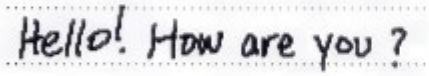
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Part 2: Entering information In this part, you'll learn about the different ways to enter information and the areas in your MessagePad where you can enter it. **Ways to enter information** Before you enter information, you must tap the pen on the screen where you want to place the information. A caret ^ appears and shows you where the information will be placed.  There are several ways to enter information into your MessagePad. ■ One way is to write with your MessagePad pen.  ■ A second way is to use an on-screen keyboard. To do this, tap the Keyboard button ⌨ at the bottom of the screen. A typewriter keyboard appears; use the pen to tap out information on the keyboard.  To use a different keyboard, tap the Keyboard button ⌨ a second time and in the list that appears, tap your choice. When you finish using the on-screen keyboard, tap ⊠ on the bottom right of the keyboard to close it. (Getting Started at 20.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Using the on-screen keyboard The MessagePad has four on-screen keyboards: a typewriter keyboard and three types of numeric keyboards (for entering calculations, telephone numbers, and times/dates). (User's Manual at 13.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

Displaying and moving a keyboard

There are several ways to view the on-screen keyboard.

- Tap the Keyboard button near the bottom of the screen. Tap the Keyboard button again and in the list that appears, tap the type of keyboard you want to use.
- Tap a misinterpreted word twice, then tap the keyboard at the bottom of the list that appears.
- Tap twice anywhere you're writing, such as in a note, on a Date Book page, or in a blank you need to fill.



To move a keyboard, hold the pen on the picture hanger on the keyboard slip and drag it to where you want the keyboard on the screen.

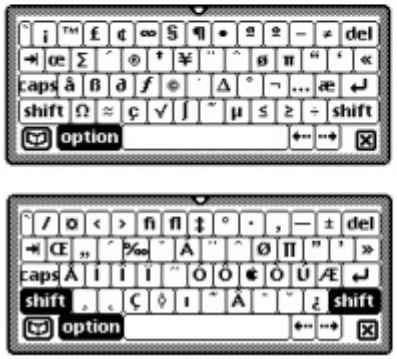
Changing the layout of the typewriter keyboard

If you want a different text keyboard arrangement, use the Locale preferences to change the keyboard layout.

1. Tap Extras to open the Extras Drawer.
2. Tap the folder tab and in the list that appears, tap Unfiled Icons. (If you filed Prefs in another folder, tap that folder's name.)
3. Tap Prefs and, in the slip that appears, tap Locale.
4. Tap Keyboard, then tap the keyboard layout you want.

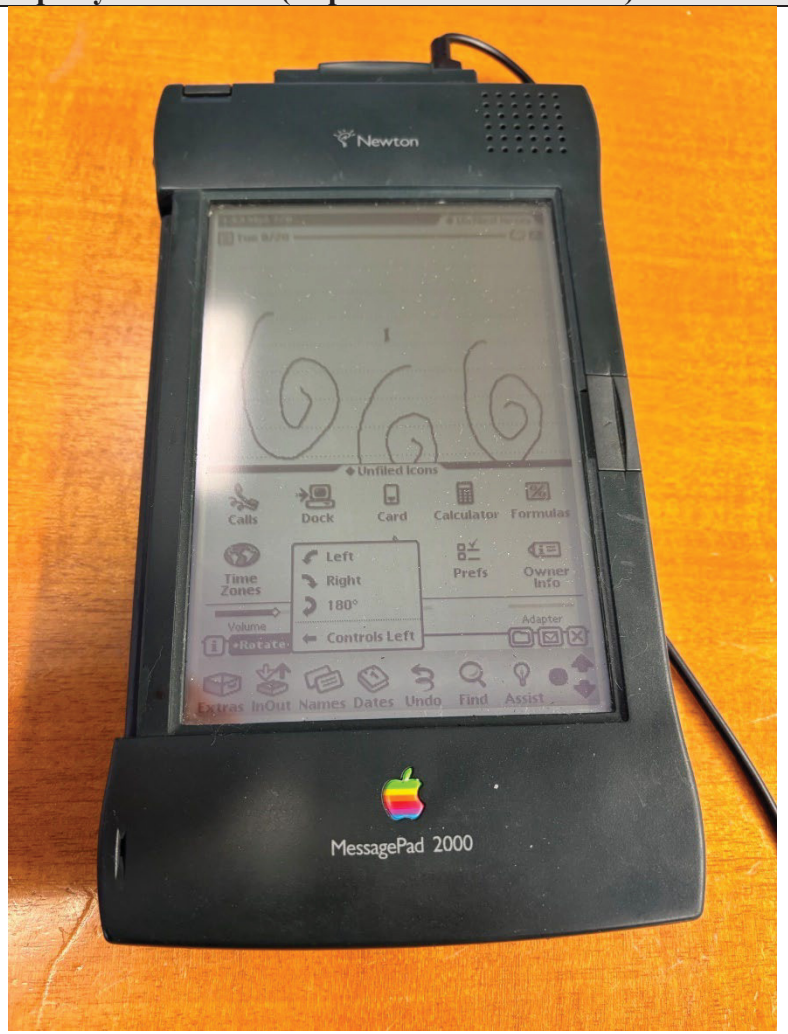


(User's Manual at 14.)

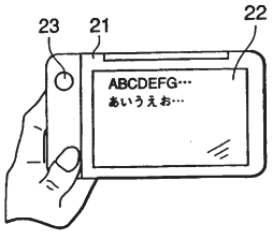
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Entering symbols and other special characters If you have selected Cursive as your handwriting style, you must use the keyboard to enter accent marks. Your MessagePad does not recognize handwritten accent marks on cursive letters. Display the typewriter keyboard on the screen. Then tap the Option key, or the Option key and then the Shift key, to see the available special characters (such as symbols, accent marks, and accented letters).  (User's Manual at 15.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Rotating the screen You can rotate the screen to landscape mode. You can also change the position of the arrow buttons and Overview button. *Note:* Not all applications work in a rotated, or landscape, mode. If an application can't be used in landscape mode, a message appears when you open the application asking you to return to portrait mode. 1 Tap Extras to open the Extras Drawer. 2 Tap the Rotate button on the left side of the status bar at the bottom of the screen. 3 Tap which way you want to rotate the screen. In portrait mode, you can also select where the control buttons appear. In landscape, you can choose where the button bar appears. The MessagePad rebuilds the display. 4 If a message appears telling you to recalibrate the screen, follow the directions. (User's Manual at 115.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Kobayashi discloses a similar device and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.) Fig.4a  Fig.4b 

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily review text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the

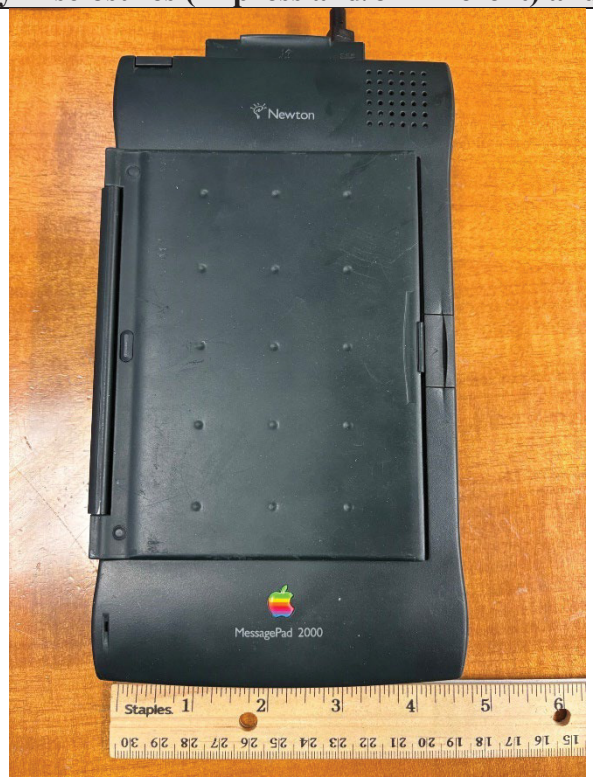
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.) "The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display m the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7.

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Apple Newton was about 8 inches in length and 4.5 inches in width.

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

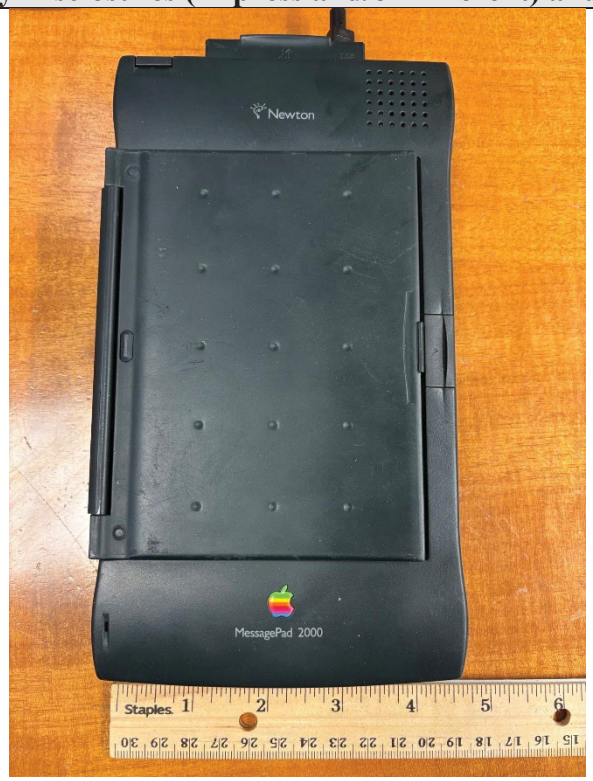
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.) As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile device as disclosed by Apple Newton with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. (Dutta at [0003].) For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm,

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Apple Newton was about 4.5 inches in width and only about 1 inch in thickness.

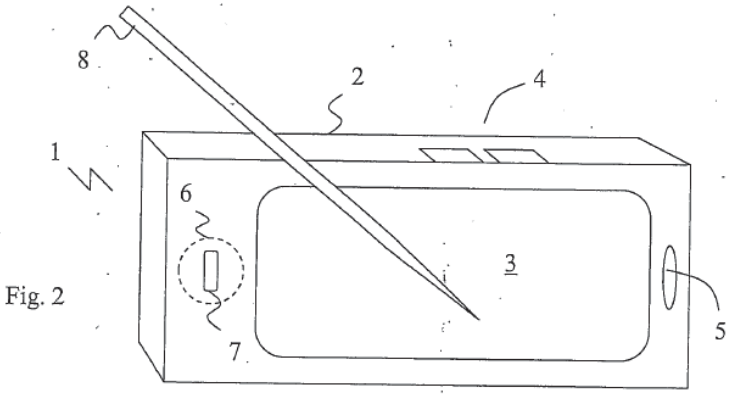
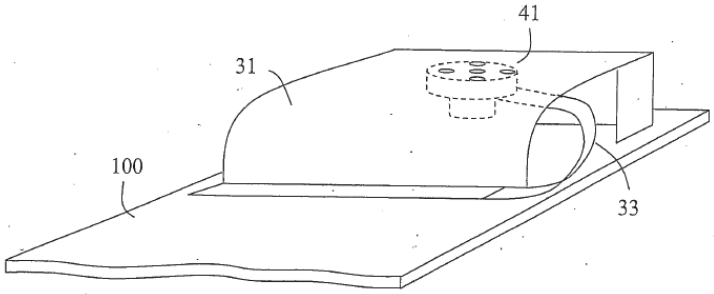
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Apple Newton with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2  Fig. 11

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone."

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Apple Newton is a mobile device "optimized for mobility and communications." (User Interface Guidelines at 1-2.). Apple Newton may be used "anywhere, any time." *Id*. Further, Apple Newton may be used to "place calls." (User's Manual at 117-120; User Interface Guidelines at 6-19.)

Newton and Its Users

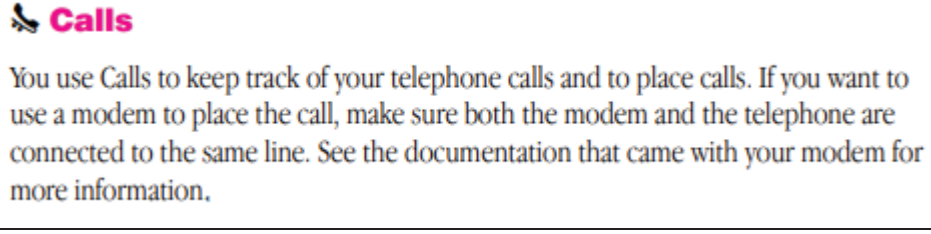
Newton is not a small portable computer with another graphical user interface. There may be similarities between portable computers and Newton devices, but the differences summarized below are more important than the similarities when it comes to designing a user interface for an application.

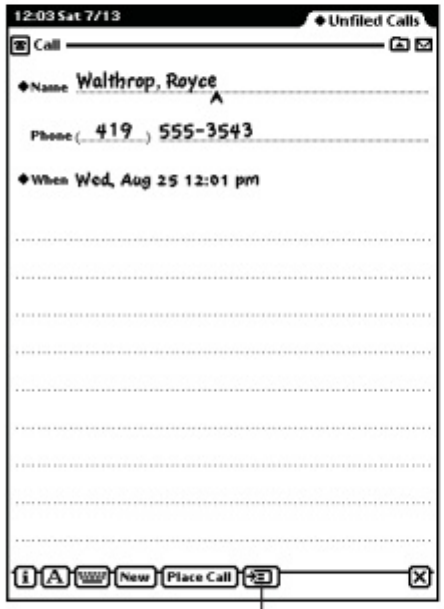
Newton	Portable Computers
Focused function	General purpose
New architecture optimized for mobility and communications—use it anywhere, any time	Derived from desktop computer architecture, which is optimized for stationary operation
Tapping, writing, and drawing with a pen	Typing, pointing, and clicking with mouse and keyboard
Intelligent assistant	Scripting and macros
New and custom applications	Existing desktop applications
It's a communications assistant	It's a personal computer
Simple	Complex

To take advantage of its distinguishing features and capabilities, Newton has distinctive user interface elements.

(User Interface Guidelines at 1-2.)

Additional exemplary citations include:

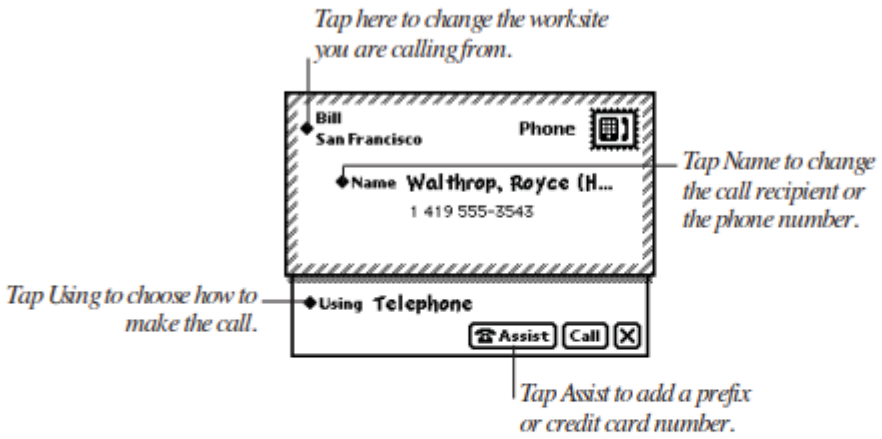


Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Manual at 117.) **To place a call** 1 Tap New and in the slip that appears, enter the appropriate information. You can tap a diamond ◆ to enter the name or date. If you don't specify a time and date, the MessagePad uses the current time and date.  *The Add to Names button allows you to create a new card in the Name File using information in this slip.* (User's Manual at 118.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

2 Tap Place Call.

A slip appears.



3 Tap Using and in the list that appears, tap one of the following:

- *Modem*—if you're using a modem to dial the number.
- *Speaker*—to have your MessagePad's speaker dial the phone number.
- *Telephone*—to dial the phone number manually.

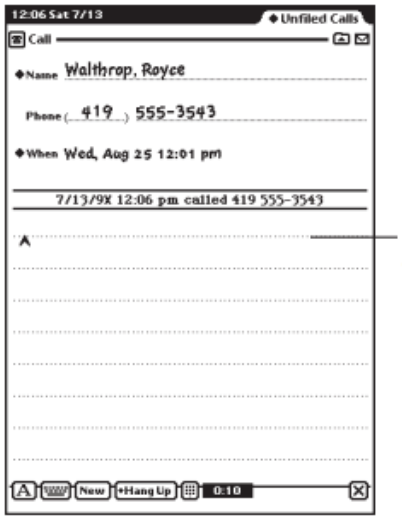
4 If you need to dial a prefix or use a credit-card number to make the call, tap Assist and in the slip that appears, enter the necessary information. Then tap ☒ to close the slip.

(User's Manual at 119.)

5 Tap Call.

If you're dialing through the speaker, hold the mouthpiece of your phone near the MessagePad's speaker. If you're dialing through the modem, wait until the modem has finished dialing, then pick up your telephone handset.

The time, date, and telephone number appear in the call slip as the call is made. At the lower-right corner of the slip is a timer that shows the duration of the call.



You can write notes or other information in this area.

6 When you are finished, tap Hang Up, and in the list that appears, tap a choice.

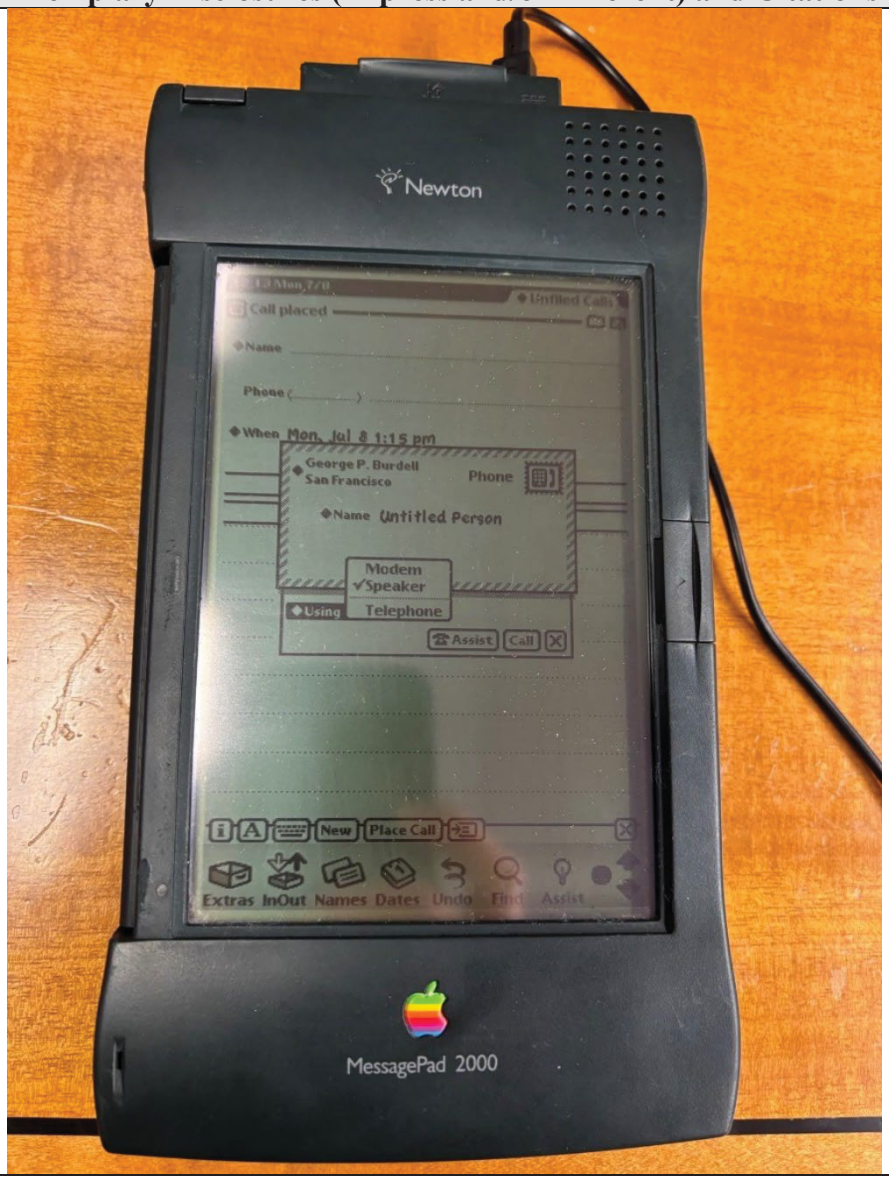


The end time of the call is then recorded in the log, along with any information you've written. Your choice appears under the entry, along with the duration of the call.

7 If this call was made to someone you would like to add to your Name File, tap the Add to Names button.

8 When a message appears asking if you want to add this new name, tap Yes.

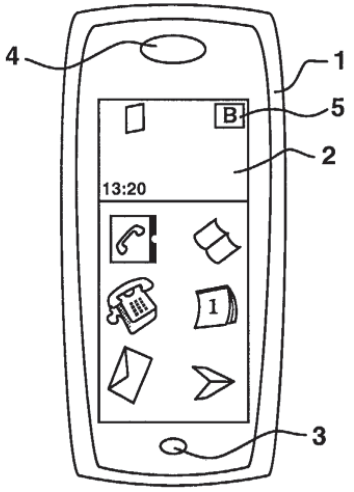
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Manual at 120.) **Forcing Recognition** Under some circumstances your application may have to recognize ink text forcibly. For example, when a user tries to place a call to an ink-text phone number, the Calls application forces recognition of the ink text. If your application forces recognition, make sure it allows the user to correct mistakes in the recognized text before it acts on the text. (User Interface Guidelines at 6-19.)  (Apple Newton Device.)

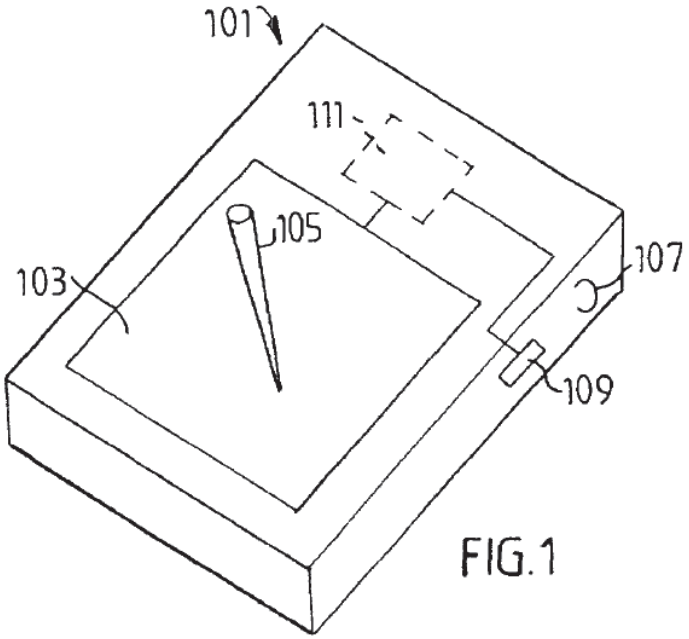
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	

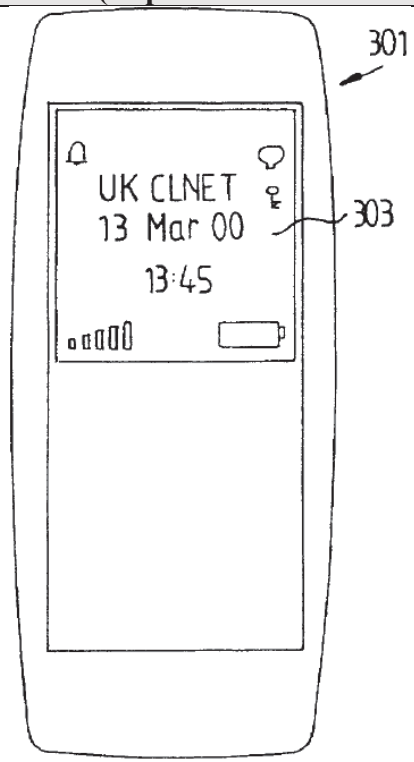
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and/or P800. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800 teaches a mobile device that may be used to make phone calls. For example, Bast discloses a mobile terminal that "combines the functions of a personal digital assistant (PDA) and a mobile phone." (Bast at [0010].) As another example, Pensjo discloses a mobile telephone. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.) Additionally, Mouton discloses an electronic device that may be a mobile telephone. (Mouton at abstract, [0001], [0003], [0004], [0015], [0034], Claim 1, FIG. 2.) Additionally, Nakano discloses "portable information terminals" including a "menu display." (Nakano at 1:8-12, 1:16-19, 2:45-51, 6:63-7:15, 7:20-52, 8:17-49, 8:65-9:6, 9:14-26, 9:42-48, 10:1-4, 10:11-22, 13:57-58, 27:26-28, 42:18-21, 42:30-42, 50:36-41, FIGS. 1, 24A-B, 51.) Nakano explains that the "portable information terminal" may be a PDA, but that the invention may also be applied to devices such as a "cell phone." (Nakano at 14:57-61, 27:26-28, 42:11-13.) Additionally, Gupta discloses a "buttonless communication device" or "telephone." (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additionally, Dutta discloses a "mobile phone." (Dutta at [0002]-[0004], [0009], [0013], [0015]-[0018], FIGS. 2A-B.) Additionally, the MyOrigo MyDevice was a smartphone that could be used to make calls. (MyOrigo Magazine at 27, 28.) Additionally, "[t]he P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications." (P800 09/2002 Manual at 6, 8; P800 11/2002 Manual at 42; P800/P802 White Paper at 24.) A POSITA would have found it obvious to configure the mobile device disclosed by Apple Newton such that it could make phone calls. Each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800 teaches configuring a mobile device in this way in order to allow the user to conveniently communicate with others. A POSITA would have been motivated to configure Apple Newton's mobile device in this way to enable it to better perform its function as a communications device, better support the Apple Newton's call-making functionality, and better compete in the mobile device market. (User Interface Guidelines at 1-2, 6-19; User's Manual at 117-120.) A mobile device that was configured to make phone calls was routine and conventional to a POSITA, as shown by each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800. A POSITA would have considered the combination of the teachings of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and/or P800 with the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (the mobile device of Apple Newton with the teaching of a mobile device configured to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) according to known methods to yield predictable results (enabling the user to conveniently communicate with others); (B) use of a known technique (Configuring a mobile device to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) to improve similar devices in the same way (enabling the user to conveniently communicate with others); (C) applying a known technique (Configuring a mobile device to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) to a known device ready for improvement to yield predictable results (enabling the user to conveniently communicate with others);

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "The invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].) Bast discloses the following at FIG. 1:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1.) "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1 and 3-5:  (Pensjo at FIG. 1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

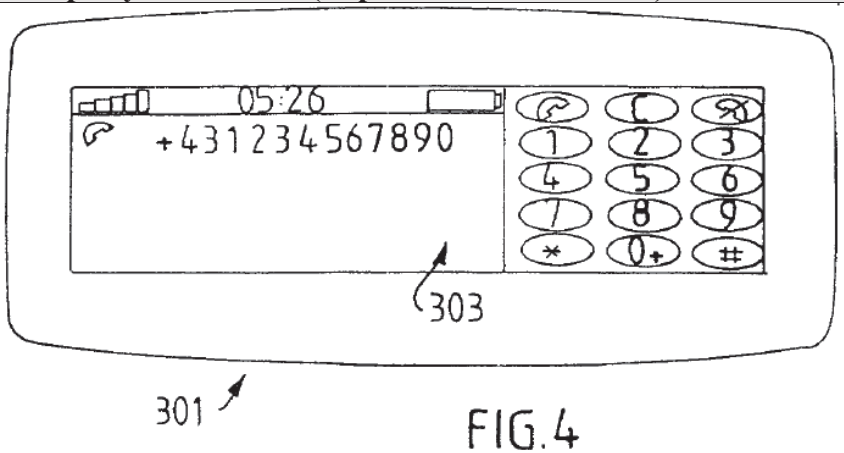


FIG.4

(Pensjo at FIG. 4.)

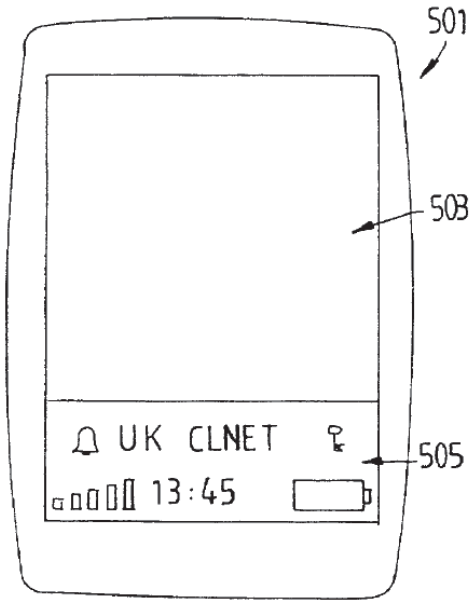
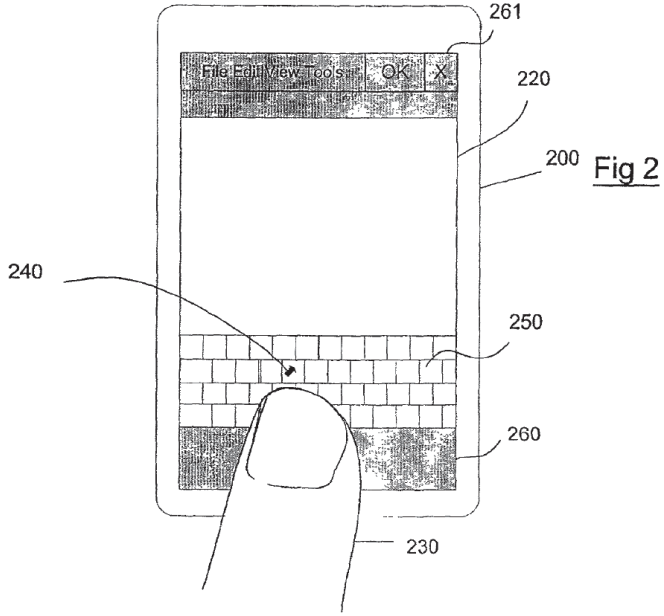


FIG.5

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 5.) "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "For instance, U.S. Pat. No. 5,745,116 describes a user interface for a mobile telephone in which a user performs a manual selection or a gesture selection of a screen object on a screen using a pointing device. After a manual selection, such as a single tap, the electronic device automatically presents a temporary directional palette having palette buttons that explicitly state functions of the electronic device. Each palette button has a unique compass direction relative to the original tap area. By making a second tap on a desired palette button, a novice user learns available functions of the electronic device and their corresponding directional gestures. Alternately, the user may perform a gesture selection of both a screen

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	object and a function, such as making a double tap or drawing a line in the appropriate direction, before the directional palette appears on the screen." (Mouton at [0004].) "A personal digital assistant embodying the invention will now be described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings, in which:" (Mouton at [0015].) "Whilst the invention is particularly useful in portable, handheld devices, it will be understood that technique may be applied to any kind of device, whether portable or not, that includes a tactile display, for instance printers, photocopiers, fax machines as well as industrial machinery." (Mouton at [0034].) "Apparatus having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user, wherein the input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at Claim 1.) Mouton discloses the following at FIG. 2:

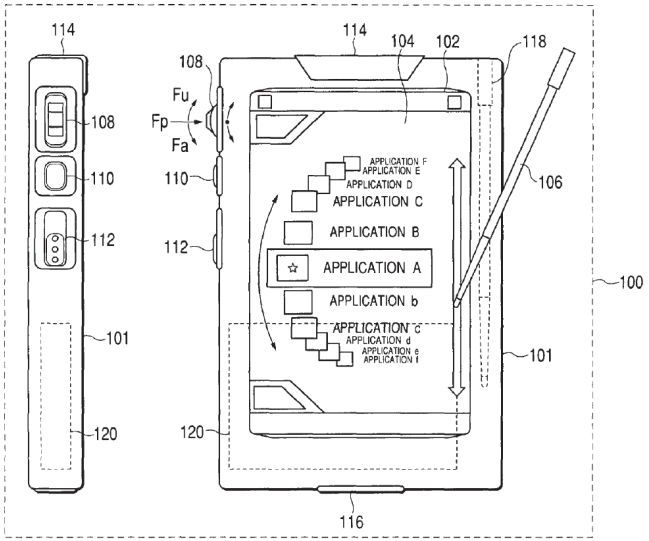
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2.) "The present invention relates to a display control device for performing display control of menu display, portable information terminal, and display control information and a display control method for allowing a computer to perform display control of menu display." (Nakano at 1:8-12.) "As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention has been accomplished in order to solve the aforementioned problems and aims at providing easy-to-use menu display which allows easy understanding of arrangement of menu items used for a portable information terminal.

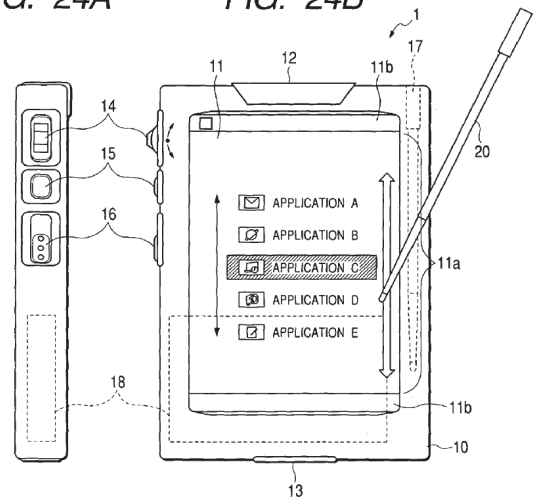
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:45-51.) "The invention provides a display control method for a portable information terminal which displays a plurality of information display entities in a vertical line on the display section, characterized in that the display control method comprises: a size setting step of setting the size of an information display entity so that the size of the information display entity to be displayed will be gradually scaled down in accordance with the distance between the information display entity and a predetermined display position of the display; an interval setting step of setting the display interval of information display entities to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; a transparency setting step of setting the transparency of an information display entity to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; and a scroll step of scrolling through the plurality of information display entities based on the setting in the size setting step, the interval setting step, and the transparency setting step." (Nakano at 6:63-7:15.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined

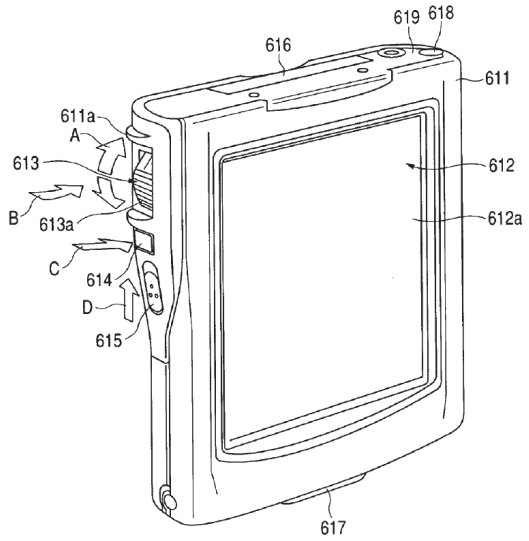
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: set ting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection" (Nakano at 8:17-49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "The invention provides a portable information terminal characterized by further comprising second determination means (for example a menu display controller 310 in FIG. 18) for determining as a candidate for selection the information display entity displayed in the tap position instead of an information display entity determined as a candidate for selection by the first determination means." (Nakano at 9:42-48.) "The scroll means of the portable information terminal device may gradually accelerate the scroll display in case the drag velocity of the drag operation exceeds a predetermined velocity." (Nakano at 10:1-4.) "The invention provides a portable information terminal characterized by further comprising: target scroll amount setting means for setting a target scroll amount in accordance with the operation amount of the drag operation; and target scroll amount change means for changing the target scroll amount determined by the target scroll amount setting means in accordance with the operation amount of the drag operation; characterized in that the scroll means controls the scroll display velocity in accordance with the remaining scroll amount as a difference between the target scroll amount changed by the target amount change means and the current scroll amount." (Nakano at 10:11-22.) "FIG. 51 is a perspective view of an example of personal information terminal device of the invention;" (Nakano at 13:57-58.)

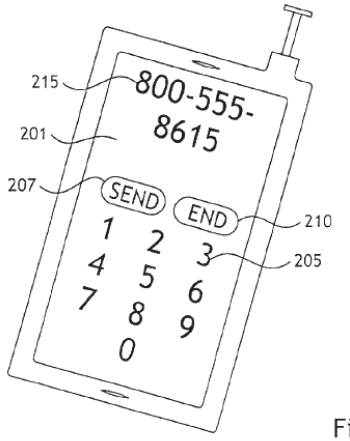
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618. As shown in FIG. 51, the side controller 613, the escape switch 614, and the power switch 615 are arranged in an array on the lateral face of the armored case 611. In the example shown, the side controller 613, the escape switch 614, and the power switch 615 are arranged in order from the top of the figure. The side controller 613 is arranged at the position where the thumb of the left hand of the user is most likely to be positioned when the user holds the armored case 611 with his/her left hand so that the liquid crystal panel 614 will face the front." (Nakano at 42:30-52.) "Arrangement of items or a camera in a virtual space, or shooting with a virtual camera may be executed by way of calculation processing by the CPU and memory in a portable information terminal, or may be

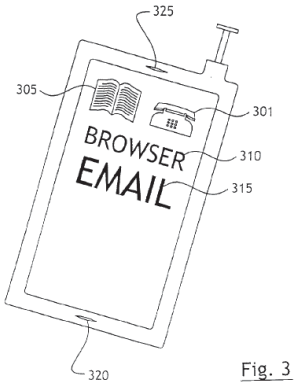
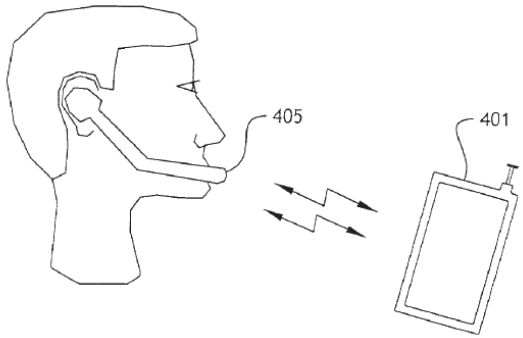
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	calculated on other device and only the resulting image data may be displayed on the portable information terminal." (Nakano at 50:36-41.) Nakano discloses the following at FIGS. 1, 24A-B, and 51: FIG. 1  (Nakano at FIG. 1.)

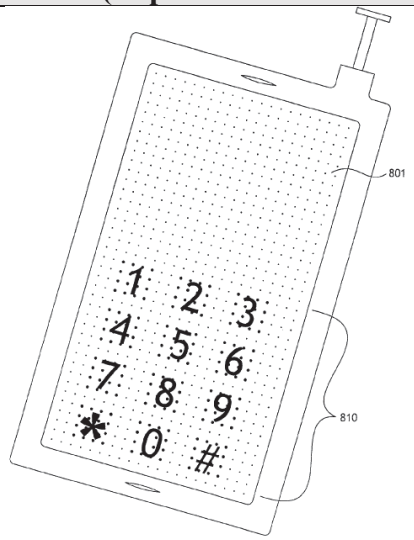
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51.) "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].) "The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].)

