

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASUSTEK COMPUTER INC., ASUS GLOBAL PTE. LTD.,
DELL TECHNOLOGIES INC., DELL INC., and HP INC.,
Petitioners,

v.

LITL LLC,
Patent Owner.

IPR2024-00532
Patent 8,289,688 B2

Before KRISTINA M. KALAN, BRIAN D. RANGE, and DAVID COTTA,
Administrative Patent Judges.

COTTA, *Administrative Patent Judge*

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

ASUSTeK Computer Inc., Asus Global Pte. Ltd., Dell Technologies Inc., Dell Inc., and HP Inc. (collectively, “Petitioner”) filed a corrected Petition to institute an *inter partes* review (“IPR”) of claims 1–10 and 23 (the “challenged claims”) of U.S. Patent No. 8,289,688 B2 (“the ’688 patent”). Paper 16 (“Petition” or “Pet.”).¹ LiTL LLC (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). With our prior authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 18) and Patent Owner filed a Sur-reply (Paper 19).

Under 35 U.S.C. § 314(a), *inter partes* review may not be instituted unless the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Petitioner has not established a reasonable likelihood of prevailing on its assertion that the challenged claims are unpatentable based on the grounds advanced here. Thus, for reasons explained below, we deny institution of *inter partes* review of claims 1–10 and 23 of the ’688 patent.

A. *Real Parties-in-Interest*

Petitioner identifies ASUSTeK Computer Inc., Asus Global Pte. Ltd., Dell Technologies Inc., Dell Inc., and HP Inc. as the real parties-in-interest. Pet. at xii. Patent Owner identifies itself as the real party-in-interest. Paper 7, 1.

¹ With our permission, Petitioner filed a Corrected Petition to correct the cover page of the originally-filed Petition (Paper 1), which incorrectly captioned the case. All references herein to the Petition are to the Corrected Petition (Paper 16), which we understand to be substantively identical to the originally-filed Petition.

B. Related Matters

The parties identify as related matters the following lawsuits involving the '688 patent: *LiTL LLC v. Dell Technologies Inc. and Dell Inc.*, No. 1:23-cv-00121-RGA (D. Del.); *LiTL LLC v. HP Inc.*, No. 1:23-cv-00120-RGA (D. Del.); *LiTL LLC v. ASUSTeK Computer Inc., et al.*, No. 1:23-cv-00122-RGA (D. Del.); and *LiTL LLC v. Lenovo (United States), Inc. et al.*, No. 1:20-cv-00689 (D. Del.). Pet. at xii; Paper 7, 2.

The parties identify the following administrative matters involving the '688 patent: IPR2021-00681 (not instituted); *Ex parte* Reexamination No. 90/015,035. Pet. at xii; Paper 7, 1.

Patent Owner also identifies the following proceedings that challenge the patents related to the '688 patent: IPR2021-00800; IPR2021-00822; IPR2021-00786; IPR2021-00821; IPR2024-00404; IPR2024-00480; IPR2024-00481; IPR2021-01011; IPR2024-00454; IPR2024-00455; IPR2024-00456; IPR2024-00457; IPR2024-00458. Paper 7, 1–2. In addition, Patent Owner indicates that patents related to the '688 patent were subject to the following reexamination proceedings: 90/015,025; 90/014,965; and 90/014,958. *Id.*

C. The '688 Patent

The '688 patent is titled “Portable Computer with Multiple Display Configurations.” Ex. 1001, code (54) (capitalization omitted). The '688 patent issued from an application filed July 10, 2008. *Id.* at code (22). The '688 patent claims priority to a provisional application filed April 1, 2008. *Id.* at code (60).

According to the '688 patent, conventional portable computers commonly have a “clam-shell” configuration with a base and a display component pivotably coupled by a hinge. *Id.* at 1:19–27. The '688 patent

describes a “portable computer that is configurable between a plurality of display modes including a laptop mode . . . and an easel mode.” *Id.* at code (57). The portable computer includes a hinge that “allows the display component to be rotated about an axis along an interface between the display component and the base to configure the portable computer between a closed position, the laptop mode, and the easel mode.” *Id.*

Figure 1 of the '688 patent, reproduced below, illustrates a portable computer in a “laptop” configuration. *Id.* at 4:40–42.

