IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NINTENDO CO., LTD. and

NINTENDO OF AMERICA INC.,

Petitioners,

v.

GAMEVICE, INC.,

Patent Owner.

PTAB Case No. IPR2018-01522

Patent No. 9,126,119

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,126,119

(claims 1-10, 13-21)

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EXHIBIT LIST

Ex. 1001	U.S. Patent No. 9,126,119 ("'119 Patent")
Ex. 1002	Declaration of Garry Kitchen ("Kitchen")
Ex. 1003	U.S. Patent No. 9,539,507 B2 ("Schoenith")
Ex. 1004	Translation of Korean Patent No. 10-2011-0116892 ("Park") with Korean Version and Translation Certification
Ex. 1005	International Patent Application No. WO 2014/079264 A1 ("Kessler")
Ex. 1006	U.S. Patent Application Publication No. US 2015/0134859 A1 ("Hirschman")
Ex. 1007	U.S. Patent No. 8,529,357 ("'357 Patent")
Ex. 1008	File History for U.S. Patent No. 9,126,119
Ex. 1009	Complaint filed in *Gamevice, Inc. v. Nintendo Co., Ltd. et al.*, Case No. 17-cv-05923 (C.D. Cal. Aug. 9, 2017)
Ex. 1010	U.S. Patent No. 8,944,912 ("'912 Patent")
Ex. 1011	Excerpt of American Heritage Dictionary (Second College Edition)
Ex. 1012	Merriam-Webster's Online Dictionary ("conduit") (https://www.merriam-webster.com/dictionary/conduit)
Ex. 1013	U.S. Provisional Patent Application No. 61/477,387
Ex. 1014	U.S. Patent Application Publication No. 2001/0045938 A1 ("Willner")
Ex. 1015	U.S. Patent Application Publication No. 2010/0195279 A1 ("Michael")

I. INTRODUCTION

Smart phones, tablets, and PDAs became popular long before 2015. Along with the rise of these portable computing devices came the rise of *gaming* on those devices. But gaming on these devices had downsides, including the inability to use more-traditional (and enjoyable) control inputs like buttons, joysticks, and a D-pad, the need for one to block the screen (and thus the game) to touch the screen and control the game, and the discomfort of holding a small device and using one's fingers to control the game for extended periods. To solve these problems, companies in the 2000s began designing controllers that provided physical control modules that resembled well-known gaming controllers, but were designed to hold and communicate with portable computing devices.

Patent Owner designed one such game controller—but it was not the first to do so. The '119 patent nonetheless recites and claims the combination of a computing device and game controller that includes standard game-controller components known in the art and used as expected and intended. Petitioners accordingly request that the Board cancel claims 1-10 and 13-21 of the '119 patent.

II. MANDATORY NOTICES

A. Real Party-in-Interest

Petitioners Nintendo of America Inc. and Nintendo Co., Ltd. are the only real parties in interest.

B. Related Matters

Patent Owner Gamevice asserted the '119 patent against Petitioners in an action captioned *Gamevice, Inc. v. Nintendo Co., Ltd. et al.*, No. 2:17-cv-05293-GW-FFM, which was filed in the Central District of California on August 9, 2017. Gamevice never served the Complaint on Petitioners and dismissed that action without prejudice on October 23, 2017. Gamevice's Complaint in the Central District of California alleged infringement by the Nintendo Switch. *See* Ex. 1009.

Gamevice filed a second action against Petitioners on March 29, 2018, in the Northern District of California, titled *Gamevice, Inc. v. Nintendo Co., Ltd. et al.*, No. 3:18-cv-01942-RS. The '119 patent is not asserted in that action, but Gamevice asserts related patents and alleges infringement by the Nintendo Switch. Gamevice has also filed and is pursuing an investigation before the United States International Trade Commission, titled *Certain Portable Gaming Console Systems with Attachable Handheld Controllers and Components Thereof*, Inv. No. 337-TA-1111. The '119 patent is not asserted in that matter, but Gamevice asserts that the Nintendo Switch infringes related patents there. Gamevice has, however, recently intimated that it might allege counterclaims for infringement of the '119 patent in the Northern District of California action (based on the Switch), but it has not done so yet. Case No. 3:18-cv-01942, Dkt. 40 at 5.

Concurrent with this petition, Petitioners are filing a separate petition for IPR that relies upon different prior art combinations to challenge claims of the '119 patent. *See* IPR2018-01521.

C. Notice of Counsel and Service Information

Petitioners' counsel are identified below:

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Petitioners consent to electronic service in this matter. The following email address may be used for service and all communications:

Nintendo-Gamevice-IPR@perkinscoie.com

Petitioners have executed and are concurrently filing Powers of Attorney appointing the above-designated counsel.

III. GROUNDS FOR STANDING

Pursuant to 37 C.F.R. § 42.104(a), Petitioners certify that the '119 patent is available for IPR. Petitioners are not barred or estopped from requesting an IPR challenging claims of the '119 patent on the grounds identified herein.

IV. IDENTIFICATION OF CHALLENGE AND RELIEF REQUESTED

Petitioners request that the Board cancel claims 1-10 and 13-21 as obvious under 35 U.S.C. § 103. The following prior art references are relied upon:

Ground	References	Challenged Claims
1	Willner & Park	1-10, 13-21
2	Kessler & Hirschman	1-3, 5-6, 9-10, 13-20
3	Hirschman	1

Petitioners further rely on the Declaration of Garry Kitchen (Ex. 1002, hereinafter "Kitchen"), and other evidence listed in Petitioners' Exhibit List. An explanation of how claims 1-10 and 13-21 are invalid is provided in Section VI.

V. BACKGROUND

A. The '119 Patent

The '119 patent describes and claims a game controller that attaches to a portable computing device. Ex. 1001. The claimed controller consists of structural and communications components, including a *communication port* that provides a *communication link* and two *confinement structures* secured by a *structural bridge*. An *input device* consists of two *control modules*, or game controllers, which are attached to those *confinement structures* and contain *apertures* and *instructional input devices* in the form of buttons, joysticks, a keyboard module, or other known input means.

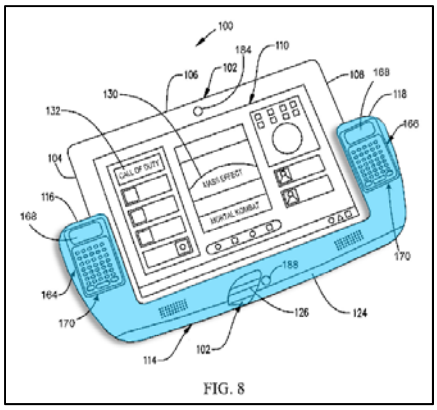


FIG. 8

Figure 1 (right) shows an embodiment from the original parent application. As shown, there is an electronic computing device (*e.g.*, tablet) that is seated in an external controller with two sides and bottom section (blue). Each side contains input controls such as buttons, a d-pad, or joysticks, and could also include keyboard modules. Figure 14 (left) shows a modified embodiment that contains the two game control modules (blue) with a different external structure (red) connecting them behind the back side of the

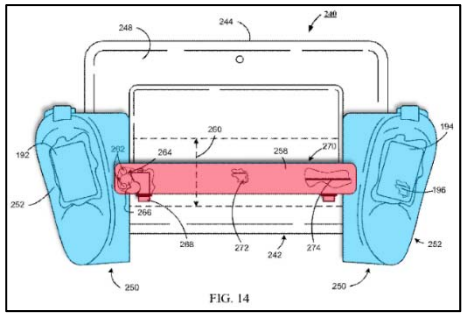


FIG. 14

computing device. These disclosures were also included in the application leading to the '357 patent, an application that Gamevice recently added to the priority chain via a certificate of correction. But these disclosures do not show every limitation claimed by the '119 patent, such as *confinement structures*.

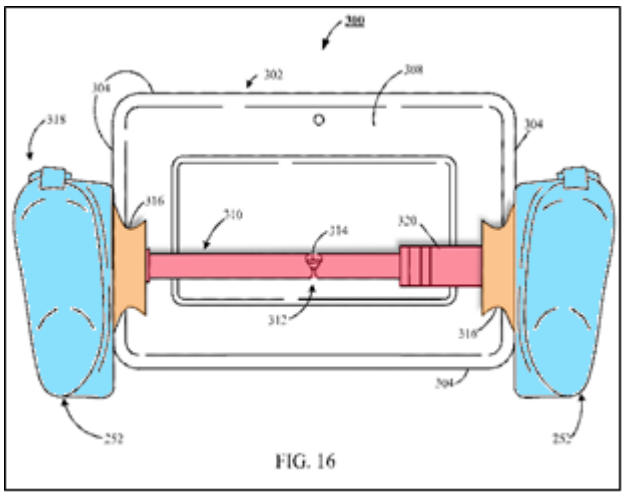


FIG. 16

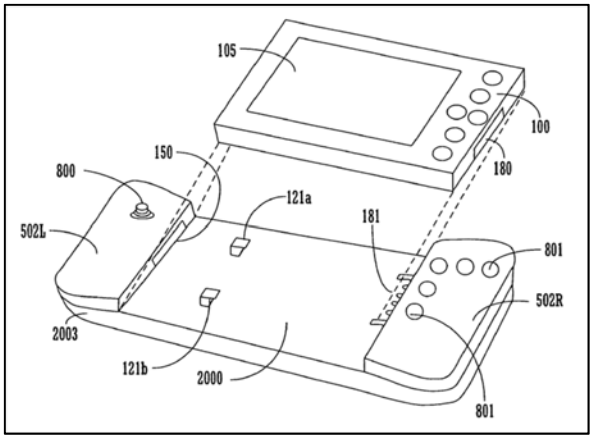
Figure 16, left, was a new disclosure in the continuation-in-part application leading to the '119 patent. It shows the back of an alternative combination containing components recited in claim 1. This embodiment and certain of its components—for example, the separate *confinement structures* (orange)—were first disclosed and claimed in the '119 continuation-in-part application. The two game control modules (blue) are connected to two *confinement structures*; those structures, in turn, confine a computing device on two sides and are secured together via a *structural bridge* (red). The *communication port* is identified as the structural bridge and, as claimed, provides the two *confinement structures* and the *communication link*.

B. Prosecution History

The '119 patent issued only after the applicant amended claim 1. In the original claim 1, the applicant recited a combination that did not claim certain

elements now recited. Following an examiner interview, the applicant submitted an amendment to claim 1 that added limitations reciting a "structural bridge" securing the confinement structures together and comprising a conduit and fastening mechanism; and an "attachment structure" on the control modules securing them (the input device) to the communication port. Ex. 1008 at 136.

The examiner allowed the amended claim 1. He explained that U.S. Patent No. 7,733,637 ("Lam") taught many limitations of claim 1, but that Lam was silent on (1) the input device being a "separate and distinct structure from the communication port…"; and (2) a structural bridge securing the confinement structures together, an attachment structure on the game control modules, a conduit between the game control modules, and a fastening mechanism. *Id.* at 114-15. The prior art presented herein remedies these perceived deficiencies.



C. Level of Skill in the Art

A person having ordinary skill in the art at the time of the filing of the '119 Patent's application ("POSITA") would have had the equivalent of a bachelor's degree in mechanical, electrical, or computer engineering or other technical training in product design or, equivalent work experience in the development of

interactive products. Such a person would possess at least one year of experience in developing and/or evaluating interactive products.

D. The '119 Patent Is Only Entitled to its Actual Filing Date

The application for the '119 patent was filed February 2, 2015, and the patent issued September 8, 2015. Ex. 1001. It was a continuation-in-part of U.S. Patent application Serial No. 13/681,153, filed Nov. 19, 2012, and is related to other continuation-in-part applications. Ex. 1008 (File History) at 151. The '357 patent was not claimed in the '119 patent's priority chain, but the PTO granted a certificate of correction on August 1, 2018 allowing Patent Owner to add it to that chain.

The combination recited in claim 1 of the '119 patent lacks written description support in any prior-related application. Material added to the '119 patent and absent from the related-applications include Figures 16-25 and the accompanying description. *Compare* Ex. 1001; Ex. 1010 ('912 patent disclosing only Figures 1-10 and accompanying description); Ex. 1007 ('357 patent adding figures 11-15 and accompanying description). Specifically, the new material added to the '119 patent is the only potential support for the "pair of confinement structures," "communication port," "conduit," "attachment structures," "communication platform," or "fastening mechanism" as claimed in claim 1—all of which were added only in the '119 patent. As a result, Gamevice cannot show

written description support for claim 1 or any dependent claim. The '119 patent is thus entitled only to its actual filing date of February 2, 2015.

E. Proposed Constructions

The Board currently gives a claim in an unexpired patent "its broadest reasonable construction in light of the specification of the patent." 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs.*, LLC, 793 F.3d 1268, 1276 (Fed. Cir. 2015), *aff'd* 136 S. Ct. 2131 (2016). Petitioners recognize the PTO has proposed requiring the *Phillips* standard in a proposed notice of rulemaking. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Here, the '119 patent's claims are invalid whether under BRI or the *Phillips* standard. All claim terms not particularly proposed have been accorded their plain and ordinary meaning as understood by POSITA and consistent with the specification.

