

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

APPLE INC., SAMSUNG ELECTRONICS CO., LTD., and  
SAMSUNG ELECTRONICS AMERICA, INC.,  
Petitioner,

v.

FIRSTFACE CO., LTD.,  
Patent Owner.

---

Case IPR2019-00612  
Patent 8,831,557 B2

---

Before JUSTIN T. ARBES, MELISSA A. HAAPALA, and  
RUSSELL E. CASS, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Apple Inc., Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. (collectively, “Petitioner”) filed a Petition (Paper 3, “Pet.”) requesting *inter partes* review of claims 1, 8, 9, and 15 of U.S. Patent No. 8,831,557 B2 (Ex. 1101, “the ’557 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner Firstface Co., Ltd. filed a Preliminary Response (Paper 9, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we institute an *inter partes* review as to claims 1, 8, 9, and 15 of the ’557 patent on all grounds of unpatentability asserted in the Petition.<sup>1</sup>

## II. BACKGROUND

### A. Related Proceedings

The parties indicate that the ’557 patent is the subject of the following district court cases: *Firstface Co., Ltd. v. Samsung Elecs. Co., Ltd.*, Case No. 3-18-cv-02243 (N.D. Cal.), and *Firstface Co., Ltd. v. Apple Inc.*, Case No. 3-18-cv-02245 (N.D. Cal.). See Pet. 3; Paper 5, 2. Petitioner filed a second petition challenging claims 1, 8, 9, and 15 of the ’557 patent in Case IPR2019-00611. Pet. 4. The grounds of unpatentability in the second petition are the same as those asserted in this proceeding, but are “premised

---

<sup>1</sup> Although we granted Petitioner’s motion to seal certain exhibits filed with the Petition (Paper 10), we do not refer to any sealed material in this Decision.

on construing [the claim term] ‘simultaneously’” differently than what Petitioner proposes in the instant Petition. *Id.* In a concurrently entered Decision, we deny institution of an *inter partes* review in Case IPR2019-00611. Apple Inc. also filed petitions for *inter partes* review of two patents related to the ’557 patent in Cases IPR2019-00613 and IPR2019-00614. *Id.*

### *B. The ’557 Patent*

The ’557 patent discloses a mobile communication terminal with “an activation button configured to switch from an inactive state . . . to an active state,” where “a predetermined operation is performed simultaneously with switching to the active state by pressing the activation button.” Ex. 1101, Abstract. According to the ’557 patent, adding functionality to a mobile communication terminal, to be performed when the terminal is in an active state, typically required adding an “interface or button for performing the function.” *Id.* at col. 1, ll. 34–40. At the same time, terminal users often perform the actions of “habitually taking out and activating the terminal[] on the move or in a standby state while carrying the terminal[].” *Id.* at col. 1, ll. 45–48. The ’557 patent seeks to take advantage of that habitual use by “connecting various operations to the activation button provided in a terminal” and performing a predetermined function whenever the user presses the activation button. *Id.* at col. 1, ll. 52–56.

Figure 1 of the '557 patent is reproduced below.

FIG. 1

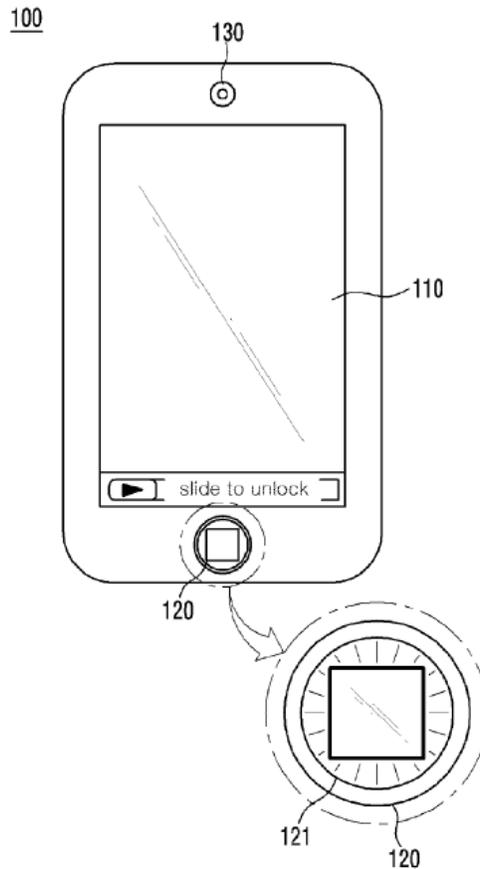


Figure 1 depicts mobile communication terminal 100 comprising camera 130, display unit 110, activation button 120, and sub-display unit 121. *Id.* at col. 3, ll. 51–55, col. 5, ll. 7–9. “[D]isplay unit 110 displays various information regarding operation states of the mobile communication terminal 100, and also displays an interface for a user’s input if the mobile communication terminal 100 drives a touch screen.” *Id.* at col. 4, ll. 3–6. When the user presses activation button 120, mobile communication terminal 100 switches from the inactive state (in which the terminal is communicable but the display screen is turned off) to the active state (in which the display screen is turned on). *Id.* at col. 3, ll. 28–46, col. 4,

ll. 27–35. Figure 1 above, for example, “illustrates a state in which a lock screen is displayed on the display unit 110 after pressing the activation button 120 when the mobile communication terminal 100 is in the inactive state.” *Id.* at col. 4, ll. 32–35. If the user presses activation button 120 when mobile communication terminal 100 is in the inactive state, mobile communication terminal 100 may perform a “predetermined operation” (set in advance by the user) “simultaneously with switching to the active state.” *Id.* at col. 2, ll. 1–17, col. 4, ll. 40–50. Mobile communication terminal 100 also may perform different operations depending on either the number of presses or the press time of activation button 120. *Id.* at col. 4, l. 50–col. 5, l. 6.

The ’557 patent describes a number of operations that can be performed when activation button 120 is pressed. *Id.* at col. 5, ll. 44–49. For example, a “user authentication process can be performed for security by pressing the activation button 120.” *Id.* at col. 7, ll. 4–7. When in the inactive state, mobile communication terminal 100 “senses whether or not the user has pressed the activation button” and, if so, performs a “user identification function.” *Id.* at col. 7, ll. 14–19. User identification unit 420 of mobile communication terminal 100 may use camera activation element 421, iris detection element 422, and user identification element 423 to sense and recognize the iris of a user’s eye. *Id.* at col. 7, ll. 20–50. The ’557 patent explains that “other authentication methods, for example, an authentication key matching method, a password matching method, a face recognition method, a fingerprint recognition method, and the like, can be used” instead of the iris recognition method. *Id.* at col. 8, ll. 3–8.

*C. Illustrative Claim*

Claims 1 and 9 of the '557 patent are independent. Claim 8 depends from claim 1, and claim 15 depends from claim 9. Claim 1 recites:

1. A mobile communication terminal comprising:
  - a display unit; and
  - an activation button configured to switch from an inactive state, which is an OFF state of the display unit, to an active state, which is an ON state of the display unit; and
  - a user identification unit configured to operate a user identification function,wherein the user identification function is performed simultaneously with switching from the inactive state of the display unit to the active state of the display unit by pressing the activation button,
- wherein the user identification function includes a fingerprint recognition.

*D. The Prior Art*

Petitioner relies on the following prior art:

U.S. Patent Application Publication No. 2010/0017872 A1, published Jan. 21, 2010 (Ex. 1113, “Goertz”);

U.S. Patent Application Publication No. 2009/0083850 A1, published Mar. 26, 2009 (Ex. 1105, “Fadell”);

International Patent Application Publication No. WO 2010/126504 A1, published Nov. 4, 2010 (Ex. 1106, “Gagneraud”);

German Patent Application Publication No. DE 19710546 A1, published Sept. 17, 1998 (Ex. 1114, “Herfet”);<sup>2</sup> and

---

<sup>2</sup> We refer to “Herfet” as the English translation of the original reference (both provided as Exhibit 1114). Petitioner includes a declaration in Exhibit 1114 attesting to the accuracy of the translation. *See* 37 C.F.R. § 42.63(b).

