 34; Ex. 2002 ¶ 30 (Patent Owner’s expert opining that the level of skill is “no more than a year of experience or other training in controller assembly or tooling”). Patent Owner bases this level of skill on the education level of the inventor and the type of problems encountered in the art. PO Resp. 35. Regarding the education level of the inventors, Patent Owner provides evidence that the named inventors have degrees in unrelated fields. *Id.* (citing Ex. 2008, 3; Ex. 2009, 4). Patent Owner asserts the problem solved was that users of conventional game controllers were at risk of hand strain or injury from having to operate many different controls on the front of the controller with only a user’s thumbs. *Id.* at 35–36 (citing Ex. 2012 ¶ 10; Ex. 1001, 1:33–40, 3:56–61).

Petitioner does not contest the education level of the inventors or the problem solved by the ’525 patent. Pet. Reply 15–16. Rather, Petitioner asserts that Patent Owner has taken the illogical position that the qualifications of a person of ordinary skill in the art are maximum levels of experience or training rather than minimums. *Id.*

To the extent that Patent Owner’s assertion suggests that the level of skill may not exceed a year of experience or other training in controller

assembly or tooling, we disagree. Patent Owner does not cite, nor are we aware, of any legal precedent supporting the assertion that education and experience levels are maximums that must not be exceeded.

Regarding the problem solved by the '525 patent, the portions cited by Patent Owner do not describe solving the problem of risk of hand strain or injury from having to operate many different controls; rather the portions cited deal with loss of game control by the user and user comfort. See PO Resp. 35–36 (citing Ex. 1001, 1:33–40, 3:56–61). A better characterization is that the '525 patent solved the problem of loss of control caused by moving a thumb from one control to another. See Ex. 1001, 1:41–45.

We accept Patent Owner's uncontested assertions regarding the education level of the inventors; however, this information provides an incomplete picture because other factors are involved. See *e.g. Daiichi Sankyo Co. Ltd, Inc. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007) (enumerating a non-exhaustive list of six factors that are a guide to determining the level of skill in the art). For example, one concern is the type of problems encountered in the art, and the problem solved by the '525 patent is but one type of problem encountered.

Tosaki describes that removing a hand from the controller to manipulate switches makes prompt reaction difficult and degrades usability, and describes that repositioning the user's hands can impact comfort. Ex. 1002, 1:54–67, 2:19–23. Tosaki describes an apparatus that permits manipulation of a plurality of switches while holding the controller. *Id.* at 3:20–23. Tosaki's solution also includes switches on the back of the controller (shift levers) that are accessible to a user's fingers. *Id.* at 3:36–4:8. Enright describes that controllers had become more complex in that the

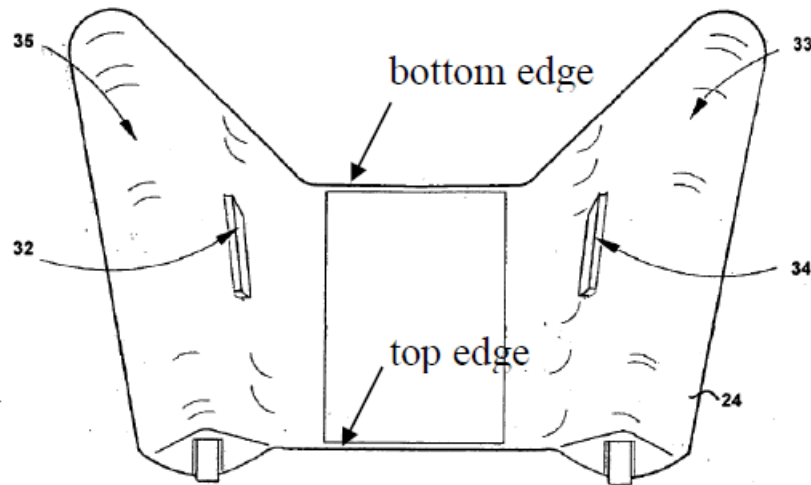
number of functions and user input devices increased to the point that user's had difficulty moving a finger to a desired button. Ex. 1003 ¶ 2. Enright describes that movement between input devices can be difficult. *Id.* ¶¶ 3–4. As a solution, Enright disclosed a device that permits selection of discrete switches without looking at or removing fingers from those switches. *Id.* at ¶ 5. Enright's solution includes switches (mode switches 32, 34) added to the underside (back) of the controller to reside near a user's fingers for easy operation. *Id.* at ¶ 32. Enright also discloses that these switches may be located elsewhere if ergonomically desired. *Id.*