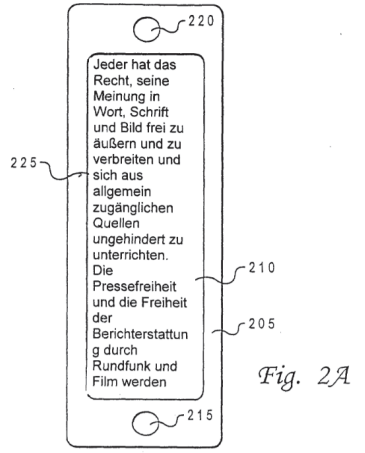
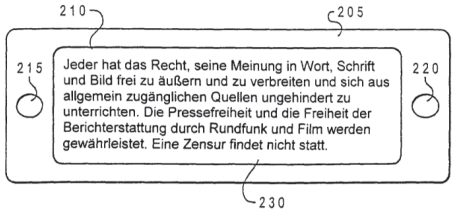
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3.)  Fig. 4 (Gupta at FIG. 4.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8.) "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Alternatively, the portable device can also be a mobile phone with an integrated wireless communication unit 120." (Dutta at [0016].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services. The phone is designed and built by MyOrigo in Finland but it's doubtful that they will sell the phone directly and probably sign a deal with a network to create an own brand phone, like Orange has done with the SPV. The phone we tested out was a prototype but it gives you a pretty good indicator if what to expect when the MyDevice ships at the end of the month. The standard package will comprise of a phone, stereo headset, PC sync package and a couple of games. The target price is around €150 to €250 with contract. Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 play as standard. There is a SD card slot for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi." (MyOrigo Magazine at 27-28.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.) MyOrigo Magazine discloses the following at 28:  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview You have bought a very advanced smartphone. To learn to use the features, you should start by reading *Getting started*. The P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications. Like a computer, the P800 has a flexible and simple way of organizing applications and data. The built-in memory is available for photos, music, messages or applications. When space becomes limited, you can move files to a Memory Stick. You can also send data to another P800, e-mail, upload it to a website, or transfer it to a PC. (P800 09/2002 Manual at 6.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

P800 outline





A Connector for stereo headphones
B Jog Dial for navigating through menus and more
C Infrared port for communication
D On/Off button
E Flip with Keypad (in closed position)
F Connector for accessories

A External antenna connector (on the rear side)
B CommuniCam lens (on the rear side)
C Battery compartment (on the rear side)
D Touchscreen
E Flip (in open position)
F Shutter release for the CommuniCam
G Internet button for activation of the browser
H Slot for Sony Memory Stick Duo™ (under the stylus)
I Stylus for writing on the screen

(P800 09/2002 Manual at 8.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Phone The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications. The phone includes useful features such as: • Personalized ringtones. • Picture Phone Book • Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy. • Voice dialing – make a call by speaking the contact's name. • Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. • Access to most other applications whilst talking on the phone. • Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking. (P800 11/2002 Manual at 42.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Phone and PIM Applications

Phone

The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications.

The phone includes useful and fun features such as:

- Personalised ringtones – conventional or polyphonic ringtones can be set in Contacts, giving audible indication of who is calling. Supported formats are AMR, Au, iMelody, MIDI, RMF (Beatnik) and WAV.
- Picture Phone Book – if there is a picture of the person in Contacts, it will be displayed when making outgoing calls and when receiving the CLI with an incoming call.
- Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy.
- Voice dialling – make a call by speaking the contact's name. The contact's name may be recorded when entering/editing the entry in Contacts. The call is made by pressing the OK button on the flip or the button on the headset. If a 'magic word' is recorded, contacts may be dialled by saying the magic word followed by the contact name. It is then not necessary to press any buttons.
- Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. There is 40 seconds of storage space allocated for voice dialling and voice answer. This is enough for approximately 50 words (contact names plus 'magic word', 'answer' and 'busy')
- Access to most other applications whilst talking on the phone.
- Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking.
- Flight mode enables the P800 to be used as a PDA in situations where radio transmitters may not be used. The GSM and Bluetooth transmitters (and receivers) are switched off.



In FC mode, the phone is driven by the keypad, like a conventional mobile phone.

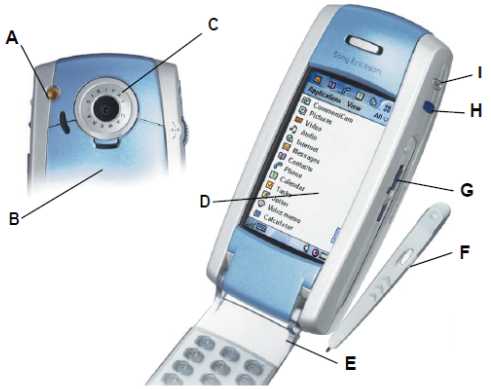
(P800/P802 White Paper at 24.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 09/2002 Manual at 122.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

P800 overview

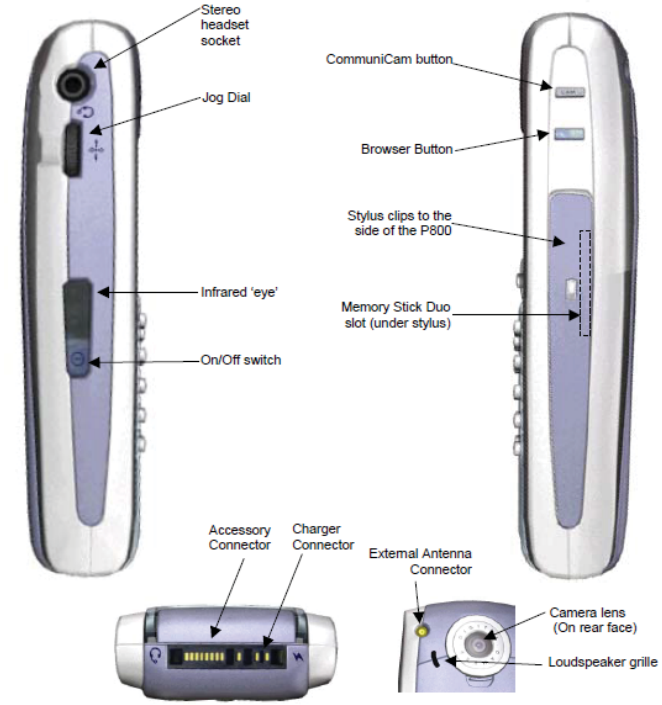




A Indicator light for Bluetooth wireless technology (blue)
B Connector for stereo head phone
C Jog Dial
D Infrared port
E On/Off button
F Flip with Keypad (in closed position)
G Connector for accessories and charger
H Indicator light for network and battery (green/red)

A External antenna connector
B Battery compartment
C CommuniCam
D Touchscreen
E Flip (in open position)
F Stylus
G Slot for Sony Memory Stick Duo (under the stylus)
H Internet button for activation of the browser
I CommuniCam activation and shutter release

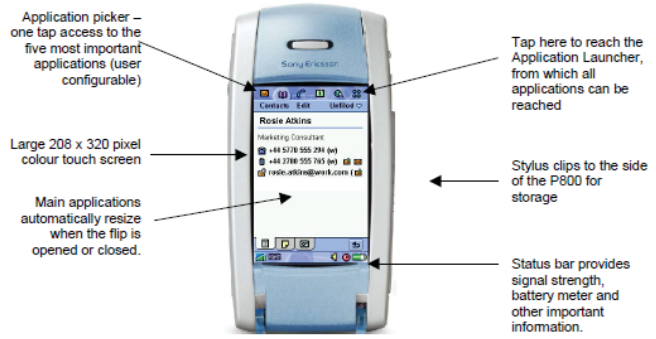
(P800 11/2002 Manual at 11.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 Controls and Operation The P800 has a large touch-screen and a flip. This provides fast and convenient one-handed operation with the flip closed plus large touch-screen sophistication with the flip open.  (P800/P802 White Paper at 12.)

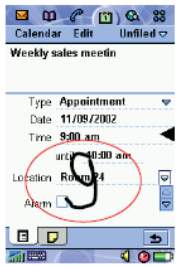
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Flip Open (FO mode)

When the flip is opened, the large touch-screen is revealed. In 'flip open' mode, the stylus may be used to navigate and enter data. The Jog Dial provides further navigation and selection capability. The User Interface is Symbian's established UIQ design, adapted for the narrower 208 pixel screen.



The stylus is used to operate the touch-screen and enter text:



Text may be entered using natural handwriting over the whole screen. Lower case letters are entered below the ◀ symbol, uppercase in line with it and numbers above it.



An on-screen keyboard is also available at all times by tapping on the keyboard icon in the status bar. Symbol and special character keyboards may be selected when required. Cut, Copy and Paste functions are available here.

In FO mode, the P802 offers Stroke, Pinyin and Bopomofo input methods plus Chinese character recognition. Numeric and English characters can also be entered using the character recognition.

(P800/P802 White Paper at 14.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (FCC P800 Exhibit 3, Photograph Nos. 1-5.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations



(a) (b)

Front view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b).

(FCC P800 Exhibit 11 SAR Report at Sheet 10.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (a) (b) Side view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b). (FCC P800 Exhibit 11 SAR Report at Sheet 11.)

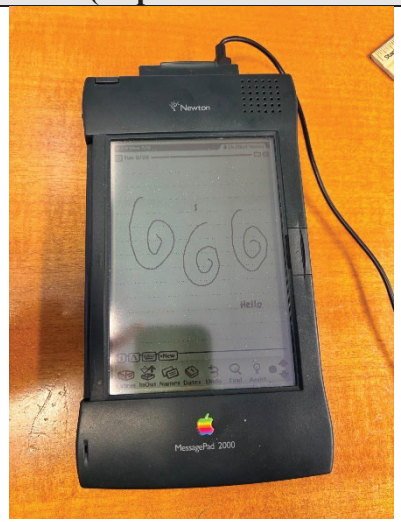
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device.)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Apple Newton includes a "glass screen" that functions as a display. (User's Manual at xi; Getting Started at vii, 2.) The screen is sensitive to touches, such as tapping or writing by the stylus. (Programmer's Reference at xxxvi, 6-9; User Interface Guidelines at 1-2, 3-2, 6-1, 6-32; User's Manual at xi, 9, 13-15, 113; Getting Started at vii, 7, 15, 20.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Screen care ■ Take care not to break the glass screen. Don't drop the MessagePad. Don't subject it to any strong impact. Don't put it into your back pocket because, if you sit on it, the glass may break. ■ Don't press too hard on the screen when writing, drawing, or tapping. Don't forcefully jab or hit the screen. ■ Be careful not to scratch the screen. Use only the pen that comes with your MessagePad. Don't use ink pens or any other sharp object. ■ Clean the screen frequently to ensure that dust and grit do not build up on the surface. Clean the screen only with a soft cloth—such as a cloth made for cleaning eyeglasses. Do not use strong solvents to clean the screen, although you can use general purpose eye-glass cleaners or isopropol alcohol to remove fingerprints and spots. Don't pour cleaning liquids directly on the screen; apply to a cleaning cloth before cleaning. ■ When your MessagePad is not in use, keep the lid closed to protect the screen. (User's Manual at xi.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Screen care ■ Take care not to break the glass screen. Don't drop the MessagePad. Don't subject it to any strong impact. Don't put it into your back pocket because, if you sit on it, the glass may break. ■ Don't press too hard on the screen when writing, drawing, or tapping. Don't forcefully jab or hit the screen. ■ Be careful not to scratch the screen. Use only the pen that comes with your MessagePad. Don't use ink pens or any other sharp object. ■ Clean the screen frequently to ensure that dust and grit do not build up on the surface. Clean the screen only with a soft cloth—such as a cloth made for cleaning eyeglasses. Do not use strong solvents to clean the screen, although you can use general purpose eye-glass cleaners or isopropyl alcohol to remove fingerprints and spots. Don't pour cleaning liquids directly on the screen; apply to a cleaning cloth before cleaning. ■ When your MessagePad is not in use, keep the lid closed to protect the screen. (Getting Started at vii.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations



(Apple Newton Device.)

Although some applications for Newton devices only present information to people, many applications gather data from people as well. A person can input information in a Newton application by

- Tapping and dragging to select an input from a list or range of options provided by the application
- Writing and drawing to input text and shapes
- Typing text on an on-screen keyboard.

The Newton interface elements that applications use for these input methods are described in the first two sections of this chapter. There's also a section on handling user errors.

(User Interface Guidelines at 6-1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: **Tap Versus Click** Throughout the Newton software system and in this book, the word "click" sometimes appears as part of the name of a method or variable, as in `ViewClickScript` or `ButtonClickScript`. This may lead you to believe that the text refers to mouse clicks. It does not. Wherever you see the word "click" used this way, it refers to a tap of the pen on the Newton screen (which is somewhat similar to the click of a mouse on a desktop computer). (Programmer's Reference at xxxvi.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

CHAPTER 6

Controls Reference

protoPictureButton

This proto is used to create a picture that is a button; that is, the user can tap the picture to cause an action to occur. The following is an example of a `protoPictureButton` view:



The `ViewClickScript` method is used internally in the `protoPictureButton` and should not be overridden. To handle a tap event, use the `ButtonClickScript` method; the `ViewClickScript` method sends the `ButtonClickScript` message to allow you to handle the event.

(Programmer's Reference at 6-9.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Newton is not a small portable computer with another graphical user interface. There may be similarities between portable computers and Newton devices, but the differences summarized below are more important than the similarities when it comes to designing a user interface for an application.

Newton	Portable Computers
Focused function	General purpose
New architecture optimized for mobility and communications—use it anywhere, any time	Derived from desktop computer architecture, which is optimized for stationary operation
Tapping, writing, and drawing with a pen	Typing, pointing, and clicking with mouse and keyboard
Intelligent assistant	Scripting and macros
New and custom applications	Existing desktop applications
It's a communications assistant	It's a personal computer
Simple	Complex

To take advantage of its distinguishing features and capabilities, Newton has distinctive user interface elements.

(User Interface Guidelines at 1-2.)

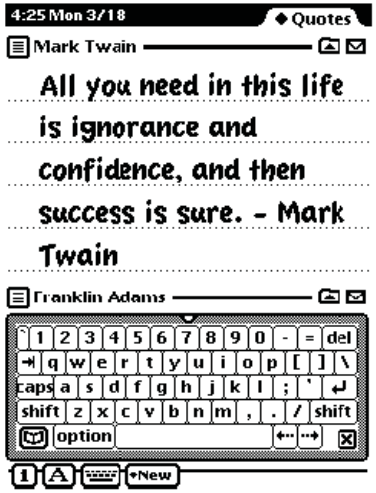
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	## Use Screen Space Wisely Because the user's hand is usually held close to a Newton device, it's best to keep tappable controls at the bottom of the screen, have the user enter data in the middle of the screen, and display titles and other descriptors at the top of the screen. This way, the most important information (the user's information) isn't obscured each time he or she taps a button. If you need to display controls on the side, make sure your application allows users to move the controls to either side of the screen, according to whether they are right- or left-handed. ## Check the Screen Size A Newton application's **main view**—the visual object that serves as the application's base of user operations—can be any size. If your application's main view does not fill the entire screen, keep in mind that whatever is visible behind your application will be operable. In this situation, users can (User Interface Guidelines at 1-11.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

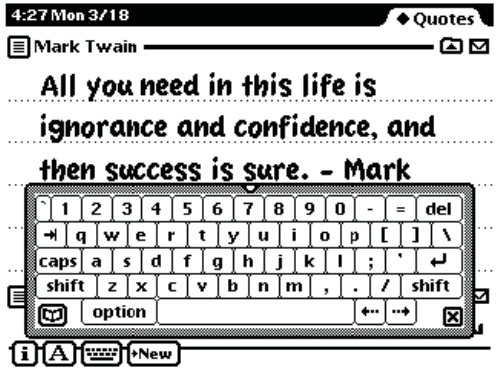
get confused about what's frontmost—and therefore about what will be scrolled when the scroll arrows are tapped and which view is currently in use.

Also keep in mind when designing your application that future Newton devices may have larger or smaller screens than current Newton devices. To work with different screen sizes, a Newton application must check the screen size and make adjustments as needed to the size and location of the things it displays so that everything fits. If you want your application to work in either of the two display orientations available on an Apple MessagePad 120, your application needs to be able to adjust the position and configuration of everything it displays for regular or sideways orientation of the display. Figure 1-3 shows how the built-in Notepad application and the on-screen keyboard adjust their size, position, and layout when a user rotates the display.

Figure 1-3 An application adjusts its size, position, and layout to fit the screen



Regular orientation on a MessagePad 120



Sideways orientation on a MessagePad 120

(User Interface Guidelines at 1-12.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Buttons

A **button** is a small graphic object that performs an action when tapped. The action that the button performs is described by text or a picture on the button, as shown in Figure 3-1.

Figure 3-1 Tapping a button initiates an action



(User Interface Guidelines at 3-2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Typing

Wherever users can write text on a Newton device, they can type it using an on-screen keyboard as well. Figure 6-27 shows the four keyboards that are built into the Newton system. You can also create custom keyboards for use in your application.

Figure 6-27 The four built-in keyboards

Typewriter (alpha)





Numeric

Phone





Time/Date

(User Interface Guidelines at 6-32.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Tips for better handwriting recognition Writing is one of the most convenient ways to put information into your MessagePad. There are several tips to keep in mind while you are writing. Most of these tips are common sense, and help the MessagePad interpret your handwriting more accurately. ■ Write at an even pace. Don't pause in the middle of a word. Finish what you write—don't go back to a word to change it until you've finished writing it. ■ You don't have to wait for a word to be recognized to continue writing. ■ Write simply and neatly. Avoid adding flourishes, like serifs, to your letters. Don't write at too much of an angle or slant your characters. Close your letters properly. ■ Exaggerate the space between words, but not between letters. This helps your MessagePad determine when one word ends and another begins. (User's Manual at 9.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Using the caret

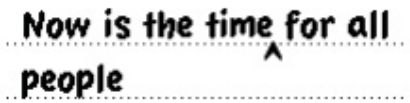
You can insert a word or phrase at a specific place on the screen using the caret. If you choose to enter text without a caret, the text is placed in the general area where you wrote.

To use the caret, follow these steps:

1. Tap the Recognition button A and in the list that appears, tap Preferences.
2. Tap Options and in the list that appears, tap Text Editing Settings.
3. Tap the checkbox next to "Insert new words at caret."
4. Go back to the item where you want to insert text.
5. Tap the pen where you want the word(s) to go on the screen.
   A caret appears where the words will be placed.



6. Write the new word or words anywhere on the screen. The text is placed at the caret.



Using the on-screen keyboard

The MessagePad has four on-screen keyboards: a typewriter keyboard and three types of numeric keyboards (for entering calculations, telephone numbers, and times/dates).

(User's Manual at 13.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Displaying and moving a keyboard

There are several ways to view the on-screen keyboard.

- Tap the Keyboard button near the bottom of the screen. Tap the Keyboard button again and in the list that appears, tap the type of keyboard you want to use.
- Tap a misinterpreted word twice, then tap the keyboard at the bottom of the list that appears.
- Tap twice anywhere you're writing, such as in a note, on a Date Book page, or in a blank you need to fill.



To move a keyboard, hold the pen on the picture hanger on the keyboard slip and drag it to where you want the keyboard on the screen.

Changing the layout of the typewriter keyboard

If you want a different text keyboard arrangement, use the Locale preferences to change the keyboard layout.

1. Tap Extras to open the Extras Drawer.
2. Tap the folder tab and in the list that appears, tap Unfiled Icons. (If you filed Prefs in another folder, tap that folder's name.)
3. Tap Prefs and, in the slip that appears, tap Locale.
4. Tap Keyboard, then tap the keyboard layout you want.



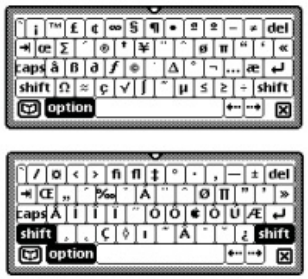
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

(User's Manual at 14.)

Entering symbols and other special characters

If you have selected Cursive as your handwriting style, you must use the keyboard to enter accent marks. Your MessagePad does not recognize handwritten accent marks on cursive letters.

Display the typewriter keyboard on the screen. Then tap the Option key, or the Option key and then the Shift key, to see the available special characters (such as symbols, accent marks, and accented letters).



Erasing text and drawings

You erase text and pictures by "scrubbing them out" with a zig-zag line.

- The zig-zag must go back and forth at least four times.
- You can draw the zig-zag in any of four orientations.



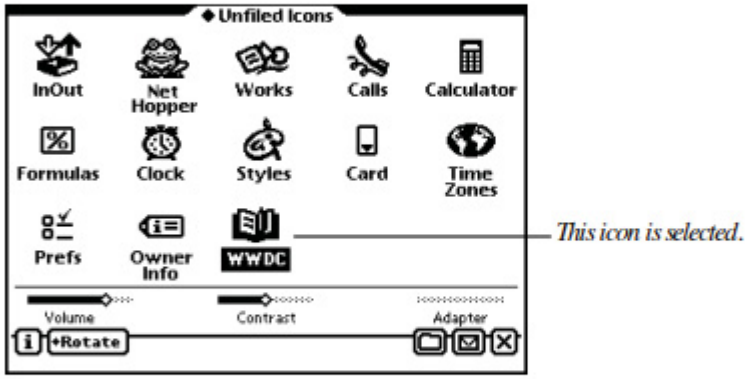
- Draw the zig-zag with sharp corners, making each segment about the same length.
- Don't draw the zig-zag so it loops or crosses over itself.
- The zig-zag lines should go well above and below the word or drawing.

(User's Manual at 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Selecting and moving icons

To select an icon, hold the pen on or near the item until a heavy mark appears under the pen, and draw the mark over or around the icon. The icon is selected.



To select several icons at once, draw the mark over or around all the icons you want to select. To move an icon, select it, then hold the pen on the selection and drag the icon where you want to place it. You can also drag items into and out of the button bar to customize it.

(User's Manual at 113.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Getting Started at 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Learning how to tap One of the main ways you interact with your MessagePad is by using your MessagePad pen to tap items, such as buttons or words, or to write information. To tap, you simply touch the pen to the screen. If you want to tap a button or word, you can tap any part of it. Don't press too hard on the screen when writing, drawing, or tapping. (Getting Started at 7.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Buttons

The pictures along the lower edge of the screen are buttons that are usually available no matter what is on the screen. To use a button or go to an area, tap it with your MessagePad pen.

Button	What it's used for
	Tap *Extras* to open the Extras Drawer, which contains your applications and packages. When you open this area, you see icons, or picture buttons. Each opens a different application within your MessagePad. The Extras Drawer includes the InOut Box, Preferences, and items that appear when you use a storage card.
	Tap *Names* to go to the Name File. This is where you store information about people, companies, and group addresses. You use it to keep track of names, addresses, phone numbers, electronic mail addresses, and even birthdays.
	Tap *Dates* to go to the Date Book. This is where you store information about your schedule. You can keep track of meetings, keep a list of things to do, and set alarms.
	Tap *Undo* to cancel the last thing you did. Tap it again to redo your last action.
	Tap *Find* to look for information in your MessagePad. You can search for text or for information by date in any area of your MessagePad.
	Tap *Assist* to have your MessagePad do certain things for you—for example, to put something in your to-do list or fax a note to someone. You can also access the on-screen help by tapping Assist.
	Tap *Dock* to establish a connection between your MessagePad and your computer, to fax using a fax modem, or to connect to online services or the Internet using a modem.
	Tap the *up* or *down arrow* to see more of the information on the screen, or to see the previous or next item. The up arrow moves to older items and the beginning of lists. The down arrow moves to newer items and the end of lists. Tap the *Overview* button (the dot beside the arrows) to see a list of the contents of the area you're in.

(Getting Started at 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Part 2: Entering information

In this part, you'll learn about the different ways to enter information and the areas in your MessagePad where you can enter it.

Ways to enter information

Before you enter information, you must tap the pen on the screen where you want to place the information. A caret ^ appears and shows you where the information will be placed.

^

There are several ways to enter information into your MessagePad.

- One way is to write with your MessagePad pen.

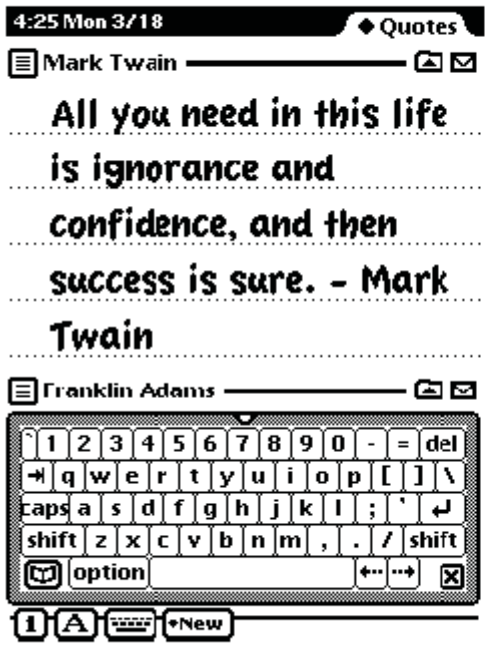
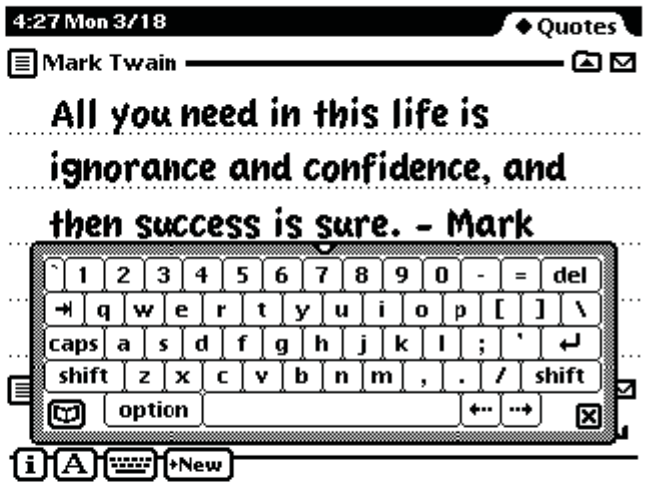
Hello! How are you ?

- A second way is to use an on-screen keyboard. To do this, tap the Keyboard button at the bottom of the screen. A typewriter keyboard appears; use the pen to tap out information on the keyboard.



To use a different keyboard, tap the Keyboard button a second time and in the list that appears, tap your choice. When you finish using the on-screen keyboard, tap ☒ on the bottom right of the keyboard to close it.

(Getting Started at 20.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9f] a virtual keyboard to enter text; and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Apple Newton includes a virtual keyboard. (User Interface Guidelines at 6-1, 6-32; Programmer's Reference at 7-35, 7-40; Getting Started at 20; User's Manual at 13-15.) **Figure 1-3** An application adjusts its size, position, and layout to fit the screen  Regular orientation on a MessagePad 120  Sideways orientation on a MessagePad 120 (User Interface Guidelines at 1-12.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Although some applications for Newton devices only present information to people, many applications gather data from people as well. A person can input information in a Newton application by ■ Tapping and dragging to select an input from a list or range of options provided by the application ■ Writing and drawing to input text and shapes ■ Typing text on an on-screen keyboard. The Newton interface elements that applications use for these input methods are described in the first two sections of this chapter. There's also a section on handling user errors. (User Interface Guidelines at 6-1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Typing

Wherever users can write text on a Newton device, they can type it using an on-screen keyboard as well. Figure 6-27 shows the four keyboards that are built into the Newton system. You can also create custom keyboards for use in your application.

Figure 6-27 The four built-in keyboards

Typewriter (alpha)





Numeric

Phone





Time/Date

(User Interface Guidelines at 6-32.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Keyboards

This section describes the views, protos, and functions you can use in your applications to work with on-screen keyboards.

Keyboard View (clKeyboardView)

The `clKeyboardView` class displays keyboard-like arrays of buttons that can be pressed (tapped with the pen) to perform an action. To read about how to use this class, see "Keyboard Views" (page 8-26) in *Newton Programmer's Guide*.

(Programmer's Reference at 7-35.)

protoAlphaKeyboard

This proto is used to include an alphanumeric keyboard in a view. For a description of how to use this proto, see "protoAlphaKeyboard" (page 8-30) in *Newton Programmer's Guide*.

(Programmer's Reference at 7-40.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Part 2: Entering information

In this part, you'll learn about the different ways to enter information and the areas in your MessagePad where you can enter it.

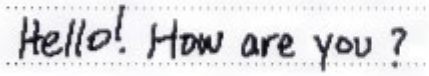
Ways to enter information

Before you enter information, you must tap the pen on the screen where you want to place the information. A caret ^ appears and shows you where the information will be placed.



There are several ways to enter information into your MessagePad.

- One way is to write with your MessagePad pen.



- A second way is to use an on-screen keyboard. To do this, tap the Keyboard button ⌨ at the bottom of the screen. A typewriter keyboard appears; use the pen to tap out information on the keyboard.



To use a different keyboard, tap the Keyboard button ⌨ a second time and in the list that appears, tap your choice. When you finish using the on-screen keyboard, tap ☒ on the bottom right of the keyboard to close it.

(Getting Started at 20.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Using the on-screen keyboard The MessagePad has four on-screen keyboards: a typewriter keyboard and three types of numeric keyboards (for entering calculations, telephone numbers, and times/dates). (User's Manual at 13.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Displaying and moving a keyboard

There are several ways to view the on-screen keyboard.

- Tap the Keyboard button near the bottom of the screen. Tap the Keyboard button again and in the list that appears, tap the type of keyboard you want to use.
- Tap a misinterpreted word twice, then tap the keyboard at the bottom of the list that appears.
- Tap twice anywhere you're writing, such as in a note, on a Date Book page, or in a blank you need to fill.



To move a keyboard, hold the pen on the picture hanger on the keyboard slip and drag it to where you want the keyboard on the screen.

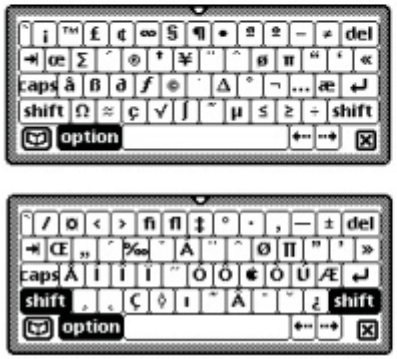
Changing the layout of the typewriter keyboard

If you want a different text keyboard arrangement, use the Locale preferences to change the keyboard layout.

1. Tap Extras to open the Extras Drawer.
2. Tap the folder tab and in the list that appears, tap Unfiled Icons. (If you filed Prefs in another folder, tap that folder's name.)
3. Tap Prefs and, in the slip that appears, tap Locale.
4. Tap Keyboard, then tap the keyboard layout you want.



(User's Manual at 14.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Entering symbols and other special characters If you have selected Cursive as your handwriting style, you must use the keyboard to enter accent marks. Your MessagePad does not recognize handwritten accent marks on cursive letters. Display the typewriter keyboard on the screen. Then tap the Option key, or the Option key and then the Shift key, to see the available special characters (such as symbols, accent marks, and accented letters).  (User's Manual at 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)
[9g] a microphone and a speaker	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, Apple Newton includes a microphone and a speaker. (Getting Started at 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Getting Started at 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Apple Newton discloses a mobile device that does not include a physical key on the front surface or a physical keyboard. (Getting Started at 2.) Apple Newton includes a touch screen that a user may interact with by tapping with a pen. (Programmer's Reference at xxxvi, 5-20.) Apple Newton additionally discloses virtual buttons that may be tapped to "cause an action to occur." (Programmer's Reference at 6-9; User Interface Guidelines at 3-2, 3-7; Getting Started at 15.) Further, information may be entered by "tapping and dragging" the screen, "writing and drawing," or "typing text on an on-screen keyboard." (User Interface Guidelines at 6-1, 6-32; Programmer's Reference at 7-35; User's Manual at 1, 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Getting Started at 2.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Buttons

The pictures along the lower edge of the screen are buttons that are usually available no matter what is on the screen. To use a button or go to an area, tap it with your MessagePad pen.

Button	What it's used for
	Tap *Extras* to open the Extras Drawer, which contains your applications and packages. When you open this area, you see icons, or picture buttons. Each opens a different application within your MessagePad. The Extras Drawer includes the InOut Box, Preferences, and items that appear when you use a storage card.
	Tap *Names* to go to the Name File. This is where you store information about people, companies, and group addresses. You use it to keep track of names, addresses, phone numbers, electronic mail addresses, and even birthdays.
	Tap *Dates* to go to the Date Book. This is where you store information about your schedule. You can keep track of meetings, keep a list of things to do, and set alarms.
	Tap *Undo* to cancel the last thing you did. Tap it again to redo your last action.
	Tap *Find* to look for information in your MessagePad. You can search for text or for information by date in any area of your MessagePad.
	Tap *Assist* to have your MessagePad do certain things for you—for example, to put something in your to-do list or fax a note to someone. You can also access the on-screen help by tapping Assist.
	Tap *Dock* to establish a connection between your MessagePad and your computer, to fax using a fax modem, or to connect to online services or the Internet using a modem.
	Tap the *up* or *down arrow* to see more of the information on the screen, or to see the previous or next item. The up arrow moves to older items and the beginning of lists. The down arrow moves to newer items and the end of lists. Tap the *Overview* button (the dot beside the arrows) to see a list of the contents of the area you're in.

(Getting Started at 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Tap Versus Click Throughout the Newton software system and in this book, the word "click" sometimes appears as part of the name of a method or variable, as in `ViewClickScript` or `ButtonClickScript`. This may lead you to believe that the text refers to mouse clicks. It does not. Wherever you see the word "click" used this way, it refers to a tap of the pen on the Newton screen (which is somewhat similar to the click of a mouse on a desktop computer). (Programmer's Reference at xxxvi.) **protoTextList** This proto creates a scrollable list of items from which the user can choose one or more items by tapping. The selected items are highlighted in the list. The user scrolls the list by tapping the optional scroll arrows or tapping and dragging the pen either above or below the list. (Programmer's Reference at 5-20.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

CHAPTER 6

Controls Reference

protoPictureButton

This proto is used to create a picture that is a button; that is, the user can tap the picture to cause an action to occur. The following is an example of a `protoPictureButton` view:



The `ViewClickScript` method is used internally in the `protoPictureButton` and should not be overridden. To handle a tap event, use the `ButtonClickScript` method; the `ViewClickScript` method sends the `ButtonClickScript` message to allow you to handle the event.

(Programmer's Reference at 6-9.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Keyboards

This section describes the views, protos, and functions you can use in your applications to work with on-screen keyboards.

Keyboard View (clKeyboardView)

The `clKeyboardView` class displays keyboard-like arrays of buttons that can be pressed (tapped with the pen) to perform an action. To read about how to use this class, see "Keyboard Views" (page 8-26) in *Newton Programmer's Guide*.

(Programmer's Reference at 7-35.)

Buttons

A **button** is a small graphic object that performs an action when tapped. The action that the button performs is described by text or a picture on the button, as shown in Figure 3-1.

Figure 3-1 Tapping a button initiates an action



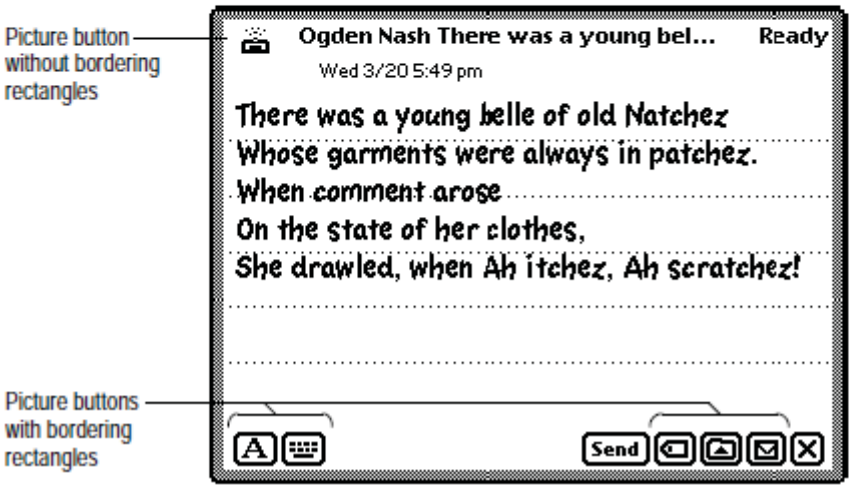
(User Interface Guidelines at 3-2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Picture Buttons

A **picture button** is a small picture (an icon) that represents the button's function. The picture is usually bordered by a rounded rectangle, like a text button with a picture instead of a text name. Figure 3-7 shows several picture buttons.

Figure 3-7 A picture button depicts what the button does



(User Interface Guidelines at 3-7.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Standard Newton Buttons

A typical application includes some of the following standard Newton buttons, either on a status bar, on a separator bar, or in a slip: the Analog Clock, Info, Recognizer, Keyboard, New, Show, Filing, Action, Item Info, and Rotate. This section describes where each of those standard buttons belongs and what it does.

(User Interface Guidelines at 3-22.)

Although some applications for Newton devices only present information to people, many applications gather data from people as well. A person can input information in a Newton application by

- Tapping and dragging to select an input from a list or range of options provided by the application
- Writing and drawing to input text and shapes
- Typing text on an on-screen keyboard.

The Newton interface elements that applications use for these input methods are described in the first two sections of this chapter. There's also a section on handling user errors.

(User Interface Guidelines at 6-1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Typing

Wherever users can write text on a Newton device, they can type it using an on-screen keyboard as well. Figure 6-27 shows the four keyboards that are built into the Newton system. You can also create custom keyboards for use in your application.

Figure 6-27 The four built-in keyboards

Typewriter (alpha)





Numeric

Phone





Time/Date

(User Interface Guidelines at 6-32.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Writing and Drawing

This chapter teaches you how best to write and draw on the MessagePad 2000. There are several methods and tools you can use to enhance recognition, correct mistakes, and manipulate text and drawings. Go through the chapter to find the best tools for your needs.

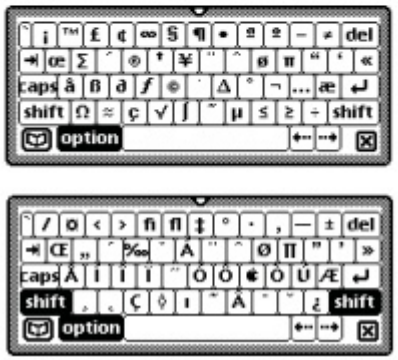
If you want to go through a brief tutorial about writing, you can use the Handwriting Instructor. To access this, tap Extras to open the Extras Drawer, tap the folder tab and in the list that appears, tap Setup. Then tap HW Instructor.

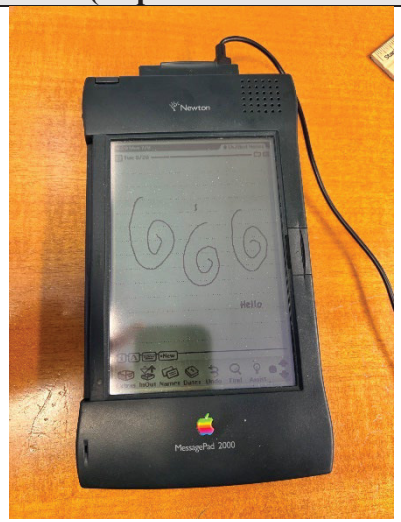
About recognition

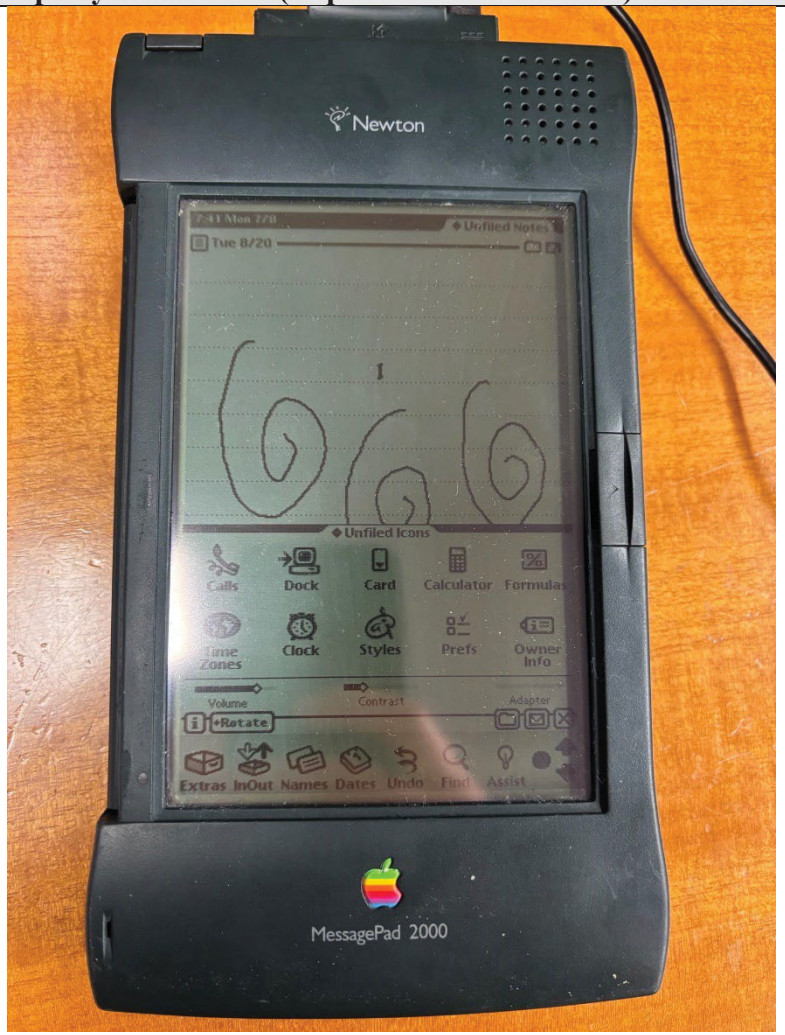
This section offers a general description of handwriting recognition used in the MessagePad and discusses some of the factors that may affect how well it recognizes your handwriting.