IPHONE USER GUIDE FOR IPHONE OS 3.1 SOFTWARE  
(2009) (Ex. 1107, “iOS”).

*E. The Asserted Grounds*

Petitioner challenges claims 1, 8, 9, and 15 of the ’557 patent as unpatentable on the following grounds:

References	Basis	Claims
Fadell, iOS, and Gagneraud	35 U.S.C. § 103(a) <sup>3</sup>	1, 8, 9, and 15
Goertz and Herfet	35 U.S.C. § 103(a)	1, 8, 9, and 15

III. ANALYSIS

*A. Discretionary Denial Under 35 U.S.C. § 314(a)*

As an initial matter, Patent Owner argues that we should exercise discretion to deny the Petition under 35 U.S.C. § 314(a) for “abuse of process.” Prelim. Resp. 36–38. Patent Owner contends that Petitioner filed two petitions in Cases IPR2019-00611 and IPR2019-00612 with substantially the same arguments but based on alternative interpretations for the claim term “simultaneously,” which “should . . . have been filed as a single petition and appear[s] only to be a tactical ploy for forcing Patent Owner to expend extra resources addressing two petitions.” *Id.* at 38.

We are not persuaded. Petitioner filed both petitions on January 23, 2019,

---

<sup>3</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the challenged claims of the ’557 patent have an effective filing date before the effective date of the applicable AIA amendment, we refer to the pre-AIA versions of 35 U.S.C. § 103.

and Patent Owner has not identified any previously filed petition seeking review of the '557 patent. Thus, the concerns outlined in *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, Case IPR2016-01357, slip op. at 15–19 (PTAB Sept. 6, 2017) (Paper 19) (precedential as to § II.B.4.i), regarding the filing of serial petitions over time do not apply. Also, under the particular facts of this proceeding, we are not persuaded that both petitions should be denied because Petitioner filed two petitions premised on different possible claim interpretations. As explained herein, we adopt in large part Petitioner's proposed interpretation in this proceeding and deny the second petition advocating a different interpretation in Case IPR2019-00611. *See infra* Section III.B.1.

### *B. Claim Interpretation*

We interpret the challenged claims

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

*See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). Claim terms are given their plain and ordinary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “There are only two

exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.”

*Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

The prosecution history of a patent may “inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Phillips*, 415 F.3d at 1317; *see Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) (“The purpose of consulting the prosecution history in construing a claim is to ‘exclude any interpretation that was disclaimed during prosecution.’” (citation omitted)). “For example, ‘a patentee may, through a clear and unmistakable disavowal in prosecution history, surrender certain claim scope to which he would otherwise have an exclusive right by virtue of the claim language.’” *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010) (citation omitted); *see Arendi S.A.R.L. v. Google LLC*, 882 F.3d 1132, 1135 (Fed. Cir. 2018) (“[I]n order to disavow claim scope, a patent applicant must clearly and unambiguously express surrender of subject matter during prosecution.” (citation omitted)). The fact that a patent owner is the one arguing in favor of disclaimer does not mean the doctrine is inapplicable, provided the prosecution statements are “clear and unmistakable.” *VirnetX Inc. v. Mangrove Partners Master Fund, Ltd.*, No. 2017-1368, 2019 WL 2912776, at \*8 (Fed. Cir. July 8, 2019).

Petitioner proposes an interpretation for the term “simultaneously” in independent claims 1 and 9. Pet. 14–17 (citing Ex. 1103 ¶¶ 50–51). Patent

Owner proposes interpretations for the terms “simultaneously,” “an OFF state of the display unit,” “inactive state,” “an ON state of the display unit,” and “active state” in independent claims 1 and 9. Prelim. Resp. 5–13.<sup>4</sup>

*1. “Simultaneously”*

Petitioner states that it presents “alternative grounds of unpatentability” in this proceeding and Case IPR2019-00611 because “Patent Owner has taken a position on the meaning of ‘simultaneously’ from its after-final amendment during the original prosecution of the ’557 patent” that Petitioner believes is “inconsistent with the evidence in the intrinsic record.” Pet. 15. Petitioner states that if the Board interprets “simultaneously” consistent with the applicants’ statements during prosecution regarding performance “without additional steps,” Petitioner “accept[s] it for the purposes of this Petition.” *Id.* at 12–13, 16. Petitioner further argues, however, that a person of ordinary skill in the art would have understood “additional steps” to refer to “additional user action.” *Id.* Accordingly, Petitioner proposes that “simultaneously” be interpreted to mean that “when a user just presses the activation button, both the user identification function and the switching from the inactive state of the display unit to the active state of the display unit are performed, without additional user action.” *Id.* at 17 (citing Ex. 1103 ¶¶ 50–51) (emphasis omitted).

---

<sup>4</sup> The parties proposed constructions for various other terms in the related district court cases, but the district court has not rendered a decision on claim construction. *See* Pet. 14 n.4; Exs. 1134, 1135.

Patent Owner responds that “the applicants defined ‘simultaneously’ as ‘without additional steps’” during prosecution, and “[t]he Board could therefore simply define ‘simultaneously’ as ‘without additional steps’ and be wholly consistent with the intrinsic record.” Prelim. Resp. 7–9 (quoting Ex. 1102, 190). Patent Owner states, though, that “to avoid dispute about what ‘without additional steps’ means, Patent Owner is comfortable with the Board construing ‘simultaneously,’ in context, to include ‘at the same time’ and ‘not sequentially’” because the applicants allegedly “understood ‘without additional steps’ to require that activation of the display and performance of user identification occur at the same time, and not as a sequence of steps.” *Id.* at 9. Thus, Patent Owner proposes that “simultaneously” be interpreted to mean “at the same time, without additional steps, and not sequentially.” *Id.* at 7.

We begin with the language of the claims themselves. Claim 1 recites that “the user identification function is performed *simultaneously* with switching from the inactive state of the display unit to the active state of the display unit by pressing the activation button,” and claim 9 recites “performing a user identification process by a fingerprint recognition *simultaneously* with switching from the inactive state of the display unit to the active state of the display unit if the pressing of the activation button is sensed” (emphases added). The surrounding claim language merely specifies what actions are performed “simultaneously,” without explaining how such performance occurs or what makes it “simultaneous[.]”

Nor does the Specification of the ’557 patent shed light on the meaning of “simultaneously.” The Specification largely repeats the claim language in three passages. *See* Ex. 1101, Abstract, col. 2, ll. 1–17. The

Specification also uses “simultaneously” two times in other contexts, but does not define the term or otherwise explain what makes the disclosed actions “simultaneously” performed. *See id.* at col. 9, ll. 51–54 (“current location information is collected simultaneously with the activation of the mobile communication terminal 100”), col. 11, ll. 28–32 (“application driving unit 230 can drive a predetermined application simultaneously with the activation within the mobile communication terminal 100”).

The meaning of the term “simultaneously,” however, was addressed explicitly during prosecution of the ’557 patent. The examiner issued an office action rejecting claims 1 and 13 (which ultimately issued as independent claims 1 and 9) as anticipated by U.S. Patent Application Publication No. 2013/0057385 A1 (“Murakami”), citing certain portions of Murakami as allegedly disclosing the “simultaneously” limitations. Ex. 1102, 164–165. The applicants made a number of arguments in response, including that “the activation of the display unit is not performed simultaneously with the user identification function in Murakami” and that “[a]s for the term ‘simultaneously,’ the examiner’s attention is invited to consider the specification and the claim languages in claims 1 and 13.” *Id.* at 190 (citing paragraph 4 of the original specification, *id.* at 8–9). The applicants further argued as follows:

That is, in view of the specification and the claim language, it is clear that the term “simultaneously” in claims 1 and 13 of the present application means that, when a user just presses the activation button, *both* the user identification function *and* the switching from the inactive state of the display unit to the active state of the display unit *are performed, without additional steps.*

Therefore, in order to rely on [Murakami], the examiner must show that [Murakami] teach[es] or suggest[s] that, when a

user presses the activation button, *both* the user identification function *and* the switching from the inactive state of the display unit to the active state of the display unit *are performed, without additional steps.*

*Id.* at 190–191. According to the applicants, Murakami does not teach the “simultaneously” limitation of each claim because “the displaying of the data [in Murakami] is performed *on the condition* that [the] user’s identity is authenticated” (i.e., after the user identification function completes the step of authenticating the user), rather than the user identification function and switching from the inactive state to the active state being performed without additional steps. *Id.* (emphasis added). The examiner subsequently allowed the claims. *Id.* at 199–203.