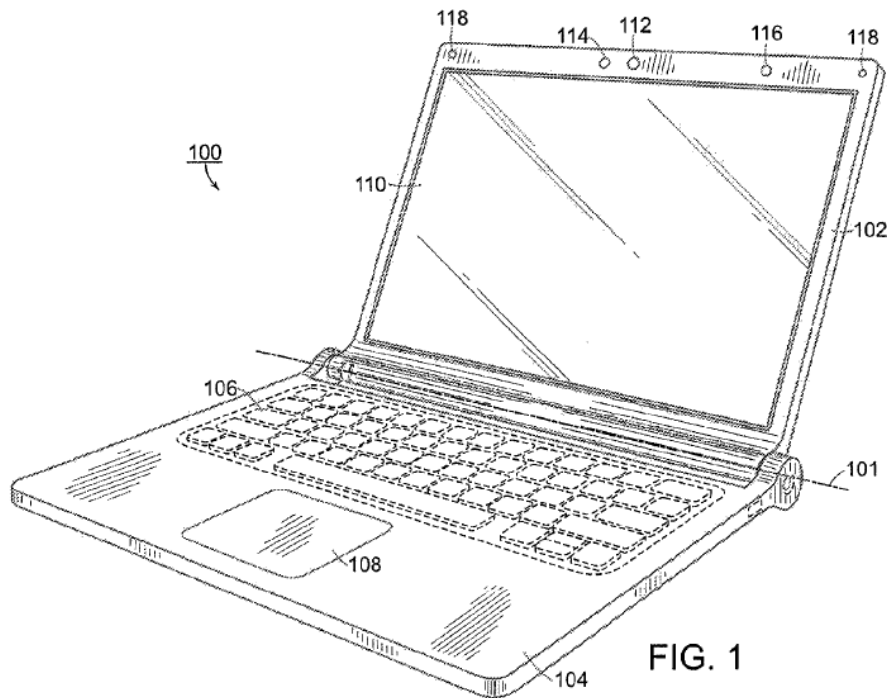


Figure 1, above illustrates an example of a portable computer. *Id.* at 6:24–25. Portable computer 100 includes display component 102 and base 104. *Id.* at 6:25–28. “The display component 102 is pivotably coupled to the base 104 by a hinge assembly (not shown)” that “allows the display component 102 to be rotated (or tilted) about a longitudinal axis 101 running along an interface between the display component and base 104.” *Id.* at

6:28–38.

Figure 4 of the '688 patent, reproduced below, illustrates a portable computer in an “easel” configuration. *Id.* at 4:47–48.

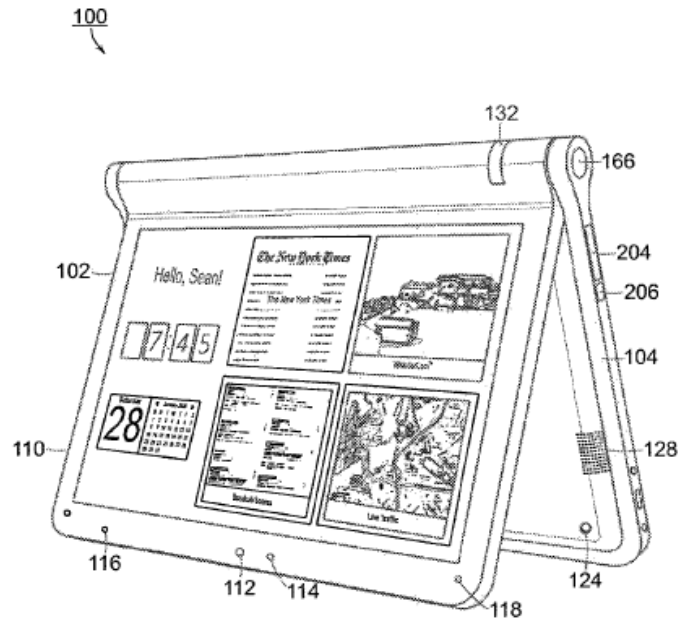


FIG. 4

Figure 4, above, illustrates “portable computer 100 configured into an easel mode.” *Id.* at 7:48–49. Portable computer 100 includes display component 102 and base 104. *Id.* at 7:49–52. As shown in Figure 4, portable computer 100 is converted from a laptop mode to an easel mode by folding away from base 104, such that “the base 104 and the display component 102 form an inverted ‘V’ shape with the bottom of the base and the back of the display component facing one another.” *Id.* at 7:49–57.

Figure 7A of the '688 patent, reproduced below, illustrates a portion of a portable computer in the laptop configuration. *Id.* at 4:53–55.

