

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

GUI GLOBAL PRODUCTS, LTD., D/B/A GWEE,
Patent Owner.

IPR2021-00470
Patent 10,259,020 B2

Before SALLY C. MEDLEY, SHEILA F. McSHANE, and
MONICA S. ULLAGADDI, *Administrative Patent Judges*.

ULLAGADDI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–10 and 16–19 of U.S. Patent No. 10,259,020 B2 (Ex. 1001, “the ’020 patent”). Paper 1 (“Pet.”). GUI Global Products, Ltd., D/B/A Gwee (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). Upon review of these papers, we instituted *inter partes* review, pursuant to 35 U.S.C. § 314, as to claims 1–10 and 16–19 based on the challenges set forth in the Petition. Paper 10 (“Institution Decision” or “Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 24, “Pet. Reply”), and Patent Owner filed a Sur-Reply (Paper 30, “Sur-Reply”). On May 19, 2022, we held an oral hearing. A transcript of the hearing is of record. Paper 37 (“Tr.”).

For the reasons that follow, we conclude that Petitioner has proven by a preponderance of the evidence that claims 1–10 and 16–19 of the ’020 patent are unpatentable.

A. Related Matters

The parties indicate that related district court litigations are *GUI Global Prods., Ltd. d/b/a Gwee v. Samsung Elecs. Co.*, No. 4:20-cv-02624 (S.D. Tex.) and *GUI Global Prods., Ltd. d/b/a Gwee v. Apple, Inc.*, No. 4:20-cv-02652 (S.D. Tex.). Pet. 90; Paper 5, 1. The parties also indicate that the ’020 patent is the subject of a petition filed by Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. in IPR2021-00335. Pet. 90; Paper 5, 2. In the IPR2021-00335 proceeding, the Board concluded that claims 1–19 of the ’020 patent are unpatentable by a preponderance of the

evidence. *Samsung Elecs. Co., Ltd. et al. v. GUI Global Prods., Ltd., d/b/a Gwee*, IPR2021-00335, Paper 26 at 66–67 (PTAB June 29, 2022).

B. The '020 Patent

The '020 patent describes how an apparatus may be used for cleaning view screens of electrical devices. Ex. 1001, 1:32–34. The '020 patent aims to address the lack of convenient cleaning materials faced by users portable electronic devices. *Id.* at 1:52–2:6. In one embodiment, a cleaning component for cleaning a view screen of an electronic device is coupled to a first case of the electronic device using magnetic attractive force. *Id.* at 2:10–16, Fig. 1B. Figure 1B is illustrative and is reproduced below.

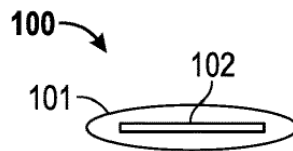


FIG. 1B

Figure 1B shows a side view of a cleaning component. *Id.* at 4:27–28. Cleaning component 100 includes ferromagnetic or ferrimagnetic substrate 102 covered by cleaning material 101, such as a fabric or a cloth. *Id.* at 6:19–39.

In another embodiment, a second case receives the cleaning component and also “functions to protect an electronic device’s primary case.” *Id.* at 2:39–53; Fig. 3. Figure 3 is illustrative and is reproduced below.

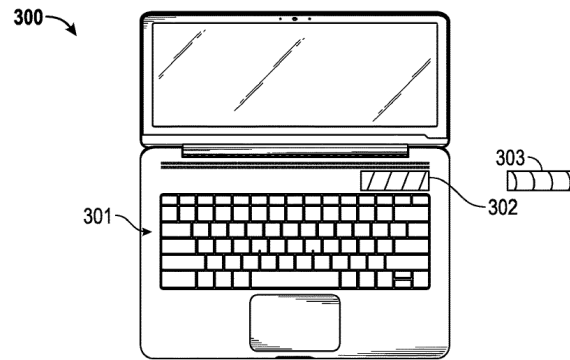


FIG. 3

Figure 3 shows a computer case configured to receive a cleaning component. *Id.* at 4:35–36. Laptop 300 has rectangular indentation 302 dimensioned for receiving cleaning component 303 which has a magnet. *Id.* at 8:51–58.

Figure 5A is also illustrative and is reproduced below.

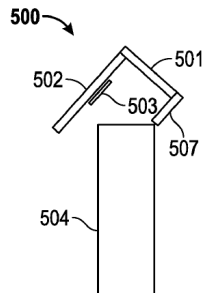


FIG. 5A

Figure 5A shows “a lateral type phone case configured to receive a cleaning component.” *Id.* at 4:39–40. Case 500 includes body 504 “which functions to hold a smartphone” and a lid having top 501, side 502, hinge 507, and cleaning component 503. *Id.* at 10:2–7.

The cleaning component is secured and adhered to a case via “dimensional stability to increase the security with which the cleaning components are adhered to the case.” *Id.* at 11:34–39; Fig. 9. Figure 9 is illustrative and is reproduced below.

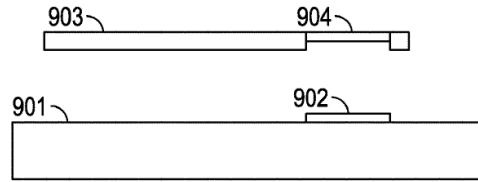


FIG. 9

Figure 9 shows a cleaning component “employing a structural feature to enhance adhesion.” *Id.* at 4:50–51. Device 901 has raised section 902 that is configured to fit within recess 904 of cleaning component 903. *Id.* at 11:39–41.

In yet another embodiment, the cleaning component has a magnetic element that activates or deactivates a magnetic switch. *Id.* at 2:65–67. The ’020 patent describes “activating or deactivating a device having a magnetic switch” as a “secondary application[]” and that “cleaning devices” “may also be manufactured without a cleaning component for use with the secondary application.” *Id.* at code (57); *see also id.* at 11:53–56 (explaining that the cleaning component may be able to activate magnetic switches on devices having switches). Thus, a device “may or may not include cleaning capabilities but will include a rare earth magnet or magnets” for “additional functionality.” *Id.* at 16:31–35.

Figure 24 is illustrative and is reproduced below.

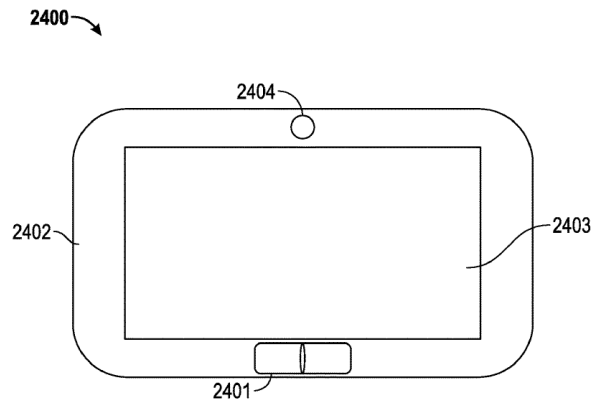


FIG. 24

Figure 24 shows a tablet computer having a switching device. *Id.* at 5:43–44. Tablet computer 2400 has switching device 2401 that “is selectively coupled to the front of the portable electronic device 2402 outside of the view screen 2403.” *Id.* at 17:63–67. A “magnetic switch is normally disposed with the portable electronic device but is shown [in Figure 24] for illustration purposes (2404).” *Id.* at 17:67–18:2. The ’020 patent describes that the switching component “may be picked up” and the switching device “is either applied directly to the magnetic switch or applied to either side of the switch and then slid past it to activate or deactivate the portable electronic device.” *Id.* at 18:3–8.

Figure 25, reproduced below, shows a side view of the switching device in Figure 24. *Id.* at 5:45–46, 18:9–10.

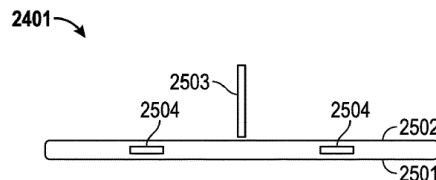


FIG. 25

Figure 25 shows switching device 2401 having bottom surface 2501, top surface 2502, and ferromagnetic or ferrimagnetic substrate 2504 disposed

therebetween. *Id.* at 18:9–11, 13–15. Tab 2503 “on the top surface” facilitates manipulation of switching device 2401. *Id.* at 18:12–13.

C. Illustrative Claim

Petitioner challenges claims 1–10 and 16–19 of the ’020 patent. Claim 1 is the only independent claim, and claims 2–10 and 16–19 depend directly or indirectly therefrom. Claim 1 is reproduced below, which includes changes made per a Certificate of Correction.

1. A system comprising:

a portable switching device coupled to a portable electronic device;

wherein:

the switching device and the electronic device are configured to selectively couple to each other employing magnetic force from a first magnet disposed within the switching device;

the switching device comprises a first case;

the electronic device comprises a second case and an electronic circuit that is responsive to the switching device; the electronic device comprises at least one element selected from the group consisting of beveled edges, ridges, recessed areas, grooves, slots, indented shapes, bumps, raised shapes, and combinations thereof; configured to correspond to complementary surface elements on the switching device;

the portable switching device is configured to activate, deactivate or send into hibernation the portable electronic device; and

when coupled, the second case functions to protect the first case.

Ex. 1001, 21:28–22:2, p.27.

D. Instituted Grounds of Unpatentability

Petitioner asserts that claims 1–10 and 16–19 are unpatentable based on the following grounds. Pet. 1.

Grounds	Claim(s) Challenged	35 U.S.C §	Reference(s)/Basis
1A	1–3, 5–7, 10, 16, 19	103(a) ¹	Bohbot, ² Gundlach ³
1B	2	103(a)	Bohbot, Gundlach, Nishikawa ⁴
1C	4, 18, 19	103(a)	Bohbot, Gundlach, Li ⁵
1D	8, 9	103(a)	Bohbot, Gundlach, Stevinson ⁶
1E	10	103(a)	Bohbot, Gundlach, Rosener ⁷
1F	17	103(a)	Bohbot, Gundlach, Stevinson, Iio ⁸
2A	1–3, 5–7, 10, 16, 19	103(a)	Bohbot, Gundlach, and

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the ’020 patent has an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA version of 35 U.S.C. § 103.

² Certified English Translation of FR2912858, published August 22, 2008 (Ex. 1004, “Bohbot”). FR2912858 is filed as Exhibit 1021.

³ U.S. Pat. Appl. Pub. No. US 2008/0132293 A1, published June 5, 2008 (Ex. 1005, “Gundlach”).

⁴ U.S. Pat. Appl. Pub. No. US 2007/0145255 A1, published June 28, 2007 (Ex. 1059, “Nishikawa”).

⁵ CN201114710Y, published September 10, 2008 (Ex. 1006, “Li”).

⁶ U.S. Pat. Appl. Pub. No. US 2011/0317865 A1, published December 29, 2011 (Ex. 1007, “Stevinson”).

⁷ U.S. Pat. Appl. Pub. No. US 2008/0076489 A1, published Mar. 27, 2008 (Ex. 1050, “Rosener”).

⁸ U.S. Pat. Appl. Pub. No. 2011/0218502 A1, published September 8, 2011 (Ex. 1010, “Iio”).

Grounds	Claim(s) Challenged	35 U.S.C §	Reference(s)/Basis
			Diebel ⁹
2B	2	103(a)	Bohbot, Gundlach, Diebel, and Nishikawa
2C	4, 18, 19	103(a)	Bohbot, Gundlach, Diebel, and Li
2D	8, 9	103(a)	Bohbot, Gundlach, Diebel, and Stevinson
2E	10	103(a)	Bohbot, Gundlach, Diebel, and Rosener
2F	17	103(a)	Bohbot, Gundlach, Diebel, Stevinson, and Iio

Petitioner supports its challenges with the Declaration and Supplemental Declaration of Dr. Jeremy Cooperstock. Exs. 1003, 1089. Patent Owner supports its arguments with the Declaration of Dr. Hamid Toliyat. Ex. 2001. We instituted review on the grounds set forth above. Inst. Dec. 8, 41.

II. DISCUSSION

A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art;

⁹ U.S. Pat. Appl. Pub. No. 2010/0124040 A1, published May 20, 2010 (Ex. 1030, “Diebel”).

(2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective indicia of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted).

Citing the testimony of Dr. Cooperstock, Petitioner contends that “[a] person of ordinary skill in the art at the time of the ’020 patent (a ‘POSITA’) would have had at least a Bachelor’s degree in an academic area emphasizing electrical engineering, mechanical engineering, or a similar discipline, and at least two years of experience in the field working with electronic devices.” Pet. 4 (citing Ex. 1003 ¶ 20). Petitioner also asserts that “[s]uperior education could compensate for a deficiency in work experience, and vice-versa.” *Id.*

Citing the testimony of Dr. Toliyat, Patent Owner contends that [a] person of ordinary skill in the art at the time of the ’020 patent . . . would have had either a bachelor’s degree in electrical engineering, computer science, or mechanical engineering with some level of post-baccalaureate electronic device or system design experience, or someone with an equivalent level of experience and training through other means. Superior education might be able to compensate for a deficiency in work experience, and vice-versa.

PO Resp. 7–8 (citing Ex. 2001 ¶ 19); *see* Ex. 2001 ¶ 20 (adopting proposed definition of POSITA set forth by Patent Owner). Dr. Toliyat further testifies that

the use of the phrase “at least” in Dr. Cooperstock’s definition of a POSITA leaves the actual educational and other experience of a POSITA in doubt because it encompasses someone of greater education, training, and skill than a POSITA and could even include an expert in the field. As such, Dr. Cooperstock’s definition of a POSITA is of questionable assistance in understanding the true qualifications of the POSITA and how such a person would understand and employ the teachings of the various references cited in the petition.

Ex. 2001 ¶ 20. Nevertheless, Dr. Toliyat further testifies that “Dr. Cooperstock’s definition of a POSITA is somewhat different than mine; however, my opinions in this declaration would be the same regardless of whether or not my description or Dr. Cooperstock’s description of a POSITA is used.” *Id.* ¶ 22.

We adopt Petitioner’s definition of the level of ordinary skill in the art. Patent Owner’s proposed level of qualifications overlaps substantially with Petitioner’s proposed level, however, we agree with Dr. Toliyat that the term “at least” should be eliminated because it introduces ambiguity. Even if we adopted Patent Owner’s proposed level of qualifications, the analysis presented in this Decision and the outcome would remain the same.

C. Claim Construction

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2020). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as understood by one of

ordinary skill in the art and the prosecution history pertaining to the patent. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc).