We agree with Patent Owner and conclude that the applicants clearly and unambiguously defined the term “simultaneously” in the passage quoted above. *See* Prelim. Resp. 8–9. The applicants quoted the relevant claim language, identified the term “simultaneously” specifically, and expressly stated what the term “means,” i.e., that “when a user just presses the activation button, both the user identification function and the switching from the inactive state of the display unit to the active state of the display unit are performed, without additional steps.” Ex. 1102, 190 (emphases omitted). The applicants also distinguished the prior art based on that definition, arguing that Murakami does not teach performance of both recited actions “without additional steps.” *Id.* at 190–191 (emphasis omitted).

To the extent Petitioner seeks to further define the “additional steps” in the definition to mean “additional user action,” we decline to do so based on the current record. *See* Pet. 16–17. Petitioner’s only support for its

proposed interpretation is the testimony of its declarant, Benjamin B. Bederson, Ph.D., who testifies that a person of ordinary skill in the art “would have expected that, because the ’557 patent disclosure is generally concerned with the overall operation of a device and allegedly making user interactions simpler, . . . a ‘step’ would have related to user actions,” and that a different interpretation involving processing steps would be “improbable.” *See* Ex. 1103 ¶¶ 50–51 (citing Ex. 1101, col. 1, ll. 18–67). We do not see how the ’557 patent’s general discussion of user interaction with a mobile communication terminal (e.g., taking out and activating the terminal) is sufficient basis to depart from the explicit definition the applicants provided during prosecution.

Thus, we interpret “simultaneously” in accordance with the applicants’ express definition provided during prosecution of the ’557 patent. *See Samsung Elecs. Co., Ltd. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373, 1379 (Fed. Cir. 2019) (concluding that the patentee “clearly and unambiguously disclaimed claim scope” during prosecution by arguing, in response to the examiner’s objection that the term at issue was unclear, that “the meaning of [the term] as used in the claims” was explained in a particular portion of the specification); *Advanced Fiber Techs. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374 (Fed. Cir. 2012) (concluding that “the court correctly relied on a clear definition of a claim term set forth by [the patentee] in the prosecution history”).

On this record, we interpret “simultaneously,” in the context of the surrounding claim language in claims 1 and 9, to mean that when a user just presses the activation button, both the user identification function and the switching from the inactive state of the display unit to the active state of the

display unit are performed, without additional steps. No further interpretation is necessary at this time to determine whether to institute an *inter partes* review in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“Because we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy,’ we need not construe [a particular claim limitation] where the construction is not ‘material to the . . . dispute.’” (citations omitted)). To the extent there remains any disagreement over the meaning of “simultaneously,” the parties are encouraged to address the issue further in their papers during trial.

## 2. “Inactive State” and “Active State”

Claims 1 and 9 recite “an inactive state, which is an OFF state of the display unit,” and “an active state, which is an ON state of the display unit.” Petitioner does not propose interpretations for these terms. Patent Owner argues that “an OFF state of the display unit” and “inactive state” should be interpreted to mean “a state in which the display is turned off yet the device itself is on,” and “an ON state of the display unit” and “active state” should be interpreted to mean “a state in which the display is turned on.” Prelim. Resp. 10–11. Patent Owner contends that the terms are defined in the Specification of the ’557 patent. *Id.* at 11–12. We agree. The Specification explicitly defines the terms “inactive state” and “active state” as follows:

The term “inactive state” used herein refers to a state in which the mobile communication terminal is communicable but a display screen is turned off[.] Even when the display screen is turned off, a predetermined function (for example, a music play function or the like) is operable. . . . [T]he term “inactive state” used herein refers to a concept encompassing states in which the

display screen is turned off, regardless of whether or not the mobile communication terminal performs a predetermined operation. However, a state in which the mobile communication terminal is completely turned off is excluded.

The term “active state” used herein refers to a state in which the display screen of the mobile communication terminal is turned on. Switching from the “inactive state” to the “active state” refers to switching of the display screen from the OFF state to the ON state, regardless of information displayed on the display screen in the ON state. For example, the mobile communication terminal can be determined to be in the “active state” even when only a lock screen is displayed.

Ex. 1101, col. 3, ll. 28–46. Thus, on this record, we interpret “inactive state” in claims 1 and 9 to mean a state in which the mobile communication terminal is communicable but a display screen is turned off, regardless of whether or not the mobile communication terminal performs a predetermined operation, and the mobile communication terminal is not completely turned off. Also, on this record, we interpret “active state” to mean a state in which the display screen of the mobile communication terminal is turned on. No interpretation of “an OFF state of the display unit” and “an ON state of the display unit” is necessary, as the claims equate the two states with the recited “inactive state” and “active state,” respectively.

### 3. “*User Identification Unit*”

Claim 1 recites “a user identification unit configured to operate a user identification function, . . . wherein the user identification function includes a fingerprint recognition.” Petitioner does not argue that “user identification unit” should be interpreted as a means-plus-function limitation under 35 U.S.C. § 112, sixth paragraph, but states that if it is so interpreted, the only structure described in the Specification of the ’557 patent is user

identification unit 420 comprising camera activation element 421, iris detection element 422, and user identification element 423, which “are described in purely functional terms, independent of any required algorithm.” Pet. 29 n.10.

In general, a claim term that does not use the word “means” triggers a rebuttable presumption that 35 U.S.C. § 112, sixth paragraph, does not apply. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). That presumption can be overcome “if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* at 1349 (citation omitted). “The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.*

Based on the current record, we find that the presumption resulting from claim 1 not using the word “means” is not overcome. We do not interpret the term in accordance with 35 U.S.C. § 112, sixth paragraph, and conclude that no further interpretation is necessary at this time. The parties are encouraged to address the issue in their papers during trial.

### *C. Principles of Law*

A claim is unpatentable for obviousness if, to one of ordinary skill in the pertinent art, “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). The question of obviousness is resolved on the basis of underlying factual

determinations, including “the scope and content of the prior art”; “differences between the prior art and the claims at issue”; and “the level of ordinary skill in the pertinent art.”<sup>5</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

A patent claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. An obviousness determination requires finding “both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418 (for an obviousness analysis, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”). A petitioner’s assertion of obviousness “cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (citing *KSR*, 550 U.S. at 418).

---

<sup>5</sup> Additionally, secondary considerations, such as “commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Graham*, 383 U.S. at 17–18. Patent Owner, however, has not presented any such evidence at this stage.

*D. Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art at the time of the '557 patent would have had “a bachelor’s degree in Computer Science, Computer Engineering, or equivalent and at least two years of relevant experience in the fields of user interface design and mobile devices, or otherwise equivalent industry experience in the relevant field.” Pet. 13–14 (citing Ex. 1103 ¶¶ 29–30). Patent Owner does not address the level of ordinary skill in the art in its Preliminary Response. Based on the record presented, including our review of the '557 patent and the types of problems and solutions described in the '557 patent and cited prior art, we agree with Petitioner’s assessment of the level of ordinary skill in the art and apply it for purposes of this Decision.

*E. Obviousness Ground Based on Fadell, iOS, and Gagneraud*

Petitioner contends that claims 1, 8, 9, and 15 are unpatentable over Fadell, iOS, and Gagneraud<sup>6</sup> under 35 U.S.C. § 103(a), citing the testimony of Dr. Bederson as support. Pet. 17–39 (citing Ex. 1103). Patent Owner makes various arguments in response. Prelim. Resp. 22–28, 35–38. We are persuaded that Petitioner has established a reasonable likelihood of prevailing on its asserted ground for the reasons explained below.

