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On behalf of Masimo Corporation

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION,
Petitioner

v.

APPLE INC.,
Patent Owner

Case No. IPR2023-00831
U.S. Patent No. D735,131

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. D735,131**

TABLE OF CONTENTS

	Page No.
I. MANDATORY NOTICES	3
A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))	3
B. Related Matters (37 C.F.R. §42.8(b)(2)).....	3
C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))	4
D. Service Information (37 C.F.R. §42.8(b)(4))	4
E. Grounds for Standing (37 C.F.R. §42.104).....	4
F. Payment of Fees (37 C.F.R. §42.15(a))	5
II. SUMMARY OF GROUNDS.....	5
A. Status of References as Prior Art	6
III. THE D’131 PATENT	7
A. Overview	7
B. Prosecution History	10
IV. CLAIM CONSTRUCTION.....	10
A. Legal Standard for Design Patent Claim Construction.....	10
B. Claim Construction of the D’131 Patent.....	12
1. The Functional Elements of the Claimed Charger Design Should Be Factored Out of the Scope of the Challenged Claim.....	14
a. The Recessed Center Portion Is Functional.....	14
b. The Short, Flat Ring on the Top Surface Is Functional	24

TABLE OF CONTENTS
(cont'd)

	Page No.
c. The Overall Cylindrical Shape Is Functional	26
V. LEGAL STANDARD.....	30
A. Designer of Ordinary Skill	30
B. Obviousness.....	31
VI. THE CHALLENGED CLAIM IS UNPATENTABLE	33
A. Overview of Key Prior Art.....	33
1. Lee-616	33
2. CN-470.....	36
3. Murray.....	37
4. Chiang	38
B. GROUND 1: Obviousness Over Lee-616.....	39
1. Lee-616 Is A Primary Reference	39
a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges	41
b. Ring.....	45
c. Recessed Center Portion.....	46
2. The Challenged Claim Would Have Been Obvious Over Lee-616	48
C. GROUND 2: Obviousness Over Lee-616 and Chiang	54

TABLE OF CONTENTS
(cont'd)

	Page No.
1. The Challenged Claim Would Have Been Obvious Over Lee-616 and Chiang	54
a. Chiang Is A Secondary Reference.....	54
b. The Challenged Claim Would Have Been Obvious Over Lee-616 and Chiang	56
D. GROUND 3: Obviousness Over CN-470	58
1. CN-470 Is A Primary Reference.....	58
a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges	60
b. Ring.....	63
c. Recessed Center Portion	65
2. The Challenged Claim Would Have Been Obvious Over CN-470	66
E. GROUND 4: Obviousness Over CN-470 and Chiang.....	68
1. The Challenged Claim Would Have Been Obvious Over CN-470 and Chiang	68
a. Chiang Is A Secondary Reference.....	69
b. The Challenged Claim Would Have Been Obvious Over CN-470 and Chiang	71
F. GROUND 5: Obviousness Over Murray	73
1. Murray Is A Primary Reference.....	73

TABLE OF CONTENTS
(cont'd)

	Page No.
a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges	76
b. Ring.....	79
c. Recessed Center Portion	81
2. The Challenged Claim Would Have Been Obvious Over Murray	83
G. GROUND 6: Obviousness Over Murray and Chiang.....	87
1. The Challenged Claim Would Have Been Obvious Over Murray and Chiang	87
a. Chiang Is A Secondary Reference.....	88
b. The Challenged Claim Would Have Been Obvious Over Murray and Chiang	91
H. GROUND 7: Obviousness Over Chiang.....	93
1. Chiang Is A Primary Reference	93
a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges	95
b. Ring.....	98
c. Recessed Center Portion.....	100
2. The Challenged Claim Would Have Been Obvious Over Chiang	102
VII. SECONDARY CONSIDERATIONS.....	106
VIII. CONCLUSION	106

TABLE OF AUTHORITIES

	Page No(s).
<i>3Form, Inc. v. Lumicor, Inc.</i> , 678 Fed. App'x. 1002 (Fed. Cir. 2017)	32
<i>Best Lock Corp. v. Ilco Unican Corp.</i> , 94 F.3d 1563 (Fed. Cir. 1996)	17
<i>Campbell Soup Co. v. Gamon Plus, Inc.</i> , IPR2017-00096, Paper 28 (PTAB Mar. 30, 2017)	14, 30
<i>Durling v. Spectrum Furniture Co.</i> , 101 F.3d 100 (Fed. Cir. 1996)	31
<i>Egyptian Goddess, Inc. v. Swisa, Inc.</i> , 543 F.3d 665 (Fed. Cir. 2008)	10
<i>Ethicon Endo-Surgery, Inc. v. Covidien, Inc.</i> , 796 F.3d 1312 (Fed. Cir. 2015)	11
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966)	31
<i>High Point Design LLC v. Buyers Direct, Inc.</i> , 730 F.3d 1301 (Fed. Cir. 2013)	10
<i>Jore Corp. v. Kouvato, Inc.</i> , 117 Fed. App'x 761 (Fed. Cir. 2005)	32
<i>L.A. Gear, Inc. v. Thom McAn Shoe Co.</i> , 988 F.3d 1117 (Fed. Cir. 1993)	18
<i>In re Lamb</i> , 286 F.2d 610 (C.C.P.A. 1961)	<i>passim</i>
<i>Leapfrog Enters., Inc. v. Fisher-Price, Inc.</i> , 485 F.3d 1157 (Fed. Cir. 2007)	107

TABLE OF AUTHORITIES (*cont'd*)

	Page No(s).
<i>MRC Innovations, Inc. v. Hunter Mfg., LLP</i> , 747 F.3d 1326 (Fed. Cir. 2014)	<i>passim</i>
<i>In re Nilssen</i> , 851 F.2d 1401 (Fed. Cir. 1988)	6
<i>OddzOn Prods., Inc. v. Just Toys, Inc.</i> , 122 F.3d 1396 (Fed. Cir. 1997)	11
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	10
<i>Richardson v. Stanley Works, Inc.</i> , 597 F.3d 1288 (Fed. Cir. 2010)	<i>passim</i>
<i>Sealy Tech., LLC v. SSB Mfg. Co.</i> , 825 Fed. App'x 795 (Fed. Cir. 2020)	44
<i>Sport Dimension, Inc. v. Coleman Co., Inc.</i> , 820 F.3d 1316 (Fed. Cir. 2016)	12
<i>Unwired Planet, LLC v. Google Inc.</i> , 841 F.3d 995 (Fed. Cir. 2016)	6

OTHER AUTHORITIES

35 U.S.C. § 102	6, 33
35 U.S.C. § 103	<i>passim</i>
35 U.S.C. § 171	11
37 C.F.R. § 1.152	10
37 C.F.R. § 42.100	10
M.P.E.P. § 2127	33

LIST OF EXHIBITS

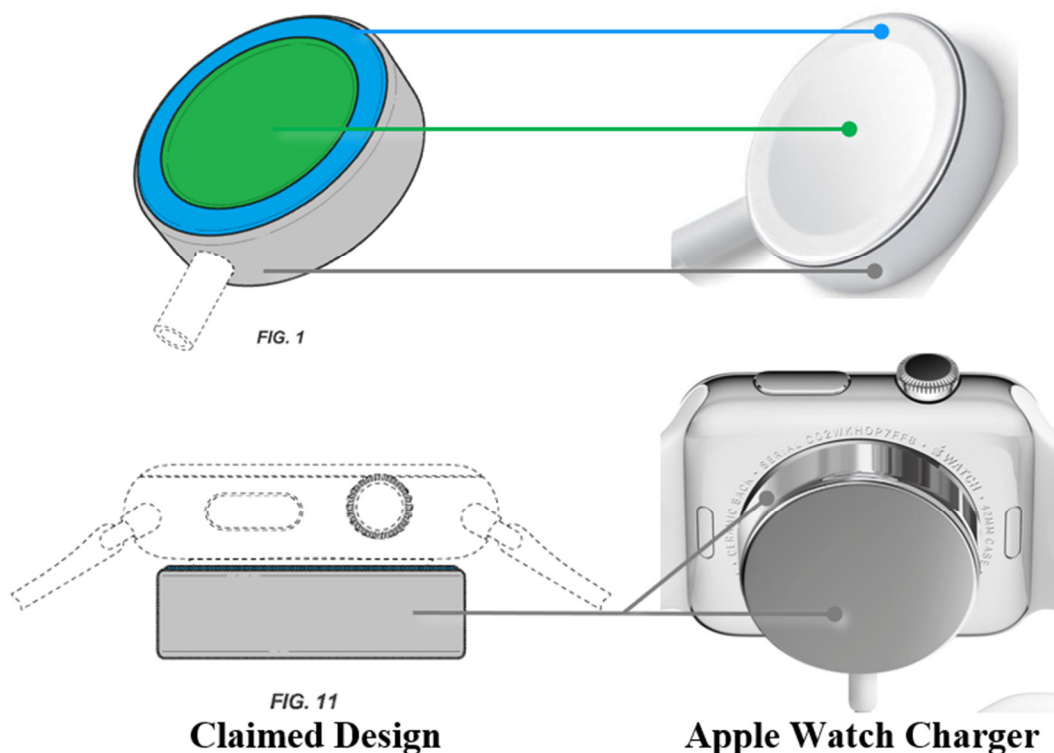
Exhibit No.	Description
1001	U.S. Patent No. D735,131
1002	File History of U.S. Patent No. D735,131
1003	Declaration of Joel Delman
1004	<i>Curriculum Vitae</i> of Joel Delman
1005	<i>Apple Inc. v. Masimo Corporation, et al.</i> , Complaint, No. 1:22-cv-01377 (D. Del.)
1006	United Kingdom Design Reg. No. 4032616, https://www.registered-design.service.gov.uk/find/4032616 (last visited Mar. 28, 2023) (“Lee-616”)
1007	Certified English Translation of Chinese Design Reg. No. 302864470 (“CN-470”)
1008	U.S. Patent No. D718,236 (“Murray”)
1009	U.S. Patent No. D720,289 (“Chiang”)
1010	Certified English Translation of Korean Registered Design No. 30-0645410
1011	Chinese Design Reg. No. 302864470
1012	WIPO Global Design Database Entry for Chinese Design Reg. No. 302864470
1013	Korean Registered Design No. 30-0645410
1014	Declaration of R. James Duckworth, Ph.D.
1015	<i>Curriculum Vitae</i> of R. James Duckworth, Ph.D.
1016	GOV.UK Designs Journal Entry for Lee-616, https://www.registered-design.service.gov.uk/view/2013/11/215 (last visited Mar. 28, 2023)

Exhibit No.	Description
1017	<i>Masimo Corp. et al. v. Apple Inc.</i> , Apple’s September 14, 2022 Public Second Corrected Post-Hearing Brief, ITC Inv. No 337-TA-1276
1018	Application for United Kingdom Design Reg. No. 4032616
1019	Copy of YouTube Video titled “GMYLE(R) Qi Wireless Charger Review (Nexus 5),” https://www.youtube.com/watch?v=EvJ4Jkvj_R8 (last visited Mar. 28, 2023)
1020	Screenshot of https://www.youtube.com/watch?v=EvJ4Jkvj_R8 (last visited Mar. 28, 2013)
1021	<i>Masimo Corp. et al. v. Apple Inc.</i> , June 6-10, 2022 Public Hearing Transcript, ITC Inv. No 337-TA-1276
1022	“Charge Apple Watch,” https://support.apple.com/guide/watch/charge-apple-watch-apd2b717523a/watchos (last visited Mar. 6, 2023)
1023	“Apple Watch Magnetic Charging Cable (1 m),” https://www.apple.com/shop/product/MX2E2AM/A/apple-watch-magnetic-charging-cable-1m (last visited Mar. 6, 2023)
1024	U.S. Patent No. 9,460,846 (“’846 patent”)
1025	U.S. Pat. No. 10,627,783 (“’783 patent”)
1026	U.S. Pat. No. D645,818
1027	U.S. Pat. No. D620,884
1028	U.S. Pat. No. D718,324
1029	U.S. Pat. No. D718,233
1030	U.S. Pat. Appl. Pub. No. 2014/0117926
1031	U.S. Pat. Appl. Pub. No. 2014/0104999
1032	U.S. Pat. No. D694,182

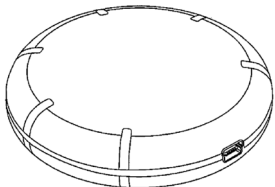
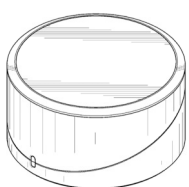
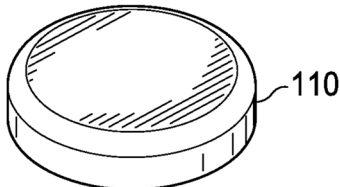
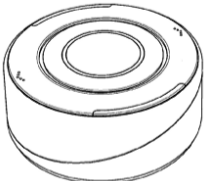
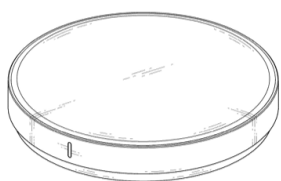
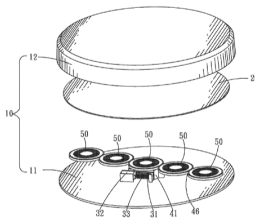
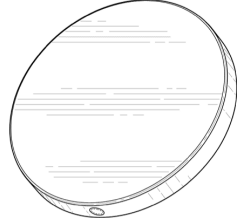
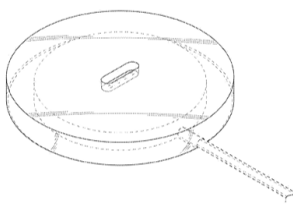
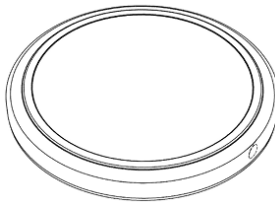
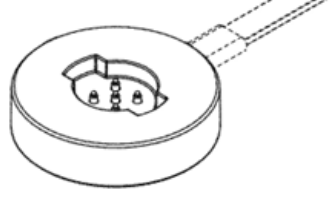
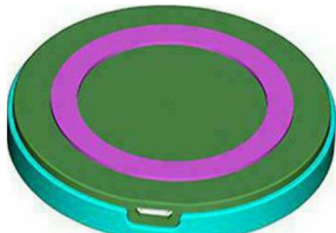
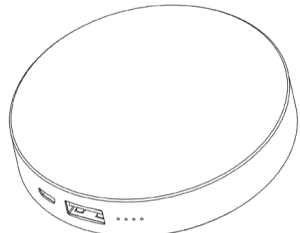
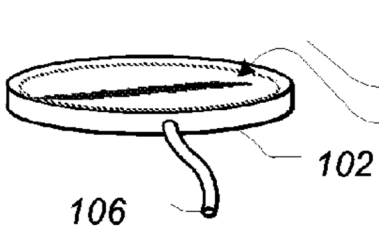
Exhibit No.	Description
1033	U.S. Pat. No. D697,027
1034	U.S. Pat. No. D704,634
1035	“Apple Watch – Technology,” archived on September 11, 2014 by the Internet Organization’s “Wayback Machine” at https://web.archive.org/web/20140911003437/http://www.apple.com/watch/technology/
1036	“Apple Unveils Apple Watch—Apple’s Most Personal Device Ever,” https://www.apple.com/newsroom/2014/09/09Apple-Unveils-Apple-Watch-Apples-Most-Personal-Device-Ever/ (last visited Mar. 31, 2023)
1037	U.S. Pat. No. 6,091,530 (“Duckworth”)
1038	U.S. Pat. No. 6,075,755 (“Zarchan”)
1039	Y. Mendelson, “A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring,” Proceedings of the 28th IEEE Conference (2006)
1040	Y. Mendelson, “Wearable Wireless Pulse Oximetry for Physiological Monitoring,” PPL Workshop (2008)
1041	“Apple Watch Teardown – iFixit,” https://www.ifixit.com/Teardown/Apple+Watch+Teardown/40655 (last visited Apr. 3, 2023)

Masimo Corporation (“Masimo” or “Petitioner”) requests *inter partes* review (“IPR”) under 35 U.S.C. §§311-319 and 37 C.F.R. §42 of the claim (“the Challenged Claim”) of U.S. Patent D735,131 (“the D’131 Patent”).

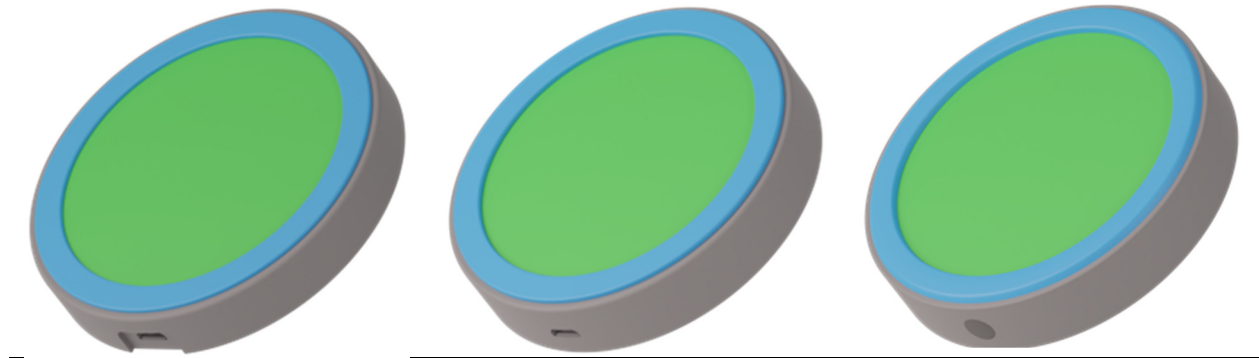
Apple’s D’131 Patent claims a charger having (1) a cylindrical shape with a flat bottom surface (gray), (2) a short, flat ring (blue) on the cylinder’s top surface, and (3) a recessed center portion (green) surrounded by the top surface’s ring. These functional elements are used to accommodate the complementary surface on the back of Apple Watch, align the charging coils of the charger and Watch for efficient wireless charging, accommodate the charger’s charging coil, and allow the charger to lie flat. Much, if not all, of the claimed design is dictated by functionality requirements.



The claimed design also merely recycles design aspects that were commonly used in pre-existing chargers, as shown in the chart below.

2009	2010	2010
		
EX1026	EX1027	EX1031
2012	2012	2012
		
EX1033	EX1010	EX1032
2012	2013	2013
		
EX1030	EX1006	EX1028
2013	2013	2013
		
EX1029	EX1008	EX1034
2014	2014	2014
		
EX1007	EX1009	EX1024

And as explained in this Petition, a designer of ordinary skill would have modified and/or combined the prior art to arrive at charger designs, including those below, that provide the same overall visual appearance as the claimed design.



Accordingly, the Challenged Claim would have been obvious based on the grounds presented in this Petition. Masimo thus respectfully submits that IPR should be instituted and the Challenged Claim canceled as invalid.

I. MANDATORY NOTICES

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

Petitioner, Masimo Corporation, is the real party-in-interest.

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

The parties are currently engaged in district court litigation, captioned *Apple Inc. v. Masimo Corporation, et al.*, No. 1:22-cv-01377 (D. Del.), where Apple Inc. (“Apple” or “Patent Owner”) has asserted the D’131 Patent against Masimo. EX1005. Masimo is not aware of any disclaimers, reexamination certificates, or other IPR petitions for the D’131 Patent.

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Masimo provides the following designation of counsel, all of whom are included in Customer No. 64,735 identified in Masimo's Power of Attorney.

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

Please direct all correspondence to lead counsel and back-up counsel at the addresses shown above. Masimo also consents to electronic service by email to MasimoIPR131@knobbe.com.

E. Grounds for Standing (37 C.F.R. §42.104)

Masimo certifies that the D'131 Patent is available for IPR. This Petition is being filed within one year of service of a complaint against Masimo in *Apple Inc. v. Masimo. Corp., et al.*, No. 1:22-cv-01377 (D. Del.). Masimo is not barred or estopped from requesting this review on the grounds identified in this Petition.

F. Payment of Fees (37 C.F.R. §42.15(a))

The Office may charge the §42.15(a) fee to Deposit Account No. 11-1410. Review of the D’131 Patent’s sole claim is requested. Payment for any additional fees due may be charged to the above-referenced Deposit Account.

II. SUMMARY OF GROUNDS

As explained in this Petition, the Challenged Claim is invalid under 35 U.S.C. § 103 as obvious over the following grounds.¹

Ground	References
1	Lee-616
2	Lee-616, Chiang
3	CN-470
4	CN-470, Chiang
5	Murray
6	Murray, Chiang
7	Chiang

Accompanying explanations and support are provided in the Declarations of Joel Delman (EX1003) and R. James Duckworth, Ph.D. (EX1014).

¹ Masimo is not conceding the Challenged Claim satisfies 35 U.S.C. § 112 or any other statutory requirements. As this is an IPR petition, Masimo is only pursuing prior-art-based grounds and does not waive any arguments concerning other grounds.

A. Status of References as Prior Art

The D’131 Patent was filed on August 11, 2014. EX1001, 1. Masimo has applied references that pre-date August 11, 2014 and qualify as prior art, as shown below. EX1003 ¶¶55-60.

Exhibit	Reference	Prior Art Date	Prior Art Under 35 U.S.C. §
1006	UK4032616 (“Lee-616”)	01/08/2014 (published)	102(a)(1)
1007	CN302864470 (“CN-470”)	07/02/2014 (published)	102(a)(1)
1008	USD718,236 (“Murray”)	04/18/2014 (filed)	102(a)(2)
1009	USD720,289 (“Chiang”)	04/24/2014 (filed)	102(a)(2)

During prosecution of the D’131 Patent, Lee-616 and CN-470 were not considered, and none of the applied references were discussed or relied upon for a rejection. Apple also never informed the examiner of the functional aspects of the claimed design (*infra* §IV.B.1). Further, the applied references constitute analogous art because they are from the same field as the D’131 patent, *e.g.*, chargers. *Infra* §VI.A; *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000 (Fed. Cir. 2016). Thus, a skilled artisan presumably would have been aware of these references. *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988).

III. THE D’131 PATENT

A. Overview

The D’131 Patent, titled “Charger,” claims “[t]he ornamental design for a charger, as shown and described” in FIGS. 1-11. EX1001. As shown below, the D’131 Patent claims a charger having a cylindrical shape (gray), a ring (blue) on the cylinder’s top surface, and a recessed center portion (green) that is surrounded by the top surface’s ring.

D’131 Patent

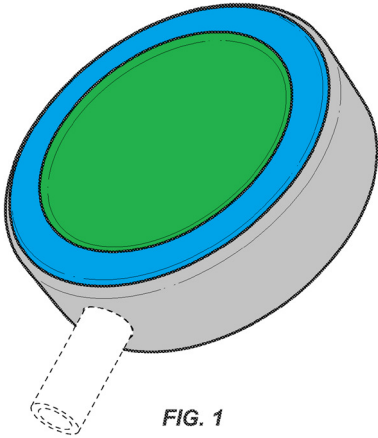


FIG. 1

“FIG. 1 is a bottom front perspective view of a charger[.]”

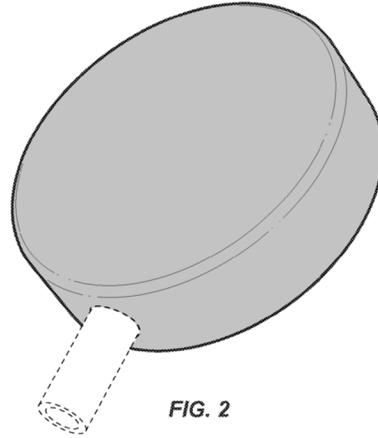


FIG. 2

“FIG. 2 is a bottom rear perspective view thereof.”

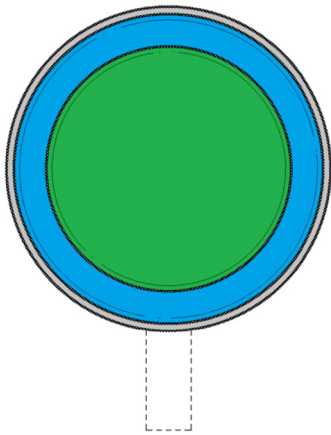


FIG. 3

“FIG. 3 is a front view thereof.”

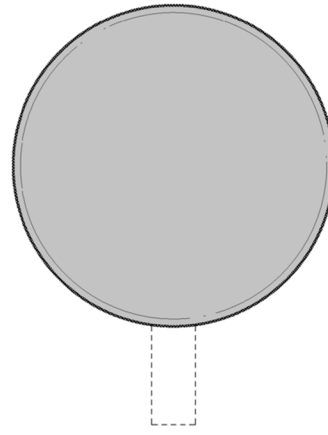


FIG. 4

“FIG. 4 is a rear view thereof.”

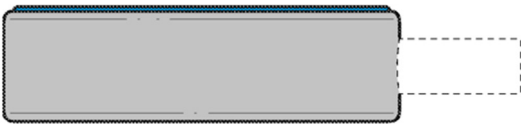


FIG. 5

“FIG. 5 is a left side view thereof.”

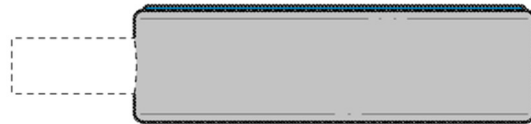
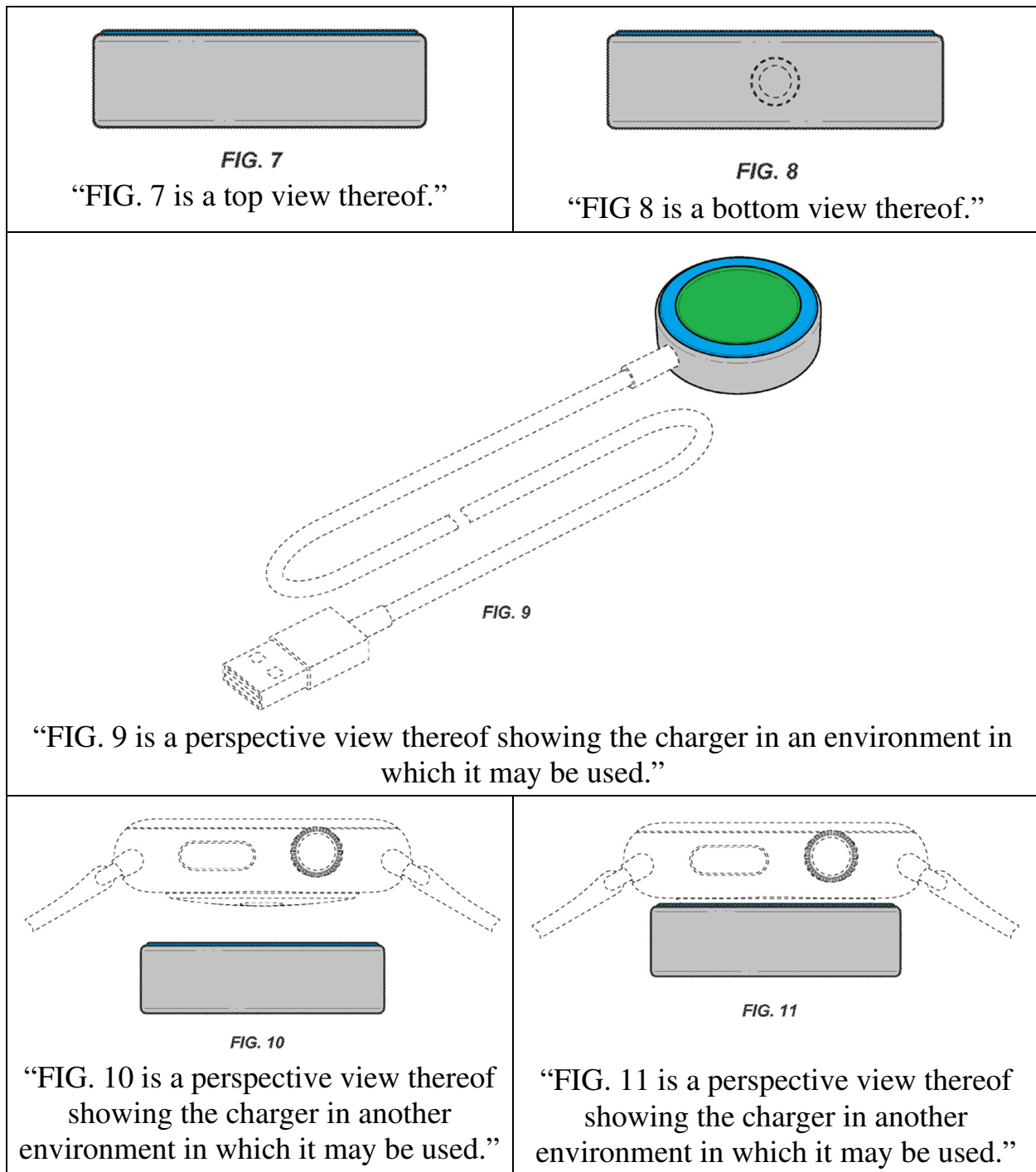


FIG. 6

“FIG. 6 is right side view thereof.”