When you write on your MessagePad, you write in normal printed or cursive characters, as well as numbers, punctuation, and gestures. Often you write English words, but not always.

(User's Manual at 1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Entering symbols and other special characters If you have selected Cursive as your handwriting style, you must use the keyboard to enter accent marks. Your MessagePad does not recognize handwritten accent marks on cursive letters. Display the typewriter keyboard on the screen. Then tap the Option key, or the Option key and then the Shift key, to see the available special characters (such as symbols, accent marks, and accented letters).  (User's Manual at 15.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)

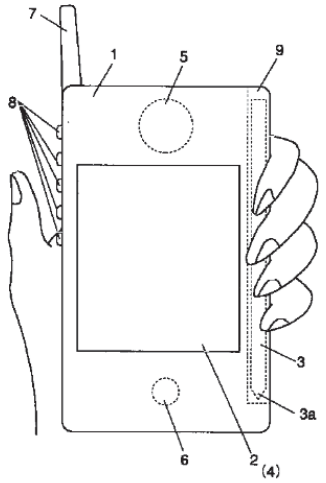
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.)
[9j] wherein said display unit is adapted	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's

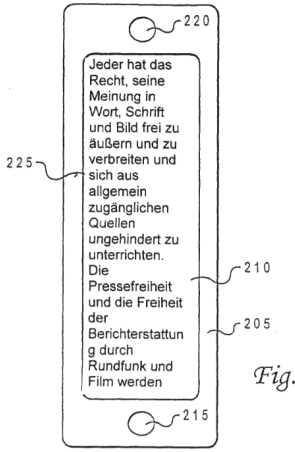
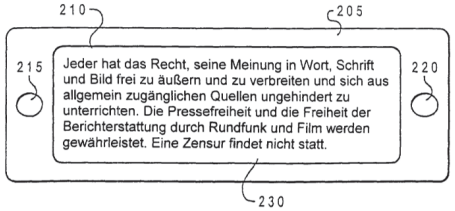
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, Apple Newton, including its front surface, was about 8 inches in length, with a speaker near the top of the device and a microphone near the bottom of the device. (Getting Started at 2.) A POSITA would understand that the Apple Newton was configured such that the user's mouth could be

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned near the microphone at the bottom of the device and the user's ear could be positioned near the speaker at the top of the device.  (Getting Started at 2.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile device disclosed by Apple Newton such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (the mobile device of Apple Newton with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) "A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendant incorporates all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
application is opened on the screen.	

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device."

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Apple Newton is a mobile device "optimized for mobility and communications." (User Interface Guidelines at 1-2.). Apple Newton may be used "anywhere, any time." *Id*. Further, Apple Newton may be used to "place calls." (User's Manual at 117-120; User Interface Guidelines at 6-19.)

Newton and Its Users

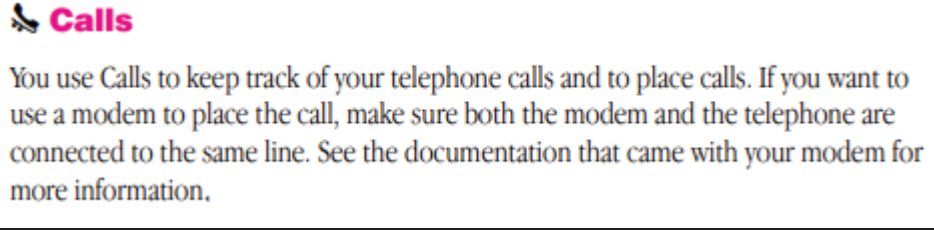
Newton is not a small portable computer with another graphical user interface. There may be similarities between portable computers and Newton devices, but the differences summarized below are more important than the similarities when it comes to designing a user interface for an application.

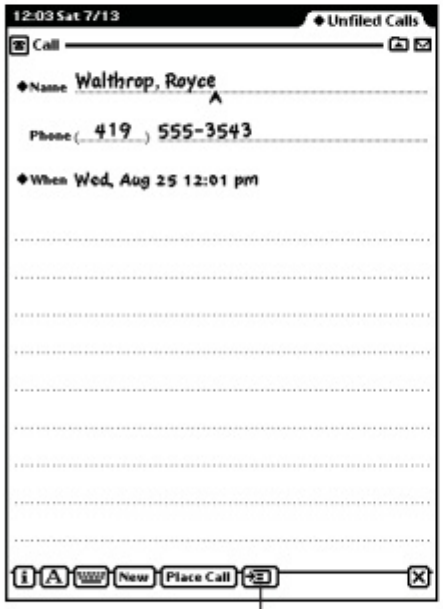
Newton	Portable Computers
Focused function	General purpose
New architecture optimized for mobility and communications—use it anywhere, any time	Derived from desktop computer architecture, which is optimized for stationary operation
Tapping, writing, and drawing with a pen	Typing, pointing, and clicking with mouse and keyboard
Intelligent assistant	Scripting and macros
New and custom applications	Existing desktop applications
It's a communications assistant	It's a personal computer
Simple	Complex

To take advantage of its distinguishing features and capabilities, Newton has distinctive user interface elements.

(User Interface Guidelines at 1-2.)

Additional exemplary citations include:

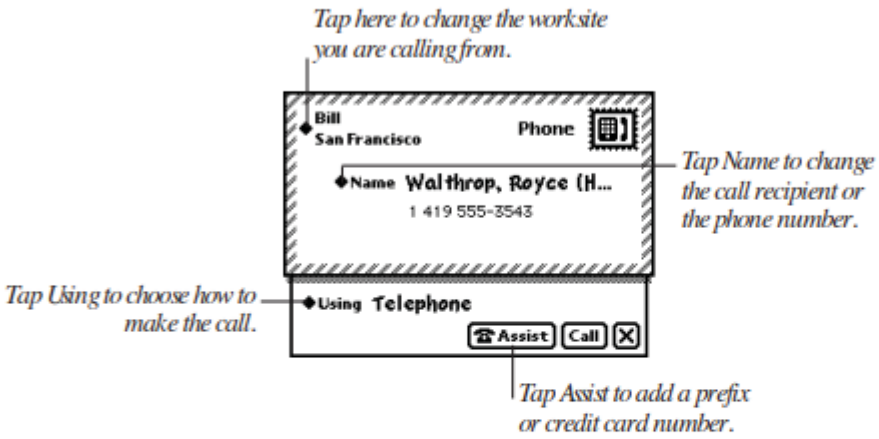


Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Manual at 117.) **To place a call** 1 Tap New and in the slip that appears, enter the appropriate information. You can tap a diamond ◆ to enter the name or date. If you don't specify a time and date, the MessagePad uses the current time and date.  *The Add to Names button allows you to create a new card in the Name File using information in this slip.* (User's Manual at 118.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

2 Tap Place Call.

A slip appears.



3 Tap Using and in the list that appears, tap one of the following:

- *Modem*—if you're using a modem to dial the number.
- *Speaker*—to have your MessagePad's speaker dial the phone number.
- *Telephone*—to dial the phone number manually.

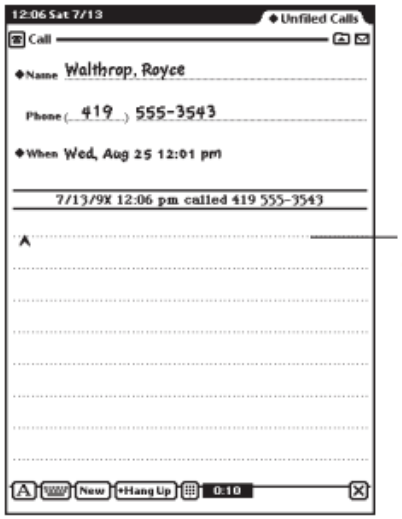
4 If you need to dial a prefix or use a credit-card number to make the call, tap Assist and in the slip that appears, enter the necessary information. Then tap ☒ to close the slip.

(User's Manual at 119.)

5 Tap Call.

If you're dialing through the speaker, hold the mouthpiece of your phone near the MessagePad's speaker. If you're dialing through the modem, wait until the modem has finished dialing, then pick up your telephone handset.

The time, date, and telephone number appear in the call slip as the call is made. At the lower-right corner of the slip is a timer that shows the duration of the call.



You can write notes or other information in this area.

6 When you are finished, tap Hang Up, and in the list that appears, tap a choice.

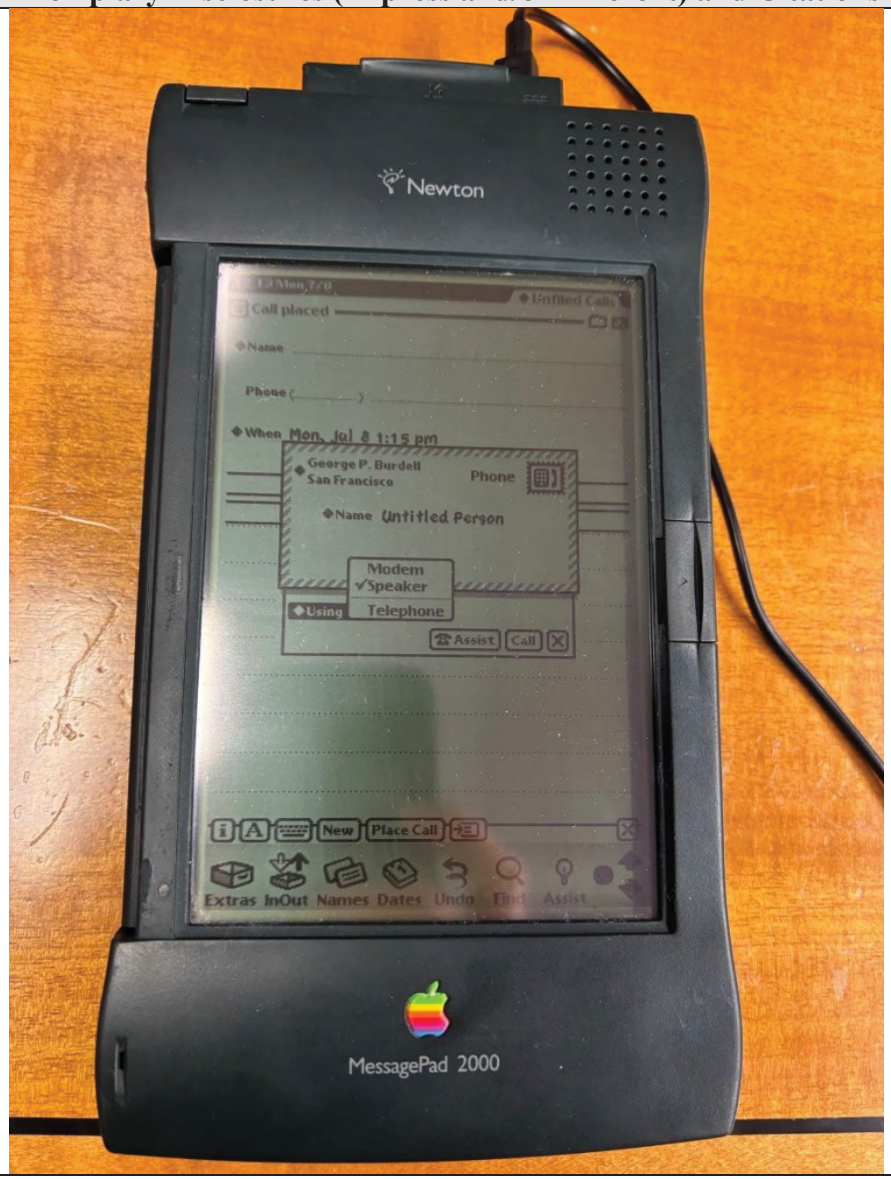


The end time of the call is then recorded in the log, along with any information you've written. Your choice appears under the entry, along with the duration of the call.

7 If this call was made to someone you would like to add to your Name File, tap the Add to Names button.

8 When a message appears asking if you want to add this new name, tap Yes.

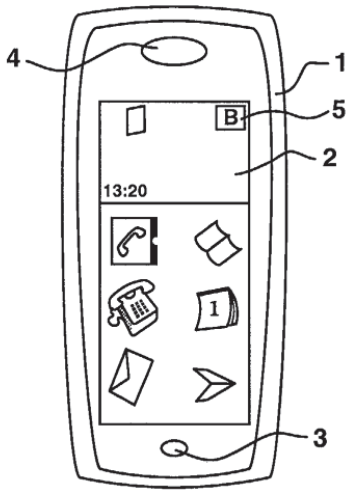
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Manual at 120.) **Forcing Recognition** Under some circumstances your application may have to recognize ink text forcibly. For example, when a user tries to place a call to an ink-text phone number, the Calls application forces recognition of the ink text. If your application forces recognition, make sure it allows the user to correct mistakes in the recognized text before it acts on the text. (User Interface Guidelines at 6-19.)  (Apple Newton Device.)

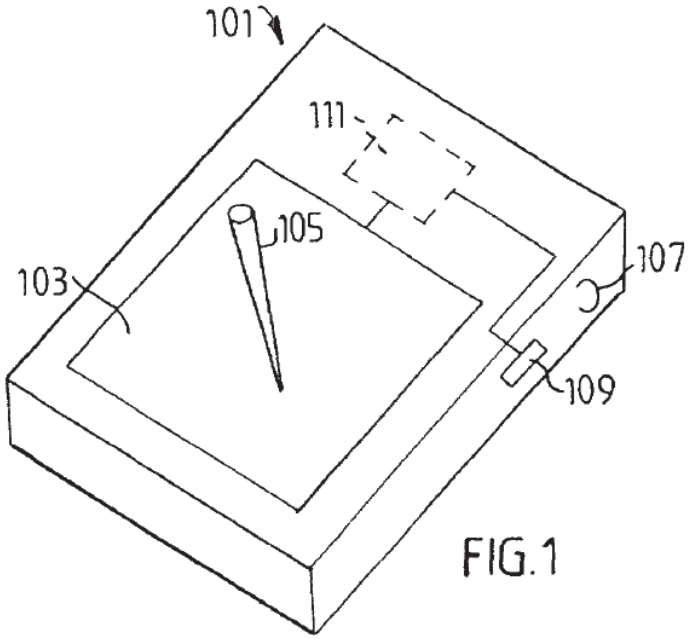
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	

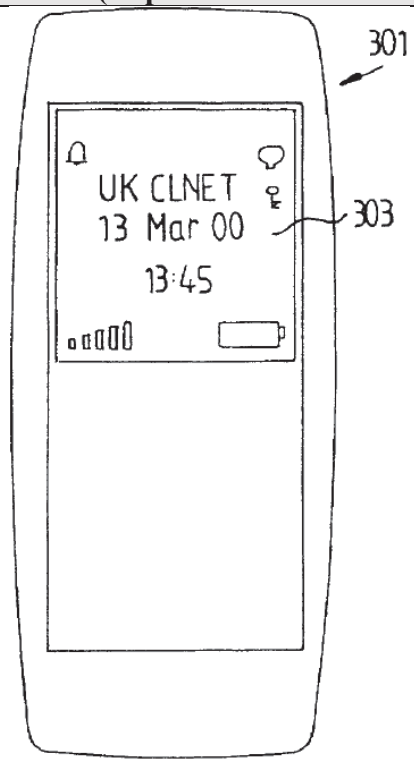
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Apple Newton Device.) To the extent Keyless argues that Apple Newton does not disclose or render obvious this limitation, it would have been obvious in view of Apple Newton, POSITA's pre-existing knowledge, and/or the teachings of Apple Newton combined with Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and/or P800. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800 teaches a mobile device that may be used to make phone calls. For example, Bast discloses a mobile terminal that "combines the functions of a personal digital assistant (PDA) and a mobile phone." (Bast at [0010].) As another example, Pensjo discloses a mobile telephone. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.) Additionally, Mouton discloses an electronic device that may be a mobile telephone. (Mouton at abstract, [0001], [0003], [0004], [0015], [0034], Claim 1, FIG. 2.) Additionally, Nakano discloses "portable information terminals" including a "menu display." (Nakano at 1:8-12, 1:16-19, 2:45-51, 6:63-7:15, 7:20-52, 8:17-49, 8:65-9:6, 9:14-26, 9:42-48, 10:1-4, 10:11-22, 13:57-58, 27:26-28, 42:18-21, 42:30-42, 50:36-41, FIGS. 1, 24A-B, 51.) Nakano explains that the "portable information terminal" may be a PDA, but that the invention may also be applied to devices such as a "cell phone." (Nakano at 14:57-61, 27:26-28, 42:11-13.)

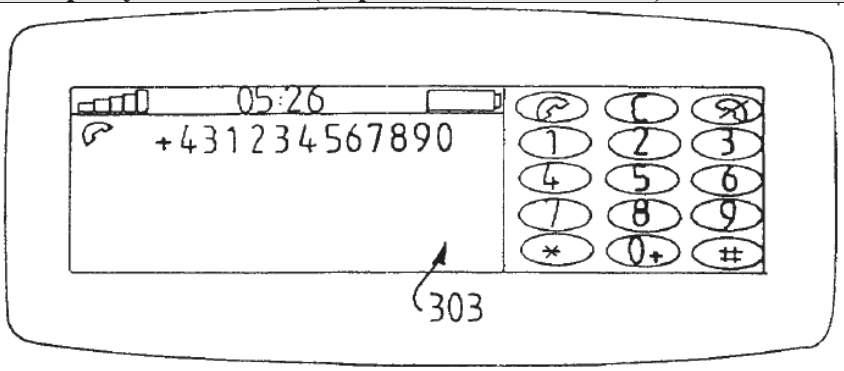
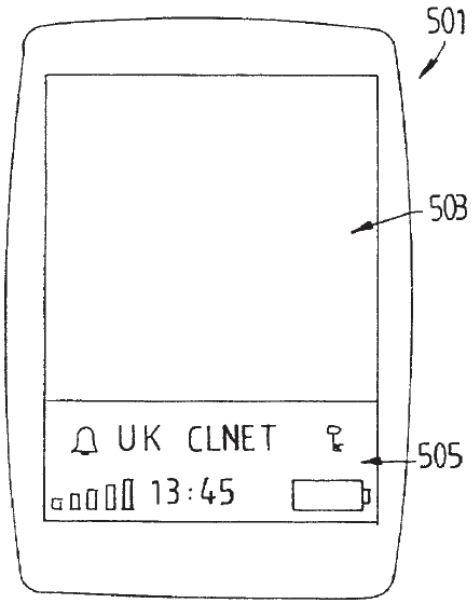
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additionally, Gupta discloses a "buttonless communication device" or "telephone." (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.) Additionally, Dutta discloses a "mobile phone." (Dutta at [0002]-[0004], [0009], [0013], [0015]-[0018], FIGS. 2A-B.) Additionally, the MyOrigo MyDevice was a smartphone that could be used to make calls. (MyOrigo Magazine at 27, 28.) Additionally, "[t]he P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications." (P800 09/2002 Manual at 6, 8; P800 11/2002 Manual at 42; P800/P802 White Paper at 24.) A POSITA would have found it obvious to configure the mobile device disclosed by Apple Newton such that it could make phone calls. Each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800 teaches configuring a mobile device in this way in order to allow the user to conveniently communicate with others. A POSITA would have been motivated to configure Apple Newton's mobile device in this way to enable it to better perform its function as a communications device, better support the Apple Newton's call-making functionality, and better compete in the mobile device market. (User Interface Guidelines at 1-2, 6-19; User's Manual at 117-120.) A mobile device that was configured to make phone calls was routine and conventional to a POSITA, as shown by each of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo, and P800. A POSITA would have considered the combination of the teachings of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and/or P800 with the mobile device disclosed by Apple Newton to be an example of (A) combining prior art elements (the mobile device of Apple Newton with the teaching of a mobile device configured to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) according to known methods to yield predictable results (enabling the user to conveniently communicate with others); (B) use of a known technique (Configuring a mobile device to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) to improve similar devices in the same way (enabling the user to conveniently communicate with others); (C) applying a known technique

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Configuring a mobile device to make phone calls as taught by Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) to a known device ready for improvement to yield predictable results (enabling the user to conveniently communicate with others); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Pensjo, Mouton, Nakano, Gupta, Dutta, MyOrigo Magazine, and P800) that would have led one of ordinary skill to modify the mobile device disclosed by Apple Newton to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "The invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].) Bast discloses the following at FIG. 1:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1.) "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].)

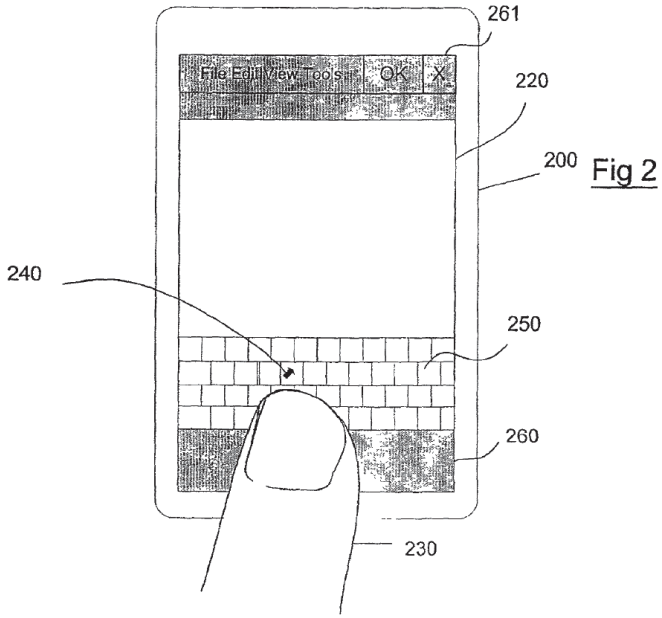
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1 and 3-5:  (Pensjo at FIG. 1.)

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	 FIG.3 (Pensjo at FIG. 3.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4.)  FIG.5

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 5.) "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "For instance, U.S. Pat. No. 5,745,116 describes a user interface for a mobile telephone in which a user performs a manual selection or a gesture selection of a screen object on a screen using a pointing device. After a manual selection, such as a single tap, the electronic device automatically presents a temporary directional palette having palette buttons that explicitly state functions of the electronic device. Each palette button has a unique compass direction relative to the original tap area. By making a second tap on a desired palette button, a novice user learns available functions of the electronic device and their corresponding directional gestures. Alternately, the user may perform a gesture

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	selection of both a screen object and a function, such as making a double tap or drawing a line in the appropriate direction, before the directional palette appears on the screen." (Mouton at [0004].) "A personal digital assistant embodying the invention will now be described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings, in which:" (Mouton at [0015].) "Whilst the invention is particularly useful in portable, handheld devices, it will be understood that technique may be applied to any kind of device, whether portable or not, that includes a tactile display, for instance printers, photocopiers, fax machines as well as industrial machinery." (Mouton at [0034].) "Apparatus having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user, wherein the input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at Claim 1.) Mouton discloses the following at FIG. 2:

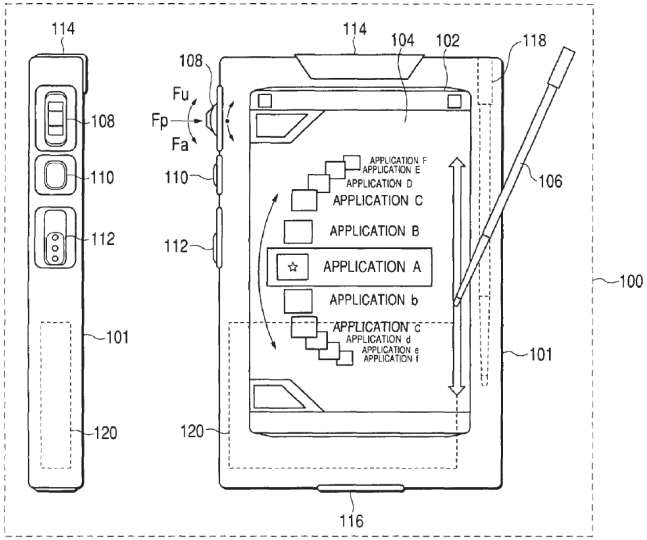
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2.) "The present invention relates to a display control device for performing display control of menu display, portable information terminal, and display control information and a display control method for allowing a computer to perform display control of menu display." (Nakano at 1:8-12.) "As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention has been accomplished in order to solve the aforementioned problems and aims at providing easy-to-use menu display which allows easy understanding of arrangement of menu items used for a portable information terminal.

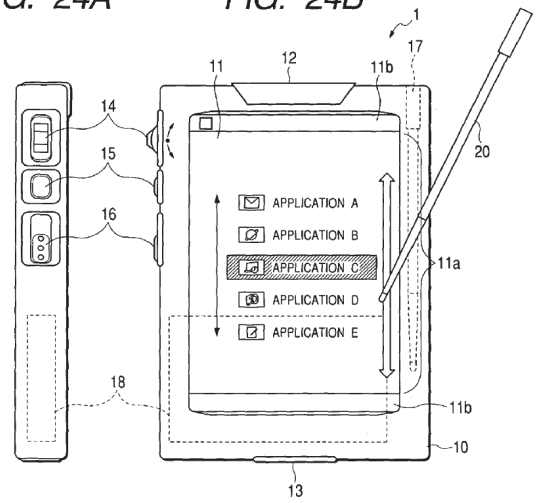
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:45-51.) "The invention provides a display control method for a portable information terminal which displays a plurality of information display entities in a vertical line on the display section, characterized in that the display control method comprises: a size setting step of setting the size of an information display entity so that the size of the information display entity to be displayed will be gradually scaled down in accordance with the distance between the information display entity and a predetermined display position of the display; an interval setting step of setting the display interval of information display entities to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; a transparency setting step of setting the transparency of an information display entity to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; and a scroll step of scrolling through the plurality of information display entities based on the setting in the size setting step, the interval setting step, and the transparency setting step." (Nakano at 6:63-7:15.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display

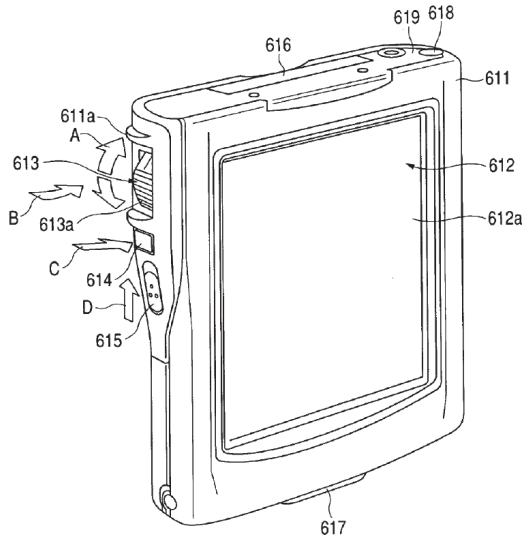
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: set ting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection" (Nakano at 8:17-49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "The invention provides a portable information terminal characterized by further comprising second determination means (for example a menu display controller 310 in FIG. 18) for determining as a candidate for selection the information display entity displayed in the tap position instead of an information display entity determined as a candidate for selection by the first determination means." (Nakano at 9:42-48.) "The scroll means of the portable information terminal device may gradually accelerate the scroll display in case the drag velocity of the drag operation exceeds a predetermined velocity." (Nakano at 10:1-4.) "The invention provides a portable information terminal characterized by further comprising: target scroll amount setting means for setting a target scroll amount in accordance with the operation amount of the drag operation; and target scroll amount change means for changing the target scroll amount determined by the target scroll amount setting means in accordance with the operation amount of the drag operation; characterized in that the scroll means controls the scroll display velocity in accordance with the remaining scroll amount as a difference between the target scroll amount changed by the target amount change means and the current scroll amount." (Nakano at 10:11-22.) "FIG. 51 is a perspective view of an example of personal information terminal device of the invention;" (Nakano at 13:57-58.)

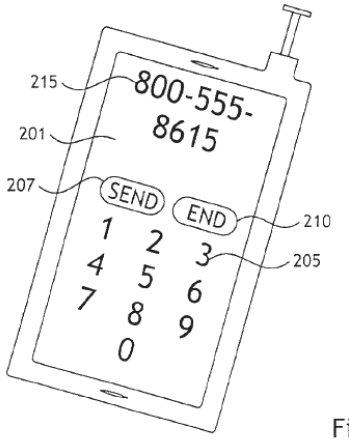
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618. As shown in FIG. 51, the side controller 613, the escape switch 614, and the power switch 615 are arranged in an array on the lateral face of the armored case 611. In the example shown, the side controller 613, the escape switch 614, and the power switch 615 are arranged in order from the top of the figure. The side controller 613 is arranged at the position where the thumb of the left hand of the user is most likely to be positioned when the user holds the armored case 611 with his/her left hand so that the liquid crystal panel 614 will face the front." (Nakano at 42:30-52.) "Arrangement of items or a camera in a virtual space, or shooting with a virtual camera may be executed by way of calculation processing by the CPU and memory in a portable information terminal,

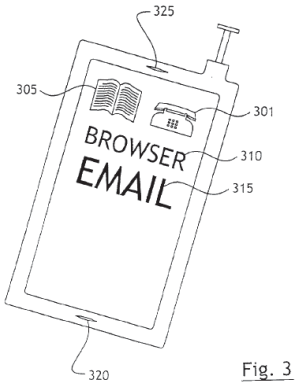
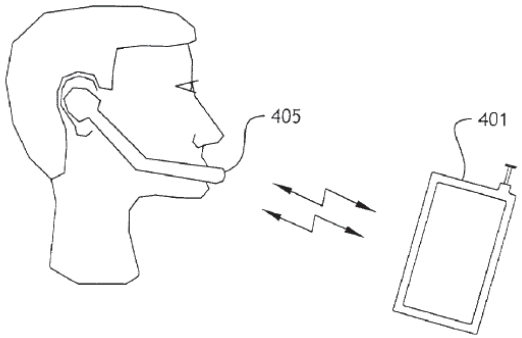
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	or may be calculated on other device and only the resulting image data may be displayed on the portable information terminal." (Nakano at 50:36-41.) Nakano discloses the following at FIGS. 1, 24A-B, and 51: *FIG. 1*  (Nakano at FIG. 1.)

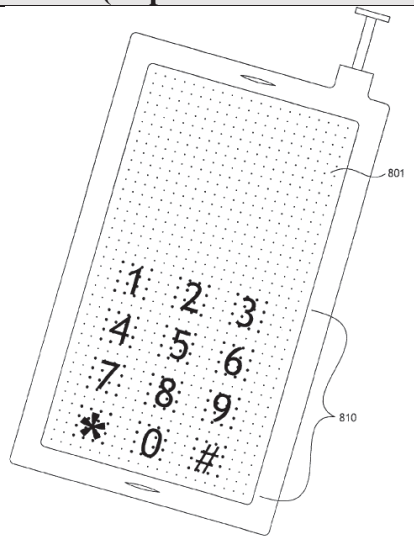
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B.)

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	FIG. 51  (Nakano at FIG. 51.) "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].) "The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].)

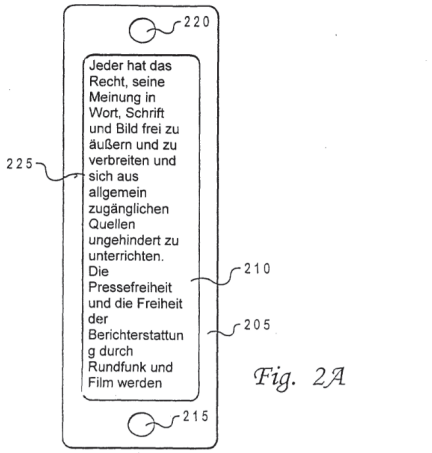
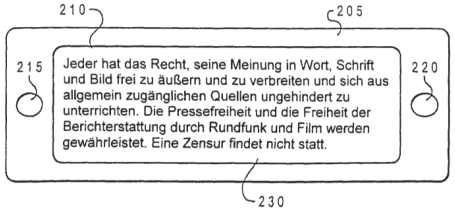
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers

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	and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2.)

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	 Fig. 3 (Gupta at FIG. 3.)  Fig. 4 (Gupta at FIG. 4.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8.) "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Alternatively, the portable device can also be a mobile phone with an integrated wireless communication unit 120." (Dutta at [0016].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services. The phone is designed and built by MyOrigo in Finland but it's doubtful that they will sell the phone directly and probably sign a deal with a network to create an own brand phone, like Orange has done with the SPV. The phone we tested out was a prototype but it gives you a pretty good indicator if what to expect when the MyDevice ships at the end of the month. The standard package will comprise of a phone, stereo headset, PC sync package and a couple of games. The target price is around €150 to €250 with contract. Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 play as standard. There is a SD card slot for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi." (MyOrigo Magazine at 27-28.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.)

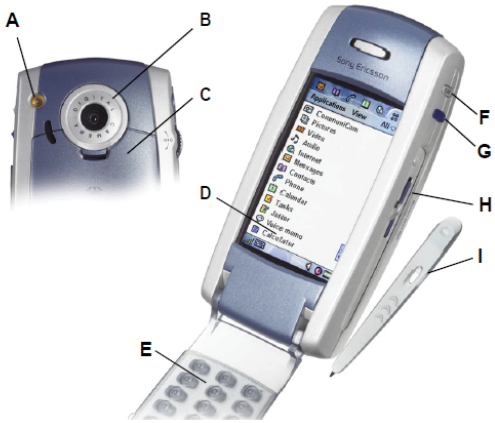
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.) MyOrigo Magazine discloses the following at 28:  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview You have bought a very advanced smartphone. To learn to use the features, you should start by reading *Getting started*. The P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications. Like a computer, the P800 has a flexible and simple way of organizing applications and data. The built-in memory is available for photos, music, messages or applications. When space becomes limited, you can move files to a Memory Stick. You can also send data to another P800, e-mail, upload it to a website, or transfer it to a PC. (P800 09/2002 Manual at 6.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

P800 outline





A Connector for stereo headphones
B Jog Dial for navigating through menus and more
C Infrared port for communication
D On/Off button
E Flip with Keypad (in closed position)
F Connector for accessories

A External antenna connector (on the rear side)
B CommuniCam lens (on the rear side)
C Battery compartment (on the rear side)
D Touchscreen
E Flip (in open position)
F Shutter release for the CommuniCam
G Internet button for activation of the browser
H Slot for Sony Memory Stick Duo™ (under the stylus)
I Stylus for writing on the screen

(P800 09/2002 Manual at 8.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Phone The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications. The phone includes useful features such as: • Personalized ringtones. • Picture Phone Book • Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy. • Voice dialing – make a call by speaking the contact's name. • Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. • Access to most other applications whilst talking on the phone. • Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking. (P800 11/2002 Manual at 42.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Phone and PIM Applications

Phone

The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications.

The phone includes useful and fun features such as:

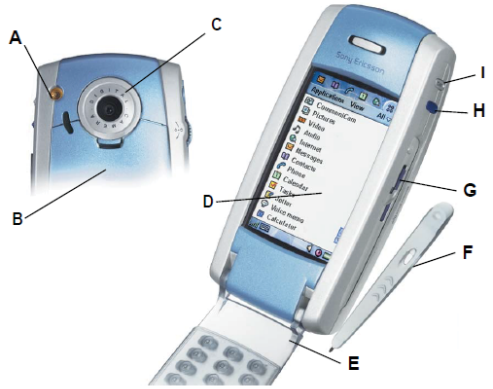
- Personalised ringtones – conventional or polyphonic ringtones can be set in Contacts, giving audible indication of who is calling. Supported formats are AMR, Au, iMelody, MIDI, RMF (Beatnik) and WAV.
- Picture Phone Book – if there is a picture of the person in Contacts, it will be displayed when making outgoing calls and when receiving the CLI with an incoming call.
- Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy.
- Voice dialling – make a call by speaking the contact's name. The contact's name may be recorded when entering/editing the entry in Contacts. The call is made by pressing the OK button on the flip or the button on the headset. If a 'magic word' is recorded, contacts may be dialled by saying the magic word followed by the contact name. It is then not necessary to press any buttons.
- Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. There is 40 seconds of storage space allocated for voice dialling and voice answer. This is enough for approximately 50 words (contact names plus 'magic word', 'answer' and 'busy')
- Access to most other applications whilst talking on the phone.
- Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking.
- Flight mode enables the P800 to be used as a PDA in situations where radio transmitters may not be used. The GSM and Bluetooth transmitters (and receivers) are switched off.

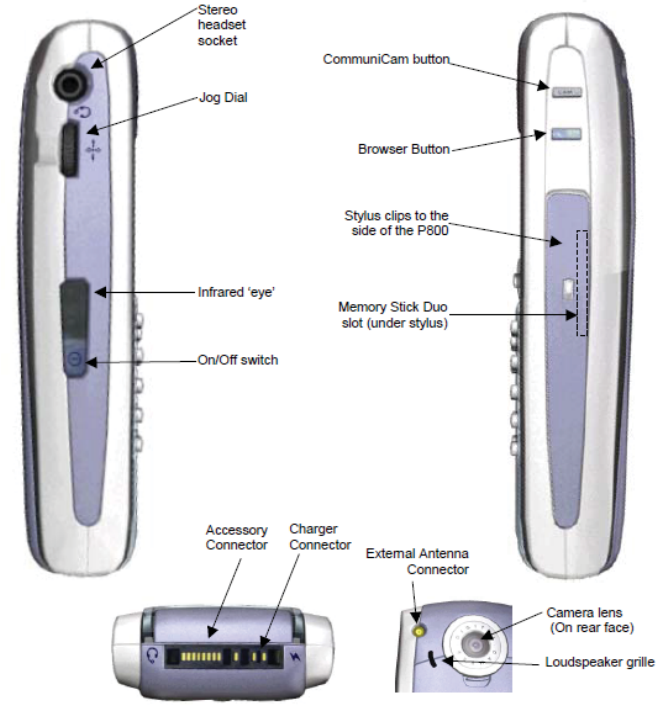


In FC mode, the phone is driven by the keypad, like a conventional mobile phone.

(P800/P802 White Paper at 24.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 09/2002 Manual at 122.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 overview  **A** Indicator light for Bluetooth wireless technology (blue) **B** Connector for stereo head phone **C** Jog Dial **D** Infrared port **E** On/Off button **F** Flip with Keypad (in closed position) **G** Connector for accessories and charger **H** Indicator light for network and battery (green/red)  **A** External antenna connector **B** Battery compartment **C** CommuniCam **D** Touchscreen **E** Flip (in open position) **F** Stylus **G** Slot for Sony Memory Stick Duo (under the stylus) **H** Internet button for activation of the browser **I** CommuniCam activation and shutter release (P800 11/2002 Manual at 11.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 Controls and Operation The P800 has a large touch-screen and a flip. This provides fast and convenient one-handed operation with the flip closed plus large touch-screen sophistication with the flip open.  (P800/P802 White Paper at 12.)

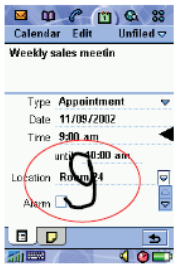
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Flip Open (FO mode)

When the flip is opened, the large touch-screen is revealed. In 'flip open' mode, the stylus may be used to navigate and enter data. The Jog Dial provides further navigation and selection capability. The User Interface is Symbian's established UIQ design, adapted for the narrower 208 pixel screen.



The stylus is used to operate the touch-screen and enter text:





Text may be entered using natural handwriting over the whole screen. Lower case letters are entered below the ◀ symbol, uppercase in line with it and numbers above it.

An on-screen keyboard is also available at all times by tapping on the keyboard icon in the status bar. Symbol and special character keyboards may be selected when required. Cut, Copy and Paste functions are available here.

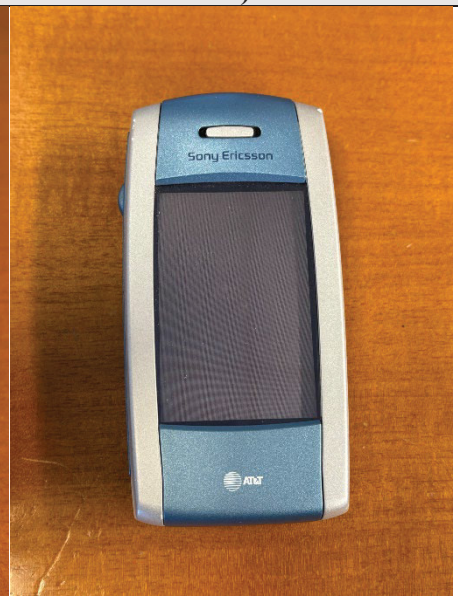
In FO mode, the P802 offers Stroke, Pinyin and Bopomofo input methods plus Chinese character recognition. Numeric and English characters can also be entered using the character recognition.