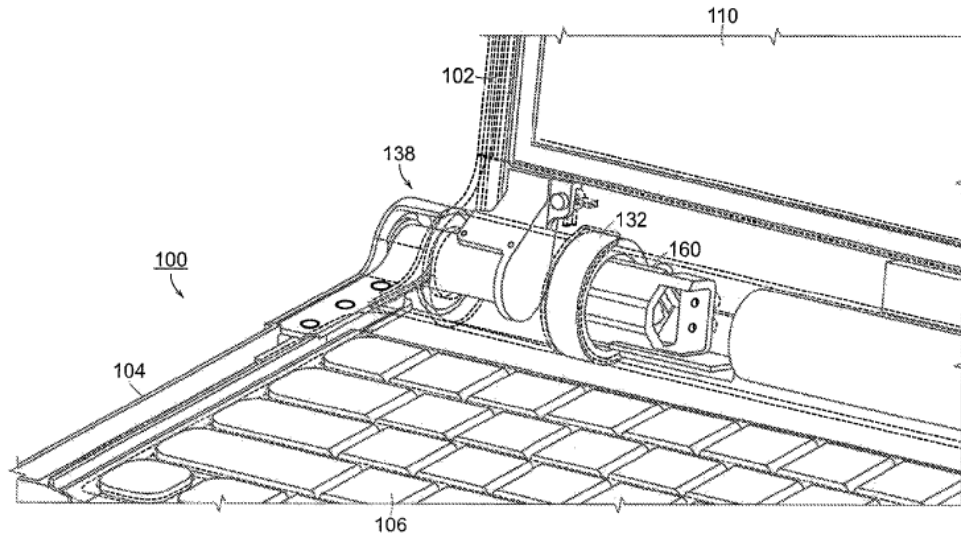


FIG. 7A

Portable computer 100 in Figure 7A includes display component 102, base 104, and hinge assembly 138 that allows the portable computer to be configured into either a laptop or easel mode. *Id.* at 9:19–23. “[T]he hinge assembly 138 accommodates 0–320 degrees of rotation, allowing a minimum angle . . . of 40 degrees.” *Id.* at 9:23–26.

Portable computer 100 also includes an “orientation sensor . . . that is configured to detect a relative orientation of the display component 102 and the base component 104.” *Id.* at 9:30–34. “[T]he orientation sensor may be an accelerometer incorporated the base component 104” or into “hinge assembly 138.” *Id.* at 9:34–38. The orientation sensor may be used to translate movement of the hinge into information about the “relative orientation of the display component 102 and the base component 104.” *Id.* at 9:36–41.

D. Challenged Claims

The '688 patent includes 32 claims, of which claims 1–10 and 23 are challenged in the Petition. Claim 1 is illustrative of the subject matter of the challenged claims and is reproduced below.

1. A portable computer configurable between a plurality of display modes including a closed mode, a laptop mode and an easel mode, the portable computer comprising:

a single display component including a display screen;

a base including a keyboard;

a hinge assembly at least partially housed within the base and the display component configured to pivotably couple the display component to the base, ***wherein the hinge assembly defines a single longitudinal axis running along an interface between the display component and the base, and wherein the display component and the base are rotatable about the single longitudinal axis;***

wherein, in the closed mode, the display screen is disposed substantially against the base;

wherein rotating either the single display component or the base by an operator about the single longitudinal axis up to approximately 180 degrees from the closed mode configures the portable computer into the laptop mode, wherein in the laptop mode the single display component is oriented towards the operator and the keyboard is oriented to receive input from the operator;

wherein rotating either the single display component or the base by the operator about the single longitudinal axis beyond approximately 180 degrees from the closed mode configures the portable computer into the easel mode; and

wherein in the easel mode the single display component is oriented facing the operator with the keyboard oriented away from the operator.

Ex. 1001, 17:10–38 (emphasis added to reflect disputed limitation).

E. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–10 and 23 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §²	Reference(s)
1–3, 5–7	103(a)	Lane ³ , Misawa ⁴
3–7, 23	103(a)	Lane, Misawa, Hisano ⁵
8, 9	103(a)	Lane, Misawa, Dunko ⁶
8, 9	103(a)	Lane, Misawa, Hisano, Dunko
8, 9	103(a)	Lane, Misawa, Forstall ⁷
8, 9	103(a)	Lane, Misawa, Hisano, Forstall
10	103(a)	Lane, Misawa, Nako ⁸

Petitioner relies on the declaration of Dr. Andrew Wolfe, Ph.D. (Ex. 1004).

II. ANALYSIS OF GROUNDS 1–7

A. Legal Principles

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed.

² The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. The ’688 patent was filed before this date. *See* Ex. 1001, code (22). For the purposes of this Decision, we apply the pre-AIA version of 35 U.S.C. §103.

³ Lane, WO 1995/24007 A1, publ. Sept. 8, 1995 (Ex. 1017 (“Lane”)).

⁴ Misawa, US 2005/0134717 A1, publ. June 23, 2005 (Ex. 1016 (“Misawa”)).

⁵ Hisano et al., US 2006/0034042 A1, publ. Feb. 16, 2006 (Ex. 1018 (“Hisano”)).

⁶ Dunko, US 7,791,594 B2, issued Sept. 7, 2010 (Ex. 1019 (“Dunko”)).

⁷ Forstall et al., US 7,978,176 B2, issued July 12, 2011 (Ex. 1020 (“Forstall”)).

⁸ Nako et al., US 2004/0212602 A1, publ. Oct. 28, 2004 (Ex. 1021 (“Nako”)).

Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)).