*1. Fadell*

Fadell describes “an electronic device with an embedded authentication system for restricting access to device resources” including

---

<sup>6</sup> Fadell, iOS, and Gagneraud were not of record during prosecution of the '557 patent. See Ex. 1101, (56); Pet. 7–8.

sensors that “detect appropriate biometric information as the user operates the device, without requiring the user to perform a step for providing the biometric information (e.g., embedding a fingerprint sensor in an input mechanism instead of providing a fingerprint sensor in a separate part of the device housing).” Ex. 1105, Abstract, ¶ 5. Fadell recognizes that previous systems restricting access via passwords or pass codes were “effective only so long as no other user knows the password or pass code,” and fingerprint or retina scan systems, while more secure, were “time consuming and bothersome for the user, requiring an additional step before the user can access the device.” *Id.* ¶ 4. Fadell discloses that “[i]t would be desirable therefore, to provide an electronic device by which biometric and other authentication mechanisms are implemented in the device such that the device authenticates the user quickly and seamlessly, for example as the user turns on, unlocks or wakes the device.” *Id.*

Figure 8B of Fadell is reproduced below.

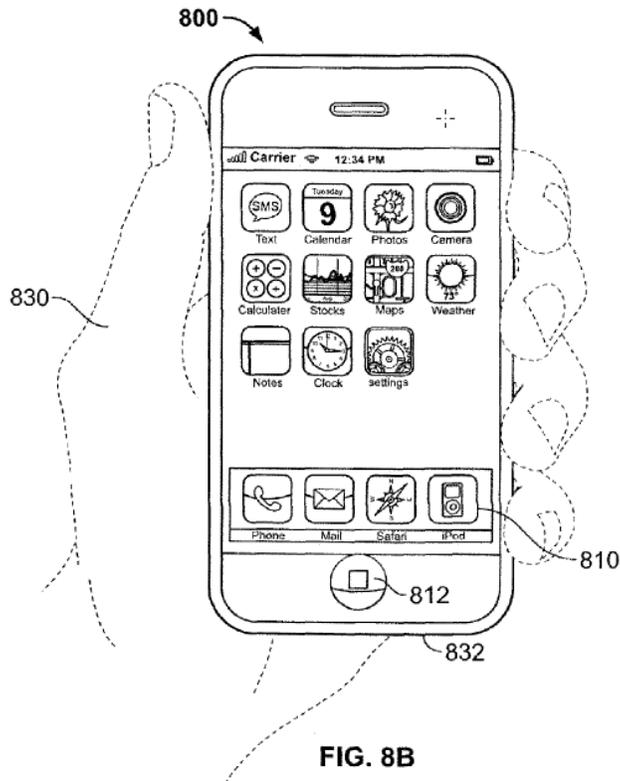
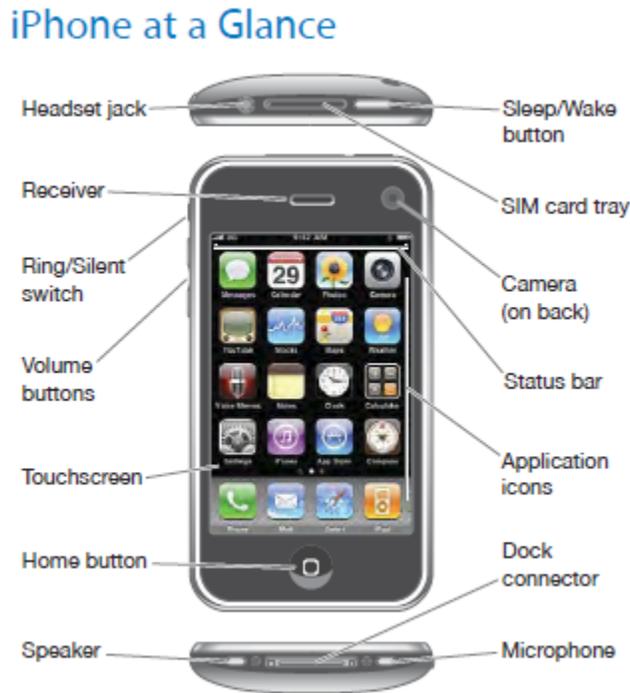


Figure 8B depicts electronic device 800, held in user's hand 830, comprising display 810, home button 812, and sensor 720 "placed behind" home button 812 and "operative to detect features of a user's fingerprint to identify the user." *Id.* ¶¶ 64–67. Sensor 720 can "generate an image or a representation of the skin placed over the sensor that can be compared to a library of images or representations available to the electronic device." *Id.* ¶ 56. Fadell requires the user to be authenticated (e.g., by fingerprint recognition) before providing access to data and resources on the electronic device. *Id.* ¶¶ 43, 46–48.

## 2. iOS

iOS is a user guide for iPhone OS 3.1 software. Ex. 1107, 1. iOS includes a diagram of an iPhone on page 20, which is reproduced below.



The reproduced diagram above depicts an iPhone. *Id.* at 20. The iPhone includes a home button that, when pressed, causes the device to display a home screen that includes applications that can be launched. *Id.* at 23. The iPhone also includes a sleep/wake button that allows the user to lock the device or turn it off. *Id.* at 26–27. When the iPhone is locked, nothing happens if the user touches the screen. *Id.* at 26.

## 3. Gagneraud

Gagneraud describes a device comprising a power button, “fingerprint scanner coupled on the power button,” and “authentication application” that “compar[es] a user fingerprint image with a stored fingerprint image.” Ex. 1106, Abstract. Gagneraud discloses that “[b]y utilizing a fingerprint

scanner coupled on a power button, when the fingerprint scanner detects a user, the single act of the fingerprint scanner detecting the user results in the fingerprint scanner beginning to scan and store a user's fingerprint image while a machine concurrently begins powering on." *Id.* ¶ 58. "As a result, time is saved and user friendliness is increased by automatically authenticating the user's fingerprint image with stored fingerprints once the machine has powered on." *Id.*

Figure 8 of Gagneraud is reproduced below.

