

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

Petitioners

v.

LITL LLC
Patent Owner

Case IPR2024-00481
Patent No. 9,563,229

PETITION FOR *INTER PARTES* REVIEW

(Petition 2)

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c.	[18b] a base;.....	25
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e.	[18d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode;	29
f.	[18e] an interface between the display component and the base defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;	33
g.	[18f] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis up to approximately 180 degrees from a closed mode configures the portable computer into a laptop mode, wherein in the laptop mode the display component is oriented towards an operator and a keyboard disposed within the base is oriented to receive input from the operator;	37

h.	[18g] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis beyond approximately 270 degrees from the closed mode transitions the portable computer for viewing in the frame mode or the easel mode, wherein during operation in the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface, and wherein during operation in the easel mode the display component is oriented facing the operator with the keyboard oriented away from the operator; and.....	39
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LIST OF EXHIBITS

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1001	U.S. Patent No. 9,563,229 (the “’229 Patent”)
1002	Prosecution history of U.S. Application No. 13/651,636, which led to the issuance of the ’229 Patent
1003	Declaration of Andrew Wolfe, Ph.D. in Support of <i>Inter Partes</i> Review of U.S. Patent No. 9,563,229
1004	<i>Curriculum vitae</i> for Andrew Wolfe, Ph.D.
1005	PCT International Patent Application Publication No. WO 95/24007 (“Lane”)
1006	Japanese Patent Application Publication No. 2006-243137 to Fujinawa
1007	Certified English Translation of JP 2006-243137 (“Fujinawa”)
1008	U.S. Patent Application Publication No. US 2005/0122318 (“Tonouchi”)
1009	German Patent Application Publication No. DE10331185A1 to Pröll-Wagenbuechler, et al.
1010	Certified English Translation of DE10331185A1 (“Pröll”)
1011	U.S. Patent No. 6,724,403 (“Santoro”)
1012	“MIT’s \$100 Laptop,” TechPowerUp (Sept. 28, 2005)
1013	“\$100 Laptop Idea Taking Off,” TechTalk (Vol. 50, No. 4, October 5, 2005)
1014	Advertisement in <i>InfoWorld, The Newsweekly for Microcomputer Users</i> , Vol. 4, No. 43 (November 22, 1982)
1015	Advertisement in <i>BYTE</i> (September 1990)
1016	UK Patent Application No. GB2321982A (“Välikangas”)

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1017	Chinese Patent Application No. CN2627170Y to Lin
1018	Certified English Translation of CN2627170Y (“Lin”)
1019	U.S. Patent Application Publication 2006/0034042 (“Hisano”)
1020	U.S. Patent No. 6,154,359 (“Kamikakai”)
1021	U.S. Patent No. 7,768,508 (“Okuley”)
1022	U.S. Patent No. 5,949,408 (“Kang”)
1023	U.S. Patent No. 7,688,306 (“Wehrenberg”)
1024	U.S. Patent No. 2,880,617 (“Cotton”)
1025	U.S. Patent No. 6,851,711 (“Goertzen”)
1026	U.S. Patent No. 7,408,506 (“Miller”)
1027	PCT International Patent Application Publication No. WO 2007/010481 (“Digon”)
1028	U.S. Patent Application Publication No. 2004/0066302 (“Menard”)
1029	U.S. Patent No. 6,230,564 (“Matsunaga”)
1030	U.S. Patent Application Publication No. 2005/0155184 (“Kayl”)
1031	European Patent Application No. EP1640855A2 (“Herberger”)
1032	U.S. Patent No. 5,941,965 (“Moroz”)
1033	U.S. Patent No. 6,407,914 (“Helot”)
1034	U.S. Patent No. 9,429,992 (“Ashenbrenner”)
1035	U.S. Patent No. 7,342,783 (“Park”)

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1036	“Precise Selection Techniques for Multi-Touch Screens,” CHI 2006 Proceedings—Interacting with Large Surfaces, Montreal, Quebec, Canada (April 22-27, 2006)
1037	Appeal Brief Under 37 CFR 41.37 in <i>Ex Parte</i> Reexamination of U.S. Patent No. 8,289,688 (Appl. No. 90/015,035)
1038	Non-Final Office Action dated December 28, 2022 in <i>Ex Parte</i> Reexamination of U.S. Patent No. 8,289,688 (Appl. No. 90/015,035)
1039	Notice of Intent to Issue <i>Ex Parte</i> Reexamination Certificate in <i>Ex Parte</i> Reexamination of U.S. Patent No. 8,624,844 (Appl. No. 90/014,965)
1040	Response to Final Office Action in <i>Ex Parte</i> Reexamination of U.S. Patent No. 8,624,844 (Appl. No. 90/014,965)
1041	Response to Office Action in <i>Ex Parte</i> Reexamination of U.S. Patent No. 8,624,844 (Appl. No. 90/014,965)
1042	Complaint in <i>LiTL LLC v. HP Inc.</i> , (Case No. 1:23-cv-00120)
1043	Complaint in <i>LiTL LLC v. Dell Technologies, Inc. and Dell Inc.</i> (Case No. 1:23-cv-00121)
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1045	The New York Times, “At Velcro Mill, The Ideas Keep Coming” (July 12, 1987) (highlighted)
1046	U.S. District Courts – Federal Court Management Statistics – Comparison Within Circuit (Sept. 30, 2023)
1047	Scheduling Order
1048	“The \$100 laptop moves closer to reality,” CNet News.com, Sept. 28, 2005 (“MIT”)

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1049	U.S. Patent Application Publication No. 2004/0212602 (“Nako”)
1050	Declaration of Daniel C. Callaway

MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

Real Party-in-Interest (37 C.F.R. § 42.8(b)(1))

The real parties-in-interest are petitioners Dell Technologies Inc., Dell Inc., HP Inc., ASUSTeK Computer Inc., and Asus Global Pte. Ltd. (“Petitioners”). No unnamed entity is funding, controlling, or directing this petition or has the opportunity to control or direct this petition or Petitioners’ participation in any resulting *inter partes* review. Petitioners understand based on public information that the ’229 Patent is owned by LiTL LLC (“Patent Owner”).

Related Matters (37 C.F.R. § 42.8(b)(2))

Petitioners are aware of the following pending district court matters involving the ’229 Patent: *LiTL LLC v. Dell Technologies Inc. and Dell Inc.*, Case No. 1:23-cv-00121-RGA (D. Del.); *LiTL LLC v. HP Inc.*, Case No. 1:23-cv-00120-RGA (D. Del.); and *LiTL LLC v. ASUSTek Computer Inc., et al.*, Case No. 1:23-cv-00122-RGA (D. Del.).

Lead and Back-Up Counsel (37 C.F.R. § 42.8(b)(3))

Petitioners appoint James L. Day (Reg. No. 72,681) of Farella Braun + Martel LLP as lead counsel¹ and appoint the following attorneys as back-up

¹ For purposes of this IPR, the Petitioners have designated a lead counsel as a commitment to act as a single entity in the proceeding. Counsel for each party

counsel: Daniel Callaway (Reg. No. 74,267) of Farella Braun + Martel LLP, James H. Heintz (Reg. No. 41,828) of DLA Piper LLP (US), and Raymond K. Chan (Reg. No. 66,164) of Procopio, Cory, Hargreaves & Savitch LLP.

Service Information (37 C.F.R. § 42.8(b)(4))

Service of any documents to lead and back-up counsel can be made via hand-delivery to Farella Braun + Martel LLP, One Bush Street, Suite 900, San Francisco, California, 94104. Petitioners consent to electronic service to the following email addresses: jday@fbm.com, dcallaway@fbm.com, calendar@fbm.com, jim.heintz@us.dlapiper.com, and raymond.chan@procopio.com.

will coordinate and act through the designated lead counsel. This designation is not a representation of an attorney-client relationship.

I. INTRODUCTION

Petitioners respectfully request *inter partes* review of claims 12, 14, and 16-18 (the “challenged claims”) of U.S. Patent No. 9,563,229 (the “’229 Patent”). As explained below and in the supporting declaration of Dr. Andrew Wolfe (EX1003), the challenged claims recite an invention that was obvious in light of the prior art.

The challenged claims are unpatentable as obvious under 35 U.S.C. § 103² based on the following grounds:

Grounds	Claims	Prior Art
1	12, 14, 18	Lane and Fujinawa
2	16, 17	Lane and Tonouchi
3	12, 14, 18	Lane, Fujinawa, MIT, and/or Wehrenberg
4	16, 17	Lane, Tonouchi, MIT, and/or Wehrenberg

Petitioners’ proposed construction of terms, the evidence relied upon, and the bases for unpatentability are provided below. A List of Exhibits identifying the specific evidence relied upon is provided above.

II. GROUNDS FOR STANDING

Petitioners certify that the ’229 Patent is available for IPR. Petitioners are not barred or estopped from requesting this review.

² The pre-AIA version of Sections 102, 103, and 112 apply.

III. THE CHALLENGED PATENT

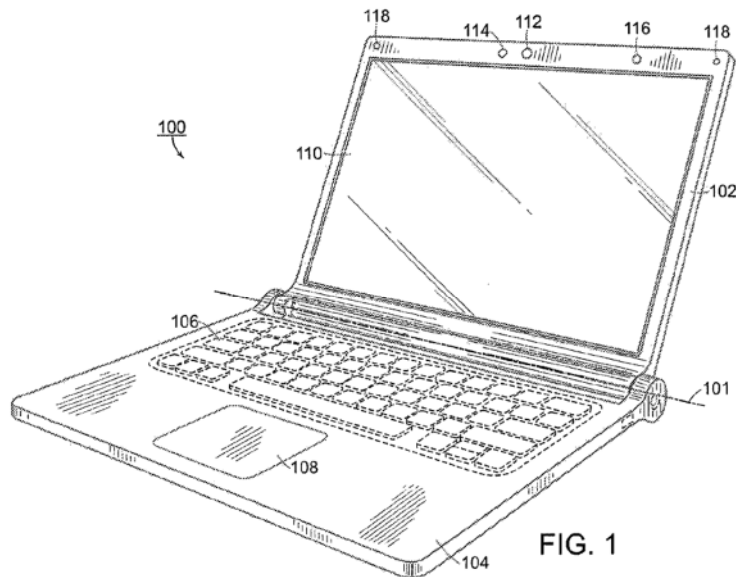
A. Overview of the '229 Patent

The '229 Patent, which issued on February 7, 2017, is entitled “Portable Computer with Multiple Display Configurations.” EX1001, 1. The patent claims priority to two patent applications filed July 10, 2008, and a provisional application filed April 1, 2008.

According to the patent, “[c]onventional portable computers most commonly have a ‘clam-shell’ configuration, with a base including the keyboard, various ports, connectors and/or inputs...and a display component pivotably coupled to the base by a hinge.” EX1001, 1:34-42. The patent describes prior art computers that were “capable of operating either as a normal laptop computer receiving user input via a keyboard (‘laptop mode’), or as a tablet computer receiving user input via a touch screen.” *Id.*, 1:51-55. In such prior art computers, “the display component of the computer is attached to the base of the computer by hinges that allow the display to be tilted relative to the base (for laptop mode), and to be rotated and folded against the base to configure the computer into tablet mode.” *Id.*, 1:55-60.

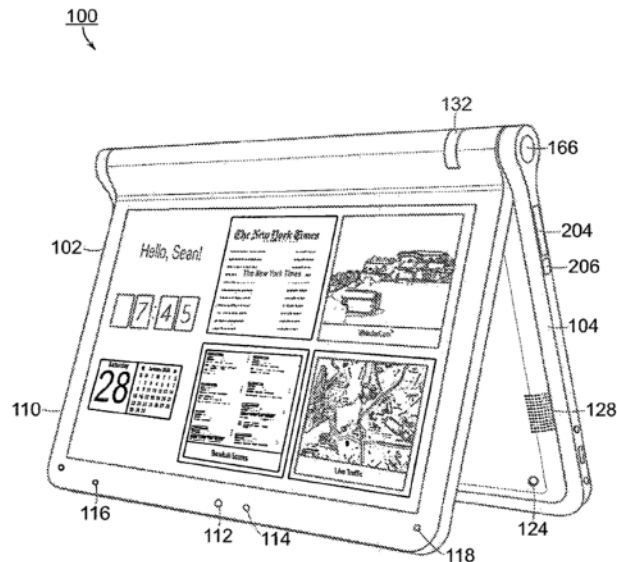
The '229 Patent purports to add to these configurations, describing “a portable computer” that “is configurable between various modes, including a closed mode, a laptop mode, an easel mode, a flat mode and a frame mode.” EX1001, 2:34-37. Figure 1 shows the portable computer of the patent in laptop

mode. *Id.*, 6:49-52.



'229 Patent, Figure 1 (Laptop Mode)

Figures 4 shows the portable computer in easel mode. EX1001, 8:5-6; see also *id.*, Figs. 5 and 6A-6C (depicting easel mode).



'229 Patent, Figure 4 (Easel Mode)

In easel mode, “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 fac[ing one] another....” *Id.*, 8:6-15.

Figure 26 shows the portable computer of the ’229 Patent in frame mode.
EX1001 at 16:44-49.

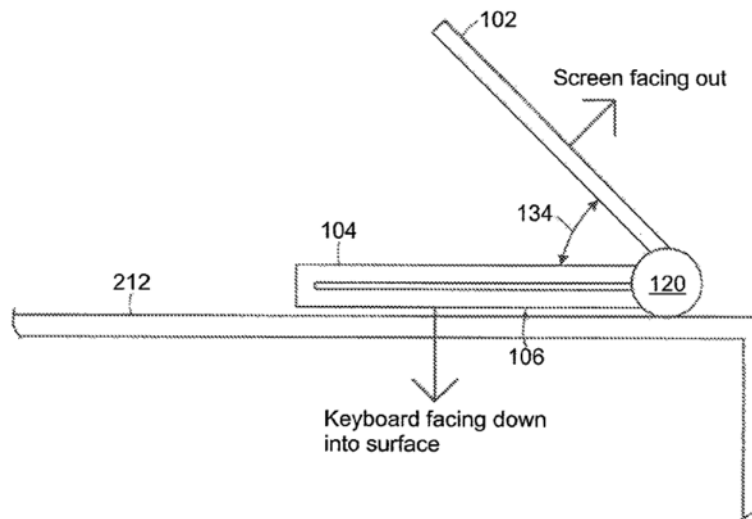


FIG. 26

’229 Patent, Figure 26 (Frame Mode)

In frame mode, display component 102 and base 104 are separated by a similar angle 134 as in the easel mode, but “the portable computer is placed on a surface 212 with the keyboard 106 ‘face down’ on the surface 212 and the display 110 facing upward,” rather than being placed in the inverted V of the easel mode. *Id.*, 16:44-57.

Figure 27 shows the portable computer of the ’229 Patent in flat mode.

EX1001, 16:62-64.

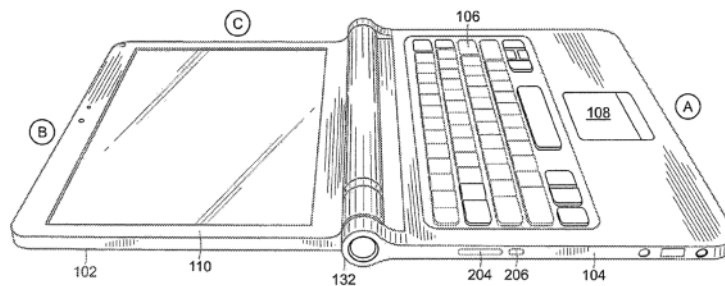


FIG. 27

'229 Patent, Figure 27 (Flat Mode)

In flat mode, display component 102 and base 104 are “rotated (or opened) to approximately 180 degrees with respect to” one another “such that the base component and display component lay flat on a surface, with the keyboard 106 and display screen 110 exposed.” *Id.*, 16:64-17:2.

The '229 Patent describes rotating content on display screen 110, in some display modes, “such that the information appears ‘right-way-up,’ even though the display screen is upside-down compared to when the portable computer is in the laptop mode.” EX1001, 8:31-36. And in some modes, the computer can be configured to permit a user to rotate displayed information by 90 or 180 degrees. *Id.*, 17:12-28.

The '229 Patent discloses an orientation sensor in the display or base. EX1001, 8:41-59. The orientation sensor can include an accelerometer whose output may trigger inversion of the display. *Id.*, 8:56-59. The patent admits that

such accelerometers were known in the art and that it was conventional in the prior art to use the output of such a sensor “to switch the display between portrait or landscape mode.” *Id.*, 8:60-63, 9:3-7.

B. Prosecution History

The '229 Patent issued from Patent Application No. 13/651,636, filed on October 15, 2012. EX1002, 1-68.

Four Office Actions were issued rejecting the application claims. Each relied on U.S. Patent Application Publication No. 2005/0134717 (“Misawa”) as a primary reference combined with various secondary references. EX1002, 604-612, 681-698, 818-835, 886-906.

The applicant responded to the rejections with a number of amendments. For instance, the applicant amended the application claims to require that the portable computer “disable the keyboard” when in the frame mode. EX1002, 718, 720-722. The applicant amended the claims to require that the portable laptop can be configured in both “frame mode” and “easel mode” in addition to “laptop mode.” *Id.*, 852-853, 856-858. The amended claims also required an “accelerometer” that generates “orientation information” indicative of the current display mode. *Id.*, 852-858. The applicant argued that the amendments distinguished the cited prior art. *Id.*, 642-655, 717-730, 851-879.

