

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VALVE CORPORATION,  
Petitioner,

v.

IRONBURG INVENTIONS LTD.,  
Patent Owner.

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Case IPR2016-00949  
Patent 9,089,770 B2

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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. 9,089,770 B2 (Ex. 1011, “the ’770 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 1–12 and 14–20, and did not institute review of claim 13. Paper 10 (“Dec.”).

Subsequently, Patent Owner filed a Patent Owner Response (Paper 19, “PO Resp.”), and Petitioner filed a Reply (Paper 24, “Pet. Reply”).

Oral hearing was held on June 5, 2017, and a transcript of the oral hearing is included in the record. Paper 37 (“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 1–12 and 15–18, and 20 of the ’770 patent are unpatentable, but has not made such a showing with regard to claim 14. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

### B. RELATED PROCEEDINGS

The parties indicate that the ’770 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 8,641,525 B2 (“the ’525 patent”), the subject of *inter partes* review 2016-00948 (“the ’948

IPR”). The ’770 patent is 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. 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 33, 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) (authorizing the Board to expunge unauthorized papers).

### B. PATENT OWNER’S MOTION TO EXCLUDE EVIDENCE

Patent Owner moves to exclude (1) Exhibits 1025–1027 and the associated Paper, and (2) Exhibit 1007. Paper 29. Petitioner filed an

opposition to the Motion (Paper 33) and Patent Owner filed a Reply to the Opposition (Paper 34).

This Motion has no meaningful distinction from the Motion filed in IPR2016-00948, and we incorporate that analysis here. Consequently, we *deny* Patent Owner's Motion.

C. SCOPE OF PETITIONER'S REPLY

During the oral hearing, Patent Owner objected to Petitioner's demonstrative exhibits as containing information beyond the scope a permissible reply. Based on this, we authorized Patent Owner to file a paper identifying such information, and we authorized Petitioner a response. Paper 38, 3–4 (authorization); Paper 40 (Patent Owner); Paper 42 (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 '770 patent relates to handheld controllers for video game consoles. Ex. 1011, 1:6–7.

As background, the '770 patent describes that conventional controllers were intended to be held and operated by the user using both hands, and 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 '770 patent was intended to fill this need. *Id.* at 1:41–45.

The controller of the '770 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 '770 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 (rear of controller 10). Figure 2 follows:

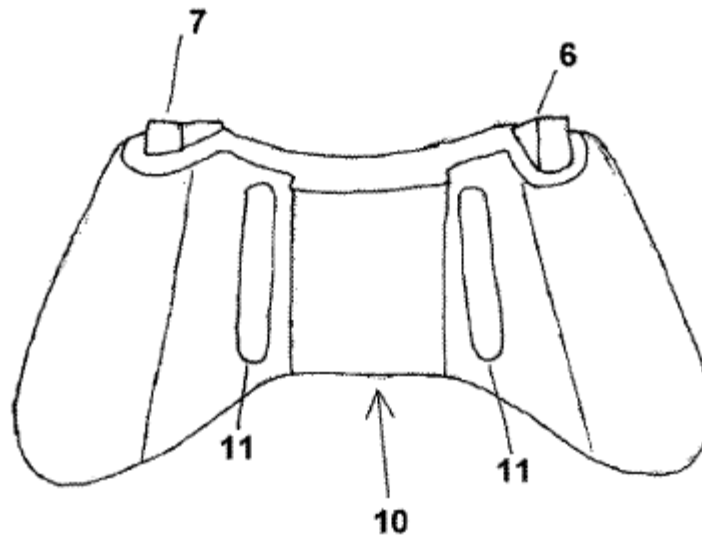


Figure 2

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

B. CHALLENGED CLAIMS

Claim 1 is the sole independent challenged claim and follows:

1. A video game controller, comprising:
  - an outer case comprising:
    - a front and a back, wherein the back is opposite the front;
    - a top edge and a bottom edge, wherein the top edge is opposite the bottom edge;
    - first handle adjacent a first side edge and a second handle adjacent a second side edge, wherein the first side edge is opposite the second side edge; and
    - a first back control and a second back control, wherein each of the first back control and the second back control is located at the back of the controller, wherein the first back control includes a first elongate member and the second back control includes a second elongate member;
  - wherein the first elongate member extends along 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
  - wherein the second elongate member extends along 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.

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).<sup>1</sup>

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, the “front” is opposite the “back,” and the “top” is opposite the “bottom.” This is true because the ’770 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. 10–11; Ex. 1011, 4:26–31). The parties do not challenge this interpretation, and we adopt it here.

2. *Recessed Portion – Claims 6–11*

Claim 6 depends from claim 3 and recites, “wherein the back includes a recessed portion between the first handle and the second handle.” Claim 10 depends from claim 1 and includes the same additional limitation. Claims 7–9 and 11 include this limitation by virtue of dependence from claims 6 and 11.

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<sup>1</sup> Some aspects of claim construction, such as Patent Owner’s assertions regarding a “paddle lever” and “located at the back of the controller,” are addressed in the patentability analysis below.

We address two aspects of the claimed “recessed portion:” 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 Institution Decision, we determined that the claims do not require the recessed portion to be towards the front of the controller. Dec. 9–10. Petitioner does not challenge that determination, Patent Owner agrees with our interpretation, and we adopt it here. See Pet. Reply 4–6; PO Resp. 17.

*b) User’s Fingers*

Patent Owner contends that a “recessed portion” as claimed is required to receive a user’s finger and Petitioner argues the claims are not limited in that manner. PO Resp. 17–22; Pet. Reply 4–6. We disagree with Patent Owner’s assertion for several reasons.

First, in the Preliminary Response, Patent Owner asserted that the intrinsic record does not include disavowal related to the claim term “recessed portion,” and further that the term should be given its ordinary meaning. Prelim. Resp. 7; *see also* Pet. Reply 5–6 (pointing out this earlier statement). In the Response, Patent Owner asserts that a recessed portion as claimed requires that the recess receive the user’s fingers based on claim scope disavowal. PO Resp. 17–22. Patent Owner’s change of course from asserting that claim scope has not been disavowed to asserting that it has been disavowed significantly undermines Patent Owner’s position.

Second, the language of the claims does not support Patent Owner’s interpretation. The claims recite that the back of the outer case of the controller includes a “recessed portion,” but the claims do not state that the

recessed portion receives a user's fingers. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (“[T]he claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.”) (citations omitted).

Third, Patent Owner's analogy to *AVX Corporation* is not persuasive because the claim interpretation to which Patent Owner analogizes to was changed on rehearing. See PO Resp. 18–19 (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).

The '770 patent does not include a lexicographical definition of “recessed portion.” An ordinary meaning of “recess” is “an indentation in a line or a surface (as an alcove in a room).” See Ex. 2005, 435 (defining recess); see also PO Resp. 19 (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 recessed portion is included in the back of the outer case of the controller (a surface). This suggests that the back of the outer case of the controller must include an indentation. We consider this ordinary meaning in light of the Specification.<sup>2</sup>

The '770 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.

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<sup>2</sup> The disclosures that follow are those portions of the '770 patent cited by Patent Owner as evidencing disavowal.

Ex. 1011, 1:62–67. The '770 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.<sup>3</sup> The '770 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 middle fingers, without compromising the user's grip on the controller 10.

*Id.* at 3:39–44. Figure 3 of the '770 patent, as annotated by Patent Owner, follows.

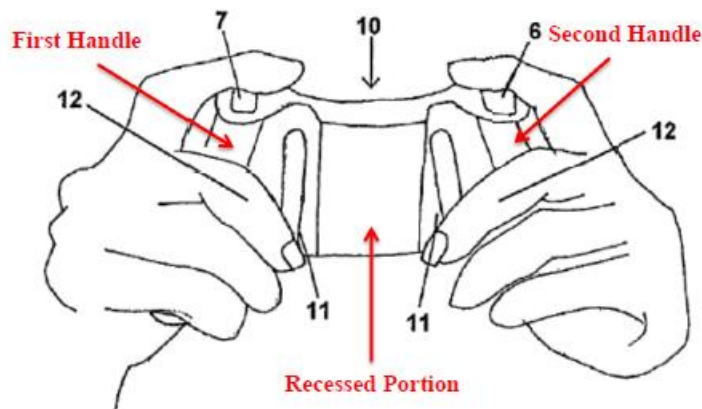


Figure 3

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 recessed portion. *See* PO Resp. 21; Ex. 1011, 2:65–67.

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<sup>3</sup> Patent Owner cites lines 15–16 of column 2, but quotes lines 21–25 as shown here. *See* PO Resp. 20.