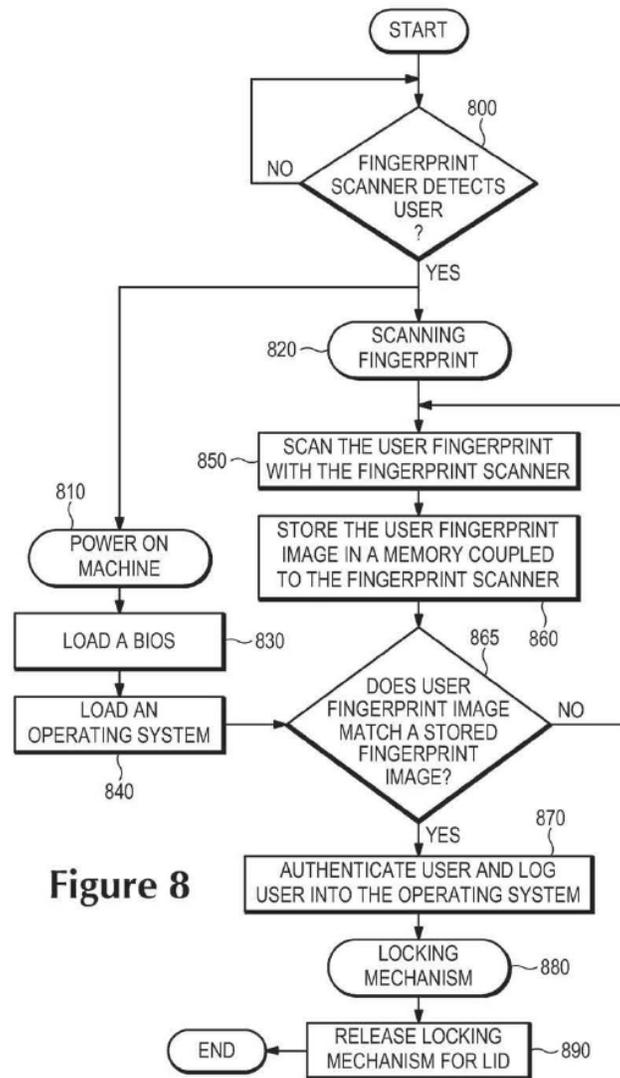


Figure 8

Figure 8 depicts a flow chart for authenticating a user using “a fingerprint scanner on a power button.” *Id.* ¶ 53. The fingerprint scanner detects a user touch at step 800. *Id.* ¶ 54. “Once a user is detected, the machine concurrently begins powering on 810 and scans a user fingerprint with the fingerprint scanner 820.” *Id.* Specifically, “[w]hile the machine is powering on, the fingerprint scanner concurrently scans the user fingerprint with the fingerprint scanner 850 and stores the user fingerprint image in a memory coupled to the fingerprint scanner 860.” *Id.* ¶ 55. “Once the user fingerprint has been stored and the operating system on the machine has been loaded, an authentication application determines whether the user fingerprint matches a stored fingerprint image or data (stored fingerprints) on the machine 865.” *Id.* If a match is detected, “the operating system will authenticate the user and log the user into the operating system 870,” the authentication application “access[es] a locking mechanism 880,” and “the machine configures [the] locking mechanism on the machine to release and grant the user access to the machine 890.” *Id.* ¶¶ 56–57.

#### 4. Analysis

Petitioner relies on Fadell for the majority of the limitations of claim 1. Pet. 25–38. For example, Petitioner argues that Fadell teaches a “mobile communication terminal” (i.e., electronic device 800) comprising a “display unit” (i.e., display 810), “activation button” (i.e., home button 812), and “user identification unit configured to operate a user identification function” including “fingerprint recognition” (i.e., “authentication system 112 for identifying users based on biometric features, controlled by processing circuitry 102” shown in Figure 1 of Fadell). *Id.*

Petitioner relies on a combination of Fadell with iOS<sup>7</sup> for the limitation of claim 1 that the activation button be “configured to switch from an inactive state, which is an OFF state of the display unit, to an active state, which is an ON state of the display unit.” *Id.* at 27–28. Petitioner contends that Fadell’s electronic device 800 (shown in Figure 8B above) can be an iPhone that would use the operating system described in iOS, given that Fadell is assigned to Apple Inc. and purports to incorporate in its entirety U.S. Provisional Patent Application No. 60/995,200, which states that “[e]lectronic device 100 may be any suitable electronic device, including for example an iPod or iPhone from Apple, Inc.” Ex. 1128, 5; *see* Pet. 22, 24, 28. Petitioner argues that iOS describes an iPhone home button pressed to wake the device from a sleep state. Pet. 28 (citing Ex. 1107, 20, 27, 145). According to Petitioner, iOS shows how a person of ordinary skill in the art would have understood the functionality of Fadell’s iPhone, and even if not directly applicable, a person of ordinary skill in the art would have been motivated to apply the teachings of iOS as a “well-known interface implementation[]” for devices like the one described in Fadell. *Id.* at 24.

Petitioner relies on a combination of Fadell with Gagneraud for the limitation of claim 1 that “the user identification function is performed simultaneously with switching from the inactive state of the display unit to the active state of the display unit by pressing the activation button” (the “simultaneous” limitation). *Id.* at 31–37. As explained above, we interpret “simultaneously,” in the context of claim 1, to mean that when a user just

---

<sup>7</sup> Petitioner provides evidence supporting its contention that iOS is a prior art printed publication under 35 U.S.C. § 102(b). *See* Pet. 7 (citing Exs. 1104, 1131).

presses the activation button, both the user identification function and the switching from the inactive state of the display unit to the active state of the display unit are performed, without additional steps. *See supra* Section III.B.1.

Petitioner argues that Fadell’s user identification function is “performed ‘as the user . . . wakes the device’ (i.e., simultaneously—no other steps (user action) are described in Fadell),” and to the extent Fadell “lacks sufficient detail with respect to whether additional steps (user action) are required to perform the identification function, . . . Gagneraud cures any such deficiencies.” Pet. 31–32 (quoting Ex. 1105, claim 1) (emphases omitted). Petitioner points out that, as shown in Figure 8 of Gagneraud above, “after the user presses a button with an integrated fingerprint sensor, the machine concurrently powers on [in steps 810, 830, and 840] and performs fingerprint recognition [in step 865].” *Id.* at 33 (citing Ex. 1106 ¶¶ 25–27, 54, 55, 58, Fig. 8). According to Petitioner, “the scanning and recognition of a fingerprint [in Gagneraud] are performed ‘automatically’ and concurrently with powering on of the machine—simultaneously (there are no additional steps (user action) between pressing the activation button and performing either the powering on or fingerprint recognition functions).” *Id.* at 33–34. Petitioner further provides an explanation as to why a person of ordinary skill in the art would have been able and motivated to modify Fadell’s electronic device based on the teachings of Gagneraud. *Id.* at 34–37. Petitioner contends that an ordinarily skilled artisan would have been motivated to incorporate Gagneraud’s teachings regarding simultaneous performance “in order to fulfill Fadell’s goal of ‘authentica[ting] the user quickly and seamlessly . . . as the user . . . wakes

the device’ . . . with the benefit of saving time and simplifying user interaction.” *Id.* at 34 (quoting Ex. 1105 ¶ 4; citing Ex. 1106 ¶ 58) (emphasis omitted). Petitioner’s contentions are supported by the testimony of Dr. Bederson. *See* Ex. 1103 ¶¶ 52–84.

Patent Owner makes three arguments in its Preliminary Response. First, Patent Owner argues that Fadell and Gagneraud do not teach the “simultaneous” limitation. Prelim. Resp. 22–25. Paragraph 4 of Fadell, relied upon by Petitioner, discloses that “[i]t would be desirable . . . to provide an electronic device by which biometric and other authentication mechanisms are implemented in the device such that the device authenticates the user quickly and seamlessly, for example as the user turns on, unlocks or wakes the device.” Ex. 1105 ¶ 4; *see* Pet. 31–32. According to Patent Owner, this language is merely “aspirational” and does not teach simultaneously performing user authentication and activating a display because Fadell never explains what is meant by the user “wak[ing]” the device. Prelim. Resp. 23. With respect to Gagneraud, Patent Owner argues that Gagneraud discloses “performing an authentication function while the *entire device* (except the fingerprint scanner itself) is being powered on,” not simultaneously performing user authentication and activating a display when the device is already on. *Id.* at 25–26 (citing Ex. 1106 ¶ 15, Figs. 6, 8).

We are not persuaded by Patent Owner’s arguments based on the current record. Even assuming (without deciding) that Fadell alone does not teach the “simultaneous” limitation, Petitioner has made a sufficient showing at this stage based on the combination of Fadell, iOS, and Gagneraud. Petitioner relies on Fadell (understood in view of iOS) for its teachings of authentication via fingerprint recognition and the desirability of

authenticating a user as the user “wakes” the device using an activation button. Pet. 27–32, 34. Petitioner relies on Gagneraud for its teaching of simultaneous operations, namely performing both fingerprint recognition and powering on of the device based on a button press by the user, without additional steps. *Id.* at 33–34. Petitioner’s position is that a person of ordinary skill in the art would have applied “Gagneraud’s teachings of simultaneous performance to Fadell’s wake and authentication procedures” in such a manner that user authentication in the combined device would be performed simultaneously with waking the device (i.e., activating the display). *Id.* at 34–37 (emphases omitted). Petitioner’s reasoning for that combination is that

a [person of ordinary skill in the art] would have known that the disclosures and teachings of Fadell and Gagneraud would have had wide applicability in the art of electronic devices. This is because their teachings relate to fundamental human-computer interaction concepts such as (1) determining that a user is indicating their initial interaction with a device, and (2) determining whether that user should be allowed to interact with the device. In other words, Gagneraud teaches that a fingerprint function should be performed simultaneously with powering-on a device in order to save time. But whether the device is “powering” on (as in Gagneraud and Fadell) or “waking” from sleep (also in Fadell), or whether the user signals activation via a power button or home button, has no bearing on the underlying question of whether the user is indicating their initial interaction with the device. A [person of ordinary skill in the art] would have understood that the concept of fingerprint identification would have been needed for, and applicable to, any process in which the device has not been in active use (among other situations) and a user signals that they are initiating interactions with some function of the device. Fadell makes this equivalence explicit in saying that authentication mechanisms are used for the group of functions: “as the user turns on, unlocks

or wakes the device.” Any button that would have been used to wake a device—i.e., the first button being pressed by the user—would have been an obvious candidate for the convenience factor desired in Fadell and Gagneraud.