On September 12, 2016, responding to the most recent rejection, the

applicant amended independent application claim 1 further to include “a display manager configured to display computer content on the display component and vary the computer content displayed responsive to detecting a transition between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode....” EX1002, 934; *see also id.*, 937, 939-940 (similarly amending the other independent claims). The applicant argued that “[n]one of the cited references disclose enlarging content responsive to a transition between two modes of operation.” *Id.*, 945.

In the same response, the applicant argued that, while a newly cited reference disclosed an accelerometer to “detect portrait and landscape modes where the screen is rotated 90 degrees,” it did not use the accelerometer to “generate orientation information indicative of a current display mode” including laptop mode, frame mode, and easel mode as claimed. EX1002, 943.

On September 30, 2016, the examiner issued a Notice of Allowance along with several examiner’s amendments. EX1002, 953-965. The reasons for allowance explained that the prior art did not disclose (1) “an accelerometer configured to generate orientation information indicative of” the current display mode and (2) the “display manager” limitation regarding enlarging content that the applicant added in the most recent amendment. EX1002, 968.

As explained below, the combination of Lane and Fujinawa or Lane and Tonouchi discloses both limitations that the examiner mistakenly concluded were missing from the prior art.³

C. Patent Claims

The '229 Patent contains 25 claims, including 4 independent claims (i.e., claims 1, 12, 16, and 18). Claim 18 reads as follows:

18. A portable computer configurable between a plurality of display modes including at least a laptop mode, a frame mode, and an easel mode, the portable computer comprising:

- a display component;
- a base;
- an accelerometer configured to generate orientation information indicative of a current mode of operation;
- a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition

³ As discussed further in Section VII.A below, the applicant disclosed Lane in an Information Disclosure Statement (IDS) only *after* the examiner issued the Notice of Allowability in September 2016. EX1002, 1002. Thus, Lane was not before the examiner when he allowed the claims and stated Reasons for Allowance, and he never discussed or based any rejection on Lane.

between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode;

an interface between the display component and the base defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;

wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis up to approximately 180 degrees from a closed mode configures the portable computer into a laptop mode, wherein in the laptop mode the display component is oriented towards an operator and a keyboard disposed within the base is oriented to receive input from the operator;

wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis beyond approximately 270 degrees from the closed mode transitions the portable computer for viewing in the frame mode or the easel mode, wherein during operation in the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface, and wherein during operation in the easel mode the display component is oriented facing the operator with the keyboard oriented away from the operator; and

wherein the portable computer is configured to detect a transition to at least one of the easel mode and the frame mode based on the orientation information, automatically determine a display orientation of content, and disable the keyboard in response to detecting the portable computer is in the frame mode.

Independent claim 12 recites a similar “portable computer configurable between a plurality of operating display modes.” See EX1003, ¶98 (comparing language of claims 18 and 12). Independent claim 16 recites a “method of managing user interaction with content displayed on a portable computer having a plurality of display modes.” The claim language is provided in the attached Claim Appendix.

D. Person of Ordinary Skill in the Art

A person of ordinary skill in the art (“POSITA”) would have had (i) 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, or (ii) 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 field. EX1003, ¶102. A POSITA 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. *Id.*

IV. CONSTRUCTION OF TERMS IN THE CHALLENGED CLAIMS

The claims of the '229 Patent should be construed under the *Phillips* standard. 37 C.F.R. § 42.100(b); *see generally Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The Board, however, need only construe claims when necessary to resolve the underlying controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed Cir. 2017). Aside from the following terms, Petitioners believe that no express constructions are necessary to determine that the asserted prior art discloses the limitations of the challenged claims.⁴

A. “accelerometer” (claims 12, 16, and 18)

Claims 12 and 18 recite a portable computer including an “accelerometer configured to generate orientation information indicative of a current display mode” (claim 12) or “mode of operation” (claim 18). EX1001, 19:16-17, 21:3-4. Claim 16 recites a method of managing user interaction with content displayed on a portable computer including the step of “generating, by an accelerometer, orientation information indicative of an orientation of the device.” *Id.*, 20:39-40.

⁴ Petitioners reserve the right to present other claim construction arguments in the related district court litigations as relevant and necessary in those proceedings.

A POSITA would recognize that, as used in the challenged claims, an “accelerometer” is a device that identifies the direction of acceleration, in particular the accelerative force of gravity. EX1003, ¶111. By identifying the direction of gravity (i.e., which direction is down), the claimed accelerometer can generate “orientation information” indicating the configuration of the portable computer as recited in the claims. *Id.*

The patent describes an “orientation sensor” including an “accelerometer” that triggers a display inversion when the display screen is turned over (e.g., when reorientated from laptop mode to easel mode). EX1001, 8:31-59. The accelerometer “is not used to detect motion of the overall computer, but rather to detect a configuration of the portable computer 100 (e.g., laptop mode or easel mode), particularly, to detect an orientation of the display component 102 relative to the base component 104.” *Id.*, 8:63-9:3. The accelerometer can also indicate whether to “switch the display between portrait or landscape mode....” *Id.*, 9:3-7. Thus, the accelerometer of the ’229 Patent is used to determine the direction of gravity so that the display screen can present content “right-way-up” even as the screen is rotated by 90 or 180 degrees. EX1003, ¶¶112-113; *see also* EX1037, 25.

B. “means for rotating the display component relative to the base” (claim 14)

This term should be interpreted under Section 112 ¶6 because it recites a function without identifying any particular structure for performing it. 35 U.S.C.

§ 112(6); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015).

It should be construed as follows:

- Function: Rotating the display component relative to the base.
- Structure: A hinge assembly.

EX1001, Abstract, 2:65-3:3, 3:9-19, 4:6-13, 6:55-63, 9:46-57, 10:24-33, 10:53-65, 11:3-18; EX1003, ¶¶121-123.

V. PRIOR ART REFERENCES

The '229 Patent issued from an application filed October 5, 2012, claiming priority to two applications filed July 10, 2008, and to a provisional application filed April 1, 2008.

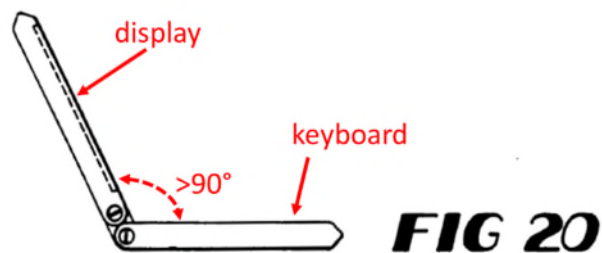
A. Lane (EX1005)

Lane is a PCT international patent application published on September 8, 1995. Lane constitutes prior art under at least 35 U.S.C. § 102(a) and (b).

Lane discloses a portable computer having a first module 14 (i.e., base) and a second module 18 (i.e., display) that are rotatable relative to each other by up to 360 degrees to transition the computer into various modes, including each of the display modes specifically recited in the claims of the '229 Patent: laptop mode, frame mode, and easel mode. EX1005, 3:5-14, 10:24-31, Figs. 20, 25, 28.

Figure 20 illustrates Lane's computer positioned so that "second module 18 is rotated more than 90° to provide a standard 'desktop' orientation." EX1005,

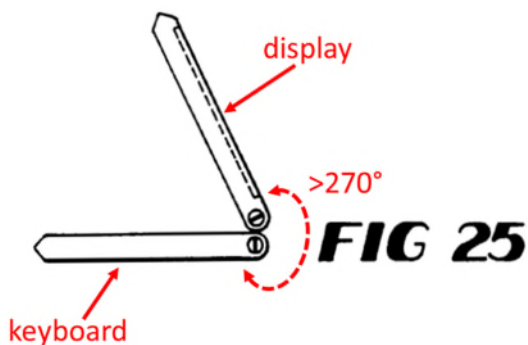
10:24-28.



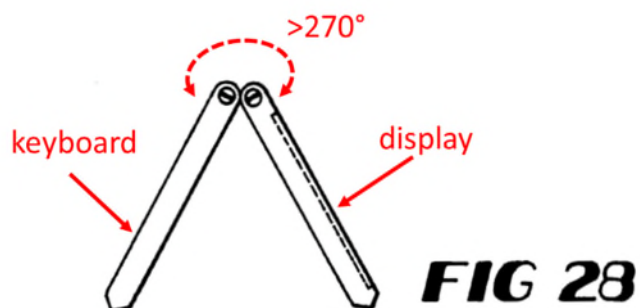
Lane, Fig. 20 (annotated)

See also *id.*, 5:4-6, 5:15-18, Fig. 1 (illustrating Lane’s computer in laptop mode).

Figures 25 and 28 show Lane’s computer oriented with second module 18 (display) “rotated more than 270°, when only the visual display 35 need be accessible.” EX1005, 10:28-31.



Lane, Fig. 25 (annotated)



Lane, Fig. 28 (annotated)

Thus, Lane’s Figure 25 illustrates the frame mode of the ’229 Patent. See EX1001, 16:44-57, Fig. 26. And Lane’s Figure 28 illustrates the easel mode. See EX1001, 8:5-18, Fig. 4.

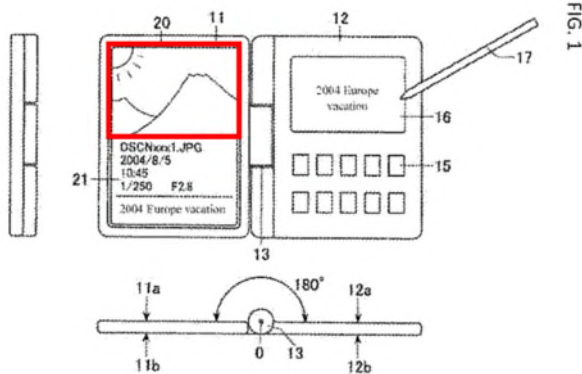
Lane’s computer also includes software for automatically reorienting displayed content based on an indication of the spatial orientation of the first module 14 and/or second module 18 provided by a “position-indicating mechanism

38” (EX1005, 5:23-6:6) that a POSITA would recognize as a type of accelerometer. EX1003, ¶130. Further, Lane describes rendering the keyboard “inoperable when unused” (EX1005, 6:6), such as in the easel and frame modes. *Id.*, 10:29-31 and Figs. 25, 28 (describing and showing how Lane’s keyboard is unused in the frame and easel modes).

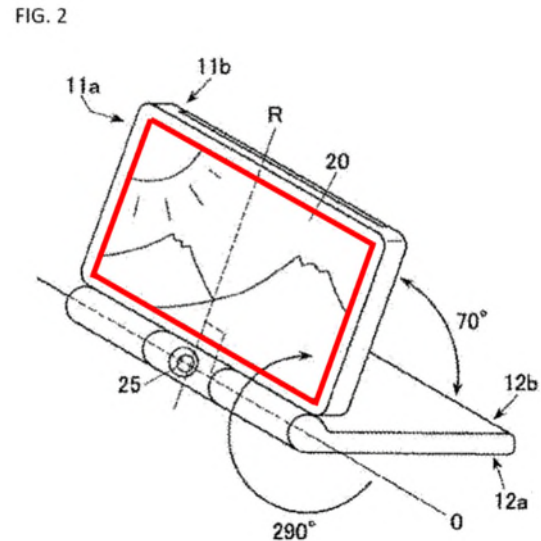
B. Fujinawa (EX1007)

Fujinawa is an English translation of a Japanese Patent Application published on September 14, 2006. Fujinawa constitutes prior art under at least 35 U.S.C. § 102(a) and (b).

Fujinawa discloses a digital photo stand that enlarges a photograph from a smaller, window-view to a larger, full-screen view when the photo stand is transitioned from a book mode to a frame mode. As shown in Fujinawa’s Figure 1, the photo stand includes “a display part 11 having a liquid crystal display element 20 and an operating part (base part) 12 having operation keys 15 and stylus inputting member 16 integrated by a hinge 13.” EX1007, ¶[0007]. In book mode (illustrated in Figure 1), “the liquid crystal display element 20 is viewed in portrait view.” *Id.*, ¶[0010]. The digital photo is presented on the upper portion of liquid crystal display element 20 and information about the photo (e.g., file name, date the picture was taken, etc.) is presented below the photo and can be edited using operation keys 15 or stylus inputting means 16. *Id.*, ¶¶[0010]-[0011].



Fujinawa, Fig. 1 (annotated)



Fujinawa, Fig. 2 (annotated)

When configured in “frame mode” (illustrated in Figure 2), with operating keys 15 and stylus inputting member 16 inaccessible to the user, the photo information is omitted and the digital photograph “is displayed in full size as landscape view, filling the liquid crystal display element 20 screen so the user can observe the display image from a position away from the photo stand.” *Id.*, ¶[0039]; *see also id.*, ¶¶[0012]-[0014].

C. Tonouchi (EX1008)

Tonouchi is a U.S. Patent Application published June 9, 2005. Tonouchi constitutes prior art under at least 35 U.S.C. § 102(a), (b), and (e).

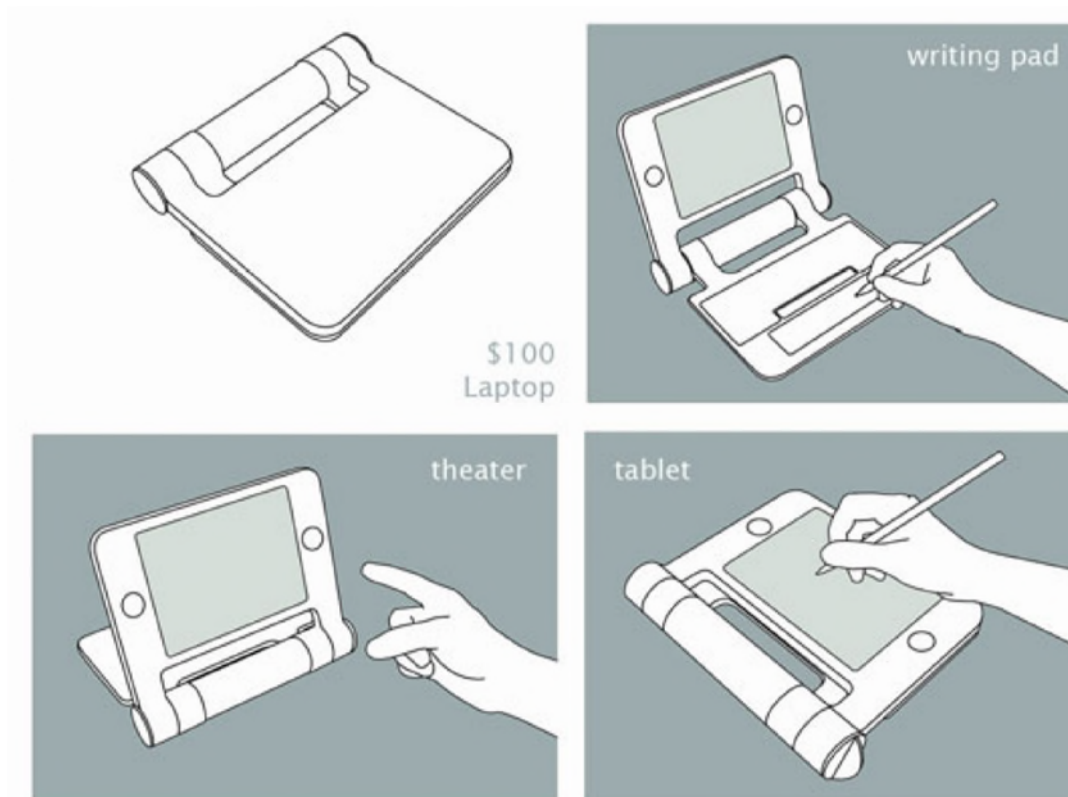
Tonouchi teaches enlarging displayed components (*e.g.*, mouse cursor, button, menu, scroll bar) when transitioning from a normal laptop or notebook mode, where input is performed by a keyboard 106 and touch-pad 108, to a tablet mode, where the keyboard is inaccessible and “input is mainly performed by a pen

on the [touch screen].” EX1008, ¶[0031]; *see also id.*, ¶[0027], ¶¶[0030]-[0031], Figs. 2A-2B, 4A-4D. A POSITA would have understood that these displayed components are enlarged in tablet mode to improve the user experience, i.e., to facilitate a user selecting displayed components with a stylus pen or finger. EX1003, ¶136.

D. MIT (EX1048)

In 2005, MIT’s Media Lab introduced a configurable computer designed for children that could function as “both an electronic book and a laptop.” EX1012, 4; *see also* EX1013, 2; EX1048, 1. MIT was published no later than October 19, 2005. EX1048, 1 (stating publication date as September 28, 2005); EX1050 ¶9 (establishing that Internet Archive’s Wayback Machine captured the content of EX1048 no later than October 19, 2005); *see also* EX1012; EX1013, 2. The Wayback Machine is sufficient evidence of publication and authentication. *Valve Corp. v. Ironburg Inventions Ltd.*, 8 F.4th 1364, 1374 (Fed. Cir. 2021). MIT constitutes prior art under at least 35 U.S.C. § 102(a) and (b).

