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Paper 11
Entered: August 5, 2019

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 IPR2019-00611
Patent 8,831,557 B2

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

ARBES, *Administrative Patent Judge*.

DECISION
Denying 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. 1001, "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 do not institute an *inter partes* review in this proceeding.[1]

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 IPR2019-00612. Pet. 4. The grounds of unpatentability in the second petition are the same as those asserted in this proceeding, but are "premised on the possibility that the Board may use a [different] construction of the

[1] 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.

term 'simultaneously.'" *Id.* In a concurrently entered Decision, we institute an *inter partes* review in Case IPR2019-00612. 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. 1001, 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

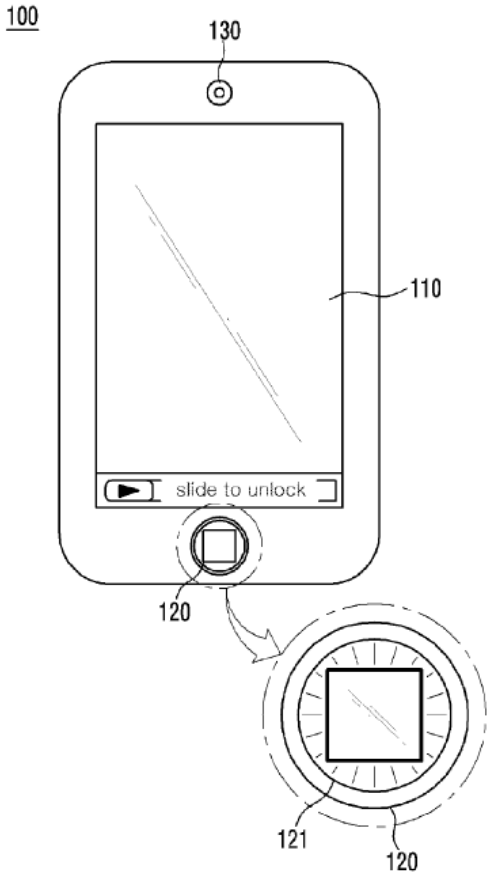


Figure 1 depicts mobile communication terminal 100 comprising camera 130, display unit 110, activation button 120, and sub-display unit 121. *Id.* at col. 3, ll. 51–55, col. 5, ll. 7–9. “[D]isplay unit 110 displays various information regarding operation states of the mobile communication terminal 100, 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. 1013, "Goertz");
>
> U.S. Patent Application Publication No. 2009/0083850 A1, published Mar. 26, 2009 (Ex. 1005, "Fadell");
>
> International Patent Application Publication No. WO 2010/126504 A1, published Nov. 4, 2010 (Ex. 1006, "Gagneraud");
>
> German Patent Application Publication No. DE 19710546 A1, published Sept. 17, 1998 (Ex. 1014, "Herfet");[2] and

[2] We refer to "Herfet" as the English translation of the original reference (both provided as Exhibit 1014). Petitioner includes a declaration in Exhibit 1014 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. 1007, "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)[3]	1, 8, 9, and 15
Goertz and Herfet	35 U.S.C. § 103(a)	1, 8, 9, and 15

III. ANALYSIS

A. 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)

[3] 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.

(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. 13–18 (citing Ex. 1003 ¶¶ 50–56). 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. For purposes of this Decision, we need only address the parties' arguments regarding "simultaneously."[4]

Petitioner argues that "simultaneously" is not defined in the Specification and a statement made by the applicants during prosecution of the '557 patent does not constitute disavowal of claim scope. Pet. 15–17 (citing Ex. 1002, 190). Therefore, according to Petitioner, the plain and ordinary meaning of "simultaneously" applies, and the term should be interpreted to mean "at the same time [as]." *Id.* at 17–18 (citing two dictionary definitions of "simultaneous" provided as Exhibits 1011 and 1012) (emphasis omitted).

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. 1002, 190). Patent Owner states, though, that "to avoid dispute about what 'without additional steps' means, Patent Owner is comfortable with the

[4] 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.3; Exs. 1034, 1035.

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. 1001, 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. 1002, 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. 1002, 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).