Regardless of standard, Gamevice cannot rely upon broad constructions in litigation or the ITC for infringement purposes while utilizing narrower positions to protect its patent's validity before the Board. As the Federal Circuit has explained, "claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses." *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). To "ensure that claims are not argued one way in order to maintain their patentability and in a different way against accused infringers," the Federal Circuit recently confirmed

that a prosecution disclaimer can arise from patent owner statements in IPRs. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1360 (Fed. Cir. 2017) (rejecting patent owner's attempt to apply a broader interpretation for infringement after applying narrower interpretation in IPR). Thus, Gamevice cannot take broad positions—as it has in the complaint it filed asserting the '119 patent and now in the ITC for related patents—while taking narrower positions to defend the '119 patent here.

1. "Confinement Structures" (claim 1)

Independent claim 1 requires the *communication port* to provide *a pair of confinement structures adjacent to and confining the computing device on at least two opposing sides of the plurality of sides of the computing device.* The *pair of confinement structures* is recited in purely functional terms—only by what they do, *confining the computing device on at least two opposing sides*—not by what they are or how they operate. Thus, while the phrase does not use the term "means," it is a means-plus-function limitation because it "fails to recite sufficiently definite structure" and recites function "without reciting sufficient structure for performing that function[.]" *Adv. Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016); *Diebold Nixdorf, Inc. v. ITC,* __ F.3d ___, Appeal No. 2017-2553, Slip Op. at 9-10, 18-19 (Fed. Cir. Aug. 15, 2018) (reversing ITC by holding that "cheque standby unit" was a means-plus-function limitation); *see also Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015). This is so whether

the BRI standard or the *Phillips* standard is nominally being applied. *See In re Donaldson*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (holding "no distinction is made in paragraph six between prosecution in the PTO and enforcement in the courts").

The first step in construing means-plus-function limitations is to identify the functions performed. *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1318 (Fed. Cir. 2003). The function for the *pair of confinement structures* is: "confining the computing device on at least two opposing sides of the plurality of sides of the computing device." Next, the corresponding structure must be identified. *Lockheed Martin*, 324 F.3d at 1320. Here, there is essentially no structure provided beyond, at most, the embodiment shown in Figures 16-22 and the corresponding limited written description. Thus, only one construction exists that is, even arguably, sufficiently definite.

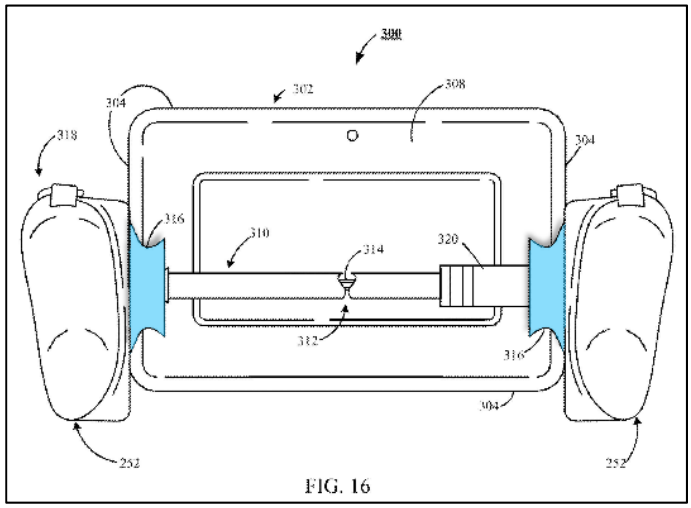


FIG. 16

Figure 16 (annotated left) shows what the written description identifies as two confinement structures 316. They are shown adjacent to and confining the two sides of the computing device, as claimed, but with no other structural detail. The specification further describes the confinement structures in functional language, noting that the communication port

310 "provides a pair of confinement structures 316, … which are preferably adjacent to and confining, the computing device 302 on at least two opposing sides…" Ex. 1001 at 8:1-5. Limited description of the confinement structures is further provided with regard to Figures 17 and 19-22. The specification describes the confinement structures as shown in those figures as including a device cradle 336 and other features, such as docking pins 334, an interface feature, and signal input lands. *Id.* at 8:54-67.

Accordingly, the term *pair of confinement structures* should be construed as a means-plus-function phrase limited to the disclosures of Figures 16-22 (and accompanying description) or their equivalents.

In any case, the specification's disclosures concerning the confinement structures, which are claimed to be adjacent to and confining the computing device on at least two opposing sides of the computing device, are limited to the structure 316 identified in Figure 16 and related figures and corresponding descriptions, as discussed above. So even if *confinement structure* is not considered a means-plus-function term, its construction should be limited to the disclosures of Figures 16-22 and accompanying descriptions because any broader interpretation would not be consistent with the specification. *In re Smith International, Inc.*, 871 F.3d 1375, 1383 (Fed. Cir. 2017).

2. "Structural Bridge" (claims 1, 9-10)

Structural bridge is a "coined term" with no common, ordinary meaning. Kitchen ¶78. The broadest reasonable interpretation of *structural bridge* is "a member separate from, and external to, the computing device that connects the confinement structures one to the other whether or not a computing device is present." *Id.* ¶¶78-80. Every figure in the '119 patent that teaches a *structural bridge* shows a structure separate from and external to the computing device that connects either the control modules or the confinement structures. *See* Ex. 1001 at Figs. 14-18, 25. Likewise, the specification's discussion of a *structural bridge* is limited to descriptions of Figures 14 and 17—which include only an external structure that connects either the control modules or the confinement structures together, depending on the embodiment. *Id.* at 7:1-5; 8:28-35. Further, the specification provides that the computing device can be "remove[d]" from the controller and it is the controller that provides the communication port, the input device, and the confinement structures. *Id.* at 8:44-53, Abstract. In the claims of the '119 patent, the *structural bridge* is limited to securing the confinement structures one to the other, as shown in Figure 17, and is recited as a structure separate from the computing device. *Id.* at 10:19 (claim 1).

Accordingly, the BRI of *structural bridge* requires "a member separate from, and external to, the computing device that connects the confinement structures one

to the other whether or not a computing device is present." No support exists in the claims, specification, or prosecution history for interpreting structural bridge to encompass a structure internal to, or part of, the claimed computing device.

3. "Conduit" (claim 1)

The BRI of *conduit* is "closed tube or duct for confining and protecting wires or cables." The specification describes a *conduit* in only a single instance where it explains that, as shown in Figure 17, the "fastening mechanism 320, is preferably securely fastened to to [*sic*] a conduit 328, of the structural bridge 322…." Ex. 1001 at 8:35-40. Figure 17 (shown below) shows the conduit 328 as a portion of the structural bridge 322 with wired components running through it. *Id.* at Fig. 17. Consistent with this usage, common dictionaries show that *conduit* has a well-understood meaning in ordinary parlance when used as to electrical devices. The American Heritage Dictionary defines conduit as "a tube or duct for enclosing electric wires or cable." Ex. 1011 at 307. Similarly, Merriam-Webster's online dictionary defines conduit as "a pipe, tube, or tile for protecting electric wires or cables." Ex. 1012.

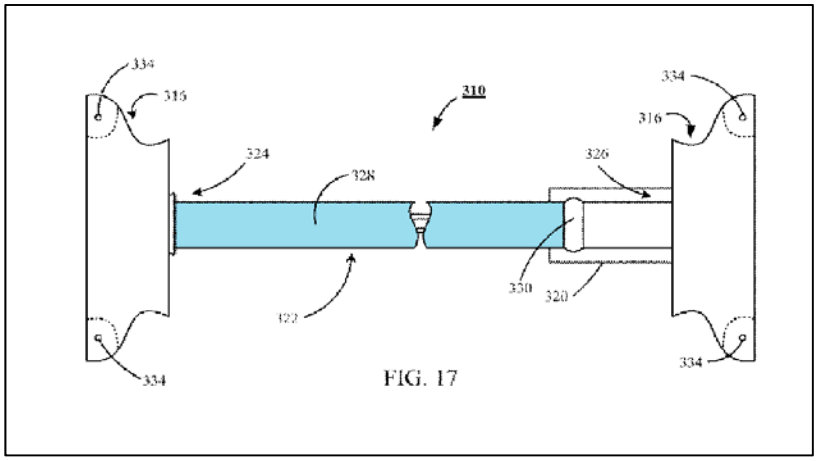


FIG. 17

A POSITA reading the '119 patent's specification and claims would understand *conduit* to have its ordinary and reasonable interpretation in this context: a "closed tube or duct for confining and protecting wires or cables." Kitchen ¶¶81-83. Any broader construction would be unreasonable because it has no support in the specification, prosecution history, or ordinary parlance.

4. "Fastening Mechanism" (claim 1)

Independent claim 1 requires that the *structural bridge* comprise a *fastening mechanism cooperating with the pair of confinement structures, the fastening mechanism secures the pair of confinement structures one to the other.* Ex. 1001 at 10:25-28. The *fastening mechanism* is recited in purely functional terms by what it does: *cooperating* with the confinement structures and *secur[ing]* them one to the other. Thus, while the phrase does not use the term "means," it is a means-plus-function limitation because it merely recites function with no structure. *See Adv. Ground Info. Sys.*, 830 F.3d at 1347.

As claimed, the function of the *fastening mechanism* is "cooperating with and securing the pair of confinement structures one to the other." The only structure disclosed for *fastening mechanism* is the fastening mechanism 320, taught in Figures 16-18, 21, and 24-25. That component is shown in annotated Figure 16

(right). The specification explains that the communication port includes a "fastening mechanism 320" that in one embodiment is "a soft draw latch, such as that provided by Southco" of Concordville, PA. Ex. 1001 at 8:23-27.

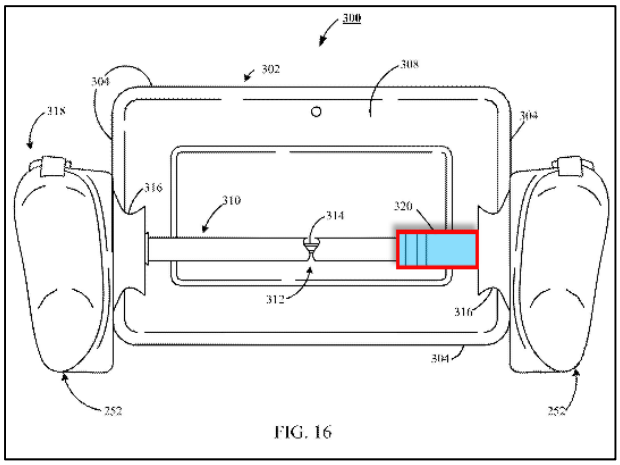


FIG. 16

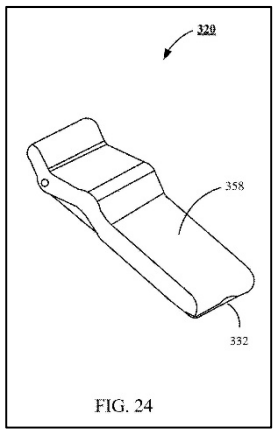


FIG. 24

That latch is shown in detail in Fig. 24 (above). According to the specification, the fastening mechanism is fastened to the conduit via anchor member 330, which is in turn positioned adjacent to the slip fit 326, and attached to the other confinement structure via an attachment member 332. *Id.* at 8:35-43. "Operation of the fastening mechanism 320, facilitates an expand and contract of the distance between the pair of confinement structures" though the use of the slip fit. *Id.* at 8:43-45, 9:42-44.

Accordingly, the only arguably definite structure for *fastening mechanism* is limited to the fastening mechanism 320 of Figures 16 and 24—the soft draw latch and slip-fit discussed in the specification. Kitchen ¶¶84-88.

Even if means-plus-function treatment were not given to *fastening mechanism*, the BRI would still be a soft draw latch or equivalents. The specification discloses that the fastening mechanism "facilitates an expand or

contract of the distance between the pair of confinement structures," and only provides one disclosure that arguably satisfies this requirement: a soft-draw latch.

5. "Communication Link" (claims 1, 13, 16)

The BRI of *communication link* as claimed is a "wired or wireless connection for passing signals between the control modules." This is what the specification describes when discussing the *communication link* and is consistent with the term's plain and ordinary meaning. For example, the specification explains that Figure 14, which does not teach confinement structures, shows that the structural bridge 258 "provides a communication link 270, which passing [*sic*] signals between the pair of control modules 252." Ex. 1001 at 7:15-17. It further explains that the communication link can provide a communication module 272 or a signal pathway 274 for "use in passing signals between the pair of control modules 252." *Id.* at 7:18-49. With regard to Figure 16, which added confinement structures, the communication link 312 is identified as part of the communication port and either a wired or wireless connection allowing communication between the confinement structures and thus the control modules. *Id.* at 7:65-8:1, Fig. 16.

VI. THE CHALLENGED CLAIMS ARE UNPATENTABLE

Claims 1-10 and 13-21 are unpatentable under 35 U.S.C. § 103.