MIT discloses a laptop computer with a single-axle hinge allowing approximately 360-degree rotation from a closed mode to a tablet mode as well as modes between these two extremes, such as laptop mode and frame mode (referred to by MIT as “theater” mode), among others, as shown in the images below:



EX1048, 7; *see also* EX1012, 1-2; EX1013, 2.

E. Wehrenberg (EX1023)

Wehrenberg is a U.S. Patent filed November 12, 2004, and issued March 30, 2010. It is entitled “Methods and Apparatuses for Operating a Portable Device Based on an Accelerometer.” Wehrenberg constitutes prior art under at least 35 U.S.C. § 102(e).

VI. GROUNDS OF UNPATENTABILITY

The challenged claims of the '229 Patent are unpatentable for at least the reasons presented below.

A. Ground 1: Lane and Fujinawa Render Claims 12, 14, and 18 Obvious

As discussed in detail below, Lane describes a portable computer that meets nearly all the limitations of the Ground 1 challenged claims (i.e., claims 12, 14, and 18). While Lane discloses varying content when transitioning the computer from laptop mode to easel mode as recited in the challenged claims, Lane does not disclose enlarging content. But Fujinawa teaches both varying and enlarging content (e.g., a digital photo) when transitioning the device orientation. Because a POSITA would have been motivated to implement Fujinawa’s teachings in Lane’s portable computer, and could have done so without undue effort, the Lane-Fujinawa combination renders the Ground 1 challenged claims obvious.

1. Motivation to Combine

It would have been natural for a POSITA to consider Lane and Fujinawa because, like the ’229 Patent, both references are directed to portable computing devices. EX1001, Abstract; EX1005, 1:3-6, Fig. 1; EX1007, ¶[0001]. Indeed, just like the ’229 Patent, both relate to portable computing devices configurable into multiple display modes. EX1001, 2:6-24, Figs. 1, 4, 5, 26, 27; EX1005, 5:2-6, 7:30-8:23, Figs. 1, 2, 5-9, 19-28; EX1007, ¶¶[0005], [0007], Figs. 1-2; EX1003, ¶146.

A POSITA would have been motivated to implement Lane’s computer such that it would enlarge a photo to full-screen view, as taught by Fujinawa, when

transitioning from the computer's laptop mode to its frame or easel mode to provide a better and more comfortable viewing experience. EX1003, ¶147. Lane's display is well-suited for passive viewing in the easel and frame modes because, just as in Fujinawa's frame mode, Lane's display is positioned at the front of Lane's computer at a slightly reclined angle. *Id.*

Further, just like Fujinawa's keyboard when in frame mode, a user cannot easily utilize Lane's keyboard to input or edit photo information in Lane's easel or frame modes because the keyboard faces away from the user or toward the desktop. EX1003, ¶148. In these modes, there would be little need to display editable information about the photo because the user would not have ready access to the keyboard to edit it. *Id.*

The most likely reason a user would transition away from the keyboard-accessible laptop mode to the keyboard-inaccessible modes would be to passively observe a photo from a comfortable viewing distance. EX1003, ¶149. It would be easier to observe an enlarged, full-screen photo from this passive viewing distance, as recognized and taught by Fujinawa. *Id.* A POSITA would have recognized this benefit of enlarging the photo for passive viewing from a greater distance. *Id.*; EX1031, ¶[0039].

Further, a POSITA could have implemented Fujinawa's teachings in Lane's computer with a reasonable expectation of success and without undue

experimentation. EX1003, ¶150. It would have been well within a POSITA’s ability to modify the software of Lane’s computer to change a digital photo display from a partial-screen, window-view to an enlarged, full-screen view (as taught by Fujinawa) in response to a change in orientation of Lane’s portable computer. *Id.* Indeed, the only discussion of enlarging content in the ’229 Patent specification (EX1001, 14:47-53) provides no implementation detail, confirming that it would have been within a POSITA’s skill to implement such functionality.

2. Independent Claim 18

- a. **[18pre] A portable computer configurable between a plurality of display modes including at least a laptop mode, a frame mode, and an easel mode, the portable computer comprising:**

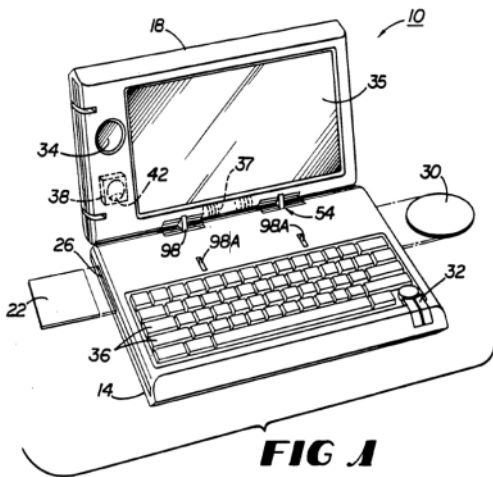
To the extent the preamble is limiting, Lane discloses it. EX1003, ¶¶153-161. Lane explicitly discloses a *portable computer*.⁵ Indeed, Lane particularly relates to “reconfigurable portable computers” (EX1005, 1:3-6), and Lane’s “device 10” is a “portable computer” (*id.*, 5:3-6).

Further, Lane’s *portable computer* is *configurable between a plurality of display modes*. EX1003, ¶155. Lane’s computer “permits components to be repositioned about each other throughout approximately 0-360°, allowing use of

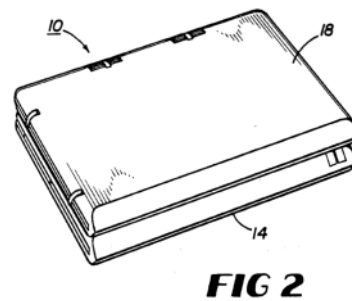
⁵ For ease of review, claim language is presented in italics throughout the analysis of the claims.

the visual display not only in a standard laptop computer format but also in formats facilitating use of the display as, for example, a television or telecommunications monitor or a pen-based computing tablet.” EX1005, 3:7-14; *see also id.*, Abstract, 3:22-25, 10:10-12.

For instance, Figure 1 shows “a nominally ‘open’ position permitting access both to visual display 35 and keys 36,” while Figure 2 shows “a nominally ‘closed’ position.” EX1005, 5:15-18.

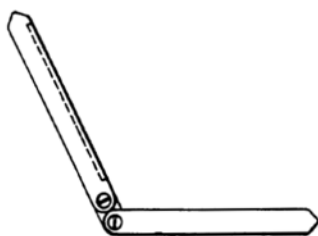


Lane, Fig. 1

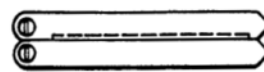


Lane, Fig. 2

Lane’s “open” and “closed” configurations are also illustrated in Figures 20 and 19, respectively.



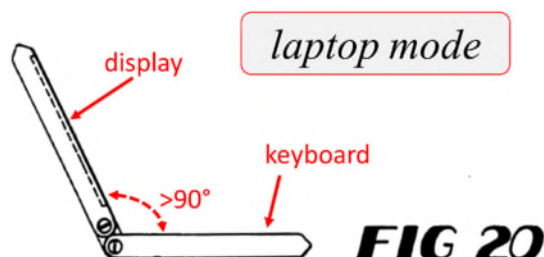
Lane, Fig. 20



Lane, Fig. 19

In Figure 20, “second module 18 is rotated more than 90° to provide a standard ‘desktop’ orientation” (EX1005, 10:24-28), while “[i]n the nominally closed position of FIG. 19, second module 18 is unrotated relative to first module 14, protecting visual display 35 of second module 18 from damage by securing it within the interior of device 10” (*id.*, 10:12-17).⁶

Lane’s *plurality of display modes* includes *a laptop mode, a frame mode, and an easel mode*. Figures 1 and 20 illustrate a configuration corresponding to the ’229 Patent’s *laptop mode* because the portable computer is in “a standard ‘desktop’ orientation” where the display and keyboard are accessible to the user. Compare EX1005, 10:24-28, Figs. 1, 20 with EX1001, 6:49-52, Fig. 1.



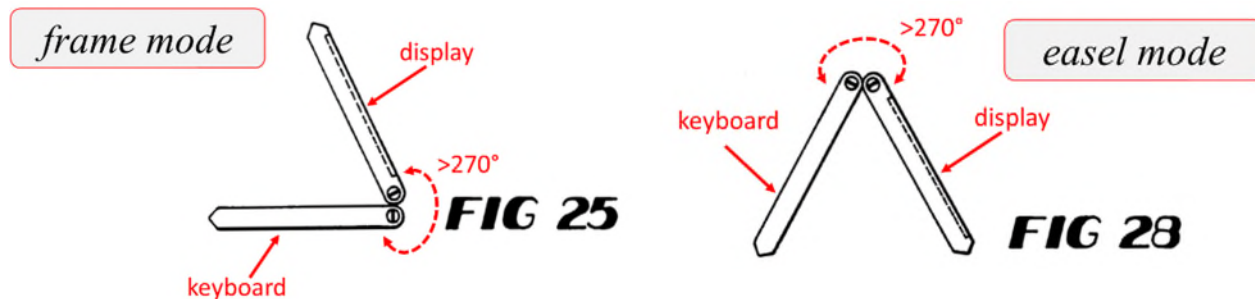
Lane, Fig. 20 (annotated)

As a POSITA would recognize, Lane’s Figure 20 discloses *a laptop mode*.

⁶ Lane’s description confirms the dotted line in Figures 19 and 20 (and in Figures 21-28 showing additional configurations) indicates the location of visual display 35. EX1003, ¶157.

EX1003, ¶158.

A POSITA would also recognize Lane discloses *a frame mode, and an easel mode*. EX1003, ¶¶159-161. Lane’s Figure 25 illustrates a configuration corresponding to the ’229 Patent’s *frame mode*. Compare EX1005, 10:28-31, Fig. 25 with EX1001, 16:44-57, Fig. 26. And Figure 28 illustrates a configuration corresponding to the claimed *easel mode*. Compare EX1005, 10:28-31, Fig. 28 with EX1001, 8:5-18, Fig. 4.



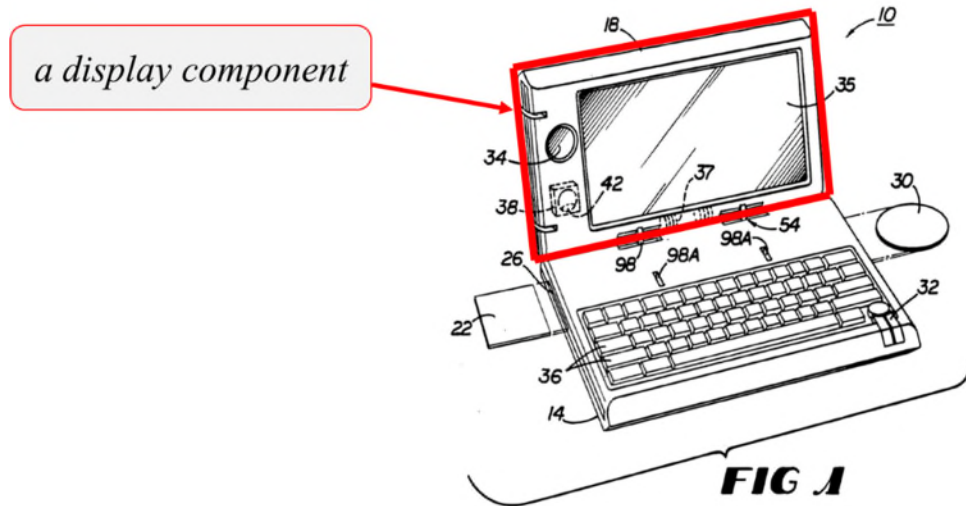
Lane, Fig. 25 (annotated)

Lane, Fig. 28 (annotated)

In Lane’s Figures 25 and 28, second module 18 (display) “is rotated more than 270°, when only the visual display 35 need be accessible.” EX1005, 10:28-31.

b. [18a] a display component;

Lane discloses *a display component*. EX1003, ¶¶162-164. Lane’s *portable computer* includes “first module 14 (e.g. a keyboard) and second module 18 (e.g., a display).” EX1005, 5:4-6. Second module 18 (which Lane also calls second module 218) corresponds to the claimed *display component*. EX1003, ¶163.

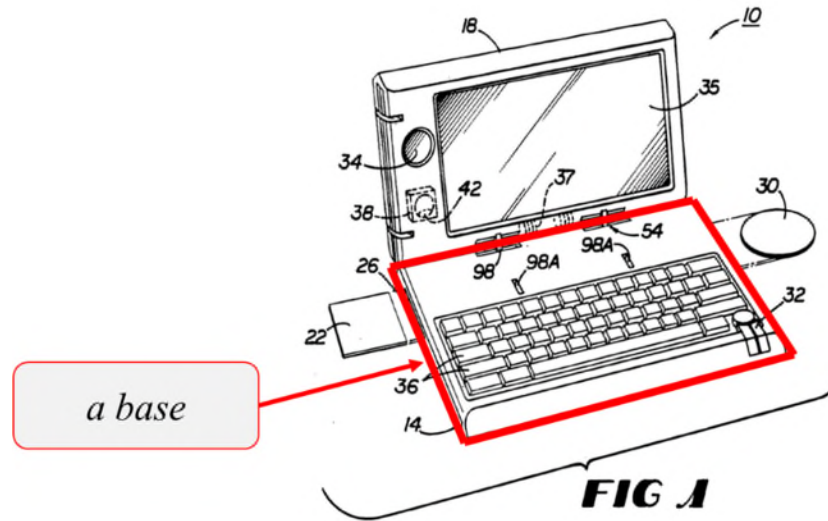


Lane, Figure 1 (annotated)

A POSITA would recognize from Lane, including Figure 1, that second module 18 is a *display component* of the *portable computer*. EX1003, ¶164. Lane explains that second module 18 includes a display (i.e., “visual display 35”). EX1005, 5:4-15. The display operates like a standard laptop display screen (e.g., Lane’s portable computer can have an electronic mouse or other pointer to move a cursor about visual display 35). *Id.*, 5:10-15; *see also id.*, 5:37-6:1 (“information...appear[s] on visual display 35”).

c. [18b] a base;

Lane discloses a *portable computer* with a *base*. EX1003, ¶¶165-167. Lane’s first module 14 (which Lane also calls first module 214) corresponds to the claimed *base*. EX1005, 5:4-6; EX1003, ¶166.

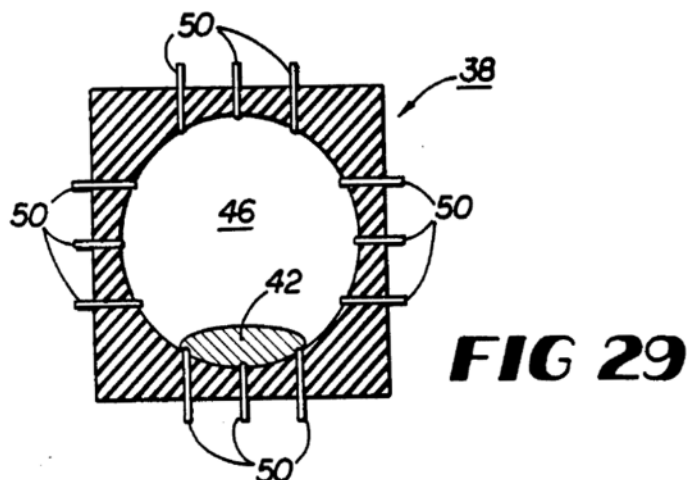


Lane, Figure 1 (annotated)

A POSITA would recognize from Lane, including Figure 1, that first module 14 provides a base for Lane’s portable computer in most configurations (i.e., it is commonly placed on the horizontal surface or desktop). EX1003, ¶167. Additionally, claim 18—in a later limitation—refers to *a keyboard disposed within the base*, and Lane’s first module 14 includes a plurality of “keys 36” that make up a keyboard. EX1005, 5:15-17, 6:5-6, 8:22-23, Figs. 1, 15, 17, 18.

d. [18c] an accelerometer configured to generate orientation information indicative of a current mode of operation;

Lane discloses this limitation. EX1003, ¶¶168-182. Lane’s computer includes “position-indicating mechanism 38.” EX1005, 5:23-25, Fig. 29. “Mechanism 38 includes a moveable conductor 42 (such as liquid mercury) in a spherical cavity 46 having contacts 50 spaced about its periphery.” EX1005, 5:23-27.



Lane, Fig. 29

Moveable conductor 42 “responds via gravitational forces to spatial reorientation of mechanism 38 by moving relative to contacts 50 (to contact at least one contact 50 to close its respective circuit).” *Id.*, 5:28-31.