*Id.* at 35–36 (citations and emphases omitted). Dr. Bederson provides supporting testimony for Petitioner’s contentions. *See* Ex. 1103 ¶¶ 32–41, 75–83.

Patent Owner’s argument is not persuasive on this record because it is directed to Gagneraud individually, not the combination of Fadell and Gagneraud proposed by Petitioner. *See In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012) (“[T]he test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art.”); *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”). Patent Owner is correct that Gagneraud alone teaches performing user authentication simultaneously with powering on the device, rather than with switching the device’s display from an inactive state to an active state. *See* Prelim. Resp. 25–26. But Petitioner relies on Fadell and iOS, not Gagneraud, as teaching the recited state switching. Pet. 27–32, 34. Petitioner’s position is that Gagneraud’s teachings regarding simultaneous performance would apply equally to other contexts where a user is indicating his or her “initial interaction” with a device and, therefore, applying Gagneraud’s teachings to Fadell and iOS would have resulted in a device that performed user authentication and activating the display simultaneously, i.e., without additional steps. *Id.* at 34–37. That

combination is supported sufficiently at this stage by the disclosure of the references and the testimony of Dr. Bederson.

Second, Patent Owner contends that “Gagneraud’s authentication feature deals with powering on the device, not waking it,” and “Fadell’s disclosure relates to requiring authentication *before* access to a restricted resource is allowed,” pointing to Figure 15 of Fadell in particular. Prelim. Resp. 24–25 (citing Ex. 1105 ¶ 42, Fig. 15), 27. In Patent Owner’s view, applying Gagneraud’s teachings to Fadell “would result in Fadell activating the device display *prior to* authenticating the user.” *Id.* Patent Owner argues that given that result, there is no basis for Petitioner to link powering on and waking from sleep as both pertaining to a user’s initial interaction with a device. *Id.* at 28.

We are not persuaded based on the current record. Figure 15 of Fadell depicts an authentication process comprising first receiving from the user “a request to access restricted resources” (e.g., “an instruction to access” user data or a restricted application) (step 1506) and then performing user authentication (step 1508) and providing access to the “restricted resources” that the user requested (step 1512). Ex. 1105 ¶¶ 93–96. Figure 15 thus pertains to authenticating a user to provide access to specific resources being requested. As Petitioner points out, Fadell also discloses at least the desirability of authenticating the user “quickly and seamlessly” as the user “wakes” the device, in which case the user is waking the device rather than making a request for a particular resource. *See id.* ¶ 4; Pet. 31–32, 34. We are not persuaded on this record that modifying the Fadell device to perform user authentication and activating the display simultaneously would fundamentally alter the waking of the device disclosed in Fadell or render

the Fadell device unsuitable for its intended purpose. Further, to the extent Patent Owner disputes Petitioner’s linking of powering on and waking from sleep, we note that Petitioner’s position is supported by the disclosure of Fadell itself. Fadell discloses a goal of “authenticat[ing] the user quickly and seamlessly . . . as the user turns on, unlocks or wakes the device.”

Ex. 1105 ¶ 4; *see* Pet. 34. Fadell’s stated goal thus applies in both contexts: turning on the device and waking the device.

Third, Patent Owner argues that no prior art reference discloses performing fingerprint recognition and simultaneously activating a display “by pressing the activation button,” as recited in claim 1. Prelim. Resp. 35–36. According to Patent Owner, each relied upon reference “discloses *only* (1) a button that activates the display, or (2) a device on/off switch that also causes the performance of fingerprint recognition,” but Petitioner “ha[s] not identified any prior art reference” that discloses an activation button performing both simultaneously. *Id.* at 36. Patent Owner is correct that no single reference discloses the claim limitations at issue, but Petitioner’s obviousness theory is premised on the *combination* of Fadell, iOS, and Gagneraud. Petitioner has made a sufficient showing at this stage of the proceeding, with supporting testimony from Dr. Bederson, as to how the references in combination account for all limitations of claim 1 and why a person of ordinary skill in the art would have been motivated to combine the teachings of the references in the manner asserted. *See* Pet. 17–38; Ex. 1103 ¶¶ 52–84.

On this record, we are persuaded that Petitioner has made a sufficient showing that claim 1 is unpatentable over Fadell, iOS, and Gagneraud. We also have reviewed Petitioner’s contentions for method claim 9, which

recites limitations similar to those of claim 1 addressed above, and dependent claims 8 and 15, and are persuaded that Petitioner has made a sufficient showing at this stage for these claims as well. *See* Pet. 38–39. Patent Owner argues independent claims 1 and 9 together in its Preliminary Response. Prelim. Resp. 22–28, 35–36. On this record, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 1, 8, 9, and 15 are unpatentable over Fadell, iOS, and Gagneraud.

*F. Obviousness Ground Based on Goertz and Herfet*

Petitioner contends that claims 1, 8, 9, and 15 are unpatentable over Goertz and Herfet<sup>8</sup> under 35 U.S.C. § 103(a), citing the testimony of Dr. Bederson as support. Pet. 40–55 (citing Ex. 1103). Patent Owner makes various arguments in response. Prelim. Resp. 29–38. We are persuaded that Petitioner has established a reasonable likelihood of prevailing on its asserted ground for the reasons explained below.

*1. Goertz*

Goertz describes a mobile device having a home button and a touch screen user interface. Ex. 1113 ¶¶ 2, 8, 59.

---

<sup>8</sup> Goertz and Herfet were not of record during prosecution of the '557 patent. *See* Ex. 1101, (56); Pet. 7–8.

Figures 9, 10, and 11 of Goertz, depicting turning the device on and off, are reproduced below.