To show obviousness under 35 U.S.C. § 103(a), the differences between the subject matter sought to be patented and the prior art must be such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which that subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations of nonobviousness, when presented. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner describes a person of ordinary skill in the art (“POSA”) as follows:

A person of ordinary skill in the art at the time of the ’688 Patent (“POSA”) would have had a bachelor’s degree (or equivalent) in electrical engineering, computer engineering, computer science, or a comparable subject, and two to three years of experience in the design and architecture of laptop computers and other portable electronic devices. Alternatively, a POSA would have had an advanced degree (or equivalent) in electrical engineering, computer engineering, computer science, or a comparable subject and one year of post-graduate research or work experience in the design and architecture of laptop computers and other portable electronic devices. A POSA would have been familiar with the structural hardware aspects of laptop computers and other portable electronic devices, as well as designs of user interfaces employed and displayed by computer operating

systems and their organization of content and functionality. A POSA could have acquired similar skills and knowledge by other means.

Pet. 7 (citing Ex. 1004 ¶ 15). Patent Owner does not dispute Petitioner’s identification of the person of ordinary skill in the art. *See generally* Prelim. Resp. As Petitioner’s description of the person of ordinary skill is consistent with the subject matter of the ’688 patent and with the prior art of record, we apply it for purposes of this decision. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. Claim Construction

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2020). Under this standard, we construe the claims “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

Petitioner proposes constructions for several claim terms. Pet. 8–13. Patent Owner does not identify any claims terms as needing construction. *See generally* Prelim. Resp. We do not find it necessary to construe any claim terms in order to reach our decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))); *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011)

(“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy’”).

D. Analysis

Each of the challenged claims requires a “hinge assembly” that “defines a single longitudinal axis running along an interface between the display component and the base” where “the display component and the base are rotatable about the single longitudinal axis.” Ex. 1001, 17:15–21 (the “single axis limitation”). In each of its seven grounds, Petitioner asserts that this claim limitation would have been obvious because “a POSA would have been motivated and able to adapt the portable computer 10 of Lane to use a single-pivot hinge like the hinge 20 taught in Misawa.” Pet. 29; *see also id.* at 32 (“In the portable computer 10 of Lane modified to implement a single-pivot hinge like the hinge 20 of Misawa, the hinge would define a ‘single longitudinal axis.’”). Our decision turns on whether Petitioner has carried its burden to establish a reasonable likelihood of prevailing on its assertion that the POSA would have been motivated to use a single-pivot hinge, like that disclosed in Misawa, in Lane’s computer, as proposed in the Petition. For the reasons discussed below, we find that Petitioner has not carried its burden.

1. The Asserted Prior Art

We begin by considering the disclosures of the prior art that Petitioner relies upon as rendering the single-axis limitation obvious. We focus on the disclosures of Lane and Misawa because each of Petitioner’s seven grounds relies upon Lane and Misawa as meeting the single-axis limitation.

a) Lane (Ex. 1017)

Lane is titled “Modular, Reconfigurable Devices.” Ex. 1017, code (54). Lane discloses that its “invention relates to modular devices and more

particularly to reconfigurable portable computers and other electronic or similar apparatus.” *Id.* at 1:3–6.

Lane provides background for its invention by describing the deficiencies of existing electronic devices. According to Lane, “[c]onsumers . . . appear eager for access to reconfigurable components to meet the requirements of the varied locations and situations in which the components operate,” but existing electronic devices “can neither be decoupled nor reconfigured, . . . and thus fail to address these and other consumer needs.” *Id.* at 1:25–31. As examples of existing devices that fail to meet consumer needs, Lane specifically identifies computers disclosed in two different patents: U.S. Patent No. 5,103,376 (“Blonder”) and U.S. Patent No. 5,034,858 (“Kawamoto”). Lane criticizes Blonder’s computer because “neither the keyboard nor display is detachable from the remainder of the device, and their reconfigurability is severely limited.” *Id.* at 2:8–11. Lane similarly criticizes Kawamoto’s computer because its “display cannot be detached from the main body.” *Id.* at 2:18–20. In addition, Lane explains that “neither the Blonder nor [the] Kawamoto patent contemplates rotation about two adjacent, parallel axes to permit reconfiguration of components throughout approximately 0-360°.” *Id.* at 2:20–24.

After describing the deficiencies of existing electronic devices, Lane describes its own invention: “The present invention, by contrast, provides a modular, reconfigurable system designed to permit mechanical (and, if necessary, electrical) coupling and decoupling of devices or components of varying types.” *Id.* at 2:26–30. According to Lane, its “innovative system also is adapted to rotate about at least two adjacent, parallel axes” which “permits components to be repositioned about each other throughout approximately 0-360°.” *Id.* at 3:5–9. Lane identifies several advantages of

its decouplable biaxial hinge, including that it allows components to be upgraded without having to purchase an entirely new system, that it allows users to “‘mix and match’ electronic or other devices and components as needed,” and that it allows the use of a display in multiple formats (e.g., standard laptop format, tablet format, and telecommunications monitor format). *Id.* at 2:30–3:4, 3:7–14. Lane concludes the “Summary of the Invention” section of its disclosure by listing three specific “object[s] of the present invention:” 1) “to provide a system composed of reconfigurable modules,” 2) “to provide a modular system permitting coupling and decoupling of devices and components,” and 3) “to provide a system having two adjacent, parallel axes of rotation to facilitate component rotation about approximately 0–360°.” *Id.* at 3:15–25.