According to Petitioner, “no express constructions are required to institute review and find the Challenged Claims unpatentable.” Pet. 4. Patent Owner argues that it “has assigned the claim terms their plain and ordinary meanings as a POSITA would have understood them in the context of the ‘020 patent, unless otherwise noted herein.” PO Resp. 8.

For purposes of this Decision, we need not expressly construe any claim terms. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

D. Ground 1A—Obviousness of Claims 1–3, 5–7, 10, 16, and 19 Over Bohbot and Gundlach

Petitioner contends that claims 1–3, 5–7, 10, 16, and 19 are obvious under 35 U.S.C. § 103(a) over Bohbot and Gundlach. Pet. 9–50.

1. Bohbot

Bohbot describes “a miniature communication device” that includes headset 31 that can be held in housing 34 of a primary module 30. Ex. 1004, 1:4, 11:14–19, 13:20–14:1. Figure 3 is illustrative and is reproduced below.

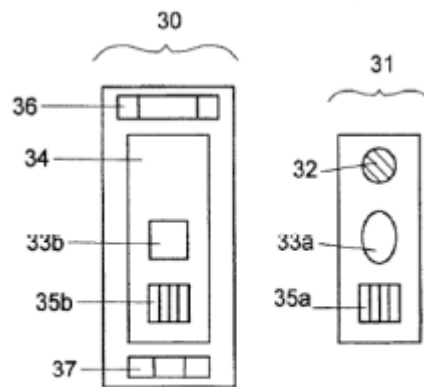


Fig.3

Figure 3 shows a block diagram of detachable headset 31 comprising speaker 32, magnet 33a, and blade contactor 35a, as well as primary module 30 comprising housing 34, ferromagnetic material 33b, blade contactor 35b and navigation buttons 36, 37. *Id.* at 11:12–12:3. Bohbot discloses that “[t]he system is usually supplemented by a microphone to transmit the user’s words,” and “[t]his microphone may be integrated into the headset or detached.” *Id.* at 1:18–20 (emphasis added). The user has the option “to detach the headset and place it on his/her ear for a telephone call.” *Id.* at 6:17–18.

2. Gundlach

Gundlach describes a device that operates as a wireless headset and can be stored and charged in a host device such as a laptop computer or a cell phone. Ex. 1005 ¶ 2. Gundlach indicates a desire for mobility while managing peripherals that accompany a portable computer. *Id.* ¶ 3. To this end, Gundlach discloses that its device’s “relatively thin shape may allow the headset to be stored and charged in a portable cradle” and the “portable cradle may be a holder, clip, case or card that may fit inside a standard expansion slot.” *Id.* ¶ 56.

Figure 1 is illustrative and is reproduced below.

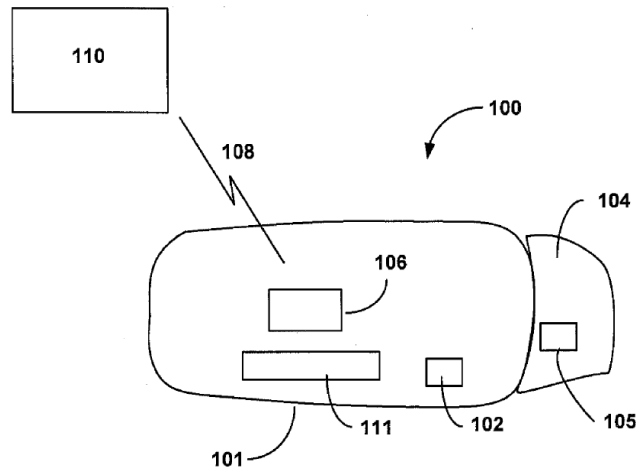


FIG. 1

Figure 1 shows a schematic view of a wireless device in communication with a host device. *Id.* ¶ 11. Wireless device 100 includes housing 101 and earpiece 104. *Id.* ¶ 58. Housing 101 includes microphone 102, power source 111 such as a battery, and transceiver 106 for sending and receiving information 108 from host device 110 such as a computer or a cell phone. *Id.* Earpiece 104 includes speaker 105. *Id.* Gundlach’s wireless device may be held to a cradle by a magnet “which may be embedded in the cradle” and the wireless device “may also include a ferromagnetic portion” such as another magnet to which the magnet in the cradle may be attracted. *Id.* ¶ 68. The wireless device may also be held to the cradle by “mechanical means” such that the wireless headset is retained to the cradle. *Id.*

Figure 18b is illustrative and is reproduced below.

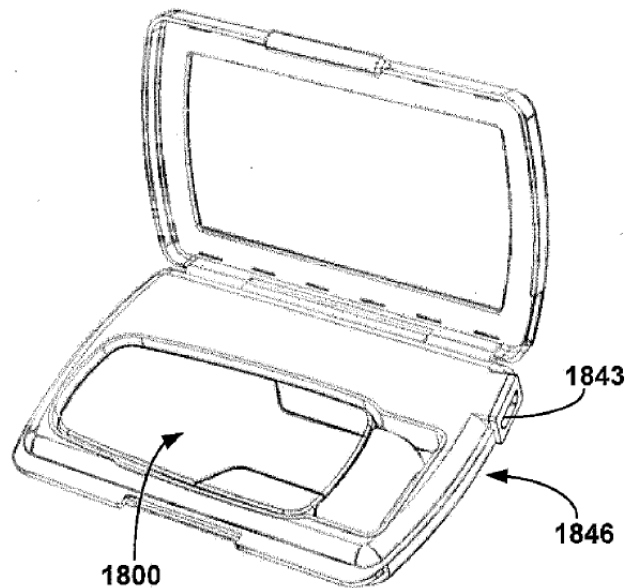


FIG. 18b

Figure 18b shows a perspective view of a case for retaining a wireless device. *Id.* ¶ 52. Wireless device 1800 is provided in a clamshell case that has recess 1846 “defined therein to accommodate the wireless device.” *Id.* ¶ 80.

3. Independent Claim 1

1[pre] Claim 1 recites “[a] system comprising:”

1[a] Claim 1 recites “a portable switching device coupled to a portable electronic device.”

Petitioner contends that “Bohbot’s ‘miniature communication device’ (a system) includes ‘a primary module’ and ‘a detachable headset.’” Pet. 9 (citing Ex. 1004, 3:4–9; Pet. § III.A) (emphasis omitted). Petitioner presents an annotated version of Bohbot’s Figure 1a, reproduced below.

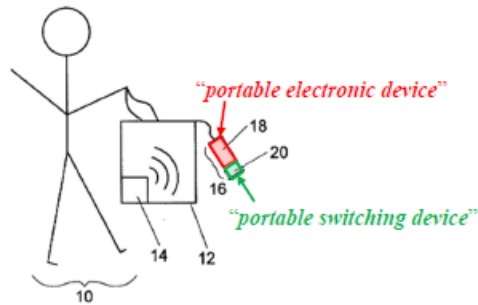


Fig.1a

Petitioner’s annotated version of Bohbot’s Figure 1a shows Bohbot’s primary module 18, which Petitioner cites as teaching the claimed portable electronic device. *Id.* at 10–11 (citing Ex. 1004, 4:22–27, 6:16–19, 9:22–10:1, Fig. 1b; Ex. 1003 ¶¶ 40–41; Exs. 1024, 1025; Ex. 1100 ¶ 109). In particular, Petitioner contends that Bohbot’s primary module 18 includes electronic components such as a “microphone, power storage device, [and] data storage unit,” as well as “navigation buttons . . . [and] blade contactors,” and is described as part of miniature communication device 16 that has “reduced weight and size that ‘can...be attached to a bag, a shoulder strap, or any other object.’” *Id.* at 17 (citing Ex. 1004, 4:22–27, 6:16–19, 9:22–10:1; Ex. 1003 ¶ 51) (alteration in original).

Petitioner’s annotated version of Bohbot’s Figure 1a also depicts detachable headset 20, which Petitioner cites as teaching the claimed switching device. *Id.* at 20 (citing Ex. 1004, 6:24–25, 7:7–8, 10:5–6, 10:19, 14:14–15; 1003 ¶ 56). Petitioner’s annotated version of Figure 1a also depicts primary module 18 (portable electronic device) and headset 20 (portable switching device) in a coupled state.

According to Petitioner, “[w]hile the ’020 patent specification does not expressly define the term ‘switching device,’ it does indicate that its ‘switching device’ encompasses a device that, when detected to be in close

proximity to a portable electronic device, causes that portable electronic device to switch from one state to another.” *Id.* at 12 (citing Ex. 1001, 3:49–4:17, 11:53–63, 17:45–48, 17:64–18:8, 20:4–13). Petitioner presents several theories in support of Bohbot’s teaching of “switching.” *Id.* at 12–15. In particular, Petitioner bases its third theory on Bohbot’s configuration in which “the miniature device comprises [] means to detect the presence of the detachable headset 20 on the primary module 18,” which “make[s] it possible . . . to activate either of the microphones 25 and 26.” *Id.* at 14 (citing Ex. 1004, 10:20–11:4, 6:8–9) (emphasis omitted). Petitioner contends that Bohbot’s detachable headset 20 teaches the claimed portable switching device because, “when it is detected to be present on the primary module (portable electronic device), the microphone 25 in the primary module transitions, i.e., switches, from an off state to an on state, while the microphone 26 in the headset transitions, i.e., switches, from an on state to an off state.” *Id.* at 14–15 (citing Ex. 1004, 10:20–11:4, 6:8–9, 9:1–2, 13:1–16, 14:9–11; Ex. 1003 ¶¶ 45–48) (emphasis omitted).

Patent Owner argues that “Bohbot does not disclose the ‘means to detect’ or where such means reside[s] on the ‘miniature device,’ including whether [it] reside[s] on the primary module or the headset,” but what “Bohbot does disclose is that unspecified ‘means thus make it possible, depending on the operating mode of the miniature device, to activate either of the microphones 25 and 26.’” PO Resp. 20 (citing Ex. 2001 ¶ 118; Ex. 1004, 10:21–25). According to Patent Owner, “to a POSITA, Bohbot discloses that the operating mode of the main device is determinative of the configuration of the miniature device with respect to one microphone being on and the other off” but “Bohbot does not disclose how this operating mode works.” *Id.* at 20–21 (citing Ex. 2001 ¶ 119). Patent Owner asserts that, “to a

POSITA, Bohbot lacks sufficient details to justify the headset qualifying as a switching device, and if anything, the alternating microphone functionality cited by Apple is due to an undisclosed operating mode.” *Id.* at 21 (citing Ex. 2001 ¶ 120).

We agree with Petitioner that “the miniature device comprises [] means to detect the presence of the detachable headset 20 on the primary module 18,” which “make it possible . . . to activate either of the microphones 25 and 26.” Pet. 14 (citing Ex. 1004, 10:20–11:4, 6:8–9) (emphasis omitted). Further, as discussed in the Institution Decision, and which the full record supports, “Patent Owner’s argument does not address the fact that the prior art describes a miniature device that detects a microphone, which is sufficient to describe that device as a switching device.” Inst. Dec. 15 (citing Pet. 14). The ’020 patent does not specifically disclose what constitutes the claimed switching device—instead, the patent describes switching device in terms of its functionality. *See, e.g.*, Ex. 1001, 17:63–18:8.

Additionally, Petitioner disputes Patent Owner’s allegations that “the alternating microphone functionality . . . is due to an undisclosed operating mode.” Pet. Reply 6 (citing PO Resp. 21). Petitioner asserts, and we agree, that Patent Owner’s argument is a mischaracterization of the teachings of Bohbot, which Petitioner contends “actually discloses two operating modes: ‘telephone call in progress’ and ‘no telephone call in progress.’” *Id.* (citing Ex. 1004, 11:1–6). Petitioner persuasively explains that, “[d]uring a ‘telephone call in progress,’ the alternating microphone functionality is due to ‘headset detached’ and ‘headset not detached.’” *Id.* (citing Ex. 1004, 11:1–6; Ex. 1088, 76:1–19). More particularly, Petitioner persuasively explains that

the primary module's microphone is turned off when "telephone call [is] in progress and headset [is] detached" and is turned on when "telephone call [is] in progress and headset [is] not detached." Thus, during a "telephone call in progress," the primary module's microphone circuitry switches between states— from off (deactivated/inoperative) to on (activated/operative) when the headset is connected and from on (activated/operative) to off (deactivated/inoperative) when the headset is disconnected from the primary module.

Id. (citing Ex. 1004, 11:1–6; Ex. 1088, 76:1–19; Pet. 14–15, 28; Ex. 1089

¶¶ 16–18) (alterations in original). In its Sur-Reply, Patent Owner contends that

Petitioner's Reply attempts to rely upon two new "operating modes," which are "telephone call in progress" and "no telephone call in progress." This untimely theory in the Reply, even if erroneously considered, does not support this element being met. If anything, it shows a causal connection between a phone call and microphone activity, not a causal connection between attachment of the earpiece and microphone activity.

Sur-Reply 11 (citing Pet. Reply 6). Patent Owner's argument is unavailing because Petitioner's Reply is responsive to Patent Owner's argument that "Bohbot does not disclose how this operating mode works." *See* PO Resp. 20–21 (citing Ex. 2001 ¶ 119).

We additionally credit the testimony of Dr. Cooperstock who testifies that "the miniature device comprises[] means to detect the presence of the detachable headset 20 on the primary module 18,' which 'make it possible . . . to **activate** either of the microphones 25 and 26.'" Ex. 1003 ¶ 46 (citing Ex. 1004, 10:20–11:4, 6:8–9) (alterations in original). We concur with Dr. Cooperstock's testimony that, "Bohbot discloses that with the 'headset detached[,] microphone 25 [is] off and microphone 26 [is] on' and with the 'headset not detached[,] microphone 25 [is] on and microphone 26 [is] off.'"

Id. (alterations in original). We further concur with Dr. Cooperstock’s testimony that

Bohbot’s headset is a “***switching device***” . . . because, when it is detected to be present on the primary module (***portable electronic device***), the microphone 25 in the primary module transitions, i.e., ***switches***, from an off state to an on state, while the microphone 26 in the headset transitions, i.e., ***switches***, from an on state to an off state.

Id. As Dr. Cooperstock “previously explained in [his] First Declaration, the primary module’s . . . microphone circuitry [is] . . . activated when the headset is connected to the primary module and . . . deactivated when the headset is disconnected from the primary module.” Ex. 1089 ¶ 20 (citing Ex. 1003 ¶¶ 43–48, 72–74).

The cited testimony in Dr. Toliyat’s Declaration concerning this issue largely reiterates Patent Owner’s arguments but does not provide a sufficient explanation why a POSITA would have found it difficult or impossible to implement Bohbot’s headset in the disclosed configuration and operating mode, including its detection. *See* Ex. 2001 ¶¶ 118, 119.