A POSITA would recognize position-indicating mechanism 38 as a mercury orientation switch, used in Lane’s portable computer as an *accelerometer* to measure the direction of gravity. EX1003, ¶¶170-175; EX1027, 6:10-12 (referring to “an accelerometer (e.g. ...mercury switch)”); EX1026, 3:14-16 (“accelerometer 114 may be in the form of a motion-triggered switch (i.e., a mercury switch...)”); EX1028 ¶[0030] (“Other accelerometers are also contemplated, including...a mercury switch....”); EX1029, 1:15-19 (“In another example of the conventional acceleration sensor, a mercury switch is employed....”); EX1024, 1:34-36 (referring to an “accelerometer, such as a mercury switch”). Additionally, Lane’s position-indicating mechanism 38 constitutes an *accelerometer* because it is a

device that identifies the direction of acceleration, in particular the accelerative force of gravity. EX1005, 5:25-35; EX1003, ¶176; *see also* Section IV.A, above (construction of *accelerometer*).

Further, Lane’s *accelerometer* (position-indicating mechanism 38) is *configured to generate orientation information indicative of a current mode of operation*. EX1003, ¶177.⁷ As Lane explains:

Including mechanism 38 as a component of either first or second modules 14 or 18 would thus permit it to indicate the spatial orientation of that module. Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in determining, for example, whether the information to appear on visual display 35 should be in ‘landscape’ or ‘portrait’ position as the visual display 35 is spatially configured, the direction in which to move a cursor of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

EX1005, 5:32-6:6. Thus, Lane explicitly states that mechanism 38 (*accelerometer*) is used “to ***indicate the spatial orientation*** of” the display component (second module 18) and/or the base (first module 14). *Id.*, 5:32-34 (emphasis added). And

⁷ Claim 18 refers to a “mode of operation” in this limitation rather than a “display mode” as in other parts of the same and other claims. These terms are interchangeable. EX1003, ¶¶180-182.

Lane refers to this component as “***position-indicating*** mechanism 38.” *Id.*, 5:24-25 (emphasis added).

For example, Lane’s computer can include an *accelerometer* (position-indicating mechanism 38) in the base—as taught by Lane—which would allow the computer and its associated software to render the keyboard inoperable when unused—as also taught by Lane. EX1003, ¶178; EX1005, 5:35-6:6. Such an *accelerometer* located in the base would provide *orientation information indicative of a current mode of operation* because it would provide unique orientation information in each of the three claimed modes (i.e., laptop, frame, and easel). EX1003, ¶179. In laptop mode, the *accelerometer* would *generate orientation information* indicating that the keyboard is horizontal and facing up (i.e., *orientation information indicative of laptop mode*). *Id.* In frame mode, the *orientation information* would indicate that the keyboard is horizontal and facing down (i.e., *orientation information indicative of frame mode*). *Id.* In easel mode, the *orientation information* would indicate that the keyboard is facing upward but at a diagonal angle (i.e., *orientation information indicative of easel mode*). *Id.*

- e. **[18d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display**

component responsive to a transition from the laptop mode to the easel mode;

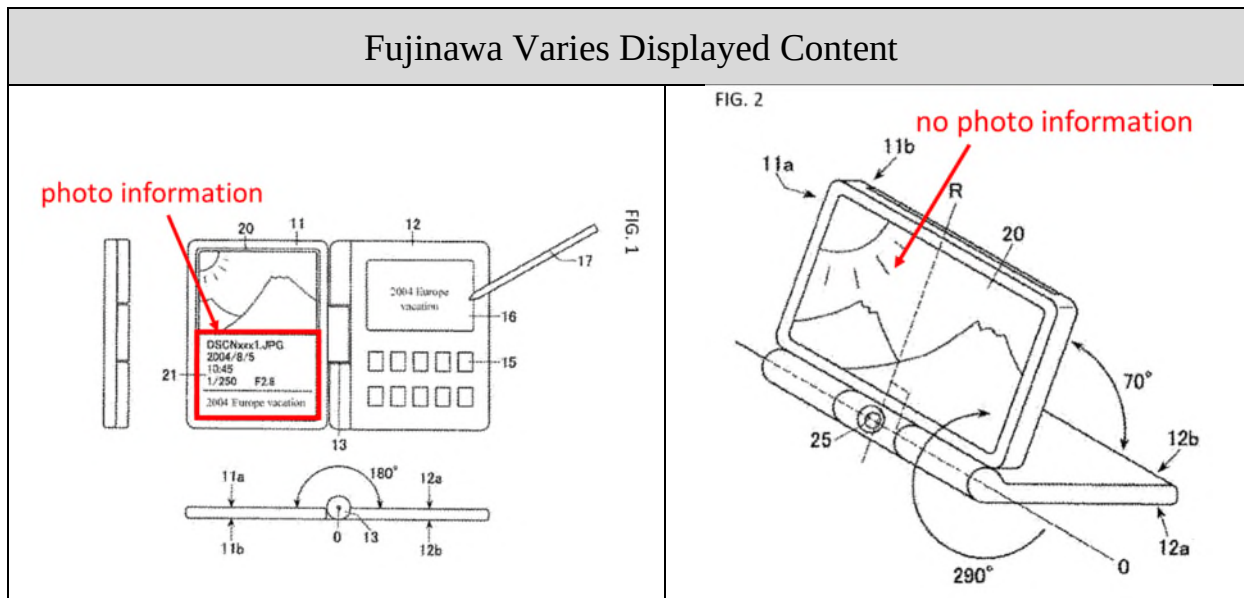
Lane combined with Fujinawa discloses this limitation. EX1003, ¶¶183-189.

Lane discloses a computer with a “visual display 35 provided by second module 18” (*the display component*). EX1005, 5:10-15, Fig. 1. Lane also discloses that “device 10 (and its associated software)” determines the proper orientation to display content and for moving the cursor on the visual display. EX1005, 5:35-6:6. Thus, Lane discloses *a display manager configured to display computer content on the display component*. EX1003, ¶184.

Lane also discloses *vary[ing] the computer content displayed responsive to the orientation information indicating a transition between at least the laptop and easel modes*. EX1003, ¶185. Lane discloses using information provided by position-indicating mechanism 38 (*accelerometer*) to determine the orientation of the display screen content and the direction to move the cursor. EX1005, 5:32-6:6. When Lane’s portable computer is transitioned from laptop to easel modes, it would use the *orientation information* to invert the displayed content and the location and direction of the cursor. EX1003, ¶185.

Fujinawa also discloses *vary[ing] the computer content displayed responsive to the orientation information indicating a transition between display modes*. EX1003, ¶186. For instance, Fujinawa’s Figure 1 illustrates a display including

both a digital photo and information about the photo. EX1007, ¶¶[0007]-[0011], Fig. 1. Fujinawa refers to this as “book mode.” Fujinawa then shows the device reconfigured so that the digital photo alone is displayed on the screen. *Id.*, ¶¶[0012]-[0014], Fig. 2. Fujinawa refers to this as “frame mode.”



Fujinawa, Fig. 1 (annotated)

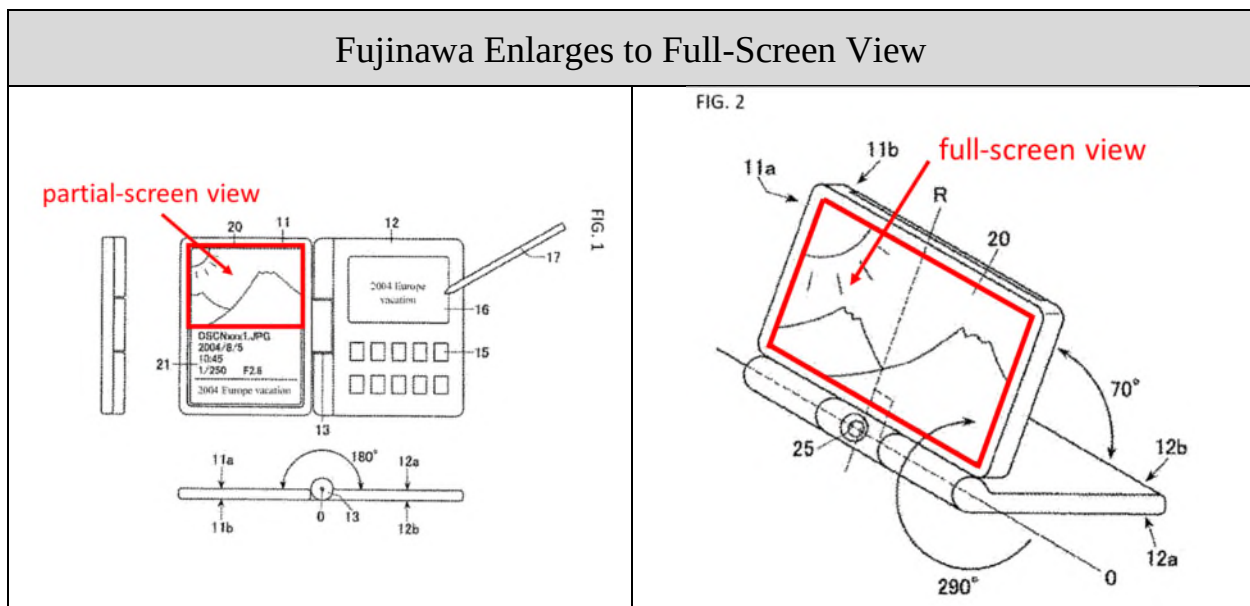
Fujinawa, Fig. 2 (annotated)

Fujinawa’s content is varied because both the photo and information about the photo is displayed when in book mode (Figure 1), but only the photo is displayed when in frame mode (Figure 2). EX1003, ¶186.

It would have been obvious to a POSITA to vary the display content, as taught by Fujinawa, on Lane’s computer display. EX1003, ¶187. A POSITA would recognize that when a digital photo is shown in a partial-screen view and the keyboard is available—as in Lane’s laptop mode or Fujinawa’s book mode—the display can also provide editable and other information about the photo (e.g.,

“2004 Europe vacation”). *Id.* When the device is reconfigured so that the digital photo can be shown in full-screen view and the keyboard is not readily available to the user—as in Lane’s easel mode and Fujinawa’s frame mode—there is no room for editable information, which cannot be edited anyway. *Id.* Thus, the Lane-Fujinawa combination discloses *vary[ing] the computer content displayed responsive to the orientation information indicating a transition between at least the laptop and easel modes.*

Fujinawa also discloses *enlarge[ing] the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode.* EX1003, ¶188. Fujinawa describes and illustrates adjusting the presentation of a digital photo to a full-screen view when transitioning from one display mode to another. EX1007, ¶¶[0010]-[0014], ¶[0039], Figs. 1, 2.



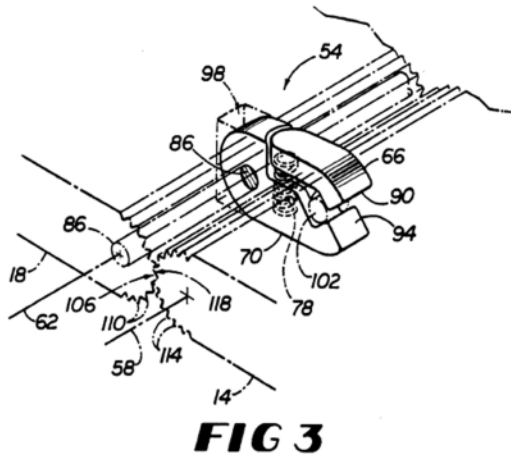
Fujinawa, Fig. 1 (annotated)

Fujinawa, Fig. 2 (annotated)

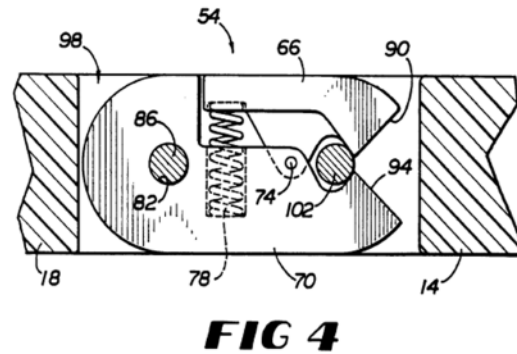
It would have been obvious to a POSITA to incorporate Fujinawa’s content enlargement teachings (i.e., adjusting a digital photo to full screen view) in Lane’s portable computer when transitioning from laptop mode to easel mode so that photos or other digital media would be easier to view. EX1003, ¶189. Indeed, this is precisely what the ’229 Patent contemplated, as it states that “for at least some activities...(e.g., viewing a photograph or video), when the portable computer 100 is configured into the easel mode, the display may automatically adjust to ‘full screen view’...to allow for comfortable viewing.” EX1001, 14:47-53. Thus, Fujinawa’s disclosure of adjusting a digital photo to full-screen view meets this limitation.

f. [18e] an interface between the display component and the base defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;

Lane discloses this limitation. EX1003, ¶¶190-197. Lane discloses a hinge assembly including two connectors 54 attached to second module 18 (*display component*) and clamped onto axle 102 in first module 14 (*the base*) as illustrated in Figures 3 and 4. EX1005, 6:25-36.



Lane, Fig. 3

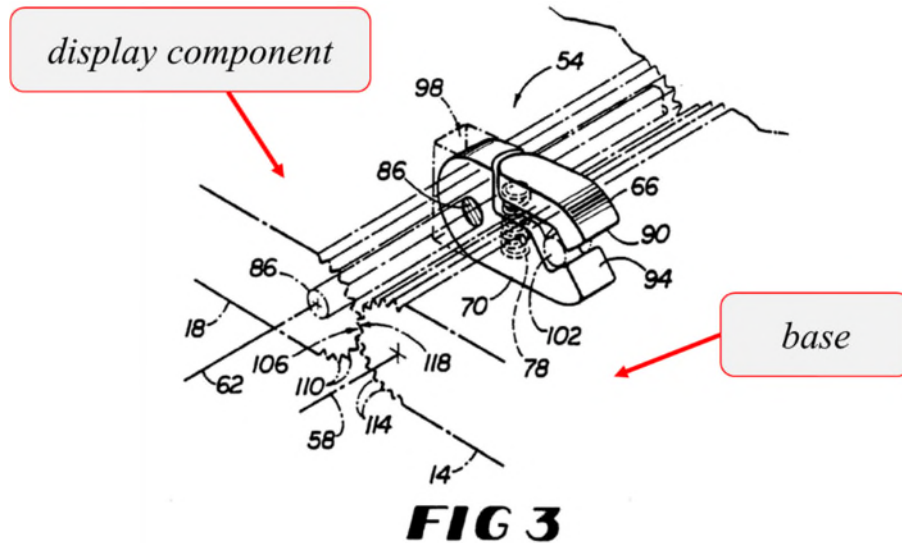


Lane, Fig. 4

The hinge assembly couples first module 14 (*the base*) and second module 18 (*the display component*) together. EX1005, 6:32-7:2.

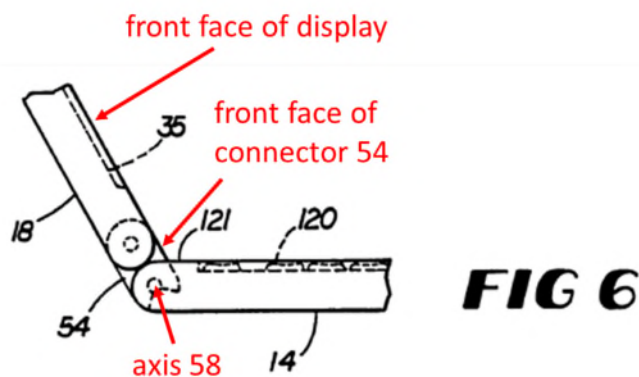
As shown in Figure 3, Lane describes a multiple axis hinge assembly as part of the *interface between the display component and the base*.⁸

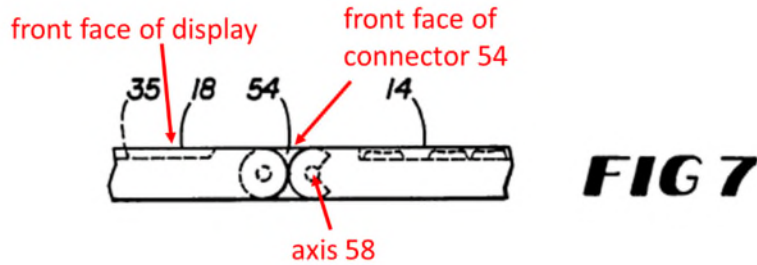
⁸ Dependent claim 5 confirms that the *interface* limitation (which in claim 18 is identical to the same limitation in claim 1) can be met by a multiple axis hinge. EX1001, 18:52-53 (reciting that “the interface further comprises a multiple axis hinge”); *see also id.*, 2:65-3:3.