In light of this, the prior art of record demonstrates that switching position on the controller, usability, and comfort were known problems in the art. Further, prior solutions included placing switches to be easily accessible to a user's finger or thumb, and placing switches so that those switches are accessible without removing a finger or thumb from another switch. In particular, these solutions placed controls on the back of the controller to be accessible to a user's fingers. The technology involved was placement of switches in ergonomically desired locations that permit usability.

Neither addressed the impact of the level of art on the obviousness analysis. We do so in our analysis below.

b) Ground of Unpatentability

Enright discloses a handheld controller for a game console (user device 2) comprising an outer case (hand-holdable housing 24) having a front opposite a back. Pet. 32; Ex. 1003 ¶¶ 22, 23, 27, 31, Fig. 4 (front view), Fig. 5 (back view). Annotated Figure 5 of Enright follows.



Annotated Figure 5 of Enright is an inverted illustration of the back of the housing of user device 2 with Petitioner's labels identifying the top edge and the bottom edge opposite that top edge. Pet. 40; Ex. 1003 ¶ 23.

Enright discloses a front control on one side of the controller (e.g., D-pad 28, thumbstick 30, buttons 25), Pet. 33; Ex. 1003, Figs. 4, 6. Enright discloses elongate members in the form of mode switches 32, 34 that extend a substantial portion of the full distance between the top and bottom edges of the controller. Pet. 30; Ex. 1003 ¶ 35, Fig. 5.

Enright's controller is shaped to be held in the hand of a user such that the user's thumb is positioned to operate the front control. Pet. 33; Ex. 1003 ¶ 32; Figs. 4, 6.

The difference between the prior art (Enright) and claim 20 is that Enright's elongate members (mode switches 32, 34) do not extend to the extent required by the claims.²¹

²¹ As detailed in section III.A. above, the '525 patent describes that the claimed controller is like that of the prior art with respect to the outer case and the front and top controls.

Enright and Tosaki each disclose handheld video game controllers having front controls operated by a user's thumbs and back controls on the opposite side that are operated by fingers other than the thumb. Pet. 29–30; Pet. Reply 7–9; Ex. 1008 ¶ 15 (opining that Tosaki's steering wheel is handheld); Ex. 1002, 8:63–64, Figs. 1, 6, 7, 23, 24; Ex. 1003 ¶¶ 22, 23, 27, 31, Figs. 4, 5. Petitioner explains that Enright's elongate members (mode switches 32, 34) allow users to press a control without moving their thumbs from the front controls and these controls are placed in an ergonomically desired location. Pet. 30–31; Ex. 1003 ¶¶ 32, 35. Petitioner reasons that it would have been obvious to modify Enright's elongate members (mode switches 32, 34) to extend a substantial portion of the full distance between the top edge and the bottom edge as taught by Tosaki, for easy operation of the device or if ergonomically desired. Pet. 31–32; Ex. 1003 ¶ 32; Ex. 1008 ¶ 20. According to Petitioner, such a modification would have been “an obvious variation — in a predictable art.” Pet. 31.

The modification of extending Enright's switches must be considered in the light that, as detailed in our analysis of the level of skill above, it was known in the art to place switches ergonomically for comfort and for usability. In particular, it was known to place switches: on the rear of a controller, to be easily accessible to a user's finger or thumb, and to be accessible without removing a finger or thumb from another switch. In light of this, and Tosaki's disclosure of elongate members on the back of a controller that extend a substantial portion of the full distance between the top edge and the bottom edge, the proposed modification was within the level of skill in the art. Further, a person of ordinary skill in the art would

have made the proposed modification for easy operation of the device or if ergonomically desired.

c) Patent Owner Arguments

Before addressing each of Patent Owner's arguments individually, we address two of Patent Owner's characterizations that affect several of Patent Owner's individual arguments.