As explained below, the D’131 Patent claims the design of the underlying article—
Apple Watch’s charger.

B. Prosecution History

The D’131 Patent issued from U.S. Patent Appl. No. 29/498,998 (the “’998 Application”), which was filed on August 11, 2014 with Figures 1-70B. EX1001, Cover; EX1002, 123-159. On January 9, 2015, Apple filed a preliminary amendment “cancel[ing] Figures 1 through 70B . . . and replac[ing] them with new Figures 1 through [11].” EX1002, 62-63. The ’998 Application was allowed without any rejections approximately four months later on May 12, 2015, *id.*, 20-24, and issued as the D’131 Patent on July 28, 2015. EX1001, Cover.

IV. CLAIM CONSTRUCTION

A. Legal Standard for Design Patent Claim Construction

In an IPR, claims are construed according to the *Phillips* standard. 37 C.F.R. § 42.100; *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). Masimo thus employs that standard herein.

The scope of a design patent is defined by the solid lines depicted in its figures in conjunction with their descriptions. *See Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 680 (Fed. Cir. 2008) (citing 37 C.F.R. § 1.152). While it can be difficult to verbally describe a claimed design, it is often “helpful to point out . . . various features of the claimed design as they relate to . . . the prior art.” *Id.* at 680; *see High Point Design LLC v. Buyers Direct, Inc.*, 730 F.3d 1301, 1314–15 (Fed.

Cir. 2013) (remanding, in part, for “verbal description of the claimed design to evoke a visual image consonant with that design”).

Moreover, a design patent may only protect the “ornamental design” of an article. 35 U.S.C. § 171. Thus, when a design patent contains functional and ornamental elements, the claimed design’s “scope is limited to [the ornamental] aspects alone and ***does not extend to any functional elements of the claimed article.***”² *Richardson v. Stanley Works, Inc.*, 597 F.3d 1288, 1293-94 (Fed. Cir. 2010) (factoring out functional elements of design patent from obviousness analysis). And “[w]here a design contains both functional and non-functional elements, the scope of the claim ***must be construed*** in order to identify the non-functional aspects of the design as shown in the patent,” if any. *OddzOn Prods., Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1405 (Fed. Cir. 1997).

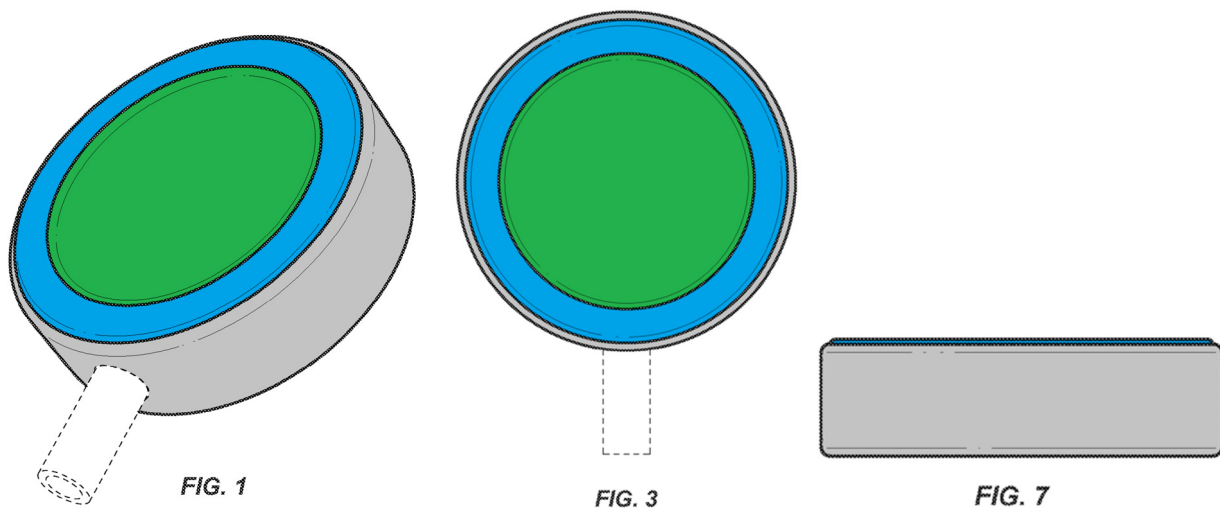
There are several factors for assessing the functionality of a claimed design. Whether suitable alternative designs are available is “an important—if not dispositive—factor in evaluating the legal functionality of a claimed design.” *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1329-30 (Fed. Cir. 2015). Additional factors “serv[ing] as a useful guide for claim construction functionality” include: (1) whether the claimed design represents the best design;

² All emphasis, annotations, and coloring added unless indicated otherwise.

(2) whether alternative designs would adversely affect the article's utility; (3) whether there are any concomitant utility patents; (4) whether advertising touts particular design features as having specific utility; and (5) whether there are any design elements or an overall appearance clearly not dictated by function. *Sport Dimension, Inc. v. Coleman Co., Inc.*, 820 F.3d 1316, 1322 (Fed. Cir. 2016).

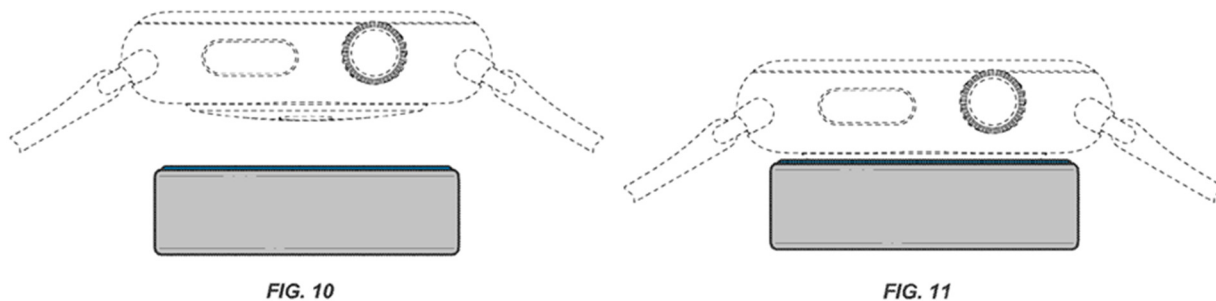
B. Claim Construction of the D'131 Patent

The D'131 Patent claims the design of a charger having (1) a cylindrical shape with a flat bottom surface (gray); (2) a short, flat ring (blue) on the cylinder's top surface that is smaller in diameter than the cylindrical charger; and (3) a recessed center portion (green) that is surrounded by the top surface's ring.



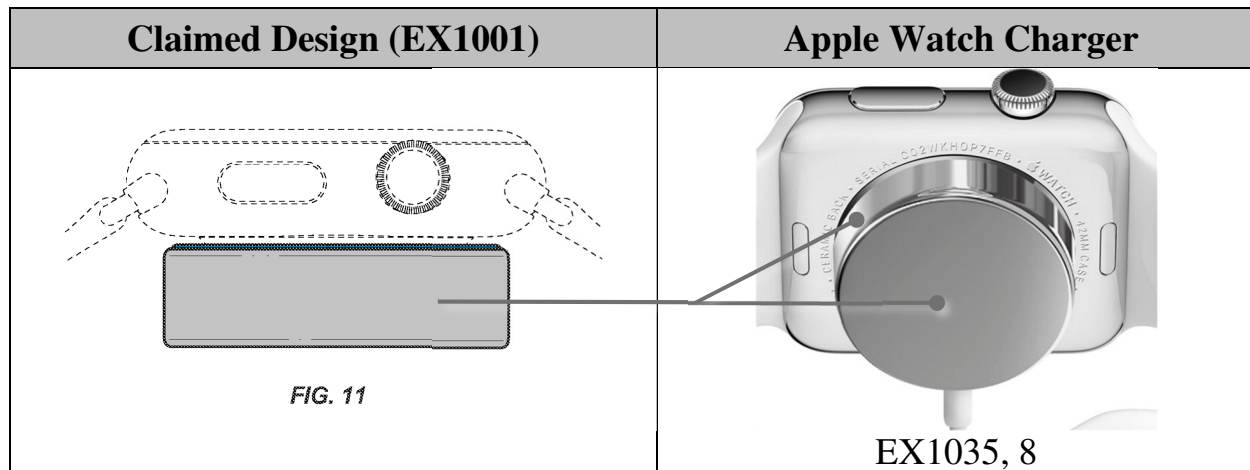
EX1001, FIGS. 1, 3, 7; *supra* §III.A. The top and bottom edges of the cylinder, and the outer edge of the ring, are very slightly rounded (i.e., radiused), as shown in FIG. 7 above. EX1001, FIG. 7; EX1003 ¶¶39.

The D’131 Patent also demonstrates how the charger is used. Specifically, the charger’s recessed center portion and short, flat ring receive the bottom surface of an Apple Watch and align the Watch with its charger, as shown below.



EX1001, FIGS. 10-11; EX1003 ¶39. Indeed, the article underlying the D’131 Patent is the charger for Apple Watch—the smartwatch that Apple unveiled on September 9, 2014 (i.e., a month after the purported filing date of the D’131 Patent) and released in early 2015. EX1021, 46:22-23; EX1036, 1; EX1005 ¶¶17-18, 67 (Apple arguing the D’131 Patent covers the Apple Watch charger’s design); EX1003 ¶41.

Claimed Design (EX1001)	Apple Watch Charger
FIG. 1	EX1023, 1 (rotated)



EX1003 ¶41; EX1014 ¶37.

1. The Functional Elements of the Claimed Charger Design Should Be Factored Out of the Scope of the Challenged Claim

The claimed Apple Watch charger design includes numerous design elements that are functional and should thus be “factored out” of the Challenged Claim’s scope. *Richardson*, 597 F.3d at 1293-94, *see, e.g., Campbell Soup Co. v. Gamon Plus, Inc.*, IPR2017-00096, Paper 28, at 7 (PTAB Mar. 30, 2017), 7 (applying *Richardson* to construe design), 14 (considering “placement and positioning” of functional elements in invalidity analysis “not required under our claim construction”).

a. The Recessed Center Portion Is Functional

The design of the claimed recessed center portion is dictated by the functionality of the underlying article—the Apple Watch charger. This is clearly shown by Figures 10 and 11 of the D’131 Patent, reproduced below, which show

that the recessed center portion is sized and shaped to receive and align with the convex surface on the back of the Apple Watch.

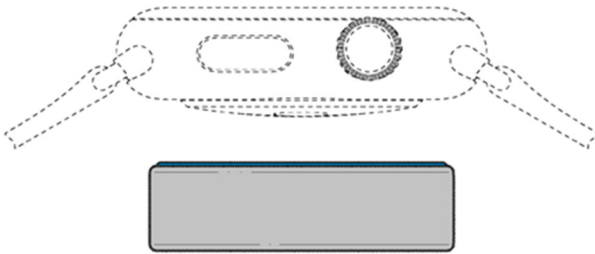


FIG. 10

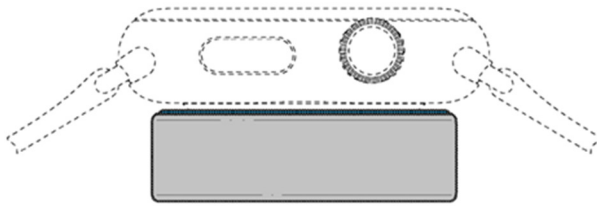


FIG. 11

EX1001, FIGS. 10-11; EX1041, 1 (showing claimed charger mated and aligned with back of Apple Watch, as is shown in FIG. 11 of the D’131 Patent); EX1014 ¶38.

Indeed, as Apple explained in the parties’ ITC investigation (Inv. No. 337-TA-1276, the “ITC Investigation”), the convex surface (i.e., “dome” or “curved” surface) on the back of every Apple Watch “has been constant” since the 2015 release of the original Apple Watch (“Series 0”). EX1021, 47:12-16, 46:22-23. Apple admitted that its Watch charger uses the claimed recessed center portion to ensure that the “dome” on the back of the Apple Watch (1) “*fits snugly in the [charging] cradle*” and (2) “*align[s] the watch with the charging hardware components*” so that the charging can occur in an efficient way.” *Id.*, 47:20-23. Apple’s admission was confirmed by the “distinguished engineer” leading the development of Apple Watch’s health sensors, Brian Land. *Id.*, 954:15-955:9. Land testified that the Watch’s charger “*has a complementary shape*” to the Watch to (1) allow the charger to mate with the Apple Watch and (2) align the charger and Apple

Watch for “efficient wireless charging.” *Id.*, 959:14-960:2. Indeed, every Apple Watch charger has the recessed center portion claimed by the D’131 Patent so that the charger mates snugly and aligns with the complementary surface of the Watch, as shown below.



EX1005, 7; EX1023, 2 (showing every Apple Watch uses charger design above); EX1014 ¶39. Apple’s own utility patents confirm that the complementary surfaces of the claimed charger and the back of the Apple Watch are designed to align the devices for efficient charging. EX1025, FIG. 19, 45:18-28 (teaching, with reference to FIG. 19, that “the complementary geometries [of the Watch’s back surface and its charging dock] may facilitate aligning of the [Watch] and dock for efficient wireless power transfer.”); EX1024, FIGS. 1A-1C, 7:14-18 (teaching that the charger’s “interface surface 108 may be configured in a particular shape that mates with a

complementary shape of the inductive power receiver 202 [i.e., the Watch], for example, as shown in FIG. 1B”).

Accordingly, the recessed center portion claimed by the D’131 Patent was designed for the underlying Apple Watch charger to perform its intended functions of (1) mating snugly with the complementary surface of the Apple Watch and (2) aligning with the Apple Watch for efficient wireless charging. EX1014 ¶39. An alternative design is unavailable because a different center portion design would not mate snugly or properly align with the back of the Apple Watch for efficient wireless charging. *Id.* Rather, using a different shape for the recessed center portion would render the charger incompatible with the convex surface on the back of the Apple Watch. *Id.* Thus, the claimed recessed center portion is dictated by function because it must be shaped as claimed to perform the intended functions of mating and aligning with the corresponding back surface of Apple Watch for efficient charging. *Id.*; *see, e.g., Best Lock Corp. v. Ilco Unican Corp.*, 94 F.3d 1563, 1566 (Fed. Cir. 1996) (finding key blade shape dictated by function because “key blade ***must be designed as shown in order to perform its intended function***” of mating with corresponding lock).

Additional factors confirm that the claimed recessed center portion is a functional design element.

First, the claimed recessed center portion represents the best design because it allows the underlying article to mate snugly and properly align with the complementary shape of the Apple Watch, as shown and explained above. EX1014 ¶40. A different center portion design would be a worse design because it would be incompatible with the convex surface of the Apple Watch intended to be used with the claimed Apple Watch charger, as explained above. *Id.*

Second, using a different shape for the claimed recessed center portion would adversely affect the utility of the underlying article. Specifically, changing the shape of the recessed center portion would impede the charger’s ability to mate as snugly and properly align with the complementary surface on the back of Apple Watch, thereby impeding the charger’s ability to recharge the Watch. *Id.* ¶41; EX1021, 959:14-960:2; EX1025, 45:18-28, 42:63-43:4. Because the Apple Watch charges by mating snugly and aligning with the charger’s complementary surface, the claimed recessed center portion enabling that Watch-charger connection is “essential to the use of the article” and thus, primarily functional. EX1014 ¶41; *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.3d 1117, 1123 (Fed. Cir. 1993).

Third, Apple’s marketing touts the claimed recessed center portion as being useful to align the charger with its Apple Watch. For example, Apple’s website states that “[t]he concave end of the charging cable” mates with the “back of the Apple Watch and aligns it properly.” EX1022, 1; EX1014 ¶42.

Fourth, concomitant utility patents ***from Apple*** demonstrate that the recessed center portion claimed by the D’131 Patent is to achieve the above-discussed charger mating and alignment functions. EX1014 ¶43. For example, U.S. Pat. No. 10,627,783 (the “’783 patent”) states that “power transfer efficiency ... may decrease as misalignment increases” between the watch and its charging dock. EX1025, 42:63-43:4. Thus, to avoid such problematic misalignment between the charger (or “dock”) and Watch, the ’783 patent describes using “alignment assistance features to effect alignment of the [watch] 100 with the dock 1802 along a mutual axis.” *Id.*, 43:10-13; *id.*, 43:13-15. Indeed, the ’783 patent explains (and shows in FIGS. 18-19, below) that “the bottom surface of the [watch] 100 is convex and the top surface of the [charging] dock 1802 is concave, following the same curvature as the bottom of the [watch] 100.... [to] facilitate alignment of the [watch] and dock for efficient wireless power transfer.” *Id.*, 45:18-28; *see, e.g., id.*, 43:28-32 (“protrusions and corresponding indentations ... may be used to align [the watch and dock]”), 43:19-22.

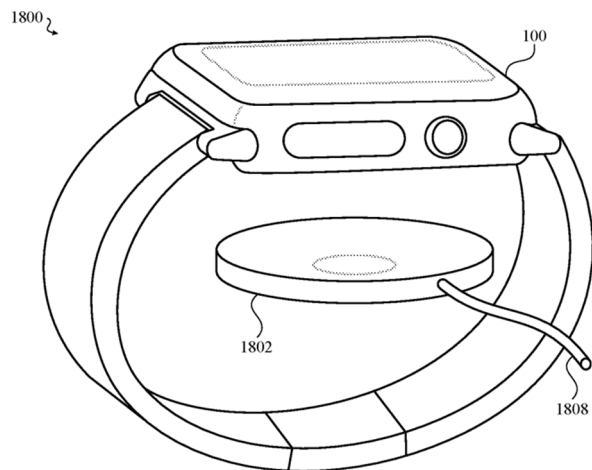


FIG. 18

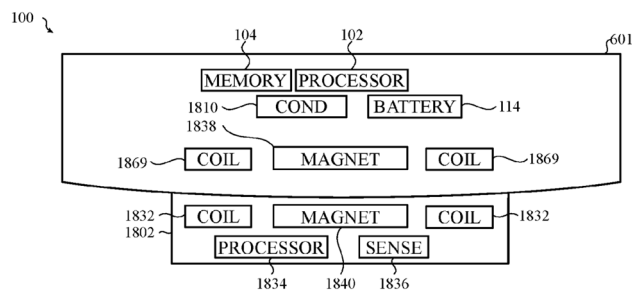


FIG. 19

Apple's '783 patent also teaches that, for efficient wireless charging, the Watch's charging coil (orange) must align with the corresponding coil (green) of its charger, as shown below.

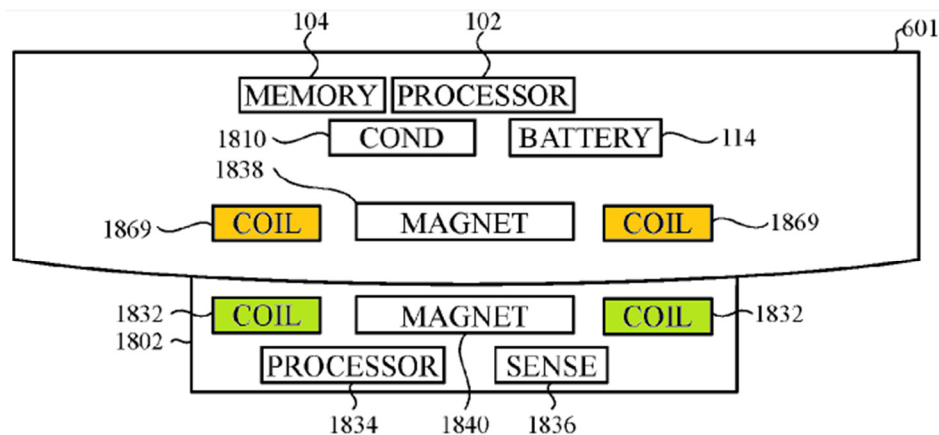
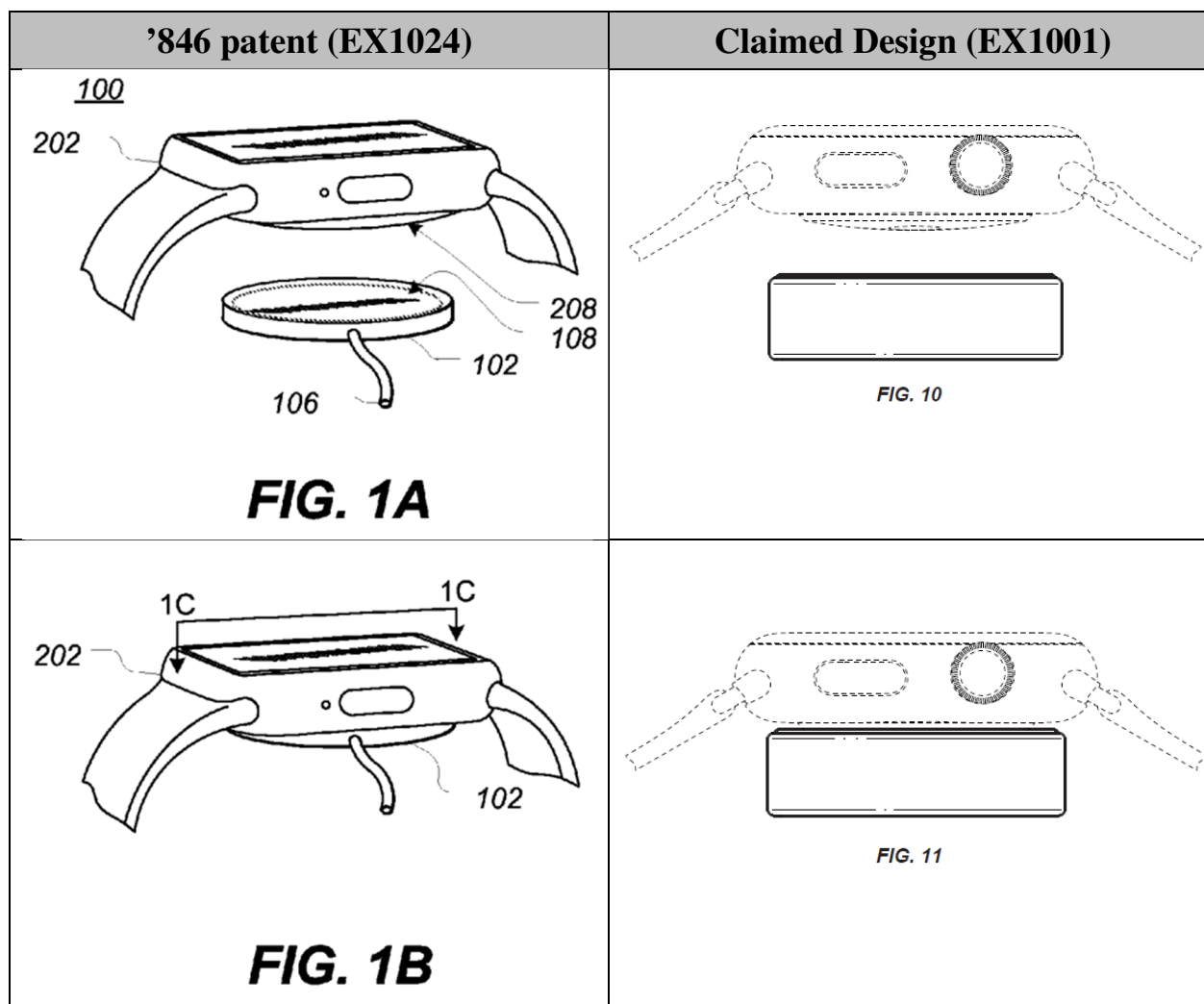


FIG. 19

EX1025, FIG. 19, 42:63-43:48, 45:18-51; EX1014 ¶51; *see, e.g.*, EX1021, 47:17-24 (explaining watch and charger must properly align for efficient charging), 959:14-960:2 (same). Accordingly, the '783 patent demonstrates that function—not

ornamentation—dictates the design of the recessed center portion claimed by the D’131 Patent. EX1014 ¶43.

As another example, Apple’s U.S. Patent No. 9,460,846 (the “’846 patent”) shows—like Figures 10 and 11 of the D’131 Patent—that the claimed recessed center portion is sized and shaped to receive the complementary back surface of Apple Watch and align Apple Watch with its charger.

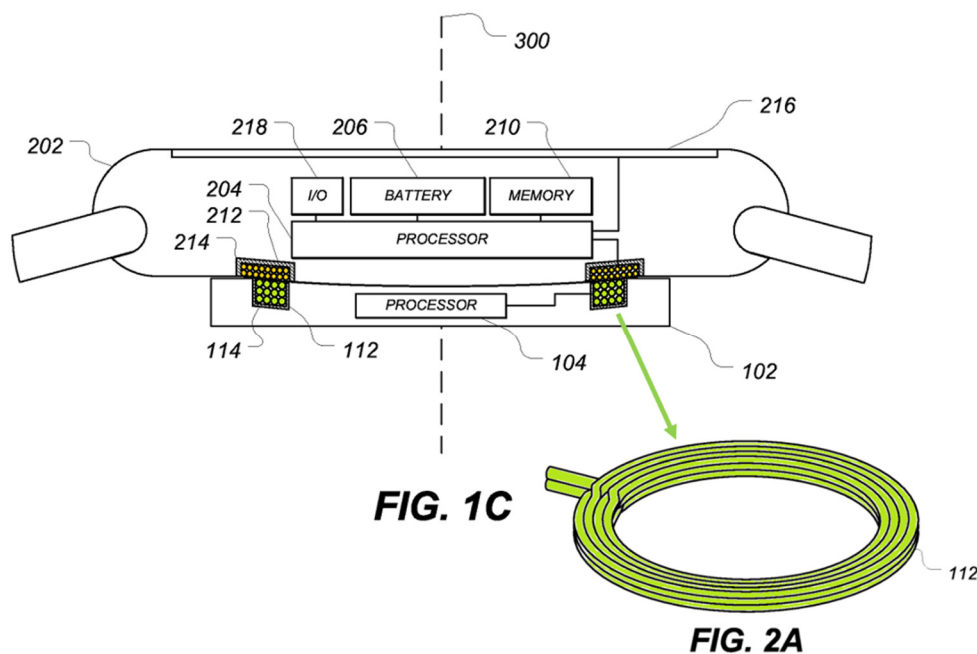


EX1014 ¶44; *compare* EX1024, FIGS. 1A-1B *with* EX1001, FIGS. 10-11.

