

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.

Case No. IPR2023-00643
U.S. Patent No. 10,391,393 B2

PATENT OWNER'S RESPONSE

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I. INTRODUCTION

The Board should rule in its Final Written Decision that Nintendo has failed to show by a preponderance of the evidence that any of Challenged Claims 1–7 of U.S. Patent No. 10,391,393 (“the ’393 Patent”) is unpatentable. Nintendo’s four grounds apply the same prior art combinations that it asserted against U.S. Patent No. 9,126,119 (“the ’119 Patent”), a continuation-in-part parent of the ’393 Patent, in *inter partes* reviews IPR2018-01521 and IPR2018-01522 (together, “the ’119 IPRs”). *See* Ex. 1010, 7; Ex. 1011, 7. But independent claim 1 of the ’393 Patent recites narrowing limitations that do not appear in any of the ’119 Patent’s previously challenged claims, and Nintendo applies the prior art combinations here differently than it and the Board did in the ’119 IPRs. Thus, contrary to Nintendo’s position, Gamevice is not collaterally estopped from arguing these limitations over the Board’s decisions in the ’119 IPRs.

Moreover, during prosecution of the application leading to the ’393 Patent, the Examiner cited the narrowed claim limitations that Gamevice argues in his statement of reasons for allowance over the prior art of record. Ex. 1009, 25-26. The prior art of record included *each and every reference* that Nintendo applies in its asserted grounds—Willner, Park, Schoenith, Kessler, and Hirschman. Ex. 1001, 2 (References Cited). The Examiner considered all five references, which Gamevice cited in an information disclosure statement. *See* Ex. 1009, 74-75; *id.*, 92 (Cite No.

28 (Schoenith, Ex. 1005)), 96 (Cite No. 36 (Willner, Ex. 1003); Cite No. 41 (Hirschman, Ex. 1007)), 97 (Cite No. 1 (Park, Ex. 1004)), 98 (Cite No. 5 (Kessler, Ex. 1006)). The Examiner also independently uncovered Schoenith's prior patent application publication based on his own searching. *See* Ex. 1009, 31; Ex. 1005, 1 (“(65) Prior Publication Data”).

Focused on the narrowed limitations of independent claim 1, Gamevice presents new arguments and evidence not previously considered by the International Trade Commission in Investigation No. 337-TA-1197 related to the '393 Patent. Gamevice's positions are supported by the expert declaration (Ex. 2004) of Prof. Alexander H. Slocum, who has been a Professor of Mechanical Engineering at the Massachusetts Institute of Technology for over thirty years and qualified as a person having ordinary skill in the art before the February 2, 2015, effective filing date of the '393 Patent. Given that the '393 Patent's claims deal mostly with mechanical engineering concepts and terminologies, Prof. Slocum is better positioned to evaluate the prior art combinations from the perspective of an ordinary artisan than Nintendo's expert Mr. Kitchen, who, notwithstanding his many accomplishments, is an electrical engineer more focused on video gaming software. *See* Ex. 1002, Appx. A, 1-3.

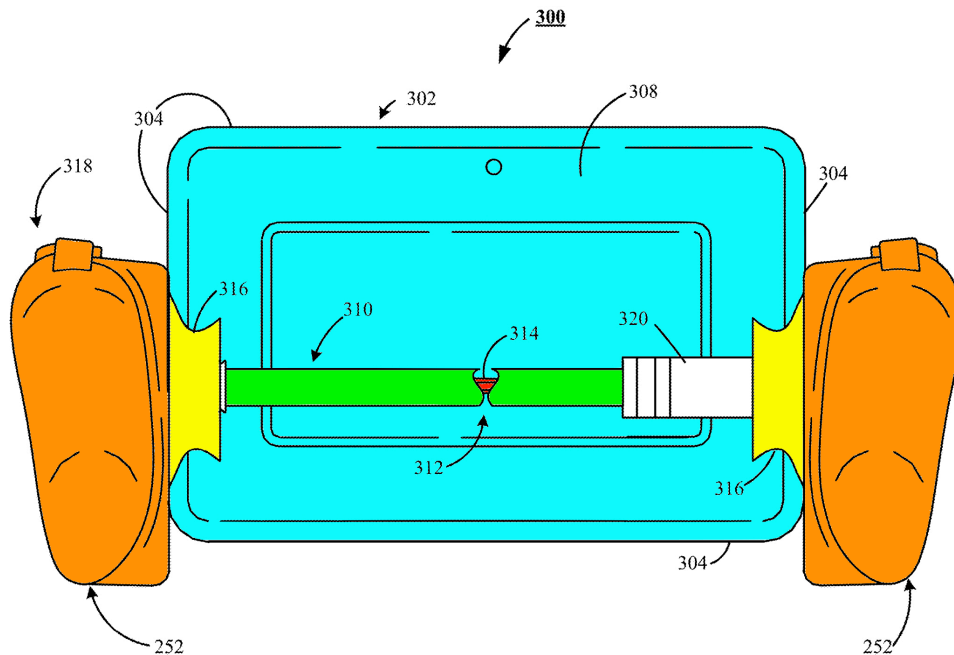
As Prof. Slocum explains, even if the prior art references were combined as Nintendo proposes, the reference combinations fail to teach or suggest at least the

claimed arrangement of the “pair of confinement structures,” as recited in independent claim 1. Moreover, persons having ordinary skill in the art would not have been motivated to make Nintendo’s proposed combinations for several reasons grounded in mechanical considerations. Accordingly, Nintendo has failed to show by a preponderance of the evidence that independent claim 1, or any of dependent claims 2–7, of the ’393 Patent is unpatentable.

II. OVERVIEW OF THE ’393 PATENT

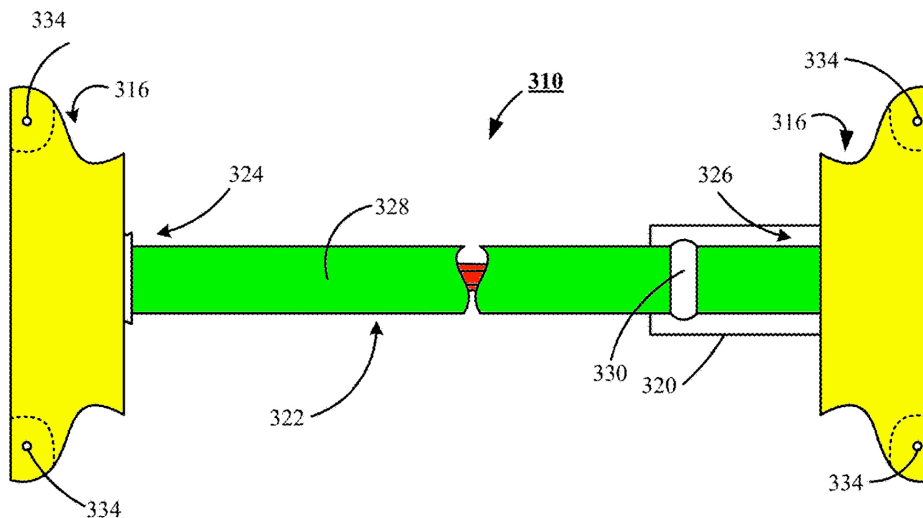
The ’393 Patent relates to a combination game controller and information input device directed to controlling electronic games and entry of information to a computing device. Ex. 1001, 4:12-16. Fig. 16 illustrates a back plan view of an example combination 300. *Id.*, 2:42-45, 9:21-26.¹ As shown in Fig. 16 (annotated below), a pair of confinement structures 316 (annotated in yellow) are adjacent to and confine computing device 302 (annotated in blue) on at least two of its opposing sides. *Id.*, 9:33-38; Ex. 2004 (“Slocum Decl.”), ¶ 14.

¹ Claims 1–7 of the ’393 Patent are fully supported at least by Figs. 16-25 and their associated written description, which were included in continuation-in-part priority application no. 14/611,804, filed on February 2, 2015. *See* Ex. 1001, 2 (Related U.S. Application Data); Pet., 13.

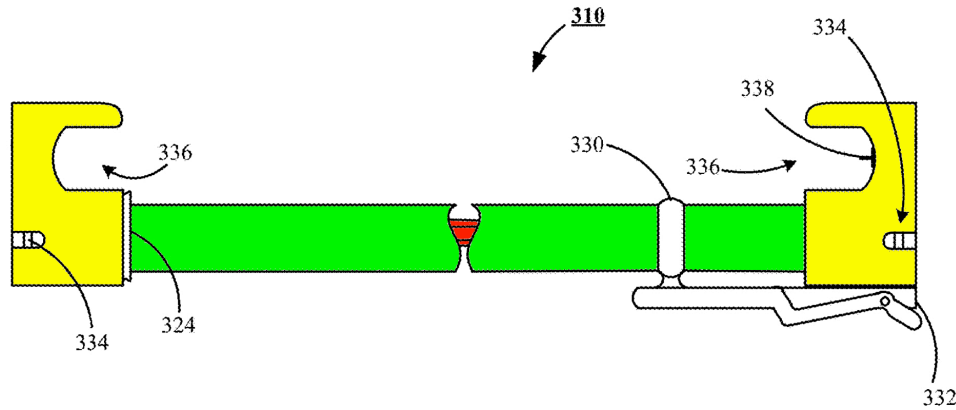


'393 Patent, Fig. 16 (annotated)

As shown in Figs. 17 and 18 (annotated below), each of the confinement structures 316 includes a cradle 336 (annotated in yellow). Each cradle 336 includes a lip that prevents a computing device 302 that is held between the confinement structures 316 from coming out in the direction of the user. Slocum Decl., ¶ 15.



'393 Patent, Fig. 17 (annotated)



'393 Patent, Fig. 18 (annotated)

With reference to Figs. 16-18, a structural bridge 322 (annotated in green) secures the pair of confinement structures to each other. Ex. 1001, 9:60-62; Slocum Decl., ¶ 16. Structural bridge 322 includes a conduit 328 that provides space to accommodate a wired connection 314 (annotated in red). Ex. 1001, 9:29-33, 9:60-10:7; Slocum Decl., ¶ 16. Further, as shown in Fig. 16, a pair of control modules 252 (annotated in orange) are secured to the confinement structures 316. Ex. 1001, 9:42-53; Slocum Decl., ¶ 16.

III. LEVEL OF ORDINARY SKILL IN THE ART

Ordinary artisans as of the February 2, 2015, effective filing date of the '393 Patent would have had an undergraduate degree in mechanical engineering and two years of industry or research experience in mechanical assemblies and hand-held consumer devices or other technology involving a physical device that allows humans to interface with electrical devices, where additional relevant experience can compensate for a lack of relevant education, and vice versa. Slocum Decl., ¶¶ 17-18.

Also, they would have understood the manner in which normal users generally operate game controllers. *Id.*, ¶ 20.

“The determination of the level of ordinary skill in the art is an integral part of the *Graham* [obviousness] analysis.” *Ruiz v. A. B. Chance Co.*, 234 F.3d 654, 666 (Fed. Cir. 2000). “Factors that may be considered in determining the ordinary level of skill in the art include: 1) the types of problems encountered in the art; 2) the prior art solutions to those problems; 3) the rapidity with which innovations are made; 4) the sophistication of the technology; and 5) the educational level of active workers in the field.” *Id.* at 666-67.

Contrary to Nintendo’s position, Gamevice’s definition requires ordinary artisans to have a mechanical engineering degree, consistent with the International Trade Commission’s definition in Investigation No. 337-TA-1197. *See* Ex. 1018, 27; Slocum Decl., ¶ 21. By contrast, Nintendo’s position permits an undergraduate degree in electrical or computer engineering, or other technical training in product design or equivalent work experience in the development of interactive products. *See* Pet., 13; Ex. 1002, ¶¶ 39-41. But rather than software aspects of video games, the ’393 Patent’s claims deal mostly with mechanical engineering concepts and terminologies, with some basic electrical engineering or computer science issues (for example, as to the meaning of “computing device” or “electrical” and “electronic” communication), all of which would be well within the grasp of an experienced

mechanical engineer. Slocum Decl., ¶¶ 19, 22. Someone with only a computer science degree or someone who designed video games (as opposed to the physical aspects of video game controllers), however, would be less familiar with the various mechanical terms used in the '393 Patent's specification and claims, like "attachment stay 448" (*see, e.g.*, Ex. 1001, 12:45-46), "soft draw latch" (*see, e.g., id.*, 9:56), "fastening detent 264" (*see, e.g., id.*, 8:40), "spring activated catch 268" (*see, e.g., id.*, 8:44-45), and "boss 430" (*see, e.g., id.*, 12:7). Slocum Decl., ¶ 22.

IV. LEGAL STANDARD FOR COLLATERAL ESTOPPEL

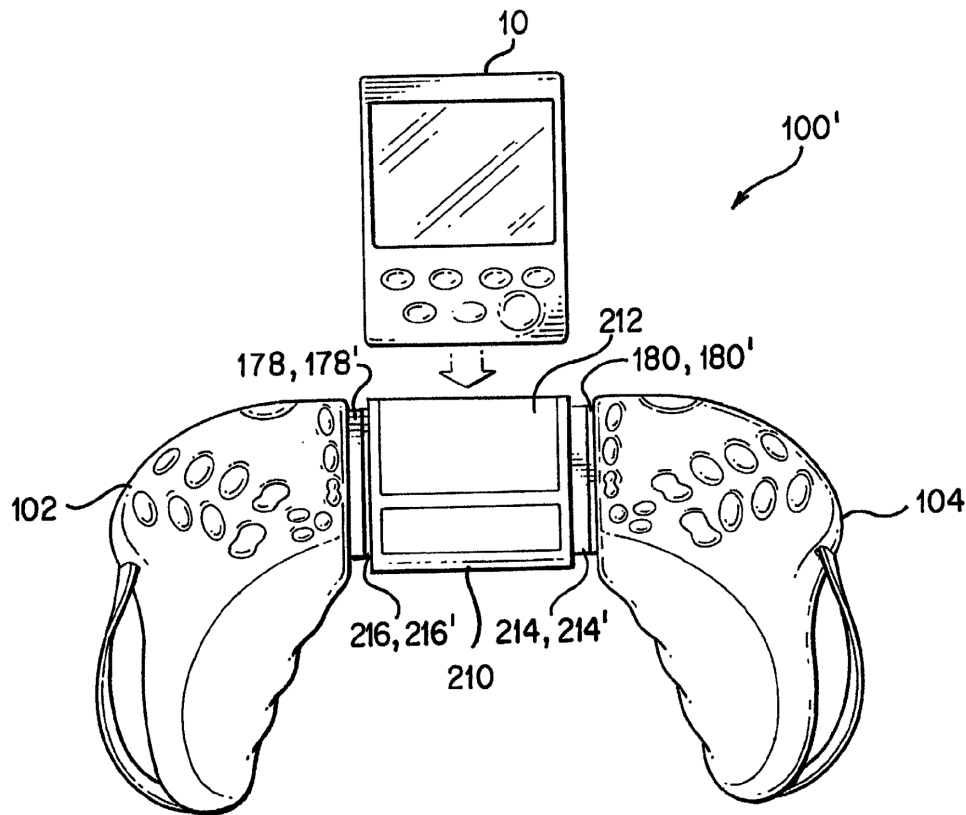
In its Institution Decision (Paper No. 11), the Board gave notice that the parties should address whether collateral estoppel applies over the Board's decisions in the '119 IPRs. Inst. Dec., 22-23 n.8. A party is not collaterally estopped from litigating an issue unless: "(1) a prior action presents an identical issue; (2) the prior action actually litigated and adjudged that issue; (3) the judgment in that prior action necessarily required determination of the identical issue; and (4) the prior action featured full representation of the estopped party." *VirnetX Inc. v. Apple, Inc.*, 909 F.3d 1375, 1378 (Fed. Cir. 2018). Rather than requiring that identical patent claims were litigated in the prior action, collateral estoppel requires "identity of the *issues* that were litigated." *Ohio Willow Wood Co. v. Alps South, LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013).