Patent Owner's argument is that the '770 patent expresses a clear intent to disavow controllers having a recessed portion that does not receive a user's fingers. *See* PO Resp. 17–22. Stated in a positive sense, Patent Owner argues that the '770 patent expresses a clear intent to cover only recessed portions that receive a user's fingers. Patent Owner does not identify, nor do we discern, any explicit disclosure in the '770 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 fingers may be received in the recess is an exemplary disclosure of a preferred embodiment. *See* Ex. 1011, 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* Ex. 1011, 2:21–25, 3:39–44, Fig. 3. Consequently, the '770 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 recessed portion is an indentation is consistent with the Specification.

The '525 patent supports our interpretation.<sup>4</sup> *See NTP Inc., v. Research in Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005) (When construing claims in patents that derive from the same parent application and share common terms, “we must interpret the claims consistently across all asserted patents.”). Claim 1 of the '525 patent describes that the elongate members are located on the back of the controller, and its dependent claim 7 adds that the elongate members are mounted in a “recess” located in the case of the controller. Ex. 1011, 4:40–55, 5:4–6. Claim 8 depends from claim 7 and adds that each elongate member includes an outermost surface 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 used 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).<sup>5</sup> In other words, if, as Patent Owner contends, a recessed portion 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*

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<sup>4</sup> As mentioned above, the '525 patent is the parent of the '770 patent.

<sup>5</sup> We presume this principle applies to claim 8 by virtue of dependence from claim 7 even though claim 7 is not independent.

*Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (denouncing claim constructions that render phrases in claims superfluous).

A recessed portion as claimed is an indentation, and a recessed portion is not required to permit receipt of a user's fingers.

3. *Transition Edge*

Claim 8 depends from claim 6 and adds that the first elongate member is positioned "at or adjacent a first transition edge between the first handle and the recessed portion," and "the second elongate member is positioned "at or adjacent a second transition edge between the second handle and the recessed portion." Claim 11 depends from claim 10 and adds the same limitation.

Patent Owner argues that the broadest reasonable interpretation of a "transition edge" is "an intersection that transitions between the handle and a recessed portion." *Id.* at 22.

As an initial matter, claim 8 and 11 include language that specifies the location of the transition edge with respect to certain other components, and for that reason Patent Owner's inclusion of position language (i.e., "between the handle and a recessed portion") in the meaning of a "transition edge" is incorrect. Consequently, we modify Patent Owner's interpretation to be that a "transition edge" as claimed is "an intersection that transitions."

Petitioner contends that Patent Owner's interpretation is incorrect for three reasons. Pet. 6–8. First, Petitioner contends that Patent Owner's interpretation is inconsistent with the prior assertion that the ordinary meaning of the term applies. Pet. 6 (citing Prelim. Resp. 7). Petitioner's contention is not persuasive because Patent Owner's interpretation appears to be consistent with an assertion that the ordinary meaning applies.

Second, Petitioner contends that Patent Owner's interpretation is incorrect because the claim term at issue is not used in the '770 patent outside of the claims. Pet. 7. The lack of description outside of the claims does not demonstrate persuasively that Patent Owner's interpretation is incorrect.

Third, and similarly, Petitioner contends that the term "intersection" is not used in the '770 patent so that Patent Owner's interpretation requires further explanation. Perhaps Patent Owner's contention would have been stronger if "intersection" was described in the '770 patent, but the absence of that term does not demonstrate persuasively why Patent Owner's interpretation is incorrect.

The '770 patent does not use the term "transition edge" outside of the claims, and does not contain a lexicographical definition for that term.

An ordinary meaning of "transition" is a passing from one form to another, and an ordinary meaning of "edge" is the abrupt border of anything.<sup>6</sup> These meanings, taken in the context of the claim, suggest that a "transition edge" is an abrupt change in the form of the outer case of the controller. The first transition edge (abrupt change in form of the outer case) must be positioned between the first handle and the recessed portion, and the first elongate member must be positioned at or adjacent that first transition edge. Similarly, the second transition edge (abrupt change in form of the outer case) must be positioned between the second handle and the recessed

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<sup>6</sup> See Exhibit 3001, 3–4, WEBSTER'S NEW UNIVERSAL UNABRIDGED DICTIONARY (DELUXE 2D ED. 1983) ("transition," n., def. 1; "edge," n., def. 2).

portion, and the second elongate member must be positioned at or adjacent that second transition edge.<sup>7</sup>

4. *Handheld Controller*

Patent Owner contends that a “video game controller” as recited in the preamble of independent claim 1 requires that the controller must be “held in and operated by both hands of a user.” PO Resp. 10. 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 claim 1 requires 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. 9–16; Paper 39, 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,

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<sup>7</sup> Our interpretation of a transition edge is similar to Patent Owner’s assertion that a transition edge is an intersection that transitions.

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. 24–26; 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 if the steering wheel would not be able to move relative to the steering wheel base if that base is not provided support other than the user's hands. *Id.* at 108:18–111:16. In other words, the steering wheel only operates properly if the steering wheel base is resting on a table or is 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 (i.e., support from other than the user's hands is precluded).

The language of claim 1 does not support Patent Owner's argument. *See Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (citations omitted) ("[T]he claim construction inquiry . . .

begins and ends in all cases with the actual words of the claim.”). The preamble of claim 1 recites, “A video game controller, comprising.” Claim 1 does not explicitly recite that the controller (1) is supported only by the user’s hands or (2) is operable when supported only by the user’s hands alone. Further, claim 1 uses the open-ended term “comprising,” so that other support, such as a user’s thighs or a steering wheel base that is designed to rest on a tabletop, 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.).

Even if a video game controller must be “handheld” as Patent Owner asserts, being handheld means that the device must be held in and operable by the hands and 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 in the hands without other support, but Patent Owner makes no 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.

Second, claim 1 is an apparatus claim, and consequently covers 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 “video game controller” as claimed must be operable when supported only by the hands of a user. In other words, we determine that claim 1 does not preclude support of the controller from other than the user’s hands.

#### IV. PATENTABILITY

##### A. EVIDENCE AND ASSERTED GROUNDS OF UNPATENTABILITY<sup>8</sup>

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

| Claims Challenged          | §      | References(s)                    |
|----------------------------|--------|----------------------------------|
| 1, 3–12, 15–17, 19, and 20 | 102(b) | Tosaki <sup>9</sup>              |
| 1–12 and 14–20             | 103(a) | Enright <sup>10</sup> and Tosaki |

Dec. 21.

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<sup>8</sup> 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).

<sup>9</sup> U.S. Patent 5,989,123, published Nov. 23, 1999 (Ex. 1002).

<sup>10</sup> U.S. Pub. 2010/0073283 A1, published Mar. 25, 2010 (Ex. 1003).

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, 3–12, 15–17, 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*

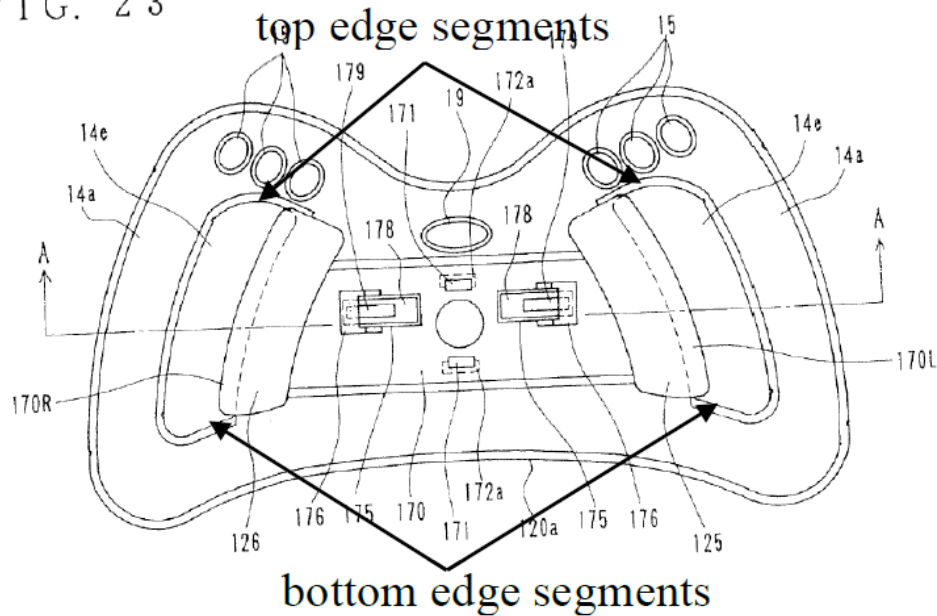
Tosaki discloses a video game controller (control apparatus 3) that may be held in and operated by both hands, and includes an outer case (casing 120a, 120b) having a front (outer surface of casing 120a) opposite the back (outer surface of casing 120b).<sup>11</sup> Pet. 18–19; Ex. 1002, Abstract, 1:14–22, Figs. 1, 6, 7, 24; *see also id.* at 10:64–67 (steering wheel 14 is comprised of casings 120a, 120b); 13:11–15 (describing that Tosaki’s apparatus is operated by both hands of the user).

