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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION,
Petitioner

v.

APPLE INC.,
Patent Owner

Case No. IPR2023-00664
Patent No. 11,106,352

**PETITIONER'S OPPOSITION TO
PATENT OWNER'S REVISED CONTINGENT MOTION TO AMEND**

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I. INTRODUCTION

The Substitute Claims that Patent Owner (“PO”) proposes in its revised motion to amend are unpatentable under, at least, 35 U.S.C. §§ 103 and 112. The Substitute Claims are all dependent claims that add nothing more than well-known features of prior-art smartphones or smartwatches. Indeed, Apple’s own prior-art patents and patent publications disclose all the newly amended limitations of the Substitute Claims. Accordingly, the Board should deny the motion.

II. THE SUBSTITUTE CLAIMS WOULD HAVE BEEN OBVIOUS

The original claims are unpatentable for the reasons provided in the Petition and Dr. Rosenberg’s First Declaration (Ex. 1003). The new limitations of the Substitute Claims are directed to three main ideas. EX1064 ¶13. First, Claims 25-27, 30-32, and 35-37 recite activating a screen display “in response to determining that the change in the orientation of the computer system satisfies the tilt angle threshold.” These claims are directed to well-known “tilt-to-wake” functionality present in mobile devices before the ’352 patent. EX1064 ¶¶47-48. For example, Apple’s U.S. Pat. Pub. No. US 2016/0018872 (“Tu,” Ex. 1065) discloses activating a wrist-wearable device’s display in response to detecting a raise gesture. EX1065, Abstract. Other smartwatch prior art, including U.S. Pat. No. 9,966,047 (“Gao,” Ex. 1066) and the 2015 Moto 360 User Manual (“Moto 360,” Ex. 1067) confirm that waking a device by tilting the device was well-known before the ’352 patent.

Second, Claims 28, 33, and 38 recite “sliding the wake screen user interface in the longitudinal direction” and “displaying . . . an underlying user interface that was covered by the wake screen user interface.” Apple’s U.S. Pat. Pub. No. 2017/0046024 (“Dascola,” Ex. 1051) discloses these newly added limitations. *See* EX1051, Figs. 6A-B, ¶400.

Third, Claims 29, 34, and 39 recite displaying two or more notifications on a wake screen user interface and detecting an input at a power button for dismissing the wake screen user interface. Dascola discloses displaying multiple notifications on a wake screen. EX1051, Fig. 5A1, ¶242. Moreover, Dascola discloses a “push button 206 for powering the device on/off and locking the device.” EX1051 ¶192; *see also* EX1070 ¶¶20, 41 (Apple’s U.S. Pat. Pub. No. 2012/0272230, “Lee”).

A POSITA would have been motivated to combine and would reasonably have expected success in combining the above-mentioned prior-art references with the prior art identified in the Petition. EX1064 ¶¶26-28. Each of these references discloses one or more user-interface features that would enhance the ease-of-use and user-friendliness of a user interface for a mobile electronic device. *Id.* A POSITA would have understood that the advantages of the disclosed features are compatible with and additive of each other, such that providing a combination of the disclosed features in a single mobile device user interface would further enhance ease-of-use and user-friendliness beyond providing just one of the disclosed features. *Id.*

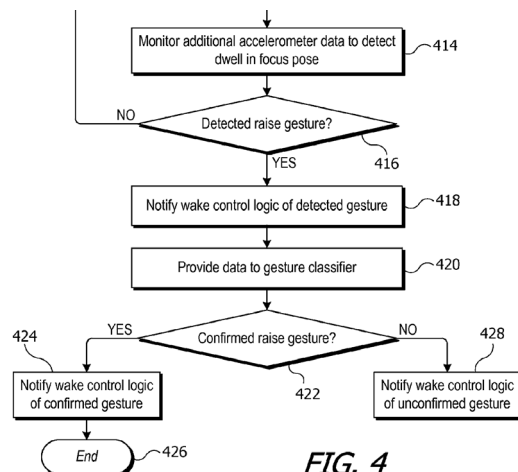
Moreover, each of these features would have been easy to implement in software and hardware without needing to overcome any technical barrier. *Id.* For example, the Substitute Claims recite software functionality that would have used mobile computing components that were routine prior to the '352 patent, such as touch and motion sensors. *Id.*

Therefore, a POSITA would have reasonably expected success in combining the features to achieve the additive advantages of the combined features. *Id.* A POSITA would have understood such a combination to be a simple combination of familiar user-interface features to perform their established functions to achieve the predictable result of additional ease-of-use and user-friendliness. *Id.*

A. Tu Discloses The Added “Tilt-To-Wake” Limitations Of Substitute Claims 25-27, 30-32, and 35-37

Substitute Claims 25-27, 30-32, and 35-37 include new limitations reciting “tilt-to-wake” functionality in a mobile device. Tu discloses analyzing tilt data in a

wrist-wearable device to detect a raise gesture and turn on the display. Figure 4 of Tu (portion shown to right) illustrates a process of using tilt data from an accelerometer (block 414) to detect and confirm a raise gesture (blocks 416 and 422) that invokes wake control logic to wake up the display (block 424).