A. Prior Art

1. Kessler

Kessler published on May 30, 2014 after being filed on September 13, 2013 with a U.S. designation. It also claims priority to a foreign application filed in November 23, 2012. Kessler is prior art under 35 U.S.C. § 102(a)(1)- (2). Kessler was not of record in the '119 patent's prosecution.[1]

Kessler disclosed a handheld game pad controller designed to hold and communicate with a computing device. Kessler taught separate left and right handle housings that each contain user input controls such as buttons, d-pads, or joysticks. The handle controllers were interconnected via an adjustable bridge that wrapped around the back of a smart device. When opened, the controller could receive the handheld computing device by confining it on two sides. Figure 10 (below) showed the game controller in an open position without the computing device. Figure 11 (also below) showed the controller holding a smart phone.

[1] The '119 patent is subject to AIA §§ 102-103 because at least one claim is entitled to the actual filing date of February 2, 2015. MPEP § 2159.02 (9th ed., rev. Jan. 2018).

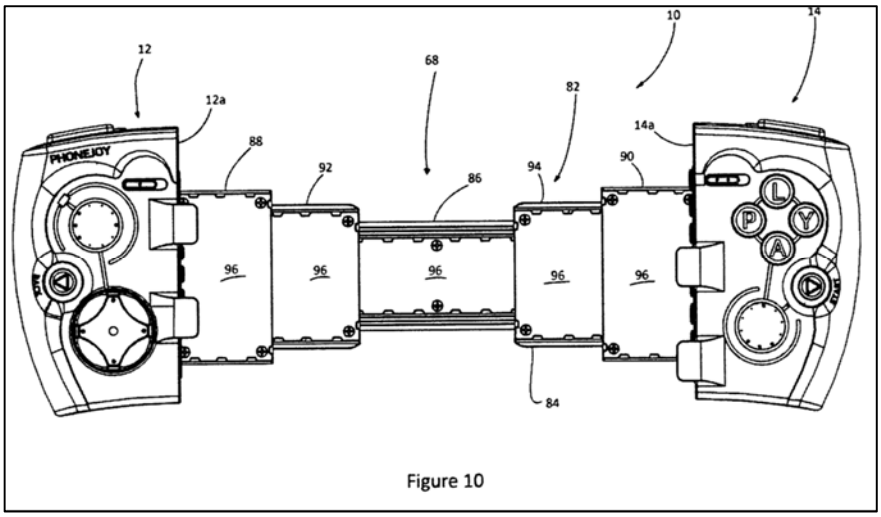


Figure 10

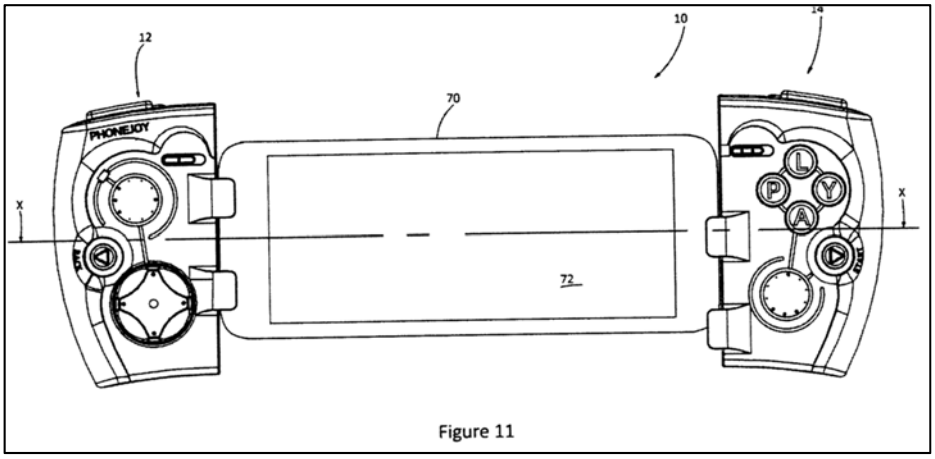


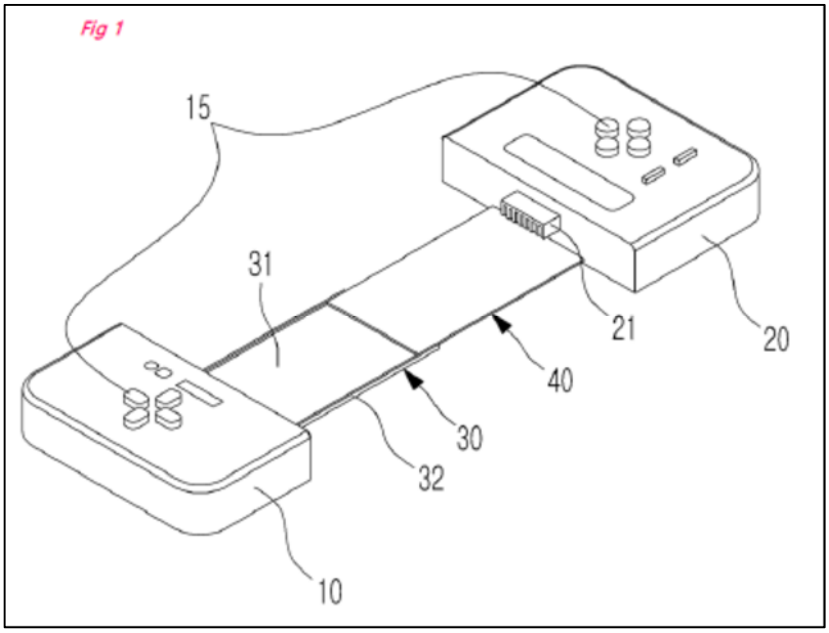
Figure 11

The controller in each of the handles had memory, a processor, and a communication module (which could be wireless or wired) capable of communicating with the smart device. Ex. 1005 ¶¶11-12, 19. Each handle also had control circuitry connected via an electrical connection means that passed through the extension mechanism (bridge), which is identified as a "conduit." *Id.* ¶¶26-27.

2. Park

Park was filed April 20, 2010 and published October 26, 2011. It is prior art under 35 U.S.C. § 102(a)(1)-(2). Park was not of record in the '119 patent's prosecution.

Park disclosed a gamepad apparatus that consisted of two controllers—one on the left and one on the right—connected via an adjustable bridge. Ex. 1004 at Abstract. The device confines a mobile phone lengthwise on two sides between the raised walls of the controllers with the adjustable bridge supporting the back of the phone. *Id*. ¶13. Figure 1 below shows Park's device without the mobile phone inserted:



The left and right controller bodies are electrically connected via a cable that runs through the bridge. A connecting terminal 21, or docking port, is also

provided to link the mobile phone to the bodies. The two sides of the device are fastened together by the sliding panels of the bridge, which contain recessed guide grooves and catching holes that locks them, and thus, the inner side walls of the controllers, together. *Id.* ¶9.

3. Willner

Willner was published on November 29, 2001. Ex. 1014. Willner is prior art under 35 U.S.C. § 102(a)(1)-(2). Willner was not of record in the '119 patent's prosecution.

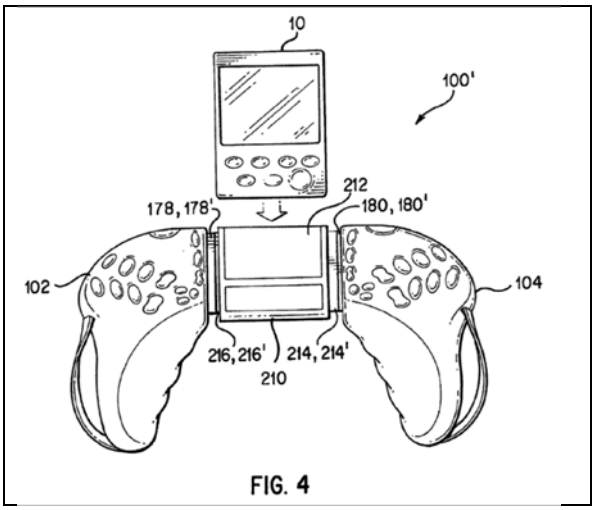


FIG. 4

Willner disclosed a hand grippable game controller system that consisted of two hand grippable housings (*e.g.*, controllers) that could be attached and detached to a computing device by way of a connecting portion. More specifically, a computing device could be received within an adaptor 210 by way of an opening 212 into which the computing device is received. *Id.* ¶0050.

The hand grippable housings could then be attached to connecting portions 214 and 216 of the adaptor, which "matingly engage" with connecting portions 178, 178', 180, and 180' of the housings (*e.g.*, pin-connectors / sockets). *Id.* ¶¶0046, 0050-51. In this configuration the housings are electrically connected to the computing device through a bus 215/217, as shown in Figure 8.

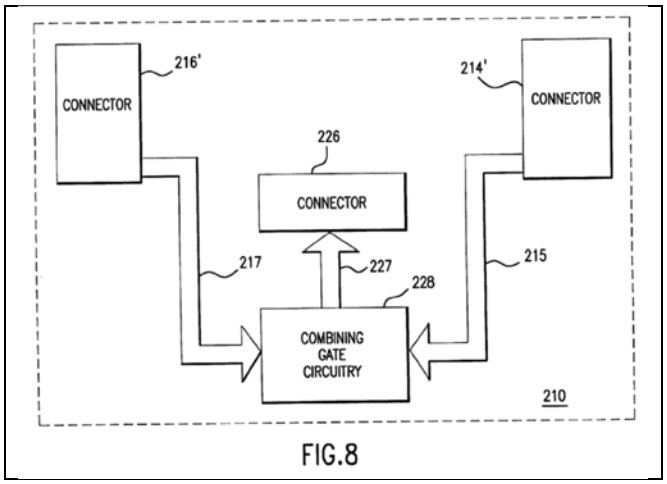


FIG.8

4. Hirschman

Hirschman was published May 14, 2015 from an application filed January 23, 2015. It claims priority to a provisional application, No. 61/477,387 (Ex. 1013), which contains a nearly identical specification and was filed April 20, 2011. *Compare* Ex. 1006 *with* Ex. 1013. It also claims priority to application No. 13/445,408, filed April 12, 2012. Hirschman is prior art under 35 U.S.C. § 102(a)(2). It was not at issue during prosecution of the '119 patent.

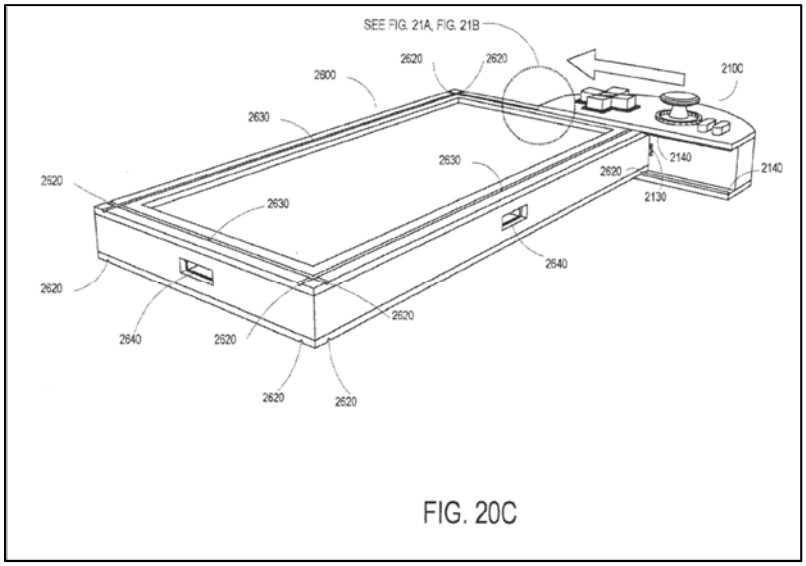


FIG. 20C

Hirschman disclosed a portable tablet computer with

communication ports that interfaced with peripheral gaming devices on each of its four sides. As shown in Figure 20C (right), the peripheral game controllers could attach by sliding rails to the left and right sides of the computing device (lengthwise) or by other means, such as additional retention posts and ports, shown in Figure 3 below. Each controller had input apertures and input devices, such as a joystick, d-pad, and buttons.

B. Ground 1: Claims 1-10 and 13-21 are unpatentable as obvious over Willner in view of Park

1. Motivation to Combine

The Supreme Court has explained that where a claimed invention involves "mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 416-17 (2007). Patentability thus requires more than rearranging "old elements with each performing the same function it had been known to perform and yield[ing] no more than one would expect from such an arrangement." *Id*. Moreover, a claimed invention may be obvious "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, [giving] a person of ordinary skill [in the art] good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill

and common sense." *Id*. at 421. A court can "take account of the inferences and creative steps that a [PHOSITA] would employ", and so bright-line limits to "precise teachings" in the prior art are improper. *Id*. at 418.

The challenged claims of the '119 patent involve mechanical technology that is not complex, where the claimed elements would be easily interchangeable with teachings from known prior art and where a POSITA would have had a high expectation of success in modifying or combining those teachings to create the claimed combinations. Kitchen ¶¶66, 107; *see also Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016) (physical combinability not required for obviousness).