Lane, Fig. 3 (annotated)

Axle 102 defines an axis of rotation 58 (shown in Figure 3) that constitutes the claimed *longitudinal axis*. EX1003, ¶194. The *interface*, including axle 102/axis of rotation 58, runs *along the display component* (second module 18) and *the base* (first module 14) *about which the display component and the base are rotatable*. This can be seen by comparing the annotated versions of Figures 6 and 7 below:



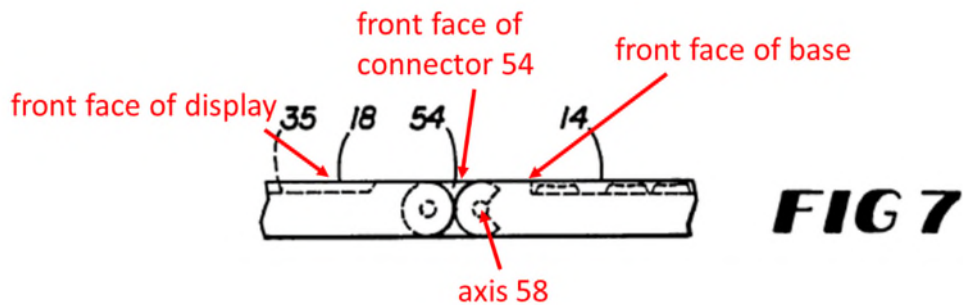


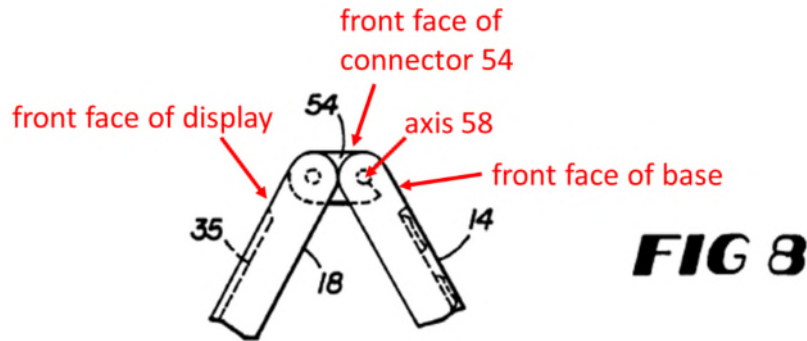
Lane, Figs. 6-7 (annotated)

In both figures, the front faces of connectors 54 are parallel to and even with the front face of second module 18 (*the display component*). In Figure 6 (depicting laptop mode), second module 18 (*the display component*) as well as connectors 54 form an angle between 90 degrees and 180 degrees with first module 14 (*the base*). In Figure 7, by contrast, second module 18 and connectors 54 are at an angle of 180 degrees with respect to first module 14. Therefore, as between Figures 6 and 7, second module 18 and connectors 54 have rotated about the *longitudinal axis* defined by the axle 102/axis 58. *Id.*

Additionally, first module 14 also rotates about axis 58 defined by axle 102.

This can be seen by comparing the annotated versions of Figures 7 and 8 below:





Lane, Figs. 7-8 (annotated)

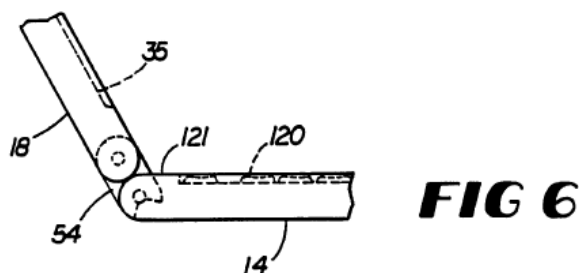
In Figure 7, the front faces of first module 14 (*the base*) and second module 18 (*the display component*) are both parallel to the horizontal face of connectors 54. In Figure 8 (depicting easel mode), the front faces of both first module 14 and second module 18 are rotated downward with respect to the horizontal face of connectors 54. Therefore, as between Figures 7 and 8, first module 14 and connectors 54 have rotated about the *longitudinal axis* defined by the axle 102/axis 58. EX1003, ¶195.

Thus, as Lane's portable computer transitions from the laptop mode of Figure 6 through the flat mode of Figure 7 to the easel mode of Figure 8, both second module 18 (*the display component*) and first module 14 (*the base*) rotate about axis 58 defined by axle 102. That second module 18 also rotates about a second axis 62 (defined by axle 86) in that module does not preclude an unpatentability determination, because this claim is not limited to a single axis of rotation. See fn. 8, above.

- g. **[18f] wherein the interface is constructed and arranged such that rotating either the display**

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

Lane discloses this limitation. EX1003, ¶¶198-201. Figure 6 illustrates Lane’s portable computer configured in a *laptop mode*, in which *either the display component or the base* is rotated about the longitudinal axis up to approximately 180 degrees from a closed mode (i.e., more than 0 degrees and less than about 180 degrees). *Id.*, ¶199; EX1005, 8:2-8, 10:24-28, Figs. 1, 6, 15-18, 20.⁹



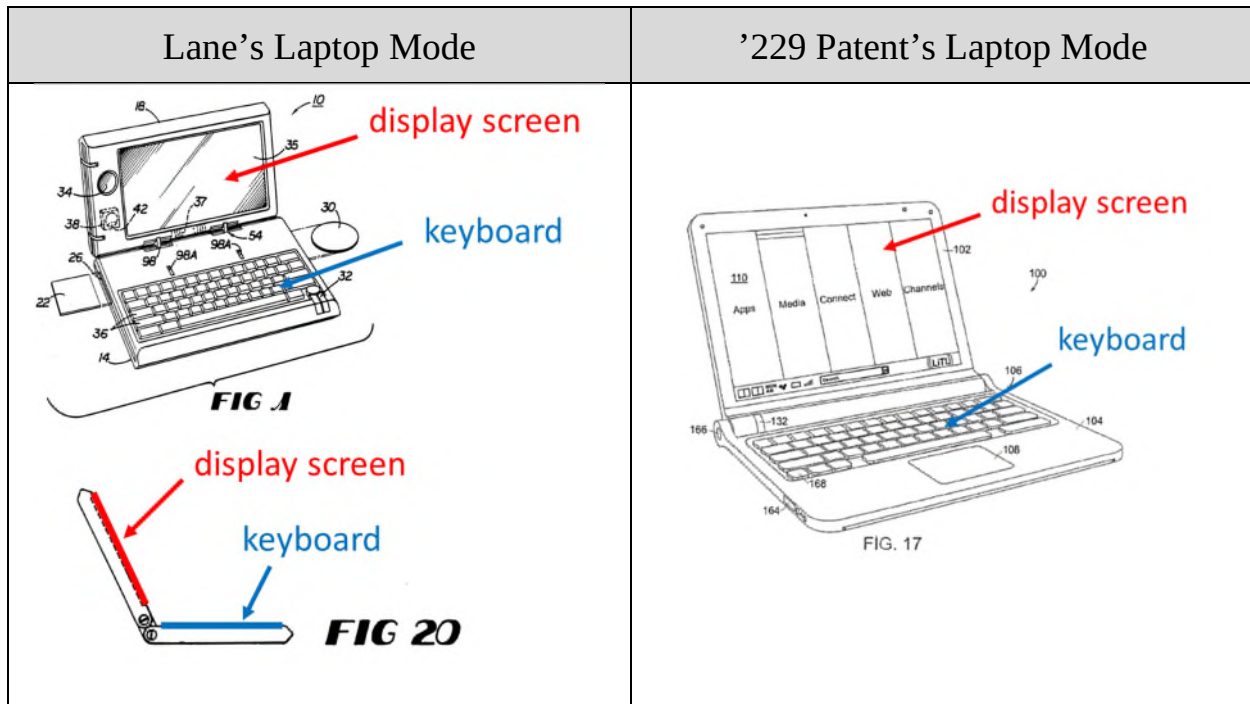
Lane, Fig. 6

In Figure 6, Lane’s *display component* (second module 18) is oriented towards an operator and a keyboard (keys 36) disposed within the base (first module 14) is oriented to receive input from the operator. EX1005, 5:15-17 (“FIG. 1 illustrates

⁹ For comparison, Figure 5 shows Lane’s portable computer unrotated (i.e., in a *closed mode*) and Figure 7 shows it rotated 180 degrees. EX1005, 7:32-37, 8:9-12.

device 10 in a nominally ‘open’ position permitting access both to visual display 35 and keys 36....”).

Further, Lane’s *laptop mode* mirrors the *laptop mode* of the ’229 Patent.



Lane, Figs. 1 and 20 (annotated)

’229 Patent, Fig. 17 (annotated)

Thus, Lane discloses the same *laptop mode* described by the ’229 Patent and recited in claim 18. EX1003, ¶201.

- h. [18g] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis beyond approximately 270 degrees from the closed mode transitions the portable computer for viewing in the frame mode or the easel mode, wherein during operation in the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface, and wherein during operation in the easel mode the

**display component is oriented facing the operator
with the keyboard oriented away from the operator;
and**

Lane discloses this limitation. EX1003, ¶¶202-206. Figure 8 illustrates Lane’s computer configured such that *either the display component or the base is rotated about the longitudinal axis beyond approximately 270 degrees from a closed mode.* *Id.*, ¶203.

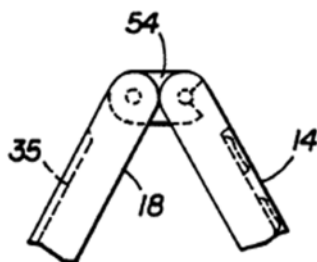
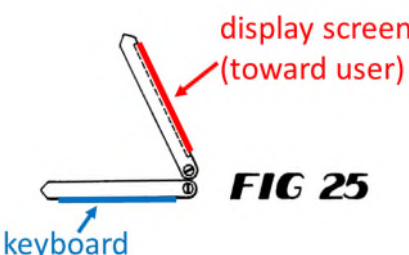
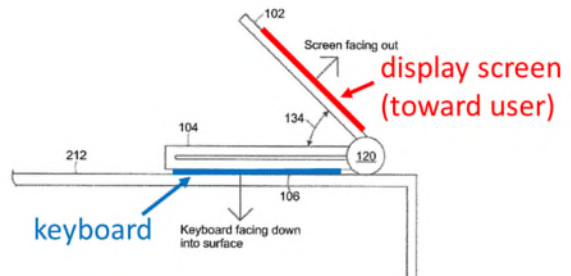


FIG 8

Lane, Fig. 8

Lane explains that, as illustrated in Figure 8, the “rotation of second module 18 exceeds 270°, [which is] useful particularly when only visual display 35 need be accessible.” EX1005, 8:12-15; *see also id.*, 10:29-31. When rotated more than 270 degrees, Lane’s portable computer can be configured *for viewing in the frame mode or the easel mode* as illustrated in Figure 25 (*frame mode*) and Figure 28 (*easel mode*). EX1003, ¶204.

Lane’s *frame mode* mirrors the *frame mode* of the ’229 Patent.

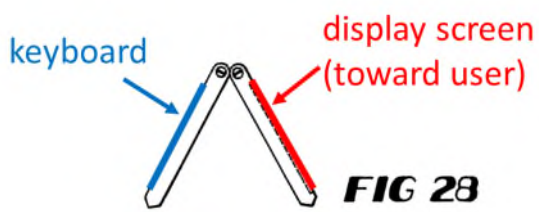
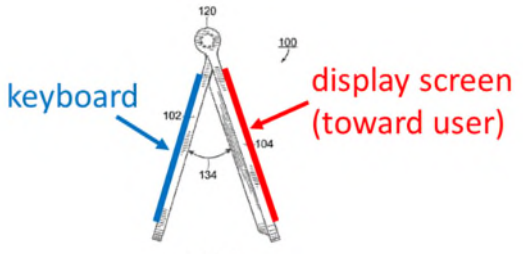
Lane's Frame Mode	'229 Patent's Frame Mode
 FIG 25	 FIG. 26

Lane, Fig. 25 (annotated)

'229 Patent, Fig. 26 (annotated)

As illustrated in Lane's Figure 25, when the computer is configured in *the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface*, as claimed. EX1003, ¶205.

Similarly, Lane's *easel mode* mirrors the *easel mode* of the '229 Patent.

Lane's Easel Mode	'229 Patent's Easel Mode
 FIG 28	 FIG. 5

Lane, Fig. 28 (annotated)

'229 Patent, Fig. 5 (annotated)

As illustrated in Lane’s Figure 28, when the computer is configured in *the easel mode the display component is oriented facing the operator with the keyboard oriented away from the operator*, as claimed. EX1003, ¶206.

- i. **[18h] wherein the portable computer is configured to detect a transition to at least one of the easel mode and the frame mode based on the orientation information, automatically determine a display orientation of content, and disable the keyboard in response to detecting the portable computer is in the frame mode.**

Lane discloses this limitation. EX1003, ¶¶207-213. As explained for [18g], Lane’s computer can be configured in *easel mode* and *frame mode*. Further, Lane teaches using position-indicating mechanism 38 to provide *orientation information* to Lane’s portable computer and associated software to disable the keyboard when detecting a configuration where the keyboard is not in use. EX1005, 5:35-6:6. Lane also teaches and illustrates that the keyboard is unused in both *easel mode* and *frame mode*. *Id.*, 10:28-31, Figs. 25, 28. Thus, Lane’s computer and associated software satisfy the *detect a transition* portion of this limitation. EX1003, ¶209.

Lane’s computer will also *automatically determine a display orientation of content*. EX1003, ¶210. Lane uses information from position-indicating mechanism 38 to determine “whether the information to appear on visual display 35 should be in ‘landscape’ or ‘portrait’ position as the visual display 35 is

spatially configured, [and] the direction in which to move a curser” on the visual display. EX1005, 5:35-6:6. Thus, Lane discloses determining the display’s orientation so that content will be displayed correctly (i.e., right-way-up) and the cursor will move in the correct direction. EX1003, ¶210.

Finally, as discussed above, Lane discloses *disable[ing] the keyboard in response to detecting the portable computer is in the frame mode*. EX1003, ¶211. Lane describes using information from position-indicating mechanism 38 to determine “whether to render keys 36 of first module 14 inoperable when unused.” EX1005, 5:35-6:6. Lane also discloses *frame mode* (shown in Figure 25) in which the keyboard is inaccessible to the user because it faces down toward the desktop. *Id.*, 10:24-31, Fig. 25.

To the extent Patent Owner may argue that Lane describes including position-indicating mechanism 38 in either *the display component* or *the base* so that Lane’s computer can either *automatically determine a display orientation of content* or *disable the keyboard*, but not both. This would be a misreading of Lane, which states in relevant part: “Including mechanism 38 as a component of either first or second modules 14 or 18 would thus permit it to indicate the spatial orientation of that module.” EX1005, 5:32-35. A POSITA would understand this sentence to mean that position-indicating mechanism 38 can be a component of the first module 14 (*base*), the second module 18 (*display component*), or both.

EX1003, ¶212. Lane suggests including mechanism 38 in both because the next sentence recites using information from position-indicating mechanism 38 to determine the orientation of the display and the orientation of the keyboard. *Id.*; EX1005, 5:35-6:6. Further, it would be obvious to a POSITA to try such a configuration because there are only three possibilities—including position-indicating mechanism in the base, in the display, or in both—and such a person would immediately recognize the benefit of obtaining orientation information for both the display and the base to provide the functionality described by Lane. EX1003, ¶212.

3. Independent Claim 12

- a. **[12pre] A portable computer configurable between a plurality of operating display modes, the portable computer comprising:**

To the extent the preamble is limiting, Lane discloses it. EX1003, ¶¶215-217. As explained for [18pre], Lane discloses *a portable computer configurable between a plurality of operating display modes* including laptop mode, frame mode, and easel mode.¹⁰ Lane discloses other *operating display modes* as well,

¹⁰ Claim 12 refers to “operating display modes” rather than “display modes” as is claim 18 (and claim 1). The term “operating display modes” does not appear in

including a tablet mode illustrated in Figures 9 and 27.

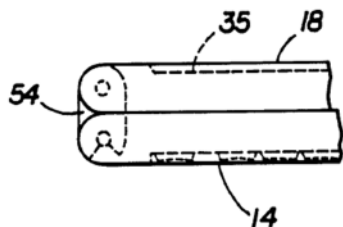


FIG 9

Lane, Fig. 9

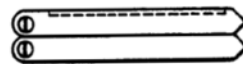


FIG 27

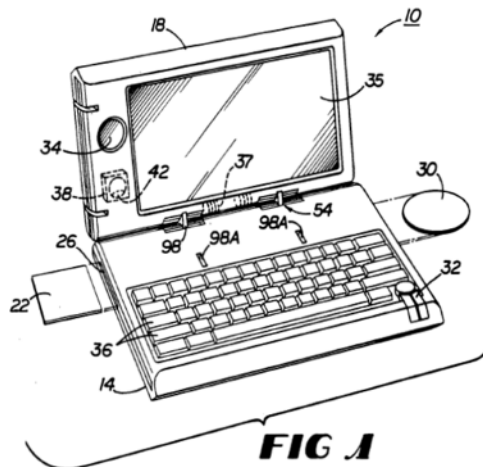
Lane, Fig. 27

EX1005, 3:7-14, 8:15-19 (Figure 9 illustrates “a tablet for pen-based computing.”), 10:17-20 (Figure 27 illustrates “a tablet for pen-based computing.”).

b. [12a] a display component including a single display screen for viewing content;

This limitation is similar to [18a] but additionally recites *a single display screen for viewing content*. EX1003, ¶218. As discussed for [18a], Lane discloses *a display component* (second module 18) including *a single display screen for viewing content* (visual display 35). *Id.*, ¶219; EX1005, 5:10-18, 5:35-6:6, Fig. 1.

the '229 Patent except in claims 12 and 13 where it is used in the same manner as “display modes” in claim 18. EX1003, ¶216.



Lane, Fig. 1

c. [12b] a base;

This limitation is identical to [18b] and disclosed for the same reasons.