1. Substitute Claims 25, 30, and 35

a. “detecting the input that meets the display-waking criteria”

Chae and Android disclose detecting an input that meets display-waking criteria. Pet., 36-41; EX1005, Fig. 3. Tu also discloses this limitation. For example, Tu discloses detecting a “raise gesture,” and “[i]n response to detecting such a gesture, the device can activate its display and/or other components.” EX1065 ¶8.

b. “determining, using one or more sensors, whether a change in an orientation of the computer system satisfies a tilt angle threshold”

Tu discloses detecting a possible “raise gesture” based on a change in the device’s orientation. EX1065 ¶66. “For instance, if the starting pose is arm-down (e.g., as shown in FIG. 1A), a raise gesture would be expected to involve lifting the forearm and rotating the wrist, both of which can be detected primarily by reference to changes in a_x and a_y .”

Id. Tu discloses that a change in tilt is reflected in a_y . *Id.*; see also *id.* ¶70 (“[T]he transition from

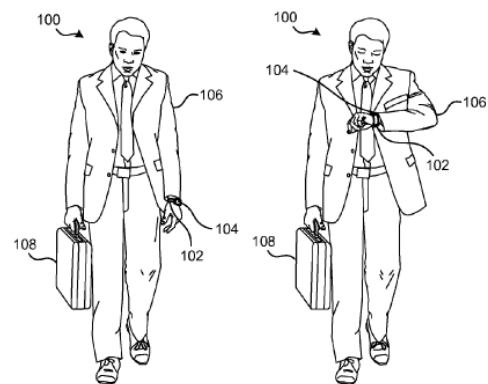


FIG. 1A

FIG. 1B

a starting pose to a focus pose can involve accruing a certain amount of tilt along the y axis (also referred to herein as ‘y-tilt’). For instance, accrued y-tilt can be measured as a net change from a starting a_y component that is greater than equal to zero . . . to an ending a_y component that is less than zero.”).

Thus, a POSITA would understand “ a_x and a_y ” as referencing the device’s orientation in the x and y axes. EX1064 ¶38; EX1065 Fig. 3.

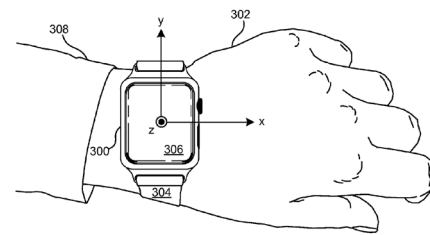


FIG. 3

Tu also discloses comparing this change in orientation with a tilt-angle threshold. Specifically, Tu discloses “thresholds on change in a_y ” as example criteria “for recognizing a possible raise gesture performed from that particular starting pose.” EX1065 ¶66. A POSITA would recognize that such a threshold would constitute a “tilt angle threshold.” EX1064 ¶39.

- c. **“in response to determining that the change in the orientation of the computer system satisfies the tilt angle threshold by determining that the computer system is tilted at an angle that is greater than the tilt angle threshold”**

Tu also discloses “determining that the computer system is tilted at an angle that is greater than the tilt angle threshold.” “For instance, the transition from a starting pose to a focus pose can involve *accruing a certain amount of tilt* along the y axis.” EX1065 ¶70 (emphasis added).

Figure 13 of Tu illustrates determining whether a tilt angle is greater than a threshold. “If, at block 1310, a sufficiently large change in tilt has been detected,

then at block 1312, process 1300 can notify wake control logic 230 that a loss-of focus event has been detected.” EX1065 ¶134.

Figure 13 illustrates a method for detecting a “loss-of-focus event,” which would result in inactivating the display. However, a POSITA would have understood that since detecting loss of focus is the opposite of detecting a raise gesture, the method could

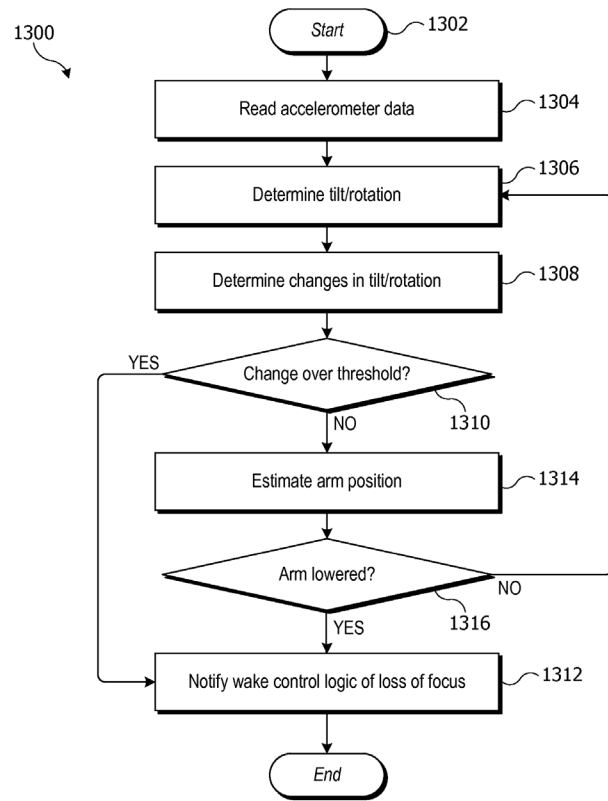


FIG. 13

readily be adapted to activate the display as well, consistent with Figure 4. EX1064 ¶42.