A POSITA would have had several reasons to combine the teachings of Willner with Park. Willner and Park each taught game controller devices with similar features that solved a similar problem. *KSR*, 550 U.S. at 420 ("[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed."); *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1337 (finding motivation where references "serve[d] the same purpose"). Park, like Willner, disclosed a game controller device designed to hold a computing device in place and provided two external control modules with input controls for use in gaming on the computing device. Like Willner, one of Park's essential points was to provide

physical controls for use with gaming on a separate computing device to improve user experience. Kitchen ¶¶61-62, 68-71, 107; *see* Ex. 1004 at Abstract, ¶¶18, 20, 21 (noting benefits of improving user experience by allowing gameplay with a multiplicity of key buttons instead of having to use touchscreen); *see also* Ex. 1014 ¶¶0008, 0013.

As noted above, a POSITA would also have been motivated to improve Willner's game controller by making the bridge structure (or "adaptor") adjustable so that it could accommodate portable computing devices of various sizes without having to use a separate physical adaptor for each. Given the number of smartphones and tablets that were widely available before the priority date of the '119 patent, a POSITA would have been motivated to make a game controller that could accommodate various sizes of computing devices. Kitchen ¶67. Making the bridge of an external controller accessory adjustable so that it would work with a wider variety of phones or tablets would make the device more useful to consumers and was a known feature for similar devices. *Id.* Park explained, for example, that a user could adjust the bridge to a desired length to accommodate his or her mobile phone. Ex. 1004 ¶¶39-46. This benefit would have been known to a POSITA and desired because it improves the controller's versatility for users. Kitchen ¶¶67-71. Ultimately, use of Park's teachings regarding the adjustable bridge structure would

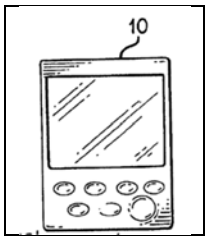
have constituted the use of known components, as they were designed to be used, to reach entirely predictable results. *Id.*

Finally, a POSITA would have recognized the benefit of combining Willner and Park because the use of Willner's detachable controllers would have provided a benefit to Park's design. The use of detachable controllers would allow users the ability to attach a larger variety of controls and modes of using the controllers, including away from the computing device, that would suit the user's preference (*e.g.*, various button layouts, additional joysticks, etc.). Kitchen ¶¶64, 66. This too would have been recognized as the use of known components, as they were designed to be used, to reach entirely predictable results. *Id.*

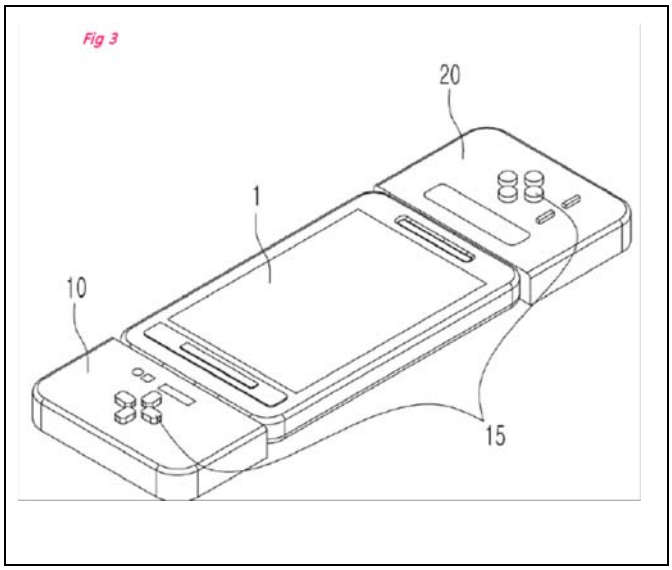
2. Claim 1

a. *A combination comprising: a computing device, the computing device providing a plurality of sides, each of the plurality of sides are disposed between an electronic display screen of the computing device and a back of the computing device;*

Willner disclosed a *computing device providing a plurality of sides*, which were *disposed between an electronic display screen* and the *back of the computing device.* Ex. 1014, Fig. 4, ¶0050; *see* Kitchen ¶¶481-82. More specifically, Willner describes a "palm/table sized computing device 10," shown to the right. Ex. 1014 ¶0050.



Park similarly disclosed a mobile-phone that had an *electronic display screen*, a *plurality of sides* that were *disposed between* the display and the *back* of the device. Ex. 1004 at Abstract ¶¶1-2; *see* Kitchen ¶483. Figure 3, right, shows a mobile smart phone, as claimed.



b. *a communication port interacting with the computing device, the communication port providing a communication link and a pair of confinement structures, the pair of confinement structures adjacent to and confining the computing device on at least two opposing sides of the plurality of sides of the computing device;*

Willner taught *a communication port interacting with the computing device.* Specifically, Willner taught that an "[a]daptor 210 is provided with an opening 212 into which the computing device 210 is received." *Id.* ¶0050. This adaptor also had "complementary connectors 214' and 216' for receiving the keystroke signals from each hand grippable unit [*e.g.*, controller] and transferring such to a docking connector within the adaptor 210 which mates with a corresponding connecter of the computing device 10." *Id.* ¶0051. This arrangement is shown in Figures 4 and 8 of Willner (shown below). Kitchen ¶¶485-86.

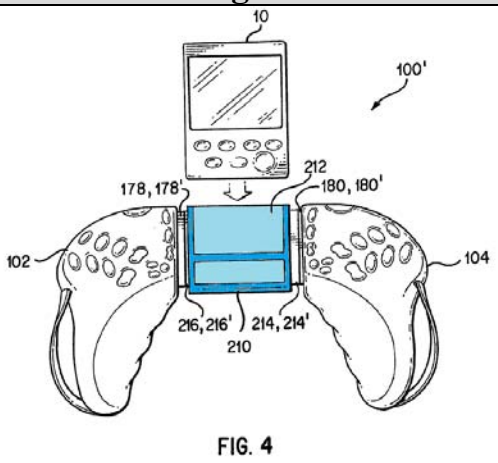
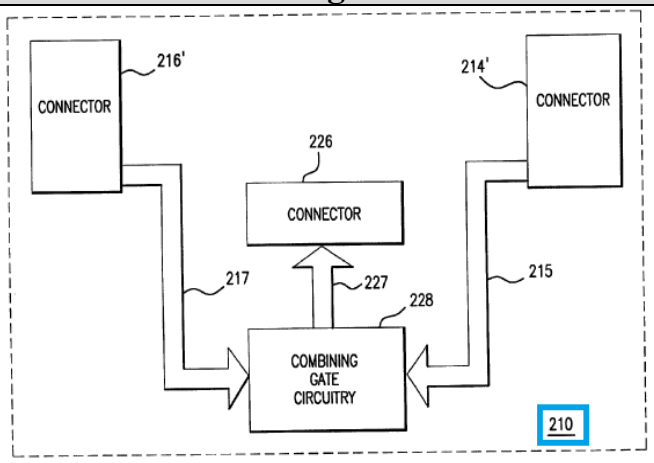
Fig. 4	Fig. 8
	

FIG. 4

FIG.8

Willner further taught that the *communication port* comprised a *pair of confinement structures adjacent to and confining the computing device on at least two opposing sides* of the computing device, *e.g.*, the sides of the adaptor 210. Willner described this in the following way: "Adaptor 210 is provided with an opening 212 *into which* the computing device is received." *Id.* ¶0050; *see also*, *e.g.* ¶¶0013 ("It is an additional feature of the invention to provide an adaptor that is releasably coupled to both of the housings for communication with a computing device which is received within an opening of the adaptor."), 0052 (describing microswitch that may be enabled "by the *insert* of the computing device 10 *into* the opening 212"), Claim 12 ("a mounting adapter having an opening for receiving a computing device therein").

As described above, Willner also disclosed a *communication link* because it taught that the adaptor included wired connection components, more specifically connectors 214', 216' which connect to combining gate circuitry 228 through busses 215, 217, which in turn connect to connector 226 through bus 227. *See* Ex. 1014 ¶0051. Thus, Willner disclosed a *communication port* that provides a *communication link* and a *pair of confinement structures*, as claimed. Kitchen ¶¶484-87.

To the extent it is argued that Willner's disclosures are insufficient, Park disclosed a similar arrangement, but one in which the two controller modules were explicitly connected via an electrical cable running through the bridge, as in the '119 patent. Ex. 1004 ¶36 (describing "[a] connecting cable for electrically connecting the first body and second body" that runs "inside of the bridge"). It also disclosed a connection directly to the smart phone. A POSITA seeking an even more detailed disclosure of what Willner already provided would look to Park. That reference, like Willner, showed how one would connect controller modules via a *communication port* providing a *communication link* in the form of a wired connection. Kitchen ¶228.

c. *an input device attached to and in electronic communication with the communication port, the input device providing a pair of control modules, the pair of control modules providing input module apertures, each input module aperture secures an instructional input device, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device, and wherein the input device is a separate and distinct structure from the communication port, forming no structural portion of the communication port; and*

Willner disclosed an *input device attached to and in electronic communication with the communication port* as claimed. First, the *pair of control modules* are the right and left side housings 102 and 104, which could be attached to the sides of the adaptor 210. Ex. 1014 ¶¶0025, 0026, 0029, 0030, 0032, 0046, 0051, Figs. 1, 2, 3A, 3C, and 4; Kitchen ¶¶488-90. Figure 4, as one example (below), showed the housings (depicted in orange) attached to the adaptor (depicted in blue).

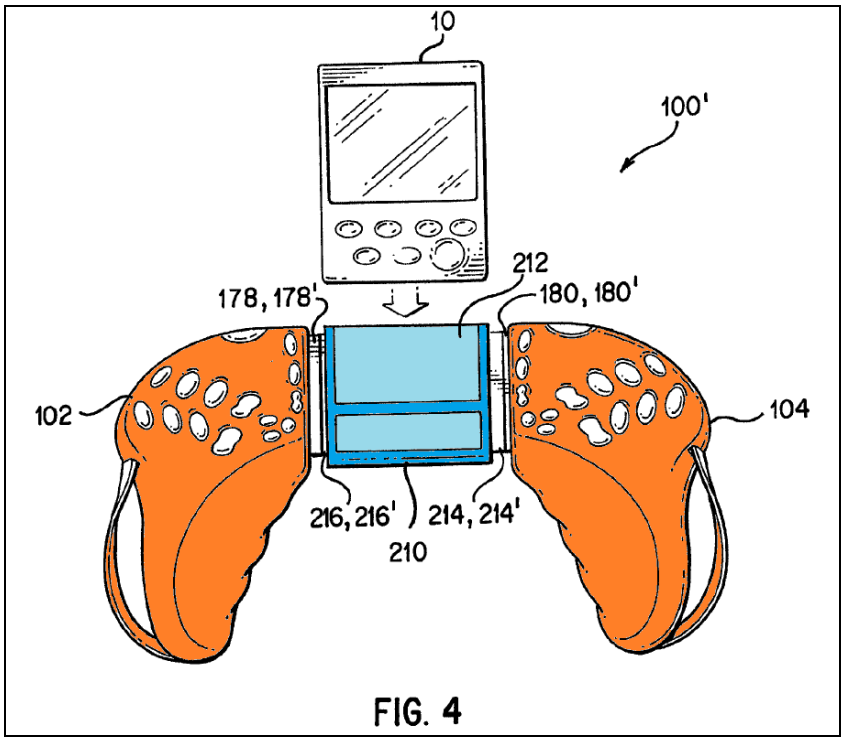


FIG. 4

Those housings could communicate with the computing device or the adaptor (the *communication port*) via wired or wireless connection. *Id.* ¶¶0050, 0051. Second, Willner taught that the *control modules*, or housings, provided *input module apertures* that *secure[] instructional input device[s]* and are *adjacent each of the at least two opposing sides* of the computing device, as shown above. The *instructional input devices* were buttons, d-pads, multi-position switches, or other controls. *Id.* ¶¶0025, 0026, 0029, 0030, 0032. Figures 1 and 2 provided close-ups of the *instructional input devices* secured by the *input module apertures*. Finally, the *input device* is separate and distinct from the *communication port* (*i.e.*, adaptor)

because the side housings are physically separate and detachable components. *See id.*, Abstract, Fig. 4, ¶¶0050, 0051; Kitchen ¶¶494-99.

Further, Park disclosed an *input device* in the form of *a pair of control modules* with *input module apertures* securing *instructional input devices*, as claimed. Ex. 1004 ¶¶19, 26-27, 29, Fig. 1. Signals from those input devices were communicated via the electrical connection in the bridge and the docking port in the sidewalls—thus, via the *communication port*. *See* Kitchen ¶¶491, 500.

d. *a structural bridge securing the pair of confinement structures one to the other, in which each of the pair of control modules provide an attachment structure cooperating with the communication port, each attachment structure secures the input device to the communication port, and in which the structural bridge comprising:*

Willner disclosed a *structural bridge securing the pair of confinement structures one to the other* because it taught that the adaptor had a bottom, a rear facing side, and a front cross-beam that secured the sides to each other. Ex. 1014 ¶0050. Kitchen ¶¶503-04. Further, the housings, or *control modules*, each provided *attachment structures* that *cooperat[e] with* and *secure[]* them to *the communication port* because the housings could be "releasably coupled to" the adaptor by way of connectors 178 and 180 on the housings mated to connectors 178' and 180' of the adaptor. *See id.*, Abstract, Fig. 4, ¶¶0050, 0051. Kitchen ¶¶508-09.