EX1003, ¶220.

d. [12c] an accelerometer configured to generate orientation information indicative of a current display mode among the plurality of display modes of the portable computer;

This limitation is similar to [18c] but refers to “display modes” rather than the interchangeable term “modes of operation.” It is disclosed for the same reasons as [18c]. EX1003, ¶221.

e. [12d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least two operating display modes of the plurality of operating display modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from a first operating

display mode of the plurality of operating display modes to a second operating display mode of the plurality of operating display modes;

The combination of Lane and Fujinawa discloses this limitation. EX1003, ¶¶222-228. The limitation is similar to [18d], but broader as it refers to *at least two operating display modes* while [18d] refers specifically to “the laptop and easel modes.” *Id.*, ¶222. Lane discloses several *operating display modes* including at least laptop, easel, frame, and tablet modes. EX1005, Figs. 1, 6-9, 20-21, 25, 27. Further, as in [18d], Lane and Fujinawa disclose *vary[ing] the computer content displayed* in response to a transition *between at least two operating display modes*. Thus, Lane-Fujinawa discloses *a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least two operating display modes of the plurality of operating display modes*. EX1003, ¶226.

Further, Lane-Fujinawa discloses the *enlarge the computer content* portion of this limitation (running to the end of the limitation) for at least the reasons discussed for [18d]. A POSITA would understand Fujinawa to broadly teach varying and enlarging content (e.g., a digital photo) when changing the display from a partial-screen view to full-screen view, e.g., whenever Lane’s computer is reconfigured or reoriented so that visual display 35 is in landscape view. EX1003,

¶228.

- f. **[12e] an interface connecting the display component and the base, defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;**

This limitation is nearly identical to [18e] and disclosed for the same reasons. EX1003, ¶229.

- g. **[12f] wherein the interface is constructed and arranged so that the display component and the base are rotatable with respect to each other about the longitudinal axis;**

Lane discloses this limitation. EX1003, ¶¶230-232. As discussed for [18e], Lane discloses the claimed *interface* between the *display component* and the *base*. Further, the *interface is constructed and arranged so that the display component and the base are rotatable with respect to each other about the longitudinal axis* for at least the reasons discussed for [18e] and [18f]. For example, Figures 5-9 show *the display component and the base* being rotated *with respect to each other about the longitudinal axis*. *Id.*, ¶232.

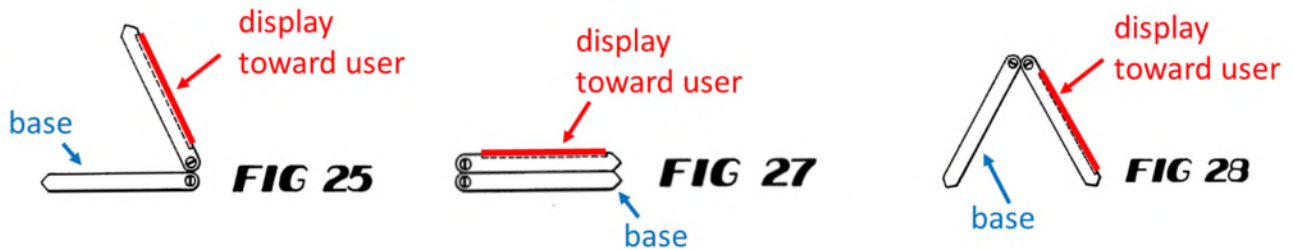
- h. **[12g] wherein the interface is constructed and arranged so that rotating either the display component or the base about the longitudinal axis from a closed mode to a first position configures the portable computer into the first operating display mode of the plurality of operating display modes, wherein in the first operating display mode the display component is oriented towards an operator of the portable computer, and the base is disposed on an**

opposite side of the display, wherein at least a portion of the base is configured to support the display in position when in the first operating display mode;

Lane discloses this limitation. EX1003, ¶¶233-241. The claim recites transitioning from *a closed mode*, which Lane discloses. EX1005, 5:17-18 (“FIG. 2 shows device 10 in a nominally ‘closed’ position.”), Figs. 2, 5, 16, 19. Lane also discloses *rotating either the display component or the base about the longitudinal axis* into other positions. EX1005, Figs. 5-9.

The claim then states that transitioning to *a first position* puts *the portable computer into the first operating display mode of the plurality of operating display modes* (e.g., laptop, easel, etc.). The claim next limits *the first operating display mode* to one in which (i) *the display component is oriented towards an operator*, (ii) *the base is disposed on an opposite side of the display*, and (iii) *at least a portion of the base is configured to support the display in position*.

Lane discloses at least three *operating display modes* meeting the requirements for *the first operating display mode*: frame, tablet, and easel modes. First, Lane discloses a frame mode as discussed for [18pre] and [18g]. Second, Lane discloses a tablet mode as discussed for [12pre]. Third, Lane discloses an easel mode as discussed in [18pre] and [18g].



Lane, Figs. 15, 27, and 28 (annotated)

In each of these three modes (i) *the display component is oriented towards an operator*, (ii) *the base is disposed on an opposite side of the display*, and (iii) *at least a portion of the base is configured to support the display in position*.

EX1003, ¶¶237-240.

In addition to the *operating display modes* illustrated in Lane’s Figures 25, 27, and 28, a POSITA would recognize that Lane’s portable computer can be rotated 90 degrees, for example, changing from landscape view to portrait view (or vice versa). EX1003, ¶241. Lane contemplates these additional *operating display modes* by disclosing that the portable computer reorients the content on the display by 90 degrees when changing between landscape and portrait views. EX1005, 5:35-6:6.

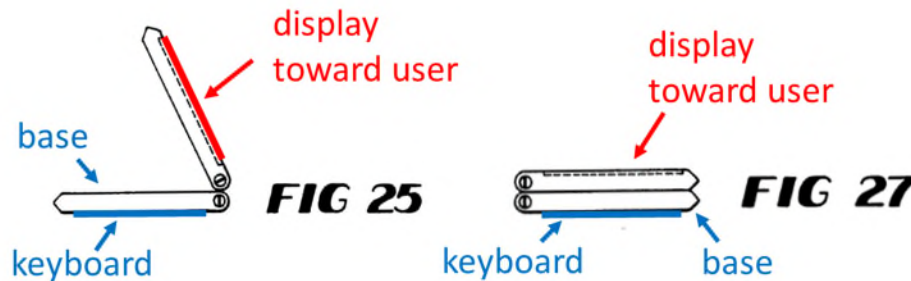
- i. **[12h] wherein the interface is constructed and arranged so that reorienting the portable computer while the display component and the base are in the first position configures the portable computer into the second operating display mode of the plurality of operating display modes, wherein in the second operating display mode the display component is oriented towards an operator of the portable computer, the base lies flat on a substantially**

horizontal surface, and a keyboard of the base is disabled and disposed towards the substantially horizontal surface, wherein at least a portion of the base is configured to support the portable computer in position when in the second operating display mode, a display orientation of content is automatically changed when transitioning between the first and second operating display modes.

Lane discloses this limitation. EX1003, ¶¶242-250. The claim recites *reorienting the portable computer* while leaving it in *the first position* of [12g] so that the computer is configured *into the second operating display mode of the plurality of operating display modes*. In other words, the claim recites leaving the base and display in the same configuration relative to each other (*the first position*) but *reorienting the portable computer* into a different *operating display mode*. *Id.*, ¶243. The claim then limits *the second operating display mode* to one in which (i) *the display component is oriented towards an operator of the portable computer*, (ii) *the base lies flat on a substantially horizontal surface*, (iii) *a keyboard of the base is disabled and disposed towards the substantially horizontal surface*, and (iv) *at least a portion of the base is configured to support the portable computer in position*.

Lane discloses at least two *operating display modes* that meet the requirements for *the first operating display mode*: frame and tablet modes. Lane's computer is oriented as required by the limitation, and Lane further discloses disabling the keyboard when unused as in either frame or tablet mode as discussed

for [18h]. EX1005, 5:35-6:6.



Lane, Figs. 25 and 27 (annotated)

In either of these modes, (i) *the display component is oriented towards an operator of the portable computer*, (ii) *the base lies flat on a substantially horizontal surface*, (iii) *a keyboard of the base is disabled and disposed towards the substantially horizontal surface*, and (iv) *at least a portion of the base is configured to support the portable computer in position*. EX1003, ¶¶245-246.

Lane discloses *reorienting the portable computer* while leaving it in *the first position* of [12g] to configure it *into the second operating display mode*. For example, Lane's computer can be *reorient[ed]* from the easel mode (*first operating display mode*) to frame mode (*second operating display mode*) while leaving it in *the first position* (i.e., without rotating the display and base relative to each other). EX1003, ¶248. As another example, Lane's portable computer can be *reorient[ed]* from the tablet mode with the display in landscape view (*first operating display mode*) to tablet mode oriented with the display in landscape view (*second operating display mode*) while leaving it in *the first position* (or vice versa). *Id.*,

¶249.

Finally, Lane discloses that *a display orientation of content is automatically changed when transitioning between the first and second operating display modes.*

EX1003, ¶250. A POSITA would understand that when Lane’s computer is reoriented from easel to frame mode (for example), the displayed content would be automatically inverted to right-way-up. *Id.*; EX1005, 5:35-6:6. Similarly, a POSITA would understand that when Lane’s computer is reoriented from tablet mode in landscape view to tablet mode in portrait view (or vice versa), the displayed content would be rotated accordingly. EX1003, ¶250; EX1005, 5:35-6:6. In either example, the *display orientation of content is automatically changed* when Lane’s computer is transitioned *between the first and second operating display modes.*

4. Dependent Claim 14: The portable computer of claim 12, wherein the interface comprises means for rotating the display component relative to the base.

The combination of Lane and Fujinawa discloses the *portable computer* of claim 12 for the reasons discussed for that claim. As discussed for [12e]-[12h], Lane discloses an *interface* including connectors 54, which are part of a hinge assembly as illustrated in Figures 1 and 3, for example. EX1005, 6:25-7:2, Figs. 1, 3, 5-9. Lane’s hinge assembly is a *means for rotating the display component relative to the base* as that claim phrase

should be construed (i.e., per Section 112 ¶6). EX1003, ¶¶296-297; *see* Section IV.B, above. Lane’s hinge assembly performs the function of claim 14 (i.e., *rotating the display component relative to the base*) for at least the reasons discussed for [12e]-[12h].

B. Ground 2: Lane and Tonouchi Render Claims 16 and 17 Obvious

As discussed in detail below, Lane describes a portable computer that meets nearly all the limitations of claims 16 and 17. Lane does not, however, describe *enlarging the computer content displayed on the display component responsive to detecting a transition* into a tablet mode (which is a mode that meets the limitations recited in these claims as discussed below). But Tonouchi teaches automatically enlarging displayed content (e.g., mouse cursor, icons, etc.) when transitioning the device configuration into tablet mode. Because a POSITA would have been motivated to implement Tonouchi’s teachings in Lane’s portable computer, and could have done so without undue effort, the Lane-Tonouchi combination renders the these claims obvious.

1. Motivation to Combine

A POSITA would have naturally considered Lane and Tonouchi because, like the ’229 Patent, both prior art references are directed to electronic computing devices. EX1001, Abstract; EX1005, 1:3-6, Fig. 1; EX1008, ¶[0003]. In fact, like the ’229 Patent, both prior art references relate to portable computing devices

configurable in multiple display orientations. EX1001, 2:6-24, Figs. 1, 4, 5, 26, 27; EX1005, 5:2-6, 7:30-8:23, Figs. 1, 2, 5-9, 19-28; EX1008, Abstract, ¶[0003], ¶[0009], Figs. 4A-4D; EX1003, ¶307.

Tonouchi discloses enlarging displayed components (e.g., mouse cursor, buttons, menu, scroll bar) when the configurable portable computer is transitioned into tablet mode in which the user will make inputs through the touchscreen because the keyboard is hidden underneath or behind the device. EX1008, ¶[0031] (“Displayed components, such as a mouse cursor, a button, a menu, and a scroll bar, in the tablet mode are displayed in a magnified manner as compared to those in the normal notebook mode.”).

The benefit of enlarging displayed components in tablet mode would have been apparent to a POSITA. EX1003, ¶309. For instance, a POSITA would have recognized that in tablet mode the user interacts with the computer through the touchscreen using finger or pen/stylus and that enlarging selected content on the screen would make it easier to use and less prone to error. *Id.*; EX1036, 1-2. By enlarging certain displayed content, as taught by Tonouchi, Lane’s computer would be less likely to misinterpret—or simply miss—input by the user via the touchscreen. EX1003, ¶310. Thus, a POSITA would have understood that Tonouchi’s teachings regarding enlarging certain content (e.g., icons) would be advantageous when Lane’s portable computer is being used in tablet mode because

the enlarged content would improve the functionality of the touchscreen and enhance the user's experience. *Id.*

Further, a POSITA could have implemented Tonouchi's content-enlargement teachings on Lane's portable computer with a reasonable expectation of success and without undue experimentation because it would have required only minor updates to the software on Lane's computer that would have been within the programming skill level of a POSITA. EX1003, ¶311. The '229 Patent supports this conclusion because it discloses enlarging displayed content without providing any instructions for doing so (EX1001, 14:47-53)—none would have been necessary for a POSITA to implement such functionality. EX1003, ¶312.

2. Independent Claim 16

- a. **[16pre] A method of managing user interaction with content displayed on a portable computer having a plurality of display modes, the portable computer comprising a display component including a display screen, a base including a keyboard, and an interface connecting the display component and the base defining a longitudinal axis, the method comprising:**

To the extent the preamble is limiting, Lane discloses it. EX1003, ¶¶313-316. The claim recites a *portable computer* configurable in a *plurality of display modes*, which Lane discloses for the reasons discussed for [18pre], [18f]-[18h], [12pre], and [12g]-[12h]. The *portable computer* has a *display component including a display screen*, which Lane discloses as discussed for [18a] and [12a].

The *portable computer* has a *base including a keyboard*, which Lane discloses as discussed for [18b], [18f], and [12b]. The *portable computer* has an *interface connecting the display component and the base defining a longitudinal axis*, which Lane discloses as discussed for [18e]. Lane discloses a *method of managing user interaction with content displayed* on such a *portable computer* at least by discussing how the computer and associated software use orientation information to appropriately adjust the user interface and/or keyboard based on the current configuration. EX1005, 5:35-6:6.

Tonouchi also discloses a *method of managing user interaction with content displayed on a portable computer having a plurality of display modes*. EX1008, ¶[0027], ¶[0030], Fig. 2A (“notebook mode”), Fig. 2B (“tablet mode”), Figs. 4A-4D. Tonouchi discloses a *portable computer comprising a display component including a display screen*. *Id.*, ¶[0025] (“screen display 101”), Fig. 1. Tonouchi also discloses a *portable computer with a base including a keyboard*. EX1008, ¶[0025] (“keyboard 106”), Fig. 1. Additionally, Tonouchi discloses an *interface connecting the display component and the base defining a longitudinal axis*. EX1008, Figs. 4A-4B (showing the display screen rotated from a closed to open position). Thus, Lane and Tonouchi disclose [16pre].

- b. [16a] rotating at least one of the display component and the base of the portable computer about the longitudinal axis to configure the portable computer in at least one of the plurality of display modes,**

wherein the longitudinal axis is configured to run along the connection between the display component and the base of the portable computer;

Lane discloses this limitation. EX1003, ¶¶317-319. Lane discloses *rotating* the display or base to configure the computer into *at least one of the plurality of display modes* for at least the reasons discussed for [18f] (laptop mode) and [18g] (frame and easel modes). Lane discloses the claimed *longitudinal axis* as discussed for [18e].

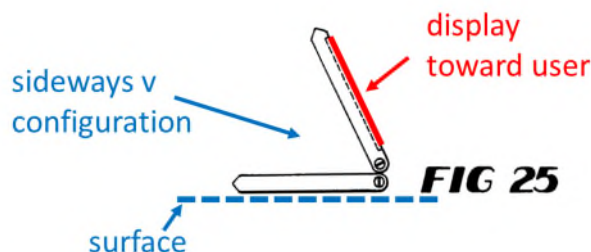
- c. **[16b] positioning at least a portion of the portable computer in a sideways v configuration for operation by a user, responsive to the act of rotating, wherein the act of positioning includes acts of: positioning the display component in an orientation directed towards the user; and positioning the base to lie flat on a surface and support the portable computer in the sideways v configuration;**

Lane discloses this limitation. EX1003, ¶¶320-322. Lane discloses *positioning at least a portion of the portable computer in a sideways v configuration* (frame mode)¹¹ for at least the reasons discussed in [18g]. The claim then requires that *the act of positioning includes: (1) positioning the display*

¹¹ The specification of the '229 Patent never refers to “a sideways ‘v’ configuration,” but a POSITA would recognize that the phrase refers to frame mode. There is no other display mode disclosed by the patent that suggests “a sideways ‘v’ configuration.” EX1003, ¶321.

component in an orientation directed towards the user; and (2) positioning the base to lie flat on a surface and support the portable computer in the sideways v configuration, which is also disclosed by Lane's frame mode.

Lane's frame mode is illustrated in Figure 25.



Lane, Fig. 25 (annotated)

As shown in the figure, placing Lane's portable computer in frame mode involves (1) *positioning the display component in an orientation directed towards the user;* and (2) *positioning the base to lie flat on a surface and support the portable computer in the sideways v configuration.* EX1003, ¶322.