Having reviewed the entire record developed during trial, we determine that Bohbot’s disclosures in this regard would have been sufficient to teach a POSITA that the headset operates as a switching device for the microphone, and does not need to expressly disclose any attendant implementation details as Patent Owner contends. *See* Pet. Reply 5–6.

Patent Owner additionally contends that Petitioner “has no explanation for how passive transmission of current by Bohbot’s primary module would show Bohbot’s headset to be a switching device.” PO Resp. 17 (citing Ex. 2001 ¶ 106). Patent Owner also contends that Petitioner “has no explanation for how passive receipt of data by Bohbot’s primary module

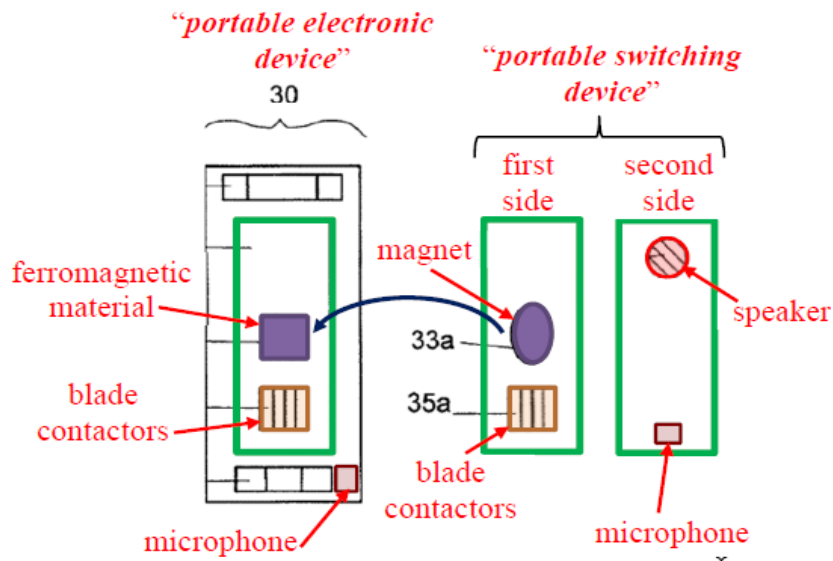
would show Bohbot’s headset to be a switching device.” *Id.* at 19 (citing Ex. 2001 ¶ 112). These arguments are unavailing because they are not responsive to Petitioner’s third theory involving the activating and deactivating of the microphone, which we find persuasive for the reasons set forth in this section.

Having reviewed the cited portions of Bohbot and Dr. Cooperstock’s testimony, we are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches the subject matter of the preamble and claim limitation 1[a]. As there is no dispute between the parties as to whether the preamble is limiting and because the combination of Bohbot and Gundlach teaches the subject matter of the preamble of claim 1, we need not determine whether the preamble of claim 1 is limiting.

1[b] Claim 1 recites “the switching device and the electronic device are configured to selectively couple to each other employing magnetic force from a first magnet disposed within the switching device.”

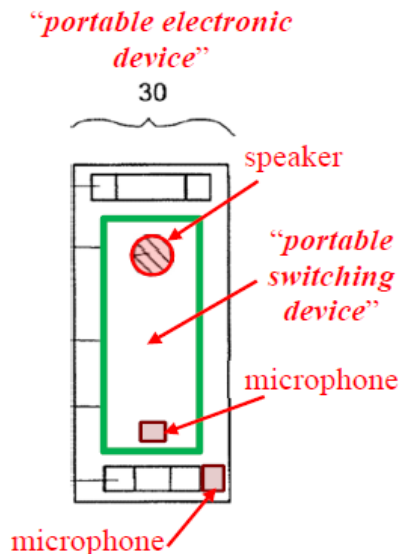
Petitioner contends that “[a] POSITA would have also found it obvious to configure the speaker of Bohbot’s FIG. 3 headset so that it is exposed when the headset is attached to the primary module to allow the user ‘to wear the entire device . . . on his/her ear.’” Pet. 15 (citing Ex. 1004, 10:15–19; Ex.1003 ¶ 49) (alteration in original). Petitioner’s annotated version of Figures 2 and 3 of Bohbot, reproduced below, exemplify how this combination would be achieved. *Id.* at 16.

Bohbot's FIG. 3 communication device modified in view of FIG. 2 ("system") with headset separated from primary module



Petitioner's annotated version of Figure 2 of Bohbot, above, shows: a device 30 labeled as a "portable electronic device" that has ferromagnetic material, blade contactors, and a microphone; a device labeled "portable switching device" that has a first side with magnet 33a (shown with an arrow as matching with the ferromagnetic material of the "portable electronic device") and blade contactors 35a as well as a second side with a speaker and a microphone. Petitioner's annotated version of Bohbot's Figure 3 communication device modified in view of Figure 2, with headset attached to primary module, is reproduced below.

Bohbot's FIG. 3 communication device modified in
view of FIG. 2 ("system") with headset attached to primary module



Petitioner's annotated version of Bohbot's Figure 3 depicts a combined device in which the first side of the "portable switching device" is attached to the "personal electronic device, showing " a speaker and microphone in the portable switching device, as well as a microphone in the portable electronic device. *Id.* at 14–17.

Petitioner contends that a POSITA would have been motivated and would have found it convenient to use Bohbot's headset alone to participate in telephone calls by having a separate microphone in the headset to avoid having to be in close proximity to the microphone in Bohbot's primary module during calls. *Id.* at 17 (citing Ex. 1004, 1:17–20, 2:25–3:3, 10:8–11:6; Ex. 1003 ¶ 50). Petitioner asserts that with this operation, and when the primary module is attached to a bag, "the user may detach the headset and walk away from the bag while still being within Bluetooth range without compromising the quality of the user's spoken audio." *Id.* Petitioner also contends that a POSITA would have been motivated and found it obvious to

supplement Bohbot's Figure 3 based on the teachings of Bohbot's Figure 2 to give the user greater flexibility in participating in telephone calls and to manage the use of the two microphones to prevent feedback during a telephone call. *Id.* (citing Ex. 1004, 6:8–9, 10:20–11:4).

Petitioner further contends that, as to the physical coupling, Bohbot's headset (portable switching device) "comprises a magnet 33a, allowing it to be held in position in the housing 34 of the primary module" (portable electronic device) "due to the additional element 33b installed at the bottom of this housing," which is "a plate made of a ferromagnetic material, sensitive to the attraction of the magnet" in the headset. *Id.* at 18 (quoting Ex. 1004, 3:24–4:8, 11:15–19, 13:20–14:1; Ex. 1003 ¶¶ 52–53) (emphasis omitted). Petitioner provides reasons for having the magnet "disposed within" the headset. *Id.* at 19–20 (citing Ex. 1003 ¶¶ 54–55; Exs. 1020, 1023).

Patent Owner does not specifically contest claim limitation 1[b]. *See e.g.*, PO Resp. 21. Patent Owner argues, instead, that Petitioner's "assumption that all aspects of Bohbot's Fig. 3 embodiment would also be found in Bohbot's Fig. 2 embodiment is unfounded and unpersuasive," as well as "improper given that Bohbot presents the Fig. 2 and Fig. 3 embodiments as alternative embodiments not as ones to be mixed and matched." *Id.* at 3 (citing Ex. 1004, 9:13–16); Sur-Reply 14–15.

Patent Owner's argument is unavailing because it presumes that Petitioner is proposing bodily incorporation of Figure 2 of Bohbot into its Figure 3, when instead Petitioner is proposing what would have been suggested to a person having ordinary skill in the art. *See In re Keller*, 642 F.2d 413, 425 (Fed. Cir. 1981). We find that Petitioner provides a sufficient rationale for combining Bohbot's Figures 2 and 3, which we find is

persuasively supported by sufficient rational underpinning in the record evidence, as discussed above, and we adopt this rationale as our own. We have also reviewed the cited portions of Bohbot and Dr. Cooperstock's testimony and are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches limitation 1[b].

1[c] Claim 1 recites “the switching device comprises a first case.”

Petitioner contends that “Bohbot's headset (switching device) has ‘a secondary power storage device installed in the detachable headset,’ ‘Bluetooth transmitter/receiver . . . installed in the detachable headset,’ ‘radio means built into the detachable headset,’ and ‘microphone 26 built into the detachable headset.’” Pet. 20 (citing Ex. 1004, 6:24–25, 7:7–8, 10:5–6, 10:19, 14:14–15) (emphasis omitted). Petitioner asserts that from this disclosure a POSITA would have understood that Bohbot's headset has a first case, in which electronic components are installed or built into. *Id.* (citing Ex. 1003 ¶ 56) Petitioner additionally relies on Gundlach's disclosure of a housing and its assertion that a “case for an electronic switching device was a ubiquitous feature in the field of consumer electronics.” *Id.* at 21 (citing Ex. 1005 ¶¶ 58, 59, 65, Figs. 1, 2a–2f, 8; Ex. 1001, 5:59–6:66) (emphasis omitted). We address Petitioner's rationale to combine Bohbot and Gundlach after claim element 1[e] below in order to provide further context to Petitioner's challenge.

Patent Owner does not specifically contest the teaching of claim limitation 1[c] by the prior art. *See e.g.*, PO Resp 21. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock's testimony and we are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches limitation 1[c].

1[d] Claim 1 recites “the electronic device comprises a second case and an electronic circuit that is responsive to the switching device.”

Petitioner contends that “Bohbot’s primary module (electronic device) has a housing (second case)” because “[t]he housing serves to encase—and thus retain and protect—the sensitive electronic components and circuitry of the primary module.” Pet. 22 (citing Ex. 1004, 11:14–22) (emphasis omitted). For the teaching of the claimed electronic circuit, Petitioner also contends that

[a] POSITA would have understood the microphone 25 to be part of *an electronic circuit*.

When the headset is separate from the primary module, the microphone 25 and corresponding circuit of the primary module are *deactivated* and when the headset is attached to the primary module, the microphone 25 and corresponding circuit of the primary module are *activated*. The activation or deactivation of the microphone of the primary module based on the presence of the headset on the primary module is the microphone’s electronic circuit being “responsive to the switching device.”

Id. at 25–26 (citing Ex. 1004, 10:20–11:4; Ex. 1003 ¶¶ 63, 64).

Patent Owner does not specifically contest the teaching of claim limitation 1[d] by the prior art. *See e.g.*, PO Resp. 21. We have reviewed the cited portions of Bohbot and Dr. Cooperstock’s testimony and we are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches claim limitation 1[d].

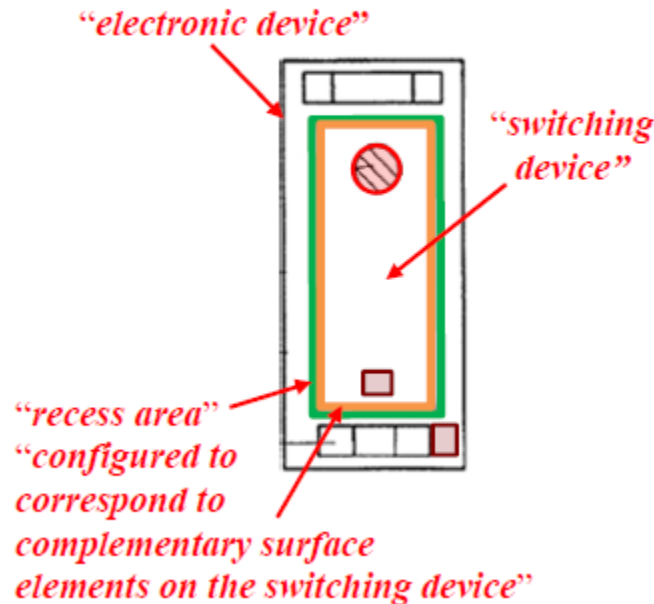
1[e] Claim 1 recites “the electronic device comprises at least one element selected from the group consisting of . . . recessed areas, . . . raised shapes and combinations thereof; configured to correspond to complementary surface elements on the switching device.”

Petitioner contends that the combination of Bohbot and Gundlach would result in

a primary module (portable electronic device) with a contoured recess configured to correspond to complementary surface elements of the headset for retaining the headset (portable switching device), with the headset magnetically coupling and electrically connecting to the primary module when the headset is placed within the contoured recess of the primary module.

Pet. 27 (citing Ex. 1004, 3:4–9, 3:14–20, 11:12–25, 13:14–14:1, Fig. 3; Ex. 1005 ¶¶ 55, 78, 80, Figs. 18a, 18b; Ex. 1003 ¶¶ 65–69) (emphasis omitted). Petitioner’s annotated version of Figures 2 and 3 of Bohbot combined with Gundlach, reproduced below, exemplify how this combination would be achieved.

Bohbot's FIG. 3 communication device
modified in view of FIG. 2 and Gundlach ("system")



Petitioner's annotated version of Figures 2 and 3 of Bohbot combined with Gundlach, above, shows: a device labeled as an "electronic device" that has a "recess area" labeled as "configured to correspond to complementary surface elements on the switching device"; a device labeled "switching device" that is attached to the "electronic device" such that the speaker and microphone are exposed. *See id.*

Petitioner's Rationale for Combining Bohbot and Gundlach

Petitioner contends that "[a] POSITA would have been motivated and found it obvious to combine Bohbot with Gundlach to provide a primary module with a contoured recess for retaining a headset in position therein to provide robust protection for the headset." Pet. 7 (citing Ex. 1003 ¶¶ 34, 35). According to Petitioner,

[t]he contoured recess allows the headset to nestle in place, and combined with a magnetic connection, prevents detaching of the headset from the primary module in the presence of minor

jostling. Bohbot’s device (with attached headset) is likely to be hit by other objects, dropped, etc., making the semi-enclosed protection provided by the contoured recess further advantageous and complementary to Bohbot’s stated goal of “avoiding a detachment that is so easy it could easily be removed by a person with malicious intentions, or an untimely detachment that would lead to loss of the headset.”

Id. at 7–8 (citing Ex. 1004, 4:3–5, 4:22–27). Petitioner takes the position that

a POSITA would have viewed the implementation of Bohbot’s device in a manner that applied Gundlach’s suggested storage configuration as merely the predictable result (e.g., a primary module with a contoured recess for retaining a headset) of combining known prior art elements according to known methods. The POSITA would have appreciated that the Bohbot-Gundlach combination does not change the hallmark aspects of either of these references. The Bohbot storage and charging aspects would remain unchanged, as would Gundlach’s suggested storage and charging features. The respective teachings would work together in combination just as they did apart, with Gundlach’s suggestions merely improving/adding to Bohbot’s device by providing that the primary module has a contoured recess for retaining the headset.