First, Patent Owner characterizes the ground of unpatentability as if Enright were being modified to include elongate members positioned in an arched opening as disclosed by Tosaki. For example, Patent Owner argues that Petitioner "attempts to plug in Tosaki's gearshift levers into Enright's handheld controller." PO Resp. 38 (citing Pet. 42.), *see also* 41 (similar statement). This is a mischaracterization. Petitioner proposes to modify Enright's elongate members to extend a substantial portion of the full distance between the top edge and the bottom edge as taught by Tosaki. *See* Pet. 31–32; Ex. 1003 ¶ 32; Ex. 1008 ¶ 20; *see also* Pet. Reply 14, 16 (explaining how Patent Owner mischaracterizes the ground of unpatentability). Petitioner relies on Tosaki only for the extent over which the elongate members extend. Petitioner does not propose to incorporate Tosaki's arched openings into Enright's controller.

Second, Patent Owner argues as if Tosaki is a thigh held controller and not a handheld controller. As detailed above, this contention is a mischaracterization of the reference because Tosaki discloses a handheld controller for a video game to the extent required by the claims. With these clarifications in mind, we turn to Patent Owner's individual arguments.

Patent Owner argues that Petitioner "cherry-picks" teachings from Enright and Tosaki, and argues that Petitioner's reasons for the modification

are entitled to little weight because they are conclusory and lack corroborating facts or data. PO Resp. 38–39, 41–42.

As detailed above, Petitioner provides reasons for the proposed modification (i.e., for easy operation of the device or if ergonomically desired). Rather than address those reasons and the associated underlying evidence, Patent Owner asserts, without a supporting explanation, that Petitioner’s reasons are conclusory. In other words, Patent Owner makes a conclusory assertion that Petitioner’s assertions are conclusory. Such a contention is not persuasive.

The difference between the prior art (Enright) and the claimed subject matter is simply the length of the elongate members. As detailed above, Petitioner reasons that a person of ordinary skill would have lengthened Enright’s elongate members in view of Tosaki for easy operation and in light of ergonomics. This reasoning has a rationale underpinning in that, as detailed above: (1) Enright and Tosaki each disclose handheld video game controllers having front controls operated by a user’s thumbs and back controls that are operated by fingers other than the thumb, (2) Tosaki’s elongate members extend at least half of a first distance between the top edge and the bottom edge, the first distance being measured along a longitudinal axis of the first elongate member, and (3) Enright’s elongate members (mode switches 32, 34) are positioned so that users may press a back control without moving their thumbs from the front controls and these controls are in an ergonomically desired location.

Patent Owner contends that “[c]onspicuously absent from the Petition is any explanation of *how* to implement Tosaki’s gearshift levers (intended

to be positioned in an arched opening) with the Enright controller.” PO Resp. 39.

This contention is unpersuasive. Petitioner does not explain how Tosaki’s elongate members (gear shift levers) positioned within arched openings are incorporated in Enright’s device because, as explained above, Petitioner does not rely on Tosaki in that manner. Rather, Petitioner proposes to modify Enright’s elongate members to extend a substantial portion of the full distance between the top edge and the bottom edge as taught by Tosaki. *See* Pet. 29–30.

According to Patent Owner, Petitioner ignores the state of the art in that Microsoft only recently launched controllers with back controls. *Id.* at 42–43 (citing Ex. 2006 ¶¶ 15–16; Ex. 2011). At most, this evidence demonstrates that the Xbox controller did not previously include back controls, but this evidence falls short of demonstrating that back controls were not known in the art until that time. To the contrary, as detailed above, Petitioner asserted, and Patent Owner did not contest, that Enright’s controller included back controls prior to the critical date of the ’525 patent. Consequently, it is Patent Owner’s contention, not Petitioner’s, that ignores the state of the art. *Contra* PO Resp. 42–43; *see also* PO Resp. 52 (acknowledging, during prosecution that a hand operated controller having a control on the rear face (Park) was known).

Patent Owner contends that Tosaki’s disclosure of gearshift levers 125, 126 positioned and operated through arched openings would discourage a person of ordinary skill from using Tosaki’s gear shift levers in Enright. PO Resp. 43–45. This contention is unpersuasive because, as explained above, Petitioner does not propose to modify Enright to have shift levers that

are operated through arched openings; rather, Petitioner relies on Tosaki only for the magnitude of the extension of Tosaki's shift levers (elongate members).