V. NINTENDO FAILS TO PROVE OBVIOUSNESS OF CLAIMS 1-7 OVER WILLNER AND PARK (GROUND 1)

A. Overview of the Cited Art

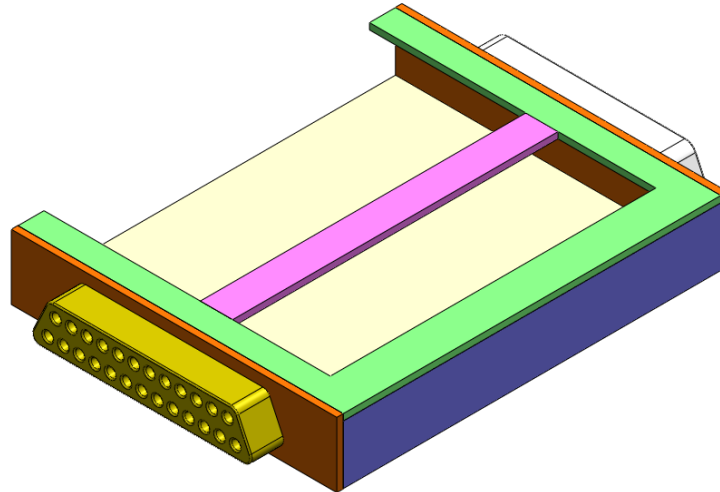
1. Willner (Ex. 1003)

Willner describes a “hand grippable combined keyboard and game controller system 100 which can communicate with . . . a palm/tablet sized computing device 10 which is received within an adaptor 210.” Ex. 1003, ¶ [0050]. As shown in Willner, Fig. 4 (reproduced below), the palm/tablet sized computing device 10 is oriented in portrait mode when it is inserted from the top into opening 212 of adaptor 210. *Id.*; Slocum Decl., ¶ 47.



Willner, Fig. 4

To explain how an ordinary artisan would understand the three-dimensional structure of Willner's single-piece, integrated adaptor 210, Prof. Slocum constructed a computer-aided design (CAD) model using SolidWorks™ illustrating some relevant structural aspects of adaptor 210. Slocum Decl., ¶¶ 48, 61-63, 69.



Willner's adaptor 210 (3-D structure)²

As shown in the figure above, an ordinary artisan would understand that adaptor 210 has sides (annotated in orange). Slocum Decl., ¶ 49. Additionally, an ordinary artisan would understand that adaptor 210 has a back (annotated in yellow),

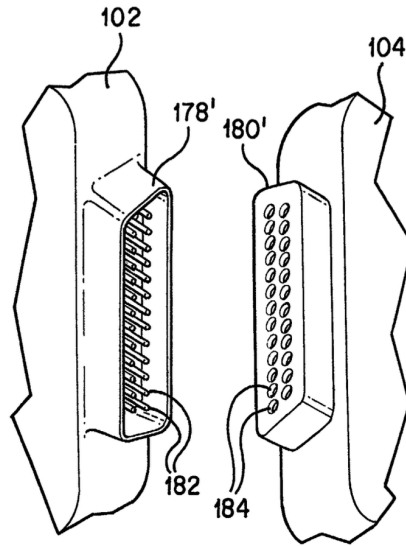
² The SolidWorks™ models are not intended to be precisely to-scale but roughly on the same order of scale as depicted in the cited references. They are intended to illustrate an ordinary artisan's understanding of the structural components, and to be proportioned such that they could be built and tested as would be done by an ordinary artisan seeking to practice the art. Slocum Decl., ¶ 48 n.2.

retaining lips on the front side of adaptor 210 (annotated in green), a retaining crossbar running across the front of adaptor 210 (annotated in pink), and a bottom (annotated in blue). Slocum Decl., ¶ 49. These four additional structural elements work together with the sides of adaptor 210 to retain computing device 10. *Id.* An ordinary artisan would understand that without these additional four structural elements, Willner's adaptor 210 cannot retain computing device 10 during normal user operation. *Id.*

Moreover, Willner's adaptor 210 does not provide any compressive load on computing device 10; it merely "receive[s]" computing device 10 through opening 212 from the top side. Ex. 1003, ¶ [0050] (emphasis added); *see id.*, ¶ [0052] (discussing a switch 218 can provide an enabling signal responsive to "receipt of the computing device 10 within the opening 212 of adaptor 210") (emphasis added); Ex. 1001, 10:11-19 ("the application of sufficient compressive load being placed on the computing device 302 to securely hold the computing device between the pair of confinement structures 316"); Slocum Decl., ¶ 50.

On both of its sides, adaptor 210 has 25-pin D-subminiature ("DB-25") connecting portions 216, 216' and 214, 214' integrated into adaptor 210. *Id.*, ¶ 51. Connecting portions 216, 216' and 214, 214' couple to corresponding DB-25 connecting portions 178, 178' and 180, 180' of hand grippable housings 102 and 104 respectively. *Id.* Willner, Fig. 3C, reproduced below, shows the corresponding DB-

25 connecting portions 178' and 180' of the hand-grippable housings 102 and 104 respectively, and Fig. 4 above shows the DB-25 connecting portions of adaptor 210 “matingly engage” with those of housings 102 and 104. Ex. 1003, ¶ [0050]; Slocum Decl., ¶ 51.

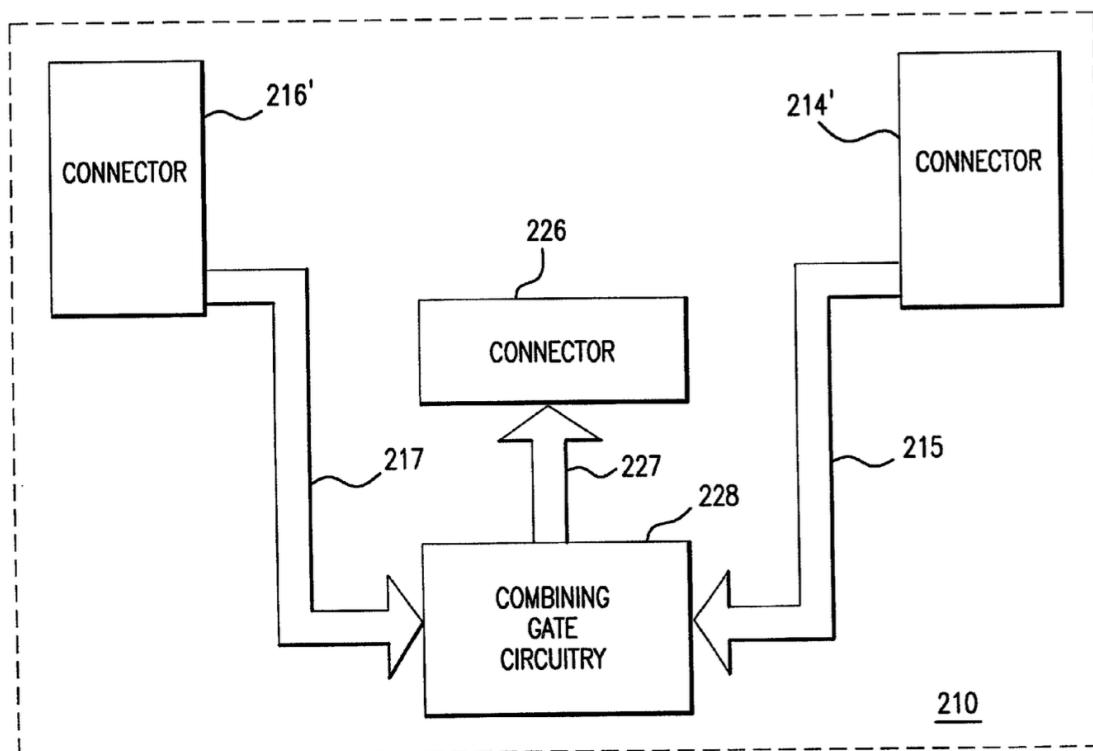


Willner, Fig. 3C

Willner does not anywhere discuss using screws or snap-fit connectors to secure any components. *Id.*, ¶ 52. An ordinary artisan reviewing Willner, Fig. 4, would recognize that Willner’s design for its adaptor 210 and housings 102 and 104 does not provide space enough to incorporate screws adjacent to connecting portions 216, 216' and 214, 214' or connecting portions 178, 178' and 180, 180' of hand grippable of housings 102 and 104. *Id.* Instead, Willner only has “a releasable coupling” between the DB-25 connecting portions themselves that “permits the [components] to be integrally joined, when so desired, and subsequently easily

separated.” Ex. 1003, ¶ [0046]; *see id.*, Abstract (“the complementary connecting portions allowing the two housings (102 and 104) to be releasably joined together, or alternately releasably coupled to an adaptor (210)”); Slocum Decl., ¶ 52.

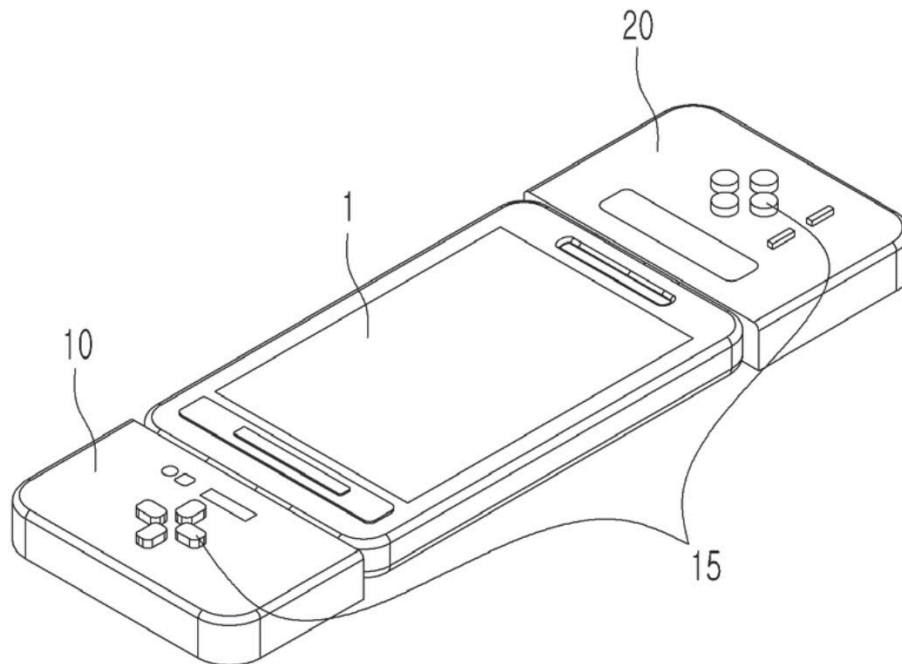
Willner’s adaptor 210 can provide a “hard wired connection” to computing device 10 via “a docking connector [226] within the adaptor 210 which mates with a corresponding connector of the computing device 10.” Ex. 1003, ¶ [0051]; Slocum Decl., ¶ 53. As shown in Fig. 8, the DB-25 connecting portions 216' and 214' of adaptor 210 are coupled through buses 217 and 215 respectively within adaptor 210 to the computing device docking connector 226. *Id.*



Willner, Fig. 8

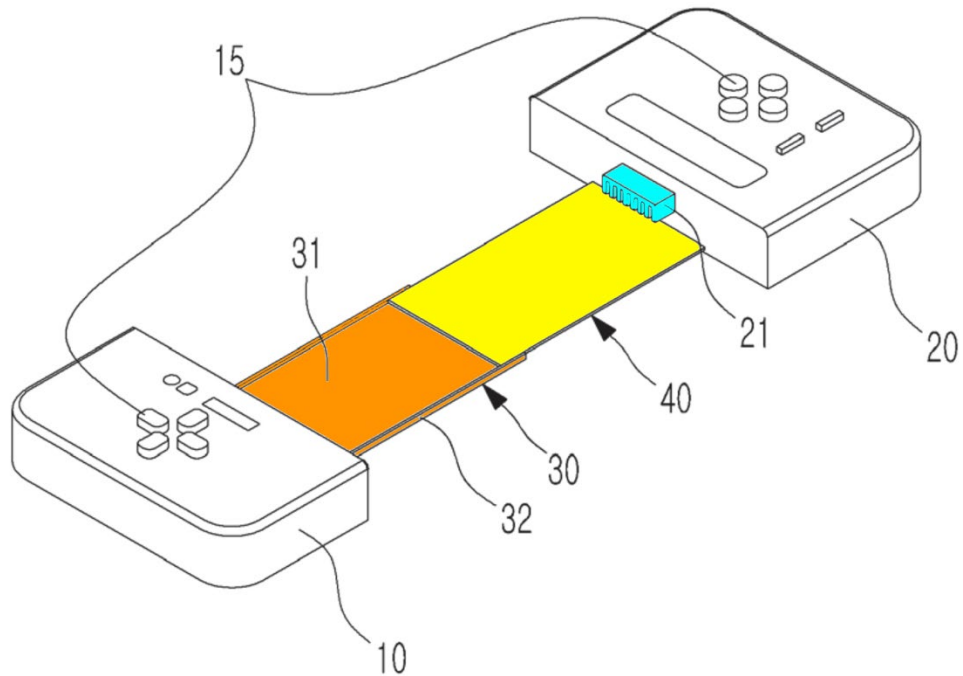
2. Park (Ex. 1004)

Nintendo relies primarily on Park's structures depicted in Figs. 1-3. *See, e.g.*, Pet., 16-17, 24-25; Ex. 1002, ¶¶ 121-123, 149. As shown in Park, Fig. 3, reproduced below, a mobile phone (1) is mounted in landscape orientation between the sidewalls of Park's controller bodies (10) and (20). Slocum Decl., ¶ 54.