(P800/P802 White Paper at 14.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (FCC P800 Exhibit 3, Photograph Nos. 1-5.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (a) (b) **Front view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b).** (FCC P800 Exhibit 11 SAR Report at Sheet 10.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (a) (b) Side view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b). (FCC P800 Exhibit 11 SAR Report at Sheet 11.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	  (P800 Device.)
[15a] a body having a practically rectangular shape;	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15b] a processor; and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, Apple Newton "is powered by Advanced RISC Machine's high performance, power efficient, 32-bit RISC microprocessor." (User's Manual at ii; Getting Started at ii.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Apple Computer, Inc. © 1997 Apple Computer, Inc. All rights reserved. 1 Infinite Loop Cupertino, CA 95014-2084 408-996-1010 http://www.apple.com Every effort has been made to ensure that the information in this manual is accurate. Apple is not responsible for printing or clerical errors. Apple, the Apple logo, AppleCare, AppleTalk, Imagewriter, LaserWriter, LocalTalk, the Light bulb logo, Macintosh, MessagePad, Newton, and StyleWriter are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Adobe, Adobe Illustrator, Adobe Photoshop, and PostScript are trademarks of Adobe Systems Incorporated, which may be registered in certain jurisdictions. Centronics is a registered trademark of Centronics Data Computer Corporation. DeskJet, HP, and LaserJet are registered trademarks of Hewlett-Packard Co. Epson is a registered trademark of Seiko Epson Corp. Exposure is a registered trademark of Preferred Publishers, Inc. Helvetica is a registered trademark of Linotype-Hell AG and/or its subsidiaries. Microsoft is a trademark, and Windows is a registered trademark, of Microsoft Corp. QuarkXPress is a registered trademark of Quark, Inc. This product is powered by Advanced RISC Machine's high performance, power efficient, 32-bit RISC microprocessor. For more information: ▪ USA: 408-399-5199 ▪ UK: 44-223-400400 ▪ Japan: 81 44 850 1301 ▪ marketing@armltd.co.uk Simultaneously published in the United States and Canada. Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance or use of these products. (User's Manual at ii.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Apple Computer, Inc. © 1997 Apple Computer, Inc. All rights reserved. 1 Infinite Loop Cupertino, CA 95014-2084 408-996-1010 http://www.apple.com Every effort has been made to ensure that the information in this manual is accurate. Apple is not responsible for printing or clerical errors. Apple, the Apple logo, the Light bulb logo, Mac, Macintosh, MessagePad and Newton are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Adobe, Adobe Illustrator, Adobe Photoshop, and PostScript are trademarks of Adobe Systems Incorporated, which may be registered in certain jurisdictions. Helvetica is a registered trademark of Linotype-Hell AG and/or its subsidiaries. This product is powered by Advanced RISC Machine's high performance, power efficient, 32-bit RISC microprocessor. For more information: ▪ USA: 408-399-5199 ▪ UK: 44-223-400400 ▪ Japan: 81 44 850 1301 ▪ marketing@armltd.co.uk Simultaneously published in the United States and Canada. Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance or use of these products. (Getting Started at ii.) Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Managing the Floating Point Environment The floating point environment is a set of state variables maintained by the Newton system and the underlying processor. The environment contains information about which floating point exceptions have occurred. Floating point exceptions are distinct from NewtonScript exceptions. When floating point exceptions arise (for example, overflow arises when the sum of two huge numbers is too large to represent in the number system), the system raises an exception flag in the environment. Exception flags can be tested, cleared, or raised by functions in this section. Once raised, an exception flag remains raised until you clear it using calls from this section. The predefined constants used to select the floating point exception flags are shown in Table 23-2. (Programmer's Reference at 23-73.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Apple Newton, POSITA's pre-existing

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b]

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
action is provided on said display unit.	(discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface")

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
is noticeably extended out from said the body.	mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Apple Newton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C11

Exhibit C11
Invalidity of Asserted Claims of the '144 Patent
in view of Moto E

The Moto E 2nd Generation ("Moto E") was publicly available, sold, offered for sale, and/or used in the United States and was thus available to and known or used by others, at least as early as February 25, 2015. The Moto E is described in at least the following documents and other materials cited in this chart:

- Verizon, *moto e User's Guide* (2015), https://s7.vzw.com/is/content/VerizonWireless/assets/userguides/motorola/smart-prepaid-motorola-moto-e-ug.pdf, ("User's Guide"), SAM-KEY_00991950-00992021.
- D. Etherington, *Hands On With The New Moto E*, TechCrunch (Feb. 25, 2015), https://techcrunch.com/2015/02/25/hands-on-with-the-new-moto-e/?ncid=rss, SAM-KEY_00992854-00992859.
- D. Seifert, *Motorola's New Moto E has LTE and a Bigger Screen for Just $149*, The Verge (Feb. 25, 2015), https://www.theverge.com/2015/2/25/8107079/motorola-new-moto-e-2nd-gen-lte-customizable-colors, SAM-KEY_00992865-00992868.
- D. Pierce, *The New Moto E: Super-Cheap Phones Are Getting Really Good*, Wired (Feb. 25, 2015), https://www.wired.com/2015/02/new-moto-e/, SAM-KEY_00992874-00992880.
- D. Etherington, *Motorola Debuts The New Moto E With A Unique Press Conference*, TechCrunch, https://techcrunch.com/2015/02/25/motorola-debuts-the-new-moto-e-with-a-unique-press-conference/, SAM-KEY_00992860-00992864.
- Documents produced in this litigation, as cited herein.
- Physical products acquired in this litigation, including but not limited to a Moto E device.
- Expected testimony and evidence regarding development, design, and/or use of Moto E.

Moto E qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under AIA 35 U.S.C. § 102(a)(1).[1] Moto E was publicly available, sold, offered for sale, and/or used before the priority date to which the '144 patent claims are entitled, if any.

Moto E anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Moto E does not disclose one or more limitations of the claims, it would have been obvious to combine Moto E with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Moto E and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.
- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §§102(a)(1). *See also* Ex. C6.

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §§102(a) and AIA 35 U.S.C. §102(a)(1).

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Moto E, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure

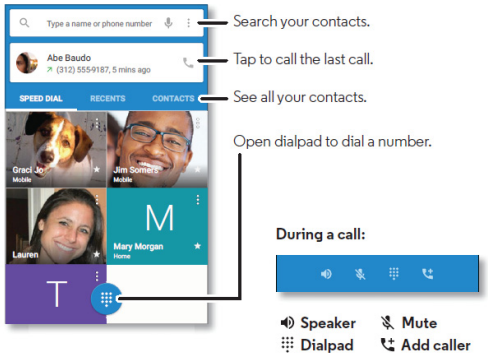
should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserve the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Moto E is a phone, which is a mobile phone device, capable of making phone calls. (User's Guide at 27-29.) **Calls** **Quick start: Calls** Dial contacts, recent calls, or numbers, all from one app. **Find it:** Phone • To call a contact or recent call, tap it. • To open the dialpad, tap . Enter a number, then tap to call it. Tips & tricks • **During a call:** Your touchscreen goes dark to avoid accidental touches. To wake it up, move it away from your face or press the Power key. • **Multi-task:** While you're on a call, tap Home to hide the call screen and look up a phone number, address, or open other apps. To reopen the call screen, swipe the status bar down and tap **Ongoing call**. • **People:** To search your contacts, tap **CONTACTS**. • **Favorite contact:** Have someone you call all the time? Touch and hold an empty spot on the home screen, tap **WIDGETS**, then touch and hold the **Direct dial** widget. Drag it to your home screen, then select the contact. Tap the widget to dial the person. • **Voicemail:** appears in the status bar when you have new voicemail. To hear it, tap Phone → , then touch and hold **1**.  (User's Guide at 27.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Make, answer & end calls

When you make or answer a call, you have options:

- **Make a call:** Tap **Phone**, to see your recent calls, favorites, and frequently-called contacts. Select a contact or number to call it.

  To dial a number, tap , enter a number, then tap to call it.

  To enter the international dialing code (+), touch and hold **0**. To add a pause or wait after numbers, tap Menu .

  Note: You can make High-Definition Voice and Video calls with this phone when you add Advanced Calling to your line. Visit **verizonwireless.com/AdvancedCalling** to learn how.

- **Answer a call:** Touch and drag to .

  Note: When your phone is unlocked, tap **ANSWER**.

  With call waiting on, touch and drag to to answer the new call, then tap **Hold current call + Answer** or **End current call + Answer**.

- **Ignore a call:** Touch and drag to to send the call to your voicemail. You can also press the Power key to ignore the call, or press a volume key to silence the ringer.

  Note: When your phone is unlocked, tap **DISMISS**.

- **Respond with a text:** To send a pre-set message to an incoming call, touch and drag to . Select a message to immediately send it.

- **End a call:** Tap .

- **During a call:** Tap **Mute** at the bottom of the call screen to mute the call. To hide the call screen, tap Home . To reopen it, swipe the status bar down and tap **Ongoing call**.

  Note: When you hold your phone to your ear, the touchscreen goes dark to avoid accidental touches. When you move your phone away from your ear, the screen lights up again.

  During a call, your touchscreen might stay dark if the sensor just above it is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

Dial by voice

Say "OK Google," then say "Call" followed by a contact name or phone number.

Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work")."

Recent calls

View your calls (with newest first), and then call, text, or store them:

Find it: **Phone** → **RECENTS**

- To return a call, tap the caller's name or number, then tap **CALL BACK**.

(User's Guide at 28.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

- To send a text message, store the number, or other options, tap the caller's picture.
- To remove an entry from the call log, tap it, then tap **DETAILS** → .
- To clear the call history list, tap Menu → **Call History**, then tap Menu → **Clear call log**.

3-way calls

During a call, you can start another call, switch between them, or join them in a 3-way call:

- To answer a second call, touch and drag to . To ignore it, touch and drag to .

  The first call goes on hold if you answer the second call. To switch between calls, tap .
- To dial a second call, tap , enter a number, then tap to call it.

  The first call goes on hold when you tap . To join the calls after the second call answers, tap .

Your phone number

Find it: Apps → **Settings** → **About phone** → **Status** → **My phone number**.

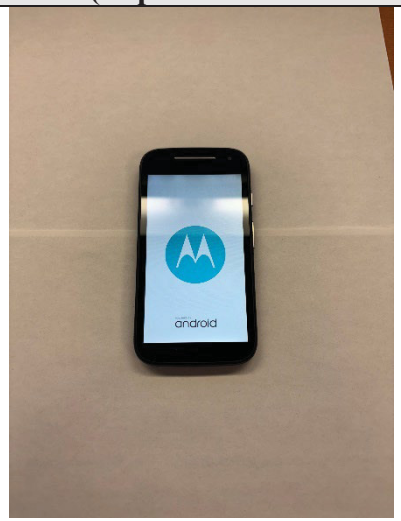
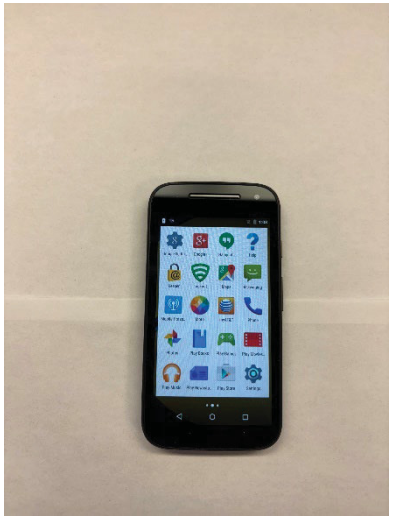
Emergency calls

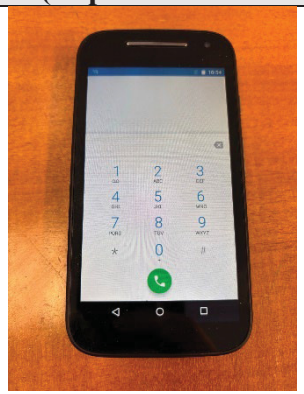
Note: Your service provider programs one or more emergency phone numbers you can call under any circumstances, even when your phone is locked. Emergency numbers vary by country. Your pre-programmed emergency number(s) may not work in all locations, and sometimes an emergency call cannot be placed due to network, environmental, or interference issues.

1 Tap **Phone** (if your phone is locked, swipe right and tap **EMERGENCY CALL**.
2 Enter the emergency number.
3 Tap to call the emergency number.

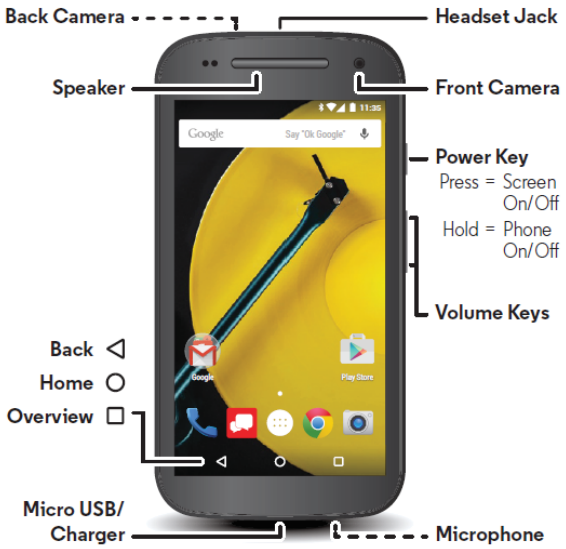
Note: Your phone can use location based services (GPS and AGPS) to help emergency services find you. See "Location Services" in your legal and safety information.

(User's Guide at 29.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Moto E has a rectangular housing that contains the components of a mobile phone, such as a touchscreen, speaker, and microphone. (User's Guide at 2.) The housing includes a front surface, a back surface, and four side surfaces. (User's Guide at 2, 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(User's Guide at 2.)

Additional exemplary citations include:



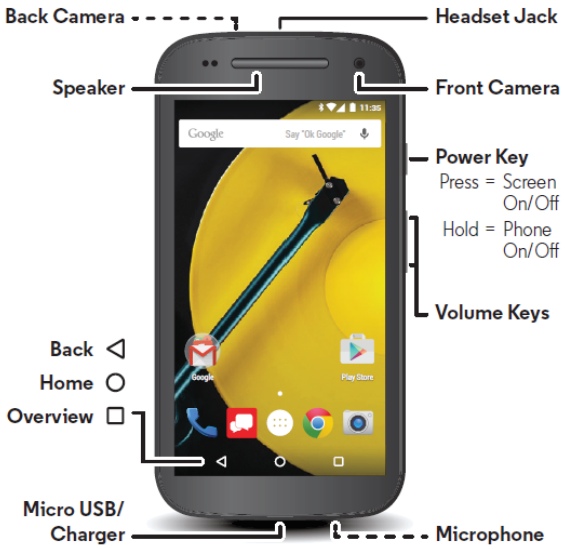
(User's Guide at 3.)

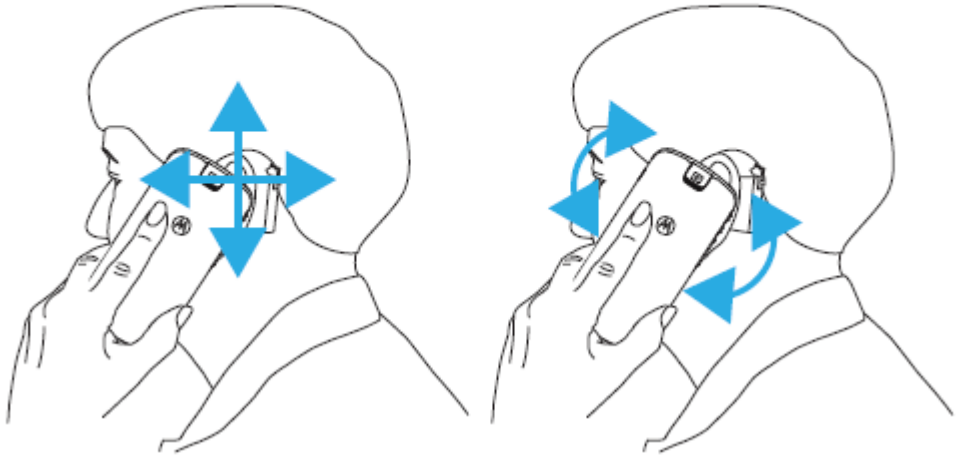
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (User's Guide at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

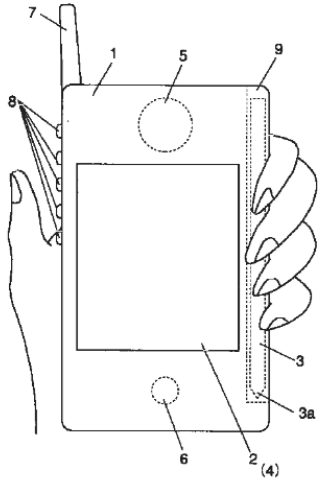
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, Moto E includes a speaker near the top of the front surface and a microphone near the bottom of the front surface. (User's Guide at 2.) During a call, Moto E was intended to be held against a user's face such that the microphone would be near the user's mouth and the speaker would be near the user's ear. (User's Guide at 26.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (User's Guide at 2.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	• **Position:** During a call, hold the phone to your ear as normal, and then rotate/move it to get the best position for speaking and listening.  (User's Guide at 26.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Moto E does not disclose or render obvious this limitation, it would have been obvious in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

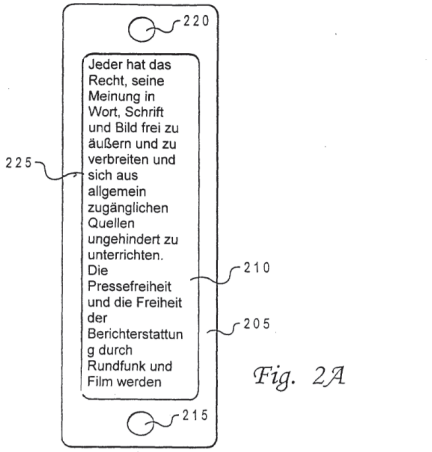


Fig. 2A

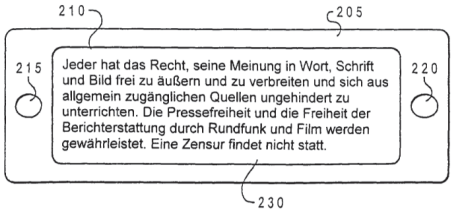


Fig. 2B

(Dutta at FIGS. 2A and 2B)

A POSITA would have found it obvious to configure the mobile phone disclosed by Moto E such that both the length of the front surface of the mobile phone and, correspondingly, the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (the mobile device of Moto E with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-

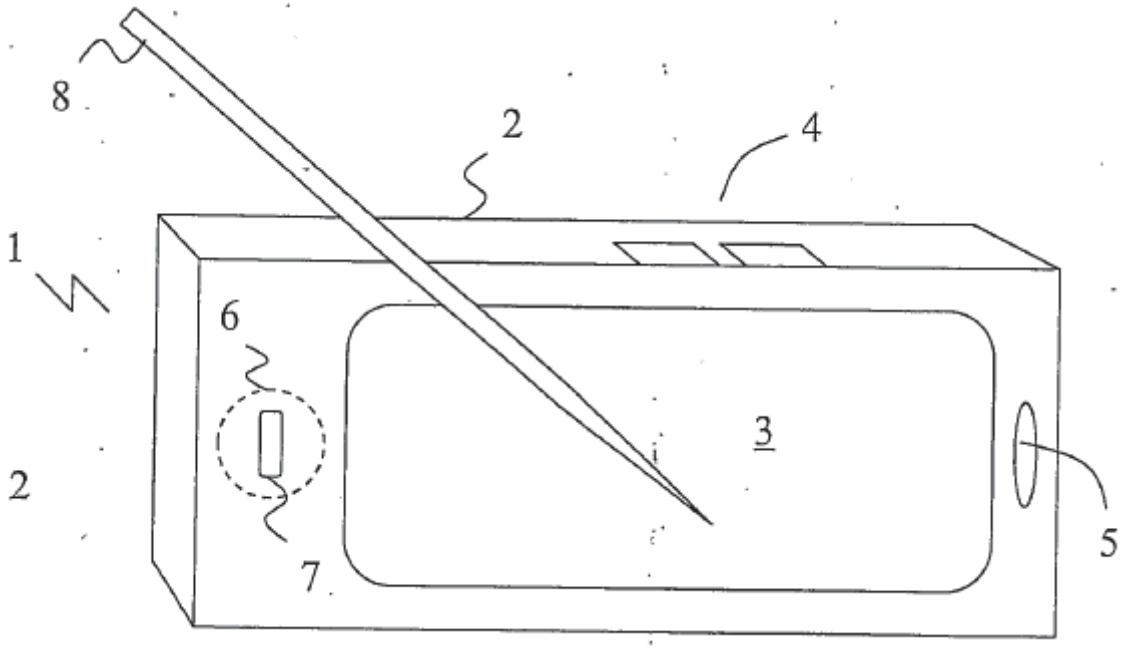
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Moto E, including its front surface, was about 5 inches in length and 2.5 inches in width. (Moto E Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.) Additional exemplary citations include: *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Moto E's housing had a thickness of about 3/8 inch, which was less than the length or the width. (Moto E Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.) To the extent Keyless argues that Moto E does not disclose or render obvious this limitation, it would have been obvious in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

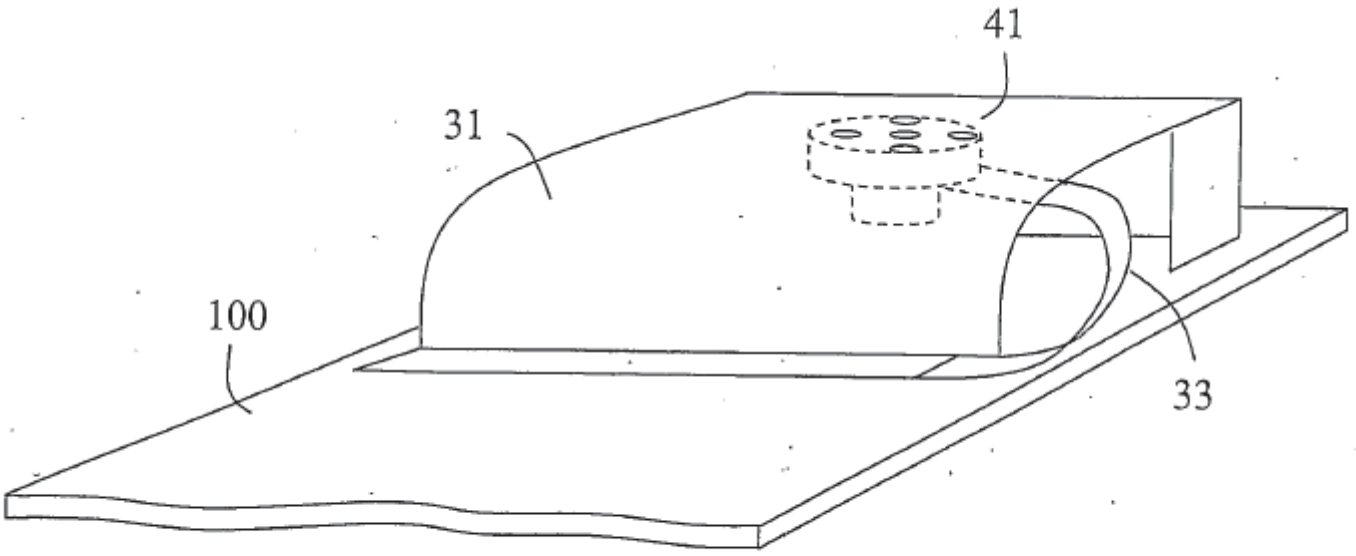


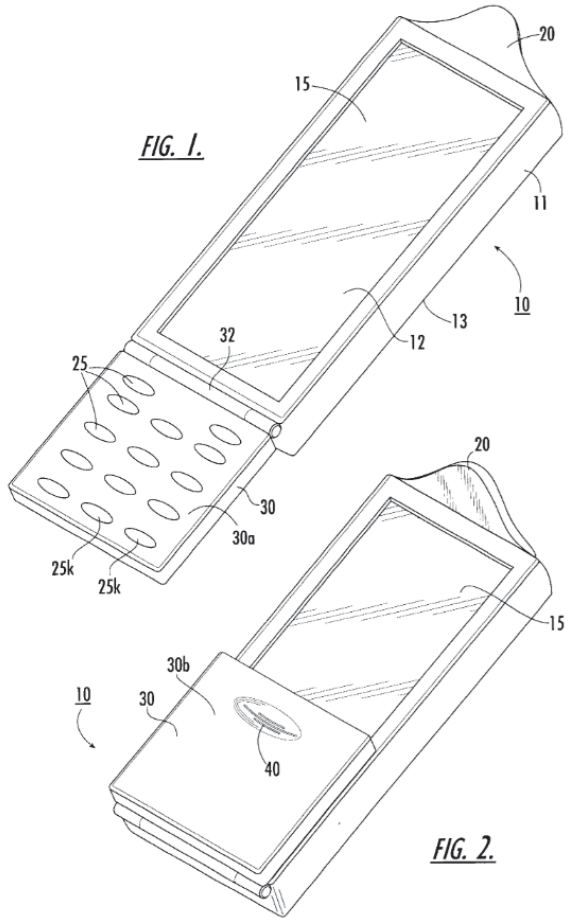
Fig. 11

"The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.)

"The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.)

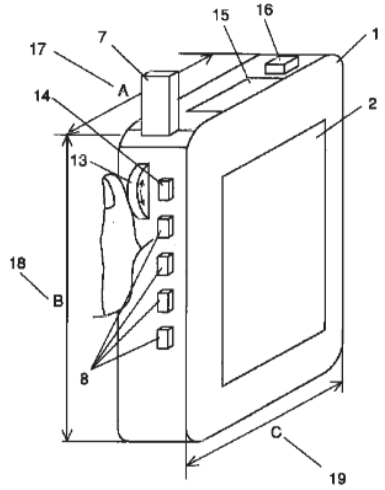
"Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and

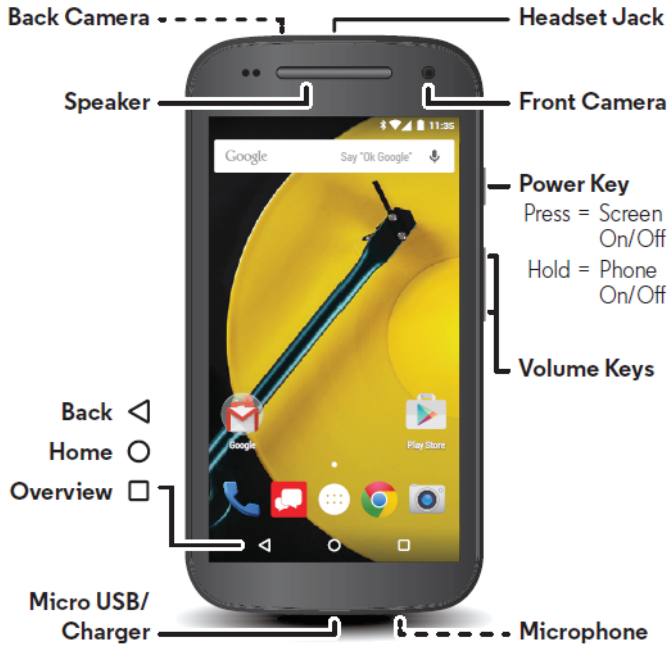
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing wherein said display unit	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing."

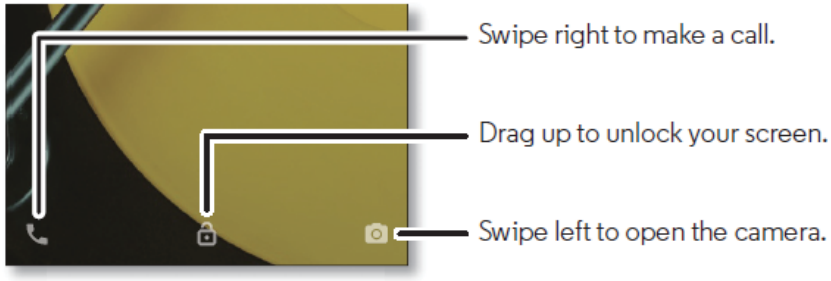
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
practically covers the entire front surface of said housing;	For example, Moto E includes a "touchscreen" that functions as a display and is integrated within the front surface of the phone housing. (User's Guide at 2, 14, 19, 25.) The screen covers the majority of the front surface of the housing. (User's Guide at 2.) **First look** Your Moto E is built to keep up with you. It has a crisp display that's water-resistant, the latest software, and a battery that lasts all day. You can even customize your phone to match your style with Motorola Bands and Grip Shells. **Note:** Your phone may look a little different. 

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Guide at 2.) Additional exemplary citations include: **Discover Your Moto E** Your phone knows when you're in a meeting and when you're sleeping. It can tell you who's calling, and show you important information when the display is off. **Tip:** To adjust these features any time, tap Apps → **Moto**. **Note:** Your phone may not have all of these features. • **Moto Assist:** Based on where you are and what you're doing, your phone suggests ways to help you, such as keeping the phone quiet at night. • **Moto Actions:** Even when your phone is asleep, twist your wrist twice, quickly, to open the camera anytime. • **Moto Display:** See messages, calls, and other notifications as they arrive—even if your phone is asleep.  (User's Guide at 14.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

On, off, lock & unlock

Your touchscreen is on when you need it and off when you don't. To turn the screen on, press the Power key.



- **Screen off & on:** Press the Power key to turn the screen off & on.

  Note: During a call, your touchscreen might stay dark if the proximity sensor just above the top of the screen is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

- **Screen lock:** To unlock the screen, touch and drag up. To use a pattern, PIN, or password to unlock your screen, tap Apps → **Settings** → **Security** → **Screen lock** (see "**Screen lock**" on page 57).

(User's Guide at 19.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Display brightness

Your phone automatically adjusts the screen brightness when you're in bright or dark places. But you can set your own brightness level instead:

Find it: Apps → **Settings** → **Display** → **Brightness**, and adjust the slider to set brightness level

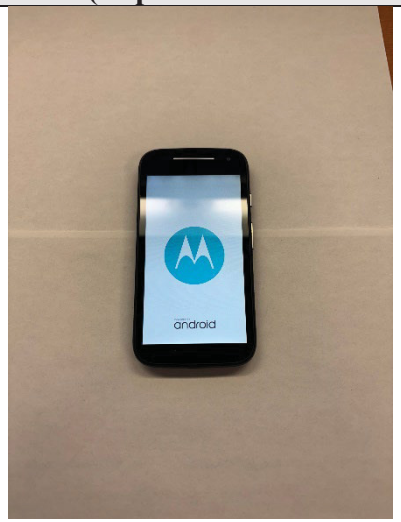
Note: Setting brightness to a high level decreases your phone's battery life. To maximize battery life, tap Apps → **Settings** → **Display** → **Adaptive brightness** to let your phone automatically adjust brightness for the available light.

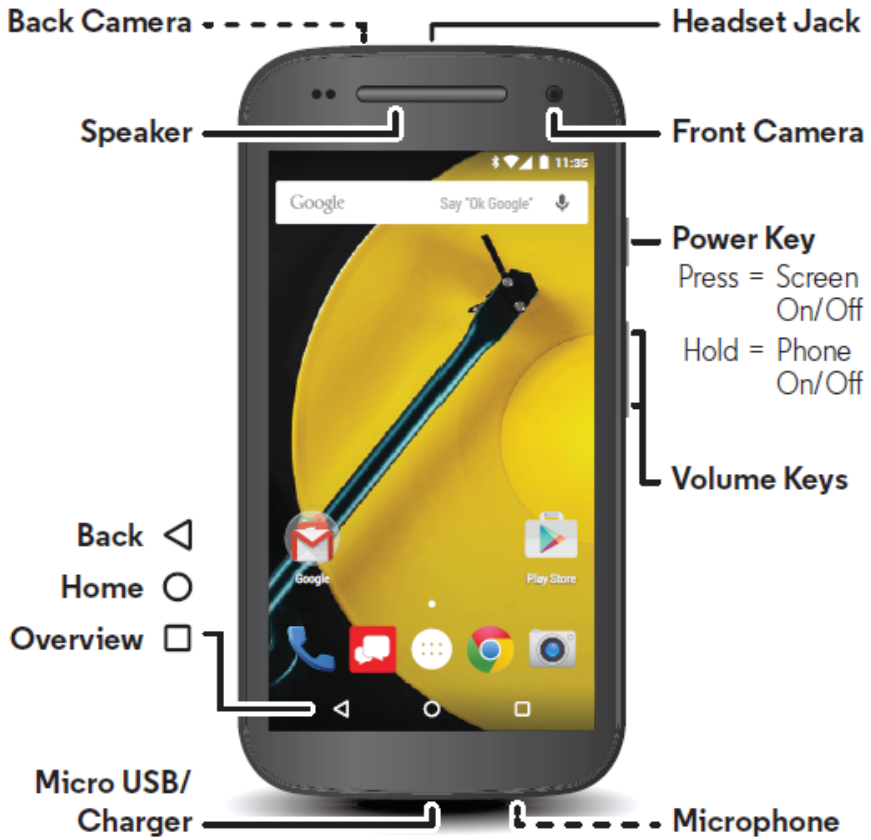
Touchscreen & keys

To hear or feel when you touch the screen, tap Apps → **Settings** → **Sound & notification** → **Other sounds**:

- **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**.
- **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**.
- **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**.

(User's Guide at 25.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Moto E discloses a mobile phone that does not include a physical key on the front surface. (User's Guide at 2.) Moto E responds to touchscreen or voice inputs. (User's Guide at 2, 9, 17, 18, 19, 22, 25, 36.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (User's Guide at 2.) Additional exemplary citations include:

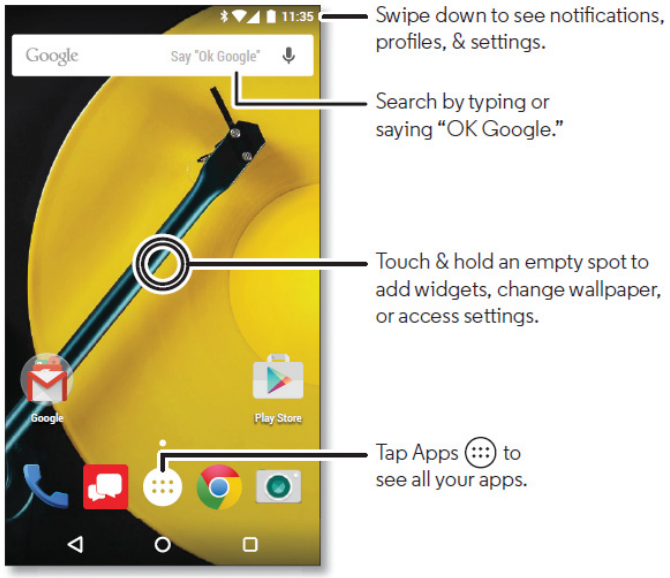
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Home screen & apps

Quick start: Home screen & apps

You'll see the home screen when you turn on your phone or tap Home ◯. From here you can explore apps, check notifications, speak commands, and more.

- **Add a shortcut to a home screen page:** Tap Apps ⋯, touch and hold an app, then drag it to your home screen, or to the right side of the home screen to add a new page.



(User's Guide at 9.)

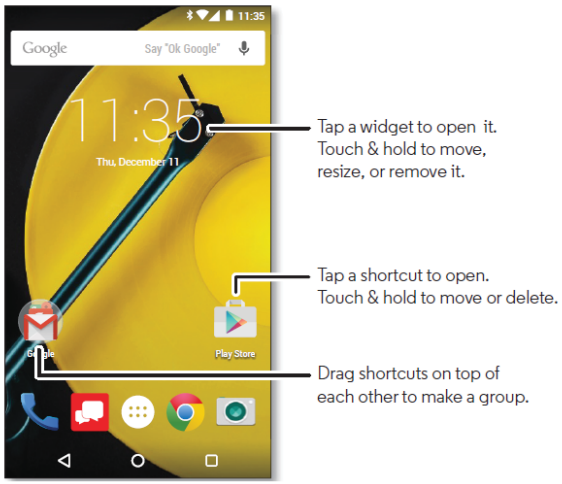
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Control & customize

Quick start: Control & customize

Take control of your phone:

- **Voice control:** From the home screen, say "OK Google" to control your phone by voice.
- **Customize your home screen:** To put widgets like a clock, interactive calendar, and more on your home screen, touch and hold an empty spot on the home screen.



Tips & tricks

- **Speak:** Tap in a search window or on a touchscreen keyboard to search by voice.
- **Uninstall apps:** Tap Apps, touch and hold an app, drag it to **App info**, then tap **Uninstall**. (You can't remove some apps.)
- **Ringtone for a contact:** To set a personal ringtone for a contact, tap Apps → **Contacts**, tap the contact, tap, then tap Menu → **Set ringtone**.
- **Quick settings:** To change **Wi-Fi**, **Bluetooth**, **Airplane mode**, brightness, and other settings, swipe the status bar down with two fingers. For even more settings, tap.
- **Add a home screen page:** Drag an app icon to the right side of the homescreen until you see a white bar. You can add multiple pages.

(User's Guide at 17.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Controls and voice commands

Touch

Find your way around:

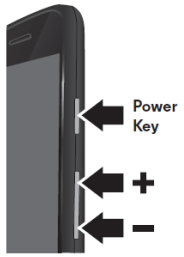
- **Tap:** Choose an icon or option.
- **Touch and hold:** Open options for items in lists.
- **Drag:** Move items on the home screen.
- **Flick:** Quickly open or delete items.
- **Swipe:** Scroll through lists or between screens.
- **Pinch or double-tap:** Zoom in and out on websites, photos, and maps.
- **Twist:** Twist a map with two fingers to rotate it, and pull two fingers down to tilt it.
- **Back:** Tap Back ◁ to go to the previous screen.
- **Home:** Tap Home ○ to return to the home screen.
- **Overview:** Tap Overview □ to show your recent apps, and tap an app to reopen it. To remove an app from the list, flick it left or right. To scroll the list, swipe up or down.
- **Menus:** When ⋮ or ☰ appears on a screen, you can tap it to open options for the current screen.
- **Close Keyboard:** To close a touchscreen keyboard, tap ▽.
- **Reboot:** To reboot your phone, press and hold the Power key until the screen goes dark and your phone restarts.

Press

Power key

To turn off your phone, press and hold the Power key, then tap **Power off**.

To conserve battery power, prevent accidental touches, or when you want to wipe smudges off your touchscreen, put the touchscreen to sleep by pressing the Power key. To wake up the touchscreen, just press the Power key again.



Tip: To add more security to your phone, see "**Protect**" on page 56.

Volume keys

Your volume keys help in a few ways:

- **Ringer volume:** Press the keys in the home screen. Press them when your phone is ringing to silence it.
- **Earpiece volume:** Press the keys during a call.
- **Music/video volume:** Press the keys during a song or video.

Tip: For more on volume control, see "**Volume**" on page 13.

(User's Guide at 18.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Speak

Just tell your phone what you want.

Tip: Speak naturally but clearly, like using a speakerphone.

- **Dialing and commands:** From the home screen, say "OK Google" or tap to control your phone by voice.

  To dial, say "Call" followed by a contact name or phone number. Or, say a command like "Send text," "Go to" an app, or "Help" for voice command help.

  Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work").

- **Search:** From the home screen, say "OK Google" or tap to search by voice.

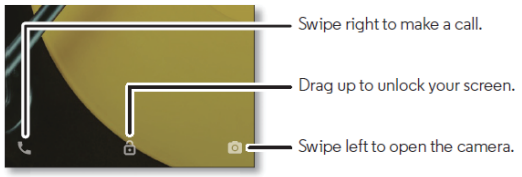
  To change your voice input and text-to-speech settings, tap Apps → **Settings** → **Language & input**.

- **Text entry:** On a touchscreen keyboard, tap , then speak your message or search text. You can also speak punctuation.

Tip: To make your phone read out loud, see "**TalkBack**" on page 22.

On, off, lock & unlock

Your touchscreen is on when you need it and off when you don't. To turn the screen on, press the Power key.



- **Screen off & on:** Press the Power key to turn the screen off & on.

  Note: During a call, your touchscreen might stay dark if the proximity sensor just above the top of the screen is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

- **Screen lock:** To unlock the screen, touch and drag up. To use a pattern, PIN, or password to unlock your screen, tap Apps → **Settings** → **Security** → **Screen lock** (see "**Screen lock**" on page 57).