- d. **[16c] generating, by an accelerometer, orientation information indicative of an orientation of the device;**

Lane discloses this limitation for at least the reasons discussed for [18c].

EX1003, ¶323.

- e. **[16d] determining a current display mode of the plurality of display modes based on the orientation of the device, including distinguishing between a first display mode and a second display mode of the plurality of display modes where either the display component or the base is rotated about the**

longitudinal axis beyond approximately 270 degrees from a closed state;

Lane discloses this limitation. EX1003, ¶¶324-330. The claim recites *determining a current display mode of the plurality of display modes based on the orientation of the device.* The claim states this can be done by *distinguishing between a first display mode and a second display mode of the plurality of display modes* and that in these display modes *either the display component or the base is rotated about the longitudinal axis beyond approximately 270 degrees from a closed state.* Lane discloses at least three display modes in which the display or base is rotated *beyond approximately 270 degrees from a closed state*: frame mode, tablet mode, and easel mode. *Id.*, ¶325.



Lane, Figs. 25, 27, 28 (annotated)

As discussed for [18h], Lane teaches locating a position-indicating mechanism 38 in first module 14 (base), and by doing so Lane's computer and associated software can distinguish between frame mode and easel mode. That is so because in frame mode position-indicating mechanism 38 would indicate that the base is flat on the desktop and facing down while in easel mode it would indicate that the base is at a diagonal angle. EX1003, ¶326. Lane also teaches

locating a position-indicating mechanism 38 in second module 18 (display). By doing so Lane's computer and associated software can distinguish between frame, tablet, and easel modes because the display is positioned differently in each of those three modes. *Id.*, ¶327. In frame mode, the display is at a reclined angle with the hinge edge down toward the desktop. In tablet mode, the display is horizontal. *Id.* In easel mode, the display is at a reclined angle with the hinge edge up away from the desktop. *Id.* Thus, Lane's disclosure of using a position-indicating mechanism in the base or the display discloses *determining a current display mode of the plurality of display modes based on the orientation of the device by distinguishing between a first display mode and a second display mode of the plurality of display modes* as recited in [16d]. *Id.*, ¶328.

In addition, as discussed for [18h], Lane discloses and suggests to a POSITA locating position-indicating mechanism 38 in both the base and display of Lane's portable computer. By doing so, Lane's portable computer and associated software can *distinguish[] between a first display mode and a second display mode of the plurality of display modes* because the orientation of the base and display varies in each of the display modes. EX1003, ¶329. In frame mode, the base is flat and facing down while the display is at a reclined angle with the hinge edge toward the desktop. *Id.* In tablet mode, the base is flat and facing down toward the desktop as in frame mode, but unlike frame mode the display is facing upward. *Id.* In easel

mode, the base and display are both at a diagonal to the desktop with the hinge edge of the base/display upward. *Id.* Thus, locating a position-indicating mechanism in the base and display—as suggested and taught by Lane—permits the portable computer and its associated software to distinguish between these three display modes. *Id.*, ¶330. In this additional way, Lane discloses *determining a current display mode of the plurality of display modes based on the orientation of the device by distinguishing between a first display mode and a second display mode of the plurality of display modes* as recited in [16d]. *Id.*

f. [16e] executing software protection configured to disable the keyboard when the portable computer is in the sideways v configuration; and

Lane discloses this limitation. EX1003, ¶¶331-333. Lane discloses *disabl[ing] the keyboard when the portable computer is in the sideways v configuration* (frame mode) as discussed for [18h]. Lane also discloses *executing software to disable the keyboard*. *Id.*, ¶333. Lane states that orientation information provided by position-indicating mechanism 38 “assist[s] device 10 (and its associated software) in determining, for example,...whether to render keys 36 of first module 14 inoperable when unused.” EX1005, 5:35-6:6. The keyboard is unused in frame mode (EX1005, 10:24-31, Fig. 25), so Lane’s portable computer and “associated software” disable it. EX1003, ¶333.

g. [16f] displaying computer content and varying the computer content displayed responsive to the

orientation information indicating a transition between at least two display modes of the plurality of display modes, wherein the act of varying the computer content includes: enlarging the computer content displayed on the display component responsive to detecting a transition from the first display mode to the second display mode.

The combination of Lane and Tonouchi discloses this limitation. EX1003, ¶¶334-342. Lane discloses *displaying computer content and varying the computer content displayed responsive to the orientation information indicating a transition between at least two display modes of the plurality of display modes* as discussed for [18d]. This limitation [16f] recites that *the act of varying the computer content* is performed by *enlarging the computer content displayed on the display component responsive to detecting a transition from the first display mode to the second display mode*. As discussed above for [16d], the *first and second display modes* can be Lane's frame mode, easel mode, or tablet mode. Thus, this limitation is met by *enlarging the computer content displayed on the display component responsive to detecting a transition* from frame or easel mode into tablet mode.

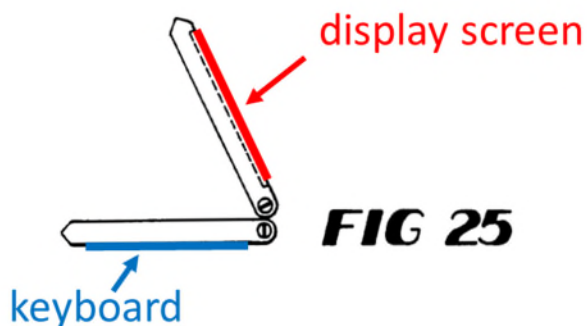
Tonouchi teaches *enlarging the computer content displayed on the display component responsive to detecting a transition* into a tablet mode. EX1003, ¶337. Tonouchi specifically discloses and illustrates, in Figures 4A-4D, transitioning a configurable laptop from a closed position, to a standard laptop mode, to a frame-

like mode¹², to a tablet mode. EX1008, ¶[0030], Figs. 4A-4D; EX1003, ¶¶338-341. Further, Tonouchi teaches that when the convertible computer is transitioned into tablet mode, “[d]isplayed components, such as a mouse cursor, a button, a menu, and a scroll bar,...are displayed in a magnified manner as compared to those in the normal notebook mode.” EX1008, ¶[0031]. Tonouchi explicitly describes enlarging content (e.g., mouse cursor, buttons, etc.) upon transitioning from notebook to tablet mode, but a POSITA would recognize that Tonouchi’s teaching is focused on transitioning into tablet mode—where magnification is beneficial—and not the display mode being transitioned from. EX1003, ¶342. In other words, a POSITA would recognize that Tonouchi teaches enlarging components when transitioning from any mode (including frame or easel modes) into tablet mode. *Id.* Thus, Tonouchi discloses, suggests, and teaches *enlarging the computer content displayed on the display component responsive to detecting a transition from the first display mode (frame or easel) to the second display mode (tablet).* *Id.*

¹² Figure 4C shows Tonouchi’s computer in a configuration similar to frame mode in Lane and the ’229 Patent. EX1003 ¶340. As in frame mode, the base is flat on the work surface and the display component is oriented so that the keyboard is behind the display screen—the difference is that the keyboard faces up instead of down. *Id.*

3. **Dependent Claim 17: The method of claim 16, wherein the base includes a keyboard and the act of positioning the base on the opposite side of the display component includes positioning the keyboard such that the keyboard towards the surface.**

The combination of Lane and Tonouchi discloses the *portable computer* of claim 16 for the reasons discussed for that claim. Lane discloses the additional limitation of this claim. EX1003, ¶¶344-345. Lane’s portable computer includes a base with a keyboard as discussed for [18b], [18f] and [12b]. Lane also discloses placing the portable computer in frame mode, as illustrated in Figure 25.



Lane, Fig. 25 (annotated)

As shown in the annotated figure above, this involves *positioning the base on the opposite side of the display component* and *positioning the keyboard such that the keyboard is towards the surface*. EX1003, ¶345.

- C. **Grounds 3-4: Further Adding MIT and/or Wehrenberg to Each Combination Renders All Challenged Claims Obvious**
 1. **Lane Combined with MIT Discloses the “Interface” Limitation of the Challenged Claims**

To the extent any of the challenged claims may be construed to permit only

a single longitudinal axis of rotation, it would have been obvious to modify Lane's computer by substituting the single-axle hinge disclosed in MIT for Lane's dual-axle hinge assembly.

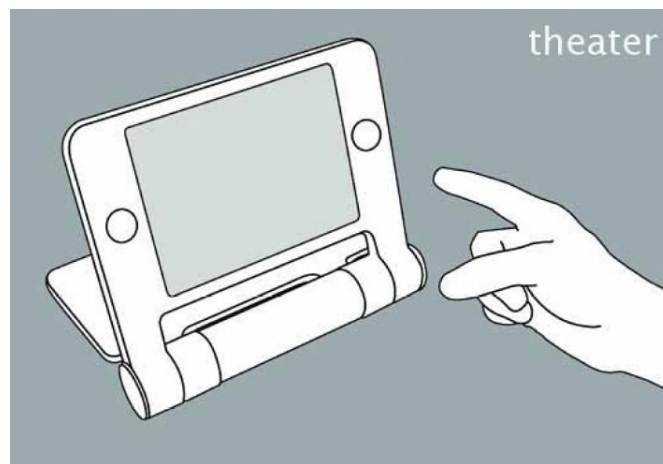
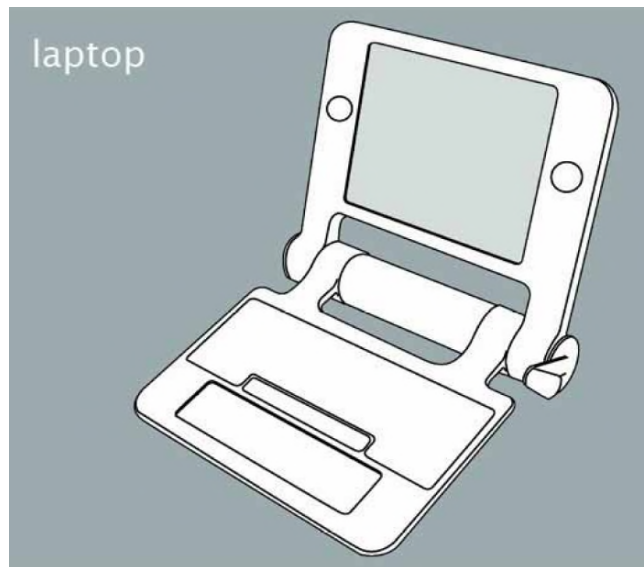
a. Motivation to Combine

MIT, Lane, Fujinawa, Tonouchi, and the '229 Patent are all directed to configurable portable computing devices. EX1003, ¶367. A POSITA would have been motivated to substitute Lane's hinge assembly, including connectors 54 and axles 86 and 102, with MIT's single-axle hinge assembly and to modify Lane's first and second modules 14, 18 to correspond to MIT's display and base modules. *Id.*, ¶368. A POSITA would have been motivated to so modify Lane to simplify the hinge assembly and provide a place to hold a hand-crank generator as taught by MIT. *Id.*; EX1048, 4-9; EX1012, 3. A POSITA would have had a reasonable expectation of success in doing so because single-axle hinges, as disclosed in MIT, were known in the art and would have been well within a POSITA's skill level. EX1003, ¶368; EX1049, ¶[0134], Fig. 19.

b. Claims 12, 14, and 16-18

To the extent any of the challenged claims are construed to require a hinge assembly permitting only one *longitudinal axis*, MIT discloses such a hinge assembly. EX1003, ¶372. MIT discloses that its laptop can be configured in a variety of display configurations, including laptop and theater configurations as

shown below:



EX1048, 7-8; EX1012, 2-3. The “theater” display configuration is equivalent to the ’229 Patent’s frame mode. EX1003, ¶370. A POSITA would have understood and found it obvious in view of MIT’s disclosure of a frame mode that the MIT laptop could also be placed into easel mode. *Id.* This is because frame and easel modes involve the same amount of rotation of the display and base relative to each other about MIT’s single-axle hinge, and transitioning from frame to easel mode

can be achieved by further adjusting the entire device without any additional relative rotation between the display and base. *Id.*

Combining MIT's single-axle hinge teachings with Lane's computer would permit Lane's computer to rotate into a plurality of display modes including laptop, frame, tablet, and easel mode. EX1003, ¶371. Thus, the combination discloses the claimed *interface* if any of the challenged claims are construed to require an *interface* that permits only one axis of rotation. *Id.*

2. Lane Combined with Wehrenberg Discloses the “Accelerometer” Limitation of the Challenged Claims

To the extent Patent Owner may argue Lane's position-indicating mechanism 38 is not an “accelerometer” as recited in the challenged claims, it would have been obvious to modify Lane's portable computer by substituting an accelerometer as taught by Wehrenberg for Lane's mechanism 38.

a. Motivation to Combine

Wehrenberg, MIT, Lane, Fujinawa, Tonouchi, and the '229 Patent are all directed to portable computing devices such as laptop computers. EX1003, ¶374. A POSITA would have been motivated to substitute Lane's position-indicating mechanism 38 (mercury switch) with an accelerometer of the type disclosed in Wehrenberg to generate orientation information for Lane's portable computer. EX1003, ¶375. By 2008, Lane's mercury switch could be replaced with a more modern, commercially available solid-state accelerometer such as those offered by

Kionix and Analog Devices. EX1023, 5:50-55; EX1003, ¶¶375-376. Such accelerometers were cheaper, more accurate, and more reliable than the older-style mercury switch accelerometers. EX1003, ¶376. Further, a POSITA would have been motivated to replace Lane’s mercury switch because mercury is a toxic substance and poses greater human and environmental risks than accelerometers of the type disclosed by Wehrenberg. *Id.*, ¶377. A POSITA also would have had a reasonable expectation of success in substituting Lane’s position-indicating mechanism 38 with an accelerometer, as taught by Wehrenberg, without undue experimentation. *Id.*, ¶378.

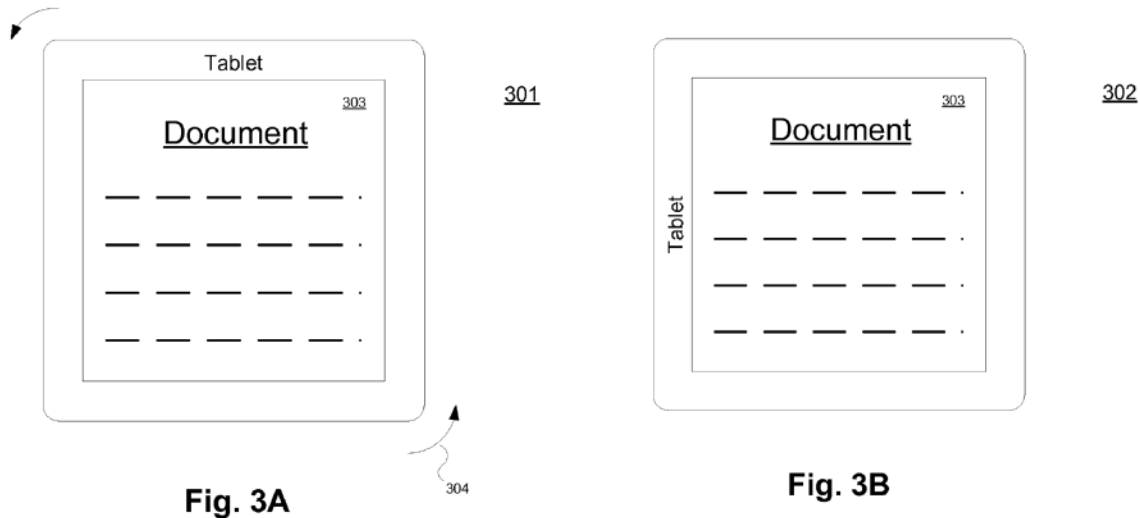
b. Claims 12, 14, and 16-18

Wehrenberg discloses using an accelerometer for operating a portable device such as a laptop computer. EX1023, 1:22-23, 3:54-58, 7:10-13, 7:39-44.

Wehrenberg also describes using an accelerometer in the portable electronic device to determine the orientation of the device and adjust the interface in response.

EX1023, 2:3-9, 7:27-8:60, Figs. 3A, 3B, 4.

For instance, Wehrenberg describes using accelerometer data to determine that the device display has been rotated by 90 degrees, as illustrated in Figures 3A and 3B.



Wehrenberg, Figs. 3A and 3B

The figures show the device being rotated counterclockwise 90 degrees. EX1023, 7:45-65. An accelerometer detects the movement, and the electronic device uses the accelerometer data to reorient the displayed content (“Document”) to keep it right-way-up. EX1023, 7:53-8:9; *see also id.*, 8:27-60, Fig. 4. Wehrenberg also discloses that accelerometer data is used to detect other movements beyond the rotation shown in Figures 3A and 3B as well. *See, e.g.*, EX1023, 8:20-26, Fig. 5A.

Because a POSITA would have been motivated to replace Lane’s position-indicating mechanism 38 with a modern accelerometer as disclosed by Wehrenberg, the combination of Lane and Wehrenberg discloses the *accelerometer* limitation in each of the challenged claims for the same reasons discussed regarding position-indicating mechanism 38. EX1003, ¶¶379-381.