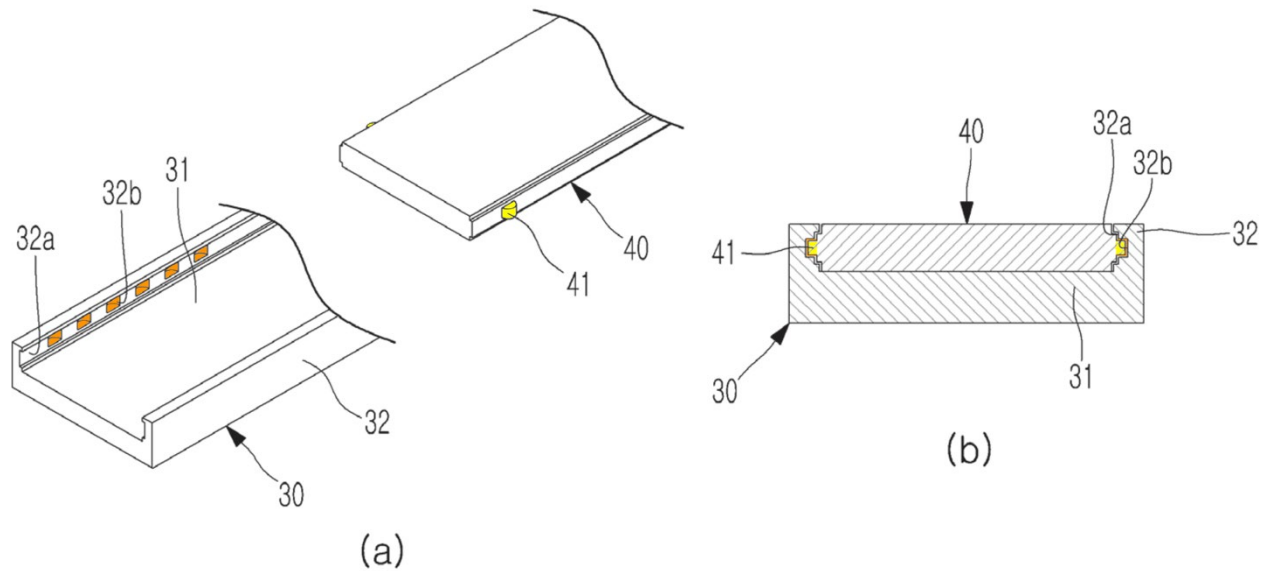
Park, Fig. 3

As shown in Fig. 1 below (annotated), Park's bridge (30, 40) (annotated in orange and yellow, respectively) connects to controller bodies (10) and (20) at the bottom of their sidewalls. Slocum Decl., ¶ 55. Park's bridge (30, 40) is made by joining a first panel (30) (annotated in orange) and a second panel (40) (annotated in yellow). *Id.* Park discloses that the first panel (30) is made of elastic material. Ex. 1004, ¶ [0034]; Slocum Decl., ¶ 55.



Park, Fig. 1 (annotated)

As shown in annotated Figs. 2(a)-(b) below, to join panels (30) and (40) together to form bridge (30, 40), first panel (30) has side walls (32), and recessed guide grooves (32a) and catching holes (32b) (annotated in orange). Ex. 1004, ¶ [0033]; Slocum Decl., ¶ 56. Second panel (40) has small protrusions (41) (annotated in yellow) that catch corresponding catching holes (32b) (annotated in orange). Ex. 1004, ¶¶ [0033], [0039]; Slocum Decl., ¶ 56.



Park, Figs. 2(a)-(b) (annotated)

As Park itself admits, the arrangement described above does not properly retain mobile phone (1) between controller bodies (10) and (20) during normal user operation. Slocum Decl., ¶ 57. According to Park itself, “as the mobile phone is not sufficiently in contact with the device according to the present invention when using the above configuration, the mobile phone (1) may come loose during gaming or become detached in severe cases, hindering comfortable and stable operation of a game.” Ex. 1004, ¶ [0041]; Slocum Decl., ¶ 57. In other words, Park admits that this configuration does not allow mobile phone (1) to be seated for stability in the device. *See* Ex. 1004, ¶ [0042]; Slocum Decl., ¶ 57.

Like Willner, Park does not anywhere discuss using screws or snap-fit connectors to secure any of its components together. Slocum Decl., ¶ 58. In particular, an ordinary artisan would understand that Park’s bridge (30, 40) is not designed to be secured to another component using screws or snap-fit connectors.

Id. Also, Park's bridge (30, 40) includes a connecting cable (not depicted) extending along the inside of bridge (30, 40) that electrically connects first body (10) and second body (20). Ex. 1004, ¶¶ [0026], [0036]; Slocum Decl., ¶ 59.

B. Nintendo's proposed combination of Willner and Park fails to disclose or suggest the claimed arrangement of the "pair of confinement structures"

With respect to "pair of confinement structures," independent claim 1 of the '393 Patent recites, *inter alia*:

[*Claim limitation 1(b)(1)*] a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device,

* * * * *

[*Claim limitation 1(d)(4)*] wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, . . .

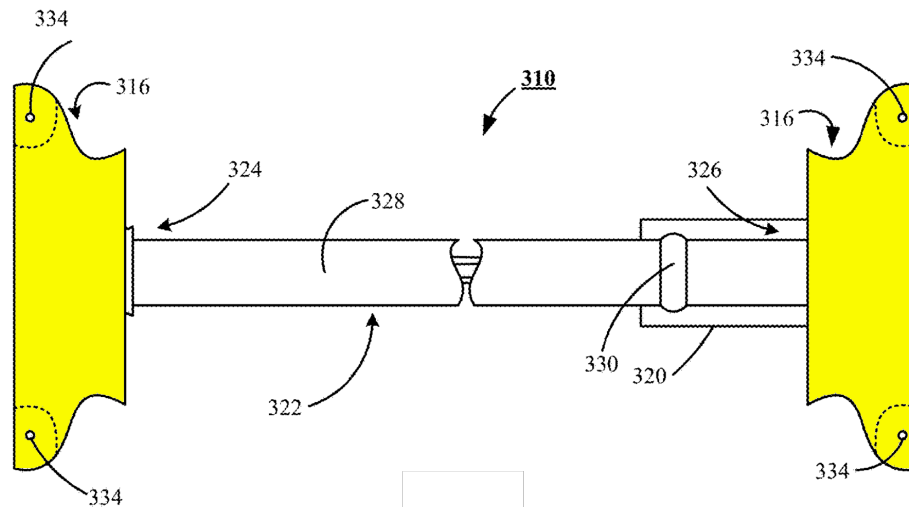
During prosecution, the Examiner cited claim limitation 1(d)(4) as part of his statement of reasons for allowance over the prior art of record, including Willner and Park. *See* Ex. 1009, 25-26. As explained below, Nintendo's proposed

combination of Willner and Park, taken as a whole, fails to disclose or suggest this claimed arrangement to an ordinary artisan.

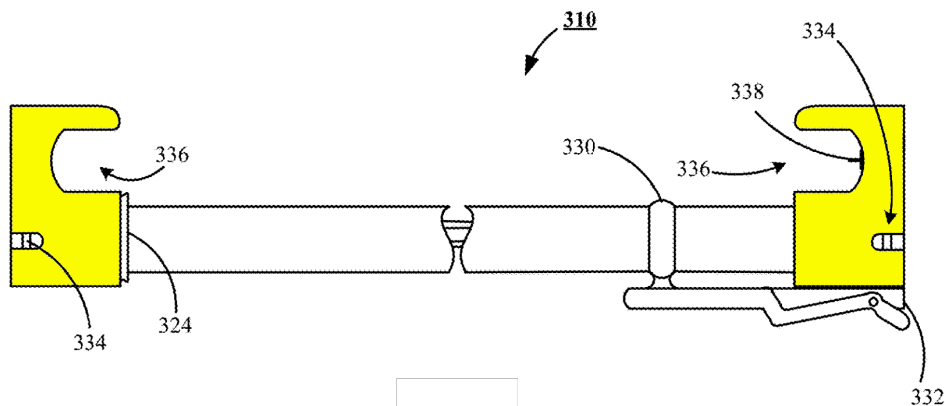
1. Willner and Park, even if combined as Nintendo proposes, fails to disclose or suggest the claimed arrangement to an ordinary artisan

Under Nintendo’s applied construction of “pair of confinement structures”—physical components that hold a computing device (Ex. 1028, 10-12; *see* Ex. 1002, ¶¶ 106, 108-110; Pet., 14-15)—Nintendo’s proposed combination of Willner and Park, taken as a whole, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Specifically, in Nintendo’s proposed combination, the sidewalls of Willner’s adaptor 210, which Nintendo contends are the claimed “pair of confinement structures,” would not hold the computing device 10, *e.g.*, from coming out in the direction of the user (out of the page). Slocum Decl., ¶¶ 76-81.

As shown in an example embodiment depicted in Figs. 17 and 18 of the ’393 Patent, each of the confinement structures 316 includes a cradle 336 (annotated in yellow). As shown in Fig. 18, each cradle 336 (annotated in yellow) includes a lip that prevents a computing device 302 that is held between the confinement structures 316 from coming out in the direction of the user. Slocum Decl., ¶ 82.



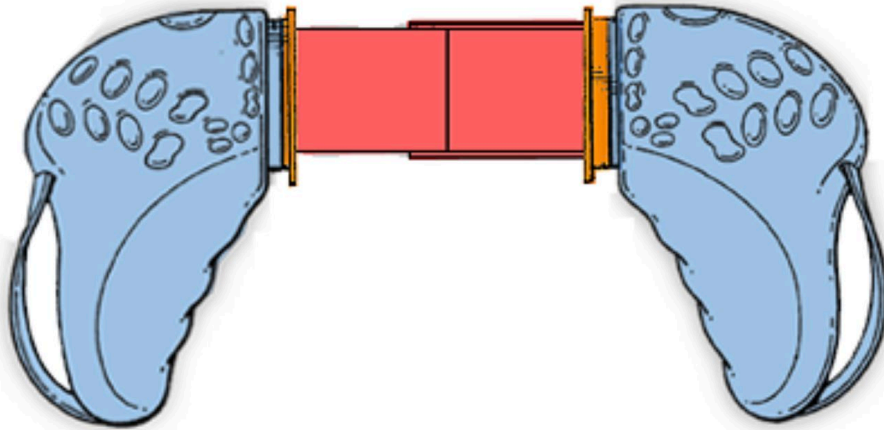
'393 Patent, Fig. 17 (annotated)



'393 Patent, Fig. 18 (annotated)

By contrast, in the analysis of the relevant claim limitations 1(b)(1) and 1(d)(4), *see* Ex. 1002, ¶¶ 146-157, 199, Nintendo and its expert Mr. Kitchen fail to consider how the combination of Willner's adaptor 210 sidewalls and Park's adjustable bridge (30, 40) could hold Willner's computing device 10 from popping out in the direction of the user (out of the page). Slocum Decl., ¶ 83. However, as can be seen from the illustration that Nintendo provides at Page 25 of its Petition (reproduced below), Nintendo's proposed combination of Willner's adaptor 210

sidewalls with Park's adjustable bridge (30, 40) does not provide any structure that would hold Willner's computing device 10 in position, e.g., from coming out in the direction of the user (out of the page). Slocum Decl., ¶ 83.



Nintendo argues that Park's adjustable bridge (30, 40) could compress the sidewalls of Willner's adaptor 210 to hold Willner's computing device 10. *See* Pet., 24. But without any retaining structure to prevent the computing device 10 from coming out in the direction of the user (out of the page), placing the computing device 10 above Park's bridge (30, 40) will cause Park's bridge (30, 40) to bow and tend to make the computing device 10 pop out in the direction of the user (out of the page). Slocum Decl., ¶ 84.

As discussed in detail below, an ordinary artisan would not be motivated to combine Willner and Park as Nintendo proposes to teach or suggest the above claimed arrangement with respect to "confinement structures." Specifically, Nintendo's proposed modification of Willner's adaptor 210 with the teachings of

Park's adjustable bridge (30, 40) would frustrate Willner's basic purpose of holding its computing device 10 in position between its hand grippable housings 102 and 104, *e.g.*, from coming out in the direction of the user. *Id.*, ¶ 85. Further, the design of Park's adjustable bridge (30, 40) is fundamentally flawed because, in attempting to make it easy for a user to reduce or expand its length through ratcheting action, Park fatally compromises its ability to hold a mobile device between its controller bodies during normal user operation. *Id.* Those arguments further support that Nintendo's proposed combination of Willner and Park fails to disclose or suggest the claimed arrangement of the "pair of confinement structures."

2. An ordinary artisan would not have been motivated to combine Willner and Park as Nintendo contends

For four reasons, an ordinary artisan would not be motivated to combine Willner and Park as Nintendo proposes to teach or suggest the above claimed arrangement with respect to "confinement structures."

First, as discussed above, Nintendo's proposed modification of Willner's adaptor 210 with the teachings of Park's adjustable bridge (30, 40) would frustrate Willner's basic purpose of retaining its computing device 10 in position between its hand grippable housings 102 and 104, *e.g.*, from coming out in the direction of the user. Slocum Decl., ¶¶ 60-65. Nintendo proposes to entirely discard four different structures from Willner's adaptor 210, as shown above in Section V.A.1—the back (annotated in yellow), the retaining lips on the front side (annotated in green), the

retaining crossbar running across the front (annotated in pink), and the bottom (annotated in blue). Slocum Decl., ¶ 66. Without these structural elements, Willner's adaptor 210 cannot retain computing device 10 in position during normal user operation. *Id.* Replacing only the back of Willner's adaptor 210 with the teachings of Park's adjustable bridge (30, 40) as Mr. Kitchen proposes, does not remedy the problem of retaining computing device 10 in position during normal user operation, *e.g.*, from coming out in the direction of the user. *Id.*, ¶ 67.

Indeed, this deficiency that Nintendo's proposed combination suffers from is the same deficiency that Park expressly points out in its disclosure: "[A]s the mobile phone is not sufficiently in contact with the device according to the present invention when using the above configuration, the mobile phone (1) may come loose during gaming or become detached in severe cases, hindering comfortable and stable operation of a game." Ex. 1004, ¶ [0041]; Slocum Decl., ¶¶ 68-71. In other words, as Park points out, this configuration does not allow mobile phone (1) to be seated for stability in the device. *See* Ex. 1004., ¶ [0042]; Slocum Decl., ¶ 68. Park attempts to solve its identified problem by introducing a cushioning pad (60) on the face of the first controller body (10), as well as a connecting assembly with an air tube (110), contact sensor (112), fan (120), air offtake pipe (130), check valve (140), and controller (150). *See* Ex. 1004, Figs. 4-5, ¶¶ [0043]-[0062]; Slocum Decl., ¶ 68.