We are not persuaded by Petitioner's arguments attempting to discount the prosecution history. *See* Pet. 16–17. Petitioner contends that paragraph 4 of the original specification, cited by the applicants to the examiner, "says *nothing* about what the '557 patent is actually disclosed to do, let alone dictate what particular 'steps' are included in the alleged invention." *Id.* at 16; *see* Ex. 1002, 8–9; Ex. 1001, col. 1, ll. 34–44 (paragraph 4 as issued). The applicants, however, referred to paragraph 4 only to show "the problems of the conventional related art," and proceeded

to explain why the "simultaneously" limitations make the claimed arrangement different from that art. Ex. 1002, 190–191. Thus, we do not see how the applicants' reference to paragraph 4 undermines their later express definition of "simultaneously."

Petitioner further argues that "it is unclear as to what a 'step' is" because the applicants did not explain what they meant by "without additional steps," and "the negative language 'without additional steps' injects uncertainty into the meaning of the term 'simultaneously'" due to the alleged lack of explanation and support in the Specification. Pet. 16–17. On the record presented, we do not view the applicants' definition as unclear or unsupported, particularly when reading the definition in context with the applicants' overall argument regarding Murakami. Specifically, the applicants' position was that the claims require both the user identification function and switching from the inactive state to the active state to be performed "without additional steps," whereas in Murakami, the user contacts a sensor, the user identification function is initiated, the device processes the input data to determine whether the user can be authenticated, and only if that occurs (i.e., an "additional step[]"), the display is activated. *See* Ex. 1002, 190–191 (quoting particular supporting language from Murakami). Moreover, Petitioner does not account for the applicants' clear statement as to what "the term 'simultaneously' in [the] claims . . . *means*." *See id.* at 190 (emphasis added). Stating what a term "means" is providing a definition for that term, and we do not see any basis on which such a statement can be disregarded or modified as Petitioner proposes.

Thus, we do not adopt what Petitioner contends to be the plain and ordinary meaning of "simultaneously," and instead interpret the term 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)).

B. 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."[5] *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

[5] 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.

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).

C. 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 (citing Ex. 1003 ¶¶ 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.

D. Obviousness Ground Based on Fadell, iOS, and Gagneraud

Petitioner contends that claims 1, 8, 9, and 15 are unpatentable over Fadell, iOS, and Gagneraud[6] under 35 U.S.C. § 103(a), citing the testimony of Benjamin B. Bederson, Ph.D., as support. Pet. 19–40 (citing Ex. 1003). Patent Owner makes various arguments in response. Prelim. Resp. 22–28, 34–38. We are not persuaded that Petitioner has established a reasonable

[6] Fadell, iOS, and Gagneraud were not of record during prosecution of the '557 patent. *See* Ex. 1001, (56); Pet. 7–8.

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 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. 1005, 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.