Tosaki includes a top edge and bottom edge as shown in an annotated version of Tosaki’s Figure 23 shown below:

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<sup>11</sup> Parenthetical nomenclature is Tosaki’s.

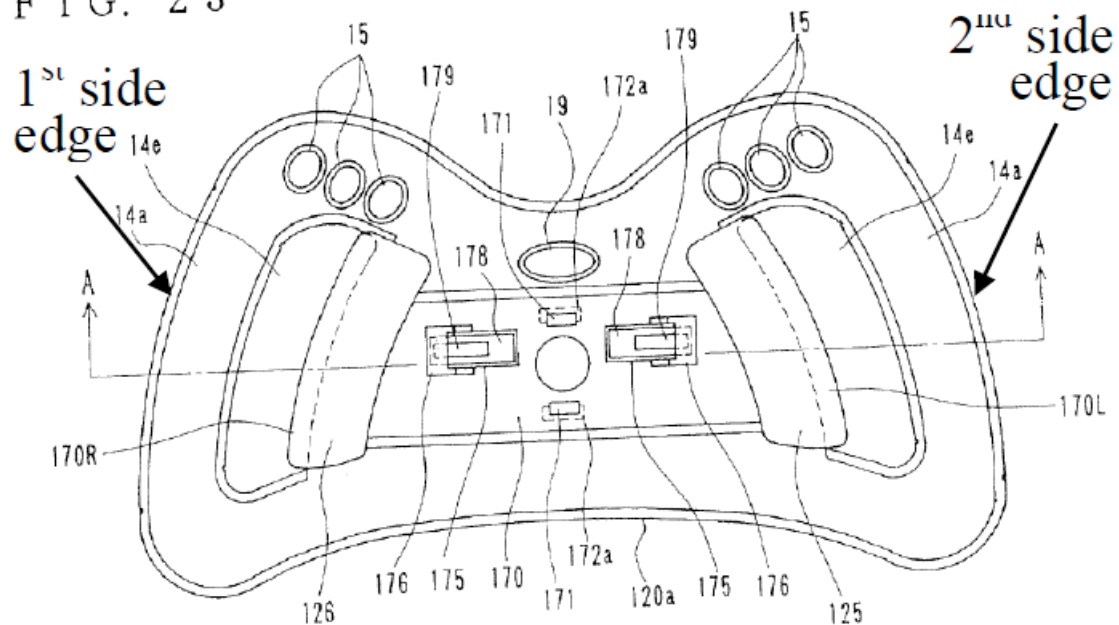
FIG. 23



Annotated Figure 23 is a diagram of a steering wheel having shift levers with Petitioner's markings indicating the portions corresponding to top and bottom edges as claimed. Pet 20; Ex. 1002, 7:65–67; Fig. 23.

Tosaki discloses a first handle adjacent a first side edge and a second handle adjacent a second side edges as illustrated in an annotated version of Tosaki's Figure 3 shown below.

FIG. 23



Annotated Figure 23 is a diagram of Tosaki's steering wheel with Petitioner's identification of portions corresponding to first and second side edges. Pet. 20; Ex. 1002, 7:65–67; Fig. 23.

Tosaki discloses a first and a second back control (shift levers 125, 126), each: located on the back of the controller, and including an elongate member that extends at least half the distance between the top and bottom edge. Pet. 21–23; Ex. 1002, 13:11–15, 13:62–65, Fig. 2, 3, 23, 24.

#### *b) Patent Owner's Arguments*

Patent Owner challenges two aspects of Petitioner's ground of unpatentability against claim 1.

First, 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. 23–27; *see also id.* 30 (repeating the assertion that Tosaki is thigh-held in a related contention). As detailed above, Tosaki's controller may be held in

and operated by both hands. Further, as detailed in our claim construction above, claim 1 does not preclude support from other than the user's hands.<sup>12</sup> Consequently, this contention is not persuasive.

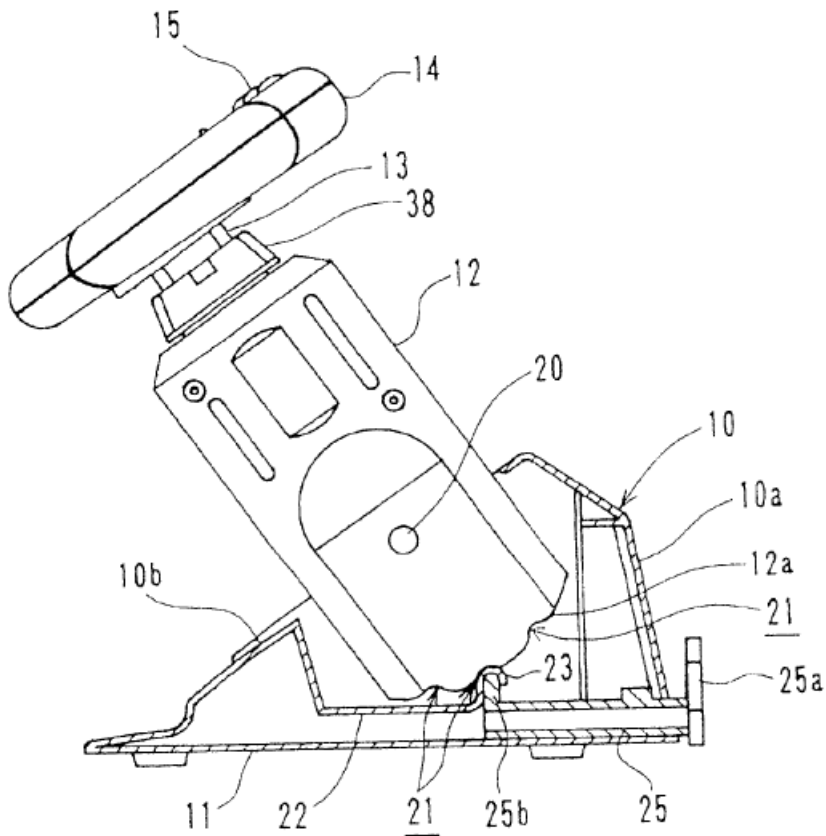
Second, Patent Owner argues that Tosaki's gear shift levers 125 and 126 do not correspond to elongate members located on the back of the controller as claimed because the back of Tosaki's controller is bottom plate 11 of base casing 10, not the back of the steering wheel. PO Resp. 27–30.

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<sup>12</sup> Patent Owner's related contention that because Tosaki is not a hand-held controller it does not disclose first and second handles as claimed (PO Resp. 27) is unpersuasive for the same reasons. *See* Pet. 17; Pet. Reply 10; Ex. 1002, Abstract (describing hand grips on each side of the steering wheel), 8:63–64 (steering wheel 14 includes left and right hand grips 14a), Fig. 6; Ex. 1021 ¶ 9.

Tosaki's Figure 10 follows.

F I G. 1 0



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, a base casing 10, and a 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. Claim 1 is an open-ended claim, so that

additional components like base casing 10 with its bottom plate 11 are not precluded. Patent Owner's assertion is not persuasive because it is not commensurate in scope with the claims.