Regarding the above design, the ’846 patent explains that “the inductive power

receiver 202” (i.e., the Apple Watch) includes “a lower surface 208 that may interface with, align, or otherwise contact an interface surface 108 of the inductive power transmitter 102” (i.e., the Watch’s charger). *Id.*, 7:9-12. The ’846 patent specifically teaches that the charger’s “interface surface 108 may be configured in a particular shape that mates with a complementary shape of the inductive power receiver 202 [i.e., the Watch], for example, as shown in FIG. 1B [above].” *Id.*, 7:14-18. The ’846 patent thus teaches using complementary designs for charger’s top center portion and the mating surface of the Apple Watch or other device intended to be charged with the charger. EX1014 ¶¶44.

The ’846 patent also teaches the proper “aligned configuration” shown below, where the Watch’s receive coil (orange) is aligned with the corresponding transmit coil (green) of its charger.



EX1024, FIGS. 1C, 2A; 7:40-57 (describing wireless charging system of FIGS. 1A-1C), 8:10-17 (same), 8:42-44; EX1014 ¶45. The '846 patent further explains that even “a slight misalignment of the [charger’s] inductive power transmitter 102, ... and the [Watch’s] inductive power receiver 202 may result in a substantial misalignment of the transmit coil 112 and receive coil 212,” which “may, in turn, substantially reduce power transfer efficiency.” EX1024, 8:32-38. The '846 patent thus confirms that a recessed center portion on the charger’s top surface (as in FIG. 1C (above) and the claimed design) is designed to ensure proper alignment between the Watch and its charger by teaching that “[p]referably, the [charger] 102 and the [Watch] 202 are aligned along a mutual axis 300, as shown in FIG. 1C [above].” *Id.*, 8:37-41; *see also id.*, 8:29-32 (“[P]ower transfer efficiency between the [charger] 102 and the [Watch] 202 may be optimized when the receive coil 212 is aligned with the transmit coil 112 along a mutual axis [as shown in FIG. 1C above].”); EX1014 ¶45. Accordingly, the '846 patent further demonstrates that the above-described alignment function—not ornamentation—dictates the design of the recessed center portion claimed by the D’131 Patent. EX1014 ¶45.

Additionally, Apple has kept the claimed recessed center portion in the charger design used with every Apple Watch to mate and align the charger with the back surface of Apple Watch. EX1022 (explaining that “the concave end of the charging cable ... aligns it properly” with the back of Apple Watch); EX1023, 1-2

(confirming same Apple Watch charger used for every Apple Watch model). Apple retaining the claimed recessed center portion for the charger design used for *every Apple Watch model* indicates that the claimed design represents the most useful design for this functional element. EX1014 ¶¶46; EX1003 ¶43.

Accordingly, the recessed center portion depicted in the D’131 Patent is a functional aspect of the claimed design. EX1014 ¶47.

b. The Short, Flat Ring on the Top Surface Is Functional

The claimed flat ring on the charger’s top surface is also a functional design element. This is confirmed by the D’131 Patent, which shows that the claimed flat ring is designed to precisely surround and align the convex surface on the back of Apple Watch with the complementary recessed center portion of the claimed charger design.

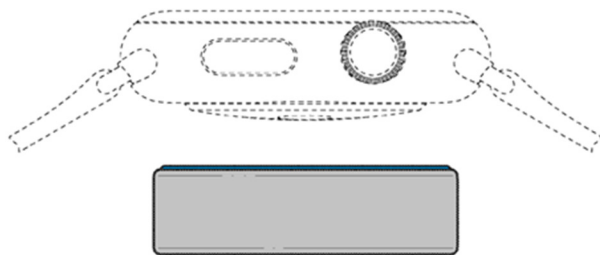


FIG. 10

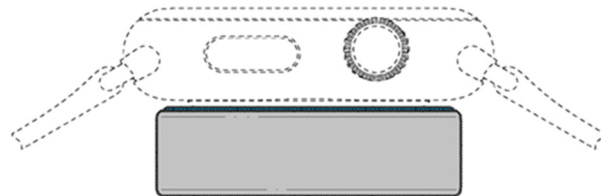
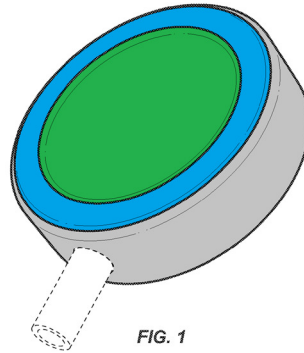


FIG. 11



EX1001, FIGS. 10-11, 1; EX1014 ¶48. Using a smaller diameter for the claimed ring would cause the ring to interfere with the protruding back surface of Apple Watch, thus inhibiting or preventing the charger from achieving the intended mating and alignment functions (discussed above) needed for efficient wireless charging. EX1014 ¶48. Conversely, using a larger diameter for the claimed ring would result in the ring no longer perfectly surrounding the protruding back surface of Apple Watch, thus diminishing the repeatability and stability of the Watch-charger connection. *Id.* Using a ring with a shorter height would not be a viable design because a shorter ring would permit insufficient space between the recessed center portion and the charger's bottom surface to house the charger's internal components. *Id.*; EX1041, 15. Conversely, making the claimed ring taller could increase the distance between the charging coil of the Watch and charger when connected, thereby reducing the charger's power transfer efficiency. EX1014 ¶48. Thus, these other designs have shortcomings such that they are not suitable alternatives to the claimed design. Indeed, the claimed design avoids the shortcomings of alternative

designs because the claimed design ensures that (1) the charger can include the recessed center portion that perfectly mates and aligns with the Apple Watch's back surface while (2) providing the internal space needed for the charger's internal components. EX1014 ¶48; EX1041, 15. Additionally, Apple retaining the claimed charger design for the charger used with every Apple Watch indicates that the claimed design, including its short, flat ring, is the most useful design for ensuring proper mating and alignment of the Watch-charger connection. EX1014 ¶49; EX1003 ¶47.

Accordingly, the short, flat ring depicted in the D'131 Patent is a functional aspect of the claimed design. EX1014 ¶50.

c. The Overall Cylindrical Shape Is Functional

As shown below, the claimed design includes an overall cylindrical shape with a flat bottom surface and very slightly rounded edges on the top and bottom cylinder edges and the flat ring's outer edge. But each aspect is functional.

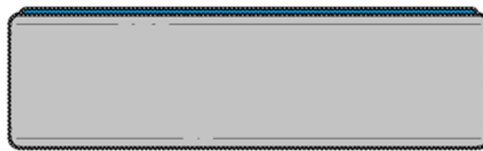
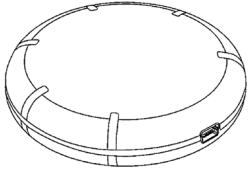
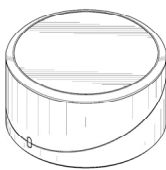
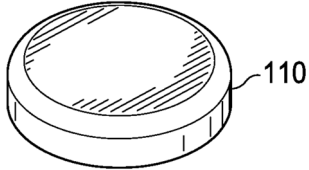
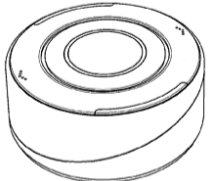
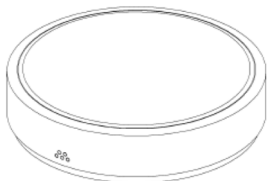
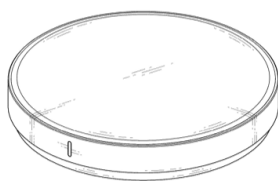
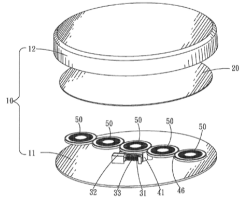
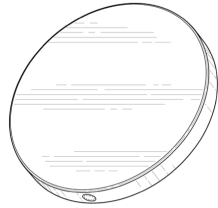
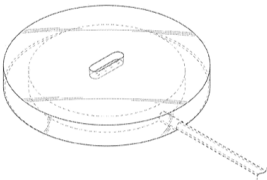
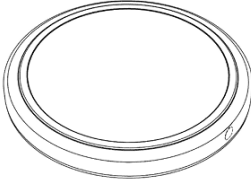
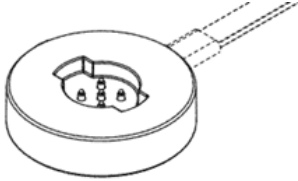
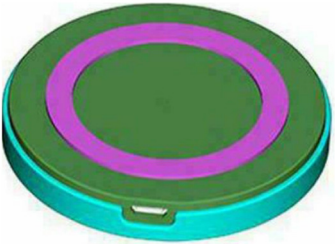
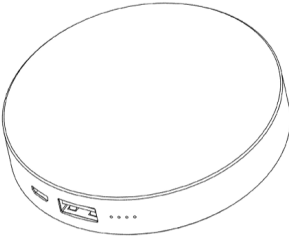
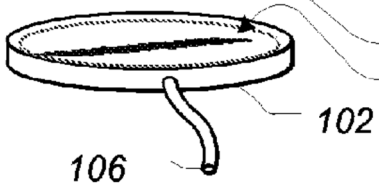


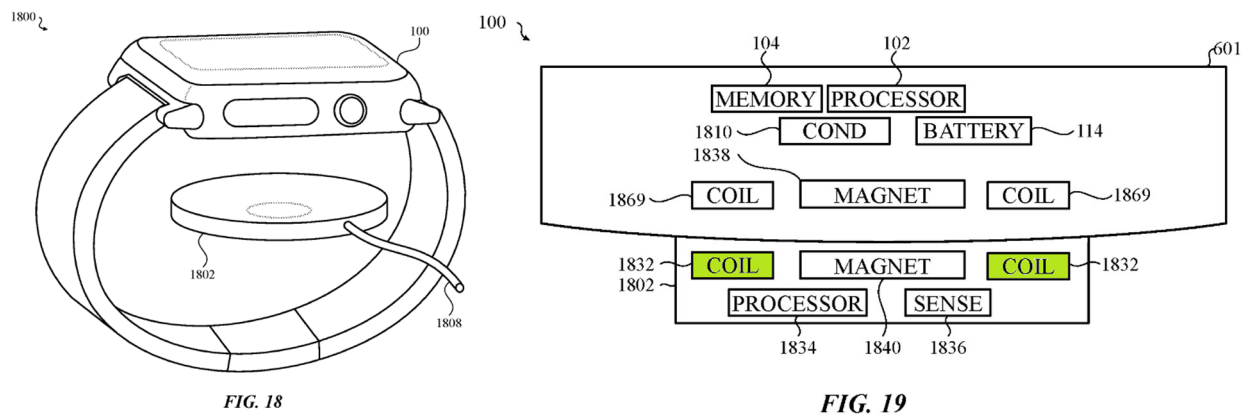
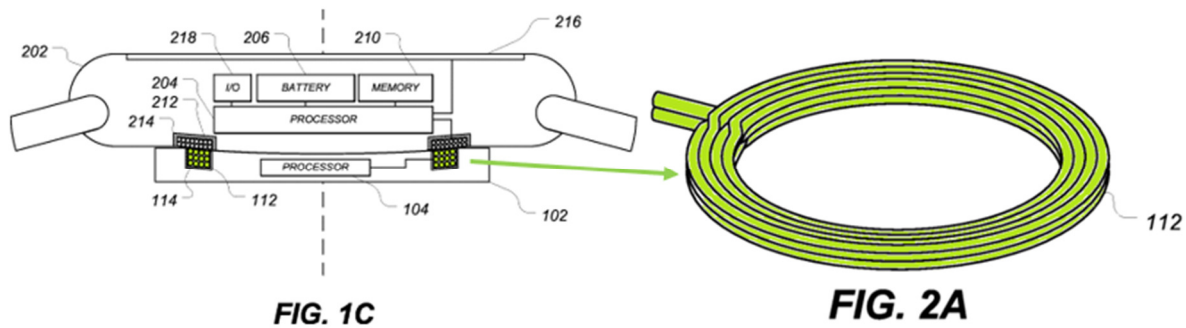
FIG. 7

EX1001, FIG. 7; EX1014 ¶¶51-54.

First, the functionality of the overall cylindrical circular shape of the claimed design is confirmed by the ubiquitous use of cylindrical shapes for prior art chargers.

2009  EX1026, FIG. 1	2010  EX1027, FIG. 1	2010  EX1031, FIG. 1
2012  EX1033, FIG. 1	2012  EX1010, Persp. View	2012  EX1032, FIG. 1
2012  EX1030, FIG. 1	2013  EX1006, Side View	2013  EX1028, FIG. 1
2013  EX1029, FIG. 1	2013  EX1008, FIG. 1	2013  EX1034, FIG. 1
2014  EX1007, 3D View	2014  EX1009, FIG. 1	2014  EX1024, FIG. 1A

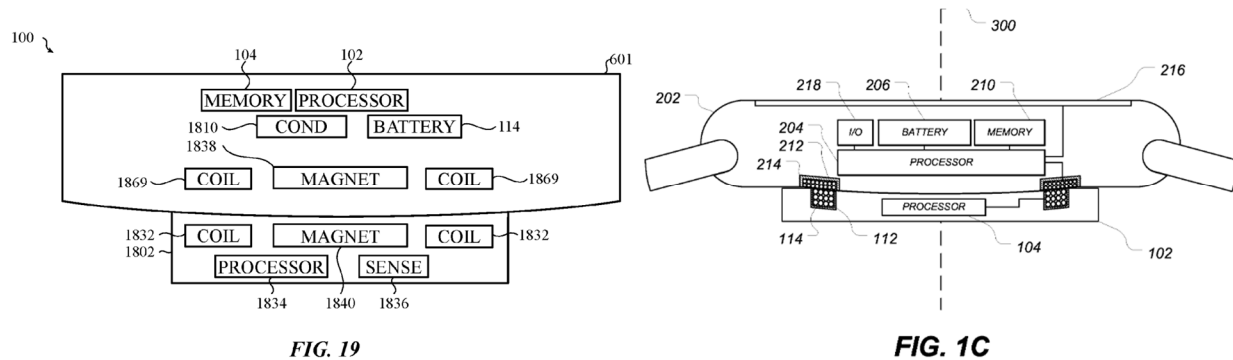
EX1014 ¶51. Chargers commonly used cylindrical power transmission coils, as shown below (green) in the exemplary chargers from Apple’s utility patents.



EX1024, FIG. 1C (top-left), 2A (top-right); 2:56-57, 8:42-51; EX1025, FIGS. 18-19 (bottom). And an overall cylindrical charger shape most efficiently houses such a cylindrical charging coil with minimal wasted space. EX1014 ¶51. Apple retaining the overall cylindrical design for the charger used with every Apple Watch also indicates that the overall cylindrical design is the most useful design for mating with the back surface of Apple Watch and housing the hardware components of the Apple Watch charger. EX1023, 1-2; EX1003 ¶50; EX1014 ¶51.

Second, the flat bottom surface of the claimed cylindrical charger is dictated by the function of horizontally supporting the charger on a flat surface, which facilitates ease of use and proper alignment of the Apple Watch and charger for

efficient wireless charging. EX1014 ¶52. Indeed, to charge the Apple Watch, Apple instructs users to “place your charger or charging cable on a flat surface.” EX1022, 1; EX1014 ¶52. And as shown below, the chargers described by Apple’s ’783 patent (left) and ’846 patent (right) have a flat bottom surface to facilitate proper Watch-charger alignment.



EX1025, FIG. 19 (left), 45:18-28; EX1024, FIG. 1C (right), 8:29-41; EX1014 ¶52. Flat-bottomed chargers were also common in the prior art, as that design was understood to facilitate using the charger and aligning it with the device it was intended to charge. EX1014 ¶52.

Third, the claimed, very slightly rounded edges are dictated by the function of improving user comfort when handling the charger. Indeed, Apple’s expert agreed that smoothing device edges, such as by rounding or chamfering edges, promotes user comfort. EX1021, 1236:17-1237:3, 1229:8-10; EX1017, 115, 119-120; EX1014 ¶53.

Therefore, function—not ornamentation—dictates the overall cylindrical shape (including the flat bottom surface and rounded edges) of the charger design

claimed by the D’131 Patent. Thus, the overall cylindrical shape, flat bottom surface, and rounded edges are functional aspects of the claimed design. EX1014 ¶54.

Accordingly, each of the above-discussed design elements is dictated by function and should thus be “factored out” of the Challenged Claim’s scope. *Richardson*, 597 F.3d at 1293-94, *see, e.g., Campbell*, IPR2017-00096, Paper 28 at 14; EX1014 ¶55. Broken lines are expressly disclaimed and should also be disregarded. EX1001, Description.

V. LEGAL STANDARD

A. Designer of Ordinary Skill

For purposes of this Petition, a designer of ordinary skill in the art related to the D’131 Patent (“DOSA”) would have had an undergraduate or graduate degree in industrial/product design, along with at least two years of relevant work experience in the field of industrial/product design of portable electronic devices. EX1003 ¶26. A DOSA would not need to be familiar with the electrical engineering, physics, or other advanced technical concepts employed by such devices. *Id.* ¶27. Rather, the DOSA would consult or collaborate with a person of ordinary skill in the art (“POSITA”) regarding concepts outside of the DOSA’s expertise. *Id.* Here, a POSITA would have had at least a Bachelor or Master of Science degree in electrical engineering, or a comparable engineering discipline, in combination with at least

two years of related work experience involving portable electronic devices. EX1014 ¶22.

B. Obviousness

A patent is invalid as obvious if “the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious” to a person of ordinary skill in the relevant art before the invention’s effective filing date. 35 U.S.C. § 103. The obviousness analysis considers the four *Graham* factors. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). ““In the design patent context, the ultimate inquiry under section 103 is whether the claimed design would have been obvious to a [DOSA].”” *Durling v. Spectrum Furniture Co.*, 101 F.3d 100, 103 (Fed. Cir. 1996).

Design patent obviousness is a two-step inquiry. First, “one must find a single reference, ‘a something in existence, the design characteristics of which are basically the same as the claimed design.’” *Id.* (internal citation omitted). To identify such a “primary reference,” one must: “(1) discern the correct visual impression created by the patented design as a whole; and (2) determine whether there is a single reference that creates ‘basically the same’ visual impression.”” *Id.* A primary reference need not be identical to, or even contain every ornamental feature present in, the claimed design to be “basically the same” as that design. *See, e.g., MRC Innovations, Inc. v. Hunter Mfg., LLP*, 747 F.3d 1326, 1333 (Fed. Cir. 2014) (affirming obviousness

finding based on a primary reference lacking at least three ornamental elements of claimed design); *Jore Corp. v. Kouvato, Inc.*, 117 Fed. App’x 761, 763 (Fed. Cir. 2005) (finding prior art drill bit proper primary reference despite having different shaft shape than claimed design).

Second, “‘secondary’ references ‘may be used to modify [the primary reference] to create a design that has the same overall visual appearance as the claimed design.’” *MRC*, 747 F.3d at 1331 (internal citation omitted). Such secondary references may be used if they are “‘so related to the primary reference that the appearance of certain ornamental features in one would suggest the application of those features to the other.’” *Id.* (internal citation omitted).

Notably, the obviousness inquiry “asks whether a designer ‘would have combined *teachings* of the prior art to create the same overall visual appearance as the claimed design,’ not merely the figures or illustrations.” *3Form, Inc. v. Lumicor, Inc.*, 678 Fed. App’x. 1002, 1011 (Fed. Cir. 2017) (internal citation omitted) (affirming design patent obviousness based on utility patent specification). A DOSA can thus consider the “teachings of the prior art” and is not restricted to prior art illustrations. *Id.* Moreover, a finding of obviousness does not require that the combination of prior art references suggests a design identical to the claimed design. *See, e.g., In re Lamb*, 286 F.2d 610, 611 (C.C.P.A. 1961) (“[T]hat there are differences over the prior art structures is not alone sufficient to justify a holding

that the design is patentable.”). Rather, “on numerous occasions [the Federal Circuit has] invalidated design patents despite the inclusion of ornamental features that were *entirely absent from prior art designs.*” *MRC*, 747 F.3d at 1335 (citing cases).

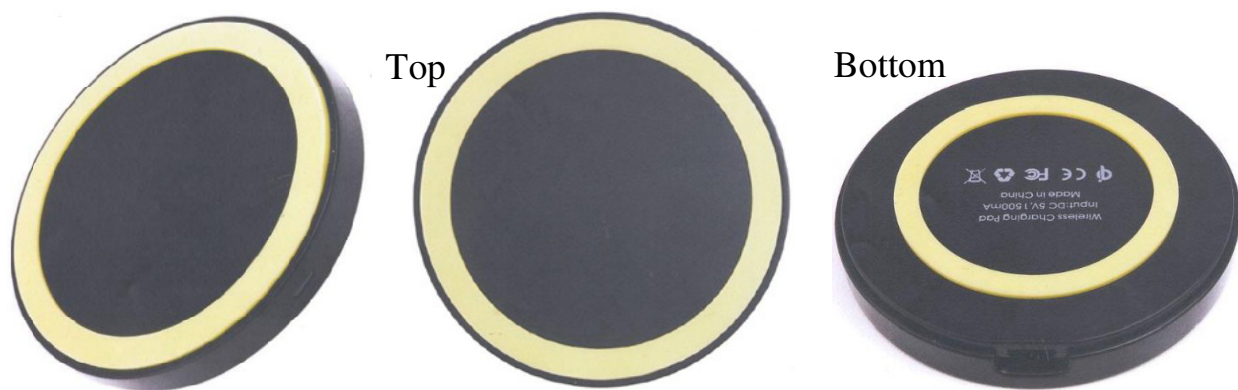
VI. THE CHALLENGED CLAIM IS UNPATENTABLE

As explained for Grounds 1-7, the Challenged Claim would have been obvious over the prior art presented herein.

A. Overview of Key Prior Art

1. Lee-616

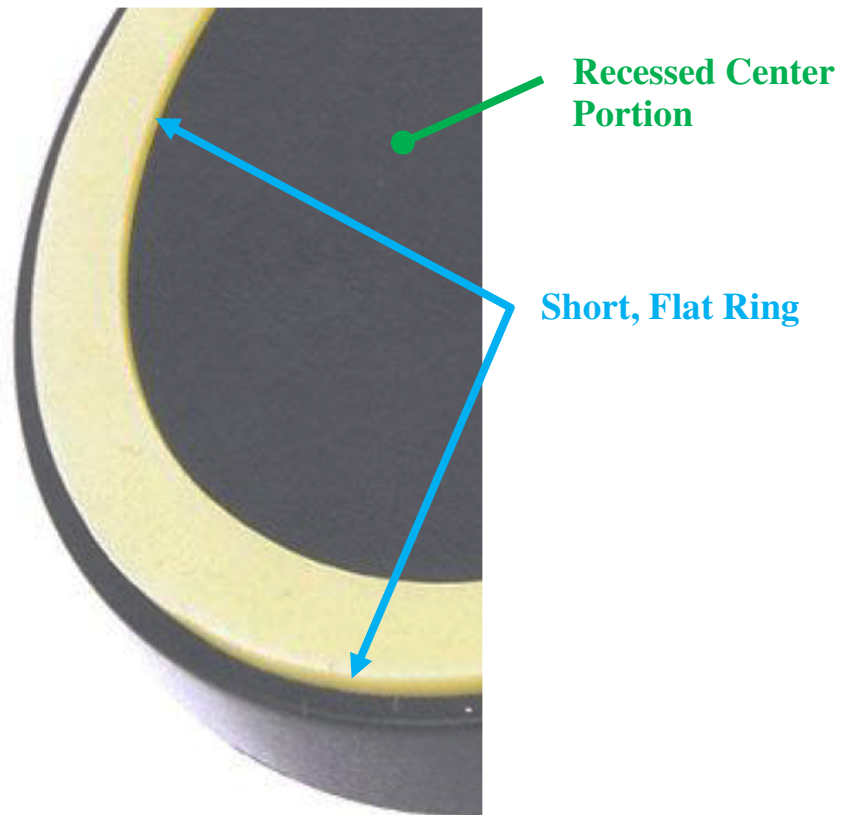
Lee-616 discloses the “wireless mini charging pad” shown below.³



EX1006, 1, FIGS. 3 (left, rotated), 2 (center), 4 (right). As shown above, Lee-616 discloses a charger having (1) a cylindrical shape with a flat bottom surface; (2) a short, flat ring (yellow) on the cylinder’s top surface that is smaller in diameter

³ Lee-616 is prior art because it was published on January 8, 2014 and was readily and publicly accessible via the GOV.UK website as of that date. EX1006. Indeed, on January 8, 2014, Lee-616 was “announced in an official journal”—the GOV.UK Designs Journal—that “anyone can inspect.” EX1016, 12. Lee-616 is thus a prior art publication under 35 U.S.C. § 102(a)(1). *See, e.g.*, M.P.E.P. § 2127(III).

than the cylinder; and (3) a recessed center portion that is surrounded by the top surface's ring. *Id.*; EX1003 ¶56. The flat ring (yellow) of Lee-616 protrudes a short height from the charger's top surface and surrounds the recessed center portion, as shown below.



EX1006, FIG. 3 (rotated); EX1003 ¶56. The flat bottom surface of the Lee-616 charger also has a short, flat ring, as shown in FIG. 4 of Lee-616. *Id.* The design of the Lee-616 charger is also disclosed in a November 28, 2013 YouTube video.