Id. at 8 (citing Ex. 1003 ¶ 36; *KSR*, 550 U.S. at 398).

Analysis of Patent Owner’s Arguments

Patent Owner sets forth arguments specifically with respect to Petitioner’s rationale for combining Bohbot and Gundlach, which we discuss below, and these alleged deficiencies are also asserted as the basis of why the Bohbot–Gundlach combination fails to teach limitation 1[e]. PO Resp. 13–15, 22–23 (citing Ex. 2001 ¶¶ 125, 126, 128–134, 150–155).

First, Patent Owner argues that adding “Gundlach’s contoured recess to Bohbot ‘to provide robust protection for the headset’ to allow it to ‘nestle in place’” “is vague because it does not specify which Gundlach ‘contoured recess’ is being referenced” and, in any event, Bohbot does not need any

protection for the headset because “the magnetic coupling described by Bohbot serves the function of keeping the headset attached to the primary module yet readily accessible quite well.” *Id.* at 12–13 (citing Pet. 7; Ex. 1005, Figs. 11a, 12a, 13b, 18b; Ex. 2001 ¶ 96); Sur-Reply 15–18.

Petitioner responds to Patent Owner’s argument about vagueness as to which of Gundlach’s contoured recesses it is referencing in its challenge by arguing that it “is not required to ‘specify which Gundlach “contoured recess” is being reference[d]’” by contending that this argument is irrelevant and that the “Bohbot-Gundlach [combination] incorporates Gundlach’s general teaching of a contoured recess for retaining a headset, not any of Gundlach’s particular embodiments.” Pet. Reply 8 (citing Pet. 7–8; Ex. 1089 ¶ 23; *In re Arora*, 369 F. App’x 120, 122 (Fed. Cir. 2010) (citing *In re Inland Steel Co.*, 265 F.3d 1354, 1361 (Fed. Cir. 2001); *In re Fritch*, 972 F.2d 1260, 1264 (Fed. Cir. 1992))). We are persuaded that even the generalized teachings of Gundlach’s contoured recesses would have been sufficient—it is not necessary for Petitioner’s challenge to specify one of the recesses disclosed in Gundlach to make Petitioner’s proposed combination.

Second, Patent Owner argues that “Gundlach’s deep recesses would be unsuitable for the easy and quick detachment needed by Bohbot.” PO Resp. 14. Also, Patent Owner argues in Bohbot “the headset is meant to be readily accessible” and “Bohbot keeps the headset well secured . . . while at the same time providing for its ready use,” so that “[i]t is hard to imagine a more suitable mechanism [magnetic coupling] for serving Bohbot’s purpose and certainly a POSITA would not have thought it necessary to track down alternatives, and especially ones that put the headset in a recess or case and not readily available for use, as suggested by [Petitioner].” *Id.* at 12–13 (citing Ex. 2001 ¶ 95). *Third*, Patent Owner argues that “[a] POSITA would

not want to have to dig out the headset from a Gundlach-inspired recess . . . or closed clamshell case . . . especially with one hand, and especially while using the other hand to carry a purse, hold a mobile phone, drive a vehicle, etc.” *Id.* at 14 (citing Ex. 2001 ¶¶ 98, 130–131). *Fourth*, Patent Owner argues that “a POSITA would not add a recess for the headset to the primary module because it would then become difficult to remove the headset with one hand, especially when holding a purse, . . . as illustrated in Fig. 1a . . . or if the primary module was clipped to a shoulder strap, as also taught by Bohbot.” *Id.* at 14–15 (citing Ex. 1004, 4:27; Ex. 2001 ¶¶ 130–131). *Fifth*, Patent Owner argues that “Bohbot notes a drawback of existing headsets in that ‘it is not easy to quickly find this type of headset during an incoming call’” and that “[a] POSITA would not want to have to dig a headset out from a recess with one hand because it [would] make it more difficult and time consuming to remove the headset from the primary module.” *Id.* at 15 (citing Ex. 1004, 2:9–13; Ex. 2001 ¶¶ 132–133; Ex. 1003, 150–155) (first alteration in original); *see id.* at 22–23 (citing Ex. 2001 ¶¶ 125–135, 150–155; Ex. 1003, 65–69, 75) (Patent Owner also presenting the same arguments for limitation 1[e]).

As discussed in the Institution Decision, and which the full record supports, “Patent Owner’s arguments do not undermine Petitioner’s persuasive showing.” Inst. Dec. 23 (citing Ex. 1003 ¶¶ 33–36). Although Patent Owner’s arguments now incorporate the testimony of Dr. Toliyat, the testimony largely reiterates Patent Owner’s arguments and we do not find either the testimony or the arguments to undermine Petitioner’s showing. *See e.g.*, Ex. 2001 ¶¶ 125–135, 150–155.

Bohbot addresses the difficulty of finding a headset in a bag, as Patent Owner contends in its arguments concerning accessibility, but

discloses that this is “due to [its] *size*.” Ex. 1004, 2:9–13 (emphasis added). More relevant to Petitioner’s proposed combination of Bohbot and Gundlach are Patent Owner’s arguments concerning the ease or lack of ease of *detachment* of the headset from a primary module having a recess as taught by Gundlach. We determine that a POSITA would have balanced concerns about the combination lacking ease of detachment against the need for effectively securing the headset to the primary module. *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (stating that “a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”); *see also Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349, n.8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit . . . should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). Additionally, an obviousness determination does not turn on whether the proposed combination is the preferred or most desirable combination. *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004); *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197–98 (Fed. Cir. 2014).

Further, even if Bohbot teaches a “suitable mechanism” of securing its headset via magnetic coupling as Patent Owner argues (*see* PO Resp. 12–13 (citing Ex. 2001 ¶ 95)), we determine that Bohbot would not have dissuaded a POSITA from more effectively securing its headset using the recess cited in Gundlach. *See* Pet. Reply 11 (“Gundlach provides a suitable option for semi-enclosed protection in the form of a contoured recess, and Bohbot does not teach away from the use of a contoured recess.”) (citing *Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir.

2009); Ex. 1089 ¶ 28). Responsive to Patent Owner’s arguments, Dr. Cooperstock testifies that “Bohbot nowhere describes its headset as being easy and quick to detach ‘with one hand,’ and thereby being ‘readily available for use.’” Ex. 1089 ¶ 26. As Petitioner points out, “Bohbot’s magnetic attachments ‘make attachment and detachment easy’ but also ‘are powerful enough to make an effective attachment possible, thus ***avoiding a detachment that is so easy*** it could easily be removed by a person with malicious intentions, or an untimely detachment that would lead to loss of the headset.” Pet. Reply 10 (quoting Ex. 1004, 3:26–4:5) (citing PO Resp. 14). We are persuaded by Petitioner’s contention and Dr. Cooperstock’s testimony that “[t]he miniature communication device (with attached headset) is likely to be hit by other objects, dropped, etc., making the semi-enclosed protection provided by [Gundlach’s] contoured recess further advantageous and complementary to Bohbot’s stated goal.” Ex. 1003 ¶ 35 (citing Ex. 1004, 4:3–5); *see* Pet. Reply 11 (citing *Bayer Pharma AG v. Watson Labs., Inc.*, 874 F.3d 1316, 1328 (Fed. Cir. 2017) (quoting *PAR Pharm.*, 773 F.3d at 1197–98)) (“obviousness ‘does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away’”).

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s showing. We determine that Petitioner’s rationale for combining Bohbot and Gundlach is persuasive for the reasons set forth above and is supported by sufficient rational underpinning in the record evidence and we adopt it as our own.

We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock’s testimony and we are persuaded that Petitioner sufficiently

demonstrates that the combination of Bohbot and Gundlach teaches limitation 1[e].

1[f] Claim 1 recites “the portable switching device is configured to activate, deactivate or send into hibernation the portable electronic device.”

As set forth above, Petitioner contends that

Bohbot discloses that when the headset (portable switching device) is separate from the primary module (portable electronic device), the microphone circuitry of the primary module is deactivated and when the headset is attached to the primary module, the microphone circuitry of the primary module is activated.

Pet. 28 (citing Ex. 1004, 10:20–11:4; Ex. 1003 ¶¶ 73–74; Pet. §§ 1[a], 1[d]) (emphasis omitted).

Patent Owner argues that “even if Bohbot’s headset was established as a switching device, to a POSITA, element 1[f] would still not be met for lack of a showing that a Bohbot-Gundlach headset is configured to activate, deactivate or send into hibernation a Bohbot-Gundlach primary module.” PO Resp. 23 (citing Ex. 2001 ¶¶ 135–138). Patent Owner further argues that “[c]ontrary to what [Petitioner] suggests, a POSITA would not understand that mere unspecified and alleged state transitions of the ‘corresponding circuit’ of the primary module and on microphone 25, without more information about how the primary module operates, constitutes activating the primary module.” *Id.* at 25–26 (citing Ex. 2001 ¶ 144).

As discussed above with respect to claim limitation 1[a], Petitioner contends that Bohbot “actually discloses two operating modes: ‘telephone call in progress’ and ‘no telephone call in progress.’” Pet. Reply 6 (citing Ex. 1004, 11:1–6). With regard to claim limitation 1[a], we determined that Petitioner persuasively explains that, “[d]uring a ‘telephone call in progress,’

the alternating microphone functionality is due to ‘headset detached’ and ‘headset not detached.’” *Id.* (citing Ex. 1004, 11:1–6; Ex. 1088, 76:1–19). We refer to and incorporate our analysis set forth with respect to claim limitation 1[a] with respect to claim limitation 1[f] and do not repeat it here.

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s showing. We have reviewed the cited portions of Bohbot and Dr. Cooperstock’s testimony and we are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches limitation 1[f].

1[g] Claim 1 recites “when coupled, the second case functions to protect the first case.”

Petitioner contends that “the housing (second case) of the primary module functions to protect the housing (first case) of the headset at least because in the combination the headset is inserted into the recess in the housing of the primary module, which provides a semi-enclosed storage space for the headset that protects the headset from environmental exposure/impacts on at least three sides.” Pet. 29 (citing Ex. 1004, 6:24–25, 7:7–8, 10:5–6, 10:19, 11:14–22, 13:20–24, 14:14–15; Ex. 1005 ¶¶ 55, 58–59, 65, 80, Figs. 1, 2a–2f, 8; Ex. 1003 ¶ 75) (emphasis omitted).

According to Patent Owner and Dr. Toliyat, “[a] POSITA would understand that a recess protecting only three sides of a six-sided headset leaves three of the six sides unprotected, and thus the headset is not protected” and “[l]ikewise, a recess protecting only five of six sides would also not be protecting the headset.” PO Resp. 27 (citing Ex. 2001 ¶¶ 156, 157, 159); *see* Sur-Reply 18. Patent Owner also contends that, “[i]n advocating for use of Gundlach’s clamshell case in the dependent claim 6 analysis, [Petitioner] argues that the clamshell case lid ‘protects the headset

from environmental exposure/impacts when the lid is closed” and thus, “seems to at least tacitly admit, at its claim 6 analysis, that merely using a Gundlach recess would not protect the Bohbot headset.” PO Resp. 26–27 (citing Ex. 1003 ¶ 88). Patent Owner further contends that, “[t]o the extent that [Petitioner’s] petition might be read to be reliant upon Gundlach’s clamshell case to meet this element [1g], then [Patent Owner’s] analysis at claim 6 below is applicable.” *Id.* at 27–28 (citing Ex. 2001 ¶ 160).

Petitioner characterizes Patent Owner as taking the position that “a recess that leaves any side of the headset unprotected would not be protecting the headset.” Pet. Reply 11 (citing PO Resp. 27). Petitioner argues, and we agree, that “the plain language of the claim does not require total protection of the first case on all sides, and [Patent Owner] has not established otherwise,” particularly in light of Dr. Toliyat’s acknowledgment that “a recess would provide some level of protection to the bottom and sides of the headset.” *Id.* at 11–12 (citing Ex. 1089 ¶ 29; Ex. 1088, 83:11–18).¹⁰ Patent Owner’s arguments set forth below with respect to claim 6 (*see e.g.*, PO Resp. 27–28 (citing Ex. 2001 ¶ 160)) and incorporated by reference with respect to claim limitation 1[g] are unavailing for the reasons set forth below with respect to claim 6. *Infra* § II.C.4.

¹⁰ MR. SPROUL: And 1800 -- the headset 1800 sits in a recess of the clamshell such that its bottom and sides are largely surrounded by the clamshell case.

DR. TOLIYAT: That’s how it’s shown.

MR. SPROUL: And in that configuration there would be some level of protection provided to the bottom and the sides of the headset?

DR. TOLIYAT: I believe so, yeah.

In view of the above, Patent Owner's arguments do not undermine Petitioner's showing. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock's testimony and we are persuaded that Petitioner sufficiently demonstrates that the combination of Bohbot and Gundlach teaches limitation 1[g].

Conclusion

For the foregoing reasons, we are persuaded that Petitioner establishes unpatentability of independent claim 1 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

4. Dependent Claims 2, 3, 5–7, 10, 16, and 19

Claim 2 recites “wherein the electronic device has a lens.”

Petitioner contends that “Bohbot's primary module (electronic device) includes ‘a laser pointer’ and an ‘electroluminescent diode lamp’” and that “[a] POSITA would have known or at least found it obvious that laser pointers for portable devices include lenses to collimate light.” Pet. 30 (citing Ex. 1004, 8:16–27; Ex. 1003 ¶ 76 (citing Exs. 1026, 1027, 1028)) (emphasis omitted). Petitioner also contends that “a POSITA would have known that an ‘electroluminescent diode lamp,’ i.e., LED, for a portable device was well known in the art to include, as one of multiple routine design options, a lens.” *Id.* (citing Ex. 1003 ¶¶ 77, 80 (citing Exs. 1042, 1043, 1044, 1045, 1062, 1063)) (emphasis omitted).

Petitioner alternatively contends that “Gundlach's case for storing the headset includes ‘an indicator light indicating when the battery of the headset has reached full charge.’” *Id.* (citing Ex. 1005 ¶ 80). Petitioner takes the position that “[i]t would have been obvious for a POSITA to implement Gundlach's ‘indicator light’ as a *lens*-equipped light emitting diode (LED).”

Id. at 30–31 (citing Ex. 1003 ¶ 78 (citing Ex. 1042, 1043, 1044; Ex. 1062)); *see id.* at 31–32 (citing Ex. 1003 ¶¶ 78, 80; Ex. 1042, 1043, 1044, 1045, 1062, 1063).