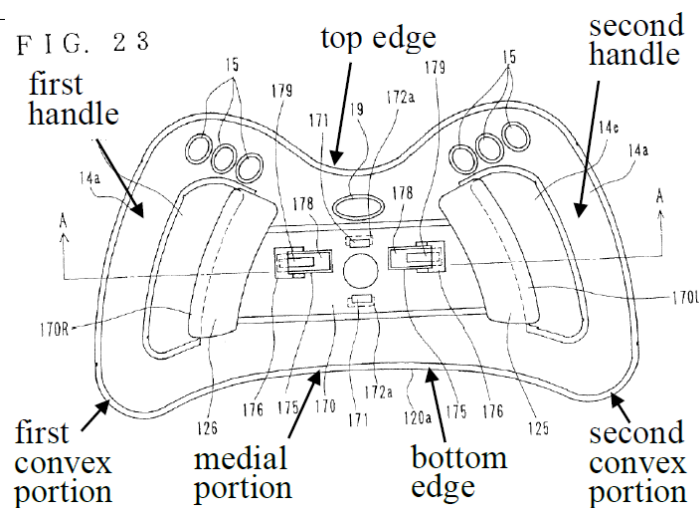
*c) Conclusion*

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

*2. Claims 3, 4, 5, 7, 9, 12, 15, and 20*

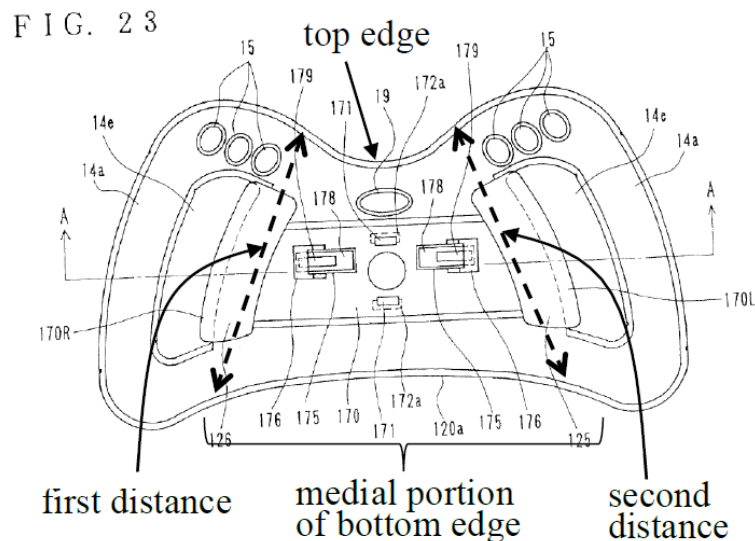
Patent Owner makes no additional arguments with regard to these claims.

Claim 3 depends from claim 1 and requires the bottom edge of the outer case to include “a first convex portion that defines the first handle; a second convex portion that defines the second handle; and a medial portion between the first convex portion and the second convex portion.” Petitioner contends that Tosaki describes the limitations introduced in claim 3 and provides an annotated version of Tosaki's Figure 23, which we reproduce below. Pet. 24.



Petitioner's annotated version of Tosaki's Figure 23 illustrates Tosaki's steering wheel and identifies portions of the wheel that correspond to the limitations introduced in claim 3. Pet. 23–24; Ex. 1002, 7:65–67. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 3.

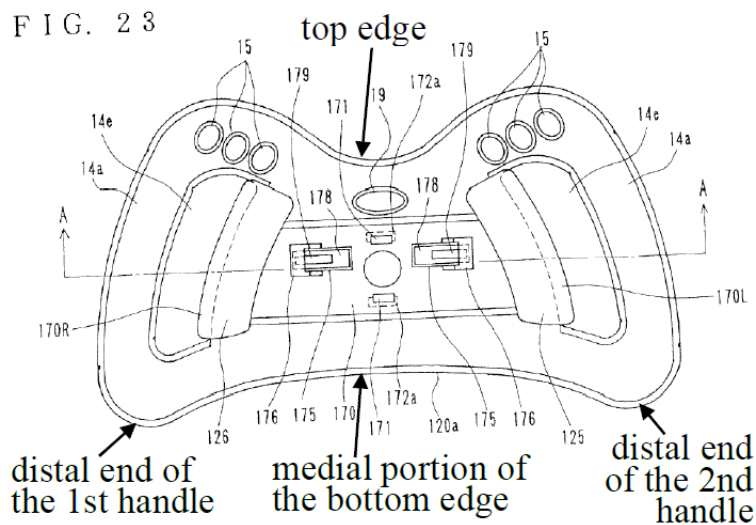
Claim 4 depends from claim 3 and recites, “wherein the first distance is between the top edge and the medial portion and the second distance is between the top edge and the medial portion.” Petitioner contends that Tosaki describes the limitations introduced in claim 4 and provides an annotated version of Tosaki's Figure 23, which we reproduce below.



Petitioner's annotated version of Figure 23 illustrates Tosaki's steering wheel and identifies those portions that correspond to the limitations introduced in claim 4. Pet. 24–25; Ex. 1002, 7:65–67. Based on our review of the record, we determine that Petitioner has demonstrated by a

preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 4.

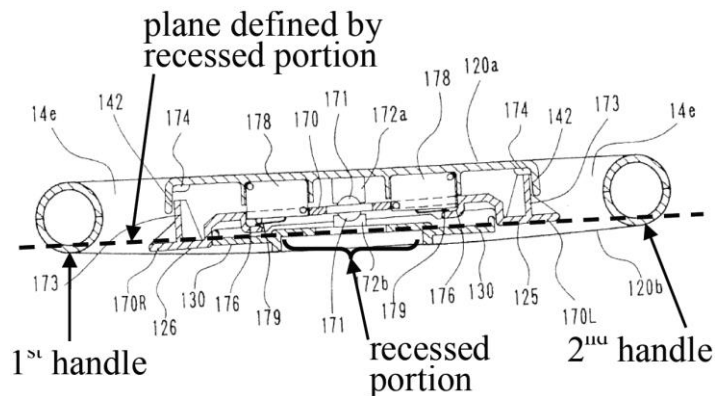
Claim 5 depends from claim 3 and recites, “wherein the medial portion is closer to the top edge than a distal end of each of the first and the second handle.” Petitioner contends that Tosaki describes the limitations introduced in claim 5 and provides an annotated version of Tosaki’s Figure 23, which we reproduce below.



Petitioner’s annotated version of Figure 23 illustrates Tosaki’s steering wheel and identifies portions of the wheel that correspond to the limitations introduced in claim 5. Pet. 24–25; Ex. 1002, 7:65–67. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 5.

Claim 7 depends from claim 6 and recites, “wherein the recessed portion is recessed towards the front.” Claim 9 depends from claim 6 and recites, “wherein each of the first handle and the second handle protrudes outwardly with respect to a plane define by the recessed portion.”

Tosaki's controller includes a recessed portion that is recessed towards the front, and Tosaki's first and second handles protrude outwardly with respect to a plane defined by the recessed portion. An annotated version of Tosaki's Figure 24 follows.



Annotated Figure 24 of Tosaki is a cross-sectional view of Tosaki's steering wheel with Petitioner's annotations identifying portions of the wheel that correspond to the limitations introduced in claims 7 and 9. *See* Pet. 26; Ex. 1002, 8:1–2. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claims 7 and 9.

Claim 12 depends from claim 1 and recites, “the first elongate member is configured to contact a first switch mechanism and the second elongate member is configured to contact a second switch mechanism.” Tosaki discloses a first and second elongate member (shift levers 125, 126) each configured to contact a first and second switch mechanism (right and left limit switches 178). Pet. 27; Ex. 1002, 13:47–58, Fig. 24. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 12.

Claim 15 depends from claim 1 and recites, “wherein the first elongate member and the second elongate member are either parallel with one another or converge towards one another in a direction pointing from the bottom edge to the top edge.” Tosaki’s first and second elongate members (shift levers 125, 126) converge towards one another in a direction pointing from the bottom to the top edge. Pet. 27–28; Ex. 1002, Fig. 23. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 15.

Claim 20 depends from claim 1 and recites, “wherein each of the first elongate member and the second elongate member is configured to be displaced by engaging an outer surface thereof to activate a switch mechanism.” Tosaki discloses first and second elongate members (shift levers 125, 126) that are each configured to be displaced by engaging an outer surface to activate a switch mechanism. Pet. 29; Ex. 1002, 13:11–15, 13:47–58, Figs. 23, 24. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that Tosaki describes the limitations introduced in dependent claim 20.

Petitioner has demonstrated by a preponderance of the evidence that Tosaki anticipates claims 3, 4, 5, 7, 9, 15, and 20.

### 3. *Claims 6–11*

As detailed in our claim construction above, claims 6–11 require that the back of the outer case of the controller include an indentation that is positioned between the first and second handles.

Tosaki's video game controller includes a recessed portion between the first and second handles. Pet. 26; Ex. 1002, Fig. 24. An annotated version of Tosaki's Figure 24.

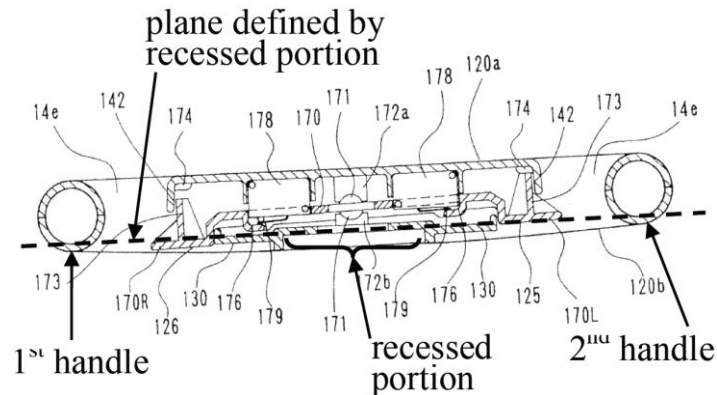


Figure 24 of Tosaki is a cross-sectional view of Tosaki's steering wheel with annotations by Petitioner identifying portions of the wheel that correspond to the recessed portion and first and second handles.<sup>13</sup> See Pet. 26; Ex. 1002, 8:1–2.