Moreover, a POSITA would understand that determining that a change in orientation satisfies the tilt angle threshold would involve determining that the system is tilted at an angle that is greater than the threshold. EX1064 ¶43.

d. “transitioning the computer system from a screen-off state to a screen-on state”

Tu also discloses that “[i]n response to detecting such a gesture, the device can activate its display.” EX1065 ¶8; *see also id.* ¶672 (“[P]rocess 400 can notify wake control logic 230 that a detected raise gesture has occurred. As described

below, wake control logic 230 can take action in response to this notification, such as activating user interface 202.”).

e. “displaying, via the display generation component, the display wake screen user interface”

As explained in the Petition, Chae and Android disclose waking up a mobile device and displaying a wake screen user interface. Pet., 36-41; EX1005, Figs. 3, 4(a). Thus, a POSITA would have understood that in response to detecting the input meeting display-waking criteria (such as a change in orientation satisfying a tilt angle threshold), the device would display a wake screen user interface.

f. Other prior art confirms that “tilt to wake” was not novel

Additionally, Gao and Moto 360 confirm that waking a device by tilting the device was well-known before the '352 patent. Gao, effectively filed in 2014, discloses in its “Background” section that mobile devices included the “tilt-to-wake” functionality recited in the Substitute Claims:

Currently, some smartwatches in the industry have a function: with a slight rotation of an arm, a screen of a watch is lit up automatically, and time is display [*sic*] on the screen. A principle of the function is as follows: a gravity sensor detects a status of the watch in real time, and when the watch is inclined downward relative to a horizontal plane, and an angle of inclination is greater than an angle threshold (for example, 30°), the screen is lit up automatically.

EX1066, 1:16-23. The 2015 Moto 360 User Manual also describes a “tilt to wake screen” device setting, further confirming that tilt-to-wake functionality was commercially available before the ’352 patent. EX1067, 9.

g. A POSITA would have been motivated to combine Tu with Chae and other references

A POSITA would have been motivated to implement the “tilt-to-wake” functionality disclosed by Tu with the devices disclosed by the prior art cited in the Petition to manage the device’s power consumption more efficiently and improve ease-of-use. For example, Chae and Android disclose waking up a smartphone in response to an input, such as a button press. Pet., 36-39. A POSITA would have understood that tilting the device would be a more convenient alternative to a button press. EX1064 ¶32. A POSITA would have further understood that implementing “tilt to wake” would promote power efficiency by only activating the display when a user is moving the device into the user’s line of sight. *Id.* Activating the display on a tilt would also have been user-friendly since it would eliminate the need for the user to press a button. *Id.*

Moreover, although Tu focuses on wrist-wearable devices, it also discloses that its raise gestures could be implemented on other devices, such as smartphones:

[T]he algorithms and modules described above can be implemented in other portable devices, such as mobile phones, tablets, or the like, that a user might pick up and hold during interaction with the device.

Algorithms and/or modules as described above, when implemented in a handheld device, can detect changes in the orientation of the device consistent with being picked up and held in a user's line of sight . . . and detection of such changes can be used to trigger changes in device state (e.g., activating a display or other user interface component, waking a processor from a sleep state, etc.).

EX1065 ¶192. Accordingly, a POSITA would have been motivated to implement Tu's algorithms in prior art smartphones, such as those disclosed in Chae and other prior art cited in the Petition. EX1064 ¶33.

2. Substitute Claims 26, 31, and 36

Substitute Claims 26, 31, and 36 add the limitation: "wherein determining whether the change in the orientation of the computer system satisfies the tilt angle threshold comprises determining whether the computer system is tilted from a position in which the computer system is substantially horizontal to a position in which the computer system is substantially vertical."

This amended limitation is indefinite because a POSITA would not be able to determine at what degree a device is “substantially” horizontal or vertical. *Infra* Section IV(A). Regardless, Tu discloses that different criteria for identifying a raise gesture can be defined for different starting poses. EX1065 ¶66. Figures 1C and 1D of Tu illustrate an example scenario of a raise gesture.

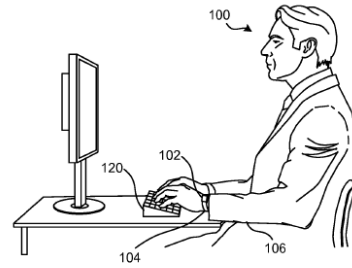


FIG. 1C

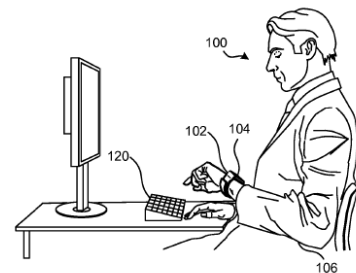


FIG. 1D

Tu discloses that the forearm of the user in Figure 1C is “approximately parallel to the ground.” *Id.* ¶37. A POSITA would have understood parallel to the ground, along with Figure 1C, to disclose “substantially horizontal.” EX1064 ¶51.