Patent Owner does not specifically contest the teaching of claim 2 by the prior art. *See e.g.*, PO Resp. 28. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 2 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 3 recites “wherein the electronic device has a view screen.”

Petitioner contends that “Bohbot’s FIG. 2 [] ‘miniature device comprises a screen 22’” that “can be tactile” and is shown, in Bohbot’s Figure 2, “on the primary module.” Pet. 32 (citing Ex. 1004, 11:7–11, 14:5–8, 5:23–26) (emphasis omitted); *see id.* at 33–34.

Patent Owner does not specifically contest the teaching of claim 3 by the prior art. *See e.g.*, PO Resp. 28. We have reviewed the cited portions of Bohbot and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 3 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 5 recites, “wherein the switching device has a view screen.”

Petitioner contends that “Bohbot describes that ‘headsets are provided with a small screen.’” Pet. 34 (citing Ex. 1004, 1:27–2:2) (emphasis omitted); *see id.* at 35.

Patent Owner does not specifically contest the teaching of claim 5 by the prior art. *See, e.g.*, PO Resp. 28–29. We have reviewed the cited portion of Bohbot and we are persuaded that Petitioner establishes unpatentability of

claim 5 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 6 recites “wherein the electronic device includes a lid and hinge attaching the lid to the electronic device.”

Petitioner contends that “Gundlach’s case includes a lid and hinge attaching the lid to the case” and that “[t]he case provides a protective lid for encasing the headset.” Pet 36 (citing Ex. 1005 ¶ 80, Figs. 18a, 18b; Ex. 1003 ¶ 86) (emphasis omitted); *see id.* at 37 (citing Ex. 1003 ¶ 87; Ex. 1004, 13:20–24, 11:15–17; Ex. 1005 ¶¶ 55, 80, Figs. 18a, 18b). Petitioner further contends that a “POSITA would have found it obvious to complement Bohbot with Gundlach’s disclosure to configure the primary module with a lid for retaining the headset in position therein” and to “provide[] a robust, enclosed storage space for the headset that protects the headset from environmental exposure/impacts when the lid is closed.” *Id.* at 38–39 (citing Ex. 1003 ¶ 88; Ex. 1004, 13:20–24, 11:15–17; Ex. 1005 ¶¶ 55, 80, Figs. 18a, 18b).

Patent Owner alleges eight reasons why a person of ordinary skill in the art would not have been motivated to make the Bohbot–Gundlach combination. PO Resp. 29–33. Patent Owner argues lack of motivation because of: (1) concerns identified for limitation 1[g] (insufficient protection of headset and difficulties in access); (2) lack of ease of one-handed operation; (3) inconsistencies with Bohbot’s “design goal and intent” of access; (4) inconsistencies with design intent for frequently repositioning of the headset; (5) defeats purpose of ease of attachment and detachment; (6) lack of ability to utilize the features of the headset; (7) difficulties in speaker use in a clamshell; and (8) difficulties in hearing a speaker/ringer. *Id.* at 30–32 (citing-in-part Ex. 2001 ¶¶ 128–133, 150–155, 166–179; Ex. 1004, 2:21–

24, 5:2–5). Patent Owner also contends that “the five reasons for not adding a recess” with respect to Petitioner’s rationale for combining Bohbot and Gundlach “are equally applicable to not even more securely embedding Bohbot’s headset in a clamshell case, especially one expected to be closed, thus making it more difficult to access the headset.” PO Resp. 30 (citing Ex. 2001 ¶¶ 128–133, 150–155; Ex. 1004, 2:21–24).

None of Patent Owner’s five reasons disputing Petitioner’s rationale for combining undermine Petitioner’s showing, as discussed above, and our analysis with respect to claim 1 is applicable hereto. *Supra* § II.C.3 (discussing Petitioner’s rationale for combining after claim limitation 1[e]). Patent Owner’s other eight arguments do not undermine Petitioner’s persuasive showing. Here, Petitioner asserts that a person of ordinary skill in the art would have been motivated to use Gundlach’s lid, with Dr. Cooperstock testifying that it would provide “a robust, enclosed storage space” for better protection of the headset from “environmental exposure/impacts.” Pet. 38–39; Ex. 1003 ¶ 88. In response to Patent Owner’s arguments, Petitioner asserts that “neither GUI nor its expert provide any evidence that retaining the headset in a clamshell case would defeat Bohbot’s design goals or render Bohbot’s system less efficient or effective.” Pet. Reply 17 (citing Ex. 1089 ¶ 40). We are persuaded that “[e]ven if the modified system is not as efficient, merely because some other alternative may be more effective does not mean that a POSITA would not have been motivated to make the proposed combination” in view of the benefits offered. *Id.* (citing *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012); *Fulton*, 391 F.3d at 1200). Dr. Cooperstock testifies that

as would have been obvious to a POSITA, it is not a complex task for a user to open a clamshell case, and that it was, as of the

timeframe of the critical date, a common design choice to make use of electronic devices for audio communications (cellphones) by way of opening a clamshell case that exposed the microphone and speaker.

Ex. 1089 ¶ 40.

We agree with Petitioner that “a POSITA would not have been dissuaded by Bohbot’s alleged design goals from providing Bohbot’s primary module with a lid and a hinge” because “a POSITA would use their ordinary creativity to carry out the combination,” for example by “using sound permeable material for the case or having slits in the case for the sound to travel through” to address Patent Owner’s “concerns regarding using or hearing the speaker when the case was closed.” Pet. Reply 17 (citing *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1343 (Fed. Cir. 2020); Ex. 1089 ¶ 41).

In its Sur-Reply, Patent Owner contends that

Petitioner’s argument that “[i]f Gundlach’s case were unsuitable for Bohbot’s system, a POSITA would use their ordinary creativity to carry out the combination,” is an improper new Reply argument that, even if not hopelessly vague (which it is), should be disregarded. Petitioner’s specific argument of a new “common sense solution, such as using unspecified “sound permeable material” for the case or having “slits” at unspecified locations in the case for the sound to travel through,” [] is yet another improper new Reply argument. It and the new Cooperstock Declaration upon which it relies should be disregarded. Further, Petitioner’s Reply provides no details of how these new proposed features might be implemented. Petitioner proffers such new theories because it realizes that that Bohbot would not want its microphone and other features of its miniature device to be hidden and muffled by the clamshell case required by Petitioner’s hindsight reconstruction.

Sur-Reply 21–22 (citing Pet. Reply 17; Ex. 1089 ¶ 41).

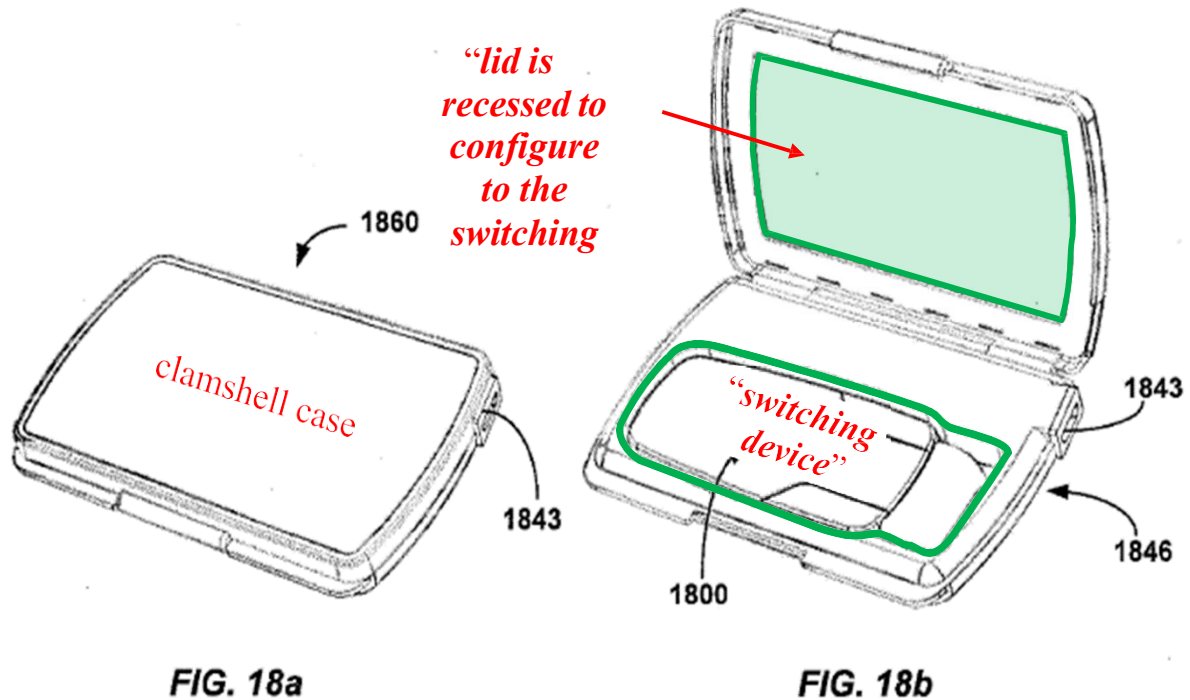
Stated succinctly, Patent Owner argues that Petitioner's response concerning a POSITA's creativity in carrying out the combination of Bohbot and Gundlach using, for example, sound permeable material or slits constitutes an "improper new Reply argument" that we should not consider. We find Patent Owner's argument unavailing because Petitioner's Reply directly "address[es] Patent Owner's 'concerns regarding using or hearing the speaker when the case was closed.'" Pet. Reply 17; PO Resp. 32 ("[I]f Bohbot's headset was contained within a Gundlach clamshell, then one would have difficulty hearing, or might not hear at all, the speaker/ringer when the clamshell was closed, i.e., one could not hear an incoming call.") (citing Ex. 2001 ¶ 175). We further determine that Patent Owner's argument that Petitioner's argument is "hopelessly vague" because it does not indicate where the slits would be located, or any other details about the sound permeable material does not undermine Petitioner's showing because such implementation details would not have been necessary for a POSITA to have a reason for and to understand how to combine Bohbot and Gundlach, and for the reason to have sufficient rational underpinnings.

For the foregoing reasons, Patent Owner's arguments do not undermine Petitioner's showing. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock's testimony and we are persuaded that Petitioner establishes unpatentability of claim 6 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 7 recites "wherein the lid is recessed to configure to the switching device."

Petitioner contends that "Gundlach's lid includes a recess" and "[t]he recess accommodates (configures to) the thickness of the headset (switching device)." Pet. 39 (citing Ex. 1005 ¶ 80, Figs. 18a, 18b) (emphasis omitted).

In Petitioner’s annotated versions of Gundlach’s Figures 18a and 18b, reproduced below, Petitioner depicts the recess in green on the top part of Gundlach’s clamshell case.



Petitioner’s annotated version of Figure 18a indicates Gundlach’s clamshell case. In Petitioner’s annotated version of Gundlach’s Figure 18b, Petitioner labels the top part of Gundlach’s clamshell case as “lid is recessed to configure to the switching device” and indicates the “switching device” in the bottom part of the clamshell case. Petitioner further contends that “[i]t was known that, in some configurations, the headset protrudes from the primary module of the case, and the lid would include a recess configured to accommodate the protruding portion of the headset” and further, that “in some configurations, a cover of a case includes recesses configured to the shape of the headset.” *Id.* at 39–40 (citing Ex. 1003 ¶¶ 89–91 (citing Ex. 1007, Figs. 14e, 14f, 18a)). According to Petitioner, “the POSITA would

have appreciated that a recess in the lid configured to the headset would provide the benefit of tightly containing the headset within the case to prevent jostling of the headset, thereby reducing noise and damage to the headset resulting from jostling.” *Id.* at 40; *see id.* at 40–41 (citing Ex. 1003 ¶ 93).

According to Patent Owner, “Gundlach has a beveled earpiece (see, e.g., figures at Ex. 1003, ¶73) and a flat/planar interior lid” and as such, “a POSITA would understand the flat clamshell case lid not to be configured to the beveled earpiece.” PO Resp. 33 (citing Ex. 2001 ¶ 180); *see* Sur-Reply 22–23 (“[Patent Owner] has not interpreted, explicitly or implicitly, ‘configure to the electronic device’ as requiring the lid to have a recess that completely tracks the contour of the electronic device.”). Patent Owner also argues that Petitioner’s “apparent alternative argument is that the base of Gundlach’s clamshell is its lid,” but that “[a] POSITA would disagree that the base is the lid” and even “if the clamshell base was deemed its lid, then all of [Petitioner’s] positions based upon the lid highlighted . . . would be invalid and further lacking in merit.” PO Resp. 33–34 (citing Ex. 2001 ¶ 180; Ex. 1003, 91).

Supported by the testimony of Dr. Cooperstock, Petitioner persuasively responds that Patent Owner’s arguments seek to improperly limit the scope of claim 7 because “the ’020 patent does not describe an electronic device with a lid having a recess matching the shape of the switching device” and instead, “[t]he only discussion of a ‘lid’ in the specification relates to a smartphone case with a hinged lid covering the phone” and “makes no mention of a recess, and the lid appears to be flat.” Pet. Reply 18 (citing Ex. 1001, 10:2–7, Fig. 5; Ex. 1089 ¶ 42) (emphasis omitted); *see id.* (citing Ex. 1088, 54:12–55:11, 57:12–60:18); *see* Ex. 1001,

10:2–7, Fig. 5 (apparently depicting a flat lid and disclosing no recess). We determine that the full record developed during trial does not support limiting the term “configure” as recited in claim 7 to require any sort of shape-matching between what Patent Owner argues is Gundlach’s “beveled earpiece” and its “flat/planar interior lid.” *See* PO Resp. 33 (citing Ex. 1003 ¶ 73; Ex. 2001 ¶ 180). Further, Petitioner’s annotated versions of Gundlach’s Figure 18a and 18b make clear that Petitioner is not relying on the base of Gundlach’s clamshell as the teaching the claimed lid, contrary to Patent Owner’s argument. *See* PO Resp. 33–34.

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s persuasive showing. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 7 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 10 recites “wherein the switching device is wireless earplugs.”