To achieve these objectives, Lane discloses that its invention may include one or more connectors to connect a first and second module. *Id.* at 6:7–8. Figures 3 and 4, reproduced below, depict “connector 54 [i.e., the hinge] of [Lane’s] invention.” *Id.* at 6:25–26.

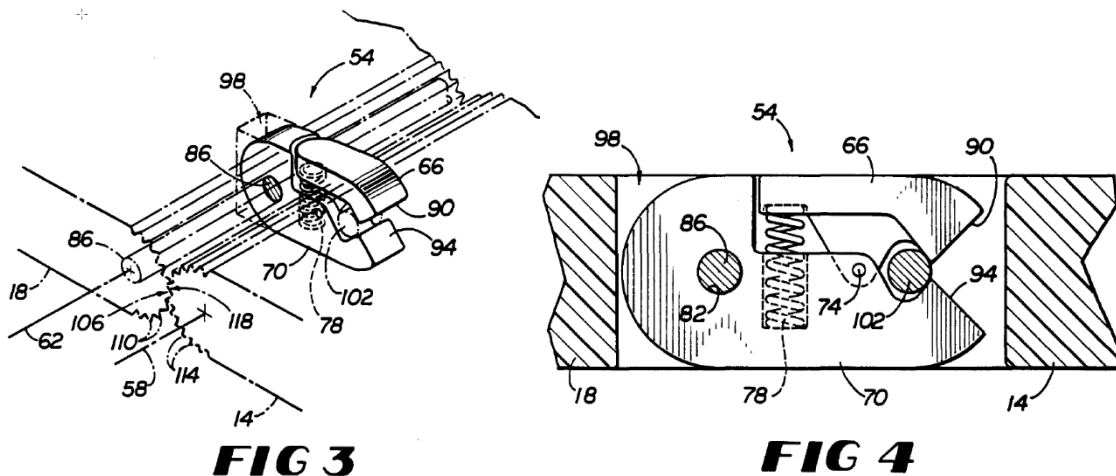
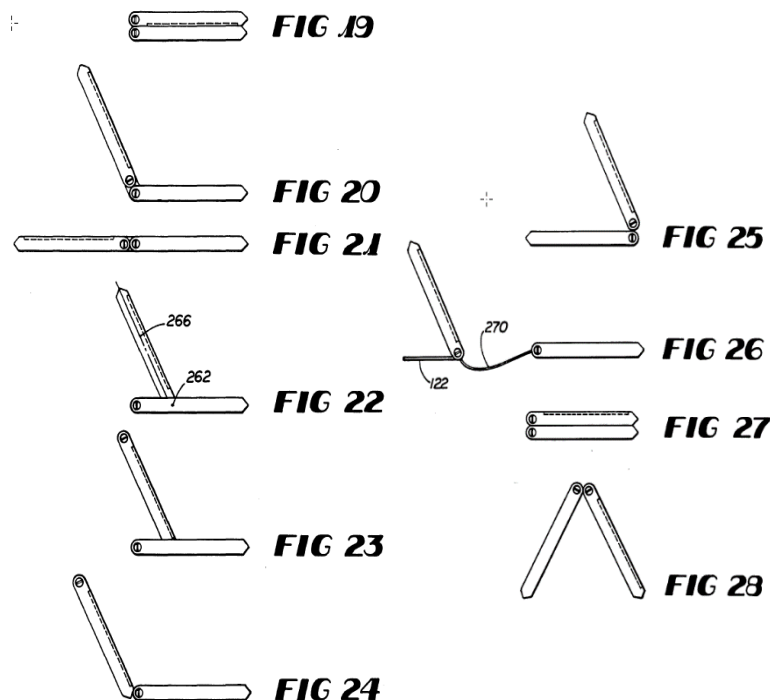


Figure 3 provides a “fragmentary perspective view” and Figure 4 provides a “cross-sectional view” of a “connector of [Lane’s] invention.” *Id.* at 4:1–4.

“As shown in FIG. 3, . . . first module 14 [e.g., a keyboard] defines a primary axis of rotation 58, while second module 18 [e.g., a monitor] defines a corresponding primary axis of rotation 62 parallel to axis 58.” *Id.* at 6:7–13.