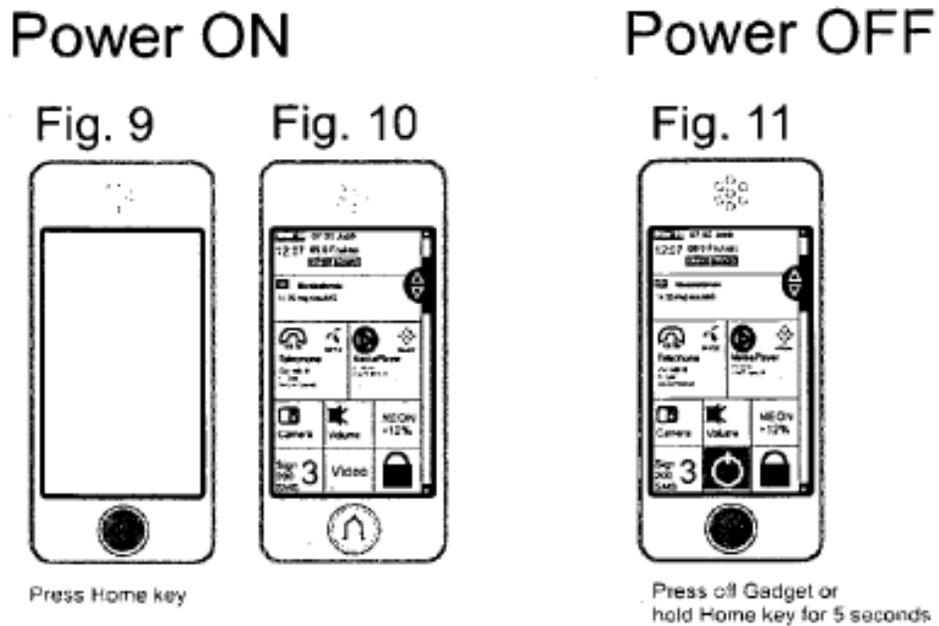
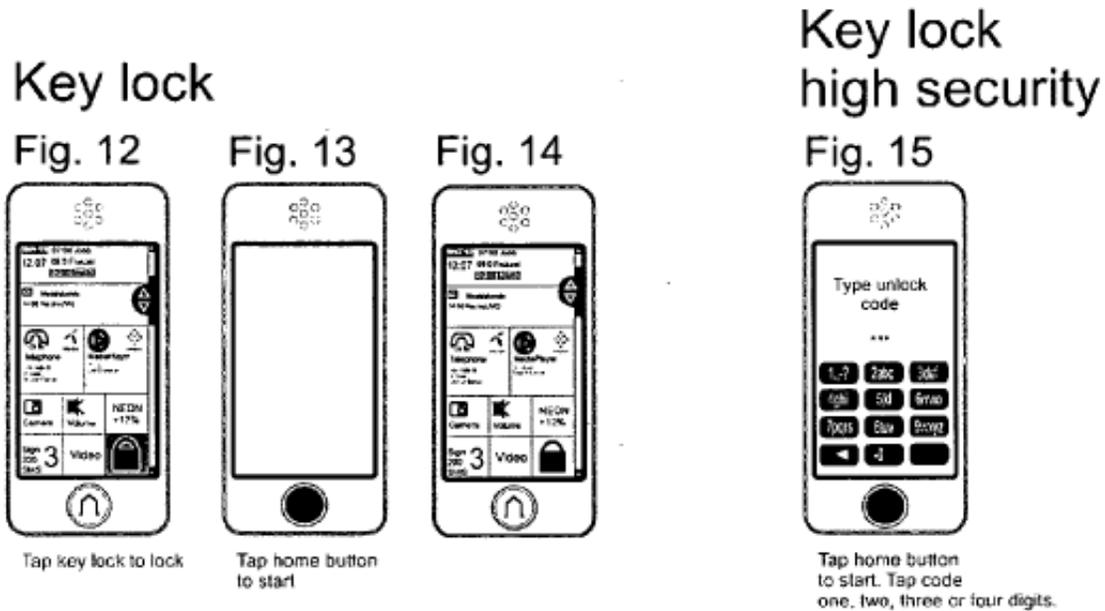


Figure 9 displays a first phone with “a blank screen, indicating that power is off.” *Id.* ¶ 59. Figure 10 displays a second phone with “gadgets displayed thereon, indicating that power is on.” *Id.* A “home key” is displayed at the bottom of the phones and can be activated, such as by touching the key, in order to turn the power on. *Id.* Figure 11 depicts a phone that is turned on and indicates that touching the home key for an extended period of time (e.g., 5 seconds) causes the phone to power off. *Id.*

Figures 12, 13, 14, and 15 of Goertz illustrate the locking and unlocking of the device, and are reproduced below.

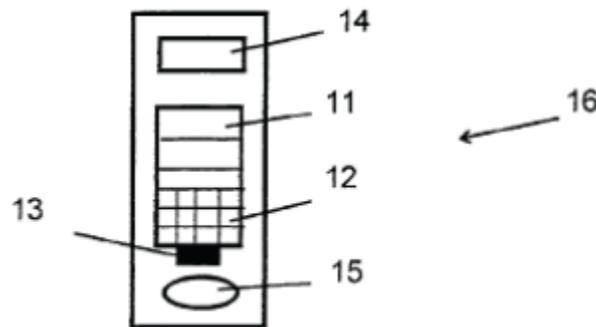


In Figure 12, “a lock gadget is displayed in the lower right corner of the screen” that, when pressed, locks the phone and restricts its access in some manner. *Id.* ¶ 60. Figure 13 shows a locked phone, in which the user can “activate[] the home key, located at the bottom center of the device,” to unlock the phone. *Id.* Figure 14 “shows the phone after it has been unlocked; gadgets are now displayed on screen and are activated in response to user input.” *Id.* In Figure 15, the phone displays a keypad after the home key is activated that prompts the user to enter a security code to unlock the phone. *Id.* ¶ 61. Goertz discloses that “[o]ptionally, additional security is implemented by use of fingerprint identification, wherein the phone cannot be unlocked unless a fingerprint is authenticated.” *Id.*

## 2. Herfet

Herfet describes “a terminal for participating in services . . . subject to an access authorization” comprising “a camera for recording the fingerprint of a user and a comparison device for comparing the recorded fingerprint with a fingerprint stored in a data memory.” Ex. 1114, col. 1, ll. 3–6, 18–23. “[T]he image recording unit is disposed in the region of an on/off switch of the terminal,” resulting in “automatic activation of services with access authorization when the respective on/off switch of the terminal is actuated” and thus requiring “no additional effort for the user.” *Id.* at col. 1, ll. 38–43.

Figure 3 of Herfet is reproduced below.



**Fig. 3**

Figure 3 depicts mobile telephone 16 comprising on/off switch 13, “behind which an image recording unit 5 is disposed.” *Id.* at col. 2, ll. 46–48, col. 3, ll. 26–32. Mobile telephone 16 “contains the same functional units as a conventional mobile radio device,” but for purposes of “access authorization” to services, includes “an automatic authentication which is disposed in the region of the on/off switch 13.” *Id.* at col. 3, ll. 33–39. Image recording unit 5 records the fingerprint of the user “during the switch-on process” and compares it to a fingerprint stored in memory for authentication. *Id.* at col. 2, ll. 48–50, col. 3, ll. 2–7 (“At the moment when

the set is switched on, the fingerprint 6 of the user is recorded and subsequently compared to the database . . . .”). Herfet discloses that there is “a direct relationship between use, i.e. switching on/off, and authentication.” *Id.* at col. 3, ll. 9–11. Also, “[w]hen the terminal is not in use for an extended period of time, e.g. in standby mode, the authentication can be reset automatically; i.e. in this case the activation of services with access authorization is only possible after a renewed switch-on process.” *Id.* at col. 3, ll. 11–15.

### 3. Analysis

Petitioner relies on Goertz for the majority of the limitations of claim 1. Pet. 43–53. For example, Petitioner argues that Goertz teaches a “mobile communication terminal” (i.e., mobile phone) comprising a “display unit” (i.e., touch screen) and “activation button” (i.e., home key) configured to switch from an “inactive state” to an “active state” (i.e., the transition from Figure 13 to Figures 14 and 15 shown above), and performing a “user identification function” including “fingerprint recognition” (i.e., fingerprint identification). *Id.*

Petitioner relies on a combination of Goertz with Herfet for two limitations of claim 1. *Id.* at 46–53. First, Petitioner argues that although Goertz teaches a computer and software for performing the functions described in the reference, “to the extent” Goertz does not disclose a “user identification unit,” Herfet teaches “a fingerprint scanner including image pickup unit 5, signal processing device 7, comparison device 8, and memory 9.” *Id.* at 46–47. Second, Petitioner relies on the combined teachings of Goertz and Herfet for the “simultaneous” limitation, arguing that Herfet

teaches access authorization “performed simultaneously with the pressing of an on / off button . . . without additional user steps (user action).” *Id.* at 48. In particular, Petitioner points to Herfet’s disclosure of a “direct relationship” between switching on/off and authentication, and Herfet’s disclosure of “automatic activation of services with access authorization when the respective on/off switch of the terminal is actuated [with] no additional effort for the user.” *Id.* at 48–49 (quoting Ex. 1114, col. 1, ll. 40–43, col. 2, l. 60–col. 3, l. 11) (emphases omitted).