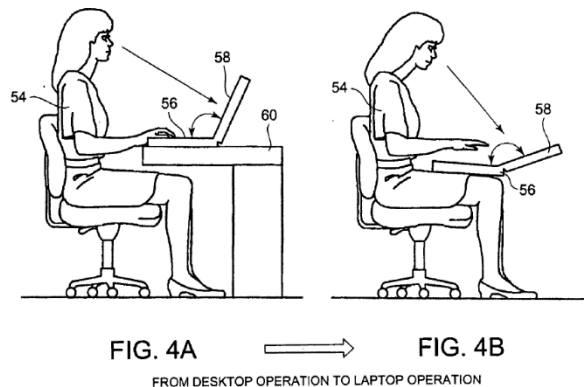
Regarding Figure 1D, the user tilts the device such that its position is more vertical. EX1065, Fig. 1D; *see also id.* ¶67 (“upon completion of the gesture, the device will come to rest in an orientation consistent with its display being in the user’s line of sight.”). The ’352 patent does not disclose the angle at which a device becomes substantially vertical. However, Tu’s Figure 1D discloses or suggests a watch at a tilt angle of 45 degrees or more. EX1064 ¶52. Thus, Tu discloses the “substantially vertical” limitation under any construction including tilt angles from 45 to 90 degrees. *Id.*

Additionally, Tu explains that the term “in the line of sight” refers to “the orientation of the user's head relative to the device.” EX1065 ¶192. A POSITA would have understood that in Figure 1D, if user 100 were looking straight ahead at the monitor, bringing the device into the user’s line of sight would involve raising the arm so that the device is directly in front of the user’s face and thus substantially vertical. EX1064 ¶53. Tsukamoto illustrates that the natural orientation of a screen

is substantially vertical when the user is looking ahead and substantially horizontal when the user is looking down.

See EX1068 Figs. 4A-B. Thus, under any construction of “substantially vertical”

that requires the device to be close to 90°, Tu would have rendered the limitation obvious. EX1064 ¶54.



U.S. Pat. No. 9,159,294 (“Le Grand,” Ex. 1069) also discloses activating a device’s display when its orientation is changed from horizontal to vertical. EX1069 Fig. 1, 4:28-30 (“FIG. 1 is a block diagram illustrating an example computing device that is configured to activate its display responsive to determining that a user is attempting to use the device.”).

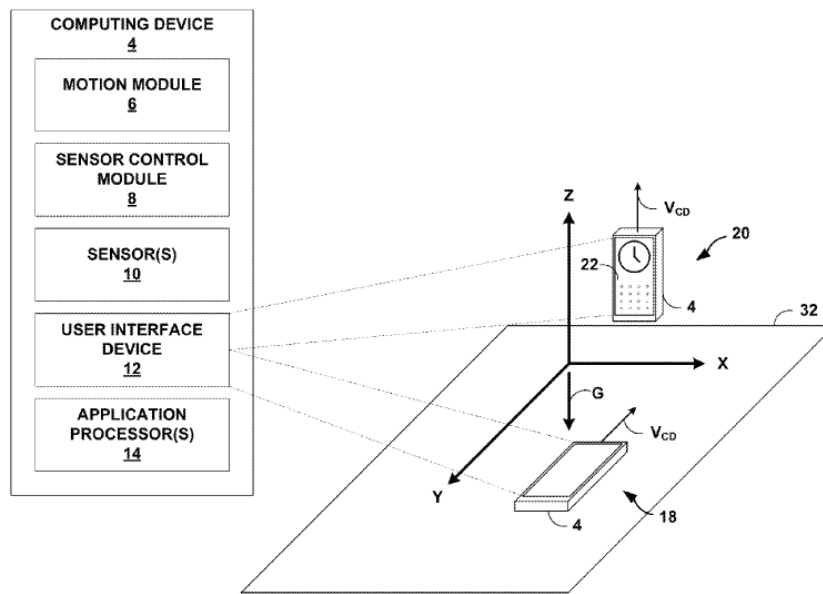


FIG. 1

EX1069 Fig. 1. Regarding Figure 1, Le Grand discloses that “the user may move computing device 4 from a first (e.g., orientation 18) to a second orientation (e.g., orientation 20). *Id.* 6:62-64. As shown in Figure 1, orientation 18 is horizontal and orientation 20 is vertical. “In response to determining that computing device 4 has moved from the first orientation to the second orientation, motion module 6 may output a signal,” which causes the device to “transition from a low-power state to a higher-power state.” *Id.* 7:7-15. Finally, Le Grand discloses that “in practice, the orientation of computing device 44 may not be exactly or nearly exactly vertical or horizontal as represented by vector, V_{CD} , in orientations 18 and 20 in FIG. 1,” but rather “approximately vertical or horizontal.” *Id.* 6:21-36.

In summary, a POSITA would have understood that one use case of “tilt-to-wake” functionality would be when the device’s orientation is changed from a

position in which the device is tilted away from the user's line of sight ("substantially horizontal") to a position in which the device is tilted within the user's line of sight ("substantially vertical"). EX1064 ¶57. A POSITA would further have understood that the specific starting and ending orientations for a display-waking input would be a matter of choosing between a finite number of design options (*e.g.*, anywhere between 0 and 90 degrees) based on use cases of the device. *Id.* Accordingly, a POSITA would have found the amended limitation obvious in view of Tu, alone or in combination with Le Grand. *Id.* ¶58.