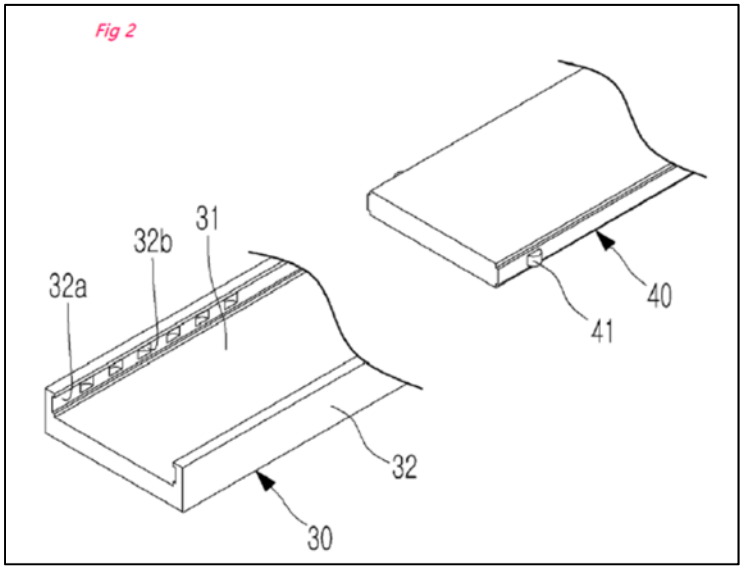
A POSITA would also have been motivated, as discussed in Section VI.B.1, to improve Willner's adaptor connecting the left side and right side together, or structural bridge, to create an adjustable, structural bridge instead, as taught in Park. Park taught a bridge that could adjust to accommodate different sized smart devices, as in the '119 patent, Kitchen ¶ 505, and would work with Willner's design because both are designed to provide two side controllers via a structural bridge connecting two confining structures (sides or walls) which, in turn, hold a smartphone or tablet computing device. As shown above, Park's connection mechanism is a *structural bridge* as claimed, which would be easily adapted to utilize two separate "raised walls," separate from the controllers, that hold the electronic device, as taught in Willner. Kitchen ¶¶502-10.

e. *a conduit between the pair of control modules; and a fastening mechanism cooperating with the pair of confinement structures, the fastening mechanism secures the pair of confinement structures one to the other.*

The Willner/Park combination renders this limitation obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. First, looking to Willner's structural bridge as improved by Park, the combination would have a *conduit* as properly construed. Willner taught that the adaptor contained a wired electrical connection within it, Ex. 1014 ¶0051, while Park taught that its bridge contained a space inside, through which the electrical connection

means ran, Ex. 1004 ¶¶8, 13, 26, 36. In light of those disclosures and a POSITA's knowledge, the use of a *conduit between the pair of control modules* would have been obvious. That *conduit* would have run *between the pair of control modules*, which both Willner and Park taught were on the left and right sides. Kitchen ¶¶511-25.

Second, the combination would contain a *fastening mechanism* that *secures the pair of confinement structures one to the other* as properly construed. Park in particular taught that its bridge had two panels that were connected via the use of recessed guide grooves 32a and a plurality of recessed catching holes 32b, which accommodated protrusions 41 from the additional panel and thereby fastened them together. Ex. 1004 ¶¶9, 14, 32. Figure 2 (right) showed this *fastening mechanism*. This structure is equivalent to the structure disclosed in the '119 patent under the proper construction of *fastening mechanism*. Park's fastening mechanism, which facilitated the expansion and contraction of the distance between the controllers' inner side walls, *cooperat[ed] with the pair of confinement structures* and *secure[d]* them one to the other, and



thus, would have been obvious to use to secure the two separate sides of Willner's adaptor together when combined with Park's adjustable bridge. In sum, a POSITA would have found it obvious to create an adjustable, detachable game controller by combining the sides of the adapter taught by Willner with Park's teachings, including by using Park's fastening mechanism to secure the sides together and to facilitate contraction or expansion of the sides. Kitchen ¶¶526-35.

3. Claim 2: *The combination of claim 1, further comprising a data storage device confined within the input device and communicating with the computing device.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. Willner taught that the housings (*e.g.*, input device/control modules) could have "key assignments" remapped. More specifically, Willner provided that "a QWERTY compatible key assignment may also be made available. The QWERTY compatible key assignments may be stored in a non-volatile memory …." Ex. 1014 ¶0041. Moreover, it was standard in the art, and would have been obvious to a POSITA, to include memory and other computing components in a game controller. Kitchen ¶¶536-40. Indeed, doing so was nothing more than using known components (computer components) as intended (to store and process data) to achieve predictable results (the storage of data for processing and communicating). *Id.*

4. Claim 3: *The combination of claim 1, further comprising an auxiliary power source confined within the input device and communicating with the computing device.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. Willner taught that the housings (*e.g.*, input device/control modules) could have batteries to power its operation. Ex. 1014 ¶0043. Park likewise taught a docking port for connecting to the mobile phone. Ex. 1004 ¶¶26, 28 (connecting terminal 21), Fig. 1. A POSITA would have known that utilizing a power source in the controller for communicating with the computing device is nothing more than utilizing known elements (batteries) as intended to achieve predictable results. Kitchen ¶¶541-43.

5. Claim 4: *The combination of claim 1, in which the instructional input device is a removable input device, and in which the removable input device passes signals through the communication port to the computing device, the signals controlling images displayed on the display screen of the computing device.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. As already noted, Willner taught it was desirable to change "key assignments" on the housings, so that the keys could be used for different purposes. Ex. 1014 ¶¶0003, 0006 ("None of those systems provide for both gaming system signal input and alphabetic character entry. Further, where such systems utilize a pair of housings,

they fail to provide for temporarily remapping of switch functions found on one housing to the switches of the other housing."), 0012, 0040, 0041. It also taught that its controls were used to control gaming on a computing device, and that it had wireless and wired connections for connecting the housings to the computing device, including through the adaptor. Ex. 1014 ¶¶0032 ("System 100 may function as a key board in one mode or a game controller in another mode."), 0040 ("control switch grouping 114, 116 may be utilized to provide directional inputs to the game software"), 0041, 0042, 0049, 0050, 0051. Thus, the housings could pass game control signals from instructional input devices through the communication port (or adaptor) and to the computing device. Kitchen ¶¶546-47. Park likewise provided similar input controls that enabled control of a game running on a smart device. Ex. 1004, Abstract, ¶¶1, 19-22, 30. Thus, a POSITA would have been motivated to use instructional input device devices that could be removed, in part to allow for the interchange of different input devices having different purposes. Kitchen ¶¶546-54. Further, a POSITA would have understood that input devices on game controllers, like those in Willner and Park, are used to control images displayed on the screen of computing device/smart device providing a gaming application. Kitchen ¶¶547, 550.

6. Claim 5: *The combination of claim 1, in which the instructional input device is a game control module, and in which the game control module passes signals through the communication port to the computing device, the signals controlling images displayed on the display screen of the computing device.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. The input controls in Willner and Park are *game control modules* because they are input buttons and d-pads (among others types of controls) that are specifically provided for controlling gaming applications. *See*, *e.g.*, Ex. 1014 ¶¶0029 ("D-pads are well-known in the game controller art …."), 0040; Ex. 1004, Abstract, ¶¶8, 13, 19, 29, 65, Fig. 1. The remaining aspects of this claim are taught for the same reasons as claim 4. Kitchen ¶556. *See supra* §VI.B.5.

7. Claim 6: *The combination of claim 1, in which the instructional input device is a keyboard module, and in which the keyboard module passes signals through the communication port to the computing device, the signals controlling images displayed on the display screen of the computing device.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.B.1. In addition to the gaming-specific input controls taught in each, Willner and Park disclosed that a variety of controls could be used. *See*, *e.g.*, Ex. 1004 ¶¶19, 29 ("[I]t goes without saying that the key buttons (15) are not limited to a particular shape

or function."). Indeed, Willner explicitly discloses that its housing can be used to enter alphanumeric characters, including by using QWERTY key assignments. Ex. 1014 ¶¶0027, 0029, 0032, 0033-0039, 0041. A POSITA would have understood that the variety of input controls available included a keyboard module, which is nothing more than a combination of buttons or controls. Kitchen ¶¶557-60. Thus, as one example, a POSITA would have found it obvious to use a keyboard module as input device. The remaining aspects of this claim are taught for the same reasons as claims 4 and 5. *See supra* §§VI.B.5-6.

8. Claim 7: *The combination of claim 4, in which the removable instructional input device is a removable game control module.*

The Willner/Park combination renders this claim obvious for the same reasons as claims 4 and 5. Willner taught it was desirable to change "key assignments" on the housings, so that the keys could be used for different purposes. Ex. 1014 ¶¶0003, 0006 ("None of those systems provide for both gaming system signal input and alphabetic character entry. Further, where such systems utilize a pair of housings, they fail to provide for temporarily remapping of switch functions found on one housing to the switches of the other housing."), 0012, 0040, 0041. Park further provided input controls that enabled control of a game running on a smart device. Ex. 1004 ¶¶27, 29. A POSITA would have understood that Willner's and Park's input controls—buttons, d-pads, and other inputs—are *game control*

modules that can be removable. Kitchen ¶¶561-62. In light of Willner's teachings, a POSITA would have been motivated to use removable game control modules to, for example, facilitate changing key assignments.

9. Claim 8: *The combination of claim 4, in which the removable instructional input device is a removable keyboard module.*

Claim 8 would have been obvious for the same reasons explained for claims 4 and 6. *See supra* §§VI.B.5, 7. Indeed, Willner taught it was desirable to change "key assignments" on the housings, so that the keys could be used for different purposes. Ex. 1014 ¶¶0003, 0006, 0012, 0040, 0041. Kitchen ¶563.

10. Claim 9: *The combination of claim 1, in which the structural bridge is a ridged structure.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner taught that its adaptor, which provided a structural bridge, received a computing device within it and that the housings could be removably coupled or attached to the adaptor. Ex. 1014, Abstract ¶¶0013, 0050, 0051. Further, Park taught that its bridge comprised two sliding portions connected via a series of recessed catching holes and protrusions. Ex. 1004 ¶¶9, 14, 33. A POSITA would have understood such teachings to require that the bridge be a *rigid structure* in order to function. Kitchen ¶¶564-69. A POSITA would thus have understood that Willner and Park each taught *rigid structures* as the *structural bridge*.

11. Claim 10: *The combination of claim 9, in which the rigid structural bridge is a removable rigid structure.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner taught that its adaptor was detachable from not only the housings (*e.g.*, input device/control module), but also the computing device. Thus, with Park's *structural bridge* linking the *confinement structures* of the combined Willner/Park device, the *rigid structural bridge* would be a *removable rigid structure.* Kitchen ¶¶570-73.

12. Claim 13: *The combination of claim 1, in which the communication link is a signal pathway.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner taught that a wired connection could be provided between the computing device and the housings (*e.g.*, input device/control modules) via connectors on the left and right sides of the adaptor—thus, there existed a wired *communication link*, which is a *signal pathway*. Ex. 1014, Fig. 4 ¶¶0050, 0051. Further, Park's structural bridge provided a *communication link* in the connection cable running inside the bridge that connected the two side controllers. Ex. 1004 ¶36. The combination of Willner and Park thus would have contained a *communication link* that *is a signal pathway.* Kitchen ¶¶577-79. In short, a POSITA would have understood the

adjustable bridge in the Willner/Park combination to have a wired connection running through it.

13. Claim 14: *The combination of claim 13, in which the signal pathway is a metallic pathway.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. A POSITA would know that the wired communication links taught by Willner (*e.g.*, multi-pin docking connectors as shown in Figure 3C) or Park (connecting cable electrically joining two components) would have utilized a metallic pathway—*i.e.*, metallic wires and pins. Kitchen ¶¶580-83. A POSITA would further have had reason to use a *metallic pathway* as a *signal pathway* because it is a known design option (wires) that would be used as expected (to provide a pathway for electronic communication signals) to produce entirely predictable results. Kitchen ¶¶580-83.

14. Claim 15: *The combination of claim 13, in which the signal pathway is a fiber optic pathway.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. As noted above for claim 14, Willner and Park each taught wired communication links that are signal pathways. *See supra* §VI.B.13. A POSITA would have understood that a *fiber optic pathway* was a connection means that would have been obvious to try or use in the Willner/Park combination. Kitchen ¶¶584-87. This would take

the form, for example, of a fiber optic cable running through an adjustable bridge. *Id.* ¶587.

15. Claim 16: *The combination of claim 1, in which the communication link provides a communication platform.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. As explained above, Willner taught a wired connection between housings (*e.g.*, input device/control modules) and the adaptor, which included connectors such as pin-connectors. Ex. 1014, Fig. 3C, ¶¶0050, 0051. Furthermore, Park taught a connection cable running inside the bridge that connected the two side controllers. Ex. 1004 ¶36. In light of these disclosures, a POSITA would have found it obvious for the *communication link* to provide a *communication platform*. Kitchen ¶¶588-92. As noted below, the communication platform may be a wired communications module, and so this would take the form of, for example, Willner's wired connection running through the adjustable bridge as taught by Park.