Patent Owner argues that Tosaki does not disclose an indentation in the back surface of the controller that joins the first and second handle for receiving a user's fingers. PO Resp. 31–34. Specifically, Patent Owner argues that the back of Tosaki's steering wheel is not the back of the controller, and argues that the recessed portion identified by Petitioner receives the steering wheel shaft and cannot receive a user's fingers. *Id.*

As detailed in our claim construction above, nothing in the claims precludes the back of Tosaki's steering wheel from corresponding to the back of the controller as claimed, and a recessed portion as claimed is not limited to recessed portions that receive a user's fingers. Consequently,

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<sup>13</sup> See enlarged version of Figure 24, *supra*.

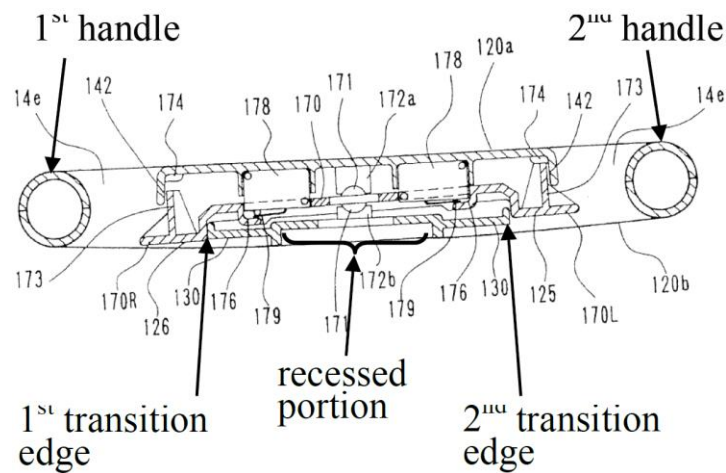
Patent Owner's contentions are not persuasive because they are not commensurate in scope with the claims.

Petitioner has demonstrated by a preponderance of the evidence that Tosaki anticipates claims 6–11.

4. *Claims 8 and 11*

Claim 8 depends from claim 6 and recites, “wherein the first elongate members is positioned at or adjacent a first transition edge between the first handle and the recessed portion; and wherein the second elongate member is positioned at or adjacent a second transition edge between the second handle and the recessed portion.” Claim 11 depends from claim 10 and adds the same limitation.

Tosaki discloses a first elongate member (shift lever 126) positioned at or adjacent a first transition edge (left edge of the bottom wall 130) between the first handle (left hand grip 14a) and the recessed portion, and a second elongate member (shift lever 125) positioned at or adjacent a second transition edge (right edge of the bottom wall 130) between the second handle (right hand grip 14a) and the recessed portion. Pet 26 (referencing an annotated version of Tosaki's Figure 24); Ex. 1002, Fig. 24. An annotated version of Tosaki's Figure 24 follows.



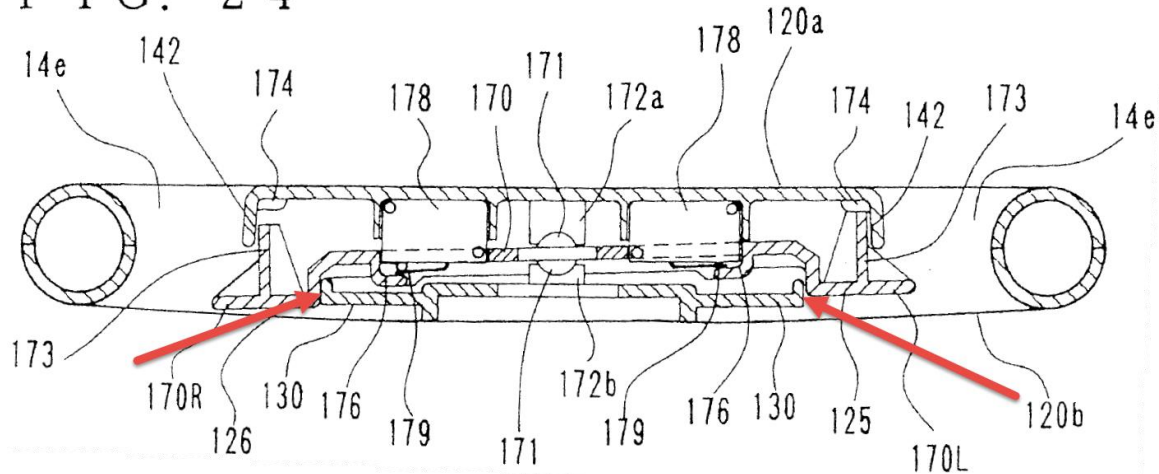
Annotated Figure 24 of Tosaki is a cross sectional view taken along line A-A of the steering wheel shown in Figure 23 with Petitioner’s annotations identifying portions of the wheel that correspond to the limitations introduced in claims 8 and 11. Pet. 26; Ex. 1002, 8:1–2.

Patent Owner contends that Petitioner construes a “transition edge” to be any region, and further contends that Petitioner identifies arbitrary objects (the left and right edges of bottom wall 130). PO Resp. 34. Patent Owner adds that Petitioner’s expert simply parrots those assertions. *Id.* (citing Ex. 1012 ¶ 29). Patent Owner elaborates that the left and right edges of bottom wall 130 do not transition. *Id.* at 35. Patent Owner contends that the claims require the transition edge to be on the back of the controller. *Id.* at 35–36.

Although Petitioner’s statement that a transition edge may be “any region” (Pet. 16) is incorrect, that error is not determinative because, as detailed above, Petitioner goes on to identify specific portions of Tosaki that correspond to first and second transition edges (Pet. 26). Further, we agree with Petitioner’s assertion that left and right edges of bottom wall 130 are transition edges in that they are abrupt changes in the form of the outer case

of Tosaki's controller (steering wheel). An annotated version of Tosaki's Figure 24 follows.

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Annotated Figure 24 is a cross sectional view taken along line A-A of the steering wheel shown in Figure 23 with red arrows indicating the portions of bottom wall 130 that Petitioner contends to correspond to first and second transition edges.<sup>14</sup> The left and right edges of bottom wall 130 are abrupt changes in the form of the outer case of Tosaki's controller.

Petitioner has demonstrated by a preponderance of the evidence that Tosaki anticipates claims 8 and 11.

##### 5. *Claims 16, 17, and 19*

Claim 16 depends from claim 1 and recites, "wherein each of the first elongate member and the second elongate member is mounted on an outside surface of the back of the outer case."

<sup>14</sup> We produce another version of Tosaki's Figure 24 because the version annotated by Petitioner cannot be reproduced in greater magnification without diminishing the quality.

Claim 17 depends from claim 16 and recites, “wherein the top end of each of the first elongate member and the second elongate member that is nearest the top edge is mounted on the outside surface of the back of the outer case.”

Claim 19 depends from claim 16 and recites, “wherein each of the first elongate member and the second elongate member is a paddle lever.”

Tosaki’s first and second elongate members (shift levers 125, 126) are mounted on the outside surface of the back (reverse side casing 120b) of the outer case. Pet. 27; Ex. 1012 ¶ 30; Ex. 1002, Figs. 23, 24; *see also id.* at 13:11–15 (describing that a user grasps Tosaki’s apparatus in both hands to operate shift levers 125, 126). The top end of the outer surfaces of shift levers 125 and 126 are mounted substantially co-planar with the outer surface of bottom wall 130. Pet. at 27–28.

Patent Owner argues that Tosaki’s gear shift levers are not mounted on an outside surface of the back of the outer case as claimed because they are co-planar with the outer surface of the back of the controller. PO Resp. 36–38. Patent Owner elaborates that if two things are in the same plane, one thing is not on the other thing. *Id.* at 37.

Patent Owner’s argument is an oversimplification and is not commensurate in scope with the claims in two respects. First, Patent Owner argues as if the back of the outer case of the controller and the elongate members are each elements that exist in a single plane. The claims are not so limited. For example, the back of the outer case of the claimed controller could include curves so that portions of the case exist in different planes. *E.g.*, Ex. 1011, Fig. 2.