Petitioner contends that “Bohbot uses the terms ‘headset’ and ‘earphone’ interchangeably, and discloses wearing ‘the headset *in* the ear.’” Pet. 41 (citing Ex. 1004, 13:11–13, 2:12). According to Petitioner, Bohbot discloses that “‘headsets...are connected to the mobile telephone by . . . wireless connection using Bluetooth technology,’ and a ‘Bluetooth transmitter/receiver[] are installed in the detachable headset.’” *Id.* (citing Ex. 1004, 1:14–16, 7:7–8) (emphasis omitted). Petitioner alternatively contends that “Gundlach also discloses a wireless headset with an earpiece that, like an earplug, is ‘inserted into an ear, such as in the tragus slot, [and] may deform from a first geometry...into a second geometry...[that] may conform to an ear canal, sealing [] the earpiece in the ear to achieve improved sound

characteristics or improved retention within the ear.” *Id.* (citing Ex. 1005 ¶ 63; Ex. 1003 ¶ 94) (emphasis omitted); *see id.* 42–44. Petitioner further asserts that “Patent Owner could not reasonably contest this mapping because it is consistent with Patent Owner’s infringement allegations.” *Id.* at 41–42 (citing Ex. 1100 ¶ 124) (“The Apple Infringing Products comprise the system of claim 1 . . . wherein the switching device is wireless earbuds.”)

Patent Owner does not specifically contest the teaching of claim 10 by the prior art. *See e.g.*, PO Resp. 34. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 10 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 16 recites “wherein the first magnet is employed in actuating the electronic circuit.”

Petitioner contends that “[t]he magnet (first magnet) in Bohbot’s headset (switching device) holds the headset on the primary module (electronic device).” Pet. 44 (citing Ex. 1004, 11:15–19, 3:24–4:8, 13:20–14:1; Pet. § 1[b]) (emphasis omitted). Petitioner asserts, and we agree, that “[b]ecause the presence of the headset on the primary module actuates the electronic circuit,” for example, “the microphone’s circuit[], Bohbot’s first magnet ‘is employed in actuating the electronic circuit.’” *Id.* (citing Ex. 1003 ¶¶ 99–102; Pet. §§ 1[a], 1[d]) (emphasis omitted).

Patent Owner does not specifically contest the teaching of claim 16 by the prior art. *See e.g.*, PO Resp. 34. We have reviewed the cited portions of Bohbot and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 16 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

Claim 19 recites “wherein the switching device can be employed to perform at least one function selected from the group consisting of: control volume, pause, play, next slide, switch on, switch off, and combinations thereof; to an electronic device.”

Petitioner contends, and we agree, that “Bohbot’s headset is a “BlueTooth” type’ headset with a ‘BlueTooth transmitter/receiver’ for exchanging data with a mobile telephone.” Pet. 45 (citing Ex. 1004, 4:15–17, 7:6–8, 7:23–27). Petitioner further contends that “Gundlach’s wireless headset includes ‘a transceiver for sending and receiving information from a host device, such as a computer, a cell phone or a media player’” *Id.* (citing Ex. 1005 ¶¶ 58, 83) (emphasis omitted). According to Petitioner, “[t]his disclosure of ‘sending’ information from a wireless headset to a media player would have suggested to a POSITA that the headset (switching device) is operable to issue “play/pause controls to the media player (an electronic device).” *Id.* at 45–46 (citing Ex. 1003 ¶ 103) (emphasis omitted).

Citing the testimony of Dr. Cooperstock, Petitioner contends, and we agree, that “[b]asic play/pause media controls were conventionally incorporated in headsets operating one of the standardized Bluetooth profiles—i.e., the Audio/Video Remote Control Profile.” *Id.* at 46 (citing Ex. 1003 ¶¶ 104–107 (citing Exs. 1029, 1034, 1039)) (emphasis omitted). We credit Dr. Cooperstock’s testimony because it is supported by the cited evidence.

Accordingly, Petitioner contends, and we agree, that “a POSITA would have understood and found it obvious that Gundlach’s disclosure of ‘sending information’ from a Bluetooth-enabled headset to a media-player indicates that the headset sends standardized media control signals, including play/pause, to the media player.” *Id.* (emphasis omitted).

Patent Owner does not specifically contest the teaching of claim 19 by the prior art. *See e.g.*, PO Resp. 35. We have reviewed the cited portions of Bohbot and Gundlach and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 19 over the combination of Bohbot and Gundlach by a preponderance of the evidence.

E. Ground 1B—Obviousness of Claim 2 over Bohbot, Gundlach, and Nishikawa

Petitioner contends that claim 2 is unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, and Nishikawa. Pet. 47–48. As we determine that claim 2 is unpatentable over the combination of Bohbot and Gundlach by a preponderance of the evidence (*supra* § II.D.4), we need not specifically determine the unpatentability of claim 2 over the combination of Bohbot, Gundlach, and Nishikawa. *See Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, Nos. 2019-1594, 2019-1604, 2019-1605, 2020 WL 2071962, *4 (Fed. Cir. Apr. 30, 2020); *see also Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (holding that once a dispositive issue is decided, there is no need to decide other issues).

F. Ground 1C—Obviousness of Claims 4, 18, and 19 Over Bohbot, Gundlach, and Li

Petitioner contends that claims 4, 18, and 19 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, and Li. Pet. 48–57.

1. Li

Li describes a “a Bluetooth earphone.” Ex. 1006, 8. The earphone includes a “keyboard module,” a “mcu (microcontroller) management unit,” and a “Bluetooth data transmission module” that “can be used to carry out various functions of a paired Bluetooth mobile phone, such as making calls,

receiving and sending text messages, selecting music, adjusting volume, and the like.” *Id.* at 5, 7. The Bluetooth earphone also includes “a laser LED module . . . to provide laser pen functions” to “facilitate business presentations by a user,” with the laser LED being turned on/off using a switch. *Id.* at 6, 8; Ex. 1003 ¶ 112.

Figure 1 is illustrative and is reproduced below.

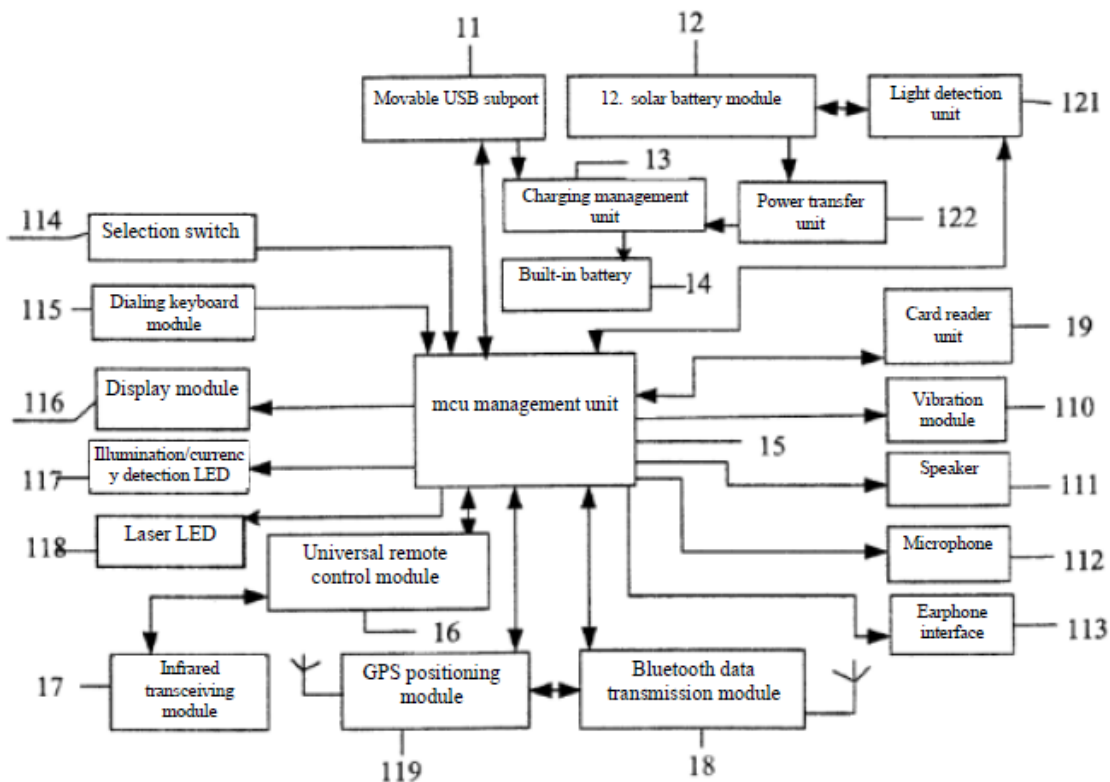


FIG. 1

Figure 1 shows a mcu management unit that is capable of receiving inputs “Dialing keyboard module” and a “Bluetooth data transmission module” and sending outputs to a “Bluetooth data transmission module,” a “Laser LED,” “Speaker,” and “Microphone.” Ex. 1006, 1, Fig. 1.

2. *Dependent Claims 4, 18, and 19*

Claim 4 recites “wherein the switching device has a lens.”

Claim 18 recites “wherein the switching device additionally comprises a laser.”

Petitioner contends that “Bohbot-Gundlach-Li provides a headset (switching device) with a laser LED module.” Pet. 57 (citing Ex. 1006, 6¹¹; Pet. § III.C.2) (emphasis omitted). Petitioner further contends that, “[t]o the extent that Li does not provide further implementation details of the ‘laser LED module,’ a POSITA would have known or at least found it obvious that laser LED modules for laser pointers and portable devices include lenses to collimate light.” *Id.* (citing Ex. 1003 ¶¶ 122–123 (citing Exs. 1026, 1027, 1028)) (emphasis omitted).

As rationale for combining Li with Bohbot and Gundlach, Petitioner contends that

a POSITA would have been motivated to add a laser pointer (with or without the above-described telephone volume control functionality) to the Bohbot-Gundlach headset to “provide laser pen functions” to “facilitate business presentations by a user” *when the user is not using the headset as a listening device and when the laser pointer of the primary module is not accessible* (e.g., the user leaves the primary module at home or in the car) or not operational (e.g., the primary module’s battery is completely discharged). It would have been well within the POSITA’s skill to do so. A POSITA would have recognized the benefits of a laser pointer in a Bluetooth headset noted by Li would readily apply to the Bluetooth headset of Bohbot-Gundlach. For example, a laser pointer in the headset in addition to a laser pointer in the primary module would provide a user with a backup laser pointer in the event that the laser pointer in the primary module is not accessible or not operational.

¹¹ Page number refers to native pagination.

Id. at 54–55 (citing Ex. 1006, 6; Ex. 1003 ¶ 119) (emphasis added).

Patent Owner contends that Petitioner “lacks persuasive rationales for combining Li’s laser pointer on Li’s earpiece with the alleged Bohbot-Gundlach combination, which, at most, would already have a laser pointer on the Bohbot primary module.” PO Resp. 38 (citing Ex. 1004, 8:16–27; Ex. 2001 ¶ 194). Patent Owner further contends that Petitioner “fails to explain why a POSITA would need elaboration or description of design options to implement such control systems, or how Li provides such elaboration” because “input keys . . . [are] already present in Bohbot” and a POSITA would not have needed to look to Li for its “generic ‘mcu management unit.’” *Id.* (citing Ex. 2001 ¶ 194). Patent Owner contends that Petitioner “lacks a persuasive explanation for a POSITA to want a ‘backup laser pointer’ on Bohbot’s earpiece” and instead, Petitioner’s “only rationale for such redundancy is to ‘facilitate business presentations by a user.’” *Id.* at 39 (citing Ex. 1003 ¶ 119 (quoting Ex. 1006, p. 6)). Patent Owner argues that “stating what such a laser pointer could do does not explain any motivation for a POSITA to add a laser pointer to Bohbot’s headset, especially when one is already present on Bohbot’s primary module.” *Id.* (citing Ex. 1004, 8:16–27). Patent Owner further argues that “[a] POSITA would understand that Bohbot’s earpieces are ‘intended for the implementation of short-range mobile telephone features’” but that “[a] POSITA would not understand a laser pointer to be a mobile telephone feature.” *Id.* (citing Ex. 1004, 1:1–5; Ex. 2001 ¶ 197).

Petitioner persuasively responds that Patent Owner “fails to rebut the Petition’s stated motivation to provide the option of using laser pen functions on Bohbot’s headset ‘when the user is not using the headset as a listening device and when the laser pointer of the primary module is not

accessible (e.g., the user leaves the primary module at home or in the car) or not operational (e.g., the primary module's battery is completely discharged).” Pet. Reply 20 (citing Pet. 54–55 (citing Ex. 1006, 6; Ex. 1089 ¶ 44)). Petitioner further contends that “Bohbot contemplates its miniature communication device including features, e.g., a laser pointer, in addition to mobile phone features.” *Id.* (citing Ex. 1089 ¶ 45).

Dr. Cooperstock testifies that Patent Owner “misrepresents Bohbot’s disclosure as Bohbot discloses that the ‘miniature communication device,’ which includes the primary module and the headset, is ‘intended for the implementation of shortrange mobile telephone features.’” Ex. 1089 ¶ 45 (citing Ex. 1004, 1:2–5). Dr. Cooperstock further testifies that “Bohbot further explains that its invention is not limited to mobile phone features by its disclosure of the primary module including features other than mobile phone features” and therefore, “Bohbot contemplates its miniature communication device including features, e.g., a laser pointer, in addition to mobile phone features.” *Id.* (citing Ex. 1004, 8:9–25; Ex. 2001 ¶ 50).

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s showing.

We determine that Petitioner’s rationale for combining Bohbot, Gundlach, and Li is persuasive for the reasons set forth above and is supported by sufficient rational underpinning in the record evidence. We adopt as our own the portions of Petitioner’s rationale for combining Bohbot, Gundlach, and Li set forth above for the reasons set forth above. We have reviewed the cited portions of Bohbot, Gundlach, and Li and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claims 4 and 18 over the combination of Bohbot, Gundlach, and Li by a preponderance of the evidence.

Claim 19 recites “wherein the switching device can be employed to perform at least one function selected from the group consisting of: control volume, pause, play, next slide, switch on, switch off, and combinations thereof; to an electronic device.”

Petitioner contends, and we agree, that

[a] POSITA would have been motivated to integrate Li’s teachings with Bohbot-Gundlach to incorporate input keys and a mcu management unit in conjunction with the Bluetooth transceiver already present in the headset (switching device) to enable a user to “carry out various functions of a paired Bluetooth mobile phone,” such as adjusting volume of the mobile phone (an electronic device) during a telephone call using the headset.

Pet. 57 (citing Ex. 1006, 7; Ex. 1003 ¶¶ 124–125; Pet. § III.C.2) (emphasis omitted). Petitioner further contends that “Bohbot-Gundlach’s suggestion of controlling various features of a paired telephone would have motivated a POSITA to pursue known solutions on this topic, such as described by Li,” that is, “a headset with input keys and a mcu management unit, in addition to the microphone, speaker, and Bluetooth transceiver already present in the Bohbot-Gundlach headset.” *Id.* at 51 (citing Ex. 1003 ¶¶ 114, 115; *KSR*, 550 U.S. at 418; *Norgren Inc. v. Int’l Trade Comm’n*, 699 F.3d 1317, 1322 (Fed. Cir. 2012)). Petitioner also contends that, “[c]onsistent with Bohbot-Gundlach and Li, the input keys could be implemented as ‘capacitive keys,’ ‘thin-film keys,’ or ‘touchscreen keys.’” *Id.* at 52 (citing Ex. 1006, 2, 5, 7).