3. Substitute Claims 27, 32, and 37

Substitute Claims 27, 32, and 37 add the limitation: "in response to determining that the change in the orientation of the computer system does not satisfy the tilt angle threshold, controlling the display generation component to not be activated."

This limitation is indefinite. *Infra* Section IV(C). However, if the limitation is construed to simply mean that the display does not turn on when the tilt angle is below the threshold, then Tu discloses the limitation. Specifically, Tu discloses that "[i]f a possible raise gesture is not detected, process 400 can return to block 404 to read additional accelerometer data." EX1065 ¶68. Thus, a POSITA would have understood that when the tilt-angle threshold is not satisfied, the display generation component would not be activated. EX1064 ¶60.

B. Dascola Discloses The Amended Limitations Of Substitute Claims 28, 33, and 38

Claims 28, 33, and 38 add limitations reciting sliding the wake screen up to reveal an underlying user interface. Dascola discloses these limitations.

1. “while displaying the wake screen user interface, detecting a second input on the wake screen user interface along a longitudinal direction of the computer system”

Dascola’s Figure 6A illustrates detecting an input on a wake screen. EX1051, Fig. 6A, ¶400 (“FIG. 6A illustrates an initial user interface 601 (e.g., a lock screen and/or *wake screen*) at which an input . . . is detected.”) (emphasis added). Dascola also discloses that a different user interface is displayed “in response to an input gesture, such as a drag gesture (e.g., a drag gesture that begins at or

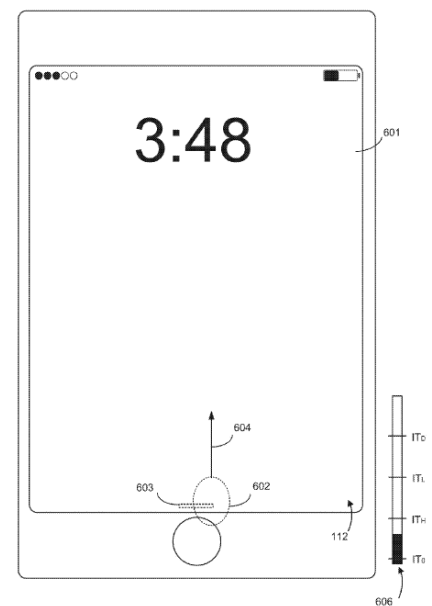


Figure 6A

near an edge of display 100, such as the lower edge of display 100).” *Id.* ¶400. As shown in Figure 6A, the drag gesture 604 is “along a longitudinal direction.” *Id.*, Fig. 6A; EX1064 ¶64.

2. “in response to detecting the second input, sliding the wake screen user interface in the longitudinal direction from a lower edge of the display generation component” and “displaying, by the

display generation component, an underlying user interface that was covered by the wake screen user interface”

Dascola discloses or makes obvious these limitations. Specifically, Figures 6B-6D of Dascola illustrate the user interface sliding upwards from a lower edge of the screen. EX1051, Figs. 6A-6D, ¶400. This disclosure would have at least suggested to a POSITA that in response to the drag gesture in Fig. 6A, sliding the wake screen in the longitudinal direction from the lower edge of the display generation component. EX1064 ¶65. Dascola discloses that “control user interface 608 is gradually revealed as the contact moves along the path indicated by arrow 604.” EX1051 ¶400, Fig. 6B.

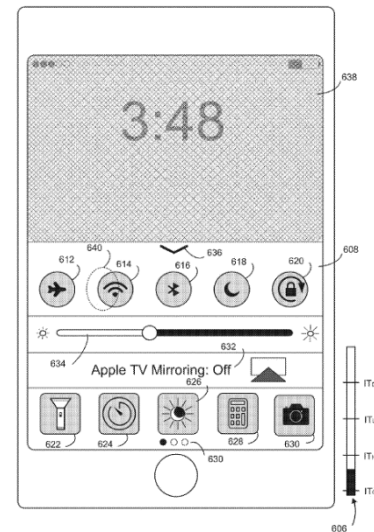


Figure 6B

To the extent Dascola is interpreted as sliding the underlying user interface rather than the covering wake screen, it would have been obvious in view of U.S. Pat. No. 8,826,172 (“Brinda,” Ex. 1072) to instead slide the covering wake screen to reveal the underlying user interface.

EX1064 ¶67.

Specifically, Brinda discloses that “[r]eferring to FIG. 3(b), when the user touches the touch screen moving from a point A to a point B,

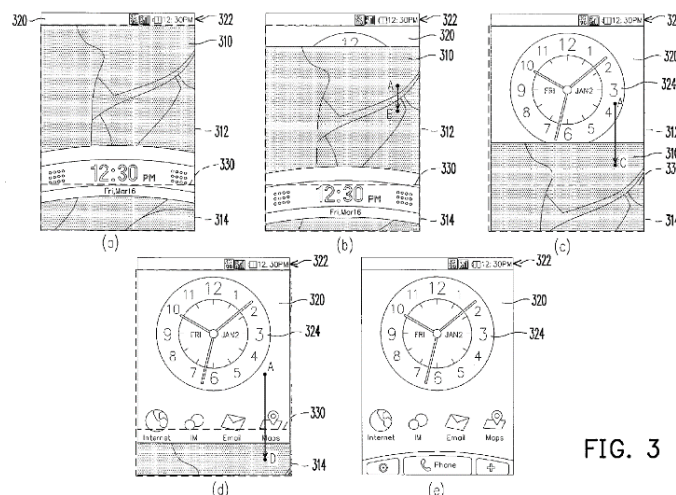


FIG. 3

the electronic device correspondingly moves the protection layer 310 along a direction from point A to point B to reveal a part of the original layer 320 originally covered by the protection layer 310.” EX1072, 5:34-39; Fig. 3.