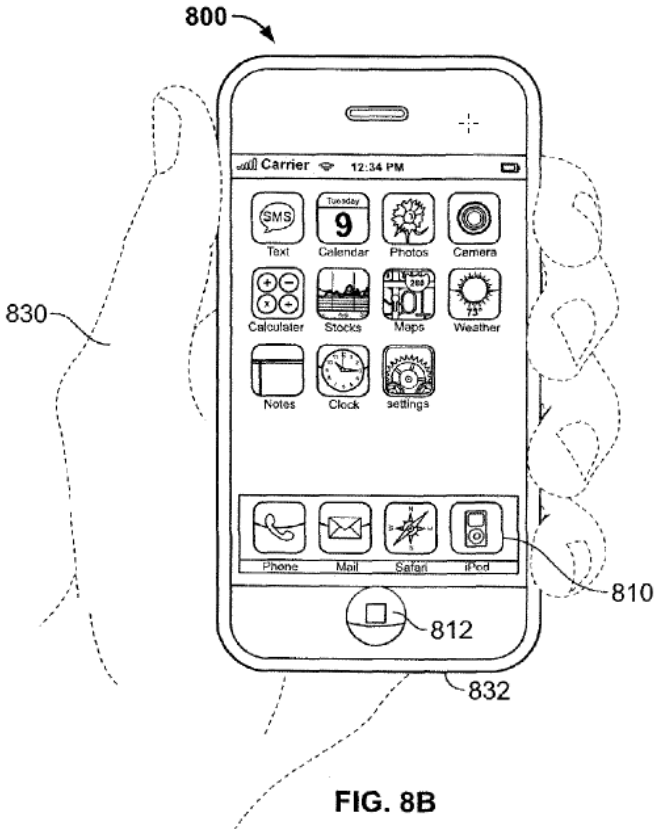


FIG. 8B

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. 1007, 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. 1006, 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.

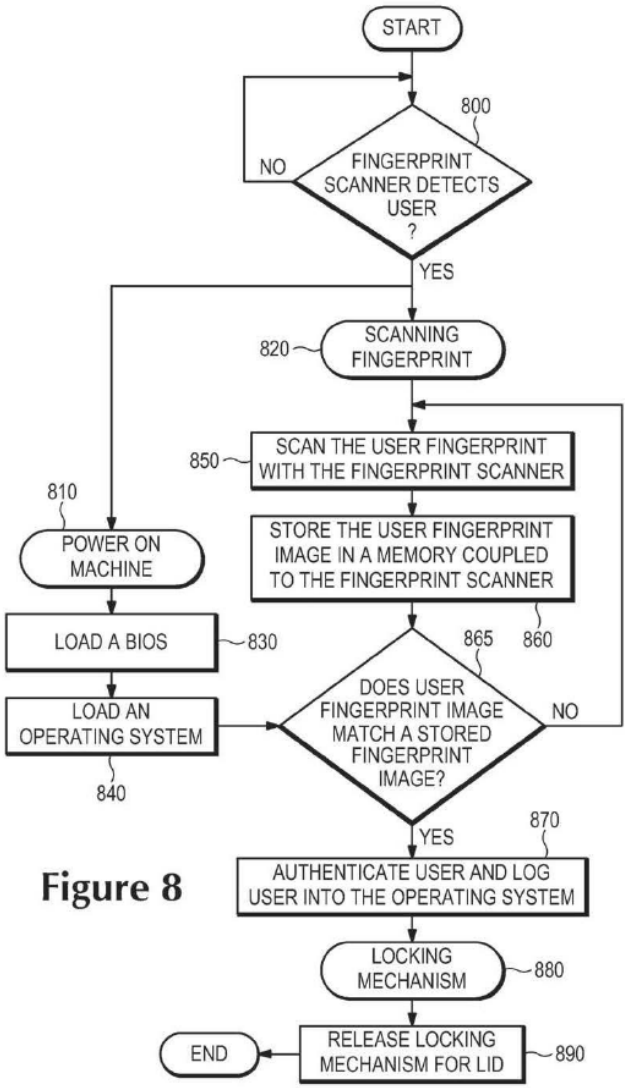


Figure 8

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

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." Petitioner argues that the term "simultaneously" means "at the same time [as]," and Petitioner's analysis of the prior art mirrors that proposed interpretation. *See* Pet. 14–18, 32–33 (emphasis omitted). Specifically, Petitioner contends that Fadell teaches performing a user identification function "'as the user . . . wakes the device (i.e., *simultaneously—at the*

same time—as waking the device)." *Id.* at 32 (emphasis added). Petitioner further argues that to the extent "Fadell lacks sufficient detail with respect to the relationship or timing between its identification and switching functions, . . . Gagneraud cures any such deficiencies." *Id.* (emphasis omitted). According to Petitioner, "the scanning and recognition of a fingerprint [in Gagneraud] are performed 'automatically' and concurrently with powering on of the machine—*simultaneously (at the same time)*." *Id.* at 33 (emphasis added). Petitioner's arguments regarding the combination of Fadell and Gagneraud similarly are directed to the "timing of events" allegedly required by the "simultaneously" limitation of the claim. *Id.* at 34–38 (arguing that "Fadell discloses the goal of simultaneous operations but may not disclose how the timing of the simultaneous operations would be related to each other," and a person of ordinary skill in the art would have been motivated to implement "Gagneraud's timing in Fadell's system" (emphases omitted)). Similar to claim 1, 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." For this limitation, Petitioner refers to its earlier analysis of claim 1. *Id.* at 39.