- **Owner info:** To add a message to your lock screen in case you lose your phone, tap Apps → **Settings** → **Security** → **Owner info**. (To set your message, just tap Back .)

  Tip: Don't put your mobile number as your contact info unless you can access your voicemail from another device.

(User's Guide at 19.)

Voice recognition

Just tell your phone what you'd like to do—dial, browse, search, send a text, and more. Check it out—say "OK Google" to control your phone by voice or ask your phone a question. Or, tap at the top of the home screen for voice search.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Guide at 22.) **Touchscreen & keys** To hear or feel when you touch the screen, tap Apps → **Settings** → **Sound & notification** → **Other sounds**: • **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**. • **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**. • **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**. (User's Guide at 25.)

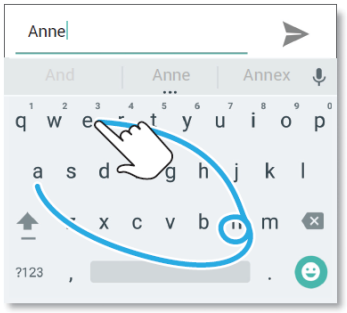
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Type

Quick start: Type

When you tap a text box, like in a message or search, you have keyboard options.

- **Type or gesture:** Enter letters by touching them one at a time. Or, enter a word by tracing a path through the letters.
- **Close the keyboard:** Tap ▽.



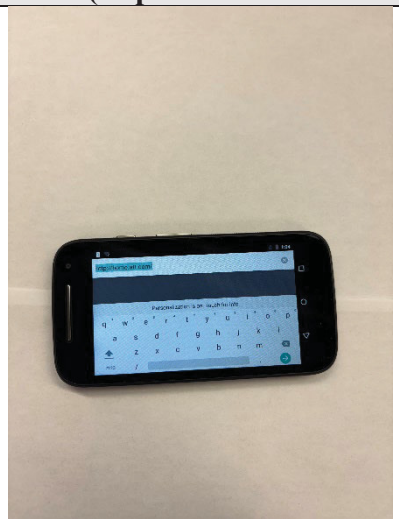
See a different keyboard? It varies by app. This one is for texting.

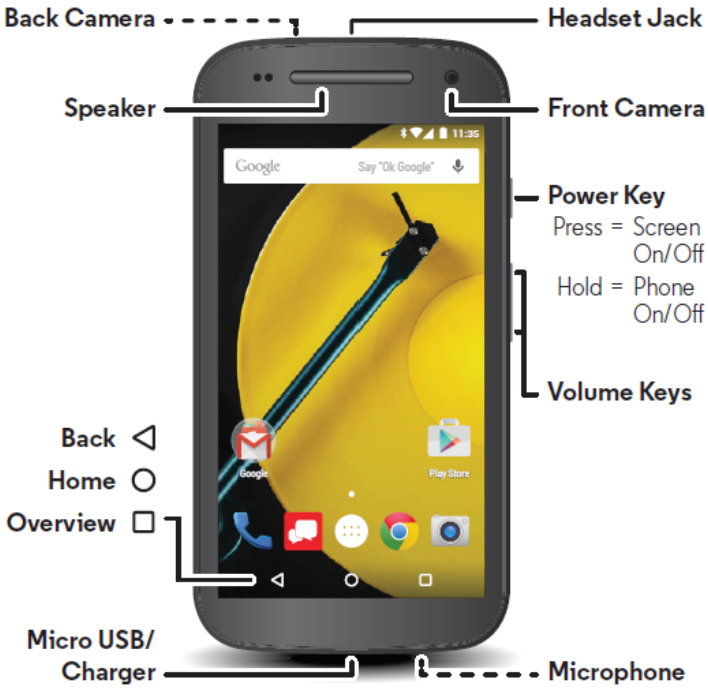
Tips & tricks

- **Keyboard changes:** Your touchscreen keyboard changes depending on whether you're entering a text message, email, or other text.
- **Move the cursor:** Tap a spot in the text to place the cursor, then drag the arrow under the cursor to move it.
- **Your dictionary:** To add a word you enter often, enter it, tap the word in the word list below the text box, then tap there again to add it to your dictionary.
- **Symbols:** Touch and hold a key to enter the small number or symbol at the top of it.

  To enter several numbers or symbols, tap ?123.
- **Double letters:** Circle a letter to enter two of them.
- **Capital letters:** Tap ⬆ or drag it to the letter you want to capitalize.
- **Special characters:** Touch and hold a letter to choose from other special characters.
- **Word prediction:** While you're typing, word suggestions appear above the keyboard. Tap one to select it.
- **Voice entry:** Tap 🎤 on the touchscreen keyboard, then say what you want to type. You can speak as long as you like, pause whenever you want, and dictate punctuation to create correct sentences.

(User's Guide at 36.)

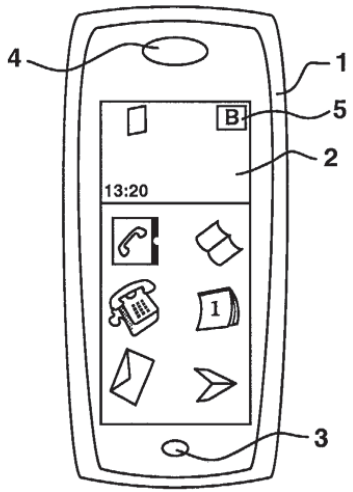
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)
[1g] wherein said components of the mobile phone are integrated within	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing."

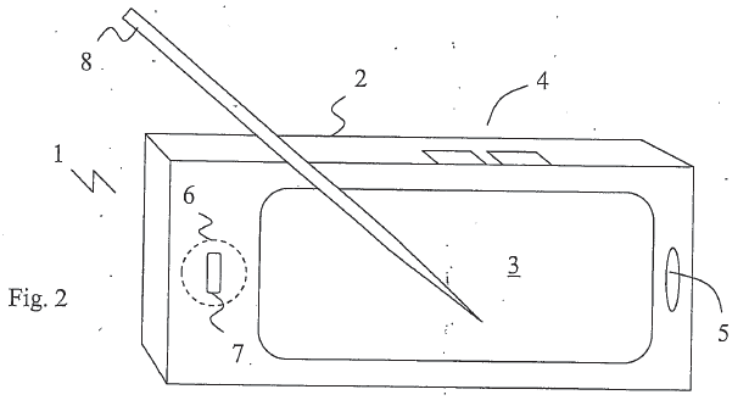
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
said housing such that none of said components is noticeably extended out from said housing.	For example, Moto E is a mobile phone without components extending out from the housing. (User's Guide at 2.)  (User's Guide at 2.) Additional exemplary citations include:

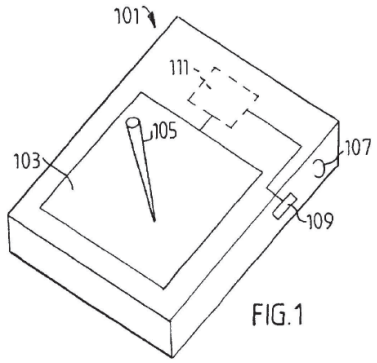
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.) To the extent Keyless contends that this element is not disclosed, a POSITA would have found it obvious in light of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Bast, Pensjo, Wedel, Dutta, and/or Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would have found that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would have been motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses a mobile phone that does not include components extended out from its housing. (Bast at FIG. 1.) Bast explains that the mobile phone device uses the touch screen and stylus for input and output, so there would be no need for any physical keyboard or buttons. (Bast at [0010], [0012], [0024].) As another example, Pensjo discloses a similar mobile phone that does not include components extended out from its housing. (Pensjo at FIGS. 1 and 3-5.) Pensjo's mobile phone uses a stylus and a virtual keyboard to

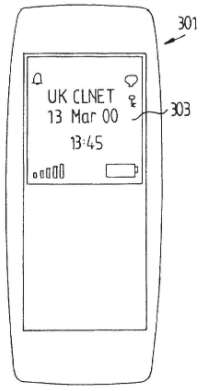
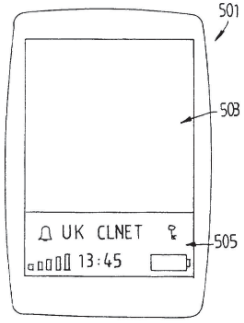
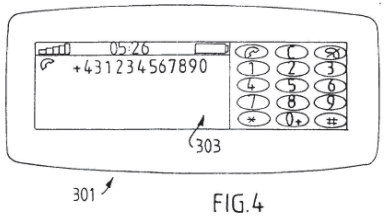
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	enable user input, so there is no need to make any components (e.g., physical keyboard) extend out from the phone housing. (Pensjo at [0010], [0012], [0024].) As another example, Wedel discloses a similar mobile phone that does not include components extended out from its housing. (Wedel at FIG. 2.) Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals." (Wedel at 1:14-21, 3:19-21.) Without any component extended out from its housing, Wedel's mobile phone is made more portable and easier to fit in a pocket. As another example, Dutta discloses a similar mobile phone that does not include components extended out from its housing. (Dutta at FIGS. 2A and 2B.) Dutta teaches that there was a continuing effort to reduce the mobile phones' sizes in order to make them more portable. (Dutta at [0002].) Particularly, Dutta teaches that the mobile phones were commonly designed to have a long, narrow shape. (Dutta at [0004].) To that end, it is useful not to let the phone's components extend out from its housing. As another example, Gupta discloses a "buttonless" mobile phone that does not require any physical button for enabling input. (Gupta at Title, Abstract, [0009], [0019].) Gupta recognizes the need to reduce the size of mobile phones while providing a display that is large enough for practical information viewing and easy data input. (Gupta at [0004].) To that end, Gupta uses a "full length" touchscreen display to replace the traditional fixed keypad. (Gupta at [0017], FIGS. 2 and 3.) A POSITA would have been motivated to configure a mobile phone to ensure no component extended out from the phone's housing, so as to make the phone easy to fit into a pocket and to avoid unintended input to the device. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Bast, Pensjo, Wedel, Dutta, and Gupta. A POSITA would have been motivated to design a phone accordingly in order to improve user experience and satisfaction. Thus, a POSITA would have considered the combination of the teachings of Bast, Pensjo, Wedel, Dutta, and/or Gupta into the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (the fully integrated mobile phone design as taught by Bast, Pensjo, Wedel, Dutta, and Gupta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (excluding components extended from a phone housing, as taught by Bast, Pensjo, Wedel, Dutta,

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	and Gupta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (excluding components extended from a phone housing, as taught by Bast, Pensjo, Wedel, Dutta, Gupta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Pensjo, Wedel, Dutta, and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "Calibration essentially consists of determining the vertical position of the device. This calibration can be carried out automatically or manually. In one preferred embodiment, the robustness of the system is increased by combining the two calibration modes." (Bast at [0018].) "A small mechanical switch (not shown) disposed at the base of the housing 1 enables the orientation of the terminal to be manually calibrated. When the user places the terminal vertically on a table or any other

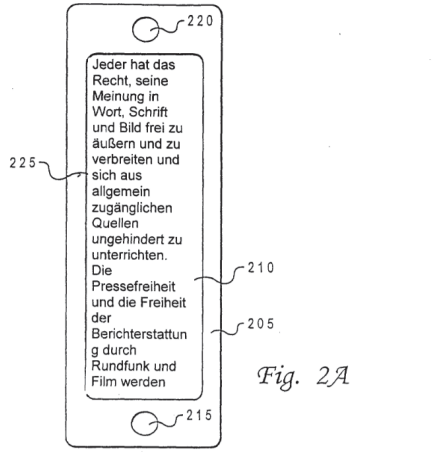
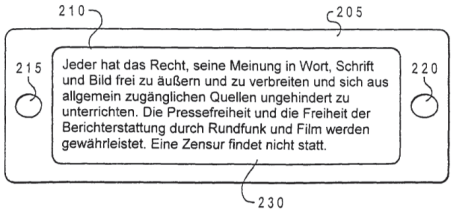
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	horizontal surface 10, the switch closes and the central processing unit 7 considers the corresponding position to be the vertical position." (Bast at [0020].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) Bast discloses the following at FIG. 1:  **Figure 1** "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:3-11.) Wedel discloses the following at FIG. 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 “Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103.” (Pensjo at [0008].) “Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a "portrait" format.” (Pensjo at [0010].) “Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a "landscape" format including a numeric keyboard.” (Pensjo at [0011].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].) Pensjo discloses the following at FIGS. 1 and 3-5:  FIG.1

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3  FIG.5  FIG.4 "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped

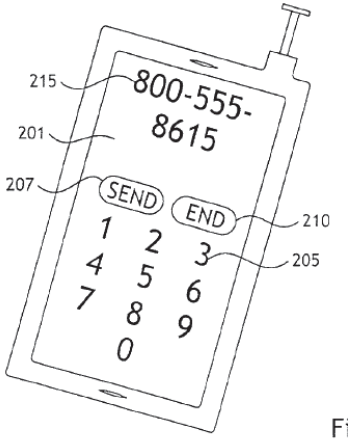
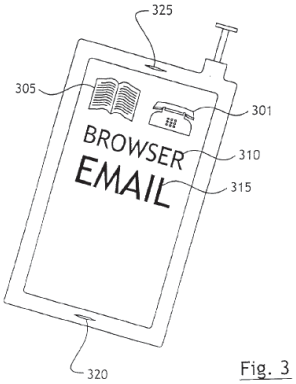
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) "The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) Dutta discloses the following at FIGS. 2A and 2B:

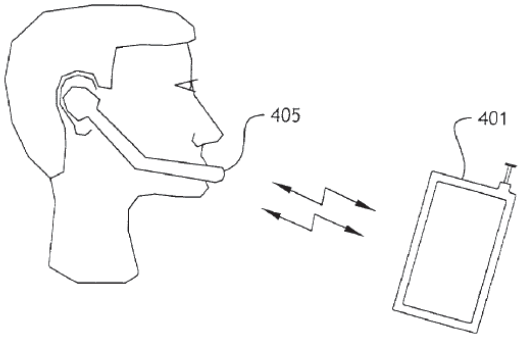
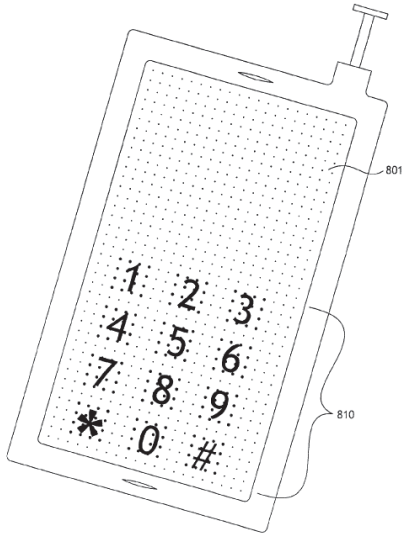
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* "The functions of personal digital assistants and cellular telephones are merging. Devices are emerging that not only can hold addresses and phone numbers but can also communicate over the Internet through a wireless connection. This gives the user the ability to send e-mail, download stock quotes, look-up directions for travel as well as make telephone calls." (Gupta at [0002].) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at Abstract.) "A touch-screen display is comprised of icons that represent numbers. The icons are used to enter a number in response to a contact, on the display, over a particular icon to be entered. A controller controls the transmitter, the receiver, and the touch-screen display. The controller controls the operation of the communications device and comprises an apparatus that generates the icons representing numbers for display on the touch-screen display. The controller also comprises an apparatus that generates an accumulated telephone number in response to the particular icons contacted on the touch-screen display." (Gupta at [0008].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate

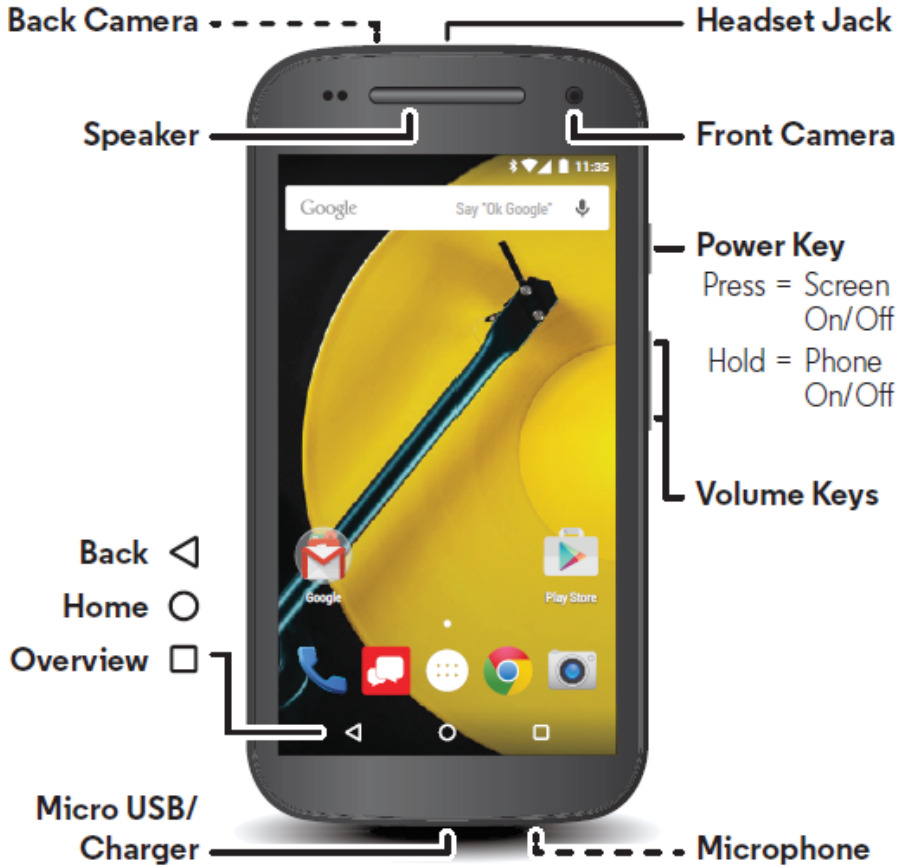
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an "END" key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In the preferred embodiment, the user receives an aural feedback whenever a "key" is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each "key". The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The process of the present invention is illustrated in FIG. 6. This process begins with the controller generating the icons indicating the different modes of the communication device (step 601). The controller then displays these icons on the touchscreen display. The user touches the telephone icon to put the communication device into the telephone mode (step 610). The controller reads the contact on the touchscreen display and, knowing the coordinates of the telephone mode icon on the display, puts the device into the telephone mode (step 615). Once in the telephone mode, the controller generates the number icons and causes the touchscreen display to display them in a keypad-style format (step 620). The controller also generates the other telephone keys, such as "send", "end", and the telephone number display and displays them in the proper format on the touchscreen display." (Gupta at [0037].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 2-4, and 8:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

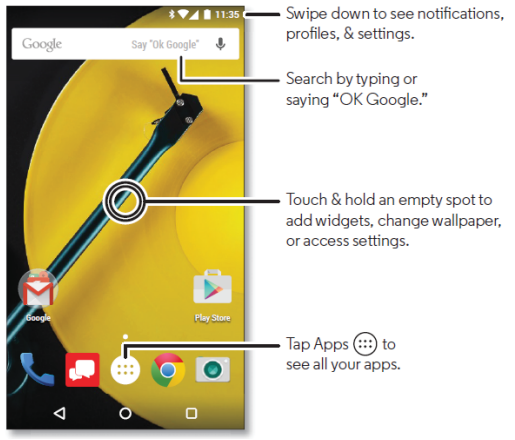
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, the corners of Moto E's housing have rounded edges. (Getting Started at 2.)

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Getting Started at 2.) Additional exemplary citations include:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
are displayed on said display unit, and	Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Moto E displays a plurality of icons on the touchscreen. (User's Guide at 9.) Some of the icons may be visible on the home screen, while others may be viewed through the Apps screen. *Id*. The icons may correspond to applications such as "calls," "contacts," "messages," "email," or other applications that may be downloaded through the play store. (User's Guide at 9, 14, 26, 27, 30, 32.) Tips & tricks • **Download Android apps:** Tap Apps → **Play Store**. • Find out more about **Google products:** See www.google.com/about/products. • Log in or open a **Google account:** Visit www.google.com/accounts. • **Google help:** See www.google.com/support. • Access all of your files **in the cloud:** Check out "**Your cloud**" on page 55. **Home screen & apps** **Quick start: Home screen & apps** You'll see the home screen when you turn on your phone or tap Home. From here you can explore apps, check notifications, speak commands, and more. • **Add a shortcut to a home screen page:** Tap Apps, touch and hold an app, then drag it to your home screen, or to the right side of the home screen to add a new page.  (User's Guide at 9.) Additional exemplary citations include:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

Download apps

Google Play™

Get music, movies, books, apps, games, and more.

Find it: Apps → **Play Store**

- **Find:** To search, tap in the top right.
- **Download:** To download an app you found, tap it to see details and then tap **INSTALL**, or the price.
- **Share:** To share an app you found on Play Store, tap it to see details and then tap .
- **Reinstall:** To show or reinstall apps you downloaded from Play Store, tap → **My Apps**.
- **Use a computer:** To find and manage apps from any computer, go to **http://play.google.com** using your Google account and password.

  There, you can browse apps on the big screen, manage your apps across multiple devices (like a phone and tablet), and even set new apps to download to your devices.
- **Enjoy music, books & movies:** You can also use Google Play Store to access the **"Play Music"**, **"Play Books"**, and **"Play Movies & TV"** apps.
- **Get help:** To get help and more, tap .

(User's Guide at 14.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Apps Want more? No problem. Google Play™ Store provides access to thousands of apps, many with useful accessibility features. **Find it:** Apps → **Play Store** (User's Guide at 26.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

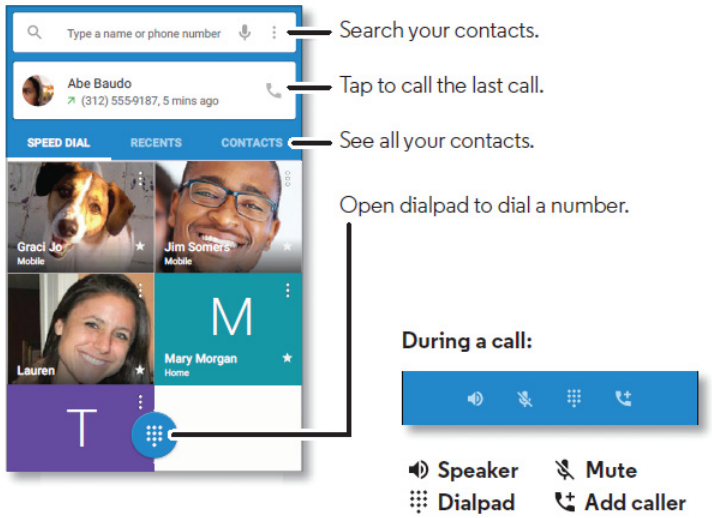
Calls

Quick start: Calls

Dial contacts, recent calls, or numbers, all from one app.

Find it: Phone

- To call a contact or recent call, tap it.
- To open the dialpad, tap . Enter a number, then tap to call it.



(User's Guide at 27.)

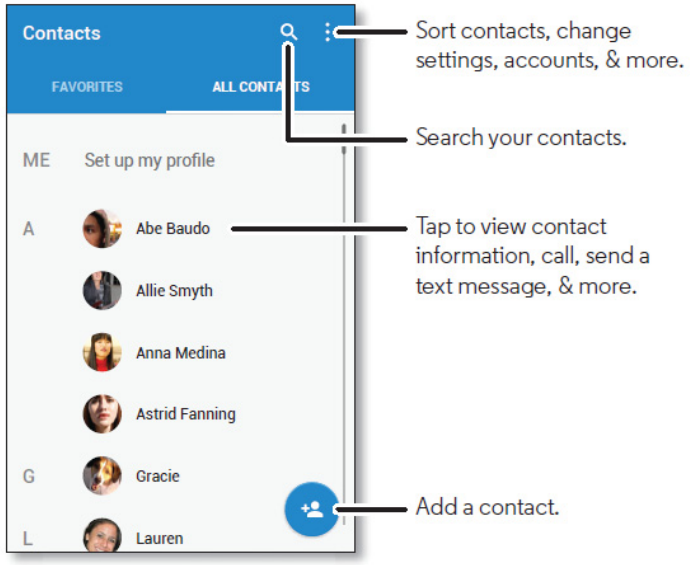
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

Contacts

Quick start: Contacts

Combine information from your Google™ contacts and social networks for quick access to everyone you know.

Find it: Apps → **Contacts**



(User's Guide at 30.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

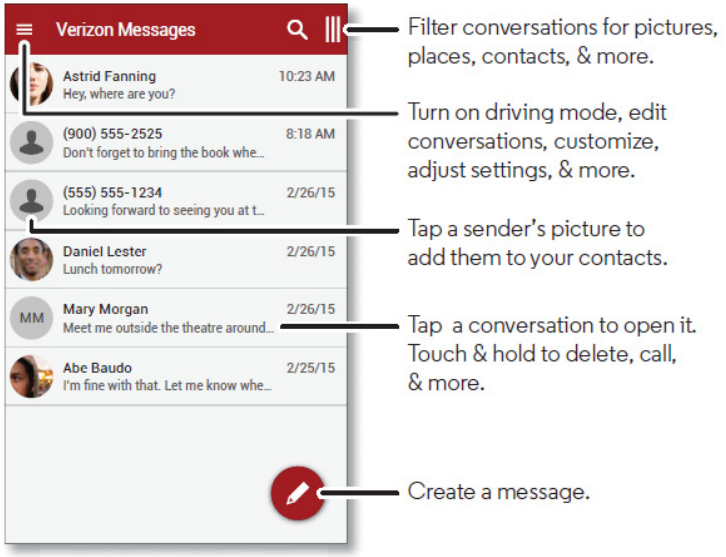
Messages

Quick start: Verizon Messages

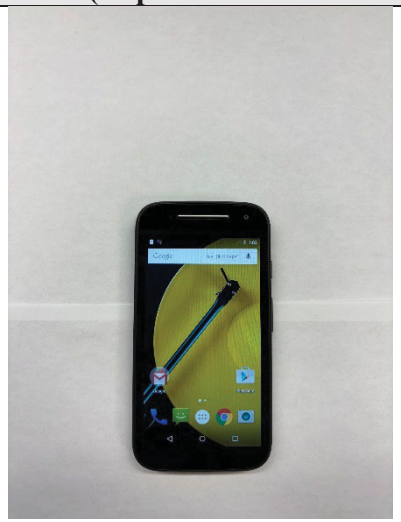
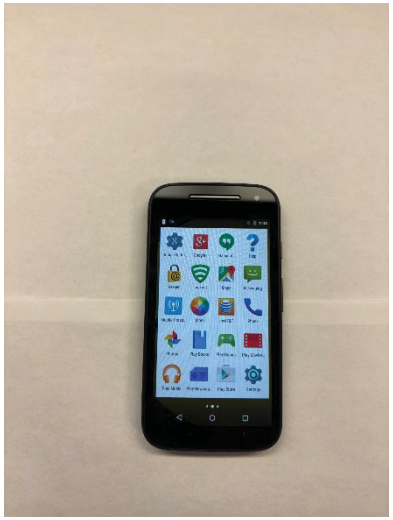
Stay in touch with messages and pictures.

Find it: **Message+**

- **Create:** Tap at the bottom of the screen.
- **Attach:** When you're typing a message, tap to attach a picture, audio, video, or more.
- **Send:** Tap to send the message.



(User's Guide at 32.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." For example, Moto E discloses that a "swipe" may be used to "[s]croll through lists or between screens." (User's Guide at 18.) For example, such a "swipe" may be used to scroll through pages containing different icons corresponding to applications. (Moto E Device.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

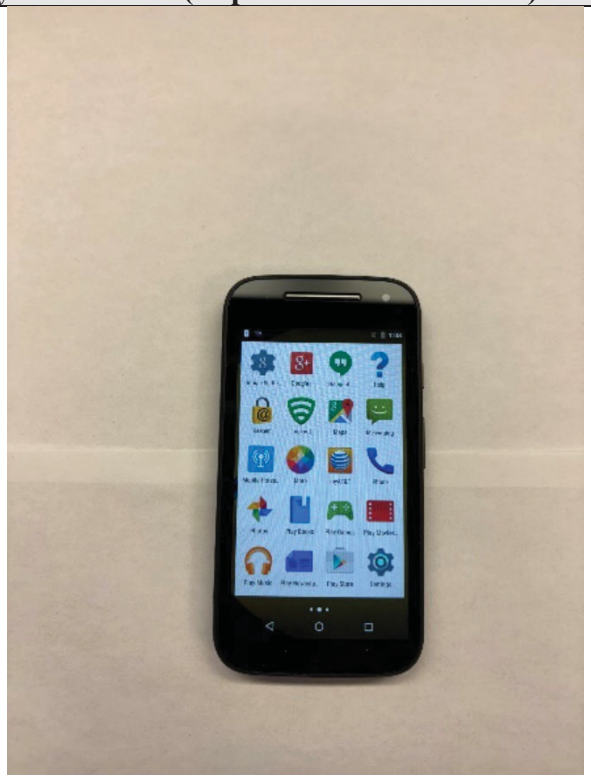
Controls and voice commands

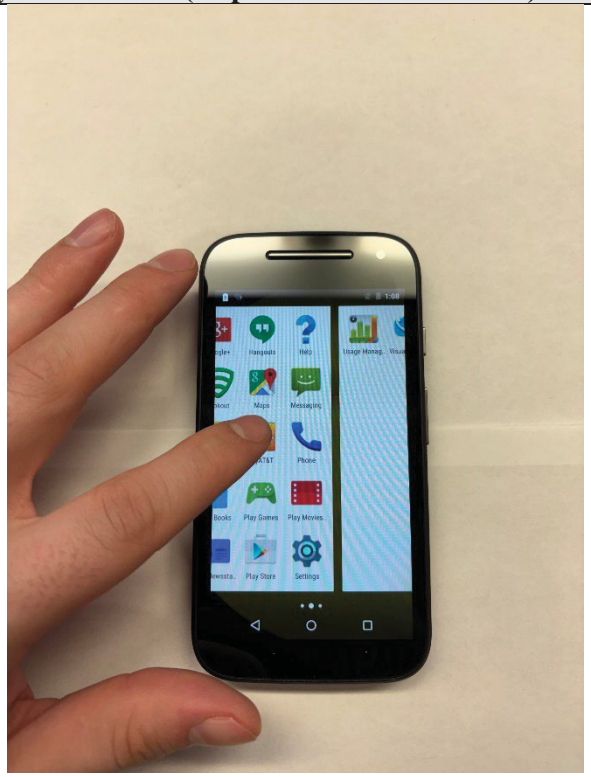
Touch

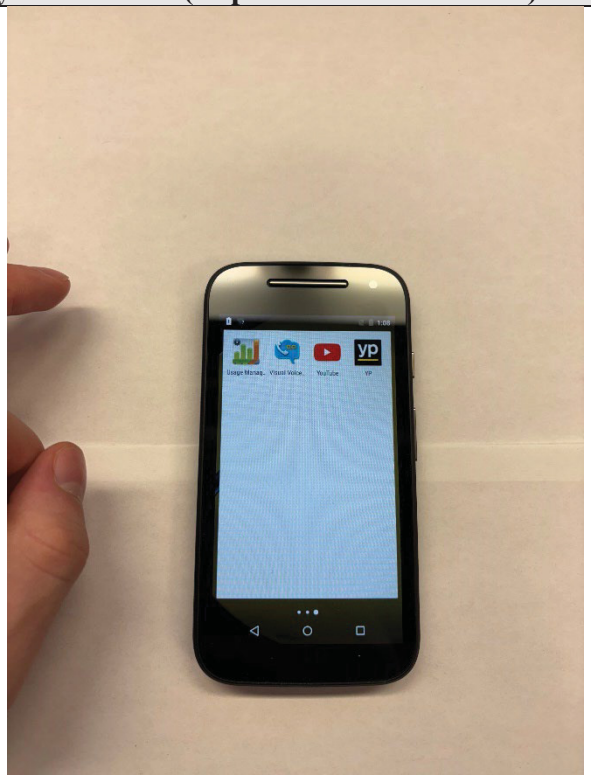
Find your way around:

- **Tap:** Choose an icon or option.
- **Touch and hold:** Open options for items in lists.
- **Drag:** Move items on the home screen.
- **Flick:** Quickly open or delete items.
- **Swipe:** Scroll through lists or between screens.
- **Pinch or double-tap:** Zoom in and out on websites, photos, and maps.
- **Twist:** Twist a map with two fingers to rotate it, and pull two fingers down to tilt it.
- **Back:** Tap Back ◁ to go to the previous screen.
- **Home:** Tap Home ○ to return to the home screen.
- **Overview:** Tap Overview □ to show your recent apps, and tap an app to reopen it. To remove an app from the list, flick it left or right. To scroll the list, swipe up or down.
- **Menus:** When ⋮ or ☰ appears on a screen, you can tap it to open options for the current screen.
- **Close Keyboard:** To close a touchscreen keyboard, tap ▽.
- **Reboot:** To reboot your phone, press and hold the Power key until the screen goes dark and your phone restarts.

(User's Guide at 18.)

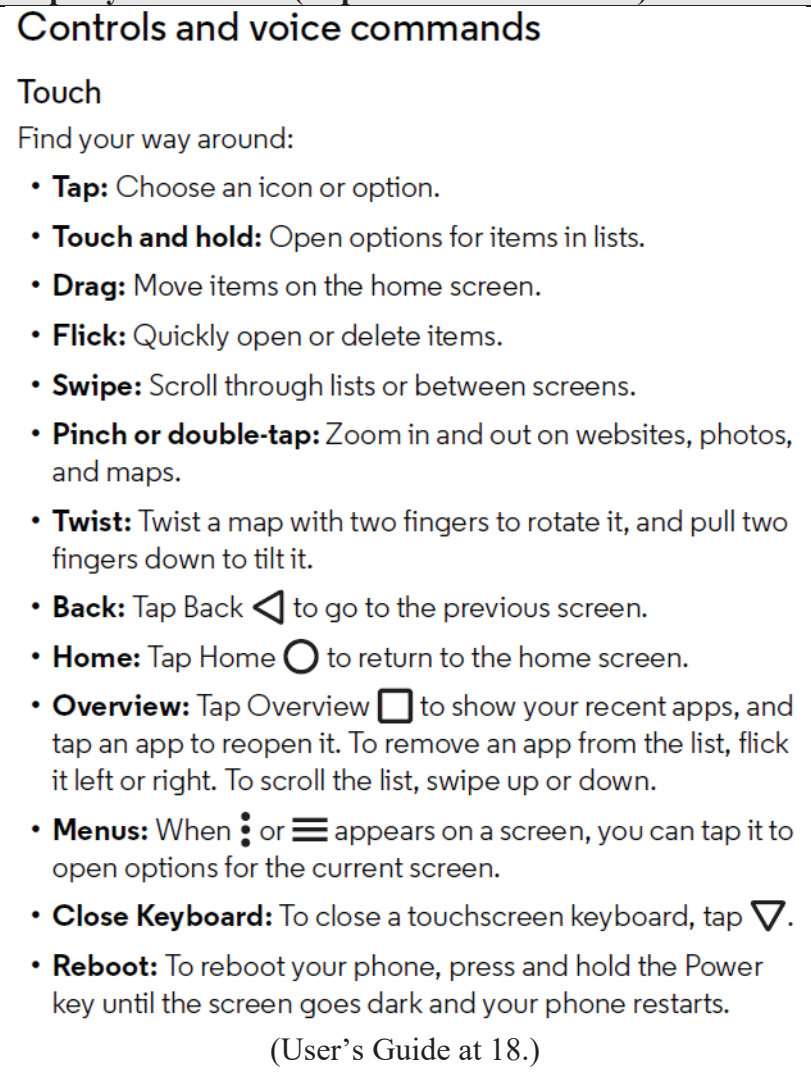
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

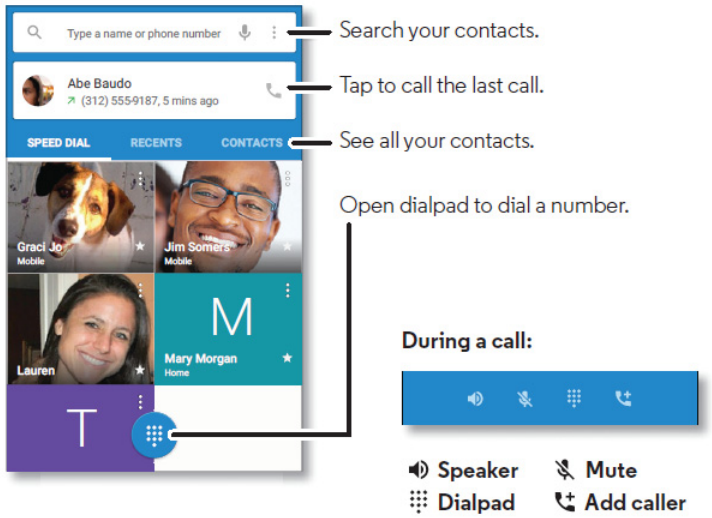
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Moto E discloses that a "tap," which is a predefined interaction, is a way to "[c]hoose an icon or option." (User's Guide at 18.) When a user chooses an icon corresponding to an application with a tap, that application is opened on the display unit. (User's Guide at 27, 30, 32.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Controls and voice commands Touch Find your way around: • **Tap:** Choose an icon or option. • **Touch and hold:** Open options for items in lists. • **Drag:** Move items on the home screen. • **Flick:** Quickly open or delete items. • **Swipe:** Scroll through lists or between screens. • **Pinch or double-tap:** Zoom in and out on websites, photos, and maps. • **Twist:** Twist a map with two fingers to rotate it, and pull two fingers down to tilt it. • **Back:** Tap Back to go to the previous screen. • **Home:** Tap Home to return to the home screen. • **Overview:** Tap Overview to show your recent apps, and tap an app to reopen it. To remove an app from the list, flick it left or right. To scroll the list, swipe up or down. • **Menus:** When or appears on a screen, you can tap it to open options for the current screen. • **Close Keyboard:** To close a touchscreen keyboard, tap . • **Reboot:** To reboot your phone, press and hold the Power key until the screen goes dark and your phone restarts. (User's Guide at 18.) Additional exemplary citations include:

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	# Calls ## Quick start: Calls Dial contacts, recent calls, or numbers, all from one app. **Find it: Phone** • To call a contact or recent call, tap it. • To open the dialpad, tap . Enter a number, then tap to call it.  (User's Guide at 27.)

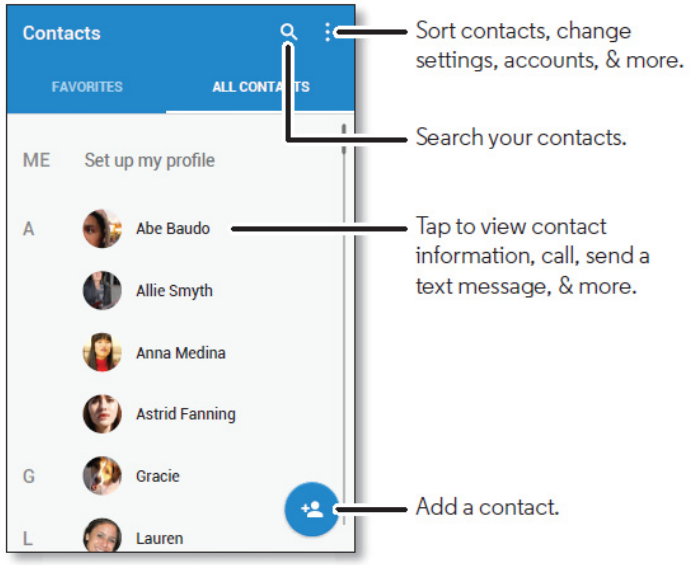
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Contacts

Quick start: Contacts

Combine information from your Google™ contacts and social networks for quick access to everyone you know.