According to Petitioner,

[t]he Bohbot-Gundlach-Li headset could still be stored within the contoured recess of the primary module (below), and when stored, the mcu management unit in conjunction with the Bluetooth transceiver already present in the headset and the buttons 36/37 on the primary module would still enable a user to adjust the volume during a telephone call when the cellular telephone is not readily accessible.

Id. at 52–53 (citing Ex. 1004, 11:27-12:1; Ex. 1006, 7; Ex. 1003 ¶ 116).

Patent Owner does not specifically contest the teaching of claim 19 by the prior art. *See e.g.*, PO Resp. 41–42.

We determine that Petitioner’s rationale for combining Bohbot, Gundlach, and Li is persuasive for the reasons set forth above and is supported by sufficient rational underpinning in the record evidence. We adopt as our own the portions of Petitioner’s rationale for combining Bohbot, Gundlach, and Li for the reasons set forth above. We have reviewed the cited portions of Li and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 19 over the combination of Bohbot, Gundlach, and Li by a preponderance of the evidence.

G. Ground 1D—Obviousness of Claims 8 and 9 Over Bohbot, Gundlach, and Stevinson

Petitioner contends that claims 8 and 9 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, and Stevinson. Pet. 57–64.

1. Stevinson

Stevinson relates to “storage for an earphone set with a portable digital media device.” Ex. 1007 ¶¶ 2, 95–97, 128–130, Figs. 14a, 24a; Ex. 1003 ¶¶ 126–128. Figure 14A is illustrative and is reproduced below.

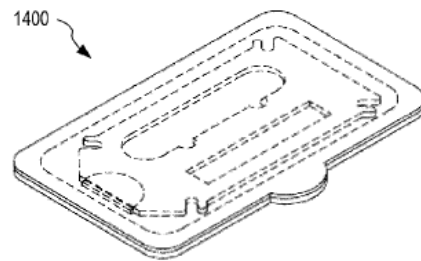
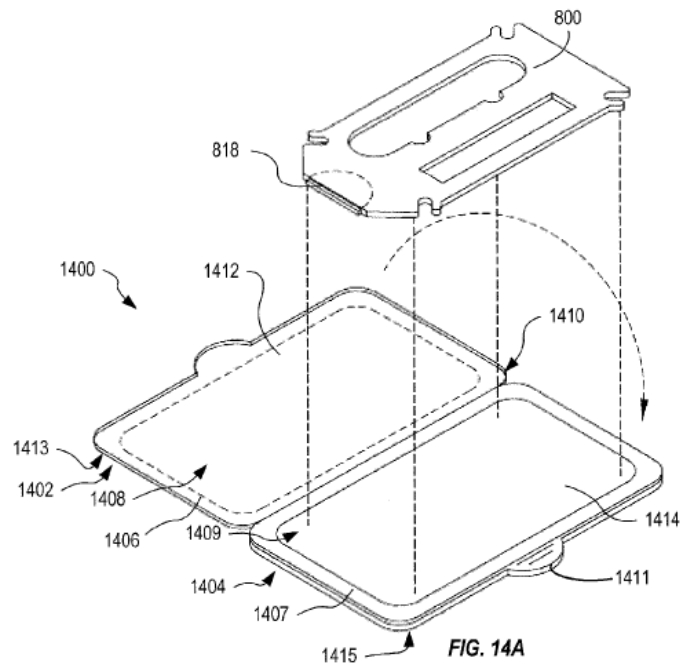


FIG. 14B

Figure 14a, above, shows “carrying case 1400 is formed with a lid component 1402 and a base component 1404 that couple together to form carrying case 1400.” Ex. 1007 ¶ 95. And, “[c]arrying case 1400 may latch closed, using any known latching method,” such as “a magnetic fastener coupled with formers 1406 and 1407.” *Id.* ¶ 97.

2. *Dependent Claims 8 and 9*

Claim 8 recites “wherein the lid has a second magnet disposed within it.”

Claim 9 recites “wherein the lid is configured to employ the second magnet to secure the lid in a closed position.”

Petitioner contends that “Bohbot-Gundlach-Stevinson provides a clamshell case with a magnetic fastener including a second magnet on the lid to secure the lid in a closed position.” Pet. 63 (citing Ex. 1007, ¶¶ 97, 128; Ex. 1003 ¶ 135; Pet. §§ III.D.1–III.D.2) (emphasis omitted); *see id.* at 64 (citing Ex. 1003 ¶ 136; Ex. 1007 ¶¶ 97, 128).

As rationale for combining Stevenson with Bohbot and Gundlach, Petitioner contends that “[i]t was known or at least obvious that, in some configurations, a magnetic fastener is made with two complementary magnets.” *Id.* at 61 (citing Ex. 1003 ¶ 131 (citing Exs. 1008, 1009)). Petitioner further contends that, “[i]n such a configuration, the lid would have a magnet that has a mutual magnetic attraction with a magnet on the primary module to keep the lid closed.” *Id.* Citing the testimony of Dr. Cooperstock, Petitioner argues that “a POSITA would have appreciated that supplementing the Bohbot-Gundlach clamshell case with Stevenson’s magnetic fastener was nothing more than incorporating a known closure element into the clamshell case to achieve an exceedingly predictable result.” *Id.* at 62 (citing Ex. 1003 ¶ 133). Petitioner explains that “the POSITA would have known that magnetic fasteners are easier for users to operate than, for example, snap closures (e.g., a lesser closure force), and also less susceptible to fatigue failure modes.” *Id.* at 62 (citing Ex. 1003 ¶ 134). Petitioner further explains that

[a] POSITA would have considered Stevenson’s magnetic fastener to be an obvious option that would have been revealed

as part of a routine product design process. Magnetic fasteners were among a limited number of conventional solutions for retaining a clamshell case in the folded/closed state. And, while a POSITA would have appreciated the design tradeoffs between different closures, their interchangeability would have been equally apparent.

Id. at 63.

Patent Owner contends that “a POSITA would appreciate that the magnetic tape employed by Stevinson is typically coated, and that corrosion would not be any meaningful issue, especially tape used on the interior lips of a clamshell case holding electronics.” PO Resp. 44 (citing Ex. 2001 ¶ 212). Patent Owner further contends that “a POSITA would appreciate that electrical tape has a very weak [sic] magnetic attraction.” *Id.* As such, according to Patent Owner, “[a] POSITA would have no motivation to dispose magnetic tape within the Stevinson lid, as required by claim 6 and by claim 9 (which depends from claim 6) because doing so would render the magnetic tape ineffective for its desired latching function.” *Id.*; Sur-Reply 24 (Patent Owner arguing that Petitioner misrepresents Stevinson’s disclosure because “[t]he only means for such magnetic fastening disclosed by Stevinson is ‘magnetic, double sided adhesive tape.’” (citing Pet. Reply 21; Ex. 1007 ¶¶ 97, 128, 149, Figs. 14a, 24a)).

Petitioner responds that “neither GUI nor its expert cite any evidence that Stevinson employs coated magnetic tape or that magnetic tape has a very weak magnetic attraction” because the portion of Stevinson in paragraph 149 cited by Dr. Toliyat as disclosing “magnetic, double sided adhesive tape” actually discloses “options for coupling one case to another (not options to hold the lid closed) including (1) ‘hook and loop,’ (2) ‘magnetic,’ or (3) double sided adhesive tape.” Pet. Reply 21 (citing Ex.

2001 ¶ 208; Ex. 1007 ¶ 149; Ex. 1088, 84:19–85:21, 90:2–14; Ex. 1089 ¶¶ 47–48). Stevinson discloses “other means of coupling (e.g., hook and loop, magnetic, double sided adhesive tape, and so on) may be used to attach case 3000, or to the DMD itself.” Ex. 1007 ¶ 149. To the extent there may be any confusion as to whether Stevinson is disclosing magnetic coupling and separately, double-sided adhesive tape, or whether Stevinson is disclosing adhesive tape that is both double-sided and magnetic, we determine that Stevinson would have been sufficiently descriptive to *teach* magnetic coupling using, for example, magnets, to the ordinarily skilled artisan, as Dr. Cooperstock testifies. *See, e.g.*, Ex. 1003 ¶¶ 131–133.

Petitioner persuasively argues that “Stevinson . . . discloses that its magnetic fastener ‘operates to keep the case . . . closed’” and thus, “a POSITA would have found it obvious to embed a magnetic fastener within the lid that operates to keep the case closed.” Pet. Reply 22 (citing Ex. 1007 ¶ 128; Ex. 1089 ¶ 49) (alteration in original). Petitioner points back to evidence, which supports this argument, showing “that a POSITA would have recognized that magnetic fasteners can be neodymium magnets, ferric magnets, or other magnetic material that can corrode, rust, or oxidize and thus ‘are generally enclosed in a magnetic permeable housing’ to provide ‘weathering shield.’” *Id.* (citing Ex. 1009 ¶¶ 8, 35; Ex. 1008 ¶ 5).

Petitioner further argues, and we agree, that Patent Owner’s argument that “a POSITA appreciates that Gundlach already has a secure mechanical latch, and thus there would be no motivation to add Stevinson’s weak magnetic tape” is unavailing because the “Petition did not rely on Gundlach’s teaching of a mechanical latch.” *Id.* at 22 (citing PO Resp. 45).

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s persuasive showing.

In the cited portions, Stevinson discloses “[a] hinge 1410 joins” “lid and base components 1402, 1404” “along a long edge of each former 1406, 1407” so as to form a carrying case. Ex. 1007 ¶ 97. Stevinson further discloses that the “[c]arrying case 1400 may latch closed using . . . a magnetic fastener coupled with formers 1406 and 1407.” *Id.*; *see id.* ¶ 128.

We further determine that Petitioner’s rationale for combining Bohbot, Gundlach, and Stevinson is persuasive for the reasons set forth above and is supported by sufficient rational underpinning in the record evidence and we adopt it as our own. We have reviewed the cited portions of Stevinson and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claims 8 and 9 over the combination of Bohbot, Gundlach, and Stevinson by a preponderance of the evidence.

H. Ground 1E—Obviousness of Claim 10 over Bohbot, Gundlach, and Rosener

Petitioner contends that claim 10 is unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, and Rosener. Pet. 65–68. Because we determine that claim 10 is unpatentable over the combination of Bohbot and Gundlach by a preponderance of the evidence (*supra* § II.D.4), we decline to address the unpatentability of claim 10 over the combination of Bohbot, Gundlach, and Rosener. *See Boston Sci. Scimed*, Nos. 2019-1594, 2019-1604, 2019-1605, 2020 WL 2071962, *4; *Beloit*, 742 F.2d at 1423.

I. Ground 1F—Obviousness of Claim 17 over Bohbot, Gundlach, Stevinson, and Iio

Petitioner contends claim 17 is unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, Stevinson, and Iio. Pet. 68–73.

I. Iio

Iio describes “a carrying case” that “includes a case unit and an electric charging device.” Ex. 1010 ¶¶ 1, 9, 12, 14, 26–27, 43, 87, 145; Ex. 1003 ¶ 147.

Figure 11 is illustrative and is reproduced below.

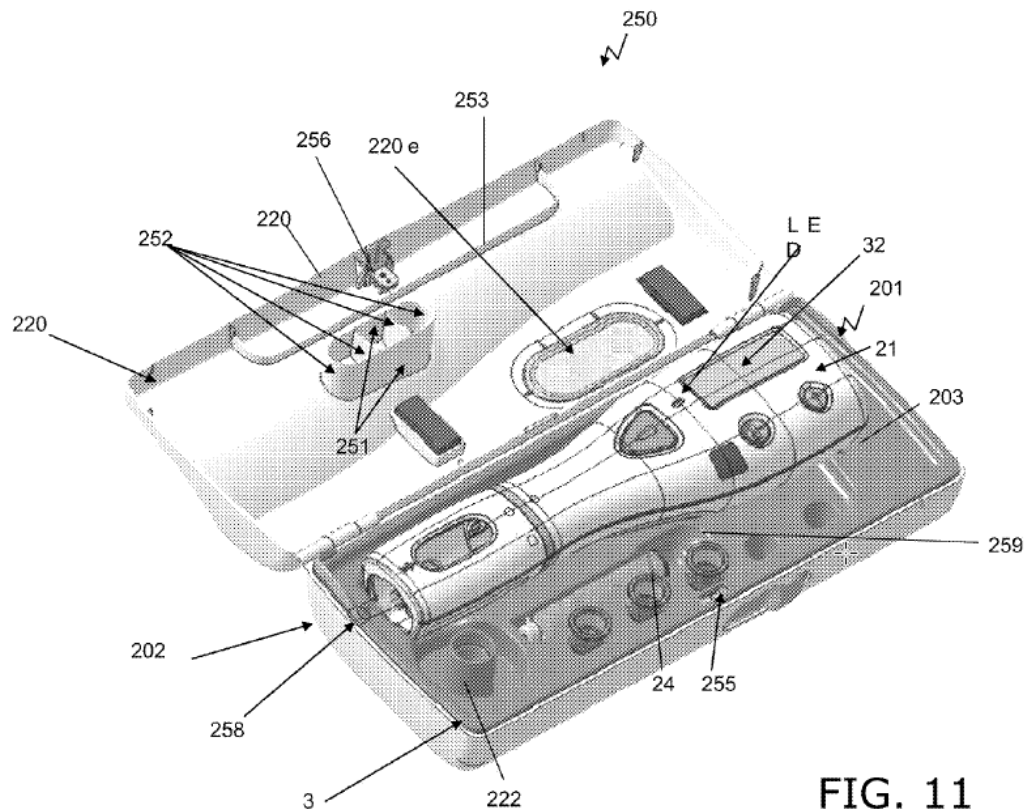


FIG. 11

Figure 11 shows a carrying case including “an open/close detection unit 255 for detecting opening and closing of a cover 220.” Ex. 1010 ¶¶ 215, 228. “The electric charging device is configured to stop or start electric charging in conjunction with an opening or a closing action of the cover and the bottom case.” *Id.* ¶¶ 45–46, 215, 217–218, 228, 252.

2. *Dependent Claim 17*

Claim 17 recites “wherein the second or a third magnet is employed in the lid to actuate the electronic circuit.”

