IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

KEYLESS LICENSING LLC,	§	
	§	Civil Action No. 2:24-cv-00464
Plaintiff,	§	
	§	
v.	§	**JURY TRIAL DEMANDED**
	§	
SAMSUNG ELECTRONICS AMERICA, INC. and SAMSUNG ELECTRONICS CO., LTD.,	§	
	§	
Defendants.	§	
	§	

PLAINTIFF KEYLESS LICENSING LLC'S ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Keyless Licensing LLC ("Keyless" or "Plaintiff") brings this action for patent infringement against Defendants Samsung Electronics America, Inc. ("SEA") and Samsung Electronics Co., Ltd. ("SEC") (collectively "Samsung" or "Defendants"), and hereby, on knowledge as to its own actions, and upon information and belief as to all other matters, alleges as follows:

NATURE OF THE ACTION

1. This civil action arises under 35 U.S.C. § 271 for Samsung's infringement of Keyless' U.S. Patent Nos. 9,304,602 ("the '602 patent"), 10,976,922 ("the '922 patent"), and 11,503,144 ("the '144 patent") (collectively, the "Patents-in-Suit," attached hereto as Exhibits 1, 2, and 3, respectively) under the patent laws of the United States, 35 U.S.C. § 1 *et seq*.

2. Keyless seeks damages and other relief for Samsung's infringement of Keyless' valuable patent rights relating to systems for receiving and responding to input via a mobile device, as well as the physical design thereof.

BACKGROUND

3. The inventions in this case relate to important technology that, *inter alia*, captures and processes user input in mobile devices to allow those devices to obtain and respond to user input in a flexible, efficient, and highly user-friendly manner, as well as novel systems for the design of those devices.

4. In modern mobile devices, receiving and responding to input is a critical functionality. A mobile device must seek a user's input, adjust to that user's input, and operate pursuant to that input. Handling this input is a core component of the user's experience with that mobile device.

5. Mobile devices including cellular phones, tablets, and other portable devices are widely used by the public due to their portability and size. Yet, the size of these devices poses an issue when a user interacts with the device to enter input, such as text into an on-screen keyboard. A mobile device must balance the need for a user to have access to a full range of inputs of, for example, a keyboard, while also maintaining the ability of that user to interact with applications in use and any content being viewed. A user must also be able to easily operate the device to make the desired input in multiple situations, including without limitation while walking, with one hand, with larger fingers, and with imperfect coordination.

6. Benjamin Ghassabian, the inventor of the Patents-in-Suit, understood the importance of this input, and invented novel systems for the design of mobile devices, and for the capture and processing of user input in those devices that allows mobile devices to capture and respond to user input in a flexible, efficient, and highly user-friendly manner. His inventions were a significant advance in the field of user interfaces and input control in mobile devices. Mr. Ghassabian filed U.S. patent applications to protect his invention at least as early as April 18, 2003,

and the U.S. Patent & Trademark Office granted him the ’602, ’922, and ’144 validly issued U.S. patents. Because of his inventions, including his inventions in the ’602, ’922, and ’144 patents, Mr. Ghassabian’s groundbreaking work has been recognized internationally for decades. *See, e.g.,* Kevin Ohannessian, “This Smartwatch Keyboard Is The Second Coming Of T9,” Fast Company (Jun. 2, 2015), https://www.fastcompany.com/3046742/this-smartwatch-keyboard-is-the-second-coming-of-t9.

7. Years after Mr. Ghassabian’s inventions, input technology continues to be vital to mobile devices, including without limitation because these devices play larger roles in society and run applications that must accurately process and respond to user input.

THE PARTIES

8. Keyless is an inventor-owned limited liability company (“LLC”) organized under the laws of the State of Texas with a place of business at 101 E. Park Boulevard, Suite 600, Plano, Texas, 75074.

9. Upon information and belief, Defendant SEA is a corporation organized under the law of the State of New York with its principal place of business located at 85 Challenger Road, Ridgefield Park, New Jersey 07660, and with corporate offices at 6625 Excellence Way, Plano, Texas 75023. SEA’s registered agent is CT Corporation System located at 28 Liberty Street, New York, NY 10005. Since June 10, 1996, SEA has been registered to do business in Texas under Texas SOS file number 0011028006, and may also be served through its registered agent, CT Corporation System, located at 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

10. Defendant SEC is a corporation organized and existing under the laws of the Republic of Korea with its principal place of business at 129 Samsung-ro, Maetan-3dong, Yeongton-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea. SEC may be served via its

domestic entities or by process under the Hague convention.

JURISDICTION AND VENUE

11. Keyless realleges the foregoing paragraphs as if fully set forth herein.

12. Jurisdiction and venue for this action are proper in the Eastern District of Texas.

13. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq*.