16. Claim 17: *The combination of claim 16, in which the communication platform is a wired communication module.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. As explained above, Willner taught a wired connection between housings (*e.g.*, input device/control modules) and the adaptor, which included connectors such as pin-

connectors. Ex. 1014, Fig. 3C ¶¶0050, 0051. Furthermore, Park taught a connection cable running inside the bridge that connected the two side controllers. Ex. 1004 ¶36. In light of these disclosures, a POSITA would have found it obvious for the *communication platform* to be *a wired communication module*. Kitchen ¶¶593-96. This would take the form of, for example, Willner's wired connection running through the adjustable bridge as taught by Park.

17. Claim 18: *The combination of claim 16, in which the communication platform is a wireless communication platform.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. As already explained, Willner taught that the housings (*e.g.*, input device/control module) could wirelessly transmit signals to the computing device: "Each of the hand grippable units may communicate with the computing device 10 through a wireless data link, such as by radio frequency, utilizing the 'blue tooth' standard." Ex. 1014 ¶0050; *see also id.*, Fig. 1, items 148, 150; ¶¶0044 ("optical wireless transmission"), 0045. A POSITA would thus have found it obvious for the *communication platform* to be *a wireless communication platform* in the combined Willner/Park device. Kitchen ¶¶597-99. This would take the form of, for example, the wireless data link, as taught in Willner, implemented in an adjustable bridge, as taught by Park, so that the detachable housings of Willner would be in wireless

communication with components comprising the adjustable bridge, which in turn would interact with the computing device and communicate with the detachable housings. Kitchen ¶599.

18. Claim 19: *The combination of claim 18, in which the wireless communication platform operates in a frequency range of 2.4 GHz.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner taught the use of Bluetooth for the controller to communicate wirelessly. Ex. 1014 ¶0050. Bluetooth operates (and operated in both 2012 and 2015) *in a frequency range of 2.4 GHz.* Kitchen ¶¶600-03 (Bluetooth operates from 2.4 to 2.485 GHz).

19. Claim 20: *The combination of claim 18, in which the wireless communication platform is a personal area network.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner taught communication via wireless connectivity, including Bluetooth. *See supra* §VI.B.18. Utilizing those connections necessarily allowed the controller to join a personal area network, which was well understood by 2012 and 2015. Kitchen ¶¶604-08 (personal area networks can be created between devices connected wirelessly via Bluetooth). As described above, this would take the form of, for example, a wireless Bluetooth data link, as taught in Willner, implemented in an

adjustable bridge, as taught by Park, so that the detachable housings of Willner would be in wireless communication with components comprising the adjustable bridge, which in turn would communicate with the computing device. Kitchen ¶608.

20. Claim 21: *The combination of claim 18, in which the wireless communication platform utilizes infrared technology for data transactions.*

The Willner/Park combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.B.1. Willner expressly disclosed infrared wireless connectivity or communications between the computing device and the housings (*e.g.*, input device/control modules). Ex. 1014 ¶¶0030, 0045; *see also* Kitchen ¶¶609-11.

C. Ground 2: Claims 1-3, 5-6, 9-10, and 13-20 are unpatentable as obvious over Kessler in view of Hirschman

1. Motivation to Combine

As with Willner and Park, a POSITA would have had several reasons to combine the teachings of Kessler and Hirschman. *See supra* §VI.B.1. First, Kessler and Hirschman each taught game controller devices with similar features and compatible designs. Both taught gaming devices that provide two side control modules for use in gaming on a portable computing device. In each, the control modules provide buttons, joysticks, and other input devices. And both taught that

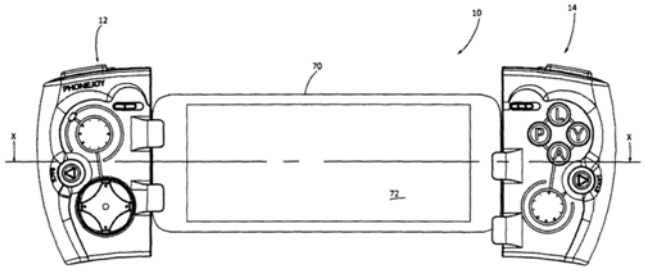
their controllers enabled a user to control applications on the computing device in a manner that is comfortable to hold while avoiding the need to use the touchscreen. *See* Ex. 1005 ¶¶2-11, 14-18; Ex. 1006 ¶¶50, 61. Thus, a POSITA designing a controller device would have been aware of both and been motivated to rely on their complementary teachings. Kitchen ¶612.

Moreover, a POSITA would have been motivated to improve Kessler's controller device by implementing detachable control modules, as Hirschman taught. Doing so would have offered the known benefit of allowing a user to choose various control modules for use in gaming or other applications—a benefit Hirschman taught explicitly by disclosing the use of a variety of attachable control input means. Ex. 1006 ¶¶61, 67, 82, 84. Hirschman's teachings on this point would have been easily recognized for the benefits they provided and implemented into a device like Kessler's with no difficulty. Kitchen ¶613. In doing so, one would have retained the sidewalls from Kessler that confine the separate phone or tablet on each side and made them attachable to the side controllers via either a sliding rail design or by retention posts—a design for attaching separate controllers taught in Hirschman. *Id.* Modifying Kessler in light of these teachings from Hirschman would have constituted nothing more than the use of known options (detachable controllers with sliding rails for attaching to walls) as they were designed to be used to produce predictable results (controllers that are detachable). *Id.*

2. Claim 1

a. *A combination comprising: a computing device, the computing device providing a plurality of sides, each of the plurality of sides are disposed between an electronic display screen of the computing device and a back of the computing device;*

Kessler disclosed a *computing device providing a plurality of sides*, which were *disposed between an electronic display screen* and the *back of the computing device*. *See* Ex. 1005 ¶¶11-12, 75-76, Fig. 11. As shown in Fig. 11 (below), Kessler taught a "hand-held information processing device," which was a tablet or smartphone (*e.g.*, iPhone), that had a screen, sides, and a back. *Id.* ¶¶1-2, 11-12, Fig. 11-12. Such devices, as shown in Kessler, were well-known. *Id.* ¶¶14, 76-77, Figs. 11-12; *see* Kitchen ¶¶615-16.



b. *a communication port interacting with the computing device, the communication port providing a communication link and a pair of confinement structures, the pair of confinement structures adjacent to and confining the computing device on at least two opposing sides of the plurality of sides of the computing device;*

The Kessler/Hirschman combination satisfies this limitation. As explained above, Kessler taught a game controller with a bridge that provides a wired communication link between the controllers and wireless communication

capabilities via a communication module for transmitting signals to the handheld device. Ex. 1005 ¶¶79-80, 93. Kessler further contemplated a direct wired connection to the handheld device. *Id.* ¶80. A POSITA would be motivated to improve Kessler's controller apparatus by utilizing Hirschman's teachings of detachable controllers that, upon attachment to sidewalls could communicate via a *communication link.* Kitchen ¶¶628-31. Thus, the *confinement structures* would be provided by walls as taught by Kessler, connected via Kessler's bridge (and thus external to the computing device), and which would allow for attachment and detachment of controllers, as taught in Hirschman. (It should be noted, as discussed *supra*, that under Nintendo's proposed constructions, Hirschman's disclosures by themselves do not satisfy this element; Gamevice, however, apparently contends that they do under an improper construction of *confinement structure*. *See infra* Section VI.D.) A POSITA would have been motivated to create this combination to, for among other reasons, accommodate computing devices of various sizes. Kitchen ¶¶628-31.

The combination of Kessler's adjustable bridge with walls as described above would thus include a *communication port interacting with the computing device* in that it would provide the *confinement structures*, as claimed, and a *communication link* in the form of wired or wireless connections.

c. *an input device attached to and in electronic communication with the communication port, the input device providing a pair of control modules, the pair of control modules providing input module apertures, each input module aperture secures an instructional input device, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device, and wherein the input device is a separate and distinct structure from the communication port, forming no structural portion of the communication port; and*

The Kessler/Hirschman combination satisfies this limitation. First, Kessler taught an *input device* in the form of a *pair of control modules*—its two side housings are game controllers. *E.g.*, Ex. 1005 ¶72, Figs. 2, 8-12. Each controller provided *input module apertures* that *secure[] instructional input device[s]* and are located in the claimed location, as shown in Figure 1 (right). *See also id.* ¶¶73-74 (user input means on each handle housing comprise any of a direction pad, joy-stick, and "one or more push buttons"), Figs. 2, 4-5, 8-12; *see* Kitchen ¶¶633-34. Hirschman likewise taught two side controllers (that are detachable) containing *input module apertures* securing *instructional input devices* such as buttons, d-pads, and a joystick. Ex. 1006 ¶¶11, 52-53, 67-68, 84.

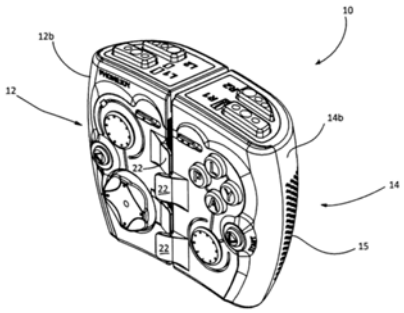


Figure 1

The *input device* in a combination of Kessler and Hirschman would have been *attached to and in electronic communication with the communication port*

because, as taught in Kessler, the side controllers are physically attached to the bridge that links the two control modules and which contains an electrical connection means in the form of a flexible circuit for communicating power and information signals. Ex. 1005 ¶¶28, 40-41, 93. Implementing Hirschman's detachable side controllers in view of Kessler's controller would have meant including sidewalls on Kessler's bridge, attachment structures (sliding rails or retention posts), and connection means (communication ports); a POSITA doing so would have thus made the *input device*, or *control modules*, both *attached to* and *in communication with* the *communication port*. Kitchen ¶¶636-40. Finally, in this combination, the *input device* would be *a separate and distinct structure from the communication port, forming no structural portion of the communication port*, because the game controllers would have been detachable from the confinement structures. Kitchen ¶¶641-48. A POSITA would have been motivated to do so, for example, to allow for detachable control modules. *Id.* ¶647.

d. *a structural bridge securing the pair of confinement structures one to the other, in which each of the pair of control modules provide an attachment structure cooperating with the communication port, each attachment structure secures the input device to the communication port, and in which the structural bridge comprising:*

The Kessler/Hirschman combination satisfies this limitation. As explained above and shown below in Fig. 10, Kessler taught a *structural bridge* that connects

the two side handle housings, which contained raised side walls that confine the computing device. Ex. 1005 at Fig. 10, ¶67 (identifying "end walls" 12a).

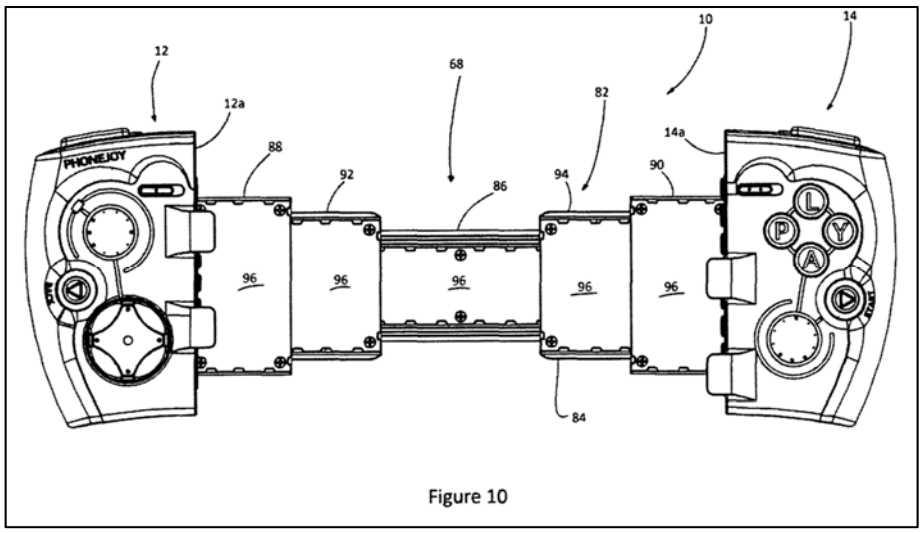
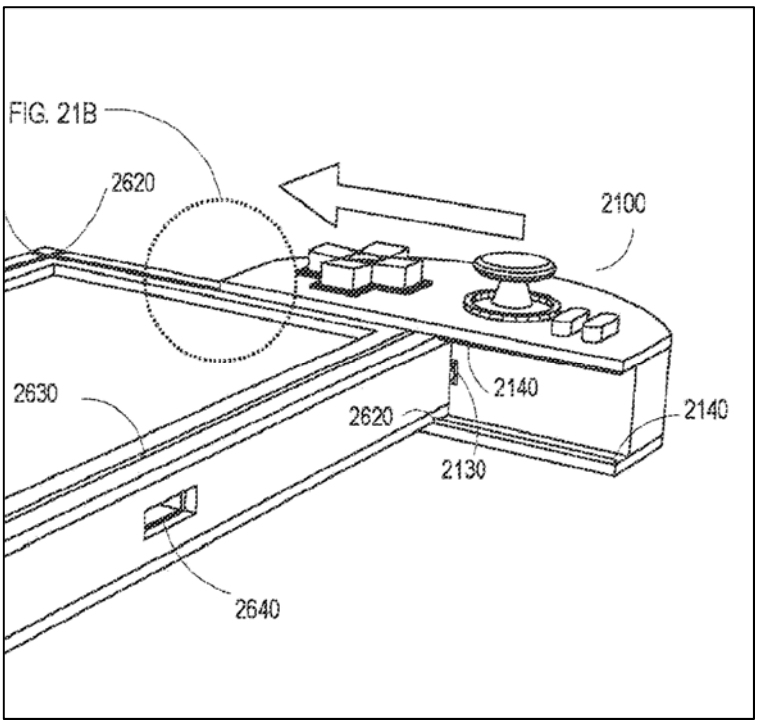