Find it: Apps → **Contacts**



(User's Guide at 30.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

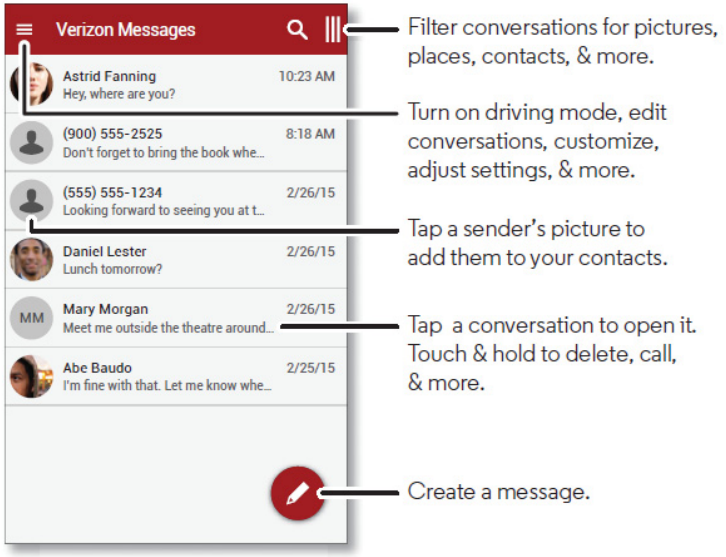
Messages

Quick start: Verizon Messages

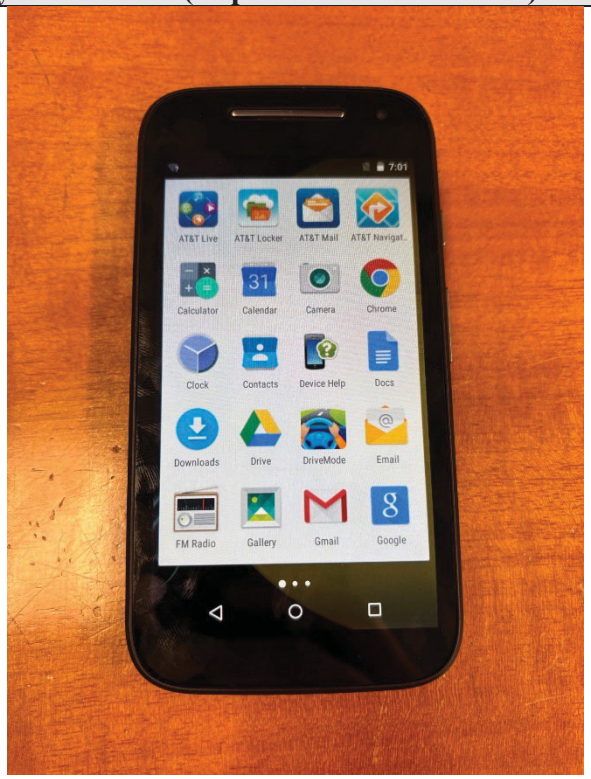
Stay in touch with messages and pictures.

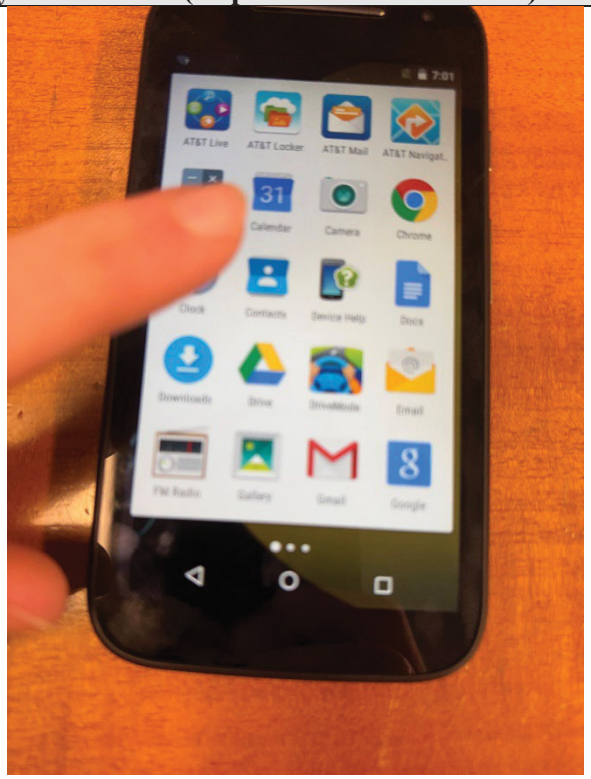
Find it: **Message+**

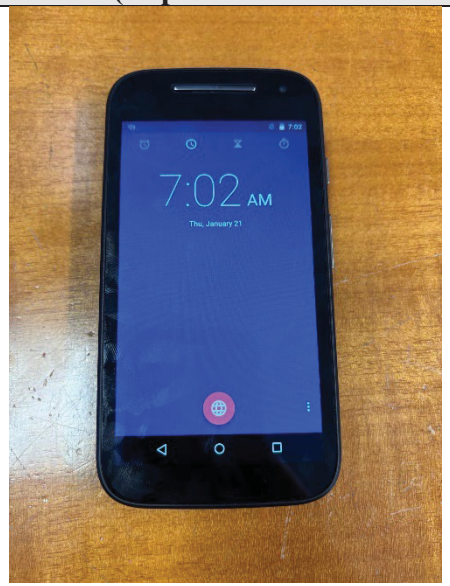
- **Create:** Tap at the bottom of the screen.
- **Attach:** When you're typing a message, tap to attach a picture, audio, video, or more.
- **Send:** Tap to send the message.



(User's Guide at 32.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display

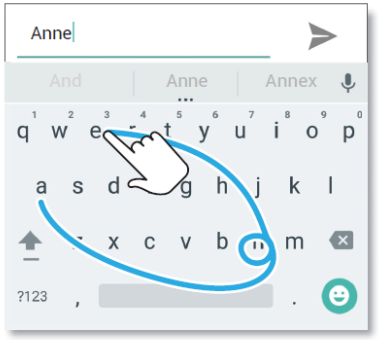
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Moto E includes a virtual keyboard used to enter text. (User's Guide at 11, 17, 18, 19, 25, 36, 37, 39.) The keyboard and entered text are displayed in landscape direction when the phone is held in landscape position and in portrait direction when the phone is displayed in portrait direction. (Moto E Device.)

Type

Quick start: Type

When you tap a text box, like in a message or search, you have keyboard options.

- **Type or gesture:** Enter letters by touching them one at a time. Or, enter a word by tracing a path through the letters.
- **Close the keyboard:** Tap ▽.



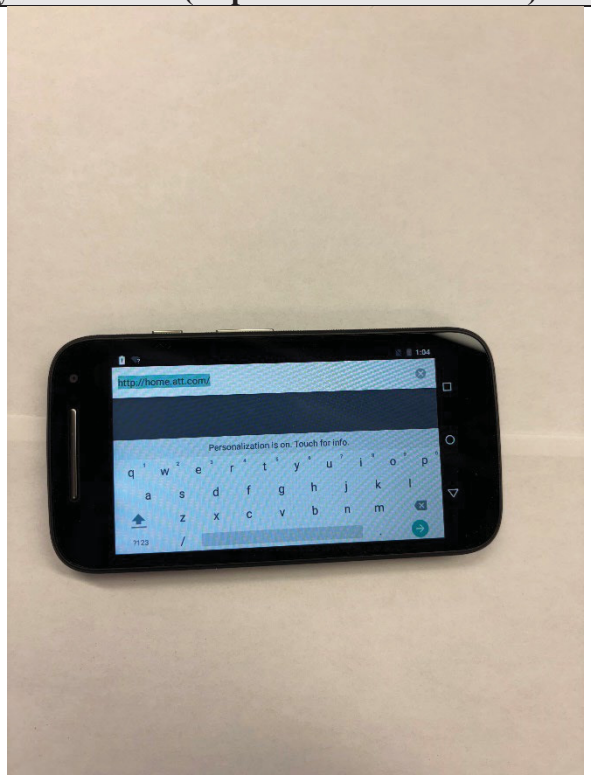
See a different keyboard? It varies by app. This one is for texting.

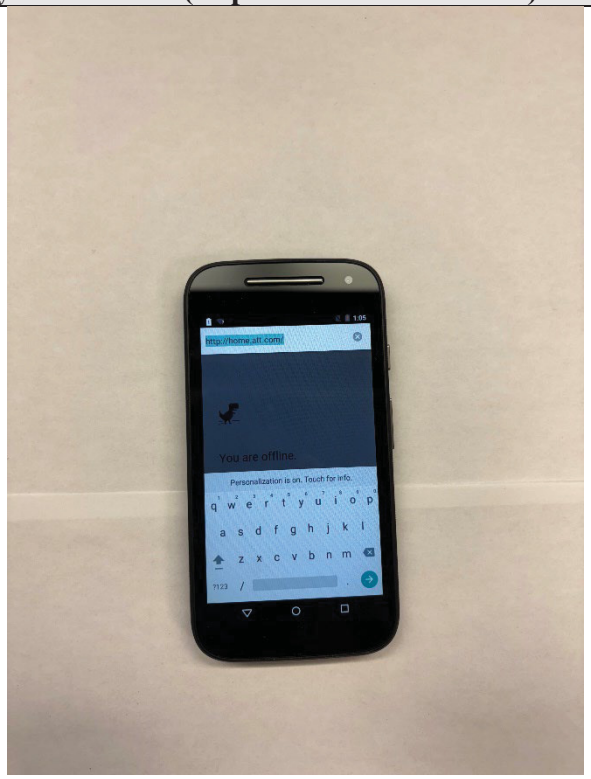
Tips & tricks

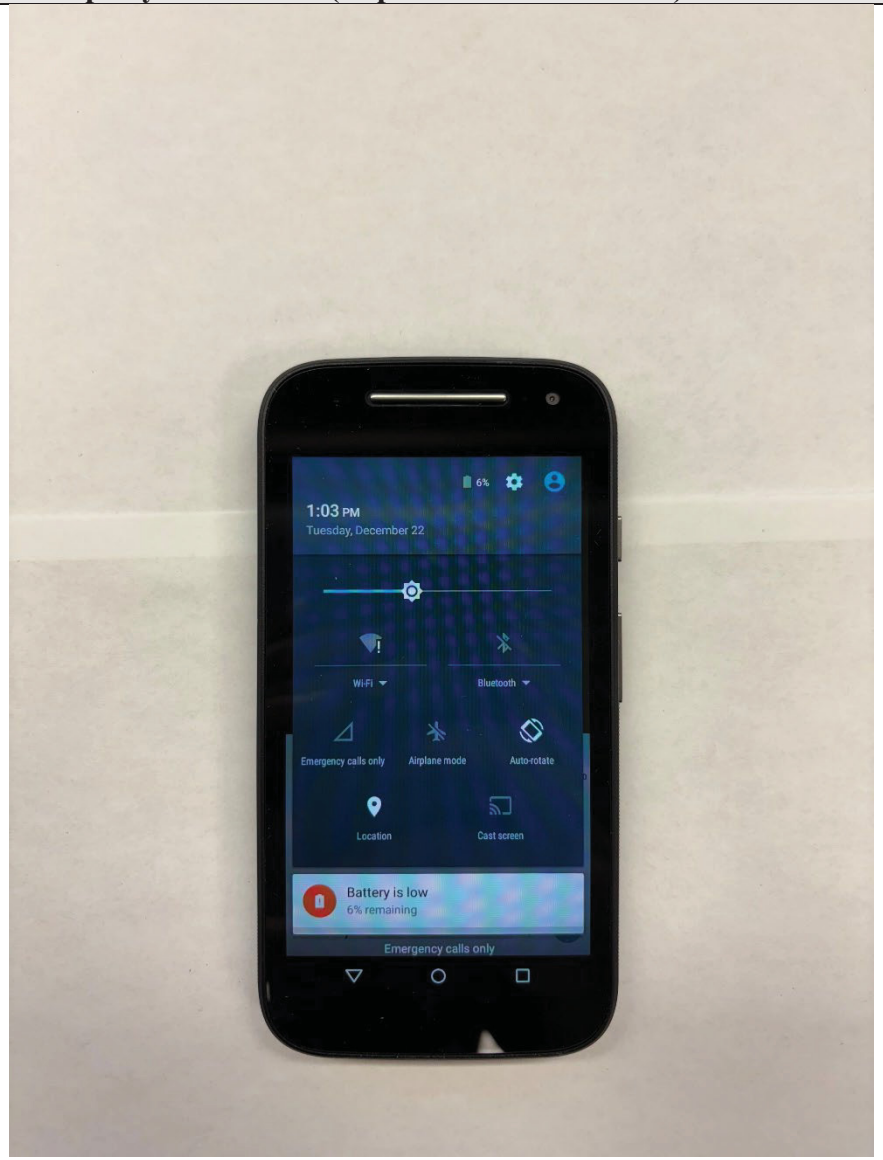
- **Keyboard changes:** Your touchscreen keyboard changes depending on whether you're entering a text message, email, or other text.
- **Move the cursor:** Tap a spot in the text to place the cursor, then drag the arrow under the cursor to move it.
- **Your dictionary:** To add a word you enter often, enter it, tap the word in the word list below the text box, then tap there again to add it to your dictionary.
- **Symbols:** Touch and hold a key to enter the small number or symbol at the top of it.

  To enter several numbers or symbols, tap ?123.
- **Double letters:** Circle a letter to enter two of them.
- **Capital letters:** Tap ⬆ or drag it to the letter you want to capitalize.
- **Special characters:** Touch and hold a letter to choose from other special characters.
- **Word prediction:** While you're typing, word suggestions appear above the keyboard. Tap one to select it.
- **Voice entry:** Tap 🎤 on the touchscreen keyboard, then say what you want to type. You can speak as long as you like, pause whenever you want, and dictate punctuation to create correct sentences.

(User's Guide at 36.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include:

Search

Type text in the Google™ Search box at the top of your home screen, or say "OK Google" to search by voice. Or, tap for Google Voice Search™.

As you type, suggestions appear below the search field:

- To search for a suggestion, tap it.
- To search for text in the search field, tap on the touchscreen keyboard.

Tip: To close the keyboard, tap .

(User's Guide at 11.)

Tips & tricks

- **Speak:** Tap in a search window or on a touchscreen keyboard to search by voice.

(User's Guide at 17.)

- **Close Keyboard:** To close a touchscreen keyboard, tap .

(User's Guide at 18.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	• **Text entry:** On a touchscreen keyboard, tap , then speak your message or search text. You can also speak punctuation. (User's Guide at 19.) Touchscreen & keys To hear or feel when you touch the screen, tap Apps → **Settings** → **Sound & notification** → **Other sounds**: • **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**. • **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**. • **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**. (User's Guide at 25.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

- **Vibrate:** Don't like the vibrating keys when you type? Tap Apps → **Settings** → **Language & input** → **Google Keyboard** → **Preferences** to turn this and other keyboard features on/off.

Text entry settings & dictionary

Choose your keyboard style and edit the dictionary of words your phone suggests:

Find it: Apps → **Settings** → **Language & input**

- To choose your touchscreen keyboard, tap **Current Keyboard** → **CHOOSE KEYBOARDS**. To allow voice entry from the keyboard, tap **Google voice typing**.
- To change keyboard settings, tap **Google Keyboard**. You can change languages, appearance and layouts, text correction, and more.
- To add or edit the words that your phone suggests and recognizes, tap **Google Keyboard** → **Text correction** → **Personal dictionary**.

(User's Guide at 37.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Google™ Docs You can view, create, edit, and make copies of Google Docs, Microsoft Word files, and other text documents on your phone. **Find it:** Apps → **Docs** Tap a document name to open it: • Place your cursor by touching the text. The keyboard appears so you can type or edit text. • Select text by double-tapping it. Editing options appear that let you cut, copy, or paste text. • Use edit tools at the top of the screen to format text and paragraphs. Tap **+** at the top to insert a table in the document. • The changes you make are automatically saved to your Google Doc file. Tap Menu next to a document name to rename, copy, share, print, or delete the document. For more information, tap → **Help & Feedback**. (User's Guide at 39.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Moto E was about 5 inches in length and 2.5 inches in width.

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendant incorporates all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1.

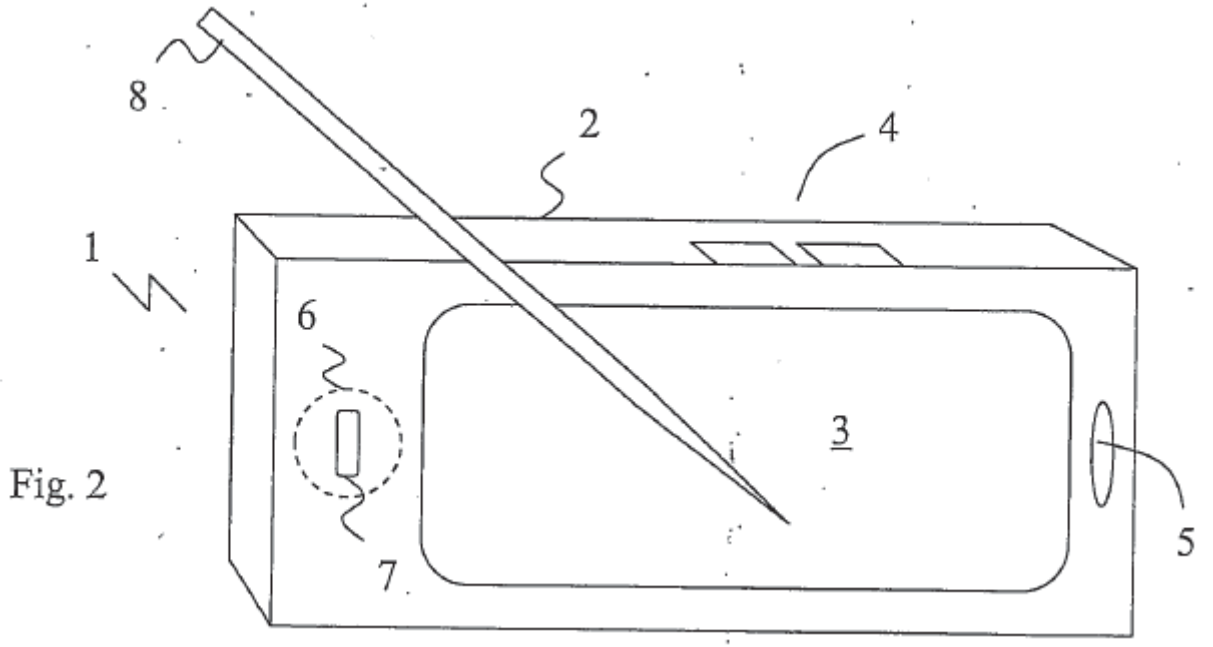
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Moto E was about 2.5 inches in width and only about 3/8 inch in thickness, 15% of the width.  (Moto E Device.)

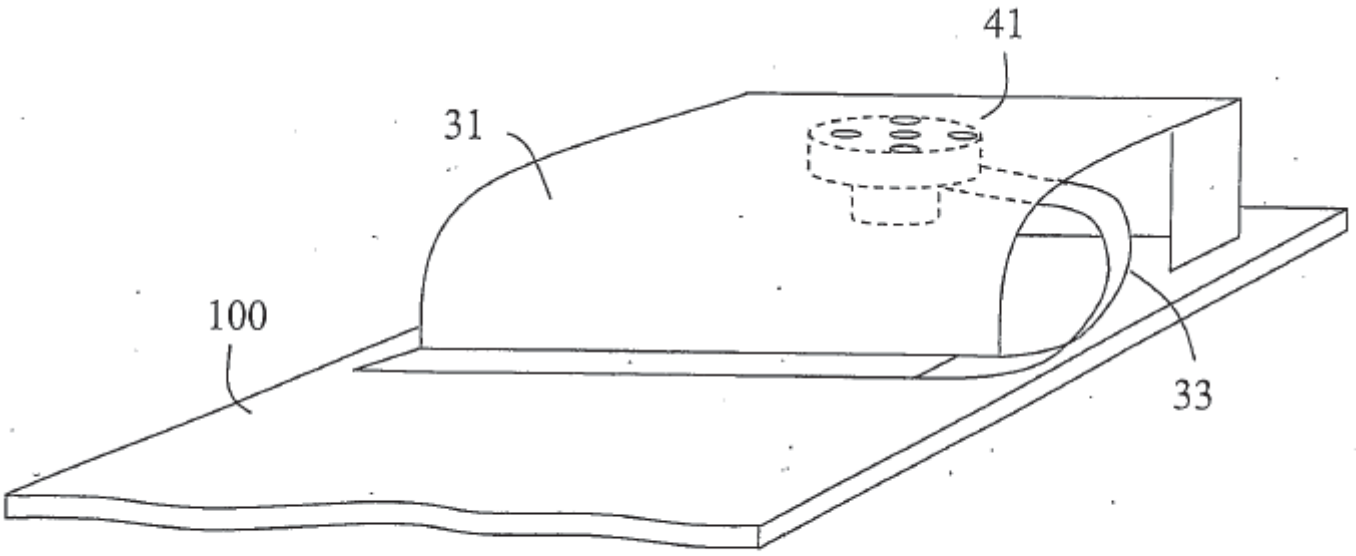
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.) To the extent Keyless argues that Moto E does not disclose or render obvious this limitation, it would have been obvious in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals." (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA

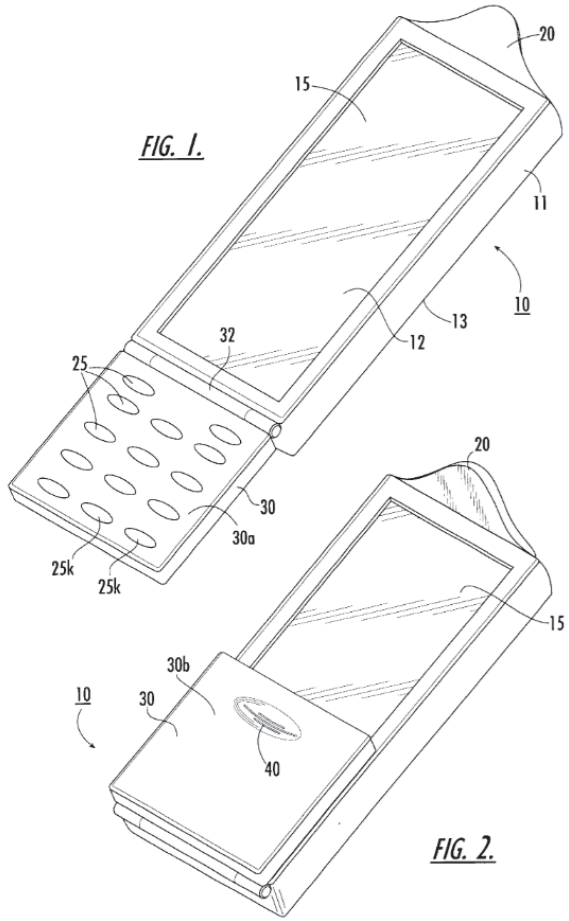
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (maximizing thinness of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the thinness of the housing was maximized as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone such that the thinness of the housing was maximized as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2

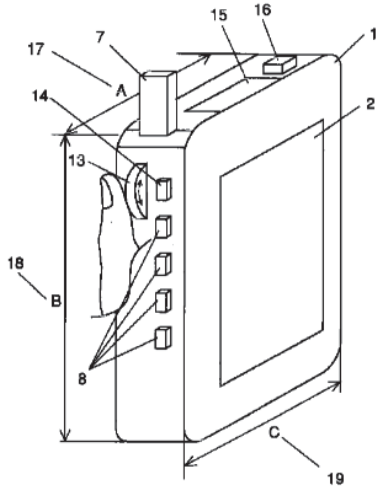
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 11 "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.) "The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

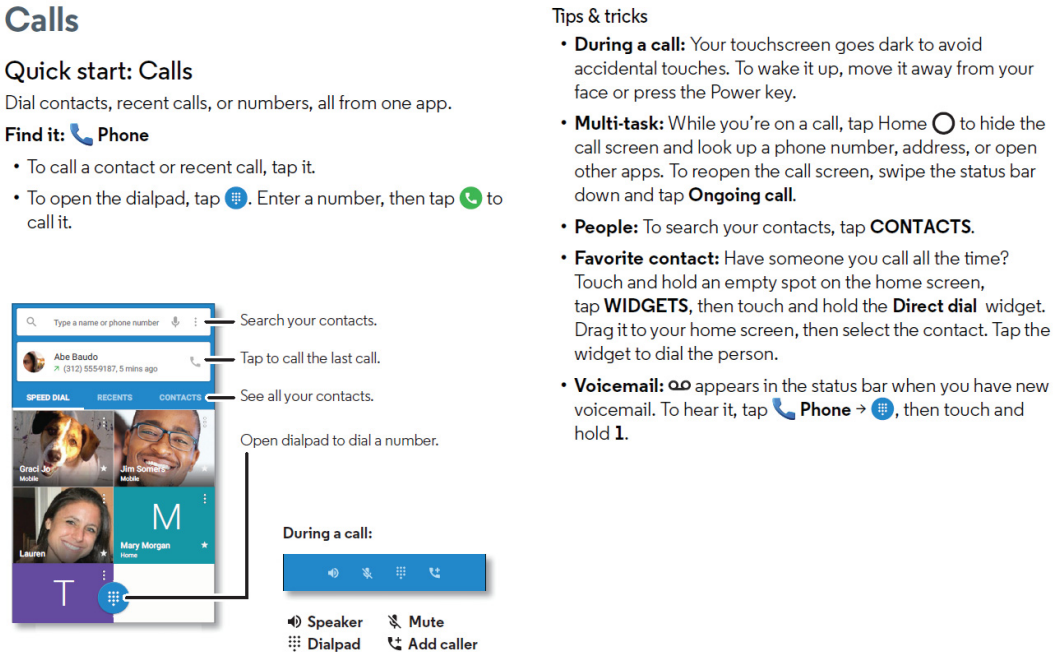
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Moto E is a phone, which is a mobile phone, capable of making phone calls. (User's Guide at 27-29.)  (User's Guide at 27.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Make, answer & end calls

When you make or answer a call, you have options:

- **Make a call:** Tap **Phone**, to see your recent calls, favorites, and frequently-called contacts. Select a contact or number to call it.

  To dial a number, tap , enter a number, then tap to call it.

  To enter the international dialing code (+), touch and hold **0**. To add a pause or wait after numbers, tap Menu .

  Note: You can make High-Definition Voice and Video calls with this phone when you add Advanced Calling to your line. Visit **verizonwireless.com/AdvancedCalling** to learn how.

- **Answer a call:** Touch and drag to .

  Note: When your phone is unlocked, tap **ANSWER**.

  With call waiting on, touch and drag to to answer the new call, then tap **Hold current call + Answer** or **End current call + Answer**.

- **Ignore a call:** Touch and drag to to send the call to your voicemail. You can also press the Power key to ignore the call, or press a volume key to silence the ringer.

  Note: When your phone is unlocked, tap **DISMISS**.

- **Respond with a text:** To send a pre-set message to an incoming call, touch and drag to . Select a message to immediately send it.

- **End a call:** Tap .

- **During a call:** Tap **Mute** at the bottom of the call screen to mute the call. To hide the call screen, tap Home . To reopen it, swipe the status bar down and tap **Ongoing call**.

  Note: When you hold your phone to your ear, the touchscreen goes dark to avoid accidental touches. When you move your phone away from your ear, the screen lights up again.

  During a call, your touchscreen might stay dark if the sensor just above it is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

Dial by voice

Say "OK Google," then say "Call" followed by a contact name or phone number.

Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work")."

Recent calls

View your calls (with newest first), and then call, text, or store them:

Find it: **Phone** → **RECENTS**

- To return a call, tap the caller's name or number, then tap **CALL BACK**.

(User's Guide at 28.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

- To send a text message, store the number, or other options, tap the caller's picture.
- To remove an entry from the call log, tap it, then tap **DETAILS** → 🗑.
- To clear the call history list, tap Menu ⋮ → **Call History**, then tap Menu ⋮ → **Clear call log**.

3-way calls

During a call, you can start another call, switch between them, or join them in a 3-way call:

- To answer a second call, touch ✆ and drag to 📞. To ignore it, touch ✆ and drag to 📵.

  The first call goes on hold if you answer the second call. To switch between calls, tap 🔄.
- To dial a second call, tap 📞+, enter a number, then tap 📞 to call it.

  The first call goes on hold when you tap 📞+. To join the calls after the second call answers, tap 🔀.

Your phone number

Find it: Apps ⋯ → ⚙ **Settings** → **About phone** → **Status** → **My phone number**.

Emergency calls

Note: Your service provider programs one or more emergency phone numbers you can call under any circumstances, even when your phone is locked. Emergency numbers vary by country. Your pre-programmed emergency number(s) may not work in all locations, and sometimes an emergency call cannot be placed due to network, environmental, or interference issues.

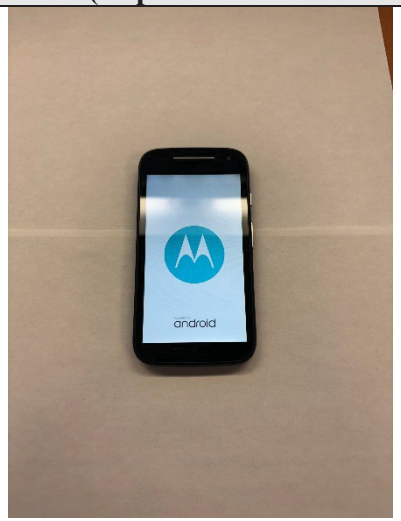
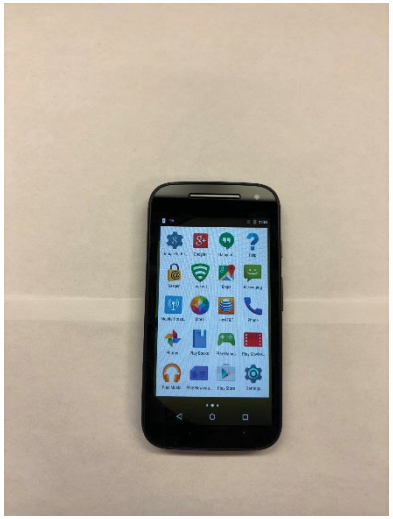
1 Tap 📞 **Phone** (if your phone is locked, swipe 📞 right and tap **EMERGENCY CALL**.

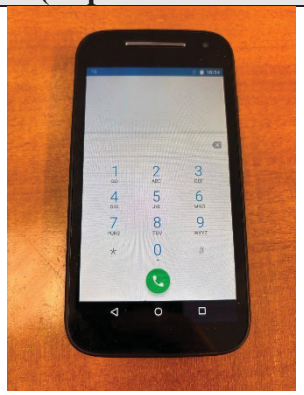
2 Enter the emergency number.

3 Tap 📞 to call the emergency number.

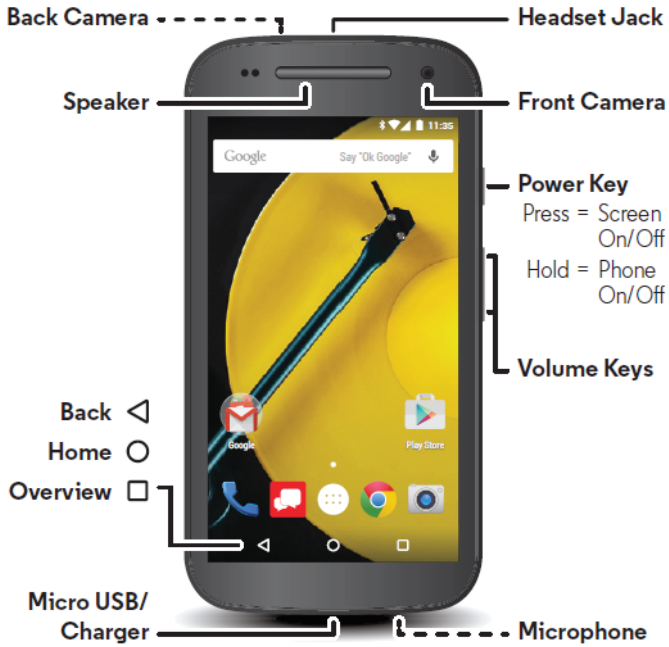
Note: Your phone can use location based services (GPS and AGPS) to help emergency services find you. See "Location Services" in your legal and safety information.

(User's Guide at 29.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9d] wherein said body has a thin thickness	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Moto E includes a "touchscreen" that functions as a display. (User's Guide at 2, 14, 19, 25.)

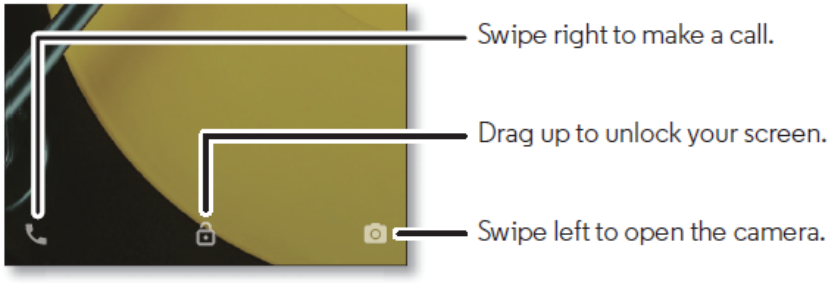
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	First look Your Moto E is built to keep up with you. It has a crisp display that's water-resistant, the latest software, and a battery that lasts all day. You can even customize your phone to match your style with Motorola Bands and Grip Shells. **Note:** Your phone may look a little different.  (User's Guide at 2.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Discover Your Moto E Your phone knows when you're in a meeting and when you're sleeping. It can tell you who's calling, and show you important information when the display is off. **Tip:** To adjust these features any time, tap Apps → **Moto**. **Note:** Your phone may not have all of these features. • **Moto Assist:** Based on where you are and what you're doing, your phone suggests ways to help you, such as keeping the phone quiet at night. • **Moto Actions:** Even when your phone is asleep, twist your wrist twice, quickly, to open the camera anytime. • **Moto Display:** See messages, calls, and other notifications as they arrive—even if your phone is asleep.  (User's Guide at 14.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

On, off, lock & unlock

Your touchscreen is on when you need it and off when you don't. To turn the screen on, press the Power key.



- **Screen off & on:** Press the Power key to turn the screen off & on.

  Note: During a call, your touchscreen might stay dark if the proximity sensor just above the top of the screen is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

- **Screen lock:** To unlock the screen, touch and drag up. To use a pattern, PIN, or password to unlock your screen, tap Apps → **Settings** → **Security** → **Screen lock** (see "**Screen lock**" on page 57).

(User's Guide at 19.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Display brightness

Your phone automatically adjusts the screen brightness when you're in bright or dark places. But you can set your own brightness level instead:

Find it: Apps → **Settings** → **Display** → **Brightness**, and adjust the slider to set brightness level

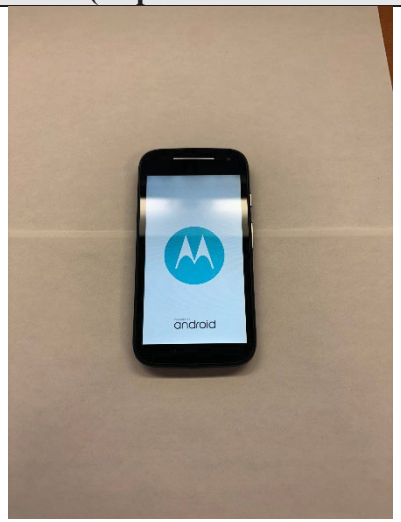
Note: Setting brightness to a high level decreases your phone's battery life. To maximize battery life, tap Apps → **Settings** → **Display** → **Adaptive brightness** to let your phone automatically adjust brightness for the available light.

Touchscreen & keys

To hear or feel when you touch the screen, tap Apps → **Settings** → **Sound & notification** → **Other sounds**:

- **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**.
- **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**.
- **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**.

(User's Guide at 25.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[9f] a virtual keyboard to enter text; and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Moto E includes a virtual keyboard used to enter text. (User's Guide at 11, 17, 18, 19, 25, 36, 37, 39.)

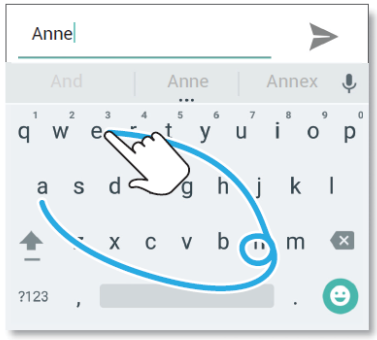
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Type

Quick start: Type

When you tap a text box, like in a message or search, you have keyboard options.

- **Type or gesture:** Enter letters by touching them one at a time. Or, enter a word by tracing a path through the letters.
- **Close the keyboard:** Tap ▽.



See a different keyboard? It varies by app. This one is for texting.

Tips & tricks

- **Keyboard changes:** Your touchscreen keyboard changes depending on whether you're entering a text message, email, or other text.
- **Move the cursor:** Tap a spot in the text to place the cursor, then drag the arrow under the cursor to move it.
- **Your dictionary:** To add a word you enter often, enter it, tap the word in the word list below the text box, then tap there again to add it to your dictionary.
- **Symbols:** Touch and hold a key to enter the small number or symbol at the top of it.

  To enter several numbers or symbols, tap ?123.
- **Double letters:** Circle a letter to enter two of them.
- **Capital letters:** Tap ⬆ or drag it to the letter you want to capitalize.
- **Special characters:** Touch and hold a letter to choose from other special characters.
- **Word prediction:** While you're typing, word suggestions appear above the keyboard. Tap one to select it.
- **Voice entry:** Tap 🎤 on the touchscreen keyboard, then say what you want to type. You can speak as long as you like, pause whenever you want, and dictate punctuation to create correct sentences.

(User's Guide at 36.)

Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	## Search Type text in the Google™ Search box at the top of your home screen, or say "OK Google" to search by voice. Or, tap for Google Voice Search™. As you type, suggestions appear below the search field: • To search for a suggestion, tap it. • To search for text in the search field, tap on the touchscreen keyboard. **Tip:** To close the keyboard, tap . (User's Guide at 11.) ## Tips & tricks • **Speak:** Tap in a search window or on a touchscreen keyboard to search by voice. (User's Guide at 17.) • **Close Keyboard:** To close a touchscreen keyboard, tap . (User's Guide at 18.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	• **Text entry:** On a touchscreen keyboard, tap , then speak your message or search text. You can also speak punctuation. (User's Guide at 19.) Touchscreen & keys To hear or feel when you touch the screen, tap Apps → **Settings** → **Sound & notification** → **Other sounds**: • **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**. • **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**. • **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**. (User's Guide at 25.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

- **Vibrate:** Don't like the vibrating keys when you type? Tap Apps → **Settings** → **Language & input** → **Google Keyboard** → **Preferences** to turn this and other keyboard features on/off.

Text entry settings & dictionary

Choose your keyboard style and edit the dictionary of words your phone suggests:

Find it: Apps → **Settings** → **Language & input**

- To choose your touchscreen keyboard, tap **Current Keyboard** → **CHOOSE KEYBOARDS**. To allow voice entry from the keyboard, tap **Google voice typing**.
- To change keyboard settings, tap **Google Keyboard**. You can change languages, appearance and layouts, text correction, and more.
- To add or edit the words that your phone suggests and recognizes, tap **Google Keyboard** → **Text correction** → **Personal dictionary**.

(User's Guide at 37.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Google™ Docs

You can view, create, edit, and make copies of Google Docs, Microsoft Word files, and other text documents on your phone.

Find it: Apps → **Docs**

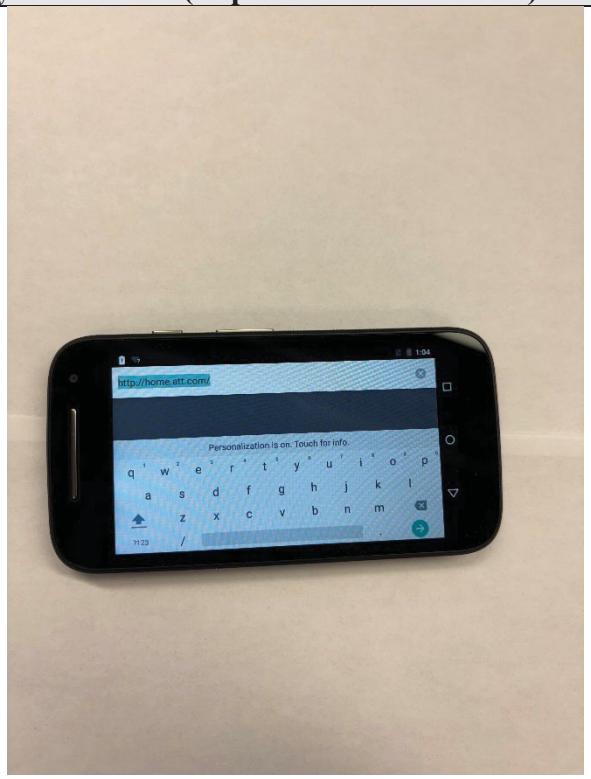
Tap a document name to open it:

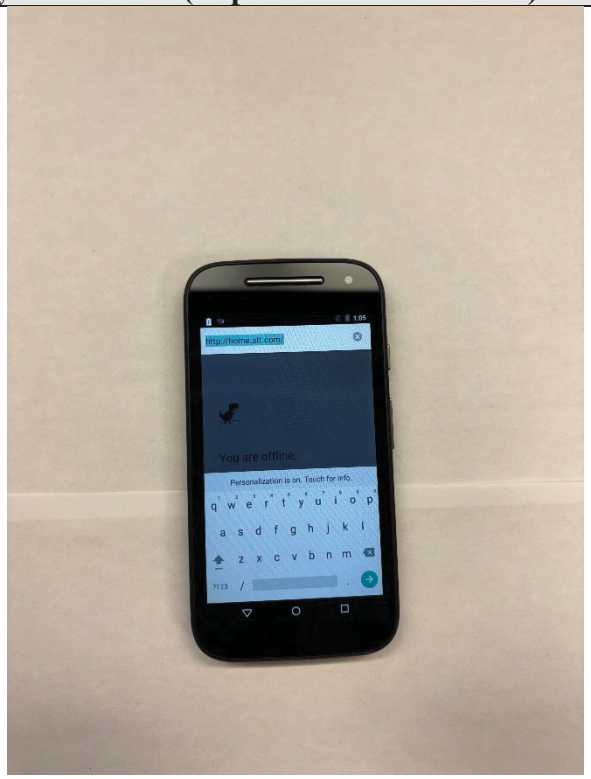
- Place your cursor by touching the text. The keyboard appears so you can type or edit text.
- Select text by double-tapping it. Editing options appear that let you cut, copy, or paste text.
- Use edit tools at the top of the screen to format text and paragraphs. Tap **+** at the top to insert a table in the document.
- The changes you make are automatically saved to your Google Doc file.