As explained above, we interpret "simultaneously," in the context of claim 1, 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. *See supra* Section III.A. Petitioner does not include any arguments in its Petition based on our adopted interpretation, which requires particular actions to be performed without additional steps. Because all of

Petitioner's arguments regarding the asserted prior art are premised on its proposed interpretation, which we do not adopt, Petitioner has not shown a reasonable likelihood of prevailing on its assertion that claims 1 and 9, or claims 8 and 15 depending therefrom, are unpatentable over Fadell, iOS, and Gagneraud.[7]

E. Obviousness Ground Based on Goertz and Herfet

Petitioner contends that claims 1, 8, 9, and 15 are unpatentable over Goertz and Herfet[8] under 35 U.S.C. § 103(a), citing the testimony of Dr. Bederson as support. Pet. 40–55 (citing Ex. 1003). Patent Owner makes various arguments in response. Prelim. Resp. 28–38. We are not 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. 1013 ¶¶ 2, 8, 59.

[7] Petitioner proposes a different interpretation for "simultaneously" in Case IPR2019-00612. In that proceeding, we interpret "simultaneously" in the same manner as herein and institute an *inter partes* review.

[8] Goertz and Herfet were not of record during prosecution of the '557 patent. *See* Ex. 1001, (56); Pet. 7–8.

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

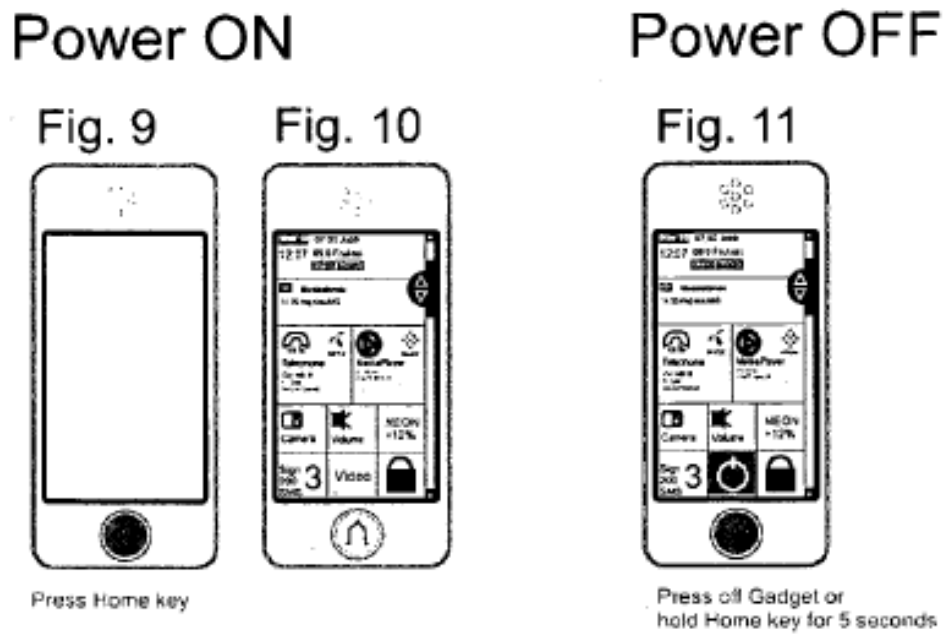
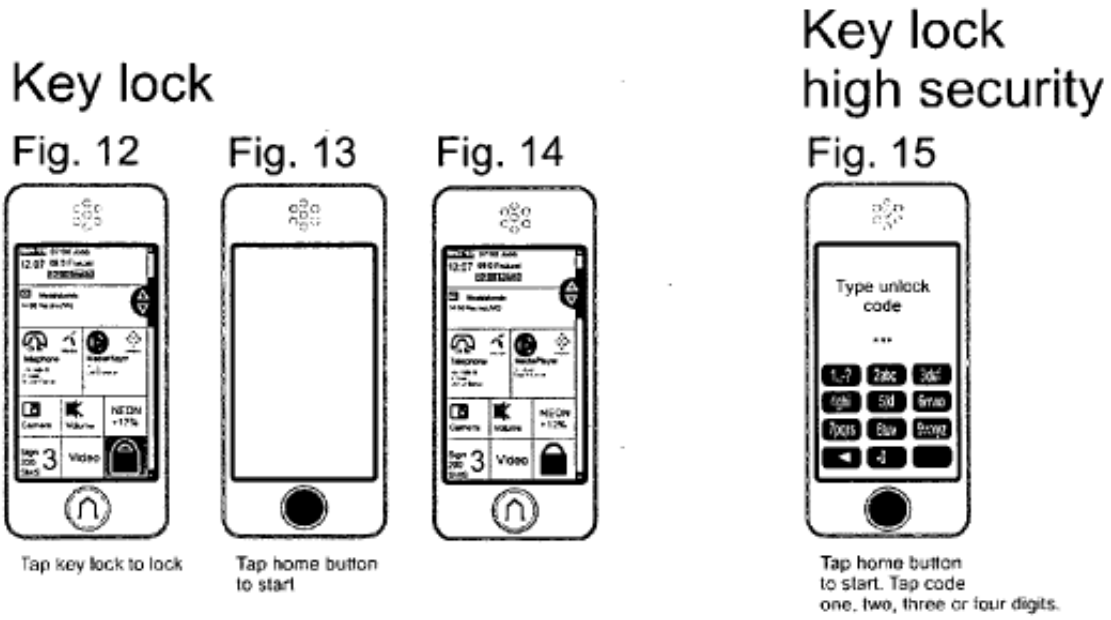