Figure 10

In the combination of Kessler and Hirschman, a POSITA would have incorporated structures like the inner walls on Kessler's side housings, which are attached to Kessler's bridge and external to any computing device, to allow detachable side controllers to be attached and detached, as taught in Hirschman. Such walls would be *confinement structures* that are adjacent to and confine the computing device on at least two opposing sides. Kitchen ¶¶649-53. Each of the *control modules*, as taught in Hirschman, provided an *attachment structure* that cooperates, or enables secure attachment to, a *communication port*. In one

embodiment, Hirschman's controllers contained retention tongues 2140 that connected via retention channels 2620—in other words, using a sliding rail design. Ex. 1006 ¶¶84-88; Figs. 16A-17B (showing attachment structures on controllers), 20A-20C (showing sliding attachment via retention tongues and channels); *see also id.* ¶¶89-92. Kitchen ¶¶654-59.



e. *a conduit between the pair of control modules; and a fastening mechanism cooperating with the pair of confinement structures, the fastening mechanism secures the pair of confinement structures one to the other.*

The Kessler/Hirschman combination satisfies this limitation, as explained herein. As explained previously, use of a *conduit*, as properly construed, would have been obvious in view of Kessler's *structural bridge* that contained electrical connection means that ran through it. Ex. 1005 ¶¶27, 93. That conduit would have run between the two control modules, which both Kessler and Hirschman taught were on the left and right sides.

Additionally, while Kessler and Hirschman do not explicitly teach a fastening mechanism under Nintendo's proposed construction, a POSITA would have found it obvious to include a *fastening mechanism* for the purposes of securing the pair of *confinement structures* one to the other. Kessler taught that its extension mechanism, or bridge, contained slats that slide together via overlapping tongue/groove connections. *Id.* ¶¶90-91. While Kessler did not expressly describe how its extension mechanism was fastened together, a POSITA would have understood that such a mechanism *would be* fastened together, including through the use of a latch such as that disclosed in Park. Thus, it would have been obvious to use Kessler's teachings to create an extendable bridge that secures sidewalls, as taught by both Kessler and Hirschman, together. Kitchen ¶¶665-73.

Moreover, under Gamevice's improper apparent constructions, as revealed in its Central District of California allegations, Kessler's tongue and groove mechanism would satisfy this limitation. In that suit, Gamevice pointed to screws as fastening mechanisms, apparently arguing that anything that keeps confinement structures together, even if indirectly, satisfies the *fastening mechanism* limitation (regardless of whether they facilitate and expansion or contraction of the confinement structures). Ex. 1009 at 11 (screws). Under that improper construction, Kessler's tongue and groove assembly would disclose a *fastening*

mechanism which would secure sidewalls, as taught by Kessler and Hirschman, together. Kitchen ¶¶667-70.

3. Claim 2: *The combination of claim 1, further comprising a data storage device confined within the input device and communicating with the computing device.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught that at least one handle controller comprised: a memory that stored machine reading instructions, a processor, and a communications module for communicating with the smart device. Ex. 1005 ¶12. Including memory and other computing components (such as a processor and communications module) in a game controller was standard in the art and would have been obvious to a POSITA. Kitchen ¶¶674-77. Indeed, it is nothing more than using known components as intended to achieve predictable results. *Id.*

4. Claim 3: *The combination of claim 1, further comprising an auxiliary power source confined within the input device and communicating with the computing device.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught that the handle housings could contain a power supply that could pass power to each other. Ex. 1005 ¶93. Hirschman taught locating a battery in the computing device or in the handle controllers and transmitting power between

the controllers and the computing device. Ex. 1006 ¶56, 59. Moreover, this claim recites nothing more than using known components (power sources, *e.g.*, batteries) as intended to achieve predictable results (power or charge a device). Kitchen ¶¶678-81.

5. Claim 5: *The combination of claim 1, in which the instructional input device is a game control module, and in which the game control module passes signals through the communication port to the computing device, the signals controlling images displayed on the display screen of the computing device.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.C.1. The input controls in Kessler and Hirschman are *game control modules* because they are input buttons, d-pads, and joysticks (among others) that are specifically provided for controlling gaming applications. *See* Ex. 1005 ¶¶11-12; Ex. 1006 ¶¶53, 67, 82. Signals from those input devices are passed *through the communication port to the computing device* because both Kessler and Hirschman are designed for controlling applications on the computing device. In the combination of Kessler and Hirschman, the signals would be passed from the controllers via a physical connection port (as taught in Hirschman) to the computer. Kitchen ¶¶682-87.

6. Claim 6: *The combination of claim 1, in which the instructional input device is a keyboard module, and in which the keyboard module passes signals through the communication port to the computing device, the signals controlling images displayed on the display screen of the computing device.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. In addition to the gaming-specific input controls taught in each, Kessler and Hirschman disclosed that a variety of controls could be used. *See* Ex. 1005 ¶¶11, 73; Ex. 1006 ¶¶53 (accessory may include "common physical controls" such as "buttons, a joystick, or other input controls"), 68 ("different key or control button layouts may be employed"), 84 ("other inputs"). A POSITA would have understood that the variety of input controls available included a keyboard module, which is nothing more than a combination of buttons or controls. Kitchen ¶¶688-92. Thus, at a minimum, a POSITA would have found it obvious to use a keyboard module as input device. The remaining aspects of this claim are taught for the same reasons as claims 5. *See supra* §VI.C.5.

7. Claim 9: *The combination of claim 1, in which the structural bridge is a ridged structure.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.C.1. As noted above, Kessler taught that its bridge comprised slide sections of molded

plastics and a sheet metal cover plate, which provided a rigid *structure* as the *structural bridge*. Ex. 1005 ¶89. A POSITA would have understood that Kessler taught a *rigid structure* as the *structural bridge*. Kitchen ¶¶694-97.

8. Claim 10: *The combination of claim 9, in which the rigid structural bridge is a removable rigid structure.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described *supra* in §VI.C.1. Hirschman taught that its side controllers were detachable. Thus, with Kessler's *structural bridge* linking the *confinement structures* of the combined Kessler/Hirschman device, the *rigid structural bridge* would be a *removable rigid structure.* Kitchen ¶¶698-99.

9. Claim 13: *The combination of claim 1, in which the communication link is a signal pathway.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler's structural bridge provided a *communication link* in the form of a flexible circuit that enabled communications between the two controller modules and for power to be passed between them. Ex. 1005 ¶93. That flexible circuit could be a "flexible circuit board, a flat multi-wire electrical connector or any suitable electrical power and signal connection means." *Id.* Hirschman further taught a physical electrical connection between side handle controllers and the computer via

USB or other ports, which provide a *signal pathway*. The combination of Kessler and Hirschman thus would have contained a *communication link* that *is a signal pathway.* Kitchen ¶¶700-02. In short, a POSITA would have understood the adjustable bridge in the Kessler/Hirschman combination to have, for example, a flexible circuit or USB wires/bus running through it.

10. Claim 14: *The combination of claim 13, in which the signal pathway is a metallic pathway.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. A POSITA would know that the wired communication means taught Kessler (multi-wire electrical connectors or any other "suitable" connections) and Hirschman (USB ports, retention posts/ports made of "electrically conductive material," and communications busses on a circuit board) would have utilized a metallic pathway. Kitchen ¶¶703-05; Ex. 1005 ¶93; Ex. 1006 ¶¶51, 56. A POSITA would further have had reason to use a *metallic pathway* as a *signal pathway* because it is a known design option (metallic wires and ports) that would be used as expected (to provide a pathway for electronic communication signals) to produce entirely predictable results (signal transmission). Kitchen ¶¶703-05.

11. Claim 15: *The combination of claim 13, in which the signal pathway is a fiber optic pathway.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1; Claim 13. As noted for claim 14, Kessler and Hirschman each taught physical communication means that are signal pathways. *See supra* §VI.C.10. Kessler taught that the electrical connection means could be a multi-wire electrical connector or "any suitable electrical power and signal connection means." Ex. 1005 ¶93. A POSITA would have understood that a *fiber optic pathway* is a suitable electrical signal connection means taught by Kessler, and thus would have been used in the Kessler/Hirschman combination. Kitchen ¶¶706-10. This would take the form, for example, of a fiber optic cable running through an adjustable bridge. *Id*. ¶709.

12. Claim 16: *The combination of claim 1, in which the communication link provides a communication platform.*

The Kessler/Hirschman combination renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught that its controllers could contain a "communications module" for communicating control signals via "short range wireless protocol to the smart phone 70…" Ex. 1005 ¶102. It also taught a wired connection in the form of a connection circuit that ran between the control modules through the bridge. *Id.*

¶¶26, 93. Hirschman likewise taught that its computing device contained communications busses and communications ports. Ex. 1006 ¶¶52, 56. In light of these disclosures, a POSITA would have found it obvious for the *communication link* to provide a *communication platform*. Kitchen ¶¶711-714. As noted below, the communication platform may be a wired communications module, and so this would take the form of, for example, the flexible circuit running through the adjustable bridge as taught by Kessler.

13. Claim 17: *The combination of claim 16, in which the communication platform is a wired communication module.*

The combination of Kessler and Hirschman renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught that its controller could contain a "communications module" for communicating control signals via "short range wireless protocol to the smart phone 70…" Ex. 1005 ¶102. It noted that wireless was preferable, but acknowledged that the communications module could communicate via a physical electrical connection means. *Id.* ¶19. Further, Kessler taught a wired connection in the form of a connection circuit that ran between the control modules through the bridge. *Id.* ¶¶26, 92-94. Similarly, Hirschman taught physical connections in the form of communication ports. Ex. 1006 ¶¶52, 56. In light of these disclosures, a POSITA would have found it obvious for the *communication platform* to be *a*

wired communication module in the combined Kessler/Hirschman device. Kitchen ¶¶715-17. This would take the form of, for example, the flexible circuit running through the adjustable bridge as taught by Kessler.

14. Claim 18: *The combination of claim 16, in which the communication platform is a wireless communication platform.*

The combination of Kessler and Hirschman renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught that its controller could contain a "communications module" for communicating control signals via "short range wireless protocol to the smart phone 70…" Ex. 1005 ¶102. In light of this disclosure, a POSITA would have found it obvious for the *communication platform* to be *a wireless communication platform* in the combined Kessler/Hirschman device. Kitchen ¶¶719-20. This would take the form of, for example, the communications module, as taught in Kessler, implemented in an adjustable bridge with sidewalls for detachable control modules, as taught by the Kessler/Hirschman combination, so that the handle housings of Kessler would wirelessly communicate with the adjustable bridge, which in turn would communicate with the computing device. *Id.*

15. Claim 19: *The combination of claim 18, in which the wireless communication platform operates in a frequency range of 2.4 GHz.*

The combination of Kessler and Hirschman renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught the use, generally, of a "short range wireless communication protocol," citing Bluetooth and WiFi as examples. Ex. 1005 ¶¶19, 80. Bluetooth operates (and operated in both 2012 and 2015) *in a frequency range of 2.4 GHz.* Kitchen ¶¶721-24 (Bluetooth operates from 2.4 to 2.485 GHz). WiFi, likewise, is well-understood to operate in the 2.4GHz band. *Id.*

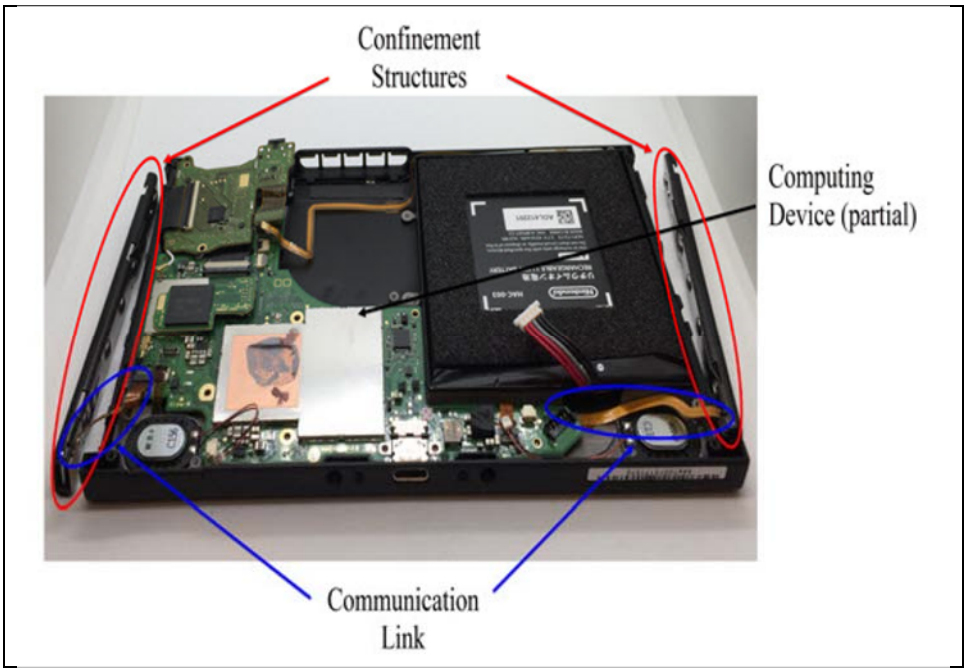
16. Claim 20: *The combination of claim 18, in which the wireless communication platform is a personal area network.*