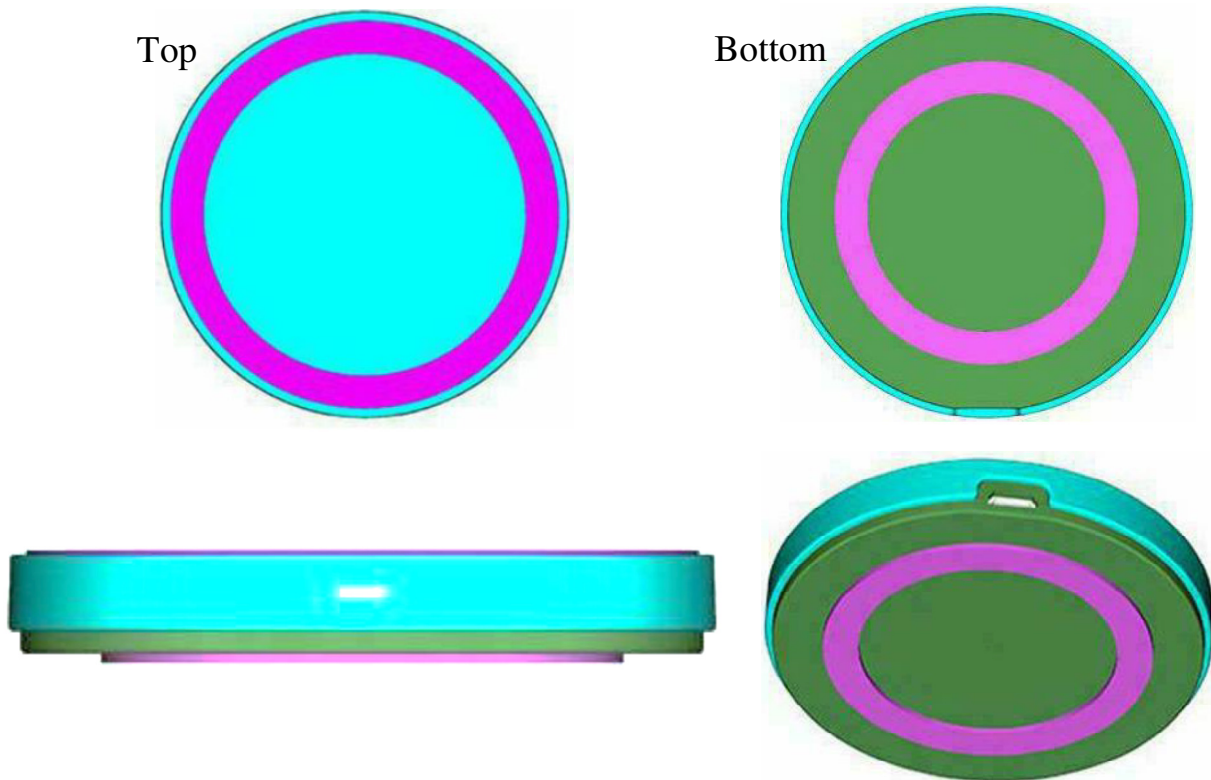
IPR Petition – D735,131
Masimo Corp. v. Apple Inc.



EX1019; compare EX1006, 4-8 with EX1019, 0:15 (packaging), 1:11 (side), 1:16 (top), 2:57 (bottom), 3:52 (perspective); EX1003 ¶57.

2. CN-470

CN-470 discloses the “wireless charging transmitter” shown below.⁴



EX1007, Abstract, FIGS. 4 (top-left), 3 (top-right), 5 (rotated, bottom-left), 8 (rotated, bottom-right).⁵ As shown above, CN-470 discloses a charger having (1) a cylindrical shape with a flat bottom surface (green); (2) a short, flat ring (pink) on

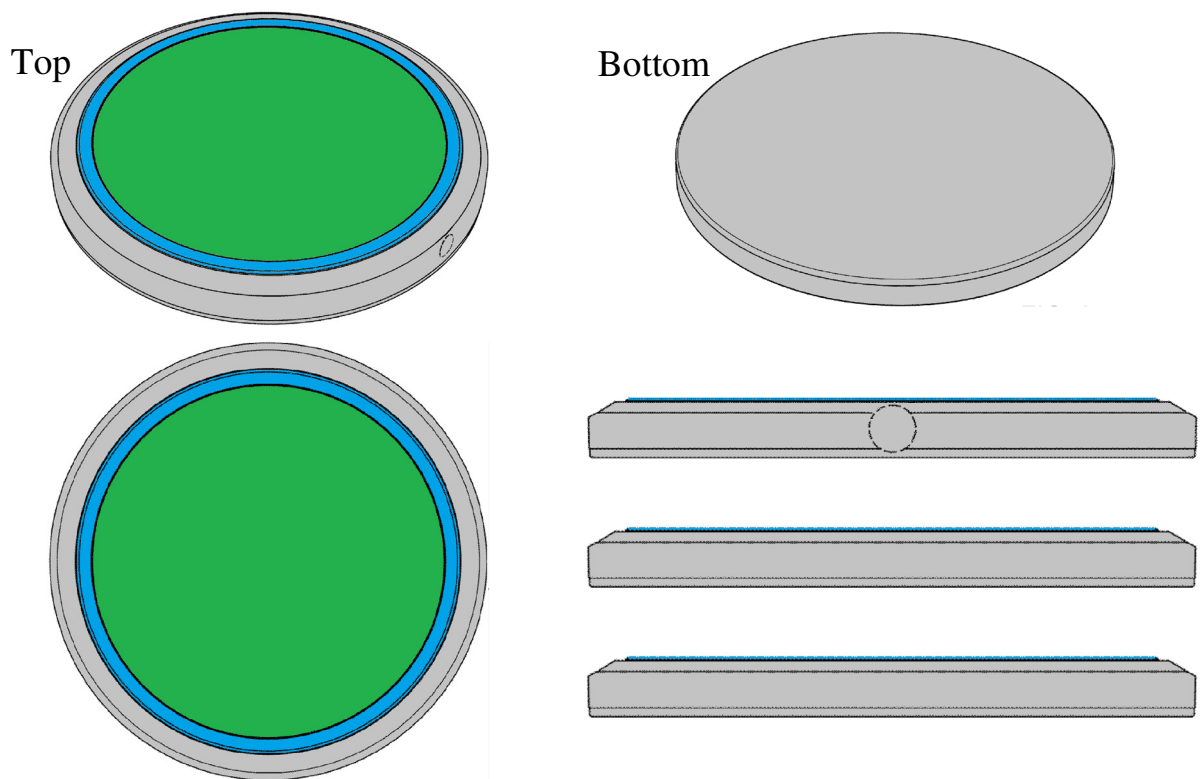
⁴ EX1007 is a certified English translation of the original Chinese design registration document for CN-470 (EX1011). EX1007 and EX1011 show that the Chinese Design Appl. No. 201330531838 is the application number associated with CN-470. The WIPO Global Design Database confirms that CN-470 (Chinese Design Reg. No. 302864470) is the registration number for Chinese Design Appl. No. 201330531838, and that the CN-470 design was published on July 2, 2014. EX1012.

⁵ For succinctness and clarity, references in this Petition to the figures of CN-470 (EX1007) are to the figure appearing on a given page of the reference. For example, the figure on page 7 of CN-470 is referred to herein as EX1007, FIG. 7.

the top surface of the cylinder that has a diameter smaller than the cylinder; and (3) a recessed center portion surrounded by the top surface's ring. *Id.*; EX1003 ¶58. The flat bottom surface of the CN-470 charger also has a short, flat ring, as shown above. *Id.*

3. Murray

Murray discloses the “charger” shown below.



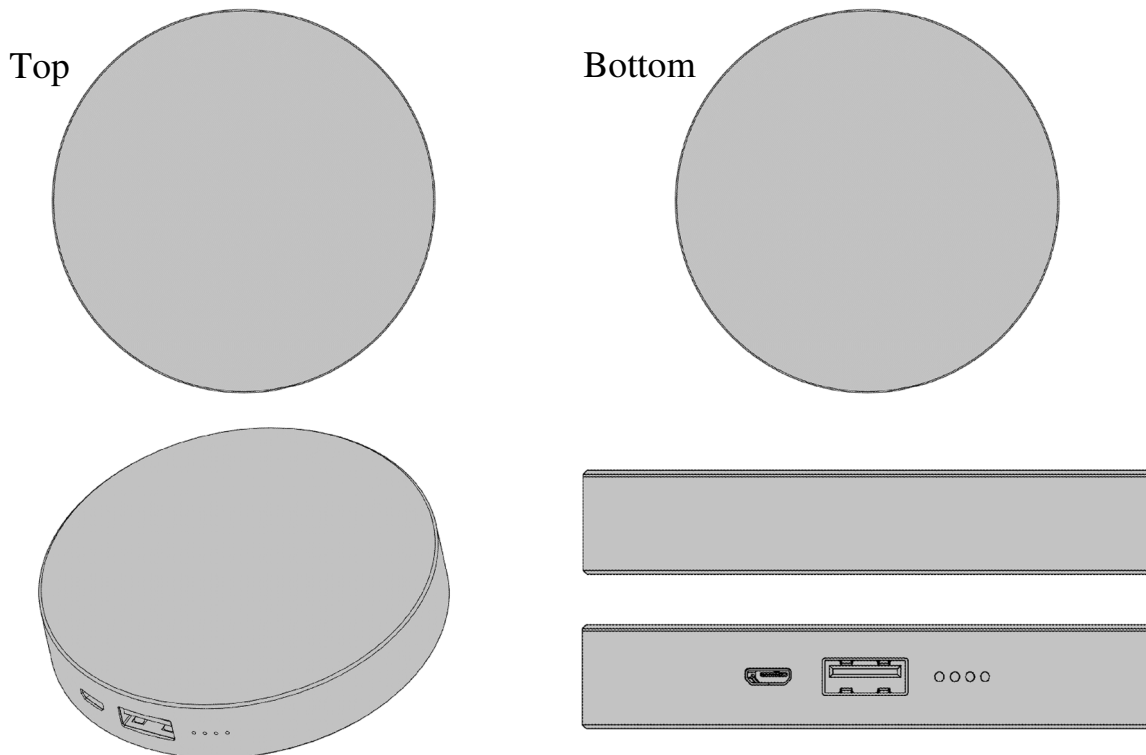
EX1008, FIGS. 1, 2, 3-5 (rotated)⁶, 6. As shown above, Murray discloses a charger having (1) a cylindrical shape with a flat bottom surface (gray); (2) a short, flat ring

⁶ Murray's side views (FIGS. 3-5) show the charger upside down, with the charger's flat bottom surface (FIGS. 2, 7) on the top. EX1008, FIGS. 1-7, Description;

(blue) on the top surface of the cylinder that is smaller than the diameter of the cylinder; and (3) a recessed center portion (green) surrounded by the top surface’s ring. *Id.*; EX1003 ¶59.

4. Chiang

Chiang discloses the “power bank” shown below.



EX1009, FIGS. 1-3, 6-7. As shown above, Chiang discloses a power bank having a cylindrical shape (gray) with a flat bottom surface and smoothed edges. *Id.*; EX1003 ¶60.

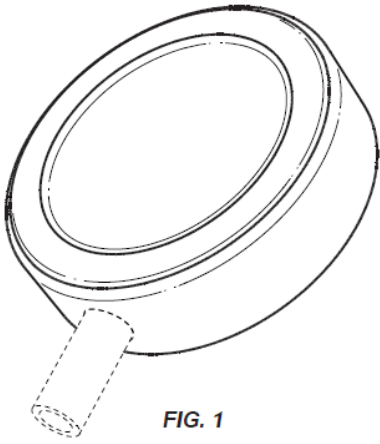
EX1003 ¶59. Thus, Murray’s side views have been rotated throughout this Petition to show Murray’s charger right side up. EX1003 ¶59.

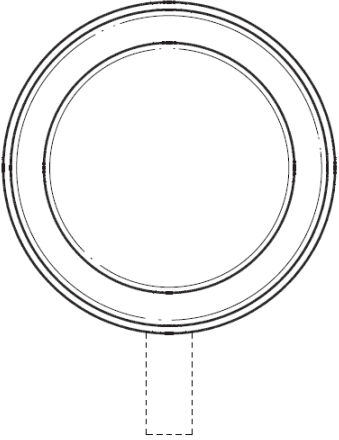
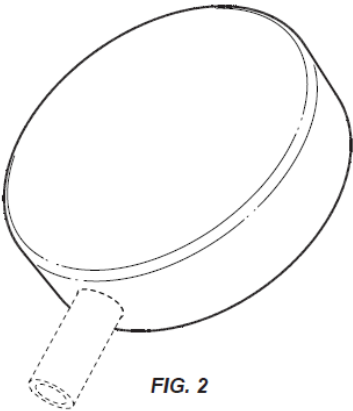
B. GROUND 1: Obviousness Over Lee-616

1. Lee-616 Is A Primary Reference

Lee-616 is a primary reference because it is a single prior art reference with basically the same design characteristics as the claimed design. EX1006, FIGS. 2-4; EX1003 ¶¶61-72. As shown below, any differences between Lee-616 and the D’131 Patent do not change the overall visual similarity of the designs. *MRC*, 747 F.3d at 1332-33 (primary reference and claimed design can have differences because, if they had to be identical, “no obviousness analysis would be required”).

The following comparison demonstrates that the design characteristics of Lee-616 are basically the same as the claimed design:

D’131 Patent	Lee-616 (EX1006)
 FIG. 1	 FIG. 3 (rotated)

D'131 Patent	Lee-616 (EX1006)
 FIG. 3	 FIG. 2
 FIG. 2	 FIG. 4
 FIG. 7  FIG. 8	 EX1006, Composites of FIGS. 2-4

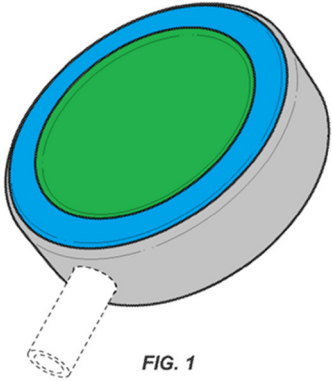
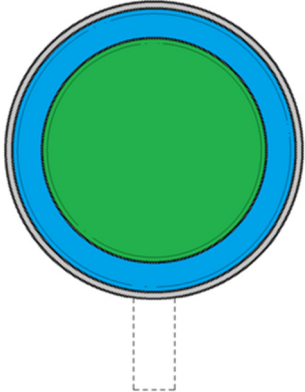
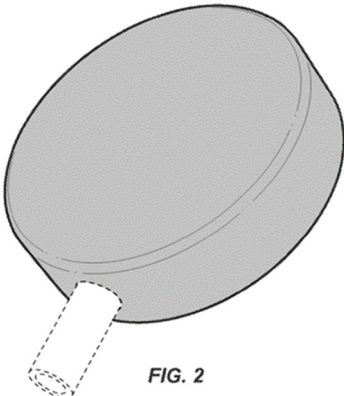
EX1001, FIGS. 1-3; EX1006, FIGS. 2-4; EX1003 ¶70. The above comparison demonstrates that Lee-616 is an appropriate primary reference because its design conveys basically the same overall visual impression as the claimed design. *Id.* The

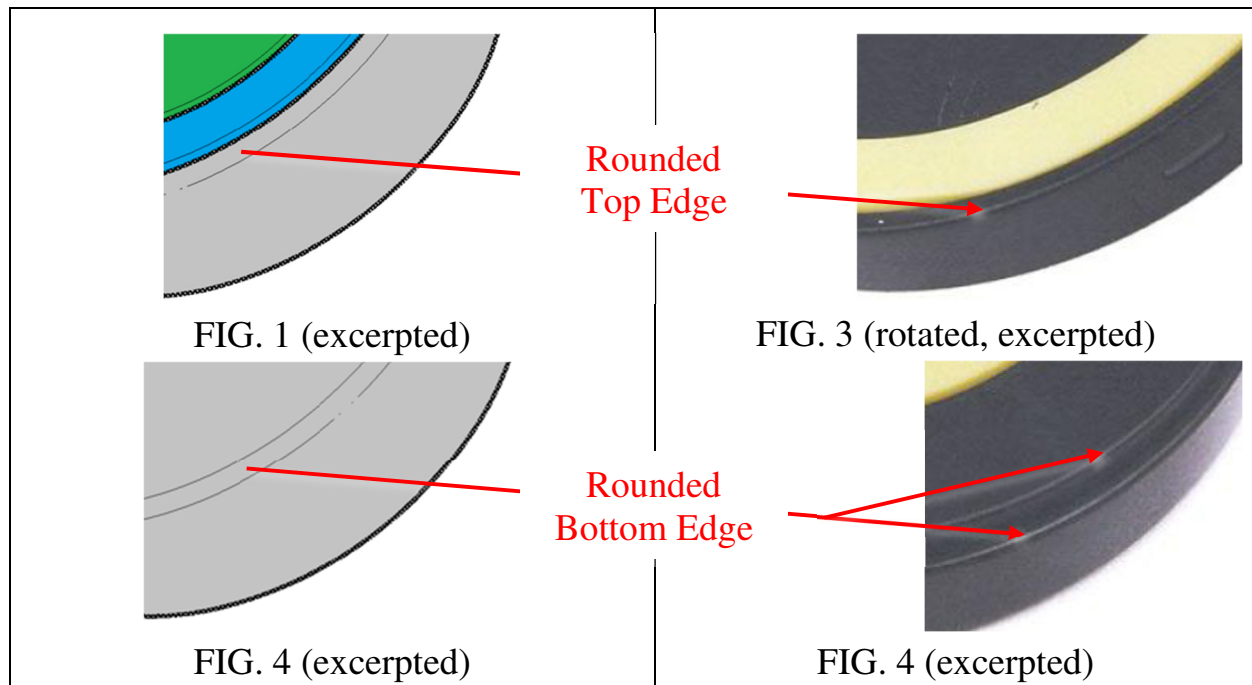
overall visual similarity between the design characteristics of Lee-616 and the claimed design is further confirmed by the following comparison of their respective design aspects. *Id.*

a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges

The cylindrical shape, flat bottom surface, and rounded edges of the claimed charger should be disregarded as functional elements. *Supra* §IV.B.1.c. But even if considered, Lee-616 and the D’131 Patent disclose substantially the same design characteristics.

As shown below, the chargers of Lee-616 and the claimed design have a cylindrical shape with a flat bottom surface and rounded edges that provide the same overall visual impression.

D'131 Patent	Lee-616 (EX1006)
 FIG. 1	 FIG. 3 (rotated)
 FIG. 3	 FIG. 2
 FIG. 2	 FIG. 4



EX1001, FIGS. 1-3; EX1006, FIGS. 2-4; EX1003 ¶63.

The Lee-616 cylinder has a slightly larger width-to-height ratio than the claimed design, but that difference, or any difference in the dimensions or proportions of the cylindrical shapes of Lee-616 and the claimed design, does not alter the overall visual similarity of these designs. EX1001, FIGS. 1-3; EX1006, FIGS 2-4; EX1003 ¶63; *see, e.g., Lamb*, 286 F.3d at 612 (“The fact that some dimensions are changed in a different degree than others *is not patentably significant.*”).

Further, there is a step transition between the sidewall of Lee-616’s cylinder and the bottom surface, and Lee-616’s flat bottom surface also includes a flat ring. EX1006, FIG. 4. But neither difference alters the overall visual similarity between Lee-616 and the claimed design, both of which have overall cylindrical shapes with

flat bottom surfaces. EX1001, FIGS. 2, 4; EX1006, FIGS. 2-4; EX1003 ¶64. Indeed, the bottom surface ring of Lee-616 is a “slight difference” that “does not detract from” Lee-616’s flat bottom surface and does not alter the same overall visual impression provided by Lee-616 and the claimed design. EX1003 ¶64; *Sealy Tech., LLC v. SSB Mfg. Co.*, 825 Fed. App’x 795, 806 (Fed. Cir. 2020) (affirming finding that primary reference can include features that are “not part of the claimed design”).

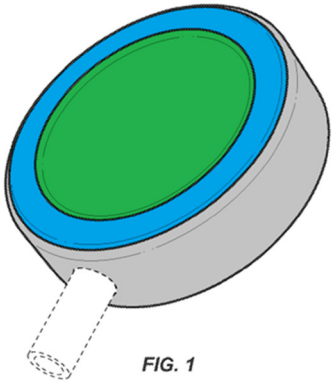
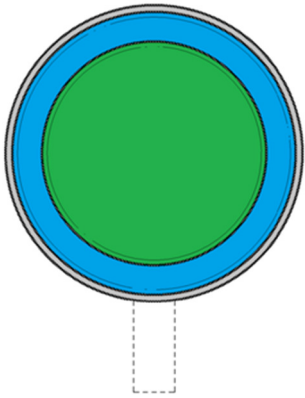
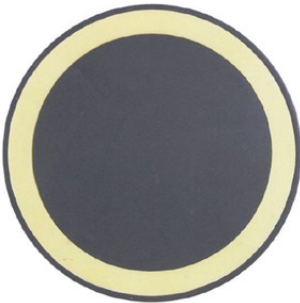
Moreover, Lee-616’s cylinder has a rectangular portion for connecting a cable. EX1006, FIG. 4. But the D’131 Patent confirms that the cable connection to the charger cylinder is not claimed and should not be considered by depicting that aspect in broken lines. EX1001, FIGS. 1-2, 5-6, 8-9, Description (“[B]roken lines ... form no part of the claimed design.”). And even if that aspect was claimed, Lee-616’s cylinder provides the same overall visual impression as the claimed design, as shown above. EX1001, FIGS. 1-3; EX1006, FIGS. 2-4; EX1003 ¶65.

Any differences between the design of Lee-616 and the claimed design would not prevent Lee-616’s use as a primary reference. EX1001, FIGS. 1-3; EX1006, FIGS. 2-4; EX1003 ¶66; *MRC*, 747 F.3d at 1332-33 (a primary reference can have some “major differences” and “slight differences” from the claimed design). And any differences between Lee-616 and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.B.2, VI.C.1.b.

Accordingly, Lee-616 discloses a cylindrical shape with a flat bottom surface and rounded edges with basically the same design characteristics as the claimed design. EX1003 ¶66.

b. Ring

The short, flat ring on the cylinder's top surface is a functional element of the claimed design. *Supra* §IV.B.1.b. But even if considered, the short, flat ring (yellow) of Lee-616 and the claimed design (blue) provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3; EX1006, FIGS. 2-3; EX1003 ¶68.

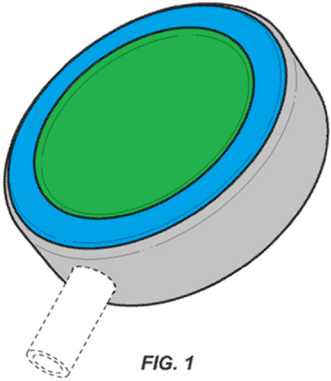
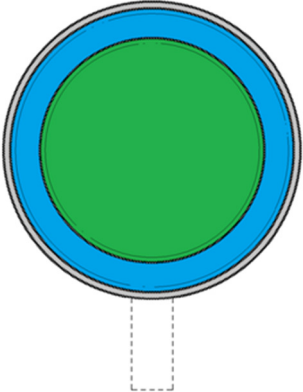
D'131 Patent	Lee-616 (EX1006)
 FIG. 1	 FIG. 3 (rotated)
 FIG. 3	 FIG. 2

Any differences between the design of Lee-616 and the claimed design would not prevent Lee-616's use as a primary reference. EX1001, FIGS. 1, 3; EX1006, FIGS. 2-3; EX1003 ¶68; *see, e.g., MRC*, 747 F.3d at 1332-33 (primary reference can have some “major differences” and “slight differences” from claimed design).

Accordingly, Lee-616 discloses a short, flat ring with basically the same design characteristics as the claimed design. EX1003 ¶68.

c. Recessed Center Portion

The recessed center portion should be disregarded as a functional element of the claimed design. *Supra* §IV.B.1.a. But even if considered, the recessed center portion of Lee-616 (surrounded by the yellow ring) and the claimed design (green) provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3; EX1006, FIGS. 2-3; EX1003 ¶70.

D'131 Patent	Lee-616 (EX1006)
 FIG. 1	 FIG. 3 (rotated)
 FIG. 3	 FIG. 2

Any differences between the design of Lee-616 and the claimed design would not prevent Lee-616's use as a primary reference. EX1001, FIGS. 1, 3; EX1006, FIGS. 2-3; EX1003 ¶70; *see, e.g., MRC*, 747 F.3d at 1332-33 (primary reference can have some “major differences” and “slight differences” from claimed design).

Accordingly, Lee-616 discloses a recessed center portion with basically the same design characteristics as the claimed design. EX1003 ¶70.

In sum, Lee-616 is a primary reference because it discloses basically the same visual impression as the claimed design. EX1003 ¶¶71-72.

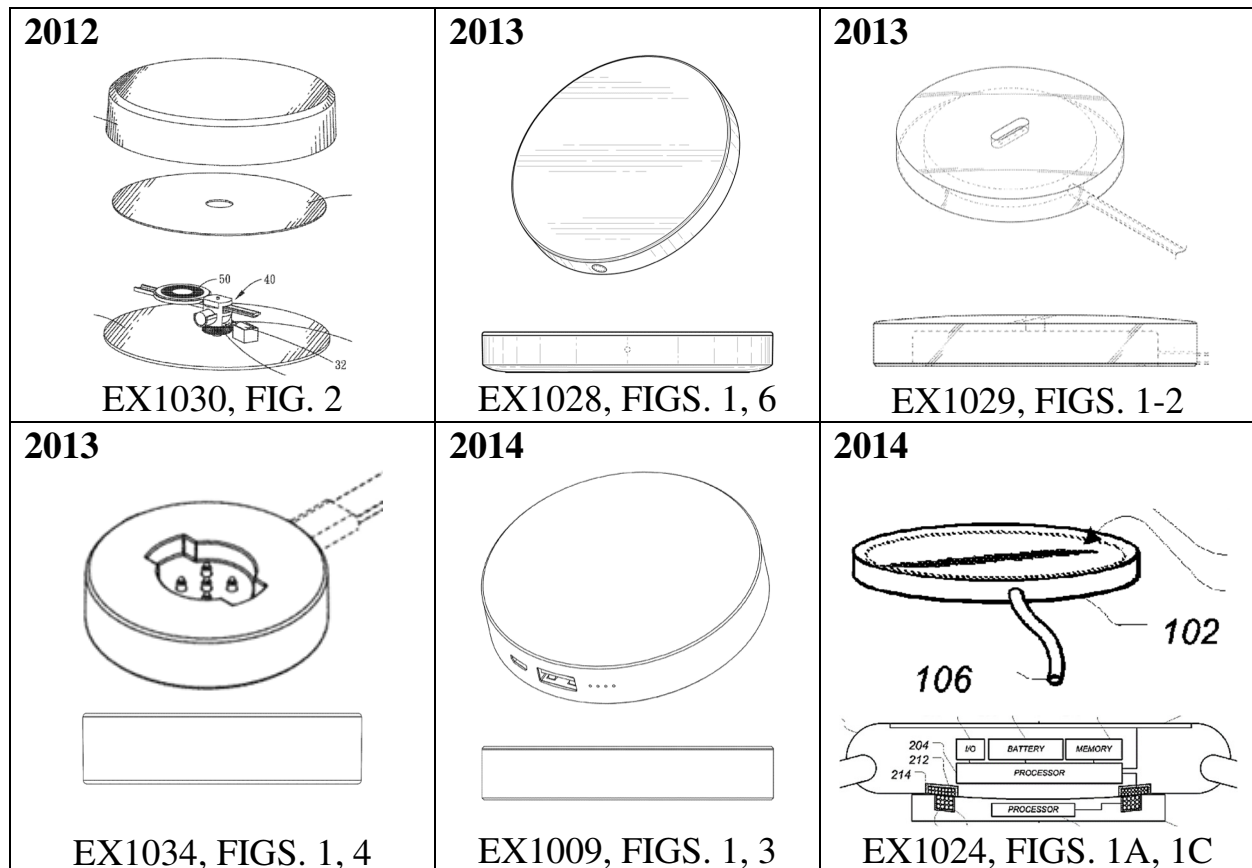
As shown above, Lee-616's only differences compared to the claimed design are that Lee-616's design includes (1) a step transition between the cylinder's sidewall and bottom surface and (2) a flat ring on the cylinder's flat bottom surface. EX1003 ¶72. But these differences would have been obvious to a DOSA in view of Lee-616 alone or in combination with other references, as shown below. *Id.* Indeed, removing Lee-616's step transition and bottom ring (Ground 1), and combining Lee-616 and Chiang (Ground 2) to produce the same result, creates a charger design with the same overall visual appearance as the claimed Apple Watch charger design. *Id.*

2. The Challenged Claim Would Have Been Obvious Over Lee-616

The Challenged Claim would have been obvious to a DOSA over Lee-616 alone (i.e., with Lee-616 serving as the primary and secondary references). As explained below, in view of Lee-616, a DOSA would have found it obvious to arrive at a charger design providing the same overall visual impression as the claimed design.