Petitioner contends that “Bohbot-Gundlach-Stevinson-Iio provides the primary module with an open/close detection unit that detects when the lid is closed and actuates the main power storage device (electronic circuit) to start charging the headset.” Pet. 73 (citing Ex. 1010 ¶¶ 45, 46, 215, 217, 218, 228, 252; Pet. §§ III.F.1–III.F.2) (emphasis omitted). According to Petitioner,

[a]s a POSITA would have understood, the (second) magnet disposed within the lid of the primary module that assists in retaining the lid in a closed position, which is detected by the open/close detection unit thereby actuating the main power storage device, is employed in actuating the main power storage device (electronic circuit) of the primary module.

Id. at 73–74 (citing Ex. 1003 ¶¶ 154–155) (emphasis omitted).

As rationale for combining Bohbot, Gundlach, and Stevenson with Iio, Petitioner contends that

a POSITA would have been motivated and found it obvious to combine Bohbot-Gundlach-Stevinson with Iio to provide a primary module with an open/close detection unit that stops/starts charging of the headset. A POSITA would have been further motivated to apply Iio’s teachings to Bohbot-Gundlach-Stevinson to activate charging only when the headset and the primary module have reliably made contact with each other, indicated by lid being closed, to prevent failure of charging due to a loose or otherwise improperly mated connection. Moreover, a POSITA would have been motivated to incorporate the open/close detection unit that starts charging of the headset only when the lid is closed and the headset is secured in the case from accidental removal due to vibration or shock, so that the headset can be reliably charged.

Id. at 72 (citing Ex. 1003 ¶ 152; Ex. 1010 ¶¶ 43, 44, 61, 228).

Patent Owner *first* contends that Iio is directed to non-analogous art—syringes. PO Resp. 49–50 (citing Ex. 1001, 6:4–10, 16:46–49; Ex. 2001 ¶¶ 233, 234, 236; Ex. 1010 ¶¶ 11, 15); *see* Sur-Reply 26–27.

The test for determining whether a prior art reference constitutes analogous art to the claimed invention is “(1) whether the [prior] art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). “Prior art is analogous if it is from the same field of endeavor or if it is reasonably pertinent to the particular problem the inventor is trying to solve.” *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015). A reference is analogous art if either of these two tests is met. *Scientific Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014). The Federal Circuit has indicated that the scope of analogous art is to be construed broadly. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) (“The Supreme Court’s decision in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 . . . (2007), directs us to construe the scope of analogous art broadly . . .”).

Petitioner responds that the ’020 patent is broadly directed to “a portable switching device coupled to a portable electronic device” and includes a list of electronic devices including, for example, “laboratory apparatus[es] . . . and the like.” Pet. Reply 23 (citing Ex. 1001, 6:8–10, 21:29–30, 3:66–67, 17:53–55; Ex. 1089 ¶ 51). Petitioner contends that this would encompass the “pharmaceutical injection device described in Iio” and that “Iio also relates to an electronic device having a case that functions to protect the case of a portable device retained within the electronic device.”

Id. (citing Ex. 1010 ¶¶ 6–16; PO Resp. 50). Petitioner contends that “laboratory apparatus[es] . . . and the like” “would encompass a carrying case that can charge a pharmaceutical injection device described in Iio.” *Id.* at 23–24 (citing Ex. 1010 ¶¶ 6–16).

Petitioner persuasively argues that, in the same vein as the ’020 patent, “Iio also relates to an electronic device having a case that functions to protect the case of a portable device retained within the electronic device” because “Iio’s carrying case falls into the general descriptive category of ‘electronic device’ when Iio itself describes a carrying case with a charging device as an electronic device.” *Id.* at 24 (citing Ex. 1010 ¶¶ 6–16). As Petitioner persuasively points out, the ’020 patent discloses that its “electronic device” includes “devices having a view screen including . . . laboratory apparatuses (both portable and non-portable),” like that described in Iio. Ex. 1001, 6:4–10.

We are persuaded that “a POSITA considering technical problems involving electronic devices with a lid and a hinge would have considered carrying case art like Iio.” Pet. Reply 24. Stated differently, we are persuaded that Iio is at least reasonably pertinent to the particular problem with which the inventor is involved, i.e., the invention of claim 17.

Patent Owner *second* reiterates arguments set forth above with respect to dependent claim 6 about the inapplicability of Gundlach’s clamshell device to Bohbot’s headset. PO Resp. 50–51 (citing Ex. 2001 ¶ 237). We determine that these arguments are unavailing for the same reasons set forth above with respect to the obviousness challenge to dependent claim 6 over the combination of Bohbot and Gundlach. *Supra* § II.D.4.

Patent Owner *third* argues that there is no need for “‘elaboration or description’ for how current would travel across conductive blade contacts

when Bohbot’s earpiece was pressed against its primary module.” PO Resp. 51 (citing Ex. 2001 ¶ 238). Petitioner persuasively responds that “[t]he Petition does not rely on Iio for teaching these features, but rather for Iio’s general teaching of an open/close detection unit for detecting opening/closing of the lid to stop/start charging of the headset in conjunction with the opening/closing of the lid.” Pet. Reply 24–25 (citing Pet. 70–72; Ex. 1089 ¶ 53).

Patent Owner *fourth* argues that Petitioner provides no persuasive reason why “a POSITA would need, or even want, to consult Iio for ‘elaboration and description’ of design options for activating charging when Bohbot’s headset is determined to be magnetically coupled to Bohbot’s primary device” particularly because “Iio’s case does not use any magnetic coupling or magnetically induced charging.” PO Resp. 51 (citing Ex. 2001 ¶ 239). Patent Owner *fifth* argues that a POSITA would have considered charging of the headset to commence “when the headset is coupled to the primary device and the blade contacts are touching” and that “Iio does not provide a solution for such functionality.” *Id.* (citing Ex. 2001 ¶ 240). Patent Owner *sixth* argues that “Iio is not directed to ‘activating charging only when the [syringe] is determined to be secured in the case’ but instead discloses that “Iio activates the charging device inside the carrying case when the carrying case senses that its lid is closed.” *Id.* at 51–52 (citing Ex. 2001 ¶ 241). According to Patent Owner, the “Bohbot-Gundlach-Stevinson-Iio combination would limit the charging of the headset to when the clamshell lid is closed” and “[a] POSITA would also want to charge the headset when the clamshell is open,” or “any time it is magnetically coupled to the primary module, which is what Bohbot’s design accomplishes without any of [Petitioner’s] hindsight combinations involving Gundlach, Stevinson

or Iio.” *Id.* at 52–53 (citing Ex. 2001 ¶ 243). Patent Owner explains that “[i]f Bohbot’s headset could not charge unless the clamshell was shut, then one could not use the headset, or the speaker, while it is charging.” *Id.* at 53 (citing Ex. 2002 ¶ 243).

Petitioner persuasively responds that

[Patent Owner’s] arguments regarding charging the headset when magnetically coupled to the primary module and not limiting charging to when the lid is closed ignores the Petition’s stated motivations “to prevent failure of charging due to a loose or otherwise improperly mated connection” and to prevent the headset “from accidental removal due to vibration or shock, so that the headset can be reliably charged.” While Bohbot discloses using a magnet on the headset “in order for the contact to take place correctly”, a POSITA would have been motivated to use both a magnet on the headset and a lid with a magnet to secure the headset in the case for the reasons discussed in the Petition. The benefits stated in the Petition would have motivated a POSITA to activate Bohbot’s charging when the primary module detects both (1) its blade contactors are in contact with the headset’s blade contactors and (2) the lid is closed and deactivate Bohbot’s charging when the lid is open.

Pet. Reply 25–26 (citing PO Resp. 52–55; Ex. 1089 ¶ 54; Ex. 1004, 3:14–26; Pet. 12, 28–29, 69–74; Ex. 1010 ¶¶ 43–46, 61, 217, 218, 228, 252; Ex. 1005 ¶ 68).

For the foregoing reasons, Patent Owner’s arguments do not undermine Petitioner’s showing.

In the cited portions, Iio discloses a carrying case including “an openable/closable pair of a cover and a bottom case” inside which an “electric charging device is configured to stop or start electric charging in conjunction with an opening or closing action of the cover and the bottom case.” Ex. 1010 ¶ 45. Iio further discloses that “it is possible to automatically execute an electric charging operation without making a user aware of it.”

Id. ¶ 46. And as discussed above in Section II.G.2 with respect to dependent claim 8 from which claim 17 depends, Stevinson discloses the claimed second magnet. Ex. 1007 ¶ 97 (“A hinge 1410 joins components 1402 and 1404 along a long edge of each former 1406, 1407 such that lid and base components 1402, 1404 hinge together to form a carrying case,” which “may latch closed, using . . . a magnetic fastener coupled with formers 1406 and 1407.”). We credit the testimony of Dr. Cooperstock who testifies that “[i]t was known or at least obvious that, in some configurations, a magnetic fastener is made with two complementary magnets” and that, “[i]n such a configuration, the lid would have a magnet that has a mutual magnetic attraction with a magnet on the primary module to keep the lid closed.” Ex. 1003 ¶ 131 (citing Ex. 1008 ¶¶ 2, 40; Ex. 1009 ¶¶ 8, 41, 42). We determine that Petitioner’s rationale for combining Bohbot, Gundlach, Stevinson, and Iio is persuasive for the reasons set forth above and is supported by sufficient rational underpinning in the record evidence and we adopt it as our own. We have reviewed the cited portions of the references and Dr. Cooperstock’s testimony and we are persuaded that Petitioner establishes unpatentability of claim 17 over the combination of Bohbot, Gundlach, Stevinson, and Iio by a preponderance of the evidence.

J. Ground 2A—Obviousness of Claims 1–3, 5–7, 10, 16, and 19 Over Bohbot, Gundlach, and Diebel

Petitioner contends claims 1–3, 5–7, 10, 16, and 19 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bohbot, Gundlach, and Diebel. Pet. 74–78.

According to Petitioner, the grounds based on Bohbot, Gundlach, and Diebel are substantively identical to the grounds based on Bohbot and

Gundlach, and incorporates the analysis of the ground above in all but one respect. *Id.* at 74. Whereas the grounds above rely on Bohbot’s disclosure to satisfy “the portable switching device is configured to activate, deactivate or send into hibernation the portable electronic device” of claim 1, the Diebel grounds rely on the additional disclosure of Diebel to satisfy this feature. *Id.* Petitioner asserts that integration of Diebel does not change the aspects of Bohbot and Gundlach mapped to other claim elements. *Id.*

As we determine that claims 1–3, 5–7, 10, 16, and 19 are unpatentable over the combination of Bohbot and Gundlach by a preponderance of the evidence, we accordingly decline to address the unpatentability of these claims over the combination of Bohbot, Gundlach, and Diebel. *See Boston Sci. Scimed*, Nos. 2019-1594, 2019-1604, 2019-1605, 2020 WL 2071962, *4; *Beloit*, 742 F.2d at 1423.

K. Grounds 2B, 2C, 2D, 2E, and 2F—Remaining Deibel Grounds

We decline to address the unpatentability of the claims challenged in grounds 2B, 2C, 2D, 2E, and 2F as we have already determined the unpatentability of the challenged claims above in Sections II.D–I, and because our analysis would be nearly identical—Petitioner contends that

Grounds 2B-2F are identical to, and incorporate the analysis of, Grounds 1B-1F, respectively, in all but one respect. Where Grounds 1B-1F rely on Bohbot’s disclosure to 1[f] in independent claim 1, Grounds 2B-2F rely on the additional disclosure of Diebel to satisfy this feature (*supra* Ground 2A). Integration of Diebel does not disturb the aspects of Bohbot, Gundlach, and the Grounds 2B-2F references mapped to the corresponding claims.

Pet. 78 (citing Ex. 1003 ¶¶ 164–168). *See Boston Sci. Scimed*, Nos. 2019-1594, 2019-1604, 2019-1605, 2020 WL 2071962, *4; *Beloit*, 742 F.2d at 1423.

III. CONCLUSION¹²

In summary:

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 5–7, 10, 16, 19	103(a)	Bohbot, Gundlach	1–3, 5–7, 10, 16, 19	
2	103(a)	Bohbot, Gundlach, Nishikawa ¹³		
4, 18, 19	103(a)	Bohbot, Gundlach, Li	4, 18, 19	
8, 9	103(a)	Bohbot, Gundlach, Stevinson	8, 9	
10	103(a)	Bohbot, Gundlach, Rosener ¹⁴		
17	103(a)	Bohbot, Gundlach, Stevinson, Iio	17	
1–3, 5–7, 10, 16, 19	103(a)	Bohbot, Gundlach,		

¹² Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

¹³ As explained above, because we determined that challenged claim 2 is unpatentable over Bohbot and Gundlach, we decline to address this ground.

¹⁴ As explained above, because we determined that challenged claim 10 is unpatentable over Bohbot and Gundlach, we decline to address this ground.

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
		and Diebel ¹⁵		
2	103(a)	Bohbot, Gundlach, Diebel, and Nishikawa ¹⁶		
4, 18, 19	103(a)	Bohbot, Gundlach, Diebel, and Li ¹⁷		
8, 9	103(a)	Bohbot, Gundlach, Diebel, and Stevinson ¹⁸		
10	103(a)	Bohbot, Gundlach, Diebel, and Rosener ¹⁹		
17	103(a)	Bohbot, Gundlach, Diebel, Stevinson, and		

¹⁵ As explained above, because we determined that challenged claims 1–3, 5–7, 10, 16, and 19 are unpatentable over Bohbot and Gundlach, we decline to address this ground.

¹⁶ As explained above, because we determined that challenged claim 2 is unpatentable over Bohbot and Gundlach, we decline to address this ground.

¹⁷ As explained above, because we determine that challenged claims 4, 8, and 19 are unpatentable over Bohbot, Gundlach, and Li, we decline to address this ground.

¹⁸ As explained above, because we determined that challenged claims 8 and 9 are unpatentable over Bohbot, Gundlach, and Stevinson, we decline to address this ground.

¹⁹ As explained above, because we determined that challenged claim 10 is unpatentable over Bohbot and Gundlach, we decline to address this ground.

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
		Iio ²⁰		
Overall Outcome			1–10, 16–19	

IV. ORDER

For the reasons given, it is:

ORDERED that Petitioner has established based on a preponderance of evidence that claims 1–10 and 16–19 of the '020 patent are unpatentable as obvious under 35 U.S.C. § 103; and

FURTHER ORDERED because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

²⁰ As explained above, because we determined that challenged claim 17 is unpatentable over Bohbot, Gundlach, Stevinson, and Iio, we decline to address this ground.

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