“Connector 54 comprises (moveable) leg 66, (fixed) leg 70, pin 74, and spring 78 and defines tube 82 for permanently receiving axle 86 embedded within second module 18.” *Id.* at 6:26–29. Leg 66 pivots about pin 74 and, “when fitted into slots 98 of first module 14, snap, or clamp, onto axle 102 of that module and thereby connect first and second modules 14 and 18.” *Id.* at 6:29–36. Although slots 98 in Figure 3 are shown formed at the edge of first module 14, “they may additionally or alternatively appear along other edges or portions of first module 14,” which would permit the device to be configured in additional ways. *Id.* at 7:20–27.

Lane’s connector/hinge permits a personal computer to be configured in a number of different ways as illustrated in Figures 19–28, each of which is reproduced below.



Figures 19–28 are a “series of side elevational views of an exemplary modular device incorporating the technology of the present invention shown in various configurations.” *Id.* at 4: 29–32. Figure 19 shows Lane’s device in the “nominally closed position” with the visual display facing inward to protect it from damage. *Id.* at 10:12–17. Figure 20 shows Lane’s device rotated “more than 90° to provide a standard ‘desktop’ orientation.” *Id.* at 10:24–31. Figure 21 shows an alternative position where “second module 18 has been rotated approximately 180° relative to first module 14.” *Id.* at 10: 21–24. Figures 22–24 show alternative positions where connector 54 has been detached and reattached. *Id.* at 10:32–11:10. In Figure 25, second module 18 has been rotated more than 270° to form a sideways “V” in which only the display is accessible. *Id.* at 10:29–31. In Figure 26, first module 14 and second module 18 are detached “with merely an electrical connector 270 between [them].” *Id.* at 11:10–16. Figure 27 shows Lane’s device rotated 360°, “exposing visual display 35 for use as, for example, a tablet for pen-based computing.” *Id.* at 10:17–20. And Figure 28 shows second module 18 rotated more than 270° to form an inverted “V” in which only the display is accessible. *Id.* at 10:29–31.

b) Misawa (Ex. 1016)

Misawa is titled “Portable Device with Camera.” Ex. 1016, code (54). In Misawa’s portable telephone, “[a] first casing body is equipped with a control portion and a second casing body is equipped with a monitor.” *Id.* at code (57). “The first and second casing bodies are openably/closeably joined by a uni-axial hinge portion.” *Id.*

Figure 1 of Misawa, reproduced below, provides “a perspective view showing a portable telephone incorporating a camera” embodying Misawa’s invention. *Id.* ¶ 13.

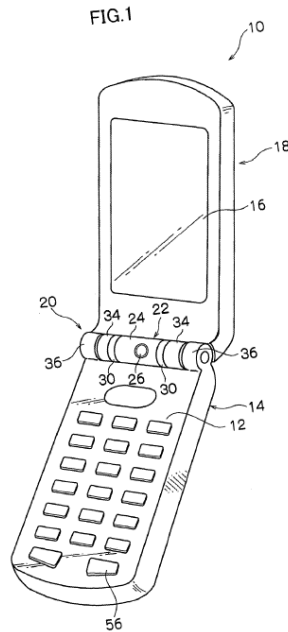


Figure 1 shows “a portable telephone with a camera 10 . . . , a first casing body 14, and a second casing body 18.” *Id.* ¶ 29. The first and second casing bodies are “openably/closeably joined by a hinge portion 20.” *Id.* In Figure 1, the second casing body 18 has been opened to 150° and is in “a condition for performing telephone calls, usual photography and the like.” *Id.* ¶ 53.

Misawa also describes opening the second casing body 18 to 300 degrees from a closed state such that “the first casing body 14 and the second casing body 18 can be invertedly stood on a flat surface” with the hinge portion 20 oriented upward. *Id.* ¶ 54. In this state, the control portion 12 and the monitor 16 each face outward. *Id.* ¶ 55.

2. *Petitioner’s Contentions with Respect to the Single Axis Limitation*

Petitioner asserts that Lane and Misawa both disclose portable electronic devices with a base and a display coupled by a hinge. Pet. 29.

Petitioner characterizes Lane as disclosing a “double-pivot hinge” and Misawa as disclosing a “single-pivot hinge.” *Id.* Petitioner’s obviousness challenge is premised on the POSA using Misawa’s single-pivot hinge in Lane’s portable computer. *Id.*; *see also, id.* at 31–32. Petitioner explains why the POSA would have been motivated to make this alteration as follows:

Lane discloses a double-pivot hinge 54, whereas Misawa discloses a single-pivot hinge 20. A POSA would have recognized that (a) a single-pivot hinge is less mechanically complex than a dual-pivot hinge, and thus less expensive and likely more reliable over the service life of a portable computer; and (b) a dual-pivot hinge is generally unnecessary except to allow the display component to rotate far enough to fold flat against the bottom of the base to deploy the portable computer in tablet mode. Thus, a POSA would have been motivated and able to adapt the portable computer 10 of Lane to use a single-pivot hinge like the hinge 20 taught in Misawa.