First, any differences between Lee-616 and the claimed design are changes that were suggested by the prior art. EX1003 ¶74. For example, any difference between the precise dimensions or proportions of the cylindrical chargers of Lee-616 and the claimed design would have been a routine change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA. *Id.* Indeed, cylindrical chargers of various sizes and proportions were ubiquitous in

the prior art, as shown above. *Supra* §IV.B.1.c. Further, cylindrical chargers with (1) a continuous sidewall between the top and bottom surfaces (i.e., without a step transition between the sidewall and bottom surface) and (2) a flat bottom surface were a simple, often-used, and well-known design, as shown below.



EX1003 ¶74. Relatedly, a DOSA would have been motivated to use rounded edges to transition between charger surfaces and features because rounded edges were known design aspects to provide a visually appealing and more elegant transition between charger components that is more comfortable to hold than a sharp edge. *See, e.g.*, EX1026, FIG. 1; EX1031, FIG. 1; EX1010, Front, Rear, Left side, Right side views; EX1033, FIGS. 2-5; EX1006, FIGS. 3-4; EX1028, FIGS. 4-7; EX1008,

FIGS. 3-5; EX1034, FIGS. 4-5; EX1007, Right, Top, Bottom, Three-dimensional views; EX1003 ¶74.

Second, a DOSA would have been motivated to use a continuous sidewall between the top and bottom surfaces of the Lee-616 charger (i.e., remove the step transition in Lee-616's sidewall) to achieve a design that was smoother, simpler, and more visually appealing than the jagged, disjointed sidewall of Lee-616. EX1003 ¶75. Indeed, a DOSA would have understood from the many prior art examples of cylindrical chargers with such a continuous sidewall that this modification would produce a cleaner and more visually appealing design. *See, e.g.*, EX1009, FIGS. 1, 3; EX1034, FIGS. 1, 4; EX1029, FIGS. 1-2. A DOSA also would have been motivated to incorporate a continuous sidewall between the top and bottom surfaces of the Lee-616 charger as proposed to avoid creating the crevice (seen in EX1006, FIG. 4) into which dust, contaminants, or other unwanted matter would accumulate. EX1006, FIG. 4; EX1003 ¶75. A DOSA would have been further motivated to incorporate a continuous sidewall as proposed to hide any manufacturing seams or joints between the upper and lower pieces of the charger by moving those seams or joints from the charger's exposed sidewall to the charger's bottom surface, which is generally not visible to user when the charger is used. EX1006, FIG. 4; EX1003 ¶75. Moreover, a DOSA would have readily understood several simple ways incorporating a continuous sidewall between the top and bottom surfaces of the

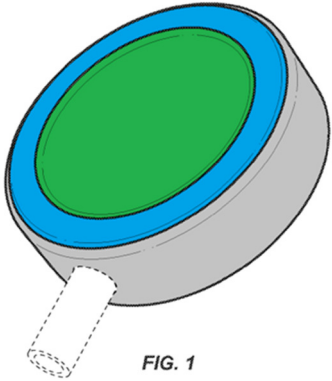
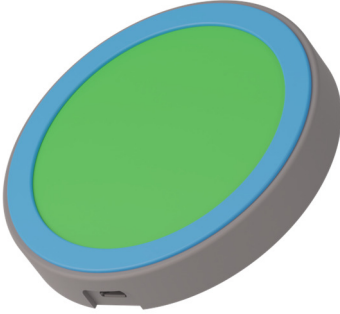
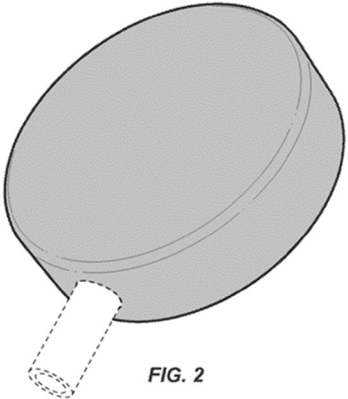
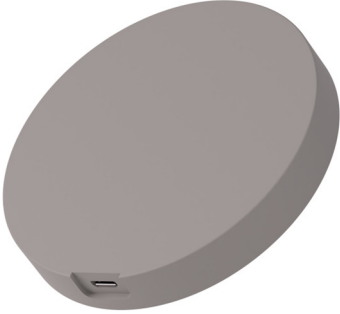
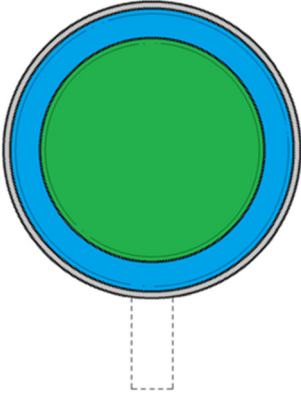
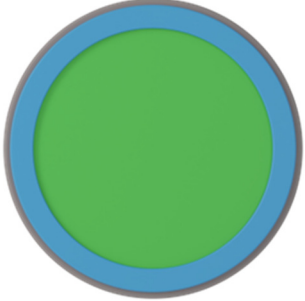
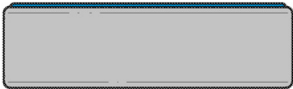
Lee-616 charger as proposed (i.e., removing the step transition in the sidewall).
EX1003 ¶¶75.

Third, a DOSA would have been motivated to remove the flat ring from the already flat bottom surface of Lee-616's charger to provide a completely flat surface, as shown below.



EX1006, FIG. 4 (ring removed); EX1003 ¶¶76. A DOSA would have been so motivated to remove the ring from the bottom surface of Lee-616's charger to achieve a design, as shown above, that was simpler and more visually appealing while also being easier and less expensive to manufacture due to the reduction of components. EX1006, FIG. 4; EX1003 ¶¶76. A DOSA would have been further motivated to remove the bottom surface ring because a DOSA would have understood that any grip-enhancing benefit of the lower surface ring could be readily improved upon by texturing the bottom charger surface or applying a grippy or rubberized coating to that surface. EX1003 ¶¶76.

Accordingly, a DOSA would have been motivated to modify Lee-616 to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶¶77.

D'131 Patent	Lee-616 (Modified)
 FIG. 1	
 FIG. 2	
 FIG. 3	
 FIG. 7	

Thus, the Apple Watch charger design claimed by the D’131 Patent would have been obvious to a DOSA over Lee-616. EX1003 ¶¶77.

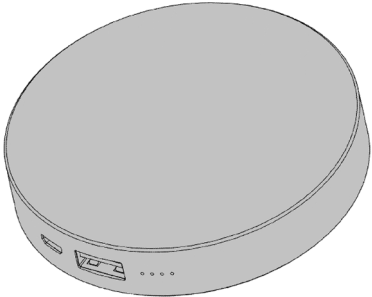
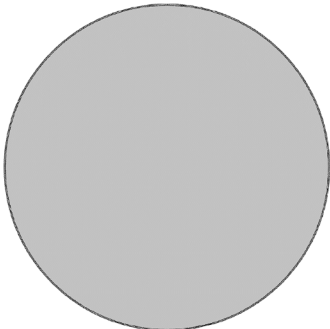
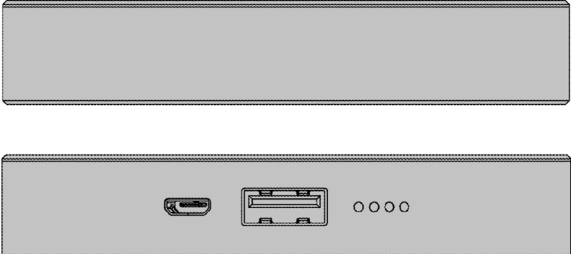
C. GROUND 2: Obviousness Over Lee-616 and Chiang

1. The Challenged Claim Would Have Been Obvious Over Lee-616 and Chiang

Lee-616 is a primary reference. *Supra* §VI.B.1. And the Challenged Claim would have been obvious to a DOSA over Lee-616 combined with Chiang.

a. Chiang Is A Secondary Reference

The following visual comparison demonstrates that Chiang’s power bank design is so related to Lee-616 that Chiang is a proper secondary reference. EX1006, FIGS. 2-4; EX1009, 1-3, 7; EX1003 ¶¶79-81.

Lee-616 (Primary)	Chiang (Secondary)
 EX1006, FIG. 3 (rotated)	 EX1009, FIG. 1
 EX1006, FIG. 4	 EX1009, FIG. 7
 EX1006, Composites of FIGS. 2-4	 EX1009, FIGS. 2-3

Chiang is so related to Lee-616 because it discloses a suitable, simple cylindrical design for Lee-616's cylindrical charger. As shown above, Chiang's power bank has a cylindrical shape with a width-to-height ratio like that of Lee-616. Compare EX1006, FIGS. 2-3, Composites (above, left) with EX1009, FIGS. 1-3, 7; EX1003 ¶80. The similarity between the cylindrical shape and proportions of the

designs of Chiang and Lee-616 would have suggested using the continuous cylinder sidewall and flat bottom surface of Chiang’s design as the cylinder sidewall and bottom surface for Lee-616’s charger, respectively. EX1006, FIGS. 2-4; EX1009, 1-3, 7; EX1003 ¶80. Moreover, the pervasive use in the prior art of cylindrical chargers with a flat bottom surface and a continuous sidewall between the cylinder’s top and bottom surfaces (*supra* §VI.B.2) would have suggested using those aspects of Chiang’s design as the sidewall and bottom surface for Lee-616’s charger. EX1003 ¶80.

Accordingly, in view of the relatedness and similarity of the designs, the appearance of Chiang’s power bank would have suggested the application of its features, including its continuous cylinder sidewall and flat bottom surface, to the design of Lee-616’s charger. EX1003 ¶81. Thus, Chiang is an appropriate secondary reference. *Id.*

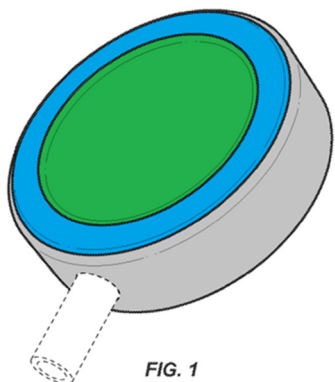
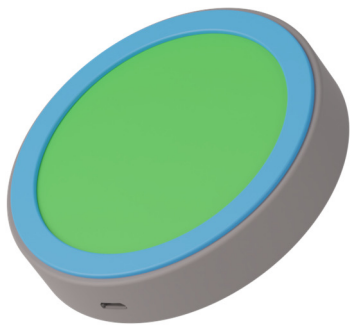
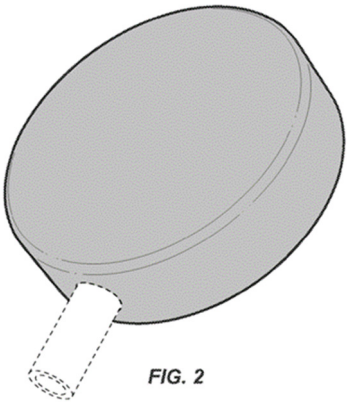
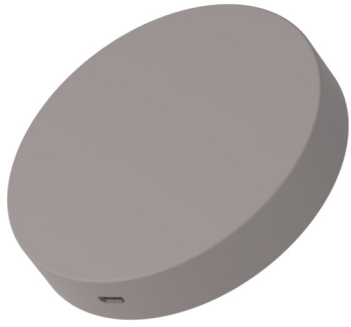
b. The Challenged Claim Would Have Been Obvious Over Lee-616 and Chiang

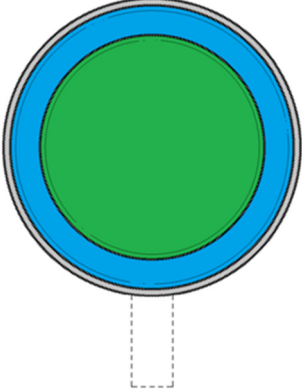
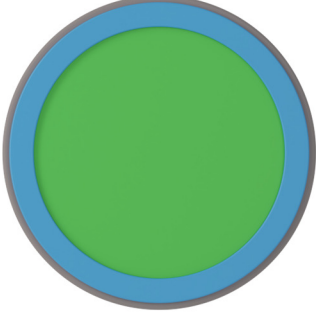
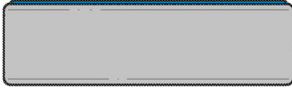
A DOSA would have been motivated to combine Lee-616’s charger with Chiang’s cylinder sidewall and flat bottom surface, as explained below.

Combining Chiang’s cylinder sidewall and flat bottom surface with Lee-616 would have been a change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA. *Supra* §VI.B.2; EX1003 ¶82. And a DOSA would have been motivated to combine Chiang’s cylinder

sidewall and flat bottom surface with Lee-616’s charger for the same reasons explained above with respect to modifying Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶¶82. Further, any differences between the proposed combination of Lee-616 with Chiang and the claimed design would have been changes that were suggested by the prior art and a DOSA would have been motivated to make, as explained above. *Supra* §VI.B.2; EX1003 ¶¶82.

Accordingly, a DOSA would have been motivated to combine Lee-616 with Chiang’s cylinder sidewall and flat bottom surface to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶¶83.

D’131 Patent	Lee-616 Combined with Chiang
 FIG. 1	
 FIG. 2	

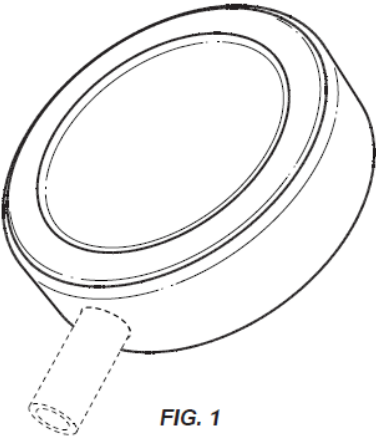
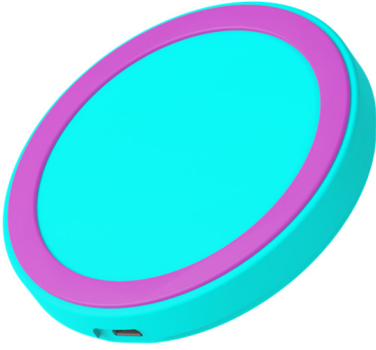
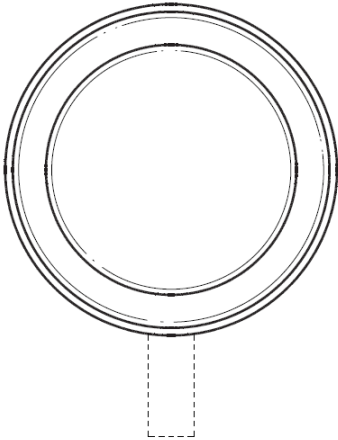
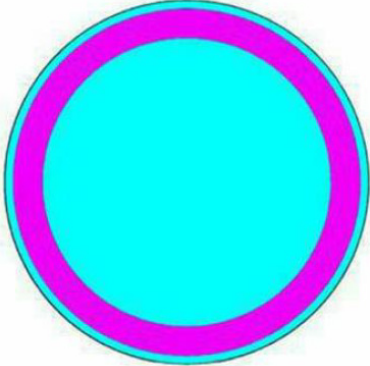
D'131 Patent	Lee-616 Combined with Chiang
 FIG. 3	
 FIG. 7	

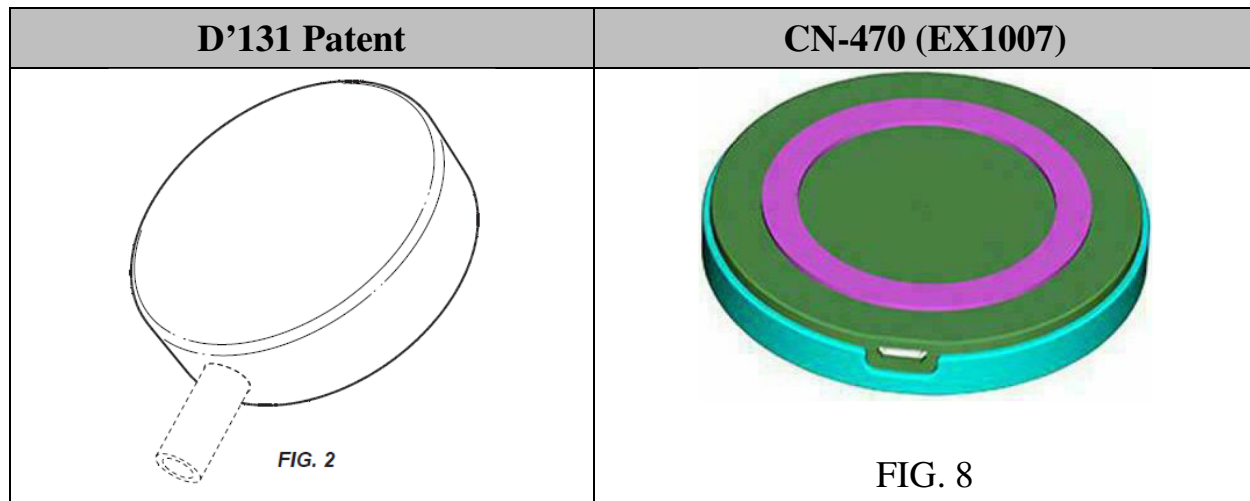
Thus, the Apple Watch charger design claimed by the D'131 Patent would have been obvious to a DOSA over Lee-616 and Chiang. EX1003 ¶¶83.

D. GROUND 3: Obviousness Over CN-470

1. CN-470 Is A Primary Reference

CN-470 is a primary reference because it is a single prior art reference with basically the same design characteristics as the claimed design. EX1001, FIGS. 1-3, 7; EX1007, FIGS. 2-4; EX1003 ¶¶84-96. As shown below, any differences between CN-470 and the D'131 Patent do not change the overall visual similarity of the designs. *MRC*, 747 F.3d at 1332-33 (primary reference and claimed design can have differences because, if they had to be identical, “no obviousness analysis would be required”).

D'131 Patent	CN-470 (EX1007)
 FIG. 1	 Composite of FIGS. 4-8
 FIG. 3	 FIG. 4
 FIG. 7  FIG. 8	 FIG. 6  FIG. 7 (rotated)

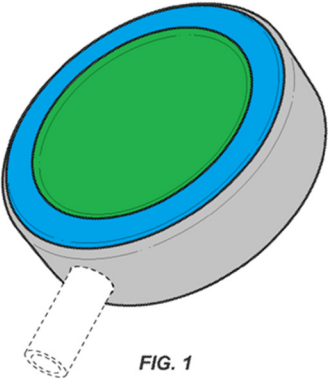
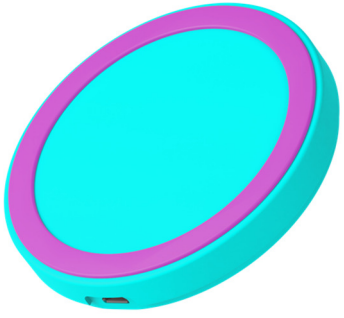
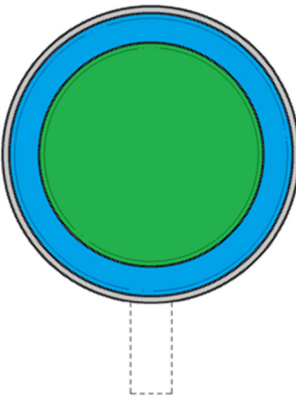
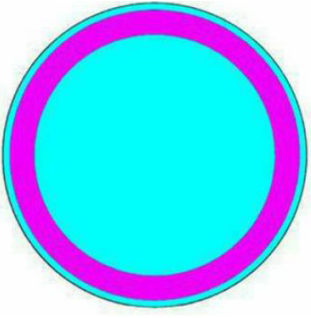
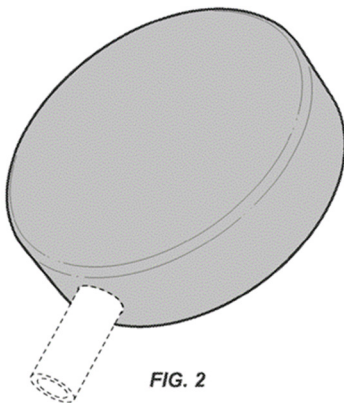
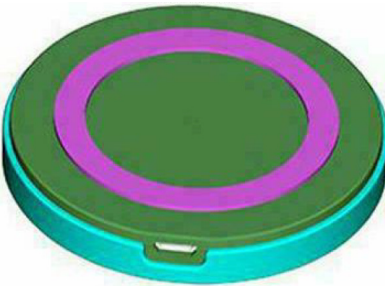


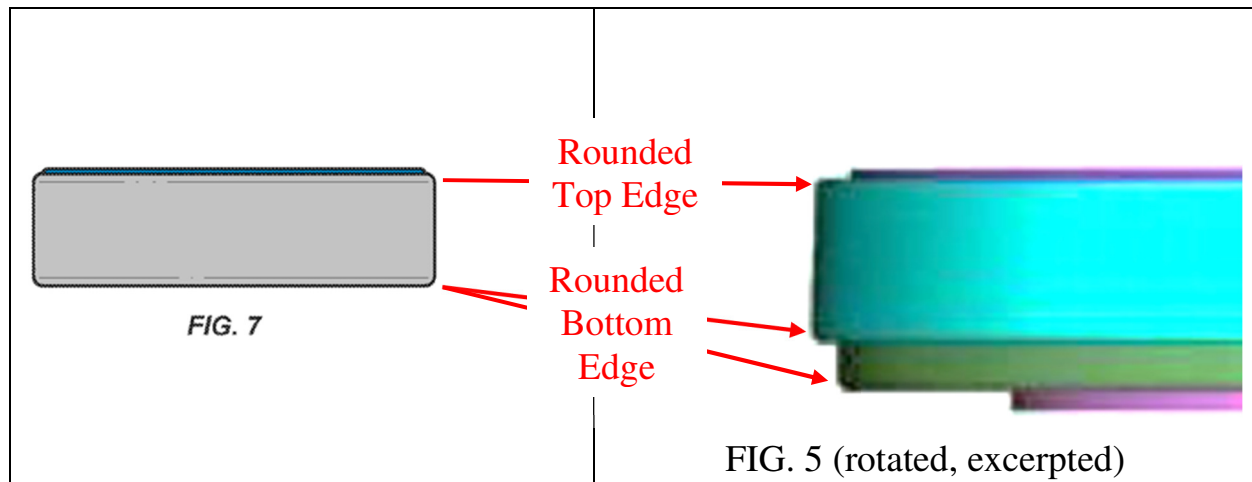
EX1001, FIGS. 1-3, 7-8; EX1007, FIGS. 4-8; EX1003 ¶¶84. The above comparison demonstrates that CN-470 is an appropriate primary reference because its design conveys basically the same overall visual impression as the claimed design. *Id.* The overall visual similarity between the design characteristics of CN-470 and the claimed design is further confirmed by the following comparison of their respective design aspects. *Id.*

a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges

The cylindrical shape, flat bottom surface, and rounded edges of the claimed charger should be disregarded as functional elements. *Supra* §IV.B.1.c. But even if considered, CN-470 and the D'131 Patent disclose substantially the same design characteristics.

As shown below, the chargers of CN-470 and the claimed design have a cylindrical shape with a flat bottom surface and rounded edges that provide the same overall visual impression.

D'131 Patent	CN-470 (EX1007)
 FIG. 1	 Composite of FIGS. 4-8
 FIG. 3	 FIG. 4
 FIG. 2	 FIG. 8



EX1001, FIGS. 1-3, 7; EX1007, FIGS. 4-8; EX1003 ¶¶86.

The CN-470 cylinder has a slightly larger width-to-height ratio than the claimed design, but that difference, or any difference in the dimensions or proportions of the cylindrical shapes of CN-470 and the claimed design, does not alter the overall visual similarity of these designs. EX1001, FIGS. 1-3, 8; EX1007, FIGS 4, 5, and 8; EX1003 ¶¶86; *see, e.g., Lamb*, 286 F.3d at 612 (“The fact that some dimensions are changed in a different degree than others is not patentably significant.”).

Further, there is a step transition between the sidewall of CN-470’s cylinder and the bottom surface, and CN-470’s flat bottom surface also includes a flat ring. EX1007, FIGS. 6-8. But neither difference alters the overall visual similarity between CN-470 and the claimed design, for the same reasons explained above with respect to the Lee-616. *Supra* §VI.B.1.a.

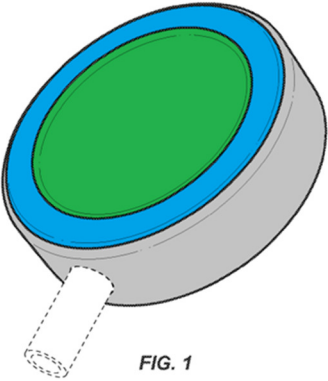
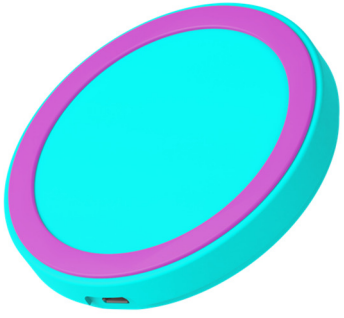
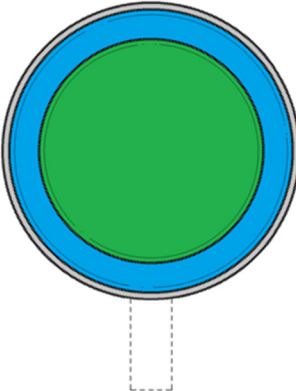
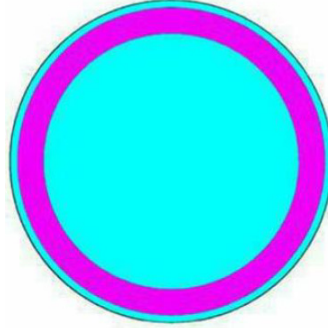
Moreover, CN-470's cylinder has a rectangular portion for connecting a cable. EX1007, FIG. 7. But the D'131 Patent confirms that the cable connection to the charger cylinder is not claimed and should not be considered by depicting that aspect in broken lines. EX1001, FIGS. 1-2, 5-6, 8-9. And even if it was claimed, CN-470's cylinder provides the same overall visual impression as the claimed design, as shown above. EX1001, FIGS. 1-3; EX1007, FIGS. 4-8; EX1003 ¶88.

Any differences between the design of CN-470 and the claimed design would not prevent CN-470's use as a primary reference. EX1001, FIGS. 1-3; EX1007, FIGS. 4-8; EX1003 ¶89; *MRC*, 747 F.3d at 1332-33 (primary reference can have some "major differences" and "slight differences" from the claimed design). And any differences between CN-470 and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.D.2, VI.E.1.b.