A POSITA would have understood the term “underlying user interface that was covered by the wake screen user interface” to mean that the underlying user interface is gradually revealed as the wake screen user interface slides up, thereby creating the impression, to a user, that the underlying user interface was “covered” by the wake screen. EX1064 ¶¶69. Accordingly, a POSITA would have understood that Dascola, alone or in combination with Brinda, discloses this limitation as it would have been understood by a POSITA. EX1064 ¶70.

3. A POSITA would have been motivated to combine Dascola and Brinda with Chae and other references

A POSITA would have been motivated to implement the sliding wake screen disclosed by Dascola and Brinda with the devices disclosed by the prior art cited in the Petition to improve the aesthetics of a user interface. EX1064 ¶71. Chae already discloses a bottom-to-top (“longitudinal”) input on a wake screen to display another screen. EX1005, Fig. 3. A POSITA would have understood that animating the transition between the screens, such as by sliding the wake screen up to gradually reveal an underlying screen would have been a trivial change. EX1064 ¶71. Further, a POSITA would have understood that the concept of layered windows to create a “three-dimensional” user interface was familiar and popular before the ’352 patent.

EX1064 ¶72.

C. Dascola and Lee Disclose The Amended Limitations Of Substitute Claims 29, 34, and 39

Claims 29, 34, and 39 add limitations reciting displaying notifications on the wake screen and using a power button to dismiss the wake screen. Dascola discloses displaying notifications on a wake screen, and both Dascola and Lee disclose using a power button to turn a screen display on and off.

1. “while displaying the wake screen user interface and while two or more notifications remains displayed on the wake screen user interface”

Dascola discloses displaying two or more notifications on a wake screen. For example, Figure 5A1 of Dascola illustrates a wake screen user interface 5002 displaying a number of notifications. EX1051 ¶242. “A number of notifications (e.g., notification 5006 for a calendar invitation, notification 5008 for a new instant message, and notification 5010 for a voicemail message) are displayed on the wake screen user interface 5002.” *Id.*



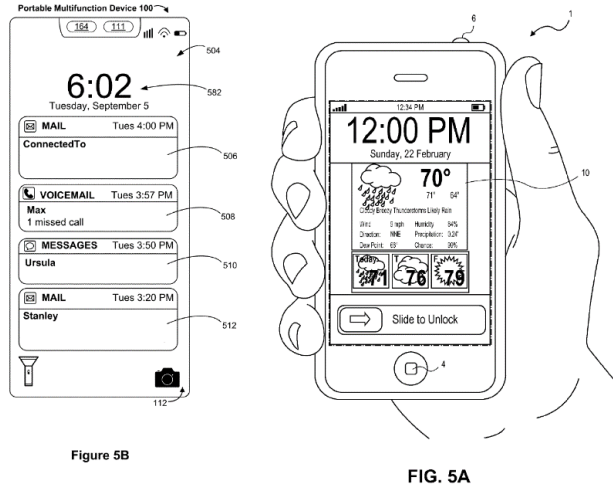
Figure 5A1

2. “detect a third input, at a power button of the computer system, for dismissing the wake screen user interface” and “in response to detecting the third input for dismissing the wake screen user

interface, cease to display both the wake screen user interface and the two or more notifications”

Power buttons were a ubiquitous feature of mobile devices long before the ’352 patent. EX1064 ¶77. Dascola discloses a “push button 206 for powering the device on/off and locking the device.” EX1051 ¶192. In addition, Lee discloses that “[t]he power button 6 may be used to toggle the display screen 2 on and off (i.e. transition the device 1 between wake and sleep states).” EX1070 ¶20. Thus, Lee discloses an input at a power button for turning off a device’s screen display. EX1064 ¶77. A POSITA would have understood that turning off the display using a power button would necessarily dismiss the wake screen user interface and cause the device to “cease to display both the wake screen user interface and the two or more notifications.” *Id.* ¶78. Moreover, Lee explicitly discloses ceasing to display a “lock screen and associated widget” upon detecting an input at a power button. EX1070 ¶41 (“The device may enter the sleep state by pressing the power button for a short duration as explained above. Since the device 1 is in a sleep state, the lock screen and associated widget is not viewable on the display screen 2.”). A POSITA would understand that the “lock screen” described in Lee is a wake screen user

interface. EX1064 ¶¶79; *compare* ’352 patent Fig. 5B (illustrating wake screen user interface 504) *with* EX1070 Fig. 5A (illustrating a “lock screen”).



Further, Lee’s disclosure of “the lock screen and associated widget is not viewable” when the display is off would have suggested to a POSITA that associated notifications would also not be viewable when the display is off. EX1064 ¶80.