Figure 9 displays a first phone with "a blank screen, indicating that power is off." *Id.* ¶ 59. Figure 10 displays a second phone with "gadgets displayed thereon, indicating that power is on." *Id.* A "home key" is displayed at the bottom of the phones and can be activated, such as by touching the key, 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. 1014, 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.

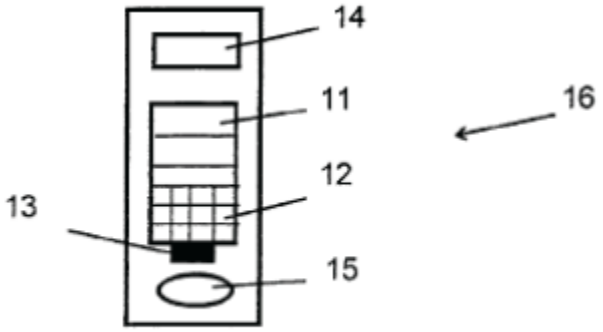


Fig. 3

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

Similar to its asserted ground based on Fadell, iOS, and Gagneraud, Petitioner’s analysis of the combination of Goertz and Herfet relies on its proposed interpretation of “simultaneously.” *See* Pet. 14–18, 48–53, 55. Petitioner acknowledges that Goertz does not disclose “when the [user identification function] is to be performed,” but contends that Herfet “teaches that the user identification function (‘access authorization’) is performed *simultaneously—at the same time*—as the pressing of an on / off button . . . (at the moment of switching on; during the switch-on process).” *Id.* at 49–50 (emphasis added). According to Petitioner, it would have been obvious 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. 1014, col. 1, ll. 40–43) (emphases omitted). Again, all of Petitioner’s arguments regarding the asserted prior art are premised on its proposed interpretation of “simultaneously” as meaning “at

the same time [as]," rather than our interpretation, which requires particular actions to be performed without additional steps. *See id.* at 48–53, 55; *supra* Section III.A. For the same reasons set forth above, Petitioner has not shown a reasonable likelihood of prevailing on its assertion that claims 1 and 9, or claims 8 and 15 depending therefrom, are unpatentable over Goertz and Herfet.

IV. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '557 patent challenged in the Petition. Therefore, we do not institute an *inter partes* review in this proceeding.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied and no *inter partes* review is instituted in this proceeding.

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