Accordingly, CN-470 discloses a cylindrical shape with a flat bottom surface and rounded edges with basically the same design characteristics as the claimed design. EX1003 ¶89.

b. Ring

The short, flat ring on the cylinder's top surface is a functional element of the claimed design. *Supra* §IV.B.1.b. But even if considered, the short, flat ring (pink) of CN-470 and the claimed design (blue) provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3; EX1007, FIGS. 4-8; EX1003 ¶91.

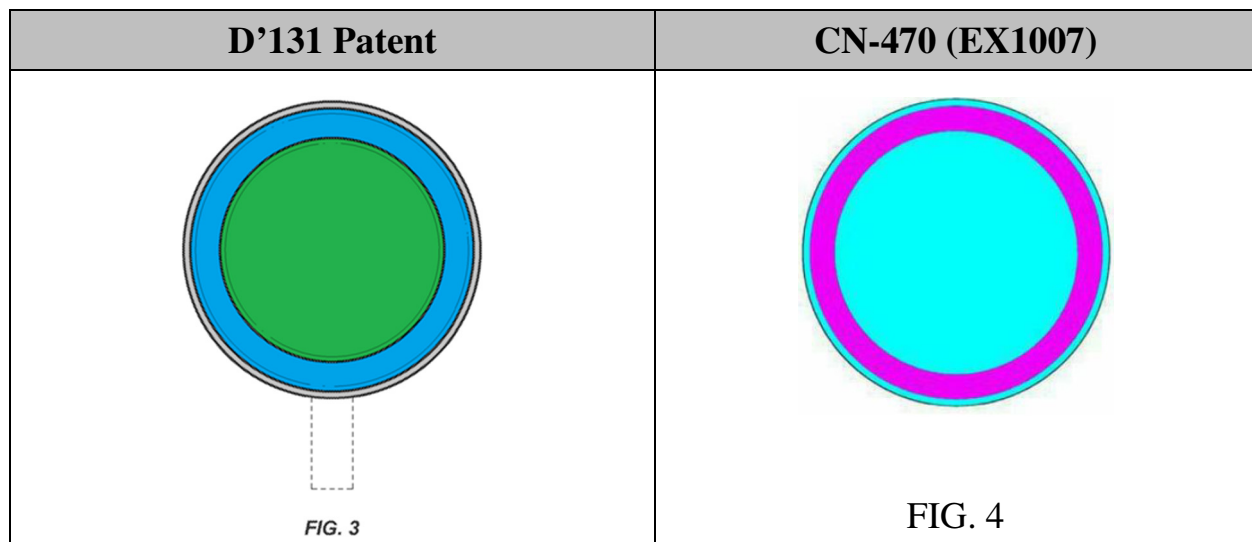
D'131 Patent	CN-470 (EX1007)
 FIG. 1	 Composite of FIGS. 4-8
 FIG. 3	 FIG. 4
 FIG. 7	 FIG. 6

Any differences between the design of CN-470 and the claimed design would not prevent CN-470's use as a primary reference. EX1001, FIGS. 1, 3; EX1007, FIGS. 4-8; EX1003 ¶92; *MRC*, 747 F.3d at 1332-33 (permitting primary reference with “three major differences” from claimed design); *Lamb*, 286 F.3d at 612.

Accordingly, CN-470 discloses a short, flat ring with basically the same design characteristics as the claimed design. EX1003 ¶92.

c. Recessed Center Portion

The recessed center portion should be disregarded as a functional element of the claimed design. *Supra* §IV.B.1.a. But even if considered, the recessed center portion of CN-470 (surrounded by the pink ring) and the claimed design (green) provide the same overall visual impression, as shown below. EX1001, FIG. 3; EX1007, FIG. 4; EX1003 ¶¶94.



Any differences between the design of CN-470 and the claimed design would not prevent CN-470's use as a primary reference. EX1001, FIG. 3; EX1007, FIG. 4; EX1003 ¶¶94; *MRC*, 747 F.3d at 1332-33 (permitting primary reference with “three major differences” from claimed design); *Lamb*, 286 F.3d at 612 (changing “some dimensions ... in a different degree than others is not patentably significant.”).

Accordingly, CN-470 discloses a recessed center portion with basically the same design characteristics as the claimed design. EX1003 ¶¶94.

In sum, CN-470 is a primary reference because it discloses basically the same visual impression as the claimed design. EX1003 ¶¶95-96.

As shown above, CN-470's only differences compared to the claimed design are that CN-470's design includes (1) a step transition between the cylinder's sidewall and bottom surface and (2) a flat ring on the cylinder's flat bottom surface. EX1003 ¶96. But these differences would have been obvious to a DOSA in view of CN-470 alone or in combination with other references, as shown below. *Id.* Indeed, removing CN-470's step transition and bottom ring (Ground 3), and combining CN-470 and Chiang (Ground 4) to produce the same result, creates a charger design with the same overall visual appearance as the claimed Apple Watch charger design. *Id.*

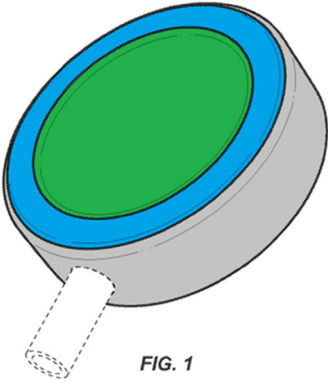
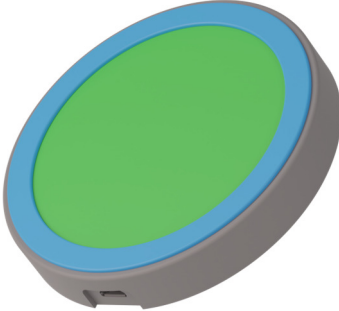
2. The Challenged Claim Would Have Been Obvious Over CN-470

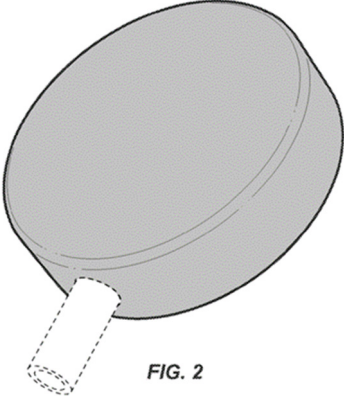
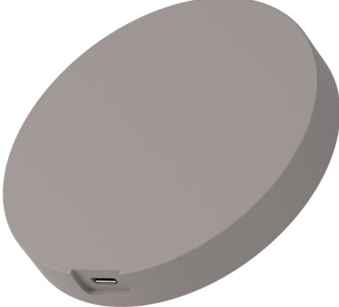
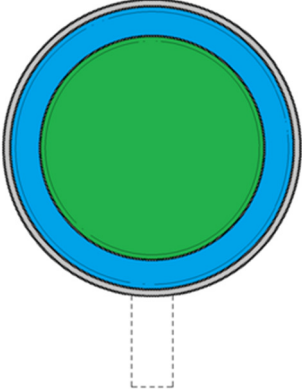
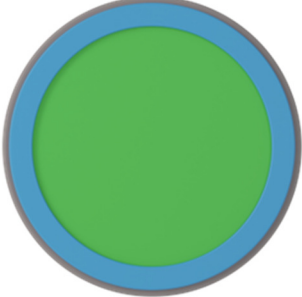
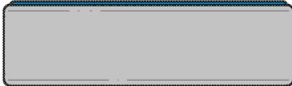
The Challenged Claim would have been obvious to a DOSA over CN-470 alone (i.e., with CN-470 serving as the primary and secondary references). As explained below, in view of CN-470, a DOSA would have found it obvious to arrive at a charger design providing the same overall visual impression as the claimed design.

As explained above, using a continuous cylinder sidewall and a flat bottom surface with CN-470's charger would have been a change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA. *Supra* §VI.B.2; EX1003 ¶98. And a DOSA would have been motivated to modify

CN-470's charger to include a continuous cylinder sidewall and flat bottom surface for the reasons explained above with respect to making the same modifications based on Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶¶98. Further, any differences between CN-470 and the claimed design would have been changes that were suggested by the prior art and a DOSA would have been motivated to make, for the same reasons explained above with respect to the ground based on Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶¶98.

Accordingly, a DOSA would have been motivated to modify CN-470 to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶¶99.

D'131 Patent	CN-470 (Modified)
 FIG. 1	

D'131 Patent	CN-470 (Modified)
 FIG. 2	
 FIG. 3	
 FIG. 7	

Thus, the Apple Watch charger design claimed by the D'131 Patent would have been obvious to a DOSA over CN-470. EX1003 ¶¶99.

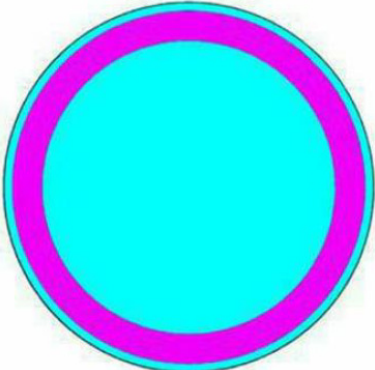
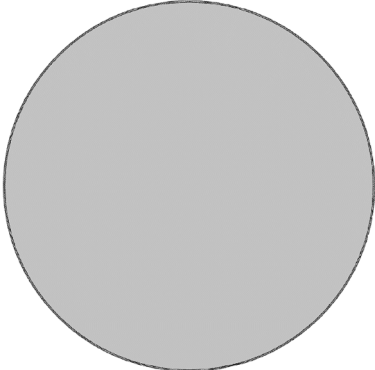
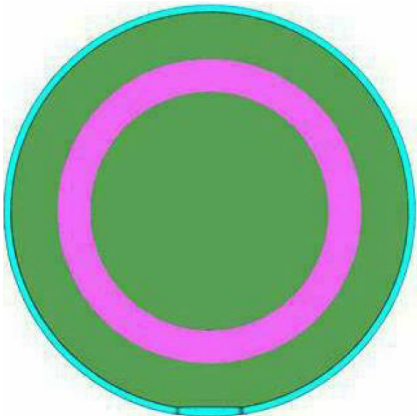
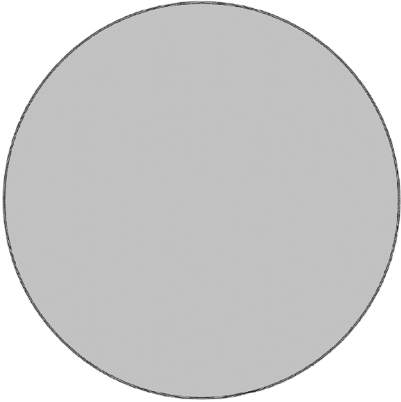
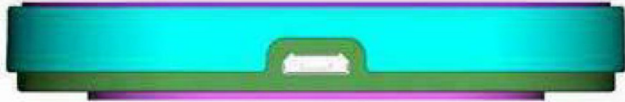
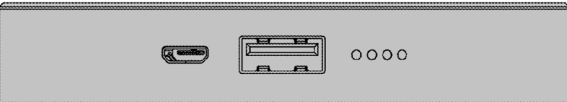
E. GROUND 4: Obviousness Over CN-470 and Chiang

1. The Challenged Claim Would Have Been Obvious Over CN-470 and Chiang

CN-470 is a primary reference. *Supra* §VI.D.1. And the Challenged Claim would have been obvious to a DOSA over CN-470 combined with Chiang.

a. Chiang Is A Secondary Reference

The following visual comparison demonstrates that Chiang's charger design is so related to CN-470 that Chiang is a proper secondary reference. EX1007, FIGS. 4, 6-7; EX1009, FIGS. 1-3, 6-7; EX1003 ¶101.

CN-470 (Primary)	Chiang (Secondary)
 EX1007, FIG. 4	 EX1009, FIG. 6
 EX1007, FIG. 7	 EX1009, FIG. 7
 EX1007, FIG. 6  EX1007, FIG. 7 (rotated)	  EX1009, FIGS. 2-3

Chiang is so related to CN-470 because it discloses a suitable, simple cylindrical design for CN-470's cylindrical charger. As shown above, Chiang's power bank has a cylindrical shape with a width-to-height ratio like that of CN-470.

Compare EX1007, FIGS. 4, 6-7 *with* EX1009, FIGS. 1-3, 6-7; EX1003 ¶102. The similarity between the cylindrical shape and proportions of the designs of Chiang and CN-470 would have suggested using the continuous cylinder sidewall and flat bottom surface of Chiang's design as the cylinder sidewall and bottom surface for CN-470's charger, respectively. EX1007, FIGS. 4-7; EX1009, 1-3, 6-7; EX1003 ¶102. Moreover, the pervasive use in the prior art of cylindrical chargers with a flat bottom surface and a continuous sidewall between the cylinder's top and bottom surfaces (*supra* §VI.B.2) would have suggested using those aspects of Chiang's design as the sidewall and bottom surface for CN-470's charger. EX1003 ¶102.

Accordingly, in view of the relatedness and similarity of the designs, the appearance of Chiang's power bank would have suggested the application of its features, including its continuous cylinder sidewall and flat bottom surface, to the design of CN-470's charger. EX1003 ¶103. Thus, Chiang is an appropriate secondary reference. *Id.*

b. The Challenged Claim Would Have Been Obvious Over CN-470 and Chiang

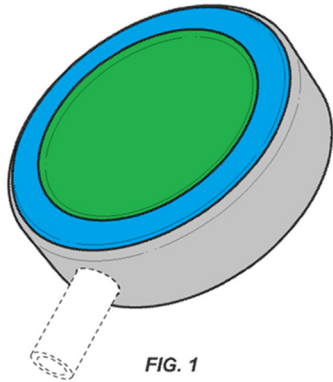
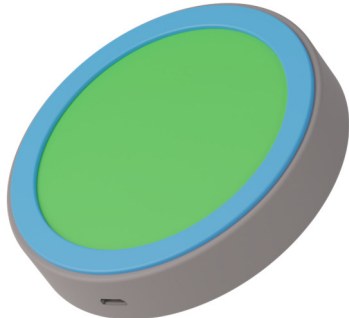
A DOSA would have been motivated to combine CN-470's charger with Chiang's cylinder sidewall and flat bottom surface, as explained below.

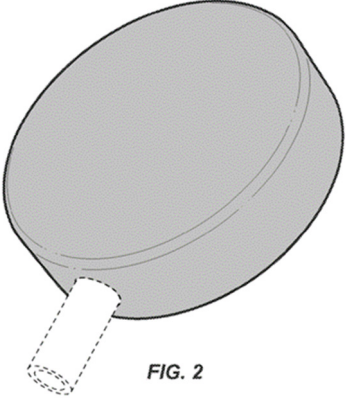
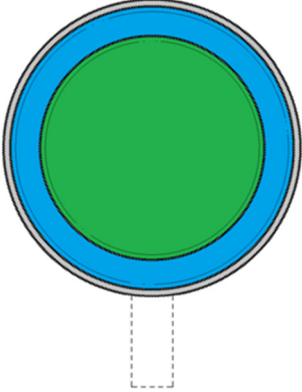
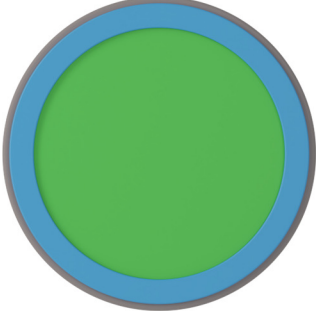
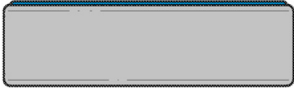
Combining Chiang's cylinder sidewall and flat bottom surface with CN-470 would have been a change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA, as explained above with

respect to making the same modifications to Lee-616. *Supra* §VI.B.2; EX1003 ¶104.

And a DOSA would have been motivated to combine Chiang's cylinder sidewall and flat bottom surface with CN-470's charger for the same reasons explained above with respect to modifying Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶104. Further, any differences between the proposed combination of CN-470 with Chiang and the claimed design would have been changes that were suggested by the prior art and a DOSA would have been motivated to make, as explained above. *Supra* §VI.B.2; EX1003 ¶104.

Accordingly, a DOSA would have been motivated to combine CN-470 with Chiang's cylinder sidewall and flat bottom surface to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶105.

D'131 Patent	CN-470 Combined with Chiang
 FIG. 1	

D’131 Patent	CN-470 Combined with Chiang
 FIG. 2	
 FIG. 3	
 FIG. 7	

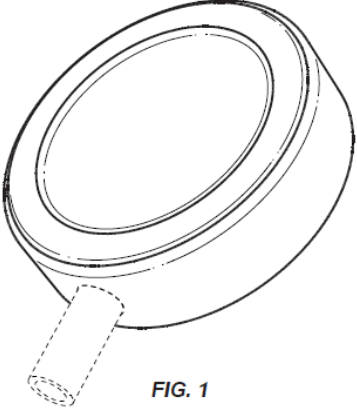
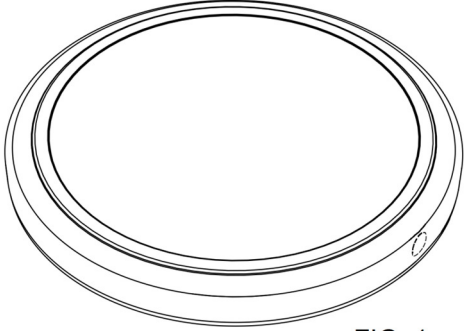
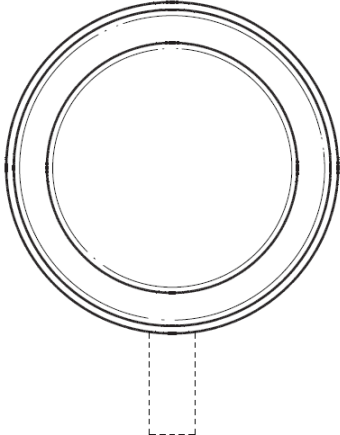
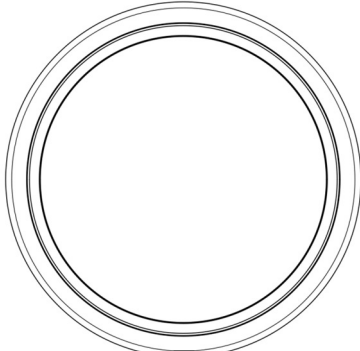
Thus, the Apple Watch charger design claimed by the D’131 Patent would have been obvious to a DOSA over CN-470 and Chiang. EX1003 ¶105.

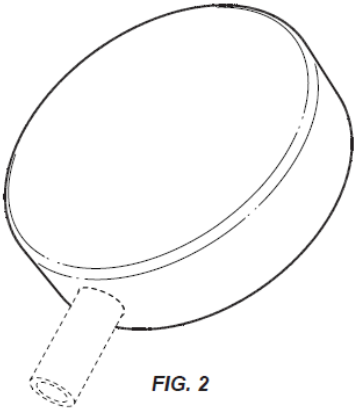
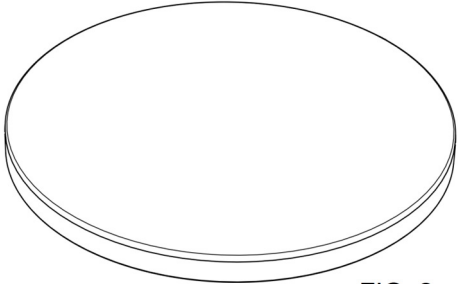
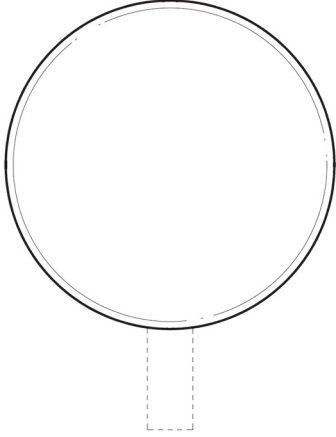
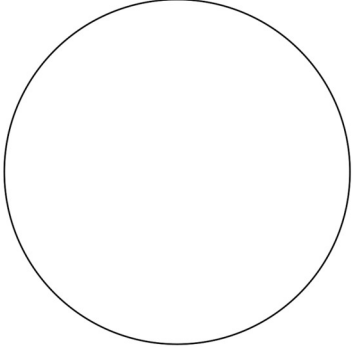
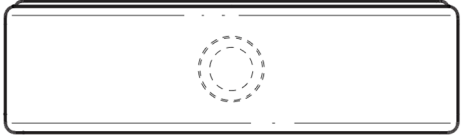
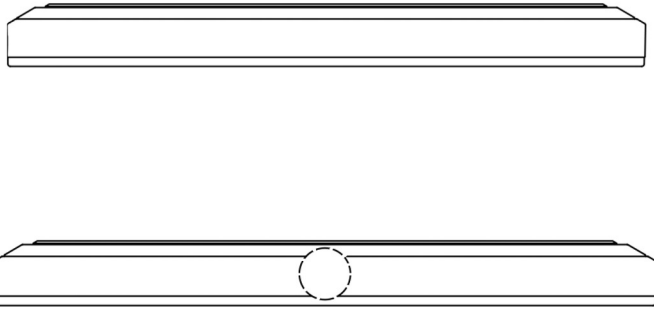
F. GROUND 5: Obviousness Over Murray

1. Murray Is A Primary Reference

Murray is a primary reference because it is a single prior art reference with basically the same design characteristics as the claimed design. EX1001, FIGS. 1-4, 7-8; EX1008, FIGS. 1-7; EX1003 ¶¶106-118. As shown below, any differences

between Murray and the D’131 Patent do not change the overall visual similarity of the designs. *MRC*, 747 F.3d at 1332-33 (primary reference and claimed design can have differences because, if they had to be identical, “no obviousness analysis would be required”).

D’131 Patent	Murray (EX1008)
 FIG. 1	 FIG. 1
 FIG. 3	 FIG. 6

D'131 Patent	Murray (EX1008)
 FIG. 2	 FIG. 2
 FIG. 4	 FIG. 7
 FIG. 7  FIG. 8	 FIGS. 3-4 (rotated)⁷

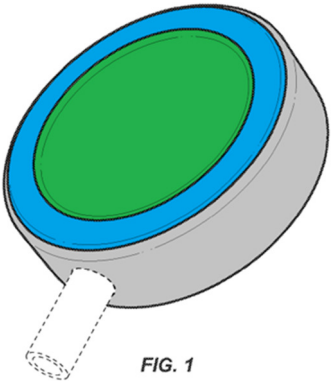
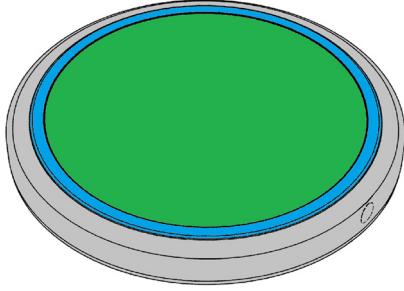
⁷ *Supra* note 6.

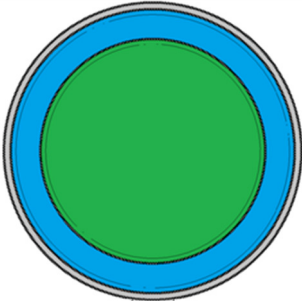
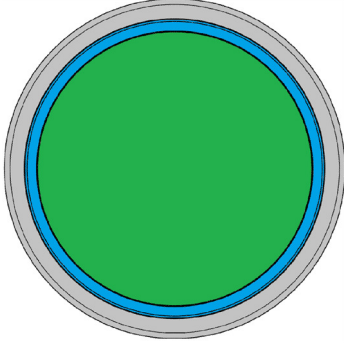
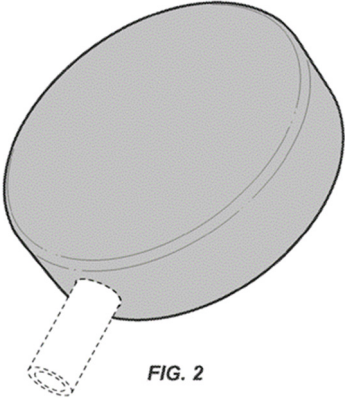
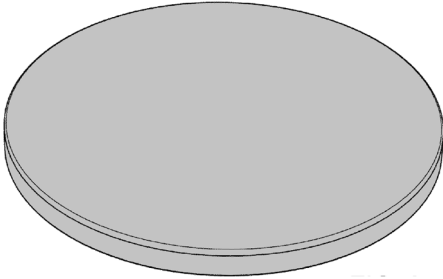
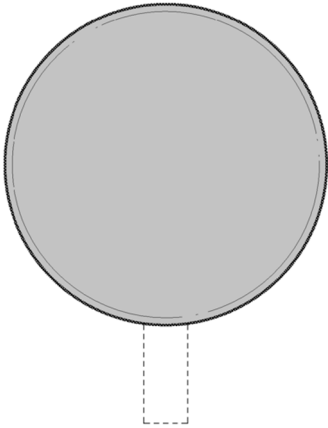
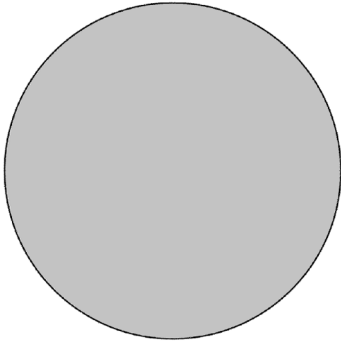
EX1001, FIGS. 1-4, 7-8; EX1008, FIGS. 1-7; EX1003 ¶106. The above comparison demonstrates that Murray is an appropriate primary reference because its design conveys basically the same overall visual impression as the claimed design. *Id.* The overall visual similarity between the design characteristics of Murray and the claimed design is further confirmed by the following comparison of their respective design aspects. *Id.*

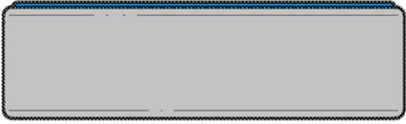
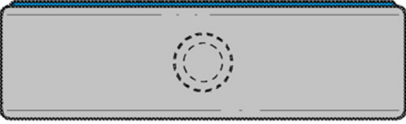
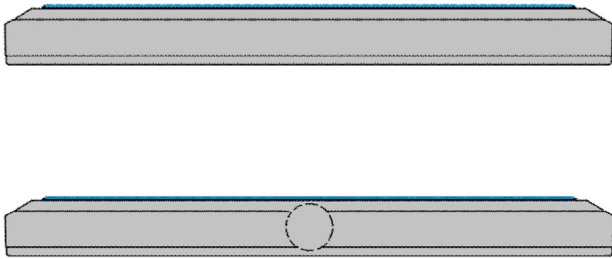
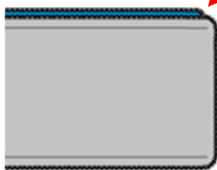
a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges

The cylindrical shape, flat bottom surface, and rounded edges of the claimed charger should be disregarded as functional elements. *Supra* §IV.B.1.c. But even if considered, Murray and the D’131 Patent disclose substantially the design characteristics.

As shown below, the chargers of Murray and the claimed design have a cylindrical shape with a flat bottom surface and rounded edges that provide the same overall visual impression.