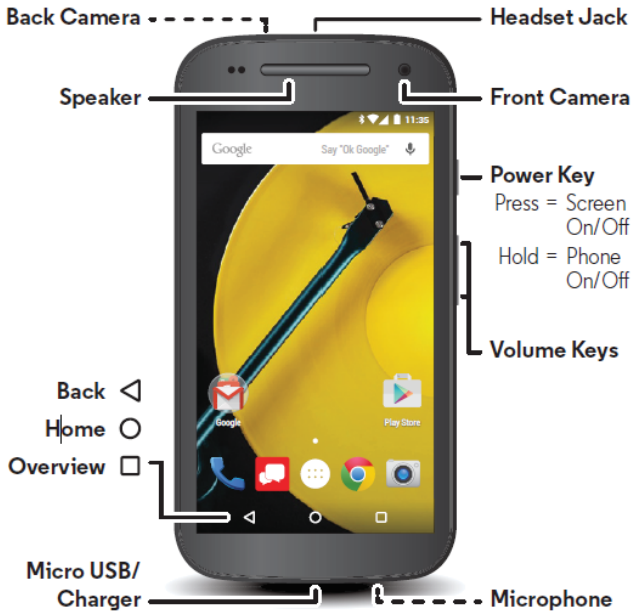
Tap Menu next to a document name to rename, copy, share, print, or delete the document.

For more information, tap → **Help & Feedback**.

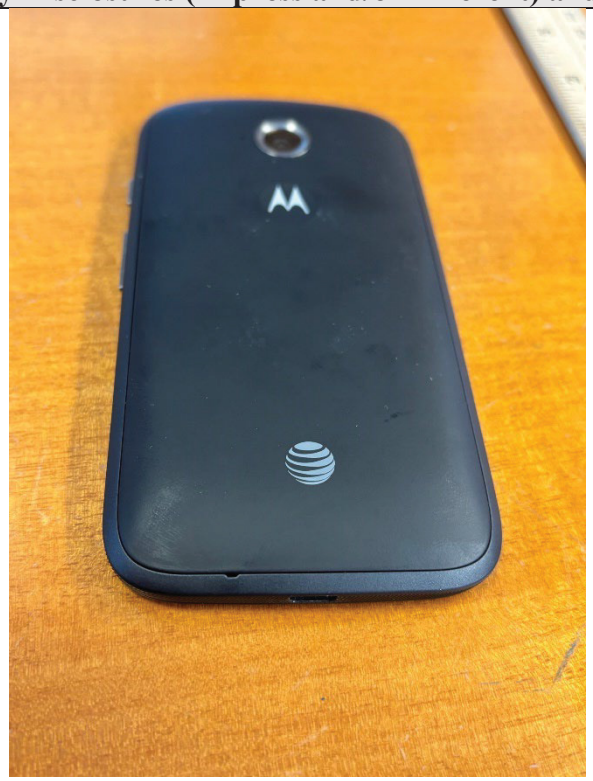
(User's Guide at 39.)

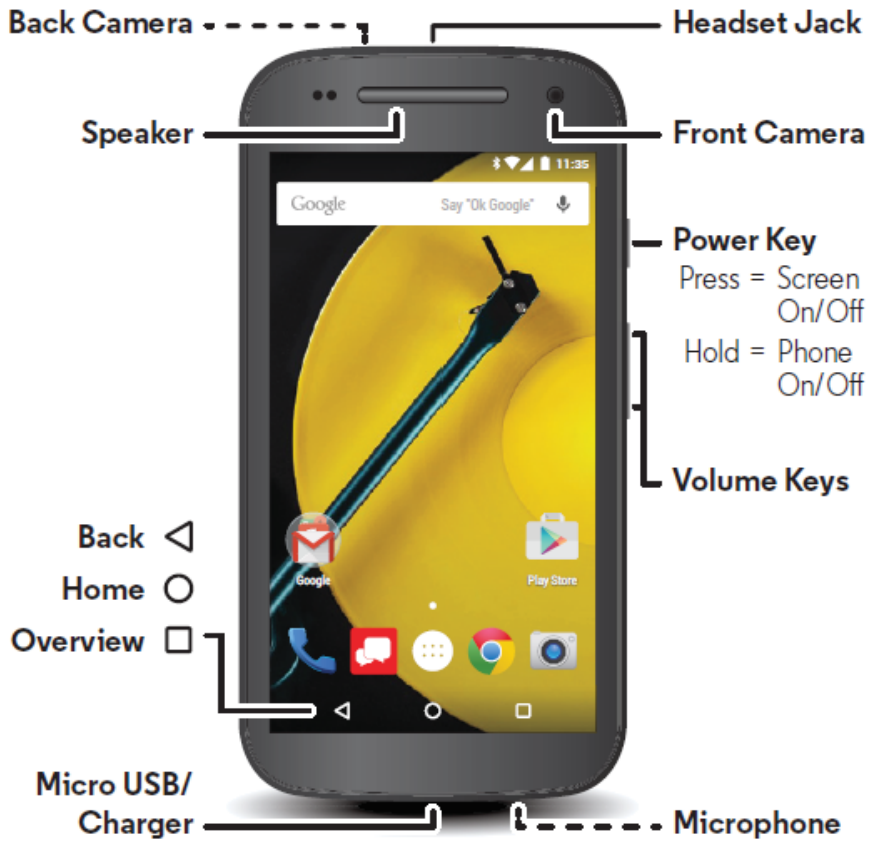
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[9g] a microphone and a speaker	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, Moto E includes a microphone and a speaker located at the bottom and top of the front surface of the housing, respectively. (User's Guide at 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (User's Guide at 2.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Moto E discloses a mobile device that does not include a physical key on the front surface or a physical keyboard. (User's Guide at 2.) Moto E responds to touchscreen or voice inputs, including via a virtual keyboard. (User's Guide at 2, 9, 17, 18, 19, 22, 25, 36.)  (User's Guide at 2.)

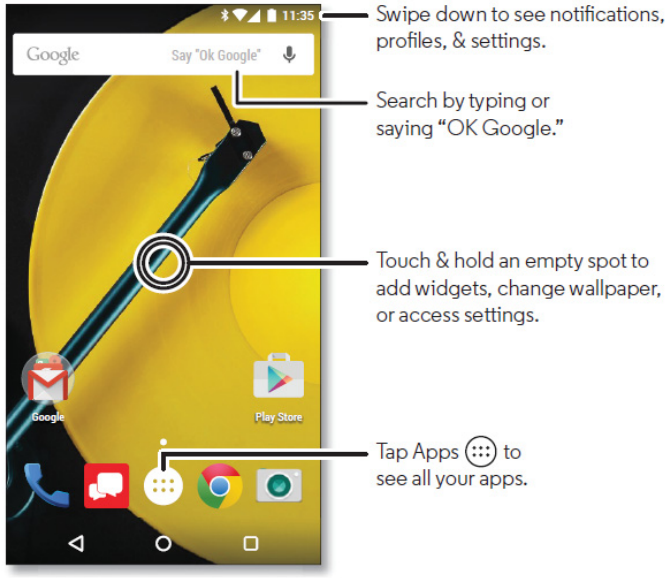
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include:

Home screen & apps

Quick start: Home screen & apps

You'll see the home screen when you turn on your phone or tap Home ○. From here you can explore apps, check notifications, speak commands, and more.

- **Add a shortcut to a home screen page:** Tap Apps ⋯, touch and hold an app, then drag it to your home screen, or to the right side of the home screen to add a new page.



(User's Guide at 9.)

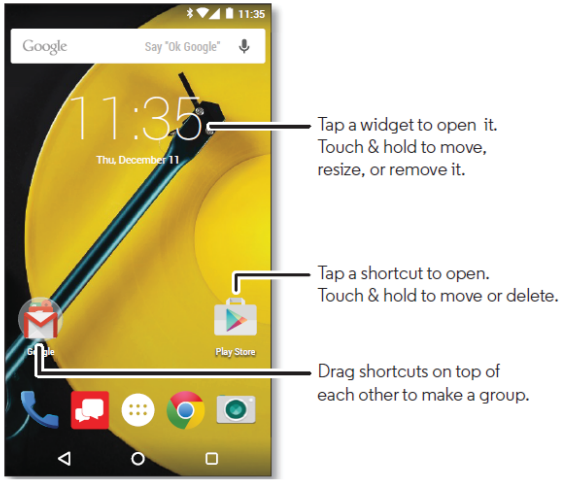
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Control & customize

Quick start: Control & customize

Take control of your phone:

- **Voice control:** From the home screen, say "OK Google" to control your phone by voice.
- **Customize your home screen:** To put widgets like a clock, interactive calendar, and more on your home screen, touch and hold an empty spot on the home screen.



Tips & tricks

- **Speak:** Tap in a search window or on a touchscreen keyboard to search by voice.
- **Uninstall apps:** Tap Apps, touch and hold an app, drag it to **App info**, then tap **Uninstall**. (You can't remove some apps.)
- **Ringtone for a contact:** To set a personal ringtone for a contact, tap Apps → **Contacts**, tap the contact, tap , then tap Menu → **Set ringtone**.
- **Quick settings:** To change **Wi-Fi**, **Bluetooth**, **Airplane mode**, brightness, and other settings, swipe the status bar down with two fingers. For even more settings, tap .
- **Add a home screen page:** Drag an app icon to the right side of the homescreen until you see a white bar. You can add multiple pages.

(User's Guide at 17.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Controls and voice commands

Touch

Find your way around:

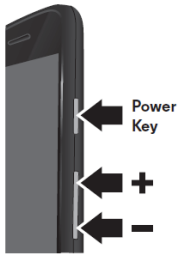
- **Tap:** Choose an icon or option.
- **Touch and hold:** Open options for items in lists.
- **Drag:** Move items on the home screen.
- **Flick:** Quickly open or delete items.
- **Swipe:** Scroll through lists or between screens.
- **Pinch or double-tap:** Zoom in and out on websites, photos, and maps.
- **Twist:** Twist a map with two fingers to rotate it, and pull two fingers down to tilt it.
- **Back:** Tap Back ◁ to go to the previous screen.
- **Home:** Tap Home ○ to return to the home screen.
- **Overview:** Tap Overview □ to show your recent apps, and tap an app to reopen it. To remove an app from the list, flick it left or right. To scroll the list, swipe up or down.
- **Menus:** When ⋮ or ☰ appears on a screen, you can tap it to open options for the current screen.
- **Close Keyboard:** To close a touchscreen keyboard, tap ▽.
- **Reboot:** To reboot your phone, press and hold the Power key until the screen goes dark and your phone restarts.

Press

Power key

To turn off your phone, press and hold the Power key, then tap **Power off**.

To conserve battery power, prevent accidental touches, or when you want to wipe smudges off your touchscreen, put the touchscreen to sleep by pressing the Power key. To wake up the touchscreen, just press the Power key again.



Tip: To add more security to your phone, see "**Protect**" on page 56.

Volume keys

Your volume keys help in a few ways:

- **Ringer volume:** Press the keys in the home screen. Press them when your phone is ringing to silence it.
- **Earpiece volume:** Press the keys during a call.
- **Music/video volume:** Press the keys during a song or video.

Tip: For more on volume control, see "**Volume**" on page 13.

(User's Guide at 18.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Speak

Just tell your phone what you want.

Tip: Speak naturally but clearly, like using a speakerphone.

- **Dialing and commands:** From the home screen, say "OK Google" or tap to control your phone by voice.

  To dial, say "Call" followed by a contact name or phone number. Or, say a command like "Send text," "Go to" an app, or "Help" for voice command help.

  Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work").

- **Search:** From the home screen, say "OK Google" or tap to search by voice.

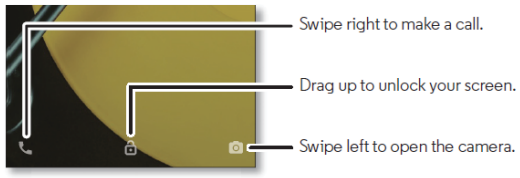
  To change your voice input and text-to-speech settings, tap Apps → **Settings** → **Language & input**.

- **Text entry:** On a touchscreen keyboard, tap , then speak your message or search text. You can also speak punctuation.

Tip: To make your phone read out loud, see "**TalkBack**" on page 22.

On, off, lock & unlock

Your touchscreen is on when you need it and off when you don't. To turn the screen on, press the Power key.



- **Screen off & on:** Press the Power key to turn the screen off & on.

  Note: During a call, your touchscreen might stay dark if the proximity sensor just above the top of the screen is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

- **Screen lock:** To unlock the screen, touch and drag up. To use a pattern, PIN, or password to unlock your screen, tap Apps → **Settings** → **Security** → **Screen lock** (see "**Screen lock**" on page 57).

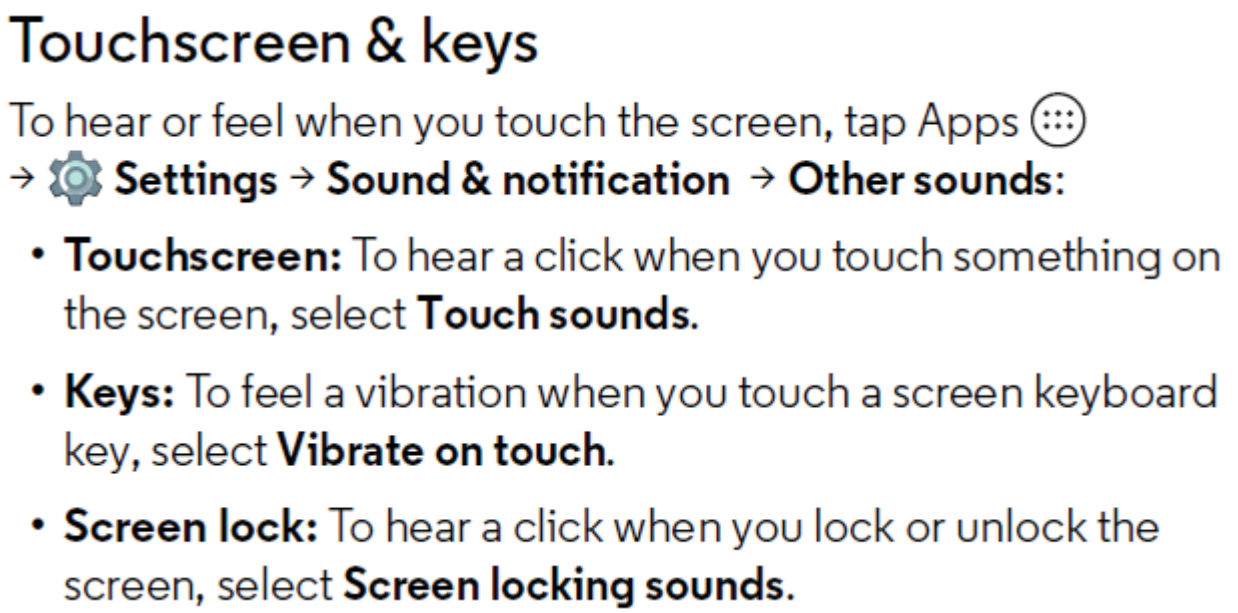
- **Owner info:** To add a message to your lock screen in case you lose your phone, tap Apps → **Settings** → **Security** → **Owner info**. (To set your message, just tap Back .)

  Tip: Don't put your mobile number as your contact info unless you can access your voicemail from another device.

(User's Guide at 19.)

Voice recognition

Just tell your phone what you'd like to do—dial, browse, search, send a text, and more. Check it out—say "OK Google" to control your phone by voice or ask your phone a question. Or, tap at the top of the home screen for voice search.

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(User's Guide at 22.)  Touchscreen & keys To hear or feel when you touch the screen, tap Apps → Settings → Sound & notification → Other sounds: • **Touchscreen:** To hear a click when you touch something on the screen, select **Touch sounds**. • **Keys:** To feel a vibration when you touch a screen keyboard key, select **Vibrate on touch**. • **Screen lock:** To hear a click when you lock or unlock the screen, select **Screen locking sounds**. (User's Guide at 25.)

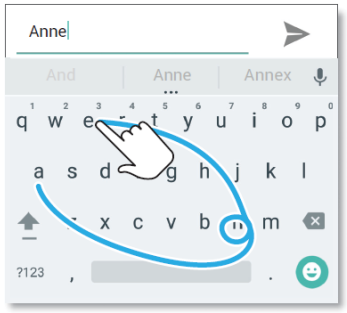
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Type

Quick start: Type

When you tap a text box, like in a message or search, you have keyboard options.

- **Type or gesture:** Enter letters by touching them one at a time. Or, enter a word by tracing a path through the letters.
- **Close the keyboard:** Tap ▽.



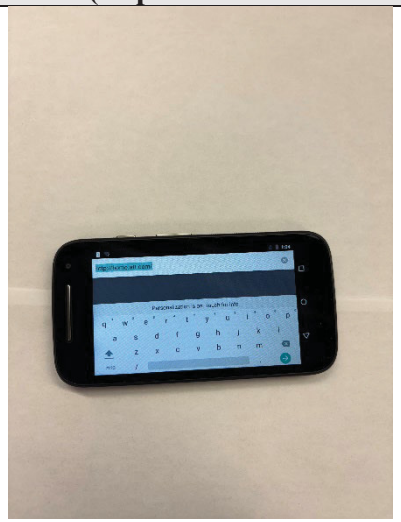
See a different keyboard? It varies by app. This one is for texting.

Tips & tricks

- **Keyboard changes:** Your touchscreen keyboard changes depending on whether you're entering a text message, email, or other text.
- **Move the cursor:** Tap a spot in the text to place the cursor, then drag the arrow under the cursor to move it.
- **Your dictionary:** To add a word you enter often, enter it, tap the word in the word list below the text box, then tap there again to add it to your dictionary.
- **Symbols:** Touch and hold a key to enter the small number or symbol at the top of it.

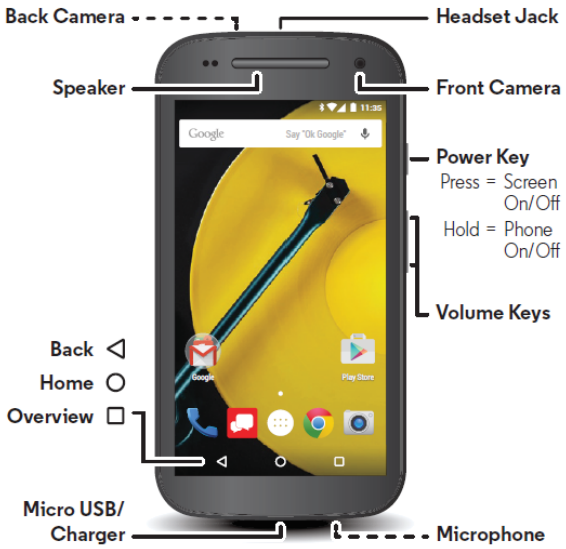
  To enter several numbers or symbols, tap ?123.
- **Double letters:** Circle a letter to enter two of them.
- **Capital letters:** Tap ⬆ or drag it to the letter you want to capitalize.
- **Special characters:** Touch and hold a letter to choose from other special characters.
- **Word prediction:** While you're typing, word suggestions appear above the keyboard. Tap one to select it.
- **Voice entry:** Tap 🎤 on the touchscreen keyboard, then say what you want to type. You can speak as long as you like, pause whenever you want, and dictate punctuation to create correct sentences.

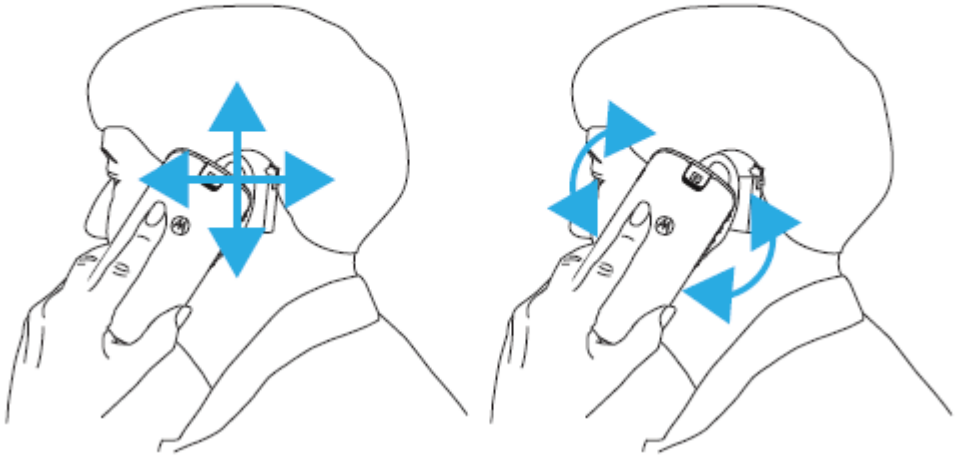
(User's Guide at 36.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

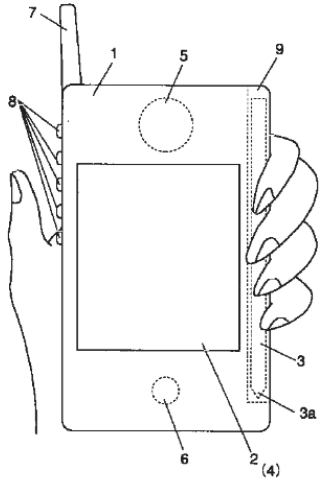
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, Moto E includes a speaker near the top of the front surface and a microphone near the bottom of the front surface. (User's Guide at 2.) During a call, Moto E was intended to be held against a user's face such that the microphone would be near the user's mouth and the speaker would be near the user's ear. (User's Guide at 26.)

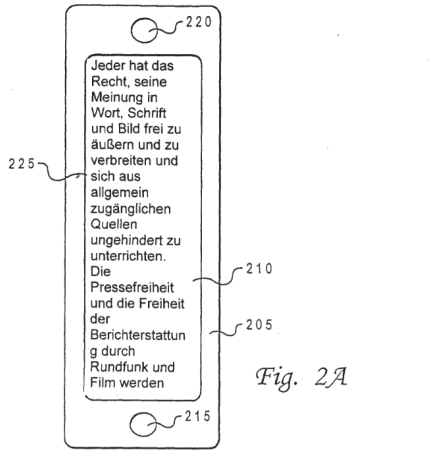
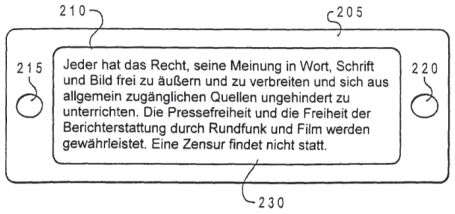
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (User's Guide at 2.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	• **Position:** During a call, hold the phone to your ear as normal, and then rotate/move it to get the best position for speaking and listening.  (User's Guide at 26.) Additional exemplary citations include:

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Moto E does not disclose or render obvious this limitation, it would have been obvious in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile device disclosed by Moto E such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (the mobile phone of Moto E with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendant incorporates all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendant incorporates all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Moto E is a phone, which is a mobile phone device, capable of making phone calls. (User's Guide at 27-29.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

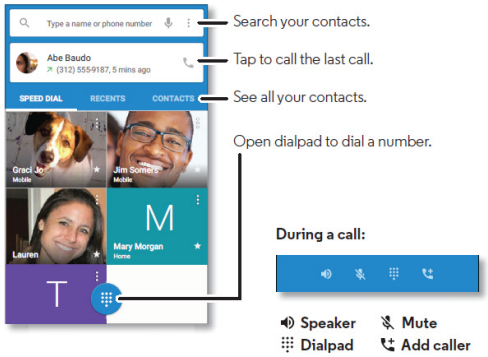
Calls

Quick start: Calls

Dial contacts, recent calls, or numbers, all from one app.

Find it: **Phone**

- To call a contact or recent call, tap it.
- To open the dialpad, tap . Enter a number, then tap to call it.



Tips & tricks

- **During a call:** Your touchscreen goes dark to avoid accidental touches. To wake it up, move it away from your face or press the Power key.
- **Multi-task:** While you're on a call, tap Home to hide the call screen and look up a phone number, address, or open other apps. To reopen the call screen, swipe the status bar down and tap **Ongoing call**.
- **People:** To search your contacts, tap **CONTACTS**.
- **Favorite contact:** Have someone you call all the time? Touch and hold an empty spot on the home screen, tap **WIDGETS**, then touch and hold the **Direct dial** widget. Drag it to your home screen, then select the contact. Tap the widget to dial the person.
- **Voicemail:** appears in the status bar when you have new voicemail. To hear it, tap **Phone** → , then touch and hold **1**.

(User's Guide at 27.)

Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Make, answer & end calls

When you make or answer a call, you have options:

- **Make a call:** Tap **Phone**, to see your recent calls, favorites, and frequently-called contacts. Select a contact or number to call it.

  To dial a number, tap , enter a number, then tap to call it.

  To enter the international dialing code (+), touch and hold **0**. To add a pause or wait after numbers, tap Menu .

  Note: You can make High-Definition Voice and Video calls with this phone when you add Advanced Calling to your line. Visit **verizonwireless.com/AdvancedCalling** to learn how.

- **Answer a call:** Touch and drag to .

  Note: When your phone is unlocked, tap **ANSWER**.

  With call waiting on, touch and drag to to answer the new call, then tap **Hold current call + Answer** or **End current call + Answer**.

- **Ignore a call:** Touch and drag to to send the call to your voicemail. You can also press the Power key to ignore the call, or press a volume key to silence the ringer.

  Note: When your phone is unlocked, tap **DISMISS**.

- **Respond with a text:** To send a pre-set message to an incoming call, touch and drag to . Select a message to immediately send it.

- **End a call:** Tap .

- **During a call:** Tap **Mute** at the bottom of the call screen to mute the call. To hide the call screen, tap Home . To reopen it, swipe the status bar down and tap **Ongoing call**.

  Note: When you hold your phone to your ear, the touchscreen goes dark to avoid accidental touches. When you move your phone away from your ear, the screen lights up again.

  During a call, your touchscreen might stay dark if the sensor just above it is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

Dial by voice

Say "OK Google," then say "Call" followed by a contact name or phone number.

Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work")."

Recent calls

View your calls (with newest first), and then call, text, or store them:

Find it: **Phone** → **RECENTS**

- To return a call, tap the caller's name or number, then tap **CALL BACK**.

(User's Guide at 28.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

- To send a text message, store the number, or other options, tap the caller's picture.
- To remove an entry from the call log, tap it, then tap **DETAILS** → .
- To clear the call history list, tap Menu → **Call History**, then tap Menu → **Clear call log**.

3-way calls

During a call, you can start another call, switch between them, or join them in a 3-way call:

- To answer a second call, touch and drag to . To ignore it, touch and drag to .

  The first call goes on hold if you answer the second call. To switch between calls, tap .
- To dial a second call, tap , enter a number, then tap to call it.

  The first call goes on hold when you tap . To join the calls after the second call answers, tap .

Your phone number

Find it: Apps → **Settings** → **About phone** → **Status** → **My phone number**.

Emergency calls

Note: Your service provider programs one or more emergency phone numbers you can call under any circumstances, even when your phone is locked. Emergency numbers vary by country. Your pre-programmed emergency number(s) may not work in all locations, and sometimes an emergency call cannot be placed due to network, environmental, or interference issues.

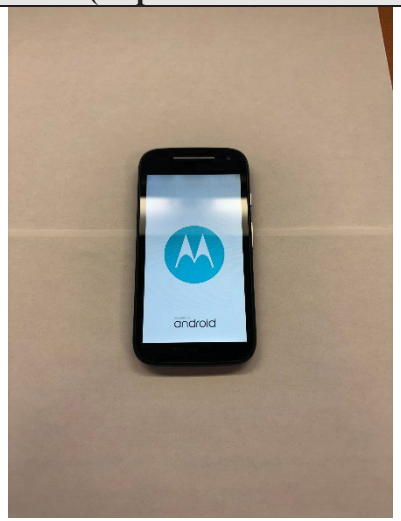
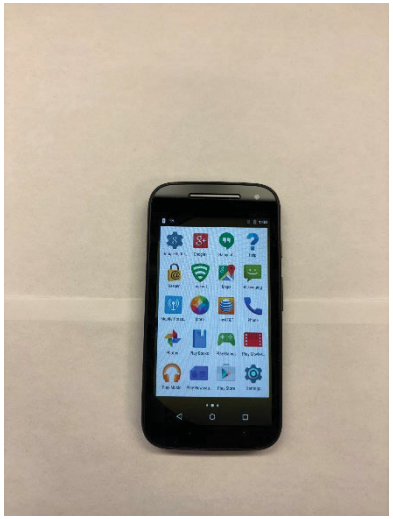
1 Tap **Phone** (if your phone is locked, swipe right and tap **EMERGENCY CALL**.

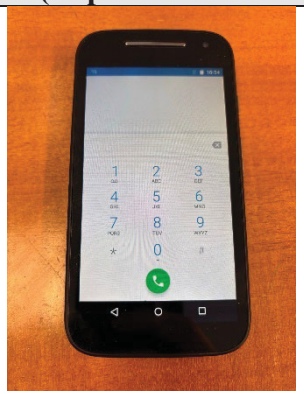
2 Enter the emergency number.

3 Tap to call the emergency number.

Note: Your phone can use location based services (GPS and AGPS) to help emergency services find you. See "Location Services" in your legal and safety information.

(User's Guide at 29.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)
[15a] a body having a practically rectangular shape;	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15b] a processor; and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, a POSITA would have understood that Moto E would have inherently included a processor because it is intended for use as a smart phone. (User's Guide at 27-29.) For example, Moto E discloses that apps use up "processing power." (User's Guide at 15.) • Like all apps, downloaded apps will use up memory, data, battery, and processing power—some more than others. For example, a simple battery level widget will use less than a streaming music player app. After installing an app, if you're not happy with how much memory, data, battery or processing power it's using, uninstall it. You can always install it again later. (User's Guide at 15.) Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

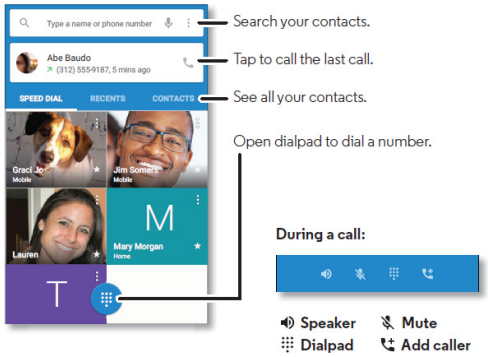
Calls

Quick start: Calls

Dial contacts, recent calls, or numbers, all from one app.

Find it: **Phone**

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Tips & tricks

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- **People:** To search your contacts, tap **CONTACTS**.
- **Favorite contact:** Have someone you call all the time? Touch and hold an empty spot on the home screen, tap **WIDGETS**, then touch and hold the **Direct dial** widget. Drag it to your home screen, then select the contact. Tap the widget to dial the person.
- **Voicemail:** appears in the status bar when you have new voicemail. To hear it, tap **Phone** → , then touch and hold **1**.

(User's Guide at 27.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Make, answer & end calls

When you make or answer a call, you have options:

- **Make a call:** Tap **Phone**, to see your recent calls, favorites, and frequently-called contacts. Select a contact or number to call it.

  To dial a number, tap , enter a number, then tap to call it.

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- **Answer a call:** Touch and drag to .

  Note: When your phone is unlocked, tap **ANSWER**.

  With call waiting on, touch and drag to to answer the new call, then tap **Hold current call + Answer** or **End current call + Answer**.

- **Ignore a call:** Touch and drag to to send the call to your voicemail. You can also press the Power key to ignore the call, or press a volume key to silence the ringer.

  Note: When your phone is unlocked, tap **DISMISS**.

- **Respond with a text:** To send a pre-set message to an incoming call, touch and drag to . Select a message to immediately send it.

- **End a call:** Tap .

- **During a call:** Tap **Mute** at the bottom of the call screen to mute the call. To hide the call screen, tap Home . To reopen it, swipe the status bar down and tap **Ongoing call**.

  Note: When you hold your phone to your ear, the touchscreen goes dark to avoid accidental touches. When you move your phone away from your ear, the screen lights up again.

  During a call, your touchscreen might stay dark if the sensor just above it is covered. Don't use covers or screen protectors (even clear ones) that cover this sensor.

Dial by voice

Say "OK Google," then say "Call" followed by a contact name or phone number.

Tip: If a contact has more than one number, you can say which number to call (for example, "Call Joe Black Mobile" or "Call Suzi Smith Work")."

Recent calls

View your calls (with newest first), and then call, text, or store them:

Find it: **Phone** → **RECENTS**

- To return a call, tap the caller's name or number, then tap **CALL BACK**.

(User's Guide at 28.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

- To send a text message, store the number, or other options, tap the caller's picture.
- To remove an entry from the call log, tap it, then tap **DETAILS** → .
- To clear the call history list, tap Menu → **Call History**, then tap Menu → **Clear call log**.

3-way calls

During a call, you can start another call, switch between them, or join them in a 3-way call:

- To answer a second call, touch and drag to . To ignore it, touch and drag to .

  The first call goes on hold if you answer the second call. To switch between calls, tap .
- To dial a second call, tap , enter a number, then tap to call it.

  The first call goes on hold when you tap . To join the calls after the second call answers, tap .

Your phone number

Find it: Apps → **Settings** → **About phone** → **Status** → **My phone number**.

Emergency calls

Note: Your service provider programs one or more emergency phone numbers you can call under any circumstances, even when your phone is locked. Emergency numbers vary by country. Your pre-programmed emergency number(s) may not work in all locations, and sometimes an emergency call cannot be placed due to network, environmental, or interference issues.

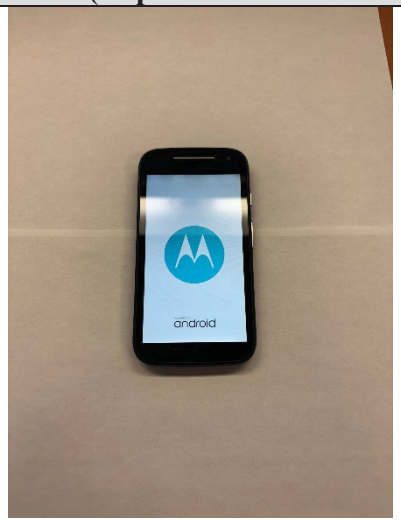
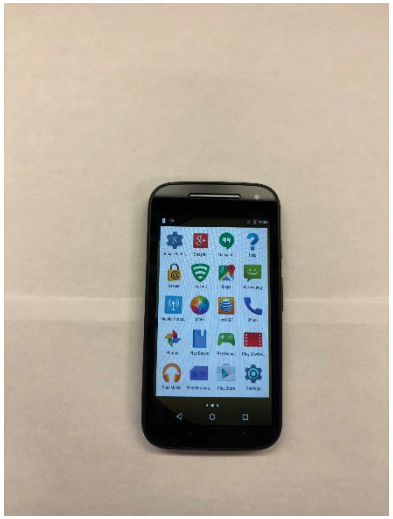
1 Tap **Phone** (if your phone is locked, swipe right and tap **EMERGENCY CALL**.

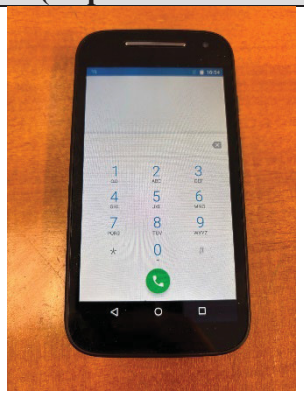
2 Enter the emergency number.

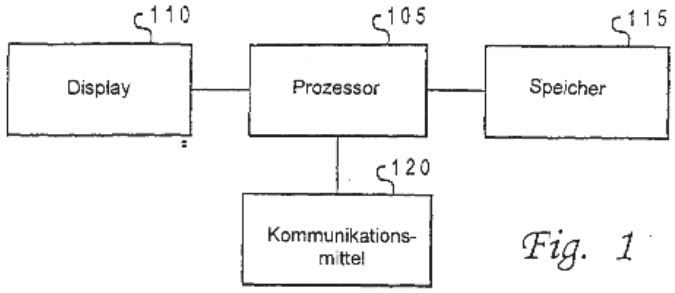
3 Tap to call the emergency number.

Note: Your phone can use location based services (GPS and AGPS) to help emergency services find you. See "Location Services" in your legal and safety information.

(User's Guide at 29.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.)  (Moto E Device.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Moto E Device.) To the extent Keyless argues that Moto E does not disclose or render obvious this limitation, it would have been obvious in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of Moto E combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 1 (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Moto E to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Moto E to arrive at the claimed invention. Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said device;	device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Moto E, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
	show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
interaction with an icon, the corresponding application is opened on the screen.	Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface")

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendant incorporates all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendant reserves the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait	Moto E, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra*

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C12

Exhibit C12
Invalidity of Asserted Claims of the '144 Patent
in view of Lumia 640

The Microsoft Lumia 640 ("Lumia 640") was publicly available, sold, offered for sale, and/or used in the United States and was thus available to and known or used by others, at least as early as March 2, 2015. The Lumia 640 is described in at least the following documents and other materials cited in this chart:

- Microsoft Mobile, *User Guide Lumia 640* (April 10, 2015), https://www.att.com/support_static_files/manuals/Microsoft_Lumia_640.pdf, ("User Guide"), SAM-KEY_00992684-00992824.
- Microsoft, *Microsoft Lumia Prepared for Anything* (March 2, 2015), https://news.microsoft.com/download/presskits/lumia/docs/640rg.pdf, ("Prepared for Anything"), SAM-KEY_00992626-00992663.
- Microsoft Corp., *Introducing Microsoft Lumia with Windows 10* (2015), https://download.microsoft.com/documents/uk/smb/products/windows-phone/Microsoft-Lumia-Brochure.pdf, ("Introducing Microsoft Lumia"), SAM-KEY_00992668-00992683.
- AT&T, *Device Diagram*, https://www.att.com/device-support/devicediagram/Microsoft/Microsoft640, ("Device Diagram"), SAM-KEY_00992827-00992828.
- NDTV Correspondent, *Microsoft Lumia 640, Lumia 640 XL Launched Alongside Dual SIM, LTE Variants*, Gadgets360 (March 3, 2015), https://www.gadgets360.com/mobiles/news/microsoft-lumia-640-lumia-640-xl-launched-alongside-dual-sim-lte-variants-666218, SAM-KEY_00992848-00992850.
- A. Fraser, *Work and Play With Lumia 640 XL*, Microsoft Corp. (March 2, 2015), https://web.archive.org/web/20150304133952/http:/lumiaconversations.microsoft.com/2015/03/02/work-and-play-with-lumia-640-xl/, SAM-KEY_00992869-00992873.
- B. LeBlanc, *Announcing the Lumia 640 and Lumia 640 XL*, Microsoft Corp. (March 2, 2015), https://blogs.windows.com/windowsexperience/2015/03/02/announcing-the-lumia-640-and-lumia-640-xl/#b9UC1S5GyyhX3Gso.97, SAM-KEY_00992829-00992830.
- Documents produced in this litigation, as cited herein.