Second, Patent Owner argues as if “mounted on” means that the elongate member is in contact with the outer surface of the back of the controller. In other words, Patent Owner’s argument implies that “mounted on” as claimed means that one surface (the elongate member) contacts the other surface (the back), just as shown in Patent Owner’s illustration. Such a narrow reading of “mounted on” is not supported by the disclosure of the ’770 patent. We agree with Petitioner that “mounted on” has a broader reasonable ordinary meaning. Pet. Reply 14. For example, headlights are considered “mounted on” a car even though portions of the headlights are in the interior of the car body. *Id.*

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

6. *Summary*

Petitioner has shown by a preponderance of the evidence that claims 1, 3–12, 15–17, 19, and 20 are anticipated by Tosaki.

C. OBVIOUSNESS OVER ENRIGHT AND TOSAKI

Petitioner contends that claims 1–12 and 14–20 are unpatentable under 35 U.S.C. § 103 as obvious over Enright and Tosaki. Pet. 36–50.

We address the level of skill in the art and then analyze claims individually.

1. *Level of Skill in the Art*

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

*a) 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. 8–10 (submitting as Exhibit 1007 the UK Search and Examination Report prepared by Mr. Donohoe regarding the UK counterpart to the application that became the '770 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 responds by asserting that Mr. Donohoe must be a person of ordinary skill because the level of ordinary skill is low, and 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 of United States and UK law. For that reason, 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.

*b) 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. 40; 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. 40–41. 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 41 (citing Ex. 2012 ¶ 10; Ex. 1011, 1:33–40, 3:56–61).

Petitioner does not contest the education level of the inventors or the problem solved by the '770 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 '770 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. 40–41 (citing Ex. 1011, 1:33–40, 3:56–61). A better characterization

is that the '770 patent solved the problem of loss of control caused by moving a thumb from one control to another. *See* Ex. 1011, 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 '770 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 describing that repositioning the user's hands can affect 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 controller 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.* at ¶¶ 3–4. As a solution, Enright disclosed a device that permits selection of discrete button commands without looking at or moving fingers from buttons. *Id.* ¶ 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 is ergonomically desired. *Id.*

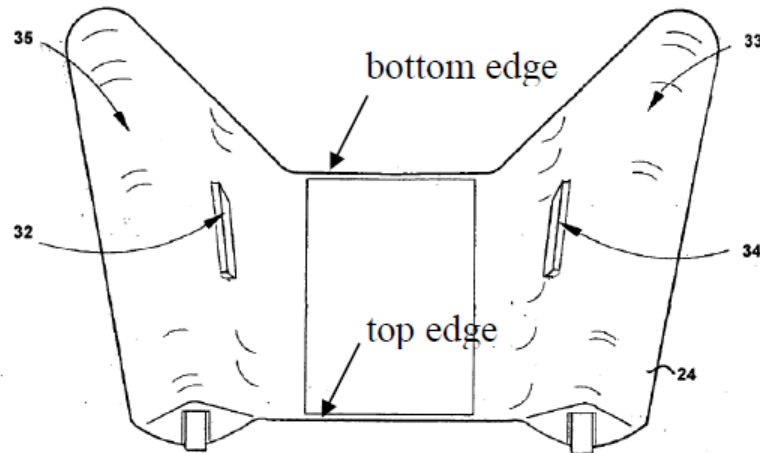
In light of this, the prior art of record demonstrates that switch position on the controller, usability, and comfort were known problems in the art. Further, prior solutions included placing switches to be easily accessible to a user's finger or thumb, and placing switches so that those switches are 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

2. *Claim 1*

a) *Ground of Unpatentability*

Enright discloses a video game controller (user device 2) that includes an outer case (hand-holdable housing 24) having a front and a back opposite the front. Pet. 36–40; Ex. 1003 ¶¶ 22, 23, 27, 31, Fig. 4 (front view), 5 (back view). Petitioner provides an annotated version of Figure 5 of Enright, which we reproduce below.



Petitioner's annotated version of Enright's Figure 5 is an inverted illustration of the back of the housing of user device 2 and identifies portions that correspond to a top and a bottom edge as claimed. Pet. 40; Ex. 1003 ¶ 23. Enright's controller (user device 2) includes a first handle (left grip 35) adjacent a first side edge, and a second handle (right grip 33) adjacent a second side edge that is opposite the first side edge. Pet. 40–41 (providing an annotated version of Enright's Figure 5); Ex. 1003, ¶ 32, Fig. 5.

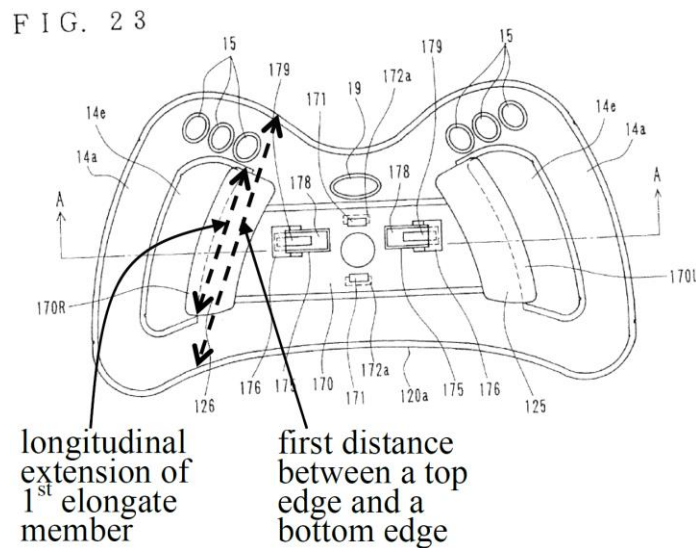
Enright's controller (user device 2) includes a first and second back control (first and second mode switches 32, 34), in the form of an elongate member, and each control is located on the back of the controller. Pet. 41–42; Ex. 1003, ¶ 32, Fig. 5.

The difference between the prior art (Enright) and claim 1 is that Enright's elongate members (mode switches 32, 34) do not extend to the extent required by the claims.<sup>15</sup>

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<sup>15</sup> As detailed in section III.A. above, the '770 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.

Tosaki discloses a video game controller having a pair of back controls in the form of elongate members that 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. Pet. 42–43; Ex. 1002, Fig. 23. Petitioner provides an annotated version of Tosaki’s Figure 23, which we reproduce below.



Petitioner’s annotated version of Tosaki’s Figure 23 depicts a steering wheel control apparatus to include shift levers 125, 125 and illustrates how those levers extend as required by claim 1. Pet. 42–43; Ex. 1002, Fig. 23.

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. 36–39; Ex. 1012 ¶ 23; Ex. 1002, 8:63–64, Figs. 1, 6, 7, 23, 24; Ex. 1003 ¶¶ 22, 23, 27, 31, Figs. 4, 5. 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. Pet. 36–37; 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. 36–39; Ex. 1003 ¶ 32; Ex. 1012 ¶¶ 22, 24. According to Petitioner, such a modification would have been “an obvious variation — in a predictable art.” Pet. 37.

The modification of extending Enright's switches must be considered in the light that, as detailed in our level of skill analysis 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. Given 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.

*b) 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

hand-held controller.” PO Resp. 44 (citing Pet. 42). This is a mischaracterization. Petitioner proposes to modify Enright’s elongate members to extend to the extent taught by Tosaki (i.e., to extend a substantial portion of the full distance between the top edge and the bottom edge as taught). *See* Pet. 36–39; Pet. Reply 17–20. Petitioner is not relying on the form of Tosaki’s switches or Tosaki’s arched openings; rather, Petitioner relies on Tosaki for the length of the elongate members.

Second, Patent Owner argues as if Tosaki were a thigh-held controller and not a handheld controller. As detailed above, we determine that 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. 44.

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 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 if ergonomically desired. Rational underpinning supports this reasoning because, 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. 44; *see also id* at 48–49 (repeating this assertion in another context). This contention is unpersuasive. Petitioner does not explain how Tosaki's elongate members (gear shift levers) positioned within arched opening 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. 36–39.

Patent Owner contends that Tosaki's disclosure of gearshift levers 125, 126 positioned and operated through arched openings teaches away from combining with Enright. PO Resp. 45–47. This contention is unpersuasive because, as explained above, Petitioner does not modify

Enright to have shift levers that are operated through arched openings. Rather, Petitioner relies on Tosaki only as suggesting to an ordinarily skilled artisan that it would be desirable to lengthen Enright's back controls to extend like Tosaki's shift levers.