Id. at 29. The position set forth in the Petition is supported by the testimony of Dr. Wolfe, which largely mirrors the rationale set forth in the Petition. *See* Ex. 1004 ¶¶ 113, 114, 131.

3. *Patent Owner’s Arguments*

Patent Owner argues that Petitioner proposes to “modif[y] Lane based on Misawa in a manner that would have obliterated everything Lane teaches is innovative about its computer.” Prelim. Resp. 17. According to Patent Owner, Petitioner’s proposed modification “destroys the basic objectives of Lane’s system”—i.e., to “allow decoupling and reconfiguration of the base and display modules” and to use “two parallel axes of rotation to support 0–360° rotation. *Id.* at 17–18. Patent Owner cites case law supporting that modifications to a primary reference that render it inoperable for its intended

purpose may be non-obvious. *Id.* at 19. Patent Owner also argues that Petitioner's contentions are unsupported, that Petitioner fails to consider Lane's teachings as a whole, and that Petitioner fails to weigh the benefits Lane's novel hinge provides against any benefits a single-axis hinge provides. *Id.* at 20–26.

4. *Analysis*

We agree with Patent Owner that Petitioner has not carried its burden to establish a reasonable likelihood of prevailing in showing that the POSA would have been motivated to use a single-pivot hinge, like that disclosed in Misawa, in Lane's computer.

As discussed above, Petitioner posits that the POSA would have been motivated to replace Lane's hinge with a single axis hinge because a single axis hinge is less expensive and more reliable than Lane's biaxial decouplable hinge. Pet 29; Ex. 1004 ¶¶ 113, 114, 131 (testimony of Dr. Wolfe to the same effect). Patent Owner argues this proffered motivation is supported only by the conclusory testimony of Dr. Wolfe. Prelim. Resp. 21. Patent Owner also argues that neither Petitioner nor Dr. Wolfe attempts to explain or quantify just how much of a benefit using a simpler hinge provides. *Id.* We agree that Dr. Wolfe's testimony on this point is somewhat conclusory. *See, e.g.,* Ex. 1004 ¶¶ 113, 114, 131 (citing only limited supporting evidence). Nonetheless, we give Dr. Wolfe's testimony some weight because it is consistent with the notion that a simpler device with fewer moving parts is likely to be somewhat less expensive and more reliable than a more complicated device. *See* Ex. 1016 ¶ 9 (prior art reference cited by Dr. Wolfe (Misawa), teaching that the mechanism of a hinge having a biaxial structure is "likely to be

complicated”). On the current record, we determine that replacing Lane’s biaxial decouplable hinge with Misawa’s single axial hinge would provide a modest benefit.

Having determined that Petitioner’s proposed modification provides a modest benefit, we now consider whether such modification has any drawbacks. *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (explaining that, in an obviousness inquiry, “[t]he benefits, *both lost and gained*, should be weighed against one another.”) (citing *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n. 8 (Fed. Cir. 2000)).

Here, by Petitioner’s own admission, modifying Lane’s hinge in the manner Petitioner proposes comes at the expense of the hinge’s ability to rotate through a full 360°, which allows Lane’s computer to function as a tablet. Pet. 17 (explaining that Misawa’s single axis hinge “can open beyond the stated 300° (but less than 360°)”), 29 (explaining that a dual-pivot hinge is “unnecessary except to allow the display component to rotate far enough to fold flat against the bottom of the base to deploy the portable computer in tablet mode”); Ex. 1004 ¶¶ 110 (testimony of Dr. Wolfe echoing statement in the Petition that Misawa’s hinge cannot rotate through the full 360°), 114 (testimony of Dr. Wolf explaining that “the use of a dual-pivot hinge would make it easier to design a portable computer having a display that can rotate far enough to fold flat against the bottom of the base to deploy the portable computer in a tablet mode”); Ex. 1017, 3:5–14 (Lane, teaching that allowing 360° of rotation allows a laptop computer to function as a “pen-based computing tablet”).

Modifying Lane’s hinge in the manner Petitioner proposes also comes at the expense of the hinge’s ability to decouple the respective components

of Lane. As discussed *supra* § II.D.1.a, Lane’s hinge is designed to permit mechanical decoupling of components—for example, by allowing a laptop computer monitor to be decoupled from its keyboard. Ex. 1017, 2:26–30. This allows components to be upgraded without having to purchase an entirely new system, allows users to “‘mix and match’ electronic or other devices and components as needed,” and allows the use of a display in multiple formats (e.g., standard laptop format, tablet format, and telecommunications monitor format). *Id.* at 2:30–3:4, 3:9–14. Misawa does not teach that its single-axis hinge is decouplable, and Petitioner does not contend that implementing Misawa’s hinge in Lane’s computer would result in a device with decoupling capability.