3. “after ceasing to display the wake screen user interface and the at least two or more notifications in response to the third input, detect a forth input for redisplaying the wake screen user interface”

Chae discloses an input for waking up a mobile device and displaying a wake screen. Pet. at 36-41; EX1005, Figs. 3, 4(a). Dascola also discloses that a “wake screen user interface 5002 [] is displayed when device 100 is activated from a screen-off state (e.g., a sleep state) to a screen-on state (e.g., a wake state).” EX1051 ¶242.

Lee also discloses that “[t]he portable electronic device 1 may enter a wake state by a user pressing either the power button 6 or home button 4, in response to which the display screen 2 is turned on.” EX1070 ¶42. Thus, a POSITA would have understood that Lee Figs. 5A-5C illustrate the device ceasing to display the wake

screen in response to an input at a power button, and subsequently redisplaying the wake screen user interface in response to another input. EX1064 ¶82.

4. A POSITA would have been motivated to combine Dascola and Lee with Chae and other references

A POSITA would have been motivated to implement the notifications on a wake screen disclosed by Dascola with the devices disclosed by the prior art cited in the Petition to allow easier access to such notifications. EX1064 ¶76. Chae already discloses a wake screen. EX1005, Figs. 3,4. Since the wake screen is the first screen when the display is activated, a POSITA would have understood that displaying notifications on the wake screen would ensure that users see the notifications, thereby improving the user experience. EX1064 ¶76. A POSITA would also have been motivated to implement the power button disclosed by Dascola and Lee, since this was a common element on mobile devices before the ‘352 patent that users would have expected a device to have. EX1064 ¶81.

Thus, each of the Substitute Claims is unpatentable under 35 U.S.C. § 103.

III. PO FAILS TO SHOW WRITTEN DESCRIPTION SUPPORT

A. PO’s String Cites Fail to Satisfy Its Burden of Production

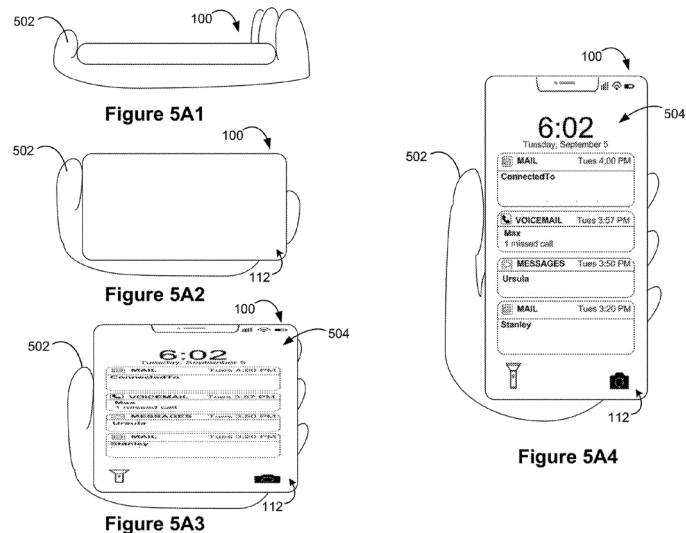
PO has failed to meet its burden to show written description support. 37 C.F.R. §§ 42.121(b), 42.121(d)(1). PO merely provides string citations. Mot., 19-23. PO does not explain how the cited sections provide support. Both the Board and Federal Circuit have held that “mere string citations to an original application’s

disclosure without explanation are insufficient to meet a patent owner’s burden of production.” *Lippert Components, Inc. v. Days Corp.*, IPR2018-00777, Paper 28 at 52 (PTAB Sept. 24, 2019); *see also B.E. Tech., L.L.C. v. Google, Inc.*, No. 2015-1827, 2016 WL 6803057 at *7 (Fed. Cir. Nov. 17, 2016) (affirming Board’s decision that string citations did not meet PO’s burden). Thus, PO’s motion should be denied.

B. Substitute Claims 26, 31, and 36 Lack Written Description Support

Substitute Claims 26, 31, and 36 recite: “wherein determining whether the change in the orientation of the computer system satisfies the tilt angle threshold comprises determining whether the computer system is tilted from a position in which the computer system is substantially horizontal to a position in which the computer system is substantially vertical.” PO cites ¶¶160-163 and Figures 5A1-5A4 as alleged support. Mot., 19.

Figures 5A1-5A4 generally illustrate activating a display in response to changing an orientation of a device. APPLE-2007 ¶162. However, these sections of the patent application suggest that the tilt angle threshold is satisfied *before* the computer system is “substantially vertical”:



In Figure 5A3, the device is tilted such that the display is more vertical than in Figure 5A2. *Because a tilt angle of the device has increased above a threshold tilt angle in Figure 5A3*, the display has transitioned from a screen-off state to a screen-on state and wake screen user interface 504 is displayed by the display 112. *In Figure 5A4, the display 112 is substantially vertical.*

APPLE-2007 ¶162 (emphasis added), Figs. 5A3-5A4. Thus, the specification does not convey possession of the limitation. EX1064 ¶85.

C. Substitute Claims 27, 32, and 37 Lack Written Description Support

Substitute Claims 27, 32, and 37 recite “controlling the display generation component to not be activated.” A POSITA would have understood that “controlling” entails an affirmative step, such as sending a signal to cause the display not to activate. EX1064 ¶87. But none of the portions of the specification PO cites discloses a display controller sending a signal to cause the display not to activate. *Id.* Rather, the specification merely states “[b]ecause a tilt angle of the device has not increased above a threshold tilt angle in FIG. 5A2, the display is not activated.” APPLE-2007 ¶162. Thus, the specification does not convey possession.