Patent Owner argues that Petitioner's approach is fundamentally flawed because it misrepresents Tosaki as a handheld controller. PO Resp. 47–49. 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 received support other than a user's hands (e.g., a user's thighs). Pet. Reply 20–21; Ex. 1021 ¶ 8.

Patent Owner contends that modification of Enright to include elongate members in arched opening would change Enright's principle of operation and render Enright inoperable for its intended purpose. PO Resp. 54–59. Patent Owner adds that Tosaki reflects a different principle of operation because it is thigh-held rather than handheld. *Id.* at 56–57. 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. 51–54.

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. However, Petitioner relies upon the combination of Tosaki and Enright. Specifically, Petitioner asserts that Enright and Tosaki are each controllers having back controls operated by a user's fingers, and that it would have been obvious to make Enright's mode switches 32 and 34 longer as suggested by Tosaki's longer back controls. Pet. 36–39. 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.

*c) Conclusion*

Petitioner has demonstrated, by a preponderance of the evidence, that claim 1 would have been obvious over Enright and Tosaki.

3. *Claims 2–12, 15–18, and 20*

Patent Owner does not present additional argument for claims 2–12, 15–18, and 20.

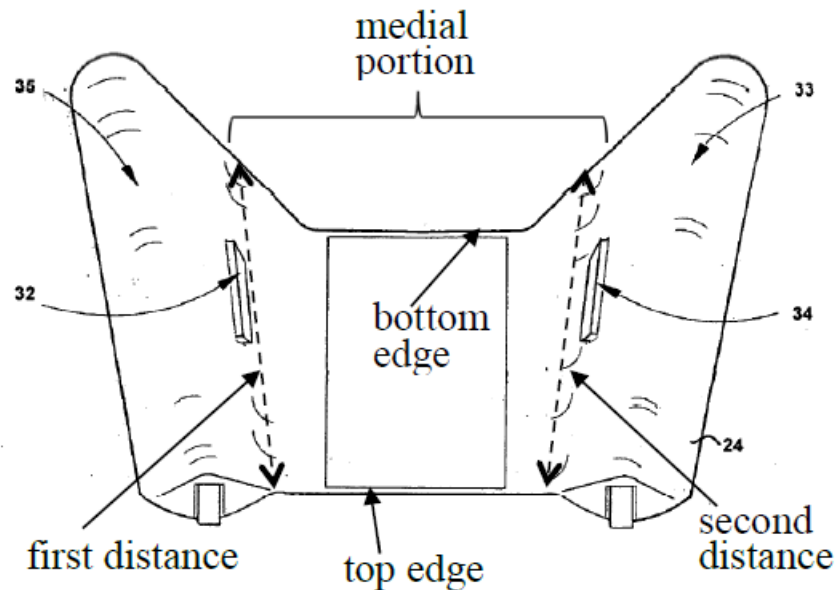
Claim 2 depends from claim 1 and requires the first and second elongate members to extend substantially all first and the second distance, respectively. Tosaki's elongate members (shift levers 125, 126) extend substantially all of the distance between the top edge and the bottom edge of the outer case of the controller. Ex. 1002, Fig. 23; Pet. 43–44.<sup>16</sup> Therefore, when Enright's elongate members are modified to extend as disclosed by Tosaki, the modified elongate members will correspond to elongate members as called for in claim 2.

Claim 3 depends from claim 1 and requires that the bottom edge include a first and second convex portion that define the first and second handles, and a medial portion between the first and second convex portion. Enright's controller (user device 2) includes a first and second convex portion that defines first and second handles (left grip 35 and right grip 33), respectively, and a medial portion therebetween. Ex. 1003, Fig. 5; Pet. 45.

Claim 4 depends from claim 3 and recites, “wherein the first distance is between the top edge and the medial portion and the second distance is between the top edge and the medial portion.” Petitioner contends that Enright discloses the additional limitations of claim 4, and provides an annotated version of Enright's Figure 5, which we reproduce below.

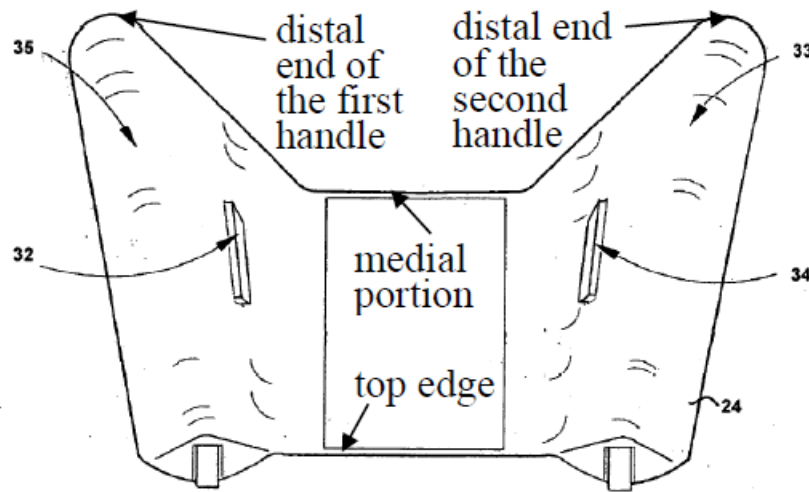
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<sup>16</sup> Petitioner explains that the edges above and below the left and right openings 14e of steering wheel 14 correspond to the top and bottom edge as claimed. Pet. 43–44. Patent Owner makes no challenge to this interpretation.



Petitioner's annotated Figure 5 depicts the back of Enright's controller (user device 2) and identifies the portions of the controller that correspond to the limitations introduced in claim 4. Pet. 45; Ex. 1002, Fig. 23. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 3 would have been obvious over Enright and Tosaki.

Claim 5 depends from claim 3 and recites, "wherein the medial portion is closer to the top edge than a distal end of each of the first handle and the second handle." Petitioner contends that Enright describes the limitations introduced in claim 5 and provides an annotated version of Enright's Figure 5, which we reproduce below.



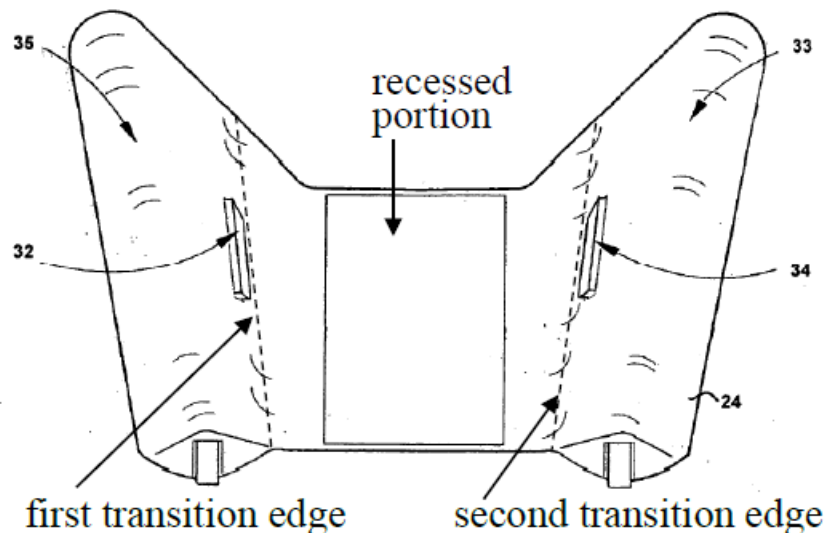
Petitioner's annotated Figure 5 depicts the back of Enright's controller (user device 2) and identifies the portions of the controller that correspond to the limitations introduced in claim 4. Pet. 46; Ex. 1003, Fig. 5. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 5 would have been obvious over Enright and Tosaki.

Claim 6 depends from claim 3 and recites, "wherein the back includes a recessed portion between the first handle and the second handle." Claim 7 depends from claim 6 and recites, "wherein the recessed portion is recessed towards the front." Claim 10 depends from claim 1 and recites, "wherein the back includes a recessed portion between the first handle and the second handle."

Claim 8 depends from claim 6, and recites,  
wherein the first elongate member is positioned at or adjacent a first transition edge between the first handle and the recessed portion; and wherein the second elongate member is positioned at or adjacent a second transition edge between the second handle and the recessed portion.

Claim 11 depends from claim 10 and contains the same limitation.

The back of Enright's controller (user device 2) includes a recessed portion between the first (left grip 35) and second (right grip 33) handle, and that recessed portion is towards the front of the controller (claims 6, 7, and 10). Pet. 46–47; Ex. 1003, ¶ 32, Fig. 5. Enright's first elongate member (first mode switch 32) is positioned at or adjacent a first transition edge (identified below) between the first handle (left grip 35) and the recessed portion (identified below). Petitioner provides an annotated version of Enright's Figure 5, which we reproduce below.