Nintendo, however, fails to include any of these components that Park attempts to solve its problem with. Slocum Decl., ¶ 68.

Second, the combined teachings of Willner's adaptor 210 modified with Park's adjustable bridge (30, 40), taken as a whole, do not enable an ordinary artisan to make and use the claimed invention without undue experimentation. Specifically, Park's bridge design is fundamentally flawed because, in attempting to make it easy for a user to reduce or expand its length through ratcheting action, Park fatally compromises its ability to retain a mobile device between its controller bodies during normal user operation. Slocum Decl., ¶ 72. In the design of Park's ratcheting mechanism for its adjustable bridge (30, 40), there is no positive mechanical retention of Park's protrusions (41) in its catching holes (32b). Slocum Decl., ¶ 73. Thus, during normal operation the user is likely to apply pull forces that cause the protrusions (41) to disengage from the catching holes (32b), resulting in expansion of Park's adjustable bridge (30, 40) and computing device (10) coming out. *Id.*, ¶ 73.

Third, an ordinary artisan would require undue experimentation to connect Willner's adaptor 210 with Park's adjustable bridge (30, 40) using screws or snap-fit connectors within the design constraints imposed by Willner's system. Slocum Decl., ¶ 74. Willner's design does not provide the physical space necessary to connect Park's adjustable bridge (30, 40) to Willner's adaptor 210 sidewalls via screws or snap-fit connectors that are properly sized to retain them together during

normal user operation. *Id.* Depending on how these screws or snap-fit connectors were oriented, they would interfere with Willner's hand grippable housings 102 and 104, with Willner's housing's connecting portions (178, 178', 180, and 180'), with Willner's adaptor 210's connecting portions (214, 214', 216, and 216'), and/or with Willner's computing device 10. *Id.* Accordingly, an ordinary artisan would require undue experimentation to re-design the connection of the sidewalls of Willner's adaptor 210 with Park's adjustable bridge (30, 40) using properly sized screws or snap-fit connectors without having them interfere with one or more of the above components. *Id.*

Nintendo's expert, Mr. Kitchen, ignores these mechanical design issues entirely. *Id.*, ¶ 75. He fails to articulate where or how to position the screws or snap-fit connectors to connect the sidewalls of Willner's adaptor 210 with Park's adjustable bridge (30, 40). *See* Ex. 1002, ¶¶ 209-210; Slocum Decl., ¶ 75. He does not provide analysis to show the sizes of the screws or snap-fit connectors required to provide joints of requisite strength to sustain normal user operation. *Id.* Nor does he discuss where such screws or snap-fit connectors would be positioned to securely retain Willner's adaptor 210 with Park's adjustable bridge (30, 40) during normal user operation without having them interfere with one or more of the above components. *Id.*

Finally, Nintendo's expert, Mr. Kitchen, argues in general that an innovation or improvement taught in one prior art reference to expand the selection of mobile devices the gaming controller can operate with would likely apply to and improve the other prior art references. *See* Ex. 1002, ¶¶ 133-139. This is not necessarily true because such an improvement can also have disadvantages. Attempting to incorporate the teachings into another reference's design risks inheriting the disadvantages rather than just the advantages. Slocum Decl., ¶¶ 36-38.

As Prof. Slocum explains, the prior art takes two different design approaches to address the market need for expanded operability. In a first approach, one of the gaming controller's components (like Willner's adaptor 210 or Schoenith's cradle 20) is designed to be simple and accommodate one computing device of a specific size, and different versions of that component can be cheaply made to support computing devices of different sizes. Slocum Decl., ¶¶ 38-39. In a second contrasting approach, however, one of the components is designed to be adjustable (like Park's bridge (30, 40) or Kessler's extension mechanism 82) so that it can, by itself, accommodate computing devices of different sizes. *Id.*, ¶ 40.

However, attempting to combine the teachings of Park's adjustable bridge (30, 40) or Kessler's extension mechanism 82 into Willner's fixed-sized adaptor 210 design or Schoenith's fixed-size cradle 20 design only imports the disadvantages of an adjustable bridge into Willner's and Schoenith's otherwise acceptable designs.

Slocum Decl., ¶¶ 41-43. Park’s and Kessler’s adjustable designs increase cost (more parts and assembly costs) and result in a more mechanically compliant bridge structure (*i.e.*, more likely to flex, open up, and release the computing device) than Willner’s adaptor 210 or Schoenith’s cradle 20 that are designed specifically for a computing device of a particular size. *Id.*, ¶¶ 44-45. Ordinary artisans could not have incorporated Park’s or Kessler’s adjustable bridges into Willner’s or Schoenith’s designs without engaging in undue experimentation, and thus these combinations would not have been obvious. *Id.*, ¶¶ 45-46.

3. Collateral estoppel does not apply

Gamevice is not collaterally estopped from litigating the above issues, because they were not presented in IPR2018-01522 of the ’119 Patent. *See VirnetX*, 909 F.3d at 1378 (collateral estoppel requires that “a prior action present[] an identical issue”); *Ohio Willow Wood*, 735 F.3d at 1342 (requiring “identity of the *issues* that were litigated”) (emphasis in original). First, Nintendo does not contend that collateral estoppel applies to claim limitation 1(d)(4). *See Pet.*, 34. Second, the overall claimed arrangement here with respect to “confinement structures” is materially different from the ’119 Patent’s previously challenged claims because claim limitation 1(d)(4) narrows the scope of the ’393 Patent’s claims.

Third, contrary to Nintendo’s position, *see Pet.*, 22-23, collateral estoppel does not apply even to claim limitation 1(b)(1) taken in isolation, because Nintendo

here combines Willner and Park in a different way than in IPR2018-01522. *See* Ex. 1011, 15-16. In IPR2018-01522, the Board decided that the “confinement structures” limitations of the ’119 Patent’s claims were met because “movement of [Willner’s] computing device [10] is confined not only by [Willner’s] adaptor’s opposing sidewalls but also by front, rear, and bottom walls bridging the two sidewalls.” Ex. 1011, 16. As discussed previously, however, Nintendo here removes the front and bottom walls of Willner’s adaptor 210 from its proposed combination with Park, *see supra* Section V.B.1-2; Pet., 24-25, because, unlike the ’119 Patent’s challenged claims, claim limitation 1(b)(1) recites that the “pair of confinement structures” are adjacent “not more than three sides of the sides of the computing device.” Thus, collateral estoppel does not apply.

In sum, Nintendo has failed to show by a preponderance of the evidence that independent claim 1 of the ’393 Patent, or its dependent claims 2–7, are obvious in view of Willner and Park.

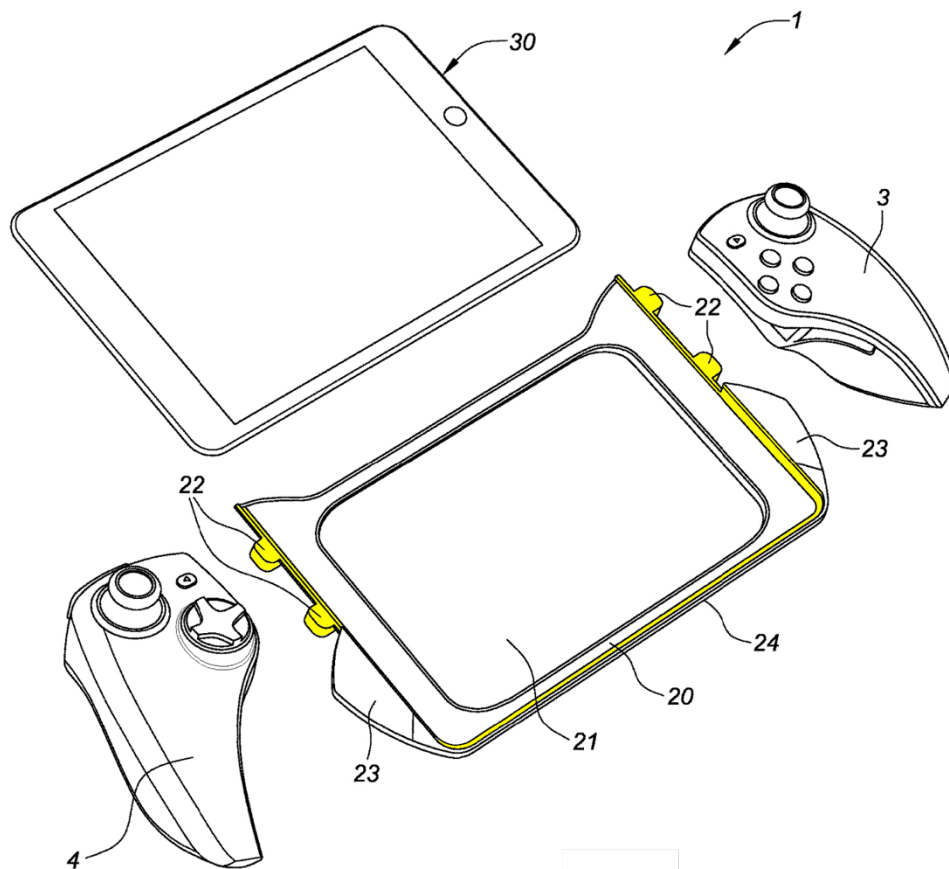
VI. NINTENDO FAILS TO PROVE OBVIOUSNESS OF CLAIMS 1–7 OVER SCHOENITH AND PARK (GROUND 2)

A. Overview of the Cited Art

1. Schoenith (Ex. 1005)

Schoenith describes a controller accessory that “can function with a variety of smart devices, such as digital media extenders, smart phones, and tablets: more

specifically with iOS (iPhone OS) devices such as Apple TV®, iPad®, or iPad Mini.” Ex. 1005, 4:36-39; Slocum Decl., ¶ 86. As shown in Schoenith, Fig. 3 (annotated below), the controller 1 has a right side panel 4, a left side panel 3, and a detachable cradle 20. Slocum Decl., ¶ 86. “The controller, the right side panel and the left side panel are universal in the sense that the right side panel and the left side panel can be used with detachable cradles of various sizes, shapes, and configurations, accommodating a variety of smart devices.” Ex. 1005, 6:10-14; Slocum Decl., ¶ 86.

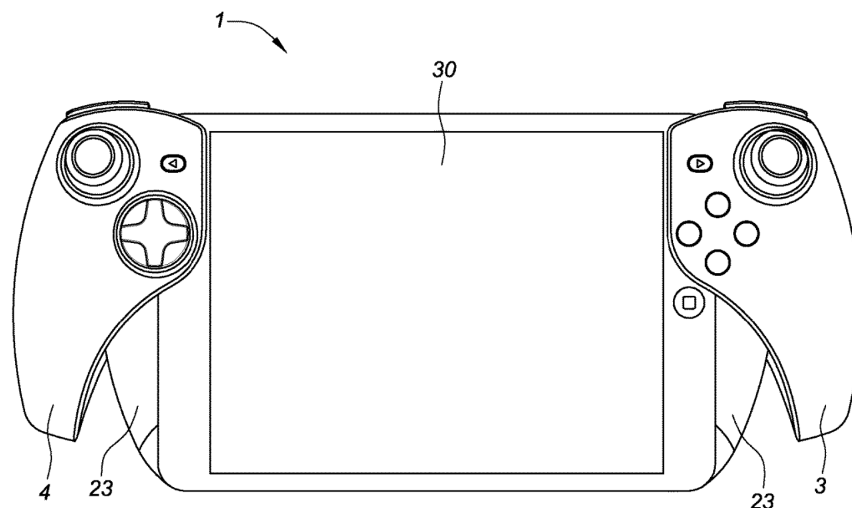


Schoenith, Fig. 3 (annotated)

As shown in Fig. 3 above, a smart device 30 (e.g., an iPad) may be inserted so that it rests on cradle 20. Slocum Decl., ¶ 87. “The cradle serves as a support for

a smart device.” Ex. 1005, 6:15; Slocum Decl., ¶ 87. “The cradle of all embodiments of this invention may have any size, shape, configuration, or a combination thereof so that the cradle can accommodate a smart device, such as iPhone®, iPad®, iPad Mini, or the like.” Ex. 1005, 6:15-19. “Preferably, the cradle is substantially planar and has the dimensions corresponding to dimensions of a specific smart device so that the cradle can accommodate the specific smart device.” *Id.*, 6:22-25. “Preferably, the cradle has shape and dimensions so that the smart device fits snugly against the cradle and can be securely placed, inserted, slid, attached, and the like to the cradle without being able to change location within the cradle.” *Id.*, 6:25-29; Slocum Decl., ¶ 87.

Cradle 20 includes raised walls 24 (annotated in yellow) against which the smart device 30 leans when it is placed on cradle 20. Ex. 1005, 10:40-48, 11:18-22; Slocum Decl., ¶ 88.



Schoenith, Fig. 9

As shown in Schoenith, Fig. 9 (reproduced above), the right and left side panels 3 and 4 overlap over the smart device 30 to prevent it from coming out in the direction of the user (out of the page). Slocum Decl., ¶ 89.

2. Park (Ex. 1004)

Gamevice incorporates its prior discussion of Park with respect to Ground 1. See Section V.A.2, *supra*.

B. Nintendo’s proposed combination of Schoenith and Park fails to disclose or suggest the claimed arrangement of the “pair of confinement structures”

With respect to “pair of confinement structures,” independent claim 1 of the ’393 Patent recites, *inter alia*:

[*Claim limitation 1(b)(1)*] a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device,

* * * * *

[*Claim limitation 1(d)(4)*] wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, . . .