- Physical products acquired in this litigation, including but not limited to a Lumia 640 device.
- Expected testimony and evidence regarding development, design, and/or use of Lumia 640.

Lumia 640 qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under AIA 35 U.S.C. § 102(a)(1).[1] Lumia 640 was publicly available, sold, offered for sale, and/or used before the priority date to which the '144 patent claims are entitled, if any.

Lumia 640 anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Lumia 640 does not disclose one or more limitations of the claims, it would have been obvious to combine Lumia 640 with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Lumia 640 and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.
- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §§102(a)(1). *See also* Ex. C6.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

With respect to the proposed modifications to Lumia 640, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure

should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

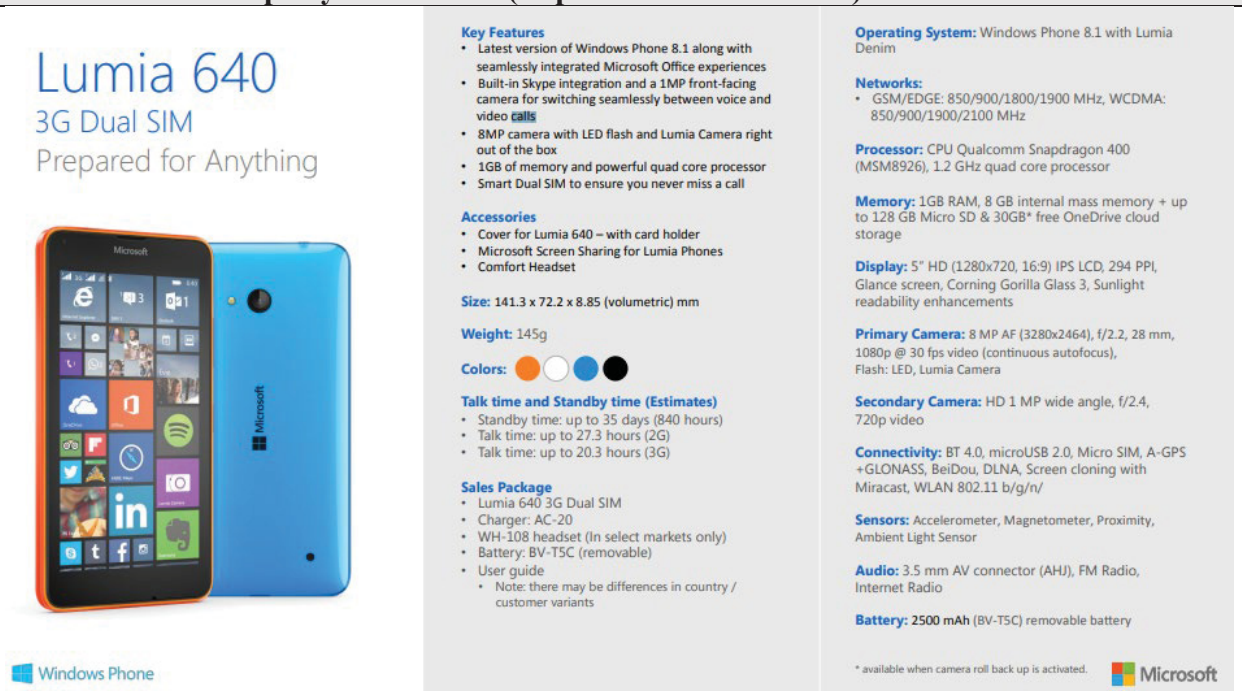
Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserve the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

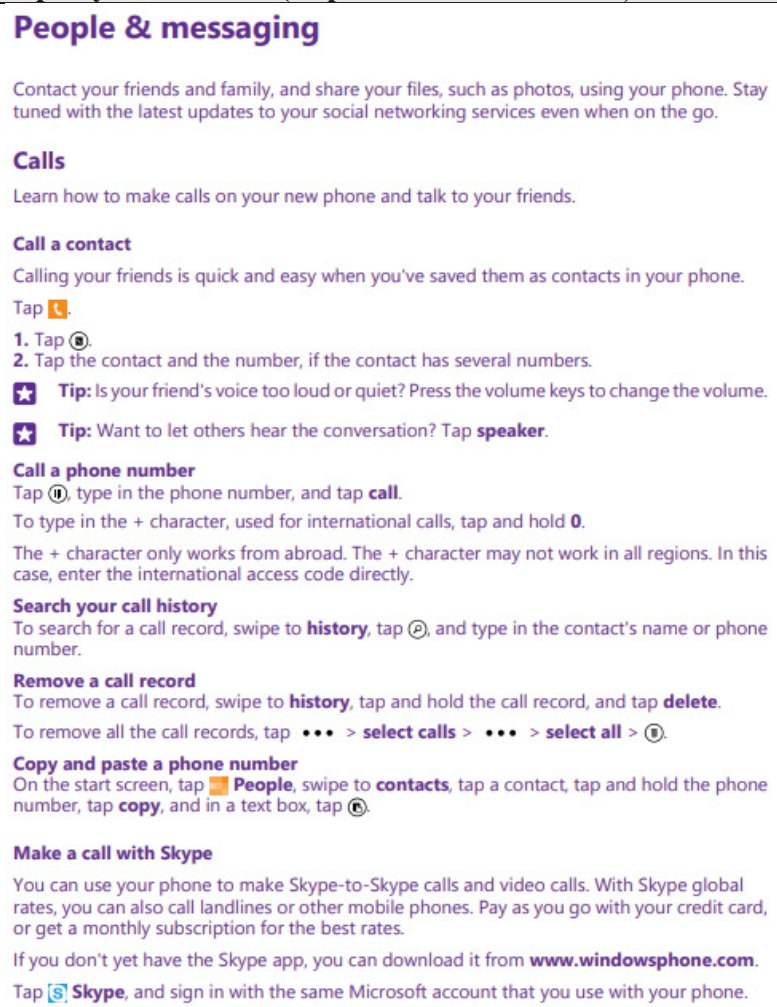
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Lumia 640, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Lumia 640 is a phone, which is a mobile phone device, capable of making phone calls. (User Guide at 16, 23, 27, 38, 62, 117; Prepared for Anything at 2-4, 9, 16; Introducing Microsoft Lumia at 3, 5, 12, 13; Device Diagram.)  (Introducing Microsoft Lumia at 5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Prepared for Anything at 2.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	

People & messaging

Contact your friends and family, and share your files, such as photos, using your phone. Stay tuned with the latest updates to your social networking services even when on the go.

Calls

Learn how to make calls on your new phone and talk to your friends.

Call a contact

Calling your friends is quick and easy when you've saved them as contacts in your phone.

Tap .

1. Tap .
2. Tap the contact and the number, if the contact has several numbers.

Tip: Is your friend's voice too loud or quiet? Press the volume keys to change the volume.

Tip: Want to let others hear the conversation? Tap **speaker**.

Call a phone number

Tap , type in the phone number, and tap **call**.

To type in the + character, used for international calls, tap and hold **0**.

The + character only works from abroad. The + character may not work in all regions. In this case, enter the international access code directly.

Search your call history

To search for a call record, swipe to **history**, tap , and type in the contact's name or phone number.

Remove a call record

To remove a call record, swipe to **history**, tap and hold the call record, and tap **delete**.

To remove all the call records, tap ••• > **select calls** > ••• > **select all** > .

Copy and paste a phone number

On the start screen, tap **People**, swipe to **contacts**, tap a contact, tap and hold the phone number, tap **copy**, and in a text box, tap .

Make a call with Skype

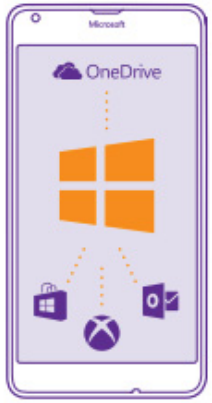
You can use your phone to make Skype-to-Skype calls and video calls. With Skype global rates, you can also call landlines or other mobile phones. Pay as you go with your credit card, or get a monthly subscription for the best rates.

If you don't yet have the Skype app, you can download it from **www.windowsphone.com**.

Tap **Skype**, and sign in with the same Microsoft account that you use with your phone.

(User Guide at 62.)

Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Your first Lumia? Let's get started. Set up your new phone, explore your phone's views and menus, and learn how to use the touch screen. **Set up your phone** Make the most out of your phone's features from the get-go.  When you turn your phone on for the first time, your phone guides you to set up your network connections, phone settings, and Microsoft account in one sitting. (User Guide at 16.)

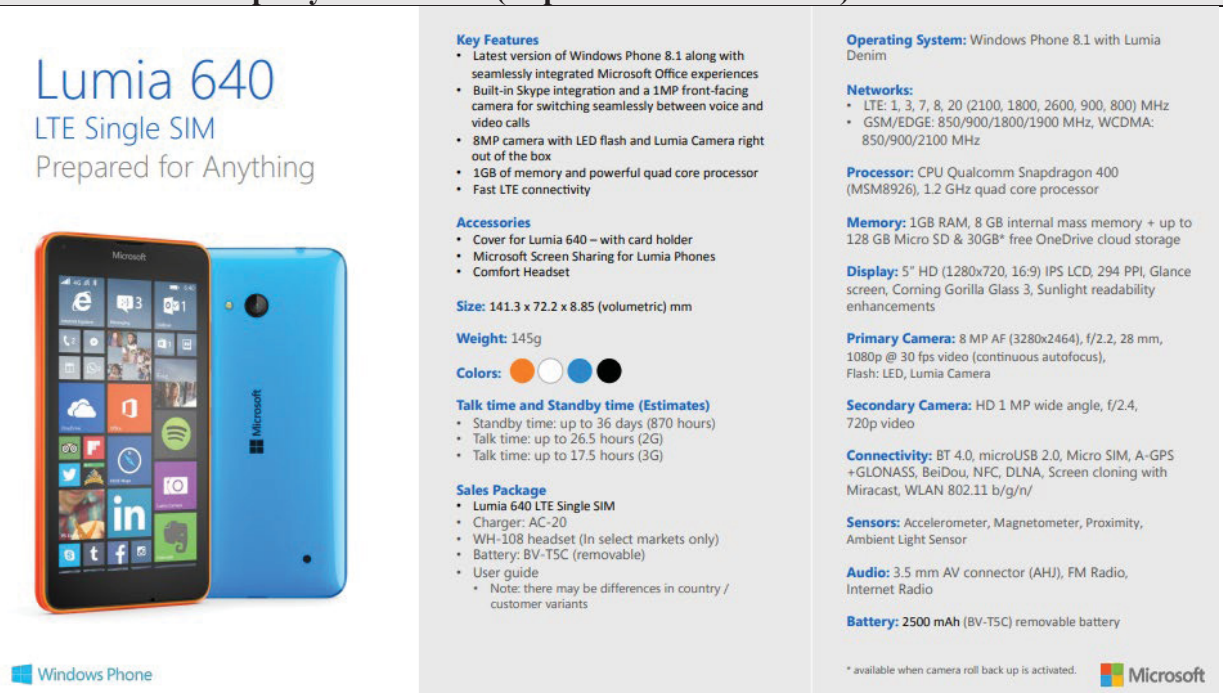
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Transfer content to your Lumia phone Learn how to transfer content to your Lumia phone. **Transfer content to your new Lumia phone** There are nifty ways to transfer your photos, videos, and other important stuff from your old to your new phone. These instructions may not apply to all phone models and manufacturers. You may need to install some apps on your phone or computer for the transfer. Depending on what you need to install and how much content you are transferring, the transfer may take a while. Some file formats may not be transferred. Some third-party converter apps may be available to convert the files to a format that can be transferred. (User Guide at 23.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Basics Learn how to get the most out of your new phone. **What's new in this release?** Check some of the key things in this release at a glance. • Find the settings you're looking for easily – settings are now reorganized into groups, and you can even search them. • Switch your calendar to show week numbers in the monthly view. • Turn mobile data on and off easily – add a shortcut to the action center. **Get to know your phone** Your phone has two views, start screen and apps menu. To switch between the views, simply swipe left or right.  (User Guide at 27.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Personalize your phone Learn how to personalize the start screen, and how to change ringtones.  (User Guide at 38.)

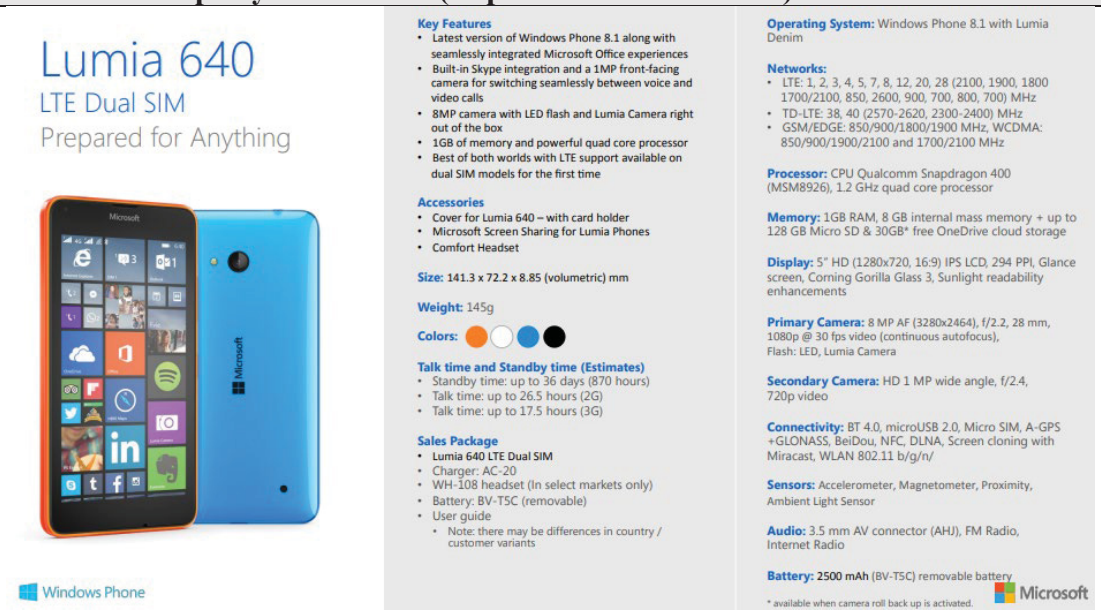
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Phone management & connectivity Take care of your phone and its contents. Learn how to connect to accessories and networks, transfer files, create backups, lock your phone, and keep the software up to date.  **Update your phone software** Stay in step with the beat – update your phone software and apps wirelessly to get new and enhanced features for your phone. Updating the software may also improve your phone performance.  Make sure that the device battery has enough power, or connect the charger before starting the update. ⚠ **Warning:** If you install a software update, you cannot use the device, even to make emergency calls, until the installation is completed and the device is restarted. (User Guide at 117.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Prepared for Anything at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Prepared for Anything at 4.)

TWO SIMS, ONE PHONE

- **Never miss a call** With Smart Dual SIM, all phone calls are delivered to the one phone ensuring people never miss a call. No more managing calls on multiple phones.
- **Save time and effort** Why carry around two phones, or constantly swap SIMs, when Windows Phone 8.1 very smartly displays your two SIM accounts separately, clearly labelling them 1 and 2, as well as highlighting each with different colours? It couldn't be easier.
- **Going abroad** While you remain connected to home with one SIM, getting an additional local SIM card while traveling makes it cheaper to connect with friends that live in your chosen destination too.
- **Full coverage** Avoid coverage 'not-spots' with two SIMs from opposing networks; when one loses signal, just use the other one. That way, you're always connected.
- **Work smart** Enjoy the convenience of just one phone that can serve your business and personal communication needs.
- **Save money** From buying just one phone instead of two, to enjoying the flexibility of choosing the best tariff for your connection with two SIMs, there's money to be saved with the Lumia 640 Dual SIM.

(Prepared for Anything at 9.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	

THIS IS LUMIA 640

WHAT'S NEW IN
LUMIA DENIM AND WINDOWS PHONE 8.1

With Windows Phone 8.1, you get the Start screen you can make your own, Live Tiles that provide updates at a glance, Office Mobile, Outlook Mobile, Windows Phone Hubs, and the Xbox entertainment experience. In fact, you get everything you liked about Windows Phone 8 and more, including tons of new features, enhancements, and under-the-hood improvements.

ACTION CENTER
Windows Phone's new Action Center gives you a single place to check for all your notifications, so you never miss a thing. New features include:
Quick actions. Customize the Action Center with customizable slots that you can use to access your favorite settings and even some applications.
Action Center above Lock screen. Windows Phone gives you the option to view notifications within Action Center even when your Lumia 640 is locked.
Notification settings. Select how you want to be alerted about notifications.
A convenient handle bar. For most screens, you simply swipe down to reveal the Action Center. But for full screen experiences, the handle bar makes it less likely that you'll accidentally activate Action Center.

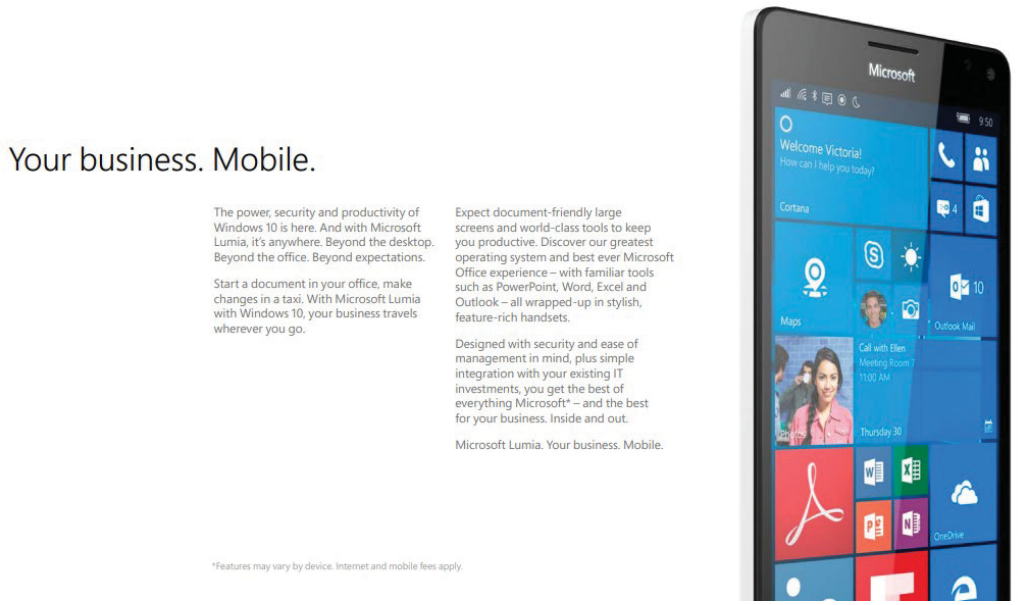
BATTERY SAVER
Battery Saver can be used to significantly stretch your battery by trading off non critical functionality. When Battery Saver is enabled, your Lumia 640 changes some non-essential phone functionality from automatic to manual, such as email sync, social media updates, etc., but the phone still receives text messages and phone calls. New and improved features include:
App-by-app monitoring. See which specific apps are using your battery, both when an app is in use and when it's running in the background.
App-by-app management. Windows Phone 8.1 now features built-in tools that let you control exactly which apps run in the background for more effective power management.
Battery Saver Live Tile. Features a power meter to indicate your phone's current power level at a glance.

BING / SEARCH
Your Lumia 640 can help you quickly find what you want without requiring you to launch your browser. Bing Search now also includes:
Full device search. Bing Search results now include items from both the web and your device, including email, messaging, calendar, apps, and contacts. Results are displayed in a new Phone panel along with panels for web, local, images and video.

Windows Phone Microsoft

(Prepared for Anything at 16.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Introducing Microsoft Lumia at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



Microsoft Lumia phones.
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Microsoft Lumia phones bring together cutting-edge technology with our celebrated Windows 10 operating system and business-focused tools.

The latest Microsoft Lumia phones are packed with the latest features, to get the most out of Windows 10. For example, the Microsoft Lumia 950 and 950 XL support Windows Hello Beta, an exciting innovation that uses biometric information to unlock your phone. These devices also support mobile docking and wireless charging, and have the latest features you'd expect from a business phone[1].

And with a commitment from Microsoft to continuous updates and innovations, this will only get better over time[2].

- **4G LTE-ready connectivity** – for faster data connections[2]
- **Gorilla Glass® and durable build** – help protect your investments from scratches and everyday damage[3]
- **Wireless charging** – select Microsoft Lumia phones (950 and 950 XL) can be charged wirelessly, keeping clutter to a minimum[3]
- **Qualcomm® Snapdragon™ processors** – for speed, connectivity and helping longer battery life
- **Replaceable batteries** – for more control
- **HD and wide-angle lenses** – for better video conferencing[3]

[1] Mobile docking and wireless charging features also require additional hardware and/or accessories (sold separately).
[2] Additional requirements will apply over time for updates, and availability my vary by device, carrier and market.
[3] Features may vary by device.



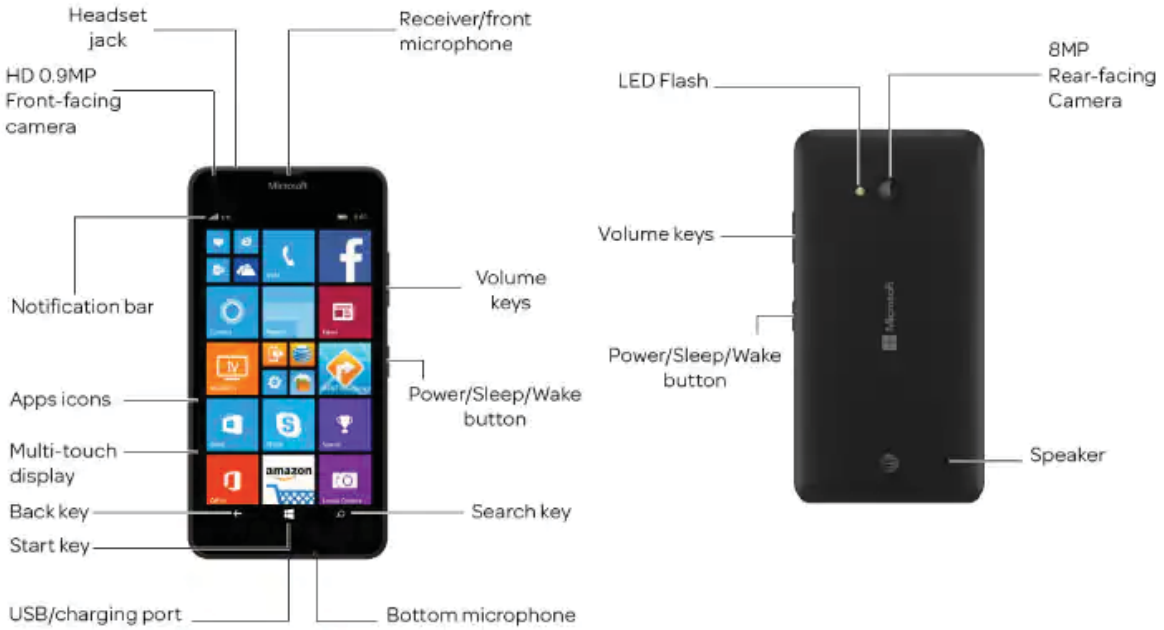
(Introducing Microsoft Lumia at 12.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Introducing Microsoft Lumia at 13.)

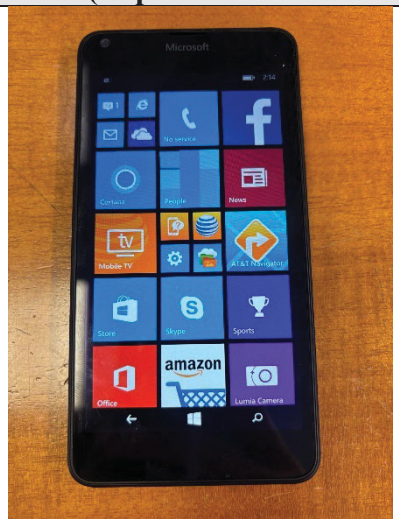
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Device Diagram

Get familiar with the hardware of your Microsoft Lumia 640



(Device Diagram.)

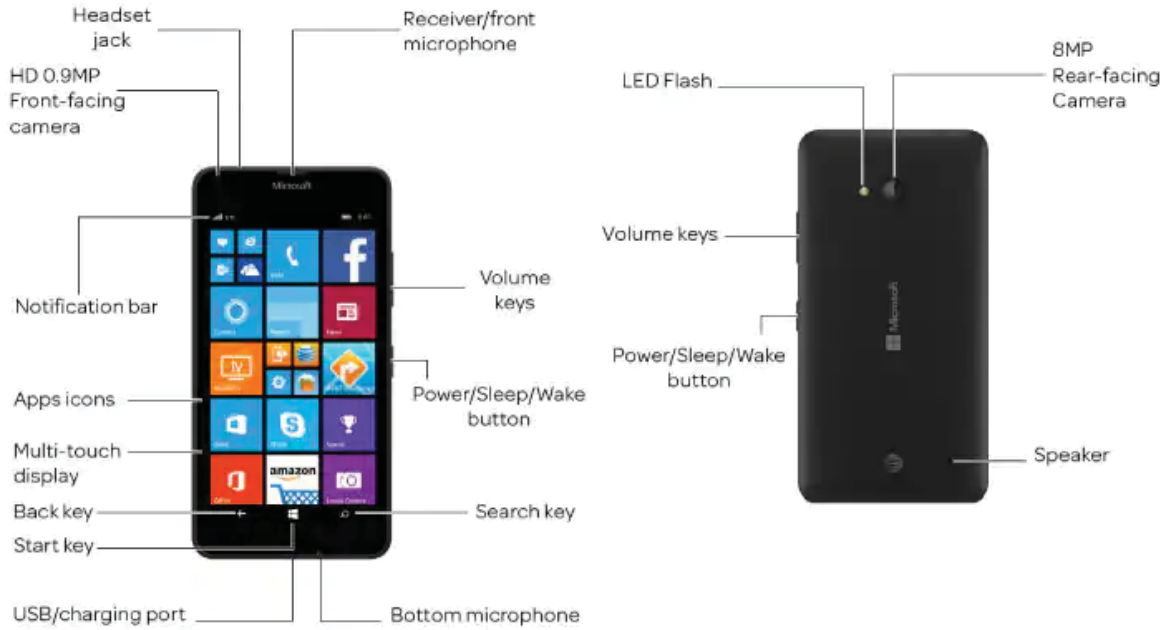
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Lumia 640 Device.)  (Lumia 640 Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Lumia 640, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Lumia 640 has a rectangular housing that contains the components of a mobile phone, such as a touchscreen, speaker, and microphone. (Device Diagram; User Guide at 5, 6; Prepared for Anything at 2-4; Introducing Microsoft Lumia at 12, 13.) The housing includes a front surface, a back surface, and four side surfaces. (Device Diagram; User Guide at 5, 6; Prepared for Anything at 2-4; Introducing Microsoft Lumia at 5, 9.)

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Device Diagram

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(Device Diagram.)

Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Get started

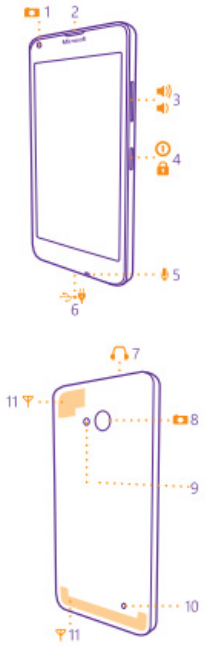
Get to grips with the basics, and have your phone up and running in no time.

Keys and parts

Explore the keys and parts of your new phone.

1 Front camera
2 Earpiece
3 Volume keys
4 Power/Lock key
5 Microphone
6 Micro-USB connector
7 Audio connector AHJ 3.5 mm
8 Camera lens
9 Camera flash
10 Microphone
11 Antenna area

Some of the accessories mentioned in this user guide, such as charger, headset, or data cable, may be sold separately.



Insert the SIM and memory card

Read on to learn how to insert a SIM card into your phone.

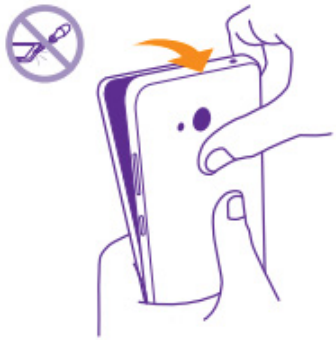
Important: Your device uses a micro-SIM card, also known as a mini-UICC SIM card. Use only original micro-SIM cards. Use of incompatible SIM cards, or use of SIM card adapters, may damage the card or the device, and may corrupt data stored on the card.

(User Guide at 5.)

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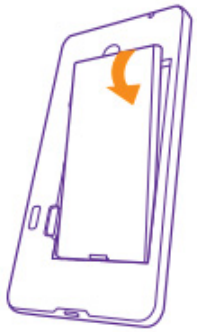
Note: Turn the device off and disconnect the charger and any other device before removing any covers. Avoid touching electronic components while changing any covers. Always store and use the device with any covers attached.

1. Switch your phone off.
2. On the corner of the phone, put the tip of your index finger in the seam between the screen frame and the back cover. Press the middle of the back cover, bend the cover open, and remove it.



Do not use any sharp tools, as they may damage the screen.

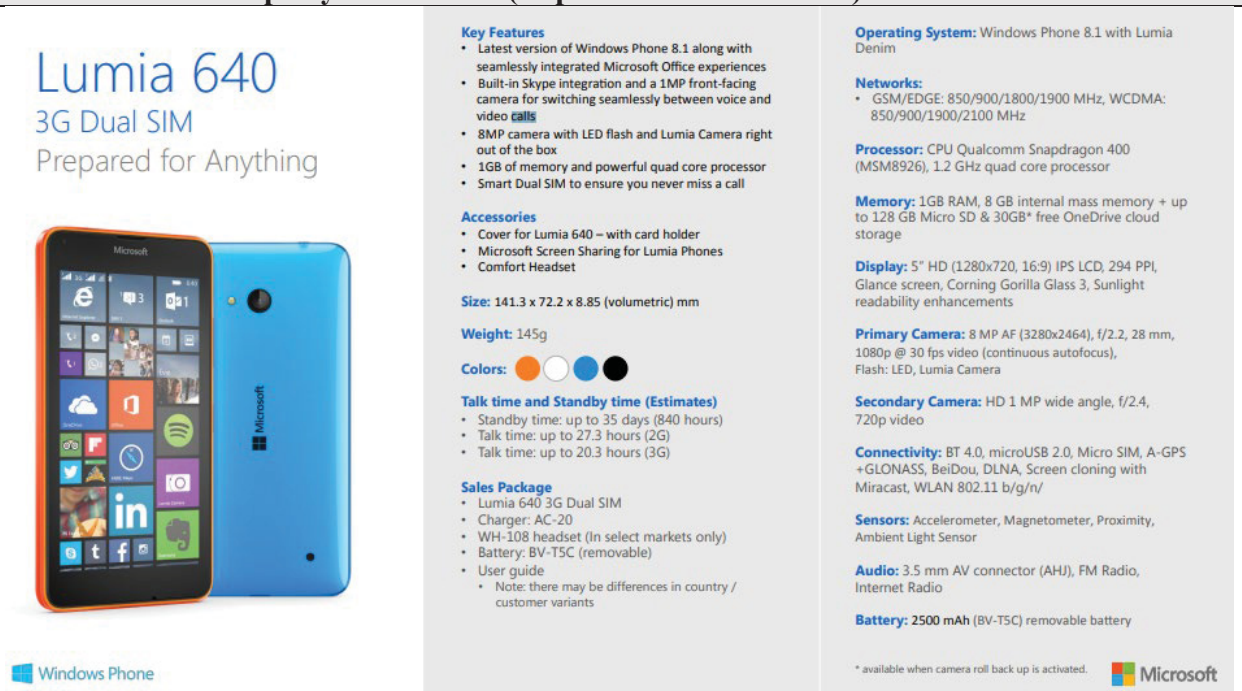
3. If the battery is in, lift it out.



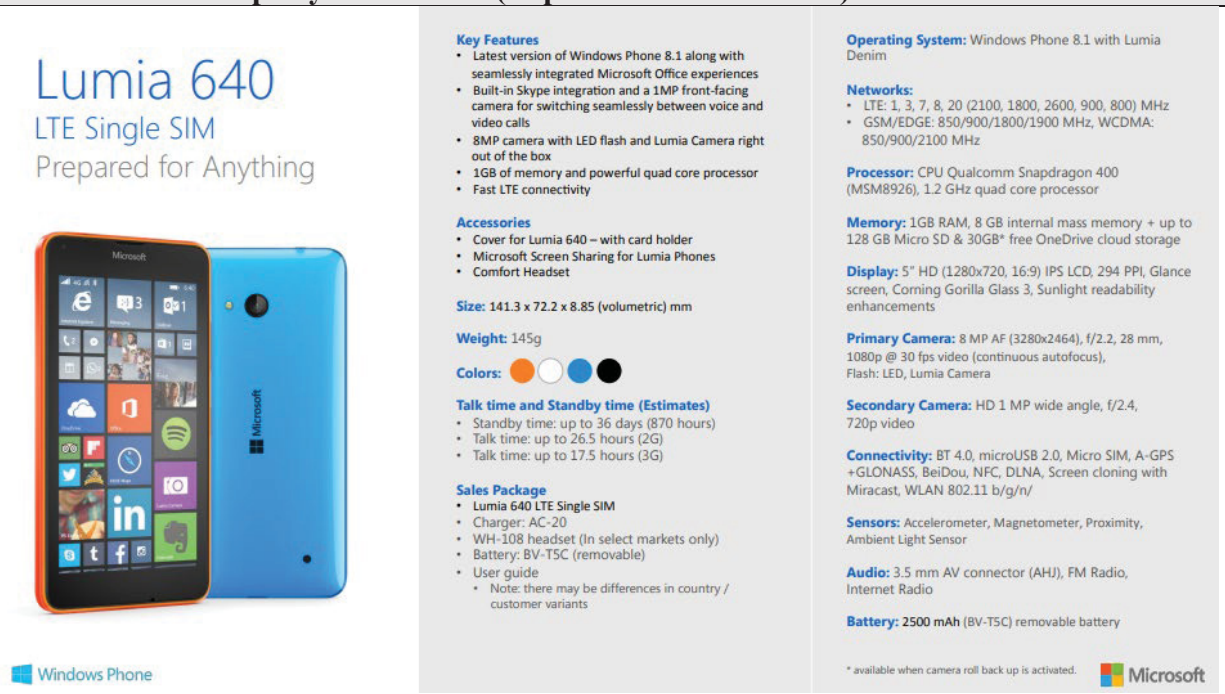
4. Push the SIM card into the SIM slot with the metal contact area down.

(User Guide at 6.)

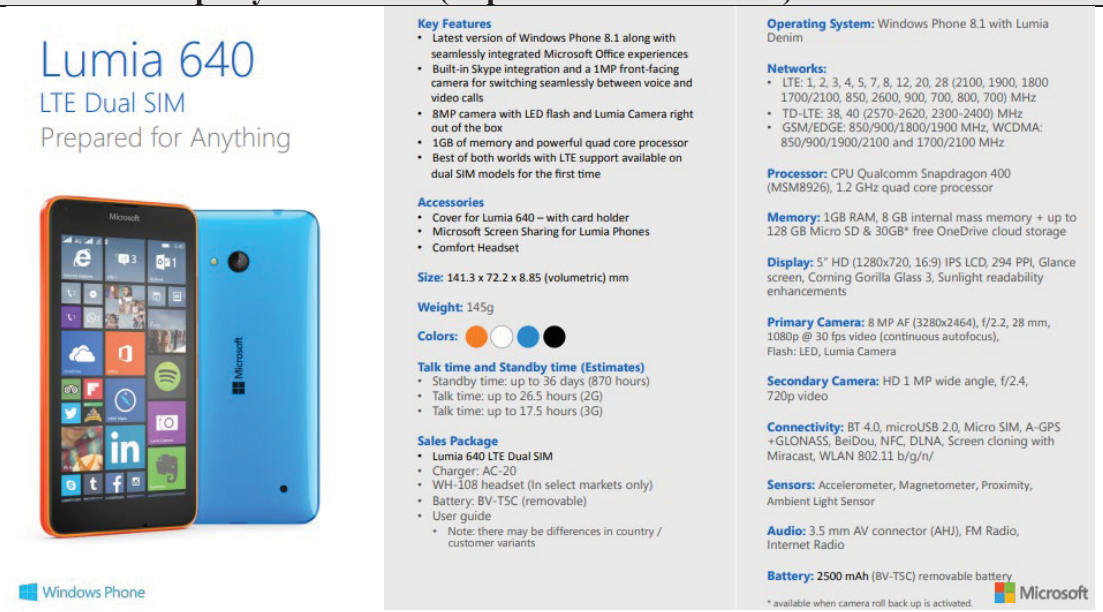
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(Prepared for Anything at 2.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Prepared for Anything at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Prepared for Anything at 4.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(Introducing Microsoft Lumia at 5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



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(Introducing Microsoft Lumia at 13.)

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(Lumia 640 Device.)



(Lumia 640 Device.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Lumia 640 Device.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Lumia 640, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, Lumia 640 includes a speaker, or earpiece, near the top of the front surface and a microphone near the bottom of the front surface. (Device Diagram; User Guide at 5; Prepared for Anything at 33.) A POSITA would have understood that Lumia 640's length, including the length of its front surface, would correspond to the distance between the ear and mouth of the user because such dimensions would have been obvious to allow the user to hold the end of the device containing the speaker against their ear and the end of the device containing the microphone near their mouth.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Get started

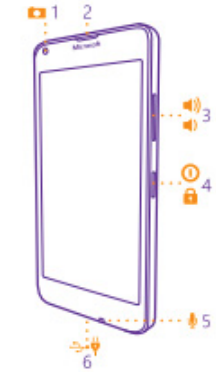
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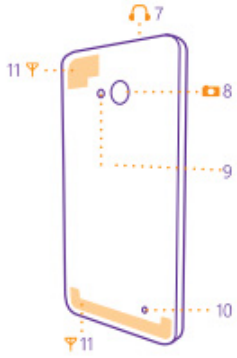
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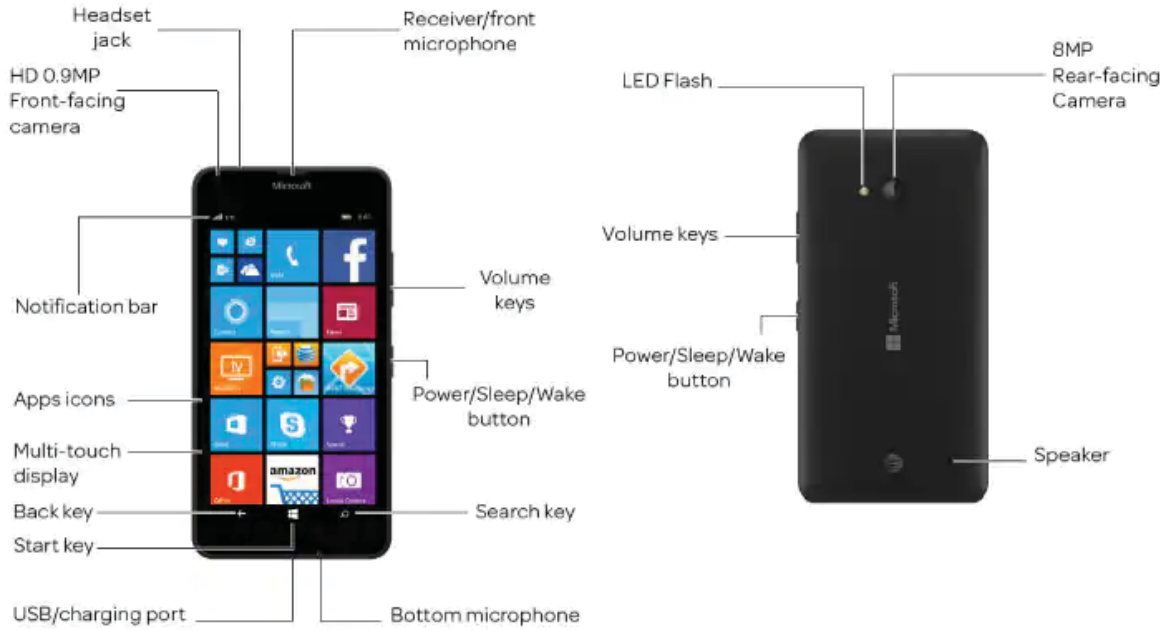


(User Guide at 5.)

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(Device Diagram.)

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