Patent Owner argues that Petitioner's approach is fundamentally flawed because it misrepresents Tosaki as a handheld controller. PO Resp. 45–46. As explained above, Tosaki is a handheld controller to the extent required by the claims, and for that reason, this contention is unpersuasive.

Relatedly, Patent Owner contends that Tosaki is non-analogous art. PO Resp. 49–51. In particular, Patent Owner contends that Tosaki is not in the same field of endeavor because it is not a handheld controller. *Id.* As detailed above, Tosaki is a handheld controller and for that reason, Patent Owner's assertion is unpersuasive. Further, we are persuaded by Petitioner's evidence that handheld video game controllers were considered to be in the same field of endeavor without regard for whether those controllers were supported by other than a user's hands (e.g., a user's thighs). Pet. Reply 20; Ex. 1021 ¶ 8.

Patent Owner contends that modifying Enright to include elongate members in an arched opening would change Enright's principle of operation and render Enright inoperable for its intended purpose. PO Resp. 53–57. Patent Owner adds that Tosaki operates differently because it is thigh held rather than handheld. *Id.* at 54–55. As explained above, these assertions are based on a mischaracterization of the ground of unpatentability and a mischaracterization of Tosaki. Consequently, these assertions are not persuasive.

Patent Owner contends that Petitioner's rationale is impermissible hindsight because the cited portions of Enright (i.e., “for easy operation” and

“if ergonomically desired”) relate to the location of the back controls, not the length of those controls. PO Resp. 49–50 (citing Pet. 31–32; Ex. 1003 ¶ 32; Ex. 1008 ¶ 20).

Patent Owner’s argument is unpersuasive for two reasons. First, although Enright does not explicitly disclose the desirability of longer back controls, it is not required that the reference contain such an explicit disclosure. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418-419 (2007). Second, Patent Owner argues as if Petitioner contends that it would have been obvious to lengthen Enright’s back controls (mode switches 32, 34) based on Enright alone. The ground of unpatentability is not based on Enright alone; rather, it is based upon the combination of Tosaki and Enright. Specifically, Petitioner asserts that Enright and Tosaki are each controller’s having back controls operated by a user’s fingers, and it would have been obvious to make Enright’s mode switches 32 and 34 longer based on Tosaki’s longer back controls. Pet. 29–31. Petitioner elaborates that a person of ordinary skill in the art would have been motivated to do so because Enright seeks mode switches 32 and 34 to be easy to operate and placed in ergonomically desired locations. In other words, a person of ordinary skill would recognize that Tosaki’s longer finger controls would be desirable in a device such as Enright’s which is described as having controls that are easy to operate and ergonomically positioned.

3. Summary

Petitioner has shown by a preponderance of the evidence that claim 20 would have been obvious over Enright and Tosaki. Petitioner has not made such a showing with regard to claims 1–11, 13, 16, 17.

D. OBVIOUSNESS OVER ENRIGHT, TOSAKI, AND OELSCH

Claim 18 depends from independent claim 1, and for that reason, includes the requirement that the elongate members are flexible.

Petitioner argues that claim 18 is unpatentable under 35 U.S.C. § 103 as obvious over Enright, Tosaki, and Oelsch. Pet. 51–52. Although not explicitly stated, this ground of unpatentability relies upon the combination of Enright and Tosaki in the previous ground of unpatentability with respect to claim 1, to include relying upon Enright as disclosing elongate members as claimed. As explained above in the analysis of the ground of unpatentability based on Enright and Tosaki, Petitioner has not demonstrated this contention adequately. Consequently, Petitioner has not demonstrated by a preponderance of the evidence that claim 18 is unpatentable as obvious over Enright, Tosaki, and Oelsch.

V. CONCLUSION

Petitioner has demonstrated by a preponderance of the evidence that the following claims are unpatentable in view of the following grounds:

- a) Claims 1, 6, 13, 14, 16, 17, 19, and 20 as anticipated by Tosaki;
and
- b) Claim 20 as obvious over Enright and Tosaki.

VI. ORDER

For the reasons given, it is:

ORDERED that Exhibit 1028 be expunged;

FURTHER ORDERED that claims 1, 6, 13, 14, 16, 17, 19, and 20 are held unpatentable; and

FURTHER ORDERED that that this is a Final Written Decision;
therefore, parties to the proceeding seeking judicial review of the decision
must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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