14. Each Defendant is subject to this Court's personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

15. Personal jurisdiction exists generally over the Defendants because each Defendant has sufficient minimum contacts and/or has engaged in continuous and systematic activities in the forum as a result of business conducted within Texas, including in the Eastern District of Texas. Personal jurisdiction also exists over each Defendant because each, directly or through subsidiaries, makes, uses, sells, offers for sale, imports, advertises, makes available, and/or markets products and/or services within Texas, including in the Eastern District of Texas, that infringe one or more claims of the Patents-in-Suit. Further, Defendants have placed or contributed to placing infringing products and/or services into the stream of commerce knowing or understanding that such products and/or services would be sold and used in the United States, including in this District. Samsung has purposefully availed itself of the privileges of conducting business in the State of Texas; Samsung regularly conducts business within the State of Texas by, for example, making, using, selling, and/or offering for sale in the State of Texas, including in this District, Samsung's infringing methods and apparatuses. This Court has general jurisdiction over Samsung due to, for example, its continuous and systematic contacts with the State of Texas, including this District. Samsung is subject to the Court's jurisdiction because, for example, Samsung has committed

patent infringement in the State of Texas, including in this District. Defendants conduct business in this District and maintain regular and established places of business within this District.

16. Venue is proper in the Eastern District of Texas pursuant to 28 U.S.C. §§ 1391(b), (c) and 28 U.S.C. § 1400(b) because, for example, Samsung has committed acts of infringement in this District and has regular and established places of business in this District. By way of example and without limitation, Samsung makes, uses, sells, offers to sell, and/or imports products and/or services that are accused of infringing the Patents-In-Suit into and/or within this District, and maintains a permanent and/or continuing presence within this District.

17. Samsung maintains regular and established places of business, and a permanent and continuous physical presence, within the District, including SEA's headquarters located at 6625 Excellence Way, Plano, Texas 75023. *See, e.g.*, "Samsung Electronics America to Open Flagship North Texas Campus," Samsung (Apr. 6, 2018), https://news.samsung.com/us/samsung-electronics-america-open-flagship-north-texas-campus/.

18. Samsung has numerous employees who work in Texas, including within the Eastern District of Texas. Defendants employ full-time personnel, such as engineers and senior managers in this District, including in Richardson, Texas. On information and belief, Samsung's business operations relating to smart phones and televisions are conducted primarily at its facilities located in Richardson, Texas.

19. Samsung has solicited business in the Eastern District of Texas, has transacted business within this District, and has attempted to derive financial benefit from the residents of this District, including benefits directly related to Samsung's infringement of the Patents-In-Suit.

20. In other recent actions, Samsung has either admitted or not contested that the Eastern District of Texas is a proper venue for patent infringement actions against it. *See, e.g.*,

Secure Wi-Fi LLC v. Samsung Electronics Co. Ltd. And Samsung Electronics America, Inc., Civil Action No. 2:24-cv-00047 (May 21, 2024), Answer ¶ 12 ("Samsung does not contest that venue is proper in this District.").

21. Samsung also operates its executive briefing center, the Samsung Networks Innovation Center, from its Plano, Texas headquarters. *See, e.g.*, Christine Nelson, Samsung Networks Innovation Center Opens its Doors, Offering a Close Look at Advanced Network Connectivity," Samsung (June 13, 2023), https://www.samsung.com/global/business/networks/insights/blog/0613-samsung-networks-innovation-center-opens-its-doors-offering-a-close-look-at-advanced-network-connectivity/. Samsung advertises "their roots" in Texas, including in the city of Plano in the Eastern District of Texas. *See, e.g.*, "Cheer for Texas," Samsung, https://www.samsung.com/us/galaxytexas/cheer-for-texas/. By way of example and without limitation, Samsung's website provides that their "Texas Footprint" includes the "5G Innovation Zone," the "SEA Corporate Office," and the "Telecommunications & Networks Center" in Plano, Texas, in this District. *See, e.g.*, Corporate, "Samsung in Texas," Samsung (Dec. 15, 2018), https://news.samsung.com/us/samsung-in-texas/.

22. Samsung is subject to venue in this District, including because Samsung has committed patent infringement in this District. Pursuant to 35 U.S.C. § 271, Samsung infringes the Patents-in-Suit by committing the infringing acts described herein in this District. Samsung solicits and induces customers and/or users in this District, including via its website at www.samsung.com. On information and belief, Samsung has customers and/or users who are residents of this District and who purchase, acquire, and/or use Samsung infringing products in this District. Samsung induces subsidiaries, parents, partners, affiliates, importers, and resellers in this District, including via its website and corporate presence. On information and belief, Samsung

has subsidiaries, parents, partners, affiliates, importers, and/or resellers who are companies, employees, and/or residents in this District and who manufacture, sell, and/or import Samsung infringing products in this District.

23. Defendants are properly joined under 35 U.S.C. § 299(a) because, on information and belief, Defendants commonly and/or jointly make, use, sell, offer to sell, and/or import the infringing products and their components such that at least one right to relief is asserted against Defendants jointly, severally, and in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences, relating to the making, using, selling, offering to sell, and/or importing into the United States of the same Samsung products and their components, and such that questions of fact common to all Defendants will arise in this action.

24. In support of venue and jurisdiction, Keyless incorporates by reference and realleges paragraphs 25 to 130 as if fully set forth herein.

PATENTS-IN-SUIT

U.S. Patent No. 11,503,144

25. Keyless is the lawful owner of all rights, title, and interest in United States Patent No. 11,503,144 titled "Systems to enhance data entry in mobile and fixed environment," including the right to sue and to recover for infringement thereof. The '144 patent was duly and legally issued on November 15, 2022, naming Benjamin F. Ghassabian as the inventor. A true and correct copy of the '144 patent is attached as Exhibit 1