IV. THE SUBSTITUTE CLAIMS CONTAIN INDEFINITE TERMS

A. “Substantially Horizontal” And “Substantially Vertical” Are Indefinite

Substitute Claims 26, 31, and 36 recite “determining whether the computer system is tilted from a position in which the computer system is *substantially horizontal* to a position in which the computer system is *substantially vertical*.” The

terms “substantially horizontal” and “substantially vertical” are indefinite because they, in view of the specification and prosecution history, fail to inform a POSITA, with reasonable certainty, whether a specific orientation of the device is “substantially” horizontal or vertical. EX1064 ¶89.

“Substantially horizontal” and “substantially vertical” are ambiguous terms that do not provide reasonable certainty as to how close to horizontal or vertical a computer system must be in order to satisfy the claim limitation. EX1064 ¶90. Further, the specification does not resolve this ambiguity. Figures 5A1-5A4 generally illustrate transitioning from a screen-off state to a screen-on state upon detection of a tilt angle exceeding a threshold. The specification states that “[i]n FIG. 5A1, the device is in a screen-off state while it is held flat in a user’s hand 502, such that the device is substantially horizontal.” ’352 patent, 38:5-7. Then, “[i]n FIG. 5A2, the device is tilted such that the display is more vertical than in FIG. 5A1.” *Id.*, 38:7-9. Figure 5A2 shows that the device is still in a screen-off state, suggesting that the detected tilt of the device is not sufficient to transition to a screen-on state. However, neither Figure 5A2 nor the specification indicates the device’s tilt angle with any precision. Moreover, even if a precise tilt angle for Figure 5A2 were known, neither Figure 5A2 nor the specification discloses whether a device with the illustrated tilt angle is “substantially horizontal” or at what point the device would cease to be “substantially horizontal.” EX1064 ¶90.

The specification is not any clearer as to when the device would transition to a “substantially vertical” orientation. The specification states that “[b]ecause a tilt angle of the device has increased above a threshold tilt angle in FIG. 5A3, the display has transitioned from a screen-off state to a screen-on state and wake screen user interface 504 is displayed by the display 112.” *Id.*, 38:13-16. However, neither that figure nor the specification discloses the illustrated tilt angle of Figure 5A3 with any precision or suggests that the tilt angle is “substantially vertical.” The specification uses “substantially vertical” to describe the orientation of the display in Figure 5A4 (*id.*, 38: 16-17), but a POSITA could not have deduced, from the figure or the specification, the illustrated tilt angle with any precision. EX1064 ¶91. A POSITA would simply have no way to determine when the device, as it tilts between its Figures 5A3 and 5A4 orientations, is oriented sufficiently closely to vertical to be “substantially vertical.” *Id.* Thus, Substitute Claims 26, 31, and 36 are indefinite.

B. “While Two Or More Notifications Remains Displayed” Is Indefinite

Substitute Claims 29, 34, and 39 recite “while two or more notifications *remains displayed* on the wake screen user interface.” But none of the claims recite initially displaying notifications on a wake screen user interface. And the rest of Substitute Claims 29, 34, and 39 recite “redisplaying the wake screen user interface” while previously displaying a control panel user interface. Thus, a POSITA would

not have understood, with reasonable certainty, the meaning of the term “remains displayed”. EX1064 ¶93. Thus, Substitute Claims 29, 34, and 39 are indefinite.

C. Substitute Claims 27, 32, and 37 Are Indefinite

Substitute Claims 27, 32, and 37 depend from Substitute Claims 25, 30, and 35, respectively. In turn, Substitute Claims 25, 30, and 35 depend from Original Claims 1, 9, and 17, each of which recites “detecting an input that meets display-waking criteria.” Substitute Claims 25, 30, and 35 add that detecting the input that meets the display-waking criteria comprises determining “whether a change in an orientation of the computer system satisfies a tilt angle threshold” and, in response to determining the threshold is satisfied, transitioning to a screen-on state. But Substitute Claims 27, 32, and 37 recite a step—determining that the tilt-angle threshold is not satisfied and not activating the display—that purports to be part of detecting that the input meets the display-waking criteria. A POSITA would not have understood how determining that the tilt-angle threshold is *not* satisfied and *not activating the display* is part of determining that the input meets *display-waking criteria*. EX1094 ¶96; see *Virtual Solutions, LLC v. Microsoft Corp.*, 925 F. Supp. 2d 550, 563, 569 (S.D.N.Y. 2013); *Tech. Innovations, LLC v. Amazon.com, Inc.*, 35 F. Supp. 3d 613, 621 (D. Del. 2014).

V. CONCLUSION

Petitioner respectfully requests that the Board deny the motion.

Masimo v. Apple
IPR2023-00664

Respectfully submitted,
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Dated: May 31, 2024

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CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. § 42.6(e) and with the agreement of counsel for Patent Owner, a true and correct copy of **PETITIONER'S OPPOSITION TO PATENT OWNER'S REVISED CONTINGENT MOTION TO AMEND** is being served electronically on May 31, 2024, to the e-mail addresses shown below:

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