Petitioner's annotated Figure 5 depicts the back of Enright's controller (user device 2) and identifies portions of the controller that corresponding to the limitations introduced by claims 6, 8, and 11. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claims 6, 8, and 11 would have been obvious over Enright and Tosaki.

Claim 9 depends from claim 6 and recites, “wherein each of the first handle and the second handle protrudes outwardly with respect to a plane define by the recessed portion.” Enright’s first and second handle (left grip 35, right grip 33) protrude outwardly with respect to a plane define by the recessed portion. Pet. 46; Ex. 1003, ¶ 32, Fig. 5 (note curved lines on grips 33, 35 indicating the controller curves up out of the page). Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 9 would have been obvious over Enright and Tosaki.

Claim 12 depends from claim 1 and recites, “the first elongate member is configured to contact a first switch mechanism and the second elongate member is configured to contact a second switch mechanism.” Enright’s first and second elongate members (mode switches 32, 34) are each configured to contact a switch mechanism (momentary type switch mechanism). Pet. 48; Ex. 1003, ¶ 46; Ex. 1012 ¶ 24. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 12 would have been obvious over Enright and Tosaki.

Claim 15 depends from claim 1 and recites, “wherein the first elongate member and the second elongate member are either parallel with one another or converge towards one another in a direction pointing from the bottom edge to the top edge.” Enright’s first and second elongate members (mode switches 32, 34) converge towards one another in a direction pointing from the bottom edge to the top edge. Pet. 49; Ex. 1003, Fig. 5 (note the controller (user device 2) is inverted in this Figure). Based on our review of the record, we determine that Petitioner has demonstrated by a

preponderance of evidence that the limitations introduced in dependent claim 15 would have been obvious over Enright and Tosaki.

Claim 16 depends from claim 1 and recites, “wherein each of the first elongate member and the second elongate member is mounted on an outside surface of the back of the outer case.” Claim 17 depends from claim 16 and recites, “wherein the top end of each of the first elongate member and the second elongate member that is nearest the top edge is mounted on the outside surface of the back of the outer case.” Tosaki’s first and second elongate members (shift levers 125, 126) are mounted on an outside surface of the outer case of the controller (steering wheel 14). Pet. 49; Ex. 1002, Fig. 24. Enright’s elongate members (first and second mode switches 32, 34) are mounted on the back of the controller (user device 2). Pet. 36; Ex. 1012 ¶ 23 (Enright and Tosaki both have rear controls; Ex. 1003 ¶ 32 (mode switches 32, 34 are “on the underside” near the user’s fingers), Fig. 5. Enright’s modified device would include elongate members mounted on the outside surface of the back of the outer case of the controller, to include the top edge of the end to each elongate member. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claims 16 and 17 would have been obvious over Enright and Tosaki.

Claim 18 depends from claim 17 and recites, “Wherein the top end of each of the first elongate member and the second elongate member is mounted on the outside surface of the back of the outer case by a screw.” As of the critical date of the ’770 patent, a person of ordinary skill in the art would have recognized that Enright’s elongate members (mode switches 32, 34) could have been configured with a conventional screw attachment. Pet.

50; Ex. 1012 ¶ 25. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 18 would have been obvious over Enright and Tosaki.

Claim 20 depends from claim 1 and recites, “wherein each of the first elongate member and the second elongate member is configured to be displaced by engaging an outer surface thereof to activate a switch mechanism.” Enright’s first and second elongate members (mode switches 32, 34) are configured to be displaced by engaging the outer surface to engage a switch mechanism. Pet. 50; Ex. 1003, ¶ 32, Fig. 5. Based on our review of the record, we determine that Petitioner has demonstrated by a preponderance of evidence that the limitations introduced in dependent claim 20 would have been obvious over Enright and Tosaki.

Petitioner has demonstrated, by a preponderance of the evidence, that claims 2–12, 15–18, and 20 would have been obvious over Enright and Tosaki.

4. *Claim 14*

Claim 14 depends from 13.

Petitioner does not present a ground of unpatentability against claim 13 based on Enright and Tosaki. Petitioner presented a ground of unpatentability based on Enright, Tosaki, and Ono; however, we did not institute trial on that ground. See Dec. 19–21. Consequently, Petitioner has not addressed the elements present in claim 14 by virtue of dependence from claim 13, and Petitioner has not demonstrated adequately that claim 14 would have been obvious over Enright and Tosaki.

5. *Claim 19*

Claim 19 depends from claim 1 and requires the first and second elongate members to be a paddle lever.

In the Petition, Petitioner interprets a “paddle lever” as claimed to be any button, trigger, or control member. *See* Pet. 16 (asserting that the ’770 Specification does not adequately structurally distinguish a paddle lever from any other type of button, trigger, or control member, and that a person of ordinary skill “could have considered prior art buttons, triggers, and other control members to qualify as a ‘paddle lever’”). Petitioner’s expert echoes this interpretation. *See* Ex. 1012 ¶ 14. Based on this claim interpretation, Petitioner contends that Enright’s first mode switch 32 and second mode switch 34 are paddle levers. Pet. 50 (citing Ex. 1012 ¶ 26). In parity with that assertion, Petitioner’s expert opines that:

Each button disclosed by Enright (e.g. those corresponding to the first mode switch 32 and the second mode switch 34), suggests a “paddle lever” in the context of claim 19 of the ’770 patent, at least because the specification of the ’770 patent does not adequately structurally distinguish a “paddle lever” from any other type of button, trigger, or control.

Ex. 1012 ¶ 26. In sum, Petitioner asserts that a “paddle lever” as claimed is any button, trigger, or control member, and Enright’s buttons (first and second mode switches 32, 34) correspond to paddle lever’s as claimed.

In the Institution Decision, we stated that to the extent that Petitioner contends that any button, trigger, or control member qualifies as a paddle, lever we disagree. Dec. 10–11.

In the Patent Owner's Response, Patent Owner argues that Enright's mode switches 32 and 34 are not paddle levers as claimed. PO Resp. 59–60. Patent Owner does not provide a description of a “paddle lever” as claimed.

In Petitioner's Reply, Petitioner argues that as of the critical date of the '770 patent, a person of ordinary skill would have understood that Enright's mode switches 32 and 34 could have been attached in many well-known and conventional ways, to include as a paddle lever (attached at only the top end of the lever). Pet. Reply 25–26. Petitioner adds that the '770 patent lacks description to distinguish a paddle lever from other types of controls and in order for claim 19 to have been enabled, paddle levers must have been common knowledge. *Id.* at 26.

As outlined above, the Petition contends that any button is a paddle lever and therefore, Enright's buttons (first and second mode switches 32, 34) are paddle levers. Pet. 16, 50. Then, Petitioner's Reply more specifically asserts that Enright's buttons (first and second mode switches 32, 34) could have been attached in many conventional ways, including as a paddle lever (attached at only the top end). Pet. Reply 25–26. This is problematic because the Petition is required to identify how the construed claim is unpatentable under the statutory grounds identified. 37 C.F.R § 42.104(b)(4); *see also Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (explaining that *inter partes* reviews include the obligation for petitioners to “make their case in their petition to instate”). Here, the Petition asserts that any button is a paddle lever, and the new argument that Enright's buttons could have been attached in many conventional ways, including as a paddle lever (attached at

only the top end) is not advanced until Petitioner's Reply. Patent Owner has not had the opportunity to respond to Petitioner's more specific assertion.<sup>17</sup>

Consequently, Petitioner has not demonstrated adequately that claim 19 would have been obvious over Enright and Tosaki.

6. *Summary*

Petitioner has shown by a preponderance of the evidence that claims 1–12, 15–18, and 20 would have been obvious over Enright and Tosaki. Petitioner has not made such a showing with regard to claims 14 and 19.

## 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, 3–12, 15–17, 19, and 20 as anticipated over Tosaki; and
- b) claims 1–12 and 15–18, and 20 as obvious over Enright and

## VI. ORDER

For the reasons given, it is:

ORDERED that Exhibit 1028 be expunged;

FURTHER ORDERED that claims 1–12 and 15–18, and 20 are held unpatentable; and

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<sup>17</sup> Patent Owner's assertions regarding the scope of Petitioner's Reply relate to other aspects of Petitioner's argument, and do not directly address the lack of opportunity to address the new assertion in Petitioner's Reply that Enright's mode switches 32, 34 are levers attached at one end only. *See* Paper 40, 2.

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.

Case IPR2016-00949  
Patent 9,089,770 B2

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