Importantly, the computer that Petitioner proposes to modify is not a generic laptop computer, but Lane’s particular computer. Pet. 29 (asserting that “a POSA would have been motivated and able to adapt the portable computer 10 of Lane to use a single-pivot hinge like the hinge 20 taught in Misawa”); *see also id.* at 31–32 (making a similar assertion with slightly different language). The fact that it is Lane’s particular computer that Petitioner proposes to modify emphasizes the drawbacks that the modified device proposed by Petitioner would not be decouplable and would not have a hinge that allows a full 360° of rotation because, as discussed *supra* § II.D.2.a, Lane identifies these features as objects of its invention and criticizes prior art hinges that lack these features. *See e.g.*, Ex. 1017, 2:20–24 (Lane, stating: “neither the Blonder not [the] Kawamoto patent contemplates rotation about two adjacent, parallel axes to permit reconfiguration of components throughout approximately 0–360°”), 3:15–25 (Lane, identifying “reconfigurable modules,” “permitting coupling and decoupling,” and providing “rotation about approximately 0–360°” as

“object[s] of the present invention”). Indeed, Lane’s entire premise is to use a biaxial decouplable hinge in its computer. *See e.g.*, Ex. 1017, code (57) (Lane’s Abstract, describing its invention as “[a] modular, reconfigurable system designed to permit coupling and decoupling of devices or components” and “adapted to rotate about two adjacent parallel axes . . . throughout approximately 0–360 degrees”), 2:26–30 (“The present invention, by contrast [to the prior art], provides a modular, reconfigurable system designed to permit mechanical (and, if necessary, electrical) coupling and decoupling of devices or components of varying types.”), 3:5–9 (“The innovative system also is adapted to rotate about at least two adjacent, parallel axes. Consequently, the present invention permits components to be repositioned about each other throughout approximately 0-360°.”).

In determining whether the POSA would have been motivated to make the change proposed by Petitioner, these drawbacks of making the modification to Lane weigh more heavily than the modest benefit that Misawa’s hinge in Lane’s computer is likely to be a somewhat less expensive and somewhat more reliable hinge. This is particularly true where Petitioner’s proposed modification results in a computer much like the prior art computers Lane criticized, renders Petitioner’s modified computer incapable of fulfilling Lane’s objectives, and, indeed, destroys the entire premise of Lane’s invention. *See Medtronic, Inc. v. Teleflex Innovations SA RL*, 69 F.4th 1341, 1349–50 (Fed. Cir. 2023) (explaining that it would have been “error for the Board to ignore evidence that a proposed modification would interfere with a reference’s stated purpose” and affirming Board finding that challenged patent was non-obvious in part because “the destruction of [a prior art reference’s] ‘entire premise’ ‘counsel[ed] strongly against’ obviousness”); *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068–

69 (Fed. Cir. 2016) (affirming Board’s finding that it would not have been obvious to “substitute the recessed barbs of Samuels ’851 with the protuberances of Todd, since TriVascular’s proposed substitution would destroy the basic objective of the barbs,” explaining that there was “insufficient motivation” to make such a substitution where “Samuels ’851 taught away from substituting only the barbs, since the barbs were the primary objective of the reference”); *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984) (reversing Board finding of obviousness where the premise of the Board’s obviousness finding would turn upside down a prior art strainer that relied upon “gravity to separate undesired dirt and water from gasoline and other light oils,” rendering it “inoperable for its intended purpose”); *Plas-Pak Industries, Inc., v. Sulzer Mixpac AG*, 600 F.App’x 755, 758 (Fed. Cir. 2015) (affirming Board’s finding of obviousness where proposed alteration to prior art would not achieve “backflow prevention” comparable to that disclosed in a prior art reference where that reference was “rife with statements defining ‘the invention’ as adding stop valves to prevent backflow,” explaining that “[s]uch a change in a reference’s ‘principle of operation’ is unlikely to motivate a person of ordinary skill to pursue a combination with that reference”).

Considering the evidence of record as a whole, and balancing the benefits of using Misawa’s single-pivot hinge in Lane’s computer against the drawbacks of such a modification, we find that Petitioner has not carried its burden to establish a reasonable likelihood of prevailing on its assertions. We are unpersuaded, based on Petitioner’s arguments and evidence, that the POSA would have been motivated to use a single-pivot hinge, like that disclosed in Misawa, in Lane’s computer, as proposed in the Petition. As discussed above, we are more persuaded by the argument that

the proposed modification would render Lane's computer unsuitable for its intended purpose. For these reasons, Petitioner is unlikely to prevail in establishing that at least one of the claims challenged in the Petition would have been obvious over the cited prior art. Accordingly, we deny institution of *inter partes* review.

III. CONCLUSION

After considering the evidence and arguments presented, we determine that Petitioner has not established a reasonable likelihood that it will prevail with respect to at least one of the claims challenged in the Petition. We, therefore, deny institution of *inter partes* review.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), no *inter partes* review is instituted for claims 1–10 and 23 of the '688 patent on the unpatentability grounds set forth in the Petition.

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Patent 8,289,688 B2

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