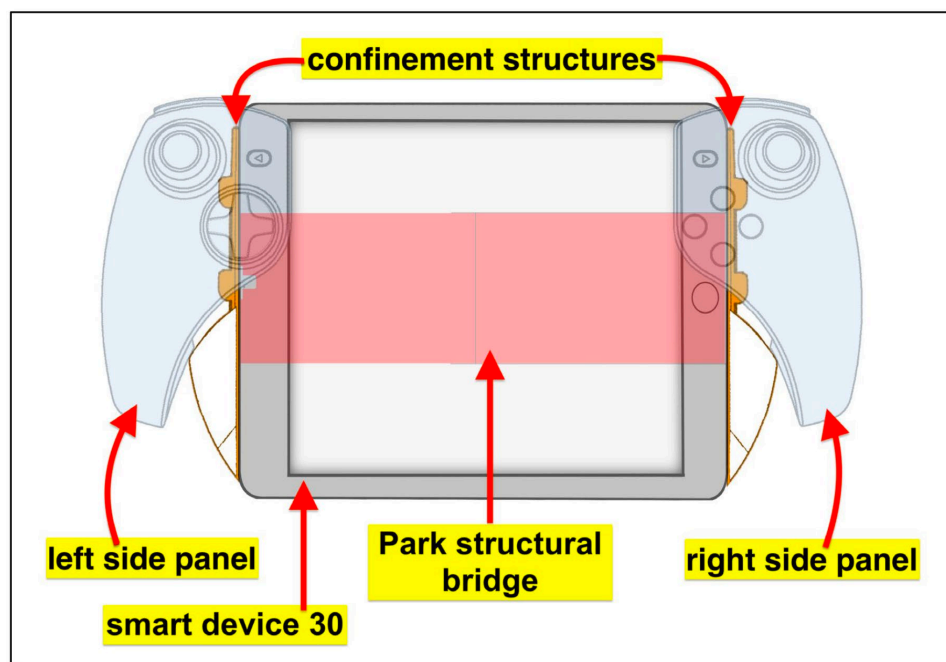
During prosecution, the Examiner cited claim limitation 1(d)(4) as part of his statement of reasons for allowance over the prior art of record, including Schoenith and Park. *See* Ex. 1009, 25-26.

1. Schoenith and Park, even if combined as Nintendo proposes, fails to disclose or suggest the claimed arrangement to an ordinary artisan

Under Nintendo’s applied construction of “pair of confinement structures”—physical components that hold a computing device (Ex. 1028, 10-12; *see* Ex. 1002, ¶¶ 106, 108-110; Pet., 14-15)—Nintendo’s proposed combination of Schoenith and Park, taken as a whole, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Specifically, in Nintendo’s proposed combination, Schoenith’s smart device 30 is only retained, *e.g.*, from coming out in the direction of the user (out of the page), by a combination of the right and left raised walls 24 from Schoenith’s cradle 20, which Nintendo contends is the “pair of confinement structures,” **and the side panels 3, 4**, which Nintendo contends are the claimed “electronic game control modules.” *See* Pet., 42-44, 47-48; Slocum Decl., ¶¶ 106-112.

As explained previously, in the example embodiment depicted in Figs. 17 and 18 of the ’393 Patent, each of the confinement structures 316 includes a cradle 336 having a lip that prevents a computing device 302 that is held between the confinement structures 316 from coming out in the direction of the user. Slocum

Decl., ¶ 109. By contrast, in the analysis of the relevant claim limitations 1(b)(1) and 1(d)(4), *see* Ex. 1002, ¶¶ 239-247, 284, Nintendo and its expert Mr. Kitchen fail to consider how the combination of Schoenith's raised side walls 24 and Park's adjustable bridge (30, 40) could hold Schoenith's smart device from popping out in the direction of the user (out of the page) absent Schoenith's side panels 3 and 4 that overlap Schoenith's smart device 30. Slocum Decl., ¶¶ 114-116. The illustration that Mr. Kitchen provides at Paragraph 276 of his declaration (reproduced below) confirms that the side panels 3, 4 overlap the smart device 30 to prevent it from coming out in the direction of the user (out of the page). Slocum Decl., ¶ 116.



**Potential combination of Schoenith and Park
with game control modules secured to confinement structures**

Ex. 1002, ¶ 276. As can be seen from the figure above, the right and left raised walls from Schoenith's cradle 20 themselves cannot hold Schoenith's smart device 30, and

therefore do not satisfy the requirements of the claimed “pair of confinement structures” under Nintendo’s applied construction. Slocum Decl., ¶ 117.

Another way of describing this deficiency is: only the combination of the side panels 3, 4, which Nintendo contends are the claimed “electronic game control modules,” together with the right and left raised walls from Schoenith’s cradle 20, could constitute the “pair of confinement structures” that retains (if at all) Schoenith’s smart device 30. Slocum Decl., ¶ 113. Accordingly, the side panels 3, 4, which Nintendo contends are the claimed “electronic game control modules,” are not “separate and distinct structure[s] from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures” (i.e., the combination of side panels 3, 4 and raised side walls of cradle 20). *Id.*

Nintendo argues that Park’s adjustable bridge (30, 40) could compress the raised side walls of Schoenith’s cradle 20 to hold Schoenith’s smart device 30. *See* Pet., 43. But without Schoenith’s overlapping side panels 3, 4 on top of smart device 30, compressing Park’s bridge (30, 40) while placing the smart device 30 above Park’s bridge (30, 40) will cause Park’s bridge (30, 40) to bow and tend to make the smart device 30 pop out in the direction of the user (out of the page). Slocum Decl., ¶ 117.

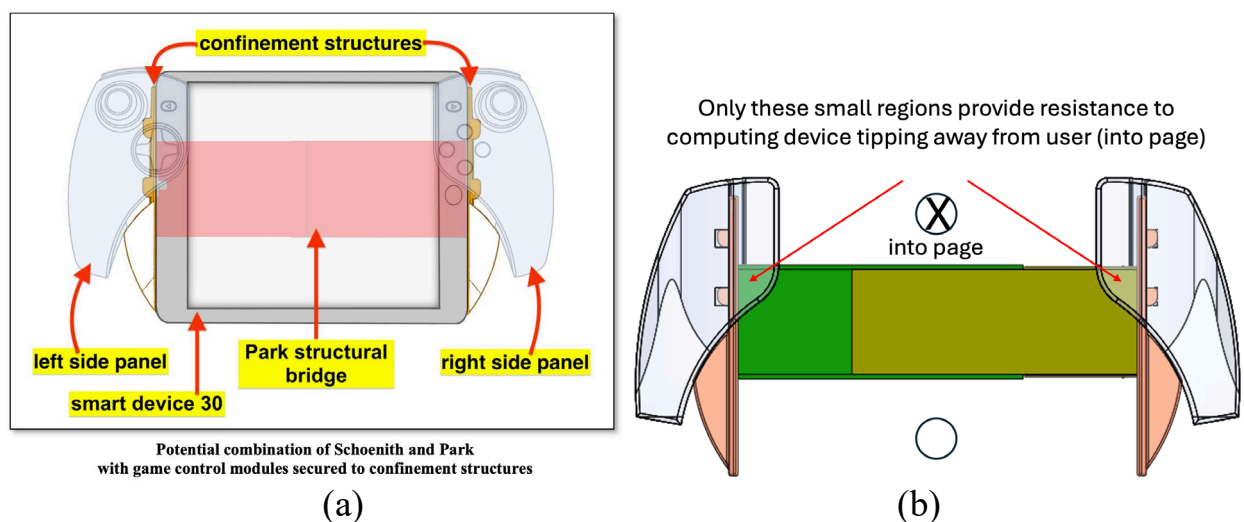
As discussed in detail below, an ordinary artisan would not be motivated to combine Schoenith and Park as Nintendo proposes to teach or suggest the above claimed arrangement with respect to “confinement structures.” Specifically, Nintendo’s proposed modification of Schoenith’s cradle 20 with the teachings of Park’s adjustable bridge (30, 40) would frustrate Schoenith’s basic purpose of holding its smart device 30 (*e.g.*, an iPad) between its left and right side panels 3 and 4, because the smart device 30 would come out during normal use and operation. Slocum Decl., ¶¶ 91-101. Further, as explained earlier, the design of Park’s adjustable bridge (30, 40) is fundamentally flawed because, in attempting to make it easy for a user to reduce or expand its length through ratcheting action, Park fatally compromises its ability to hold a mobile device between its controller bodies during normal user operation. Slocum Decl., ¶¶ 102-103. Those arguments further support that Nintendo’s proposed combination of Schoenith and Park fails to disclose or suggest the claimed arrangement of the “pair of confinement structures.”

2. An ordinary artisan would not have been motivated to combine Schoenith and Park as Nintendo contends

For four reasons, an ordinary artisan would not be motivated to combine Willner and Park as Nintendo proposes to teach or suggest the above claimed arrangement with respect to “confinement structures.”

First, Nintendo’s proposed modification of Schoenith’s cradle 20 with the teachings of Park’s adjustable bridge (30, 40) would frustrate Schoenith’s basic

purpose of retaining its smart device 30 (e.g., an iPad) between its left and right side panels 3 and 4, because the smart device 30 would come out during normal use and operation. Slocum Decl., ¶¶ 91-96. Specifically, as illustrated below, Nintendo's proposed combination suffers from the deficiency that it cannot retain Schoenith's smart device 30 in position during normal user operation due to its weak tilting moment capacity. *Id.*, ¶¶ 97-98.



Slocum Decl., ¶ 97.

As illustrated above, Nintendo's replacement of Schoenith's wider cradle 20 with Park's narrower adjustable bridge (30, 40) would make smart device 30 (e.g., a large iPad) prone to tipping into the page as shown in part (b) of the figure, because Schoenith's panels 3 and 4 would overlap only a small portion of Park's narrower adjustable bridge (30, 40). Slocum Decl., ¶ 98. As can be seen from the figure, the top of Schoenith's smart device 30 can pivot into the page about a fulcrum (axis of pivot) located at the top edge of Park's narrower adjustable bridge (30, 40). *Id.*

Because of the small regions providing resistance to tipping, any restraining force would be close to the fulcrum, thus offering low tipping resistance. *Id.* Thus, when for example a user during normal operation pulls Schoenith's side panels 3 and 4 towards the user, the inertial loads can cause the smart device 30 to pivot. *Id.*

This deficiency is further exacerbated by the deficiency that Park expressly discusses in its disclosure: “[A]s the mobile phone is not sufficiently in contact with the device according to the present invention when using the above configuration, the mobile phone (1) may come loose during gaming or become detached in severe cases, hindering comfortable and stable operation of a game.” Ex. 1004, ¶ [0041]; Slocum Decl., ¶ 99. In other words, Park discusses that routine game play subjects the device to forces that can prevent a mobile phone (1) from being seated in a stable manner in the device. *See* Ex. 1004, ¶ [0042]; Slocum Decl., ¶ 99. Park attempts to solve its identified problem by introducing a cushioning pad (60) on the face of the first controller body (10), as well as a connecting assembly with an air tube (110), contact sensor (112), fan (120), air offtake pipe (130), check valve (140), and controller (150). *See* Ex. 1004, Figs. 4-5, ¶¶ [0043]-[0062]; Slocum Decl., ¶ 99. Nintendo, however, fails to include any of these components that Park attempts to solve its problem with. Slocum Decl., ¶ 99.

Second, as discussed previously, Park's bridge design is fundamentally flawed because, in attempting to make it easy for a user to reduce or expand its length

through ratcheting action, Park fatally compromises its ability to retain a mobile device between its controller bodies during normal user operation. Slocum Decl., ¶¶ 102-103. Thus, during normal operation the user is likely to apply pull forces that cause the protrusions (41) to disengage from the catching holes (32b), resulting in expansion of Park's adjustable bridge (30, 40) and Schoenith's smart device 30 coming out. *Id.*, ¶ 103.

Third, an ordinary artisan would require undue experimentation to connect the raised side walls 24 of Schoenith's cradle 20 with Park's adjustable bridge (30, 40) using screws or snap-fit connectors within the design constraints imposed by Schoenith's system. *Id.*, ¶ 104. Schoenith's design does not provide the physical space necessary to connect Park's adjustable bridge (30, 40) to the raised side walls 24 of Schoenith's cradle 20 via screws or snap-fit connectors that are properly sized to retain them together during normal user operation. *Id.* Depending on how these screws or snap-fit connectors were oriented, they could interfere with Schoenith's side panels 3 and 4, and/or with Schoenith's smart device 30. *Id.* Accordingly, an ordinary artisan would require undue experimentation to re-design the connection of the raised side walls 24 of Schoenith's cradle 20 with Park's adjustable bridge (30, 40) using properly sized screws or snap-fit connectors without having them interfere with one or more of the above components. *Id.*

Once again, Mr. Kitchen ignores these mechanical design issues entirely. Slocum Decl., ¶ 105. He fails to articulate where or how to position the screws or snap-fit connectors to connect the raised side walls 24 of Schoenith's cradle 20 with Park's adjustable bridge (30, 40). *See* Ex. 1002, ¶¶ 289-296; Slocum Decl., ¶ 105. He does not provide analysis to show the sizes of screws or snap-fit connectors required to provide joints of requisite strength to sustain normal user operation. Slocum Decl., ¶ 105. Nor does he discuss where such screws or snap-fit connectors would be positioned to securely retain the raised side walls 24 of Schoenith's cradle 20 with Park's adjustable bridge (30, 40) during normal user operation without having them interfere with one or more of the above components. *Id.*

Finally, for the reasons explained previously, Nintendo's general argument that an innovation or improvement taught in one prior art reference to expand the selection of mobile devices the gaming controller can operate with would likely apply to and improve the other prior art references is also incorrect. *See* Ex. 1002, ¶¶ 133-139; Section V.B.2, *supra*.

3. Collateral estoppel does not apply

Gamevice is not collaterally estopped from litigating the above issues, because they were not presented in IPR2018-01521 of the '119 Patent. *See VirnetX*, 909 F.3d at 1378; *Ohio Willow Wood*, 735 F.3d at 1342. First, Nintendo does not contend that collateral estoppel applies to claim limitation 1(d)(4). *See* Pet., 50.

Second, the overall claimed arrangement here with respect to “confinement structures” is materially different from the ’119 Patent’s previously challenged claims because claim limitation 1(d)(4) narrows the scope of the ’393 Patent’s claims.

Third, contrary to Nintendo’s position, *see* Pet., 42, collateral estoppel does not apply even to claim limitation 1(b)(1) taken in isolation, because Nintendo here combines Schoenith and Park in a different way than in IPR2018-01521. *See* Ex. 1010, 12-13. In IPR2018-01521, the Board decided that the “confinement structures” limitations of the ’119 Patent’s claims were met because “[i]mportantly, Schoenith teaches that the raised wall may be ‘on the cradle’s right side, left side, front side, back side, and/or a combination thereof’ so as to ‘provide support along the whole perimeter of the smart device or along certain parts of the perimeter of the smart device.’” Ex. 1010, 13. As discussed previously, however, Nintendo here removes all the structures of Schoenith’s cradle 20 except for the left- and right-facing raised sidewalls 24 from its proposed combination with Park, *see supra* Section VI.B.1; Pet., 42-43, because, unlike the ’119 Patent’s challenged claims, claim limitation 1(b)(1) recites that the “pair of confinement structures” are adjacent “not more than three sides of the sides of the computing device.” The Board did not specifically apply Nintendo’s now-proposed combination to the ’119 Patent’s claim limitations in its decision in IPR2018-01521. Thus, collateral estoppel does not apply.