VII. DISCRETIONARY DENIAL WOULD BE INAPPROPRIATE AND INEQUITABLE

A. Discretionary Denial Under Section 325(d) Is Not Appropriate

Although Lane was identified in an IDS during prosecution, Lane is nonetheless new art because it was never referenced, discussed, or substantively addressed by the examiner. Indeed, Lane was buried among 200-plus other patent references. EX1001, 1-3 (“References Cited”). The prosecution history contains no evidence that the examiner ever considered the substance of Lane and confirms that Lane was not the basis for any rejection. EX1002, 604-612, 681-698, 818-835, 886-906. In fact, Lane was not disclosed until *after* the examiner had allowed the claims and stated Reasons for Allowance. *Id.*, 1002; EX1003, ¶¶92-93.

Under *Advanced Bionics*, and applying the *Becton Dickinson* factors, the Board should not deny institution under Section 325(d). *Advanced Bionics v. MED-EL Elektromedizinische Geräte*, IPR2019-01469, Paper 6 at 7 (PTAB Feb. 13, 2020); *Becton, Dickinson, and Co. v. B. Braun Melsungen*, IPR2017-01586, Paper 8 at 17-18 (PTAB Dec. 15, 2017). The Board has determined that a cited reference not used in any rejection “weighs strongly against exercising our discretion to deny institution” under Section 325(d). *Adobe v. RAH Color Technologies*, IPR2019-00628, Paper 37 at 20 (PTAB Aug. 20, 2019); *see also Code 2000 UAB v. Bright Data*, IPR2022-00353, Paper 8 at 10 (PTAB July 1, 2022) (“[T]he fact that Crowds was not the basis of rejection in the prosecution of

the '344 patent...weighs strongly against exercising our discretion to deny institution under 35 U.S.C. § 325(d).”); *DJI Europe v. Textron Innovations*, IPR2022-00453, Paper 10 at 11 (PTAB Aug. 3, 2022) (fact the reference “not a basis for rejection weighs against exercising discretion to deny institution”); *Intel v. Qualcomm*, IPR2019-00128, Paper 9 at 16 (PTAB May 29, 2019) (fact the reference was not “the basis for rejection weighs strongly against exercising our discretion to deny institution”).

Had the examiner considered Lane—particularly in the combinations identified herein and with the benefit of Dr. Wolfe’s expert opinion testimony—he would not have erroneously allowed the challenged claims. *See Liquidia Tech., v. United Therapeutics*, IPR2021-00406, Paper 18 at 19 (PTAB Aug. 11, 2021) (“Because the art asserted here was not the basis for a rejection and was not evaluated substantively at all during examination, *Becton, Dickinson* factor (c) weighs in favor of a finding the Petitioner has shown material error by the Office.”). For example, Lane discloses the “accelerometer” limitation that the examiner erroneously found missing from the prior art in his reasons for allowing the claims. *See* EX1002, 968; *see also* Section VI.A.2.d, above. Similarly, the Lane-Fujinawa combination discloses the “display manager” limitation the examiner erroneously found missing from the prior art. *See* EX1002, 968; *see also* Section VI.A.2.e, above.

Additionally, Fujinawa¹³, Tonouchi, Pröll, Santoro, MIT, and Wehrenberg were not before the examiner during prosecution and are not cumulative of art considered by the examiner—particularly not when combined with Lane. None of this petition’s combinations of prior art was presented to the examiner nor was testimony similar to that of Dr. Wolfe. *See, e.g., Adobe*, IPR2019-00628, Paper 37 at 21 (facts that asserted combinations and supporting expert testimony were not presented to the examiner “also weigh heavily against denying institution”).

Thus, any argument for denial of institution under Section 325(d) is meritless.

B. Discretionary Denial Under Section 314(a) Is Not Appropriate

The Board should not exercise its discretion to deny institution under 35 U.S.C. § 314(a) based on either *General Plastic* or *Fintiv*.

1. General Plastic Does Not Apply

Because the ’229 Patent has not been subject to any prior IPR, this petition is not a follow-on petition challenging a previously challenged patent, as addressed in

¹³ A Japanese patent application by Fujinawa was submitted during prosecution, but it was a different application (not EX1007 cited herein), written in Japanese with only the first page translated (none of the figures were translated), and was never discussed by the examiner or applicant. EX1002, 571-583.

General Plastic Industrial Co. v. Canon Kabushiki Kaisha, IPR2016-01357, Paper 19 at 15-19 (PTAB Sept. 6, 2017). Therefore, the *General Plastic* decision does not apply. See *Bayerische Motoren Werke Aktiengesellschaft v. Paice*, IPR2020-01299, Paper 10 at 37-38 (Jan. 15, 2021) (petition was not a “follow-on” petition when prior IPRs involved related patents but not the same challenged patent).

2. The *Fintiv* Factors Weigh Against Denial

Under *Apple v. Fintiv*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020), the Board considers several factors—none of which supports a discretionary denial here.

a. Institution Will Enable a Stay

Neither party has requested a stay in the related litigations. Thus, this factor is neutral because the Board “will not attempt to predict” how the district court will proceed under such circumstances. *Sand Revolution II v. Continental Intermodal Group – Trucking*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020).

b. District Court Schedule

The district court has scheduled four trials—one for each Petitioner and another for a party not involved with this petition—with dates ranging from January 20-April 20, 2026. EX1047, 16. The anticipated deadline for a Final Written Decision here (i.e., July 2025) is long before the earliest trial date. Further, the median time to trial for the related litigations puts trial in late March 2026 (i.e., 37.8 months after the filing of the district court complaints on February

1, 2023). Interim Guidance, 3; EX1046, 3 (federal court time-to-trial statistics); EX1042 (earliest filed complaint). Thus, under either the district court’s current schedule or the median time-to-trial, the FWD will be due long before the earliest trial date. This factor weighs heavily against discretionary denial.

c. Parallel Proceeding Considerations

In the related litigations, little work has been done and much more work remains. The pleadings only recently closed, and the court held an initial scheduling conference on January 12, 2024. The parties have not yet exchanged preliminary infringement or invalidity contentions, fact discovery just opened, expert discovery is far in the future, and claim construction proceedings have not yet begun. This factor weighs against discretionary denial.

d. Issue Overlap

With the anticipated deadline for a FWD here being months before the earliest anticipated trial date in district court, estoppel under 35 U.S.C. § 315(e) will mitigate the risk of adjudication of overlapping issues at least to the extent of a stipulation of the type discussed in *Sand Revolution II*. This factor weighs at least marginally against discretionary denial. *Sand Revolution II*, IPR2019-01393, Paper 24 at 11-12, n.5.

e. Same Parties in Related Litigation

Because Petitioners and Patent Owner are parties in the related litigations, and because the Board is likely to reach the merits before the district court, this

factor weighs against discretionary denial. *Samsung Elecs. v. Staton Techiya*, IPR2022-00302, Paper 13 at 18-19 (PTAB July 11, 2022); *CrowdStrike v. Open Text*, IPR2023-00289, Paper 7 at 16 (PTAB July 21, 2023). At worst, this factor should be considered neutral. *Snap v. SRK Tech.*, IPR2020-00820, Paper 15 at 16 (PTAB Oct. 21, 2020); *see also Samsung Elecs. v. DoDots Licensing Solutions*, IPR2023-00621, Paper 9 at 15 (PTAB Oct. 11, 2023).

f. Other Considerations Support Institution

Other considerations weigh strongly against discretionary denial. The challenged claims are clearly invalid as demonstrated herein, and Petitioners have not previously challenged the '229 Patent.

In summary, the *Fintiv* factors weigh against discretionary denial. Were that not so, institution would be appropriate nevertheless because the petition satisfies the compelling merits standard. Interim Guidance, 4; *Vizio v. Maxell*, IPR2022-01458, Paper 8 at 62 (PTAB Apr. 11, 2023).

VIII. CONCLUSION

The Board should institute review and cancel claims 12, 14, and 16-18 of the '229 Patent.

Respectfully submitted,

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CLAIM APPENDIX

[1pre] A portable computer configurable between a plurality of display modes including at least a laptop mode, a frame mode, and an easel mode, the portable computer comprising:

[1a] a display component;

[1b] a base;

[1c] an accelerometer configured to generate orientation information indicative of a current display mode among the plurality of display modes of the portable computer;

[1d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode;

[1e] an interface between the display component and the base defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;

[1f] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis up to approximately 180 degrees from a closed mode configures the portable computer into the laptop mode, wherein in the laptop mode the display component is oriented

towards an operator and a keyboard disposed within the base is oriented to receive input from the operator;

[1g] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis beyond approximately 270 degrees from the closed mode transitions the portable computer for viewing in the frame mode or the easel mode, wherein during operation in the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface, and wherein during operation in the easel mode the display component is oriented facing the operator with the keyboard oriented away from the operator; and

[1h] wherein the portable computer is configured to detect a transition to at least the easel mode and the frame mode based on the orientation information, automatically determine a display orientation of content, and disable the keyboard when the portable computer is in the frame mode.

[2] The portable computer of claim 1, wherein the display component is rotatable about the longitudinal axis up to approximately 320 degrees from the closed mode.

[3pre] The portable computer of claim 1, further comprising:

[3a] a display orientation module that displays content on the display screen in one of a plurality of content orientations relative to the longitudinal axis;

[3b] a mode sensor which incorporates the accelerometer and detects the current display mode of the portable computer based on the orientation information; and

[3c] wherein the display orientation module displays content on the display screen in the one of the plurality of content orientations dependent on the current display mode detected by the mode sensor.

[4] The portable computer of claim 1, wherein the base and the display are only rotatable with respect to each other at the interface.

[5] The portable computer of claim 1, wherein the interface further comprises a multiple axis hinge.

[6] The portable computer of claim 5, wherein the interface further comprises multiple hinges.

[7] The portable computer of claim 1, wherein the interface defines a single longitudinal axis.

[8] The portable computer of claim 1, wherein the interface includes a hinge assembly, wherein the hinge assembly is at least partially housed within one of the base and the display component.

[9] The portable computer of claim 1, wherein the interface comprises means for rotating the display component along the longitudinal axis relative to the base to transition the portable computer for viewing in the frame mode.

[10] The portable computer of claim 1, wherein the interface comprises a plurality of axles.

[11] The portable computer of claim 1, further comprising at least one integrated navigation hardware control, wherein at least one of the at least one integrated navigation hardware control is accessible in at least the laptop and frame modes, and wherein the integrated navigation hardware can be operated by a user to control features and manipulate content displayed on the portable computer, including in any mode wherein the keyboard is inaccessible or oriented away from the user.

[12pre] A portable computer configurable between a plurality of operating display modes, the portable computer comprising:

[12a] a display component including a single display screen for viewing content;

[12b] a base;

[12c] an accelerometer configured to generate orientation information indicative of a current display mode among the plurality of display modes of the portable computer;

[12d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition between at least two operating display modes of the plurality of operating display modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from a first operating display mode of the plurality of operating display modes to a

second operating display mode of the plurality of operating display modes;

[12e] an interface connecting the display component and the base, defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;

[12f] wherein the interface is constructed and arranged so that the display component and the base are rotatable with respect to each other about the longitudinal axis;

[12g] wherein the interface is constructed and arranged so that rotating either the display component or the base about the longitudinal axis from a closed mode to a first position configures the portable computer into the first operating display mode of the plurality of operating display modes, wherein in the first operating display mode the display component is oriented towards an operator of the portable computer, and the base is disposed on an opposite side of the display, wherein at least a portion of the base is configured to support the display in position when in the first operating display mode;

[12h] wherein the interface is constructed and arranged so that reorienting the portable computer while the display component and the base are in the first position configures the portable computer into the second operating display mode of the plurality of operating display modes, wherein in the second operating display mode the display component is oriented towards an operator of the portable computer, the base lies flat on a substantially horizontal surface,

and a keyboard of the base is disabled and disposed towards the substantially horizontal surface, wherein at least a portion of the base is configured to support the portable computer in position when in the second operating display mode, a display orientation of content is automatically changed when transitioning between the first and second operating display modes.

[13] The portable computer of claim 12, wherein the first operating display mode is configured so that at least a portion of display component and at least a portion of the base define an inverted v configuration and wherein the second operating display mode is configured so that at least a portion of the display component and at least a portion of the base define a sideways v configuration.

[14] The portable computer of claim 12, wherein the interface comprises means for rotating the display component relative to the base.

[15] The portable computer of claim 13, wherein the interface is constructed and arranged to enable rotation of the base and the display component from a second position where the base and display component are disposed against each other to the first position where at least a portion of the base and the at least a portion of the display component are in a v configuration.

[16pre] A method of managing user interaction with content displayed on a portable computer having a plurality of display modes, the portable computer comprising a display component including a display screen, a base including a keyboard, and an interface connecting the display

component and the base defining a longitudinal axis, the method comprising:

[16a] rotating at least one of the display component and the base of the portable computer about the longitudinal axis to configure the portable computer in at least one of the plurality of display modes, wherein the longitudinal axis is configured to run along the connection between the display component and the base of the portable computer;

[16b] positioning at least a portion of the portable computer in a sideways v configuration for operation by a user, responsive to the act of rotating, wherein the act of positioning includes acts of:
positioning the display component in an orientation directed towards the user; and
positioning the base to lie flat on a surface and support the portable computer in the sideways v configuration;

[16c] generating, by an accelerometer, orientation information indicative of an orientation of the device;

[16d] determining a current display mode of the plurality of display modes based on the orientation of the device, including distinguishing between a first display mode and a second display mode of the plurality of display modes where either the display component or the base is rotated about the longitudinal axis beyond approximately 270 degrees from a closed state;

[16e] executing software protection configured to disable the keyboard when the portable computer is in the sideways v configuration; and

[16f] displaying computer content and varying the computer content displayed responsive to the orientation information indicating a transition between at least two display modes of the plurality of display modes, wherein the act of varying the computer content includes:

enlarging the computer content displayed on the display component responsive to detecting a transition from the first display mode to the second display mode.

[17] The method of claim 16, wherein the base includes a keyboard and the act of positioning the base on the opposite side of the display component includes positioning the keyboard such that the keyboard towards the surface.

[18pre] A portable computer configurable between a plurality of display modes including at least a laptop mode, a frame mode, and an easel mode, the portable computer comprising:

[18a] a display component;

[18b] a base;

[18c] an accelerometer configured to generate orientation information indicative of a current mode of operation;

[18d] a display manager configured to display computer content on the display component and vary the computer content displayed responsive to the orientation information indicating a transition

between at least the laptop and easel modes, wherein the display manager is further configured to enlarge the computer content displayed on the display component responsive to a transition from the laptop mode to the easel mode;

[18e] an interface between the display component and the base defining a longitudinal axis running along the display component and the base about which the display component and the base are rotatable;

[18f] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis up to approximately 180 degrees from a closed mode configures the portable computer into a laptop mode, wherein in the laptop mode the display component is oriented towards an operator and a keyboard disposed within the base is oriented to receive input from the operator;

[18g] wherein the interface is constructed and arranged such that rotating either the display component or the base about the longitudinal axis beyond approximately 270 degrees from the closed mode transitions the portable computer for viewing in the frame mode or the easel mode, wherein during operation in the frame mode the display component is positioned toward the operator, the base contacts a substantially horizontal surface, and the keyboard is directed towards the substantially horizontal surface, and wherein during operation in the easel mode the display component is oriented facing the operator with the keyboard oriented away from the operator; and

[18h] wherein the portable computer is configured to detect a transition to at least one of the easel mode and the frame mode based on the orientation information, automatically determine a display orientation of content, and disable the keyboard in response to detecting the portable computer is in the frame mode.

[19] The portable computer of claim 1, wherein the portable computer further disables the keyboard in response to an orientation of the portable computer.

[20] The portable computer of claim 1, wherein the portable computer is further configured to connect to a docking station in the plurality of display modes, including the laptop mode and the frame mode.

[21] The portable computer of claim 1, further comprising a cushioning strip configured to stabilize the portable computer in a plurality of modes.

[22] The portable computer of claim 11, wherein the at least one integrated navigation hardware control includes a clickable scroll wheel configured to scroll along the longitudinal axis to select an item displayed by the display screen.

[23] The portable computer of claim 1, wherein the display component is further configured to display a segmented user interface comprising a plurality of modes of content.

[24] The portable computer of claim 1, wherein the display component and base include an overlapping portion such that responsive to rotation of display component and base, the display

component contacts the base preventing further rotation, and the base directly supports the display in the frame mode configuration.

[25] The portable computer of claim 3, wherein the display module is configured to display content in a first orientation during the frame and laptop display modes of operation and display content in a second orientation during the easel display mode, the second orientation being rotated 180 degrees relative to the first orientation.

CERTIFICATE OF COMPLIANCE

This petition complies with the 14,000 word-count limit under 37 C.F.R. § 42.24(a)(1)(i). The petition contains 13,986 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1) (i.e., table of contents, table of authorities, mandatory notices under § 42.8, certificate of service, word count certificate, and appendix of exhibits), as determined by the word count feature of Microsoft Word, which was used to prepare this petition.

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CERTIFICATE OF SERVICE

I hereby certify that on January 29, 2024, I caused a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits to be served by electronic means, as agreed by Patent Owner, at the following email addresses:

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