Petitioner further provides an explanation as to why a person of ordinary skill in the art would have been able and motivated to modify Goertz’s mobile phone based on the teachings of Herfet. *Id.* at 49–53. For example, Petitioner argues that an ordinarily skilled artisan would have been motivated to “modify Goertz’s high security lock unlocking functionality such that when the home key is activated, as disclosed by Goertz, fingerprint recognition would be performed, as taught by Herfet, thereby implementing the user identification function simply and without ‘additional effort for the user.’” *Id.* at 50 (quoting Ex. 1114, col. 1, ll. 40–43) (emphases omitted). According to Petitioner, doing so would have “provide[d] the benefit of a simple user experience.” *Id.* Petitioner’s contentions are supported by the testimony of Dr. Bederson. *See* Ex. 1103 ¶¶ 91–119.

Patent Owner makes four arguments in its Preliminary Response. First, Patent Owner argues that Goertz does not teach “an activation button configured to switch from an inactive state, which is an OFF state of the display unit, to an active state, which is an ON state of the display unit,” as recited in claim 1. Prelim. Resp. 29–31. Patent Owner asserts that Goertz never discloses that the display is off in Figure 13, but rather discloses that

the device shown in Figure 13 is “locked.” *Id.* at 30. Patent Owner argues that it is “equally plausible” that Figure 13 “only emphasiz[es] the action of pressing the home button.” *Id.* We are not persuaded. Petitioner adequately supports its contention that Goertz discloses an activation button (i.e., home key) located outside the touch screen display that unlocks the phone. *See* Pet. 40–41, 45–46. The cited sections of Goertz disclose that “[i]n order to unlock the phone, the user activates the home key” as shown in Figure 13 and that Figure 14 “shows the phone after it has been unlocked: gadgets are now displayed on screen and are activated in response to user input.” Ex. 1113 ¶ 60, Figs. 13, 14. Based on the current record, we are not persuaded by Patent Owner’s assertion that Figure 13 does not show the display being off before the button is pressed. Goertz explicitly states that gadgets are “now” displayed after the phone is unlocked, which corresponds to the change in illustrations of Figure 13 (depicting a blank screen for when the phone is locked) and Figure 14 (illustrating gadgets displayed on the screen after the phone has been unlocked). *See id.*

Second, Patent Owner argues that Goertz and Herfet do not teach the “simultaneous” limitation. Prelim. Resp. 31–33. Patent Owner argues that Goertz discloses “a two-step, sequential process in which the display turns on and then the device performs authentication,” and “[l]ike Gagneraud, . . . Herfet’s authentication is one that occurs only ‘during the switch-on process’—i.e., when the device itself is powered on,” rather than when the display is being activated. *Id.* We are not persuaded by Patent Owner’s arguments based on the current record. Petitioner asserts that

a [person of ordinary skill in the art] would have known that the disclosures and teachings of Goertz and Herfet would have had wide applicability in the art of electronic devices. This is because

their teachings relate to fundamental human-computer interaction concepts such as (1) determining that a user is indicating their initial interaction with a device, and (2) determining whether that user should be allowed to interact with the device. For example, Herfet teaches that fingerprint recognition should be performed simultaneously with pressing its “on/off” switch, and that such switch-on usage includes the action of waking a device from standby mode. Thus, whether the user action of activating a switch is to turn a device on (i.e., from completely off) or simply waking from a standby mode has no bearing on the underlying question of whether the user is indicating their initial interaction with the device. As Goertz shows, a single activation button can be configured for both functions and more. A [person of ordinary skill in the art] would have understood that the concept of fingerprint identification would have been needed for, and applicable to, any process in which the device has not been in active use (among other situations) and a user signals that they are initiating interactions with some function of the device. Thus any button that would have been used to wake a device—i.e., the first button being pressed by the user—would have been an obvious candidate for the convenience factor desired in Herfet.

Pet. 50–51 (citations and emphases omitted). Petitioner’s reasoning is very similar to that presented for its asserted ground based on Fadell, iOS, and Gagneraud and supported by the testimony of Dr. Bederson; we find it persuasive on this record for the same reasons explained above. *See id.* at 47–53; Ex. 1103 ¶¶ 32–41, 112–118; *supra* Section III.E.4. Again, Patent Owner’s arguments regarding Herfet powering on the device are directed to Herfet individually, rather than the combination of Goertz and Herfet proposed by Petitioner. *See* Prelim. Resp. 32–33; *Mouffet*, 686 F.3d at 1333; *Merck*, 800 F.2d at 1097.

Third, Patent Owner argues that a person of ordinary skill in the art would not have combined Herfet with Goertz. Prelim. Resp. 33–35. Patent

Owner contends that Herfet “counsel[s] explicitly against applying its authentication procedure to the activation of a display screen” because it states that the disclosed authentication process can be implemented on any type of multimedia terminal that is “activated by switching on the device.” *Id.* at 34 (quoting Ex. 1114, col. 3, ll. 16–20) (emphasis omitted). Patent Owner further argues that Herfet “teaches away from authenticating a user outside of the context of powering the device on” by stating that when the terminal is in a standby mode, access authorization requires “a renewed switch-on process.” *Id.* (quoting Ex. 1114, col. 3, ll. 11–15) (emphasis omitted).

On the current record, we disagree. A reference does not teach away if it expresses merely a general preference for an alternative invention from amongst options available to the ordinarily skilled artisan, and the reference does not “criticize, discredit, or otherwise discourage the solution claimed.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Although Herfet discloses authentication performed in one context (i.e., when a user presses a button to power on the terminal), based on the record presented at this time, we do not see anything in the reference that criticizes, discredits, or otherwise discourages authentication in a similar context in which the user is indicating his or her initial interaction with a device, namely when the user is pressing a button to wake the device (as disclosed, for example, in Goertz). Further, Herfet describes as an advantage of its terminal the elimination of “additional effort for the user” because services are “automatic[ally]” activated when the user presses a single button (i.e., the on/off switch) with fingerprint recognition. Ex. 1114, col. 1, ll. 38–43; *see*

Pet. 49. That same advantage presumably would apply when pressing a single button to wake the device.

Fourth, Patent Owner argues that no prior art reference discloses performing fingerprint recognition and simultaneously activating a display “by pressing the activation button,” as recited in claim 1. Prelim. Resp. 35–36. Again, Patent Owner is correct that no single reference discloses the claim limitations at issue, but Petitioner’s obviousness theory is premised on the *combination* of Goertz and Herfet. Petitioner has made a sufficient showing at this stage of the proceeding, with supporting testimony from Dr. Bederson, as to how the references in combination account for all limitations of claim 1 and why a person of ordinary skill in the art would have been motivated to combine the teachings of the references in the manner asserted. *See* Pet. 40–53; Ex. 1103 ¶¶ 91–119.

On this record, we are persuaded that Petitioner has made a sufficient showing that claim 1 is unpatentable over Goertz and Herfet. We also have reviewed Petitioner’s contentions for method claim 9, which recites limitations similar to those of claim 1 addressed above, and dependent claims 8 and 15, and are persuaded that Petitioner has made a sufficient showing at this stage for these claims as well. *See* Pet. 53–55. Patent Owner argues independent claims 1 and 9 together in its Preliminary Response. Prelim. Resp. 29–36. On this record, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 1, 8, 9, and 15 are unpatentable over Goertz and Herfet.

#### IV. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '557 patent challenged in the Petition. The Board, however, has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of the challenged claims.

#### V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 8, 9, and 15 of the '557 patent is instituted with respect to both grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '557 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

IPR2019-00612  
Patent 8,831,557 B2

PETITIONER:

Gabrielle E. Higgins  
Scott A. McKeown  
Christopher M. Bonny  
Victor Cheung  
ROPES & GRAY LLP  
gabrielle.higgins@ropesgray.com  
scott.mckeown@ropesgray.com  
christopher.bonny@ropesgray.com  
victor.cheung@ropesgray.com

PATENT OWNER:

Barry J. Bumgardner  
Matthew C. Juren  
Thomas C. Cecil  
NELSON BUMGARDNER ALBRITTON P.C.  
barry@nelbum.com  
matthew@nelbum.com  
tom@nelbum.com