In sum, Nintendo has failed to show by a preponderance of the evidence that independent claim 1 of the '393 Patent, or its dependent claims 2–7, are obvious in view of Schoenith and Park.

VII. NINTENDO FAILS TO PROVE OBVIOUSNESS OF CLAIMS 1–7 OVER SCHOENITH AND KESSLER (GROUND 3)

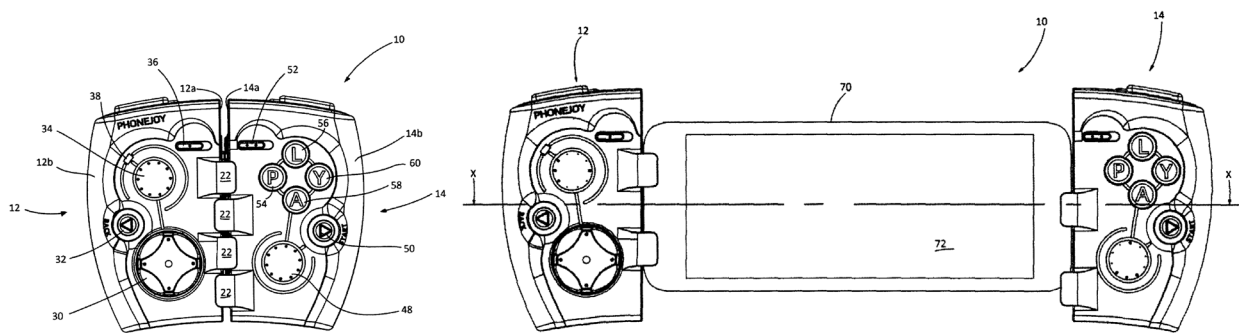
A. Overview of the Cited Art

1. Schoenith (Ex. 1005)

Gamevice incorporates its prior discussion of Schoenith with respect to Ground 2. *See* Section VI.A.1, *supra*.

2. Kessler (Ex. 1006)

Kessler describes a portable, collapsible controller that is configured to work with a mobile phone oriented in landscape mode, as depicted in Kessler, Figs. 2, 11 (reproduced below). Slocum Decl., ¶ 119.

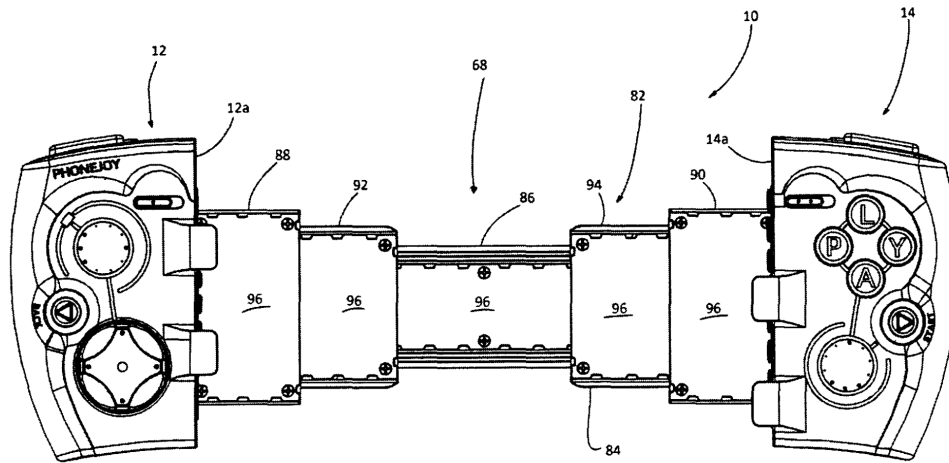


Kessler, Figs. 2, 11

As shown in Fig. 10 (reproduced below), the controller has left and right handle housings 12, 14 that can be gripped by a user, interconnected by an extension

mechanism 82. *Id.*, ¶ 120. Extension mechanism 82 has a telescoping slide mechanism 84 to allow the housings 12, 14 to collapse together (Fig. 2), or extend apart from each other sufficiently to allow a mobile phone 70 in between (Fig. 11).

Id.



Kessler, Fig. 10

B. Nintendo’s proposed combination of Schoenith and Kessler fails to disclose or suggest the claimed arrangement of the “pair of confinement structures”

With respect to “pair of confinement structures,” independent claim 1 of the ’393 Patent recites, *inter alia*:

[*Claim limitation 1(b)(1)*] a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device,

* * * * *

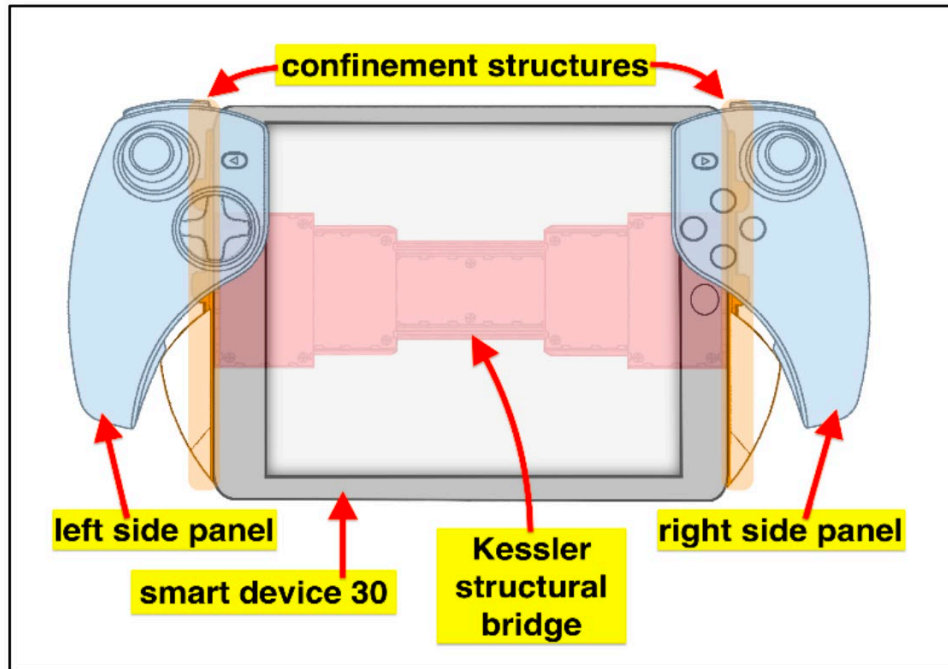
[*Claim limitation 1(d)(4)*] wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, . . .

During prosecution, the Examiner cited claim limitation 1(d)(4) as part of his statement of reasons for allowance over the prior art of record, including Schoenith and Kessler. *See* Ex. 1009, 25-26.

1. Schoenith and Kessler, even if combined as Nintendo proposes, fails to disclose or suggest the claimed arrangement to an ordinary artisan

Under Nintendo’s applied construction of “pair of confinement structures”—physical components that hold a computing device (Ex. 1028, 10-12; *see* Ex. 1002, ¶¶ 106, 108-110; Pet., 14-15)—Nintendo’s proposed combination of Schoenith and Kessler, taken as a whole, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Specifically, in Nintendo’s proposed combination, Schoenith’s smart device 30 is only retained, *e.g.*, from coming out in the direction of the user (out of the page), by a combination of the right and left raised walls 24 from Schoenith’s cradle 20, which Nintendo contends is the “pair of confinement structures,” **and the side panels 3, 4**, which Nintendo contends are the claimed “electronic game control modules.” *See* Pet., 56-57, 62; Slocum Decl., ¶¶ 134-140.

As explained previously, in the example embodiment depicted in Figs. 17 and 18 of the '393 Patent, each of the confinement structures 316 includes a cradle 336 having a lip that prevents a computing device 302 that is held between the confinement structures 316 from coming out in the direction of the user. Slocum Decl., ¶ 137. By contrast, in the analysis of the relevant claim limitations 1(b)(1) and 1(d)(4), *see* Ex. 1002, ¶¶ 325-334, 368, Nintendo and its expert Mr. Kitchen fail to consider how the combination of Schoenith's raised side walls 24 and Kessler's extension mechanism 82 could hold Schoenith's smart device from popping out in the direction of the user (out of the page) absent Schoenith's side panels 3 and 4 that overlap Schoenith's smart device 30. Slocum Decl., ¶¶ 142-145. The illustration that Mr. Kitchen provides at Paragraph 348 of his declaration (reproduced below) confirms that the side panels 3, 4 overlap the smart device 30 to prevent it from coming out in the direction of the user (out of the page). Slocum Decl., ¶¶ 144-145.



**Potential combination of Schoenith and Kessler
with smart device 30 installed**

Ex. 1002, ¶ 348.

As can be seen from the figure above, the right and left raised walls from Schoenith’s cradle 20 themselves cannot hold Schoenith’s smart device 30, and therefore do not satisfy the requirements of the claimed “pair of confinement structures” under Nintendo’s applied construction. Slocum Decl., ¶ 145.

Another way of describing this deficiency is: only the combination of the side panels 3, 4, which Nintendo contends purports are the claimed “electronic game control modules,” together with the right and left raised walls from Schoenith’s cradle 20, could constitute the “pair of confinement structures” that retains (if at all) Schoenith’s smart device 30. Slocum Decl., ¶ 141. Accordingly, the side panels 3, 4, which Nintendo contends are the claimed “electronic game control modules,” are

not “separate and distinct structure[s] from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures” (i.e., the combination of side panels 3, 4 and raised side walls of cradle 20). *Id.*

Nintendo argues that Kessler’s extension mechanism 82 could compress the raised side walls 24 of Schoenith’s cradle 20 to hold Schoenith’s smart device 30. *See Pet.*, 56-57. But without Schoenith’s overlapping side panels 3, 4 on top of smart device 30, compressing Kessler’s extension mechanism 82 while placing the smart device 30 above Kessler’s extension mechanism 82 will cause Kessler’s extension mechanism 82 to bow and tend to make the smart device 30 pop out in the direction of the user (out of the page). Slocum Decl., ¶ 145.

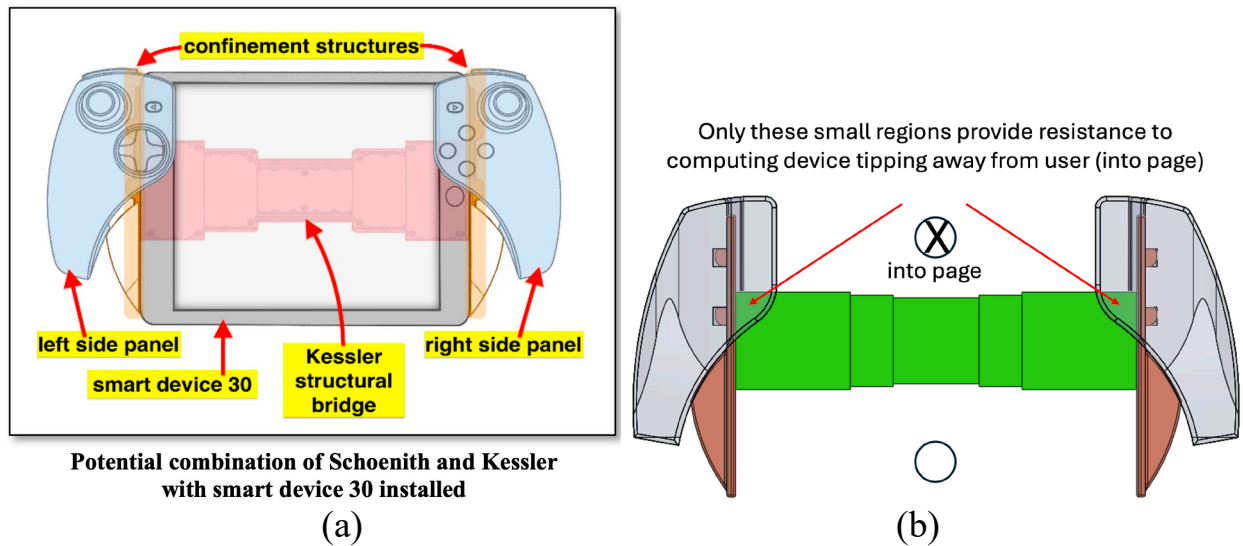
As discussed in detail below, an ordinary artisan would not be motivated to combine Schoenith and Kessler as Nintendo proposes to teach or suggest the above claimed arrangement with respect to “confinement structures.” Specifically, Nintendo’s proposed modification of Schoenith’s cradle 20 with the teachings of Kessler’s extension mechanism 82 would frustrate Schoenith’s basic purpose of holding its smart device 30 (*e.g.*, an iPad) between its left and right side panels 3 and 4, because the smart device 30 would come out during normal use and operation. Slocum Decl., ¶¶ 121-131. Those arguments further support that Nintendo’s

proposed combination of Schoenith and Kessler fails to disclose or suggest the claimed arrangement of the “pair of confinement structures.”

2. An ordinary artisan would not have been motivated to combine Schoenith and Kessler as Nintendo contends

For three reasons, an ordinary artisan would not be motivated to combine Willner and Park as Nintendo proposes to teach or suggest the above claimed arrangement with respect to “confinement structures.”

First, Nintendo’s proposed modification of Schoenith’s cradle 20 with the teachings of Kessler’s extension mechanism 82 would frustrate Schoenith’s basic purpose of retaining its smart device 30 (e.g., an iPad) between its left and right side panels 3 and 4, because the smart device 30 would come out during normal use and operation. Slocum Decl., ¶¶ 121-126. Specifically, as illustrated below, Nintendo’s proposed combination suffers from the deficiency that it cannot retain Schoenith’s smart device 30 in position during normal user operation due to its weak tilting moment capacity. Slocum Decl., ¶¶ 126-127.



Slocum Decl., ¶ 127.

As illustrated above in part (b) of the figure, Nintendo's replacement of Schoenith's wider cradle 20 with Kessler's narrower extension mechanism 82 would make smart device 30 (e.g., a large iPad) prone to tipping into the page as shown, because Schoenith's panels 3 and 4 would overlap only a small portion of Kessler's narrower extension mechanism 82. *Id.*, ¶ 128. As can be seen from the figure, the top of Schoenith's smart device 30 can pivot into the page about a fulcrum (axis of pivot) located at the top edge of Kessler's narrower extension mechanism 82. *Id.* Because of the small regions providing resistance to tipping, any restraining force would be close to the fulcrum, thus offering low tipping resistance. *Id.* Thus, when for example a user during normal operation pulls Schoenith's side panels 3 and 4 towards the user, the inertial loads can cause the smart device 30 to pivot. *Id.*

This deficiency in Mr. Kitchen's proposed combination is related to the deficiency that Park expressly discusses in its disclosure (which, as prior art, would also be within the purview of an ordinary artisan considering Schoenith and Kessler): "[A]s the mobile phone is not sufficiently in contact with the device according to the present invention when using the above configuration, the mobile phone (1) may come loose during gaming or become detached in severe cases, hindering comfortable and stable operation of a game." Ex. 1004, ¶ [0041]; Slocum Decl., ¶ 129. In other words, Park discusses that routine game play subjects the device to forces that can prevent a mobile phone (1) from being seated in a stable manner in the device. *See* Ex. 1004, ¶ [0042]; Slocum Decl., ¶ 129. Park attempts to solve its identified problem by introducing a cushioning pad (60) on the face of the first controller body (10), as well as a connecting assembly with an air tube (110), contact sensor (112), fan (120), air offtake pipe (130), check valve (140), and controller (150). *See* Ex. 1004, Figs. 4-5, ¶¶ [0043]-[0062]; Slocum Decl., ¶ 129. Nintendo, however, fails to include any of these components that Park attempts to solve its problem with. Slocum Decl., ¶ 129.

Second, in my opinion, an ordinary artisan would require undue experimentation to connect the raised side walls 24 of Schoenith's cradle 20 with Kessler's extension mechanism 82 using screws or snap-fit connectors within the design constraints imposed by Schoenith's system. Slocum Decl., ¶ 132. Schoenith's

design does not provide the physical space necessary to connect Kessler's extension mechanism 82 to the raised side walls 24 of Schoenith's cradle 20 via screws or snap-fit connectors that are properly sized to retain them together during normal user operation. *Id.* Depending on how these screws or snap-fit connectors were oriented, they could interfere with Schoenith's side panels 3 and 4, and/or with Schoenith's smart device 30. *Id.* Accordingly, an ordinary artisan would require undue experimentation to re-design the connection of the raised side walls 24 of Schoenith's cradle 20 with Kessler's extension mechanism 82 using properly sized screws or snap-fit connectors without having them interfere with one or more of the above components. *Id.*

Once again, Mr. Kitchen ignores these mechanical design issues entirely. Slocum Decl., ¶ 133. He fails to articulate where or how to position the screws or snap-fit connectors to connect the raised side walls 24 of Schoenith's cradle 20 with Kessler's extension mechanism 82. *See* Ex. 1002, ¶¶ 370-380; Slocum Decl., ¶ 133. He does not provide analysis to show the sizes of the screws or snap-fit connectors required to provide joints of requisite strength to sustain normal user operation. Slocum Decl., ¶ 133. Nor does he discuss where such screws or snap-fit connectors would be positioned to securely retain the raised side walls 24 of Schoenith's cradle 20 with Kessler's extension mechanism 82 during normal user operation without having them interfere with one or more of the above components. *Id.*

Finally, for the reasons explained previously, Nintendo’s general argument that an innovation or improvement taught in one prior art reference to expand the selection of mobile devices the gaming controller can operate with would likely apply to and improve the other prior art references is also incorrect. *See* Ex. 1002, ¶¶ 133-139; Section V.B.2, *supra*.

3. Collateral estoppel does not apply

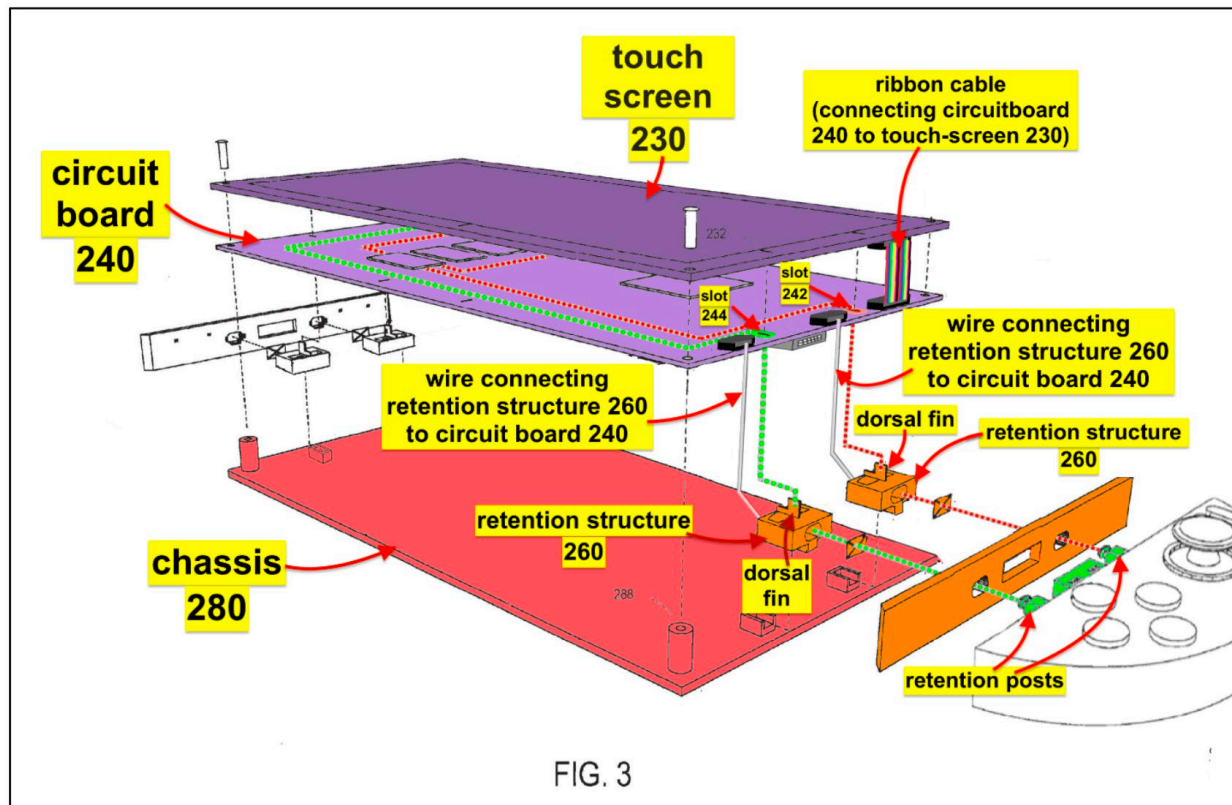
Contrary to Nintendo’s position, *see* Pet., 56, collateral estoppel does not apply here for the same reasons as described above with respect to Ground 2. Moreover, any Board findings favorable to Nintendo in IPR2018-01521 were not “necessarily required determination[s]” as required for collateral estoppel to apply, *see VirnetX*, 909 F.3d at 1378, because the Board in IPR2018-01521 ruled *against* Nintendo, deciding that the combination of Schoenith and Kessler *did not* render obvious any of the challenged claims of the ’119 Patent, *see* Ex. 1010, 22. Thus, collateral estoppel does not apply. *See Ohio Willow Wood*, 735 F.3d at 1342 (“Collateral estoppel protects a party from having to litigate issues that have been fully and fairly tried in a previous action *and adversely resolved against a party-opponent.*”) (emphasis added).

In sum, Nintendo has failed to show by a preponderance of the evidence that independent claim 1 of the ’393 Patent, or its dependent claims 2–7, are obvious in view of Schoenith and Kessler.

VIII. NINTENDO FAILS TO PROVE ANTICIPATION OR OBVIOUSNESS OF CLAIMS 1–4 AND 6–7 OVER HIRSCHMAN (GROUND 4)

A. Overview of Hirschman (Ex. 1007)

Unlike Willner and Schoenith, which are fixed-size controller accessories designed for a larger palm or tablet sized (e.g., iPad) computing device, or Park or Kessler, which are adjustable-size controller accessories designed for a smaller mobile phone oriented in landscape mode, the portion of Hirschman that Nintendo relies on is not directed to a controller accessory but the internal configuration of a portable computer system 100. Slocum Decl., ¶ 146.



Hirschman Fig. 3 (modified and annotated)

At Paragraph 436 of his declaration, Mr. Kitchen provides an illustration (reproduced above) of his proposed mapping of the claimed limitations to a modified version of Hirschman’s system. As shown in the illustration, Mr. Kitchen maps, among other things:

- (1) touchscreen 230 and circuit board 240, after removing USB communication port 242 from circuit board 240, to the claimed “computing device” (annotated in purple);
- (2) two out of the four sidewalls 282 and their associated retention structures 260, with some added wiring, to the claimed “pair of confinement structures” (annotated in orange/green); and
- (3) chassis 280 to the claimed “structural bridge” (annotated in red).

Slocum Decl., ¶ 147. For the reasons discussed below, Hirschman’s teachings, taken as a whole, fail to disclose or suggest several claimed limitations to an ordinary artisan.³

³ Nintendo does not contend that collateral estoppel applies with respect to Ground

4. *See* Pet., 67-80.

B. Hirschman fails to disclose or suggest the claimed arrangement of the “pair of confinement structures”

With respect to “pair of confinement structures,” independent claim 1 of the ’393 Patent recites, *inter alia*:

[*Claim limitation 1(b)(1)*] a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device

* * * * *

[*Claim limitation 1(d)(5)*] in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge

During prosecution, the Examiner cited claim limitation 1(d)(5) as part of his statement of reasons for allowance over the prior art of record, including Hirschman. *See* Ex. 1009, 25-26.

Nintendo points to two out of the four sidewalls 282, retention structures 260, and added wiring, as the claimed “pair of confinement structures” (annotated above in orange). Under Nintendo’s applied construction of “pair of confinement structures”—physical components that hold a computing device (Ex. 1028, 10-12; *see* Ex. 1002, ¶¶ 106, 108-110; Pet., 14-15)—the teachings of Hirschman, taken as

a whole and modified as Nintendo proposes, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Slocum Decl., ¶¶ 149-152.

Contrary to Nintendo's argument, Hirschman's sidewalls 282 and retention structures 260 are not even connected to one another. *See* Pet., 70; Ex. 1002, ¶ 420; Slocum Decl., ¶ 153. Thus, an ordinary artisan would not regard them as together forming a "confinement structure." Instead, these components are kept in place by being separately and independently connected to chassis 280, e.g., via brackets 286 that are part of chassis 280. *See* Ex. 1007, ¶ [0057] ("The chassis 280 may include sidewalls 282 . . . The battery 250 may be partially secured by brackets 284 and 286, which may be extruded from or attached to the surface of the chassis 280. . . The battery 250 may also be secured by retention structures 260, which may be inserted into and secured by the brackets 286."); Slocum Decl., ¶ 153.

Nor would an ordinary artisan have been motivated to connect Hirschman's sidewalls 282 to retention structures 260. Slocum Decl., ¶ 154. An ordinary artisan looking at Hirschman's system design as a whole would have understood that Hirschman intended for chassis 280 to be the main support structure for the other components in Hirschman's system. *Id.* For example, Hirschman discloses that the other components in its system, including bezel 210, touchscreen 230, circuit board 240, communication ports 242, battery 250, are all kept in place by mounting directly or indirectly to chassis 280. *See* Ex. 1007, Fig. 3, ¶¶ [0056]-[0057]; Slocum Decl.,

¶ 154. An ordinary artisan would have understood that mounting to a common chassis 280 simplifies the system design, provides a robust mechanical platform with structural integrity to withstand forces of torsion, flex, or other physical stresses (*see* Ex. 1002, ¶ 420), and allows for common electrical grounding through the chassis 280. Slocum Decl., ¶ 155. Indeed, given Mr. Kitchen’s admission that “an ordinary artisan would have understood that the sidewalls 282 and retention structures 260 are secured to the chassis 280 by way of brackets 286,” Ex. 1002, ¶ 421, an ordinary artisan would have no reason, and would not have been motivated, to also connect the sidewalls 282 to retention structures 260. Slocum Decl., ¶ 155.

Contrary to Mr. Kitchen’s argument, connecting sidewalls 282 to retention structures 260 is not necessary to prevent intrusion of dust or other substances, particularly because, as Mr. Kitchen admits, Hirschman provides dust covers 270 to prevent intrusion of dust through retention structures 260. Slocum Decl., ¶ 156. Nor would connecting sidewalls 282 to retention structures 260 meaningfully alter the overall exposure risk of intrusion of dust or other substances. *See* Ex. 1002, ¶ 420; Slocum Decl., ¶ 156. Rather, Mr. Kitchen’s removal of USB communication port 242 entirely from his modified version of Hirschman leaves the cutout in sidewall 282 for receiving communication connector 164 (*see* Ex. 1007, Fig. 2A) not properly utilized, and open to intrusion of dust or other substances to a far greater degree than through retention structures 260. Slocum Decl., ¶ 156.

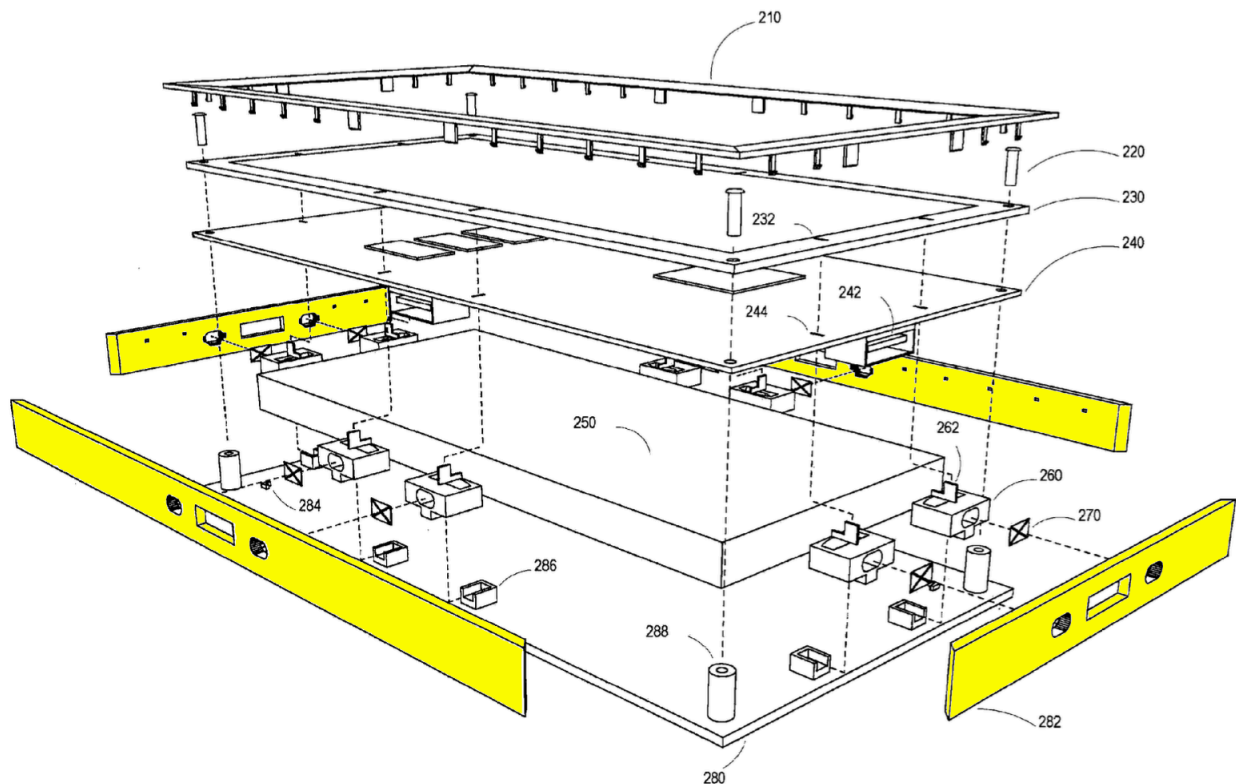
In sum, the retention structures 260 are not taught or suggested as connected to the sidewalls 282, but instead to the chassis 280 via brackets 286. *Id.*, ¶ 157. Thus, the retention structures 260 are properly considered with chassis 280 as part of Mr. Kitchen’s purported “structural bridge,” not with sidewalls 282 as “confinement structures.” *Id.*

Without the retention structures 260, Nintendo does not argue that sidewalls 282 by themselves hold touchscreen 230 or circuit board 240, which Nintendo contends are the claimed “computing device.” Nintendo and Mr. Kitchen only argue that dorsal fin structures 262 of retention structures 260 “secure” the circuit board 240 and touchscreen 230 by fitting into slots 232 and 244 in touchscreen 230 and circuit board 240 respectively. *See* Pet., 70; Ex. 1002, ¶¶ 419 (citing Ex. 1007, ¶¶ [0057]-[0058]). But, as discussed above, the retention structures 260 are not taught or suggested as connected to sidewalls 282, and therefore are not part of the purported “confinement structure.” Slocum Decl., ¶ 158. Rather, it is the sidewalls 282, if anything, that could possibly correspond to the claimed “confinement structures.” *Id.* But because the sidewalls 282 do not hold touchscreen 230 or circuit board 240, the sidewalls 282 themselves do not constitute the claimed “confinement structures” under the applied construction. *Id.*

An alternative way of characterizing this deficiency is that the so-called “confinement structures” that Nintendo identifies—the combination of sidewalls

282 and retention structures 260—are not “separate and distinct structures from the structural bridge [i.e., chassis 280 including retention structures 260], forming no structural portion of the structural bridge.” *Id.*, ¶ 159.

Moreover, as the Administrative Law Judge in International Trade Commission Investigation No. 337-TA-1197 found, and as shown in Fig. 3 below, Hirschman’s sidewalls 282 (annotated in yellow) surround all four sides of Hirschman’s device, and therefore fails to be “adjacent . . . not more than three sides of the sides of the computing device,” as claimed. Ex. 1018, 398; Slocum Decl., ¶ 160.



Hirschman, Fig. 3 (annotated)

C. Hirschman fails to disclose or suggest that “each of the pair of confinement structures compris[es] a communication link, each of the communication links configured for electronic communication with the computing device”

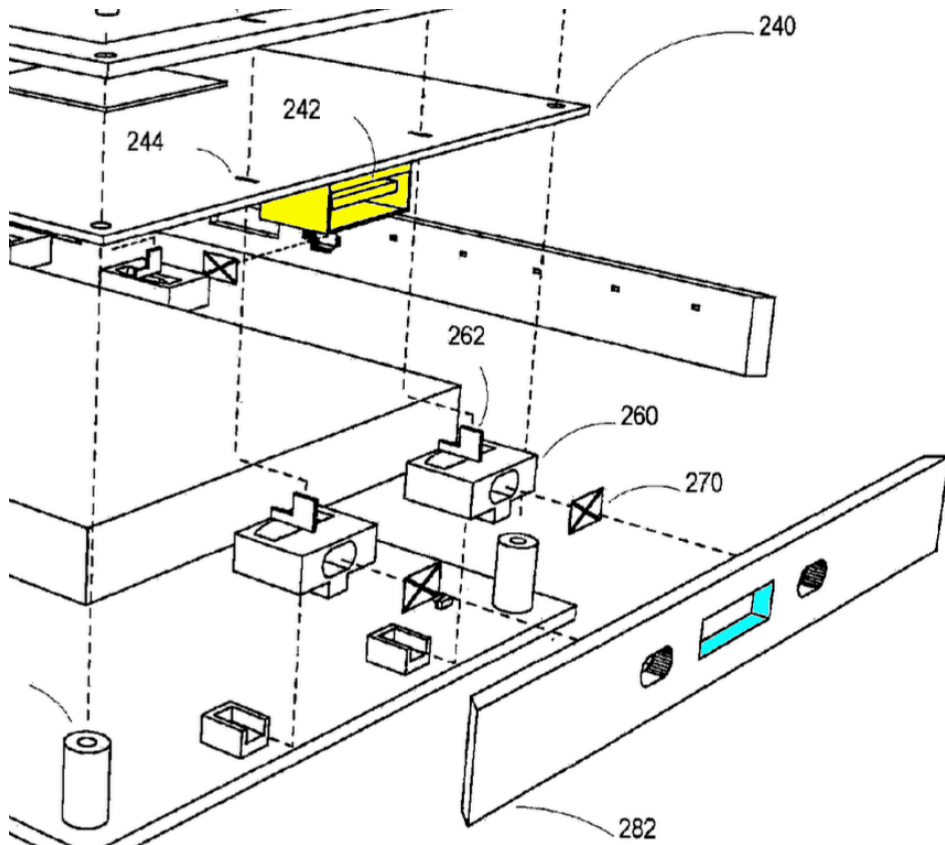
With respect to “communication links,” independent claim 1 of the ’393 Patent recites, *inter alia*:

[*Claim limitation 1(b)(2)(a)-(b)*] each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the computing device

The teachings of Hirschman, taken as a whole and modified as Nintendo proposes, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Nintendo does not argue that the sidewalls 282 can communicate any signals from gaming accessories 140 and 520 to circuit board 240. *See* Pet., 72. Instead, Nintendo argues that in Hirschman, communication signals may travel through retention structures 260 from gaming accessories 140 and 520 to circuit board 240. *Id.* However, as explained above, the retention structures 260 are not taught or suggested as connected with sidewalls 282 as “confinement structures.” Slocum Decl., ¶ 163. Thus, that the retention structures 260 may communicate signals from gaming accessories 140 and 520 to circuit board 240 is irrelevant to these claimed limitations requiring that “each of the pair of confinement structures compris[es] a communication link.” *Id.*

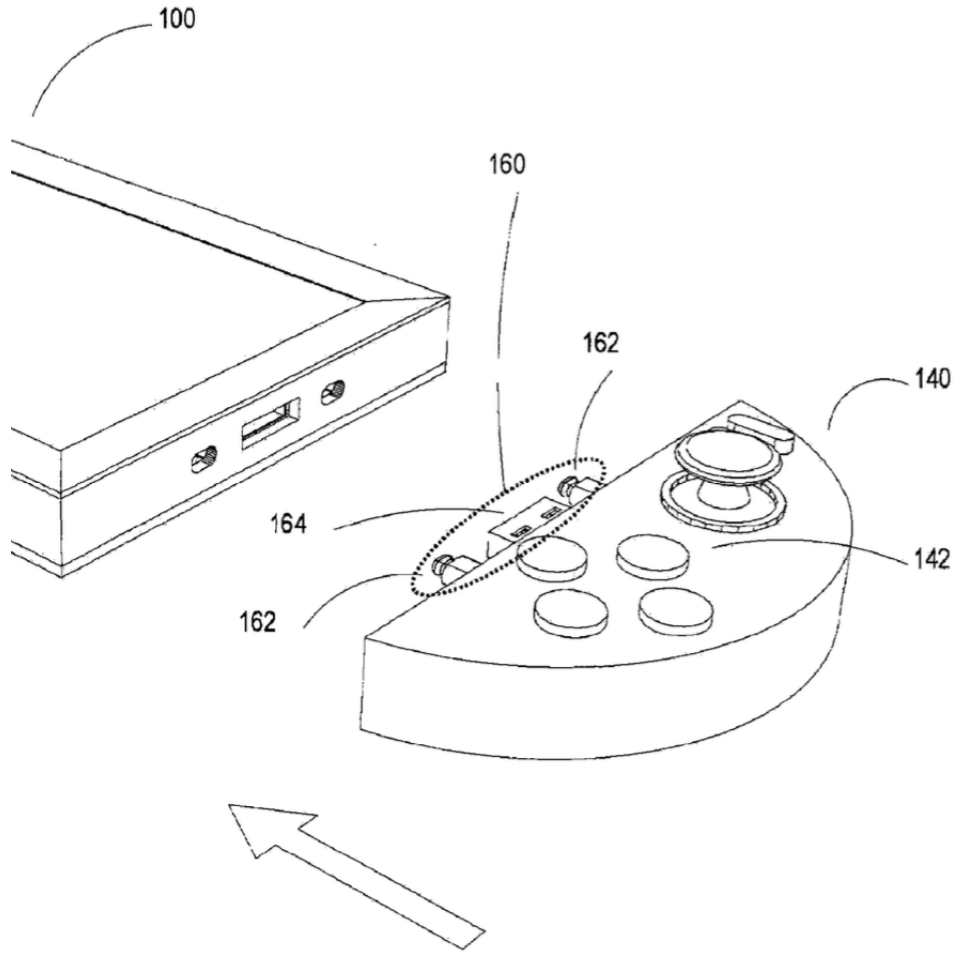
Further, Mr. Kitchen attempts to modify Hirschman by removing USB communication port 242 (*see* Ex. 1007, ¶¶ [0056], [0060]) attached to circuit board 240 and adding one or more wires going from retention structures 260 to circuit board 240. *See* Ex. 1002, ¶¶ 437. But an ordinary artisan would not have been motivated to make these modifications. Slocum Decl., ¶ 164. First, an ordinary artisan would understand that the USB communication protocol built into USB communication port 242 would be a far more effective way of communicating gaming signals from gaming accessories 140 and 520 to circuit board 240 than the replacement wiring that Mr. Kitchen proposes. *Id.*

Second, as shown in the partial illustration below of Hirschman Fig. 3, sidewalls 282 each have a cutout (annotated in blue) adapted for USB communication port 242. The cutout would serve no purpose if USB communication port 242 were removed, and, as explained above, would allow intrusion of dust or other substances. Slocum Decl., ¶ 165.



Hirschman, Fig. 3 (partial, and annotated)

Third, under Mr. Kitchen’s proposal, Hirschman’s gaming accessories 140 would all have to be modified to remove the corresponding USB communication port 164 (*see* Ex. 1007, ¶¶ [0056], [0060]), and replace it with wires going between the gaming accessories 140 and Hirschman’s computing system 100, as shown by Hirschman, Fig. 2A. Slocum Decl., ¶ 166.



Hirschman, Fig. 2A (partial)

Accordingly, an ordinary artisan would not be motivated to replace a much more convenient USB communication system between Hirschman's gaming accessories 140 and computing system 100 with wires as Mr. Kitchen proposes. Slocum Decl., ¶ 167. Contrary to an ordinary artisan's motivation, such a modification would make it much more difficult to connect and disconnect Hirschman's gaming accessories 140 from its computing system 100. *Id.*

D. Hirschman fails to disclose or suggest a “rigid structural bridge comprising a passageway between the pair of confinement structures”

With respect to “passageway,” independent claim 1 of the ’393 Patent recites, *inter alia*:

[*Claim limitation 1(c)(2)(a)*] the rigid structural bridge comprising a passageway between the pair of confinement structures

During prosecution, the Examiner cited this claim limitation as part of his statement of reasons for allowance over the prior art of record, including Schoenith and Park. *See* Ex. 1009, 25.

Under Nintendo’s applied construction of “passageway”—a space that accommodates a communication wire (Ex. 1028, 12-13; *see* Ex. 1002, ¶¶ 106, 111; Pet., 15)—the teachings of Hirschman, taken as a whole and modified as Nintendo proposes, fails to disclose or suggest this claimed arrangement to an ordinary artisan. Slocum Decl., ¶¶ 168-171. First, even assuming that retention structures 260 are part of the “confinement structures” (which they are not, as discussed above) any electrical communication between retention structures 260 and circuit board 240 via the dorsal fins 262 of retention structures 260 fitting into the slots 244 in circuit board 240 does not involve any “communication wire,” as the construction of “passageway” requires.

Further, as discussed above, Mr. Kitchen improperly attempts to modify Hirschman by removing USB communication port 242 (*see* Ex. 1007, ¶¶ [0056], [0060]) attached to circuit board 240 and adding one or more wires going from retention structures 260 to circuit Board 240. Slocum Decl., ¶ 171. Then, Mr. Kitchen argues that “[a] POSITA would also have understood that the space next to or around the battery on chassis 280 would have accommodated, in part, this wired connection.” Ex. 1002, ¶ 446. But because, as discussed above, an ordinary artisan would not have been motivated to incorporate wires as Mr. Kitchen proposes, there is no further teaching or suggestion of a space next to or around the battery on chassis 280 that would accommodate, in part, a wired connection. Slocum Decl., ¶ 171.

IX. CONCLUSION

For the foregoing reasons, the Board should rule in its Final Written Decision that Nintendo has failed to show by a preponderance of the evidence that any of claims 1–7 of the ’393 Patent are unpatentable.

Respectfully submitted,

Dated: January 30, 2024

By: /Joshua L. Goldberg/
Joshua L. Goldberg, Reg. No. 59,369
Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §§ 42.24(a)(1)(i), 42.24(b)(2), the undersigned hereby certifies that the foregoing Patent Owner's Response contains 11,576 words, as measured by the word- processing system used to prepare this paper.

Dated: January 30, 2024

By: /Joshua L. Goldberg/
Joshua L. Goldberg, Reg. No. 59,369
Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **Patent Owner's Response** were served by email on January 30, 2024, on Petitioner's counsel of record at:

Tyler R. Bowen
PERKINS COIE LLP
2901 N. Central Avenue, Suite 2000
Phoenix, Arizona 85012
Telephone: (602) 351-8000
Facsimile: (602) 648-7000
E-mail: Nintendo-Gamevice-IPR@perkinscoie.com

R. Tyler Kendrick
Grant E. Kinsel
Kevin A. Zeck
PERKINS COIE LLP
1201 3rd Ave., #4900 Seattle, WA 98101
Telephone: (206) 359-8000
Facsimile: (206) 359-9000
E-mail: Nintendo-Gamevice-IPR@perkinscoie.com

Dated: January 30, 2024

By: /William Esper/
William Esper
Case Manager and PTAB Coordinator
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, LLP