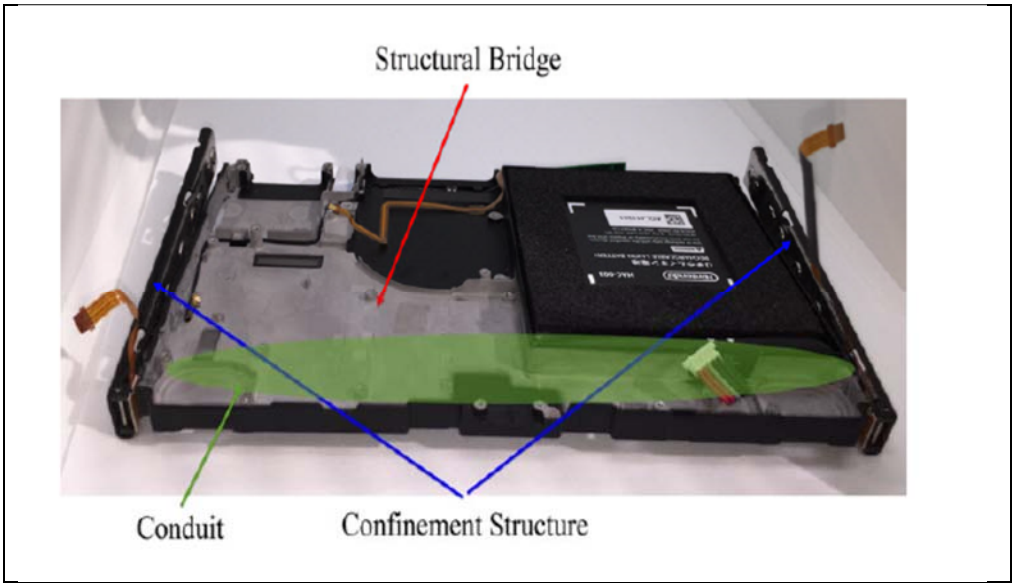
The combination of Kessler and Hirschman renders this claim obvious. A POSITA would have combined their teachings for the reasons described in Section VI.C.1. Kessler taught communication via wireless connectivity, including Bluetooth and WiFi. *See supra* §VI.C.15. Utilizing those connections necessarily allowed the controller to join a personal area network, which was well understood by 2012 and 2015. Kitchen ¶¶725-28 (personal area networks can be created between devices connected wirelessly via Bluetooth). As described above, this would take the form of, for example, a wireless communications module using Bluetooth, as taught in Kessler, implemented in an adjustable bridge with side walls

for detachable control modules, as taught by the Kessler/Hirschman combination, so that the handle housings of Kessler would wirelessly communicate with the adjustable bridge, which in turn would communicate with the computing device.

D. Ground 3: Claim 1 is unpatentable over Hirschman

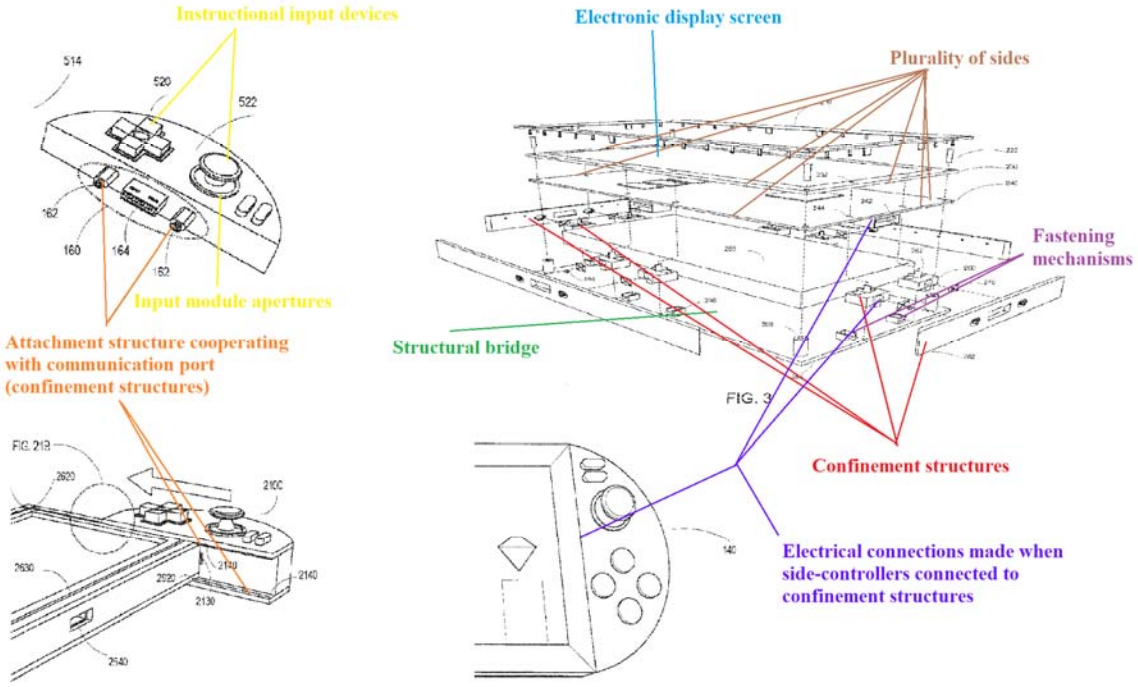
Patent Owner has accused the Nintendo Switch in a manner that utilizes improperly broad constructions. For example, Gamevice explicitly accused Nintendo's Switch of satisfying the '119 patent's *confinement structure* limitation based on sidewalls to the Switch computing device, the *structural bridge* based on the back of the Switch, and the *conduit* based on what Gamevice accused as a pathway on the structural bridge. This is shown in the following images from the Complaint that Gamevice filed (but dismissed before service) in the Central District of California. Ex. 1009 at 7, 11.





Nintendo disagrees with Gamevice's apparent constructions, but to the extent those constructions are deemed appropriate, claim 1 is obvious over Hirschman, which discloses all of the claimed limitations as construed by Patent

Owner. The following annotated figure shows how Hirschman's teachings recite the limitations as asserted by Patent Owner in its prior lawsuit against Petitioners.



Ex. 1006, Figs 3, 5, 14A, 20C.

1. Claim 1

a. *A combination comprising: a computing device, the computing device providing a plurality of sides, each of the plurality of sides are disposed between an electronic display screen of the computing device and a back of the computing device;*

Under Patent Owner's apparent constructions, Hirschman disclosed a *computing device providing a plurality of sides, each of the plurality of sides* being *disposed between an electronic display screen* and a *back of the computing device*.

Hirschman taught a portable computer in the form of a tablet, phone, or laptop that had an electronic touchscreen. *See*, *e.g.*, Ex. 1006 ¶¶46, 50, 52-53, 56, Figs. 1-3. As shown in annotated Figure 3 above, the electronic display screen sat in a bezel and above a circuit board that provides a plurality of sides, with the back of the computing device on the bottom side. *Id.* at Fig. 3, ¶¶55-56.

b. *a communication port interacting with the computing device, the communication port providing a communication link and a pair of confinement structures, the pair of confinement structures adjacent to and confining the computing device on at least two opposing sides of the plurality of sides of the computing device;*

Hirschman disclosed this limitation under Patent Owner's improper apparent constructions. The *confinement structures* are the sidewalls 282 and retention structures 260 on the left and right sides (lengthwise), which are *adjacent to and confining the computing device on at least two opposing sides of the plurality of sides*, as shown above. *Id.* at Fig. 3; ¶57. The *communication link* was any of the multiple ports, including the retention posts/ports, shown that link to the circuit board, which provided "components of a portable computing device, such as a CPU, graphics processor, operating memory, communications busses, storage devices, and/or other equipment." *Id.* ¶¶55-56. This *communication port*, consisting of the *confinement structures* and *communication link*, interacted with

the computing device because it both held the PCB it in place physically and communicated with it electronically.

c. *an input device attached to and in electronic communication with the communication port, the input device providing a pair of control modules, the pair of control modules providing input module apertures, each input module aperture secures an instructional input device, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device, and wherein the input device is a separate and distinct structure from the communication port, forming no structural portion of the communication port; and*

Hirschman disclosed an *input device attached to and in electronic communication with the communication port*, under Patent Owner's improper apparent constructions, because it taught two "game accessories" that attach directly to the *confinement structures* either by plugging into the retention posts and other ports, or by sliding onto the sidewalls and connecting via the communication port. *Id.* ¶53, Figs. 2A-2B, 5, 14A, 20A-C, 22, 24B. Each of the individual controllers are *control modules* that provide *input module apertures*, which in turn secure *instructional input devices*; as shown in numerous figures, each controller had input controls such as buttons, a joystick, or d-pad, which are provided through apertures in the controller. *Id.* ¶¶11, 52-53, 67-68, 84. The *apertures* are located *adjacent each of the at least two opposing sides of the plurality of sides of the computing device*, as shown above. Finally, the *input device*

(consisting of the control modules) is a *separate and distinct structure from the communication port* because the control modules are detachable. They form *no structural portion of the communication port*.

d. *a structural bridge securing the pair of confinement structures one to the other, in which each of the pair of control modules provide an attachment structure cooperating with the communication port, each attachment structure secures the input device to the communication port, and in which the structural bridge comprising:*

Hirschman disclosed a *structural bridge* under Patent Owner's improper apparent construction. In particular, as shown in Fig. 3, chassis 280 provides a *structural bridge* to which the *confinement structures* are connected—as Patent Owner identified in the Nintendo Switch. *Id.* at Fig. 3, ¶57 ("The chassis 280 may include sidewalls 282, which may contain cutouts in the shape and size to receive retention posts 162 and communications connectors 164…"); *compare* Ex. 1009 at 10. Further, under Patent Owner's constructions, each of the controllers, or *control modules*, provided an *attachment structure* that cooperates, or enables secure attachment to, the *communication port* (*confinement structures*). In one embodiment, Hirschman's controllers contained retention tongues 2140 that connected to the *confinement structures* via retention channels 2620. *Id.* ¶¶84-88; Figs. 16A-17B (showing attachment structures on controllers), 20A-20C (showing sliding attachment via retention tongues and channels); *see also id.* ¶¶89-92. This

is the type of attachment structure Patent Owner accused in the Nintendo Switch. Ex. 1009 at 10.

e. *a conduit between the pair of control modules; and a fastening mechanism cooperating with the pair of confinement structures, the fastening mechanism secures the pair of confinement structures one to the other.*

Finally, Hirschman disclosed a *conduit* and a *fastening mechanism* under Patent Owner's improper apparent constructions. On the former, Hirschman's device included a *conduit*—or "pathway" as identified by Patent Owner—in Figure 3 by showing available space (*e.g.*, for the circuit board and next to the battery) between where the *control modules* would attach to the *confinement structures* on each side. Ex. 1006 at Fig. 3; *compare* Ex. 1009 at 11. Even if Hirschman does not disclose the exact pathway that Patent Owner identified, it would also have been obvious to a POSITA to use an even smaller battery to save space, which would have then created such a pathway or *conduit*. Kitchen ¶¶753-54.

As for the *fastening mechanism*, Hirschman teaches that the sidewalls and retention structures are fastened to the chassis, or *structural bridge*, via brackets (as shown in Fig. 3). Ex. 1006 ¶57.

In light of Hirschman's disclosures, claim 1 is obvious to the extent Patent Owner's constructions are accepted. Kitchen ¶¶730-58.

VII. CONCLUSION

Petitioners respectfully ask the Board to cancel claims 1-10 and 13-21 of the '119 patent.

Dated: August 30, 2018

Respectfully submitted,

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CERTIFICATION OF WORD COUNT UNDER 37 CFR § 42.24(d)

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for *Inter Partes Review* totals 13,521 words, excluding the parts exempted by 37 C.F.R. § 42.24(a).

This word count was made by using the build-in word count function tool in the Microsoft Word software Version 2010 used to prepare the document.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that true copies of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 9,126,119 and supporting materials (Exhibits 1001-1015 and Powers of Attorney) have been served this 30th of August, 2018, by FedEx® mail delivery service on Patent Owner at the correspondence address for the attorney of record for the '119 Patent shown in USPTO PAIR:

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