D’131 Patent	Murray (EX1008)
 FIG. 1	 FIG. 1

D'131 Patent	Murray (EX1008)
 FIG. 3	 FIG. 6
 FIG. 2	 FIG. 2
 FIG. 4	 FIG. 7

D'131 Patent	Murray (EX1008)
 FIG. 7  FIG. 8	 FIGS. 3-4 (rotated)
 FIG. 7 (excerpted)	 FIG. 4 (rotated, excerpted)

EX1001, FIGS. 1-4, 7-8; EX1008, FIGS. 1-4, 6, 7; EX1003 ¶108.

The Murray cylinder has a slightly larger width-to-height ratio than the claimed design, but that difference, or any difference in the dimensions or proportions of the cylindrical shapes of Murray and the claimed design, does not alter the overall visual similarity of these designs. EX1001, FIGS. 1-4, 7-8; EX1008, FIGS 1-7; EX1003 ¶108; *see, e.g., Lamb*, 286 F.3d at 612 (“The fact that some dimensions are changed in a different degree than others is not patentably significant.”).

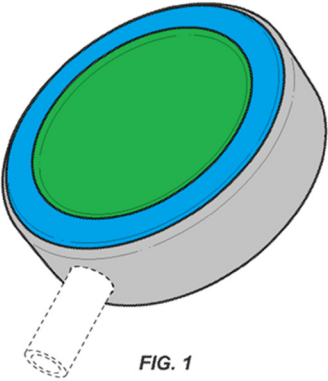
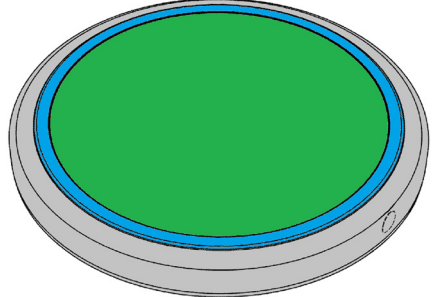
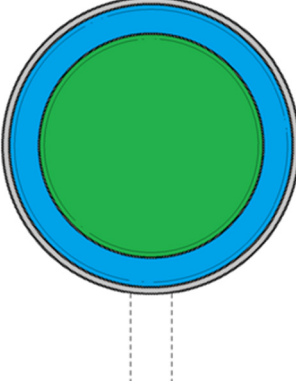
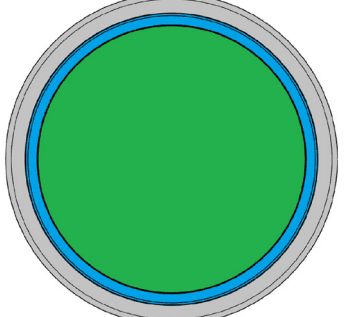
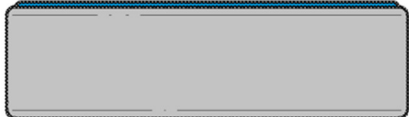
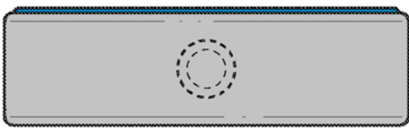
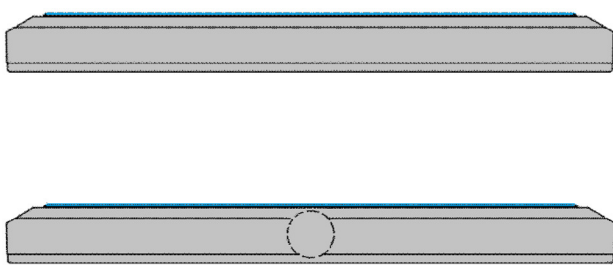
Further, while Murray has a rounded bottom edge, it has chamfered instead of rounded top edges, as shown above. EX008, FIG. 4; EX1003 ¶109. But that slight difference does not alter the overall visual similarity between Murray and the claimed design, both of which have ordinary, well-known transitions (i.e., rounded and chamfered edges) between the surfaces of their cylindrical chargers. EX1001, FIGS. 1-4, 7-8; EX1008, FIGS 1-7; EX1003 ¶109.

Any differences between the design of Murray and the claimed design would not prevent Murray’s use as a primary reference. EX1001, FIGS. 1-4, 7-8; EX1008, FIGS 1-7; EX1003 ¶¶108-109; *MRC*, 747 F.3d at 1332-33 (primary reference can have some “major differences” and “slight differences” from the claimed design). And any differences between the design of Murray and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.F.2, VI.G.1.b; EX1003 ¶110.

Accordingly, Murray discloses a cylindrical shape with a flat bottom surface and rounded edges with basically the same design characteristics as the claimed design. EX1003 ¶110.

b. Ring

The short, flat ring on the cylinder’s top surface is a functional element of the claimed design. *Supra* §IV.B.1.b. But even if considered, the short, flat ring (blue) of Murray and the claimed design (blue) provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3, 7-8; EX1008, FIGS. 1, 3-6; EX1003 ¶112.

D'131 Patent	Murray (EX1008)
 FIG. 1	 FIG. 1
 FIG. 3	 FIG. 6
 FIG. 7  FIG. 8	 FIGS. 3-4 (rotated)

Murray's ring is slightly farther from the outermost cylinder sidewall and (in plan view) is slightly narrower (less thick) than the claimed design, but those differences, or any difference in the placement or dimensions of the rings of Murray and the claimed design, do not alter the overall visual similarity of these designs. EX1001,

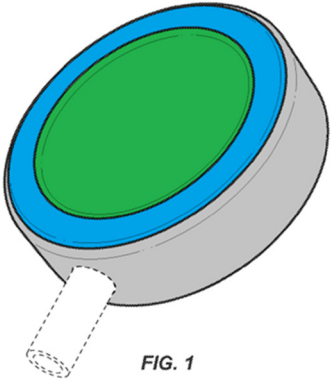
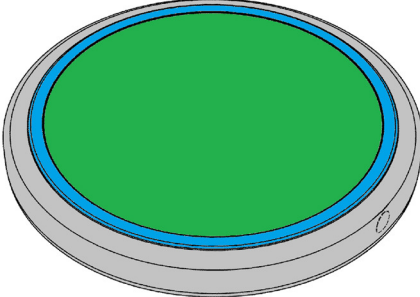
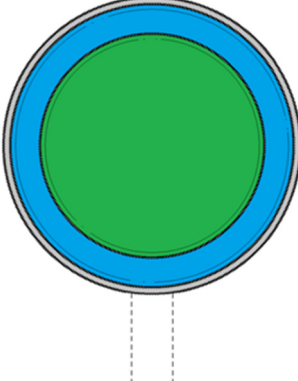
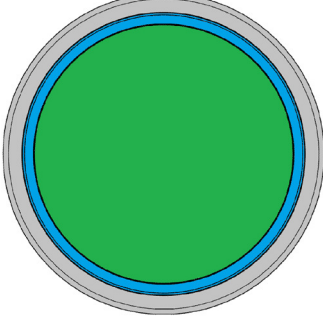
FIGS. 1, 3, 7-8; EX1008, FIGS. 1, 3-6; EX1003 ¶113; *see, e.g., MRC*, 747 F.3d at 1333 (“[t]hat there are slight difference in the precise placement” of design aspects “does not defeat a claim of obviousness” or prevent use as a primary reference); *Lamb*, 286 F.3d at 612 (“The fact that some dimensions are changed in a different degree than others *is not patentably significant.*”).

Any differences between the design of Murray and the claimed design would not prevent Murray’s use as a primary reference. EX1001, FIGS. 1, 3, 7-8; EX1008, FIGS. 1, 3-6; EX1003 ¶114; *MRC*, 747 F.3d at 1332-33 (a primary reference can have some “major differences” and “slight differences” from the claimed design). And any differences between the design of Murray and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.F.2, VI.G.1.b.

Accordingly, Murray discloses a short, flat ring with basically the same design characteristics as the claimed design. EX1003 ¶114.

c. Recessed Center Portion

The recessed center portion (green) should be disregarded as a functional element of the claimed design. *Supra* §IV.B.1.a. But even if the recessed center portion is considered, the below figures show that the recessed center portion of Murray and the claimed design provide the same overall visual impression. EX1001, FIGS. 1, 3; EX1008, FIGS. 1, 6; EX1003 ¶116.

D’131 Patent	Murray (EX1008)
 FIG. 1	 FIG. 1
 FIG. 3	 FIG. 6

Any differences between the design of Murray and the claimed design would not prevent Murray’s use as a primary reference. EX1001, FIGS. 1, 3; EX1008, FIGS. 1, 6; EX1003 ¶116; *see, e.g., MRC*, 747 F.3d at 1332-33 (primary reference can have some “major differences” and “slight differences” from claimed design).

Accordingly, Murray discloses a recessed center portion with basically the same design characteristics as the claimed design. EX1003 ¶¶116.

In sum, Murray is a primary reference because it discloses basically the same visual impression as the claimed design. EX1003 ¶¶117-118.

As shown above, Murray’s only differences compared to the claimed design are that Murray’s ring is slightly narrower (less ring thickness in plan view only) and farther from the outermost cylinder edge. EX1003 ¶118. But these differences would have been obvious to a DOSA in view of Murray alone or in combination with other references, as shown below. *Id.* Indeed, modifying Murray’s cylinder sidewall (Ground 5), and combining Murray and Chiang (Ground 6), creates a charger design with the same overall visual appearance as the claimed Apple Watch charger design. *Id.*

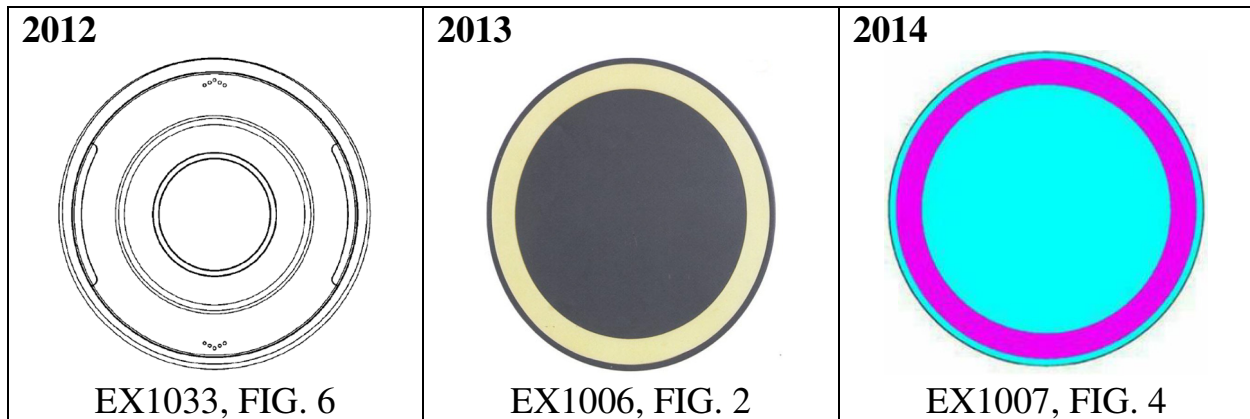
2. The Challenged Claim Would Have Been Obvious Over Murray

The Challenged Claim would have been obvious to a DOSA over Murray alone (i.e., with Murray serving as the primary and secondary references). As explained below, in view of Murray, a DOSA would have found it obvious to arrive at a charger design providing the same overall visual impression as the claimed design.

Modifying Murray’s charger to use a continuous cylinder sidewall between the cylinder’s top surface and bottom surface would have been a change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA, as explained above. *Supra* §VI.B.2; EX1003 ¶120. And a DOSA would have been motivated to modify Murray’s charger to include a continuous cylinder sidewall between the top and bottom cylinder surfaces for the

reasons explained above with respect to making the same modification based on Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶120.

Further, modifying Murray’s ring to have a greater width (i.e., ring thickness) in plan view would have been a routine change within the knowledge, experience, skill, and creativity of a DOSA. EX1003 ¶120. Indeed, cylindrical chargers with wider top surface rings like the claimed design were well-known in the art, as shown below.



EX1003 ¶120.

Moreover, a DOSA would have been motivated to slightly increase the width (i.e., thickness, in plan view) of Murray’s ring as needed to properly mate and align with the surface geometry of the device that the charger was intended to charge. EX1003 ¶121; EX1014 ¶62. Indeed, a DOSA would have understood the need to use an appropriately sized ring from Apple’s own prior art patent (below, left), which discloses a charger (gray) having a flat ring (blue) with approximately the same width as the claimed charger design (below, right).

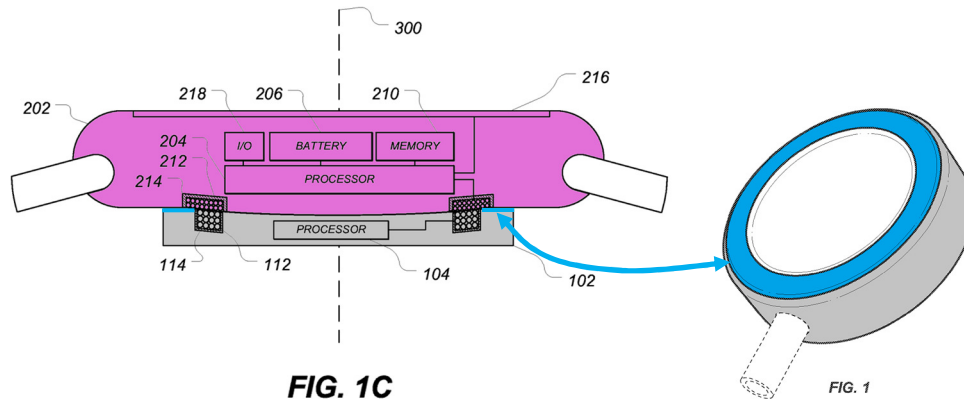


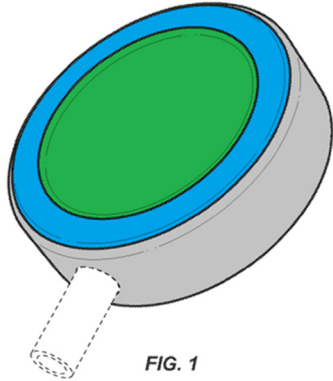
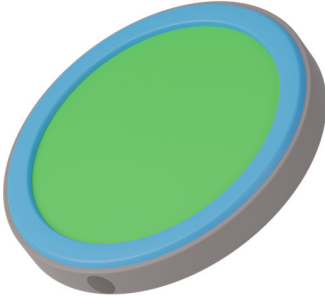
FIG. 1C
Prior Art
 (EX1024, FIG. 1C)

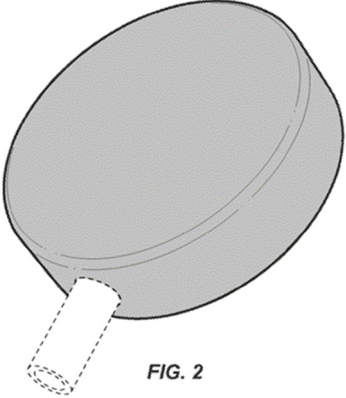
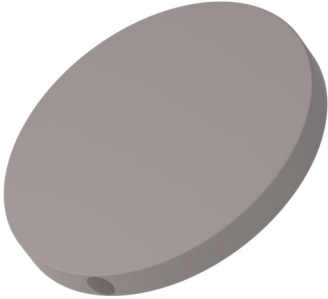
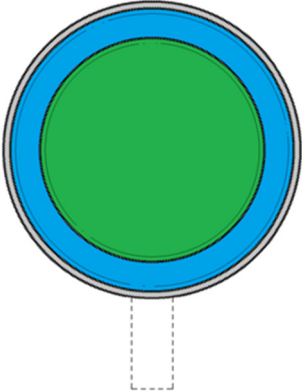
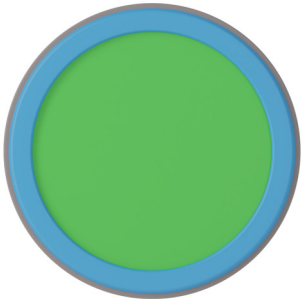
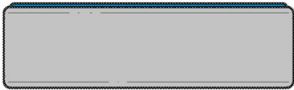
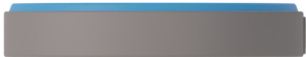
FIG. 1
Claimed Design
 (EX1001, FIG. 1)

EX1003 ¶121. Apple’s prior art patent teaches that the above-left (FIG. 1C) charger design allows the charger (gray) to properly mate and align with the device being charged (pink) for efficient charging. EX1024, FIG. 1C; 8:37-41 (“Preferably, the inductive power transmitter [i.e., charger] 102 and the inductive power receiver [i.e., device being charged] 202 are aligned along a mutual axis 300, as shown in FIG. 1C.”), 8:29-32 (“[P]ower transfer efficiency between the [charger] 102 and the [device being charged] 202 may be optimized when the receive coil 212 [of the device 202] is aligned with the transmit coil 112 [of the charger 102] along a mutual axis.”), 7:14-18 (teaching that the “interface surface 108” of the charger should be “configured in a particular shape that mates with a complementary shape of the [device] 202”); EX1003 ¶122. Thus, a DOSA would have understood the mating and alignment benefits of making a charger’s short, flat ring wider as needed to correctly mate and align with the device being charged. EX1003 ¶122.

A DOSA also would have been motivated to slightly modify the width of Murray’s short, flat ring as proposed to increase the ring surface area available to support the surface geometry of the device being charged, thereby improving the stability of the device-charger connection. EX1003 ¶123. And any other differences between Murray and the claimed design would have been modifications that were suggested by the prior art and a DOSA would have been motivated to make, as explained above. *Supra* §VI.B.2; EX1003 ¶124.

Accordingly, a DOSA would have been motivated to modify Murray to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶125.

D’131 Patent	Murray (Modified)
 FIG. 1	

D'131 Patent	Murray (Modified)
 FIG. 2	
 FIG. 3	
 FIG. 7	

Thus, the Apple Watch charger design claimed by the D'131 Patent would have been obvious to a DOSA over Murray. EX1003 ¶125.

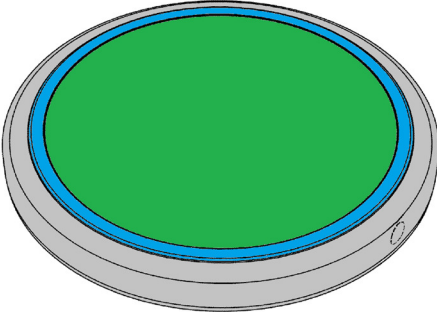
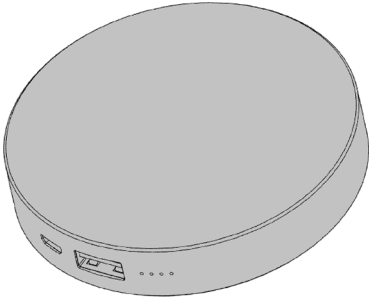
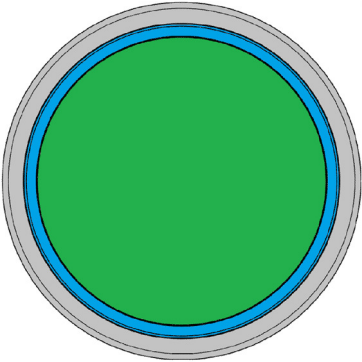
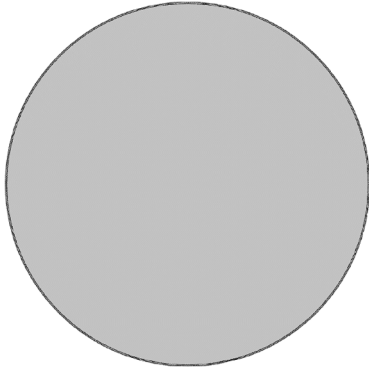
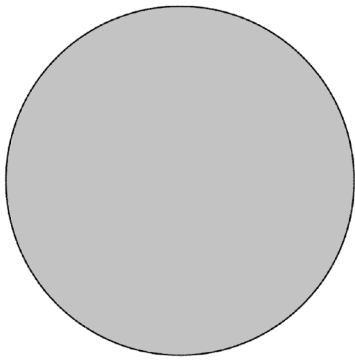
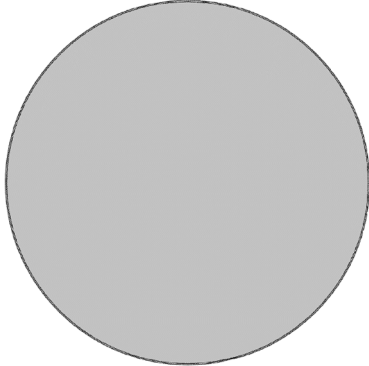
G. GROUND 6: Obviousness Over Murray and Chiang

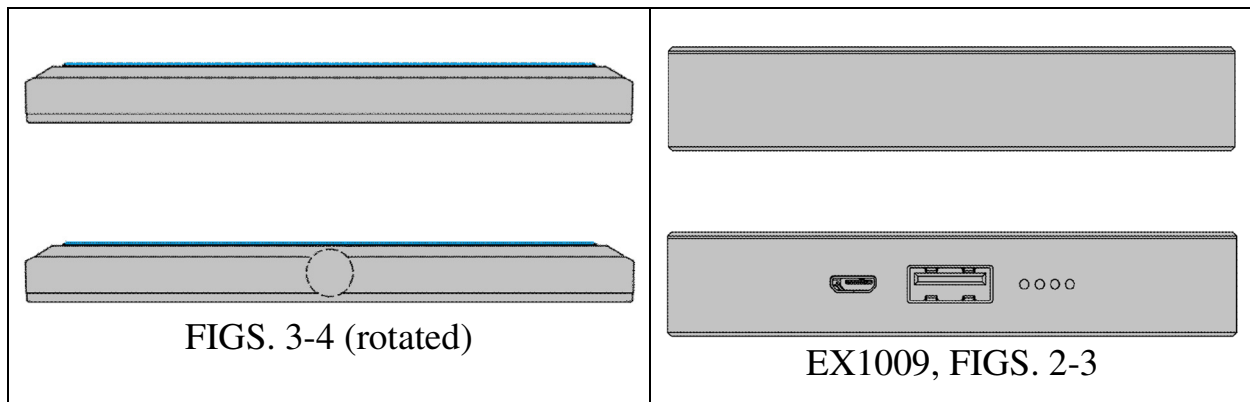
1. The Challenged Claim Would Have Been Obvious Over Murray and Chiang

Murray is a primary reference. *Supra* §VI.F.1. And the Challenged Claim would have been obvious to a DOSA over Murray combined with Chiang.

a. Chiang Is A Secondary Reference

The following visual comparison demonstrates that Chiang's power bank design is so related to Murray that Chiang is a proper secondary reference. EX1008, FIGS. 1-8; EX1009, 1-3, 6-7; EX1003 ¶¶127-129.

Murray (Primary)	Chiang (Secondary)
 EX1008, FIG. 1	 EX1009, FIG. 1
 EX1008, FIG. 6	 EX1009, FIG. 6
 EX1008, FIG. 7	 EX1009, FIG. 7



Chiang is so related to Murray because it discloses a suitable, simple cylindrical design for Murray’s cylindrical charger. As shown above, Chiang’s power bank and Murray’s charger have similar cylindrical shapes, and Chiang’s design has a cylinder sidewall that extends directly from the cylinder’s top surface to its bottom surface. The similarity between the cylindrical shape and proportions of the designs of Chiang and Murray would have suggested using the continuous sidewall of Chiang’s design as the cylinder sidewall of Murray’s charger. EX1008, FIGS. 1, 3-6; EX1009, 1-3, 6; EX1003 ¶128. Moreover, the pervasive use in the prior art of cylindrical chargers like Chiang with a sidewall extending directly from the cylinder’s top surface to its bottom surface (*supra* §VI.B.2) would have suggested using that aspect of Chiang’s design as the sidewall for Murray’s charger.

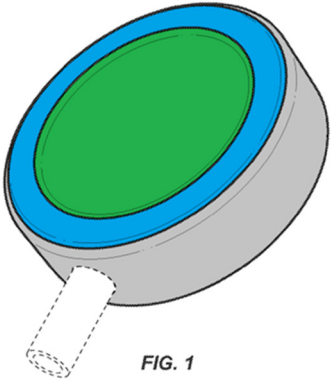
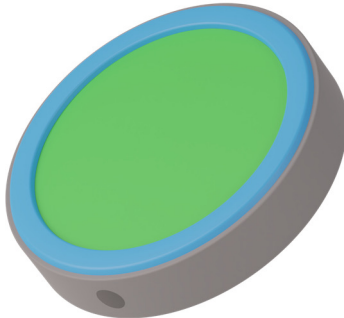
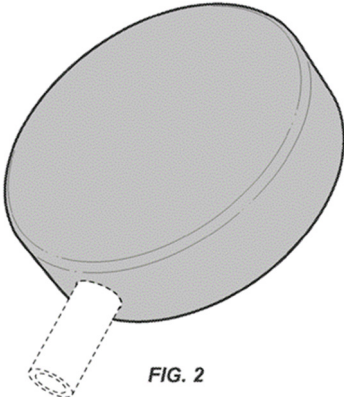
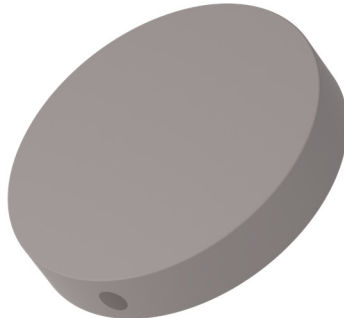
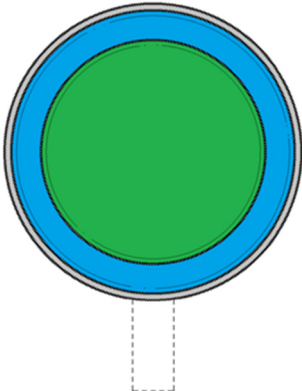
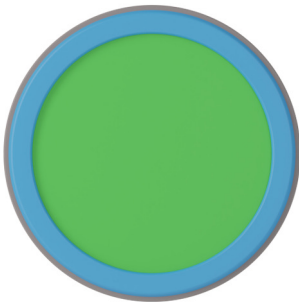
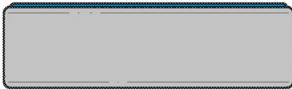
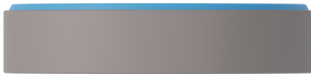
Accordingly, in view of the relatedness and similarity of the designs, the appearance of Chiang’s power bank would have suggested the application of its features, including its continuous cylinder sidewall, to the design of Murray’s charger. EX1003 ¶129. Thus, Chiang is an appropriate secondary reference. *Id.*

b. The Challenged Claim Would Have Been Obvious Over Murray and Chiang

A DOSA would have been motivated to combine Murray's charger with Chiang's continuous cylinder sidewall, as explained below.

Combining Chiang's cylinder sidewall with Murray would have been a change that was suggested by the prior art and well within the knowledge, experience, skill, and creativity of a DOSA. *Supra* §VI.B.2; EX1003 ¶130. And a DOSA would have been motivated to combine Chiang's cylinder sidewall with Murray's charger for the same reasons explained above with respect to modifying Lee-616 alone. *Supra* §VI.B.2; EX1003 ¶130. A DOSA would have been further motivated to combine Chiang's cylinder sidewall with Murray's charger as proposed (i.e., from the top flat surface of Murray's cylinder to the cylinder's flat bottom surface) to achieve a design that was simpler and more visually appealing than the long chamfered top edge of Murray. EX1009, FIG. 3; EX1008, FIGS. 3-5 (rotated); EX1003 ¶130. Furthermore, any other differences between the proposed combination of Murray and Chiang and the claimed design would have been modifications that were suggested by the prior art and a DOSA would have been motivated to make, as explained above. *Supra* §VI.B.2; EX1003 ¶130.

Accordingly, a DOSA would have been motivated to combine Murray with Chiang's continuous cylinder sidewall as proposed to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶131.

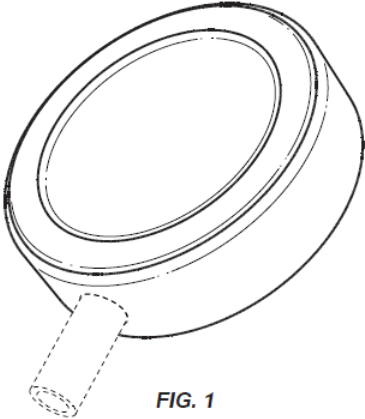
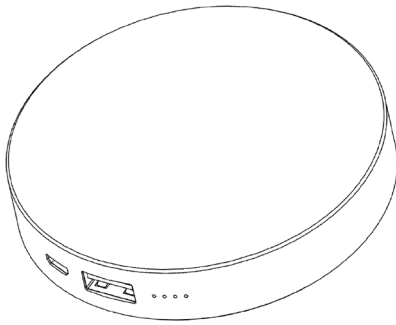
D'131 Patent	Murray Combined with Chiang
 FIG. 1	
 FIG. 2	
 FIG. 3	
 FIG. 7	

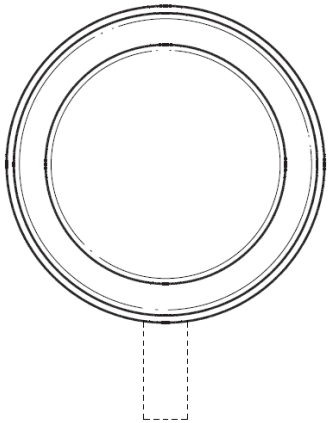
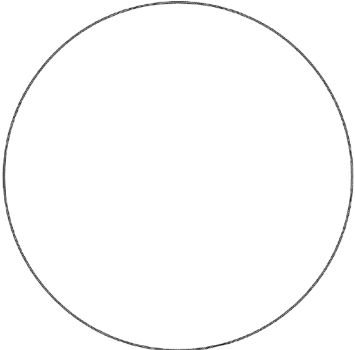
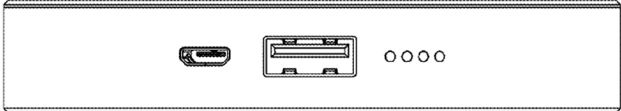
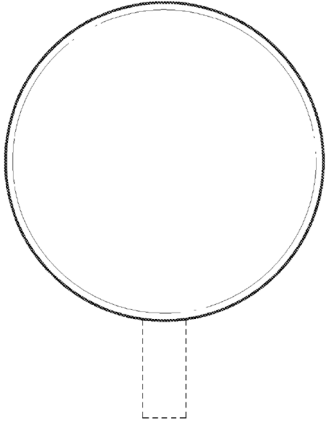
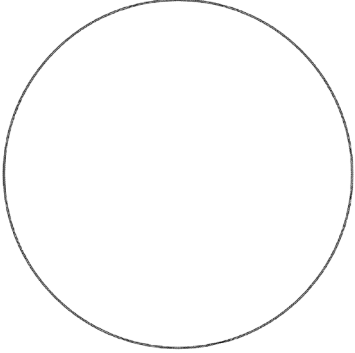
Thus, the Apple Watch charger design claimed by the D’131 Patent would have been obvious to a DOSA over Murray and Chiang. EX1003 ¶¶131.

H. GROUND 7: Obviousness Over Chiang

1. Chiang Is A Primary Reference

Much of the claimed Apple Watch charger design is functional, as explained above. *Supra* §IV.B.1. If the functional aspects of the claimed design are factored out, Chiang is a primary reference because it is a single prior art reference with basically the same design characteristics as the non-functional aspects of the claimed design. EX1001, FIGS. 1-3, 7-8; EX1009, FIGS. 1-7; EX1003 ¶¶132-145. And as shown below, any differences between Chiang and the D’131 Patent do not change the overall visual similarity between Chiang and the non-functional aspects of the claimed design. *MRC*, 747 F.3d at 1332-33 (primary reference and claimed design can have differences because, if they had to be identical, “no obviousness analysis would be required”).

D’131 Patent	Chiang (EX1009)
 FIG. 1	 EX1009, FIG. 1

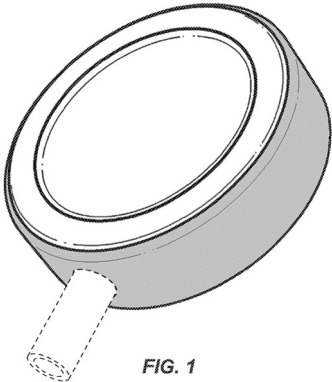
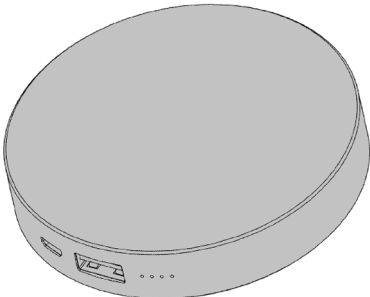
D'131 Patent	Chiang (EX1009)
 FIG. 3	 FIG. 6
 FIG. 7  FIG. 8	 FIG. 3  FIG. 2
 FIG. 4	 FIG. 7

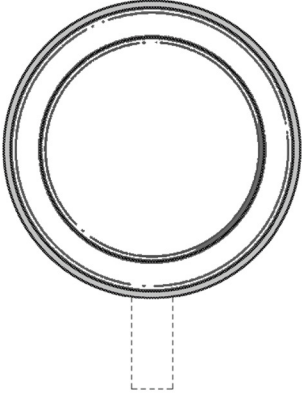
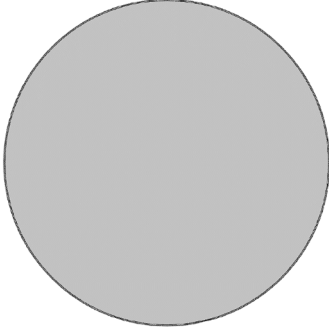
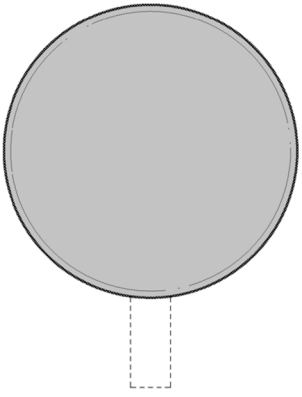
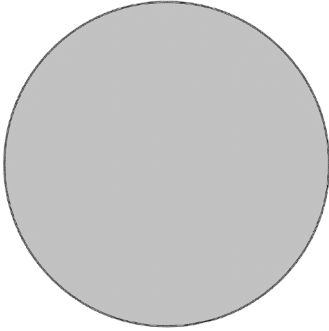
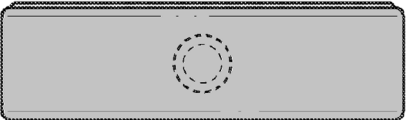
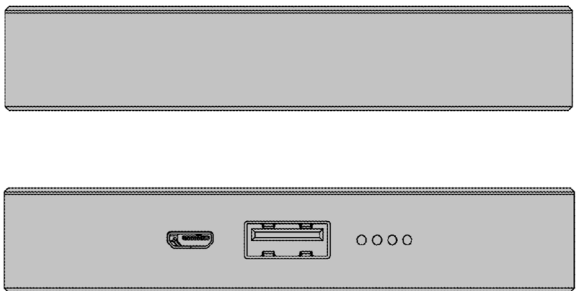
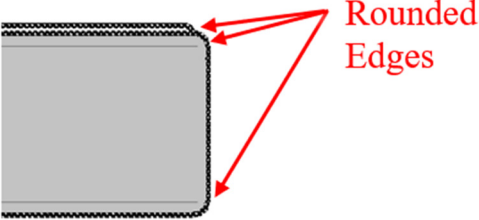
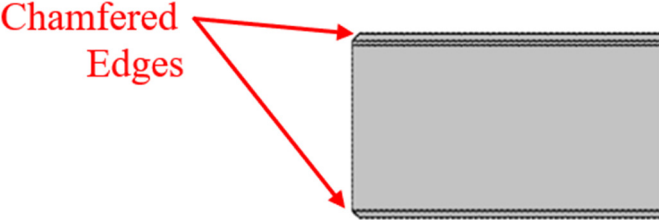
EX1001, FIGS. 1-3, 7-8; EX1009, FIGS. 1-7; EX1003 ¶132. The above comparison demonstrates that, if the functional aspects of the claimed design are not considered,

Chiang is an appropriate primary reference because it conveys basically the same overall visual impression as the claimed design. *Id.* The overall visual similarity between Chiang and the non-functional design characteristics of the claimed design is further confirmed by the following comparison. *Id.*

a. Cylindrical Shape, Flat Bottom Surface, Rounded Edges

The cylindrical shape, flat bottom surface, and rounded edges of the claimed charger should be disregarded as functional elements. *Supra* §IV.B.1.c. But even if considered, Chiang and the D’131 Patent disclose substantially the same basic design characteristics. As shown below, the chargers of Chiang and the claimed design have a cylindrical shape with a flat bottom surface and smoothed edges that provide the same overall visual impression.

D’131 Patent	Chiang (EX1009)
 FIG. 1	 EX1009, FIG. 1

 FIG. 3	 EX1009, FIG. 6
 FIG. 4	 EX1009, FIG. 7
 FIG. 7  FIG. 8	 EX1009, FIGS. 2-3
 FIG. 7 (excerpted)	 FIG. 3 (excerpted)

EX1001, FIGS. 1-3, 7, 8; EX1009, FIGS. 1-3, 6, 7; EX1003 ¶139.

The Chiang cylinder has a slightly larger width-to-height ratio than the claimed design, but that difference, or any difference in the dimensions or proportions of the cylindrical shapes of Chiang and the claimed design, does not alter the overall visual similarity of these designs. EX1001, FIGS. 1-4, 7-8; EX1009, FIGS. 1-3, 6-7; EX1003 ¶134; *see, e.g., Lamb*, 286 F.3d at 612 (“The fact that some dimensions are changed in a different degree than others is not patentably significant.”).

Further, Chiang has chamfered edges instead of rounded edges, as shown above. EX1009, FIG. 3; EX1003 ¶135. But that slight difference does not alter the overall visual similarity between Chiang and the claimed design. EX1001, FIGS. 1-4, 7-8; EX1009, FIGS. 1-3, 6-7; EX1003 ¶135.

Moreover, Chiang’s cylinder has a rectangular portion for connecting a cable. EX1009, FIG. 2. But the D’131 Patent confirms that the cable connection to the charger cylinder is not claimed and should not be considered by depicting that aspect in broken lines. EX1001, FIGS. 1-2, 5-6, 8-9. And even if it was claimed, Chiang’s cylinder provides the same overall visual impression as the claimed design, as shown above. EX1001, FIGS. 1-4, 7-8; EX1009, FIGS. 1-3, 6-7; EX1003 ¶136.

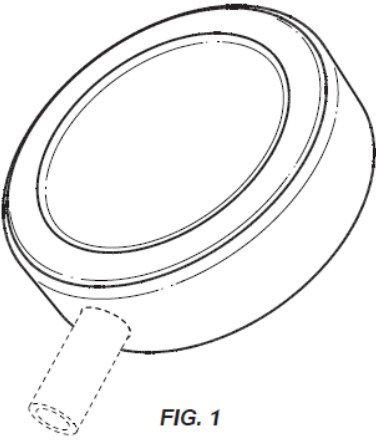
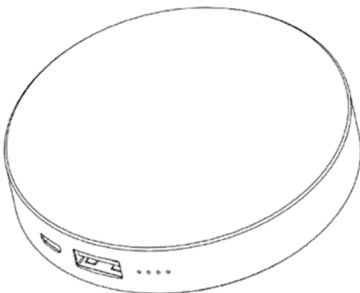
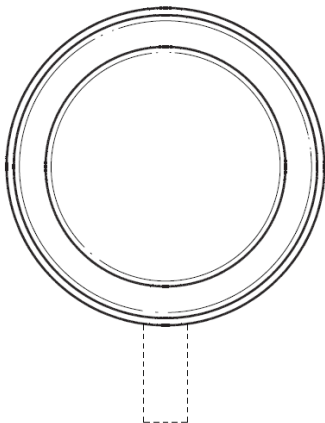
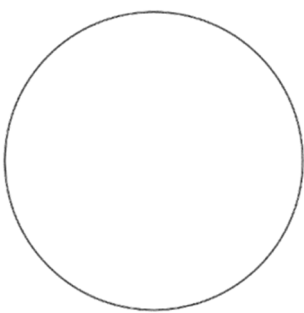
Any differences between the design of Chiang and the claimed design would not prevent Chiang’s use as a primary reference. EX1001, FIGS. 1-4, 7-8; EX1009,

FIGS. 1-3, 6-7; EX1003 ¶137; *MRC*, 747 F.3d at 1332-33 (primary reference can have some “major differences” and “slight differences” from the claimed design). And any differences between Chiang and the claimed design would have been obvious changes to a DOSA. *Infra* §VI.H.2.

Accordingly, Chiang discloses the same design characteristics as the claimed design. EX1003 ¶137.

b. Ring

The short, flat ring on the cylinder’s top surface is a functional element of the claimed design. *Supra* §IV.B.1.b. If this functional aspect of the claimed design is not considered, Chiang and the claimed design provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3, 7; EX1009, FIGS. 1, 3, 6; EX1003 ¶139.

D'131 Patent	Chiang (EX1009)
 FIG. 1	 EX1009, FIG. 1
 FIG. 3	 EX1009, FIG. 6
 FIG. 7	 EX1009, FIG. 3

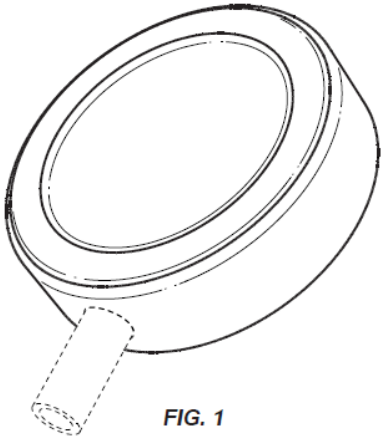
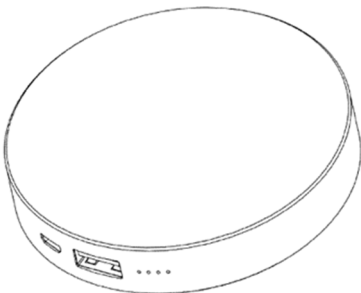
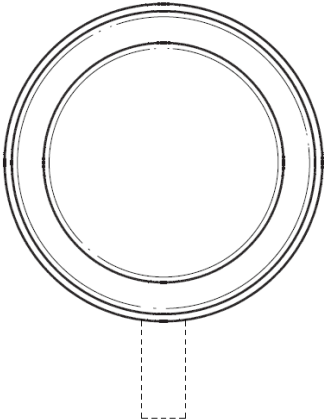
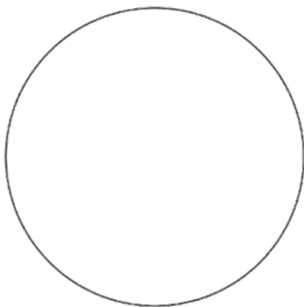
Setting aside the functional aspects of the claimed design, any differences between the design of Chiang and the claimed design would not prevent Chiang's use as a primary reference. EX1001, FIGS. 1, 3; EX1009, FIGS. 1-7; EX1003 ¶140; *MRC*, 747 F.3d at 1332-33 (a primary reference can have some “major differences” and

“slight differences” from the claimed design). And any differences between the design of Chiang and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.H.2.

Accordingly, Chiang discloses basically the same design characteristics as the non-functional aspects of the claimed design. EX1003 ¶141.

c. Recessed Center Portion

The recessed center portion should be disregarded as a functional element of the claimed design. *Supra* §IV.B.1.a. If this functional aspect of the claimed design is not considered, Chiang and the claimed design provide the same overall visual impression, as shown below. EX1001, FIGS. 1, 3; EX1009, FIGS. 1, 6; EX1003 ¶143.

D’131 Patent	Chiang (EX1009)
 FIG. 1	 EX1009, FIG. 1
 FIG. 3	 EX1009, FIG. 6

Setting aside the functional aspects of the claimed design, any differences between the design of Chiang and the claimed design would not prevent Chiang’s use as a primary reference. EX1001, FIGS. 1, 3; EX1009, FIGS. 1-7; EX1003 ¶143; *MRC*, 747 F.3d at 1332-33 (a primary reference can have some “major differences” and “slight differences” from the claimed design). And any differences between the design of Chiang and the claimed design would have been obvious changes to a DOSA. *Infra* §§VI.H.2.

Accordingly, Chiang discloses basically the same design characteristics as the non-functional aspects of the claimed design. EX1003 ¶¶143-144.

In sum, Chiang is a primary reference because it discloses basically the same visual impression as the non-functional aspects of the claimed design. EX1003 ¶145.

As shown above, if the functional elements of the claimed design are factored out, Chiang and the claimed design provide the same overall visual impression. EX1003 ¶145. Moreover, as shown below, modifying Chiang’s design to include a short, flat ring surrounding a recessed center portion on its top surface would have been obvious to a DOSA in view of Chiang alone. *Id.* Indeed, a DOSA would have been motivated to modify Chiang to create a charger design with the same overall visual appearance as the claimed Apple Watch charger design. *Id.*

2. The Challenged Claim Would Have Been Obvious Over Chiang

The Challenged Claim would have been obvious to a DOSA over Chiang alone. As explained below, in view of Chiang, a DOSA would have found it obvious to arrive at a charger design providing the same overall visual impression as the claimed design.

Focusing on the non-functional aspects of the claimed design, Chiang provides the same overall visual appearance as the claimed design. EX1001, FIGS. 1-3, 7-8; EX1009, FIGS. 1-7; *supra* §VI.H.1; EX1003 ¶147. Thus, if functional

aspects of the claimed design are factored out, the claimed design would have been obvious to a DOSA over Chiang alone, without any modification. EX1003 ¶147.

Even if functional aspects are considered, the claimed design would have been obvious to a DOSA over Chiang. First, modifying Chiang’s top surface into a short, flat ring surrounding a recessed center portion (i.e., modifying Chiang as proposed) would have been a routine modification that was taught by the prior art, including Lee-616, CN-470, and Murray. EX1003 ¶148; *supra* §§VI.B.1.b-c, VI.D.1.b-c, VI.F.1.b-c.

Second, a DOSA would have been motivated to modify Chiang as proposed. As shown above, Chiang is closely related to numerous prior art cylindrical chargers (e.g., Lee-616, CN-470, Murray) with a short, flat ring and recessed center portion on the charger’s top surface. *Supra* §§VI.C.1.a, VI.E.1.a, VI.G.1.a. Thus, the relatedness of Chiang to these prior art design would have suggested to a DOSA to modify Chiang’s top surface into a short, flat ring surrounding a recessed center portion, as was known in the art. EX1003 ¶149.

Further, a DOSA, when designing a wireless charger, would have understood that to optimize wireless (i.e., inductive) charging efficiency, Chiang’s top surface would need to be modified to ensure that it mated and aligned properly with the device it was intended to charge. EX1003 ¶150; EX1014 ¶62. Indeed, Apple’s own prior art patent confirms this understanding by teaching that “[p]referably, the

inductive power transmitter [i.e., charger] 102 [gray] and the inductive power receiver [i.e., device being charged] 202 [pink] are aligned along a mutual axis 300, as shown in FIG. 1C [below].” EX1024, 8:37-41; *see also id.*, 8:29-32 (“[P]ower transfer efficiency between the [charger] 102 and the [device] 202 may be optimized when the receive coil 212 is aligned with the transmit coil 112 along a mutual axis [as shown in FIG. 1C below].”).

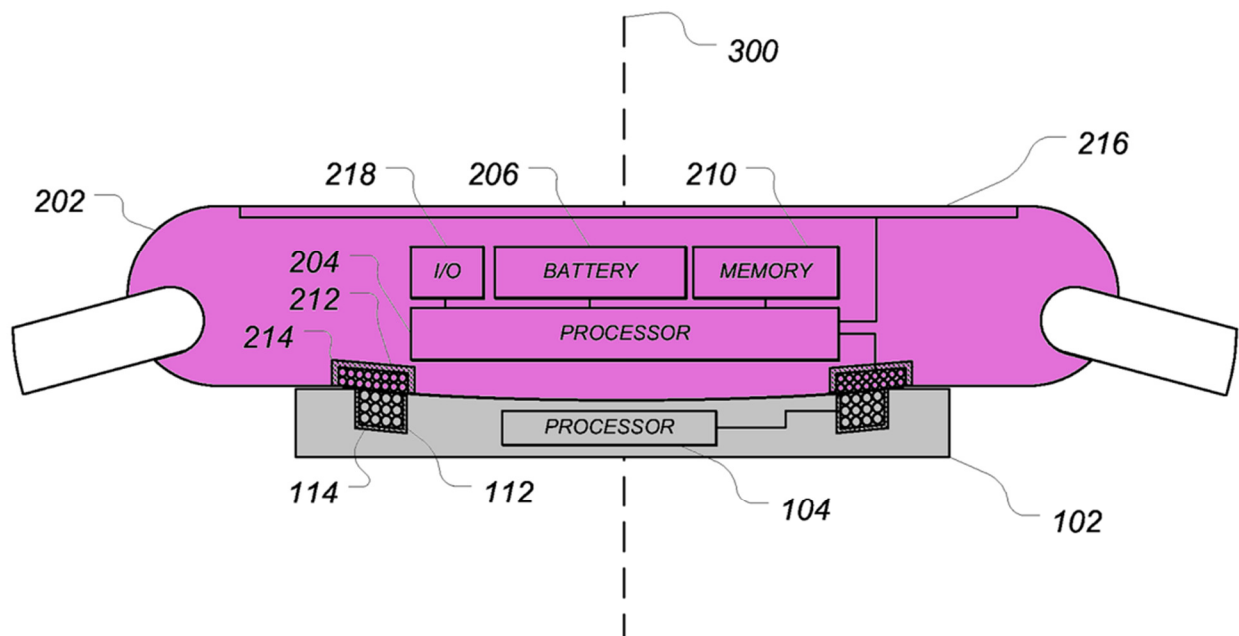
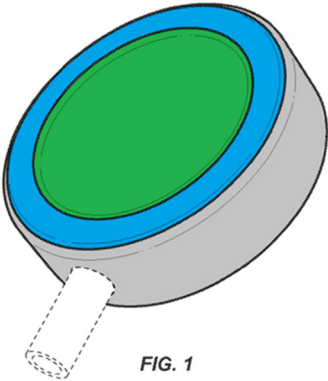
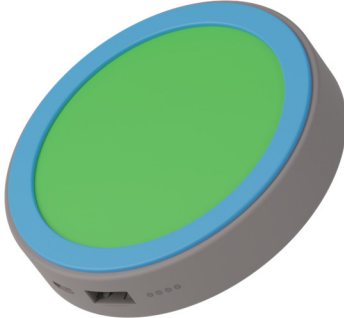
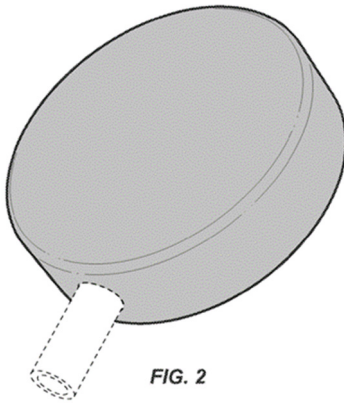
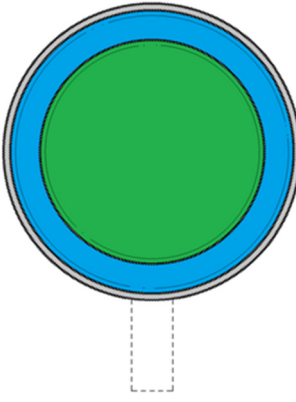
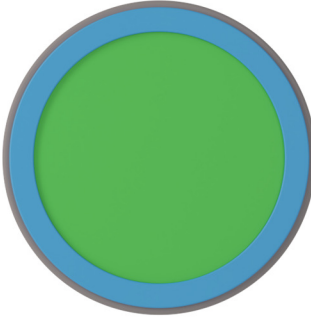
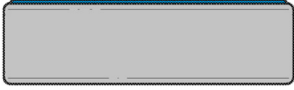


FIG. 1C

Id., FIG. 1C; EX1014 ¶62; EX1003 ¶150. Thus, in view of this understanding, a DOSA would have been motivated to modify Chiang’s top surface as proposed to optimize wireless charging efficiency for use with devices that had a protruding mating geometry, like the device 202 shown in pink above. EX1003 ¶150; EX1014 ¶62; EX1024, FIG. 1C, 8:29-41.

Accordingly, to the extent functional aspects of the claimed design are considered, a DOSA would have been motivated to modify Chiang to create a charger with the same overall visual appearance as the claimed design, as shown below. EX1003 ¶151.

D'131 Patent	Chiang (Modified)
 FIG. 1	
 FIG. 2	
 FIG. 3	

D’131 Patent	Chiang (Modified)
 FIG. 7	

Thus, the Apple Watch charger design claimed by the D’131 Patent would have been obvious to a DOSA over Chiang. EX1003 ¶151.

VII. SECONDARY CONSIDERATIONS

Secondary considerations should be considered if present, but do not control an obviousness conclusion, particularly where, as here, a strong *prima facie* showing of obviousness exists. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007). Masimo is unaware of any secondary considerations for the D’131 Patent, and reserves the right to respond to any secondary considerations set forth by Apple in this proceeding. Even if presented, evidence of secondary considerations cannot outweigh the strong *prima facie* case of obviousness demonstrated above. EX1003 ¶152.

VIII. CONCLUSION

For the reasons set forth in this Petition, Masimo has shown a reasonable likelihood of prevailing in showing that the Challenged Claim would have been obvious. Accordingly, Masimo respectfully requests that the Board institute IPR and cancel the Challenged Claim as invalid.

Respectfully submitted,

KNOBBE, MARTENS ,OLSON & BEAR, LLP

Dated: April 11, 2023

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Attorney for Petitioner Masimo Corporation

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), Counsel for Petitioner Masimo Corporation hereby certifies that this document complies with the type-volume limitation of 37 C.F.R. § 42.24(a). According to word-processing system used to prepare this document, the document contains approximately 13,085 words, including any statement of material facts to be admitted or denied in support, and excluding the table of contents, table of authorities, mandatory notices under § 42.8, exhibit list, certificate of service or word count, or appendix of exhibits or claim listing.

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: April 11, 2023

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Attorney for Petitioner Masimo Corporation

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this **PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. D735,131, PETITIONER’S POWER OF ATTORNEY, AND EXHIBITS 1001-1041** were served by FedEx on the Patent Owner at the correspondence address of record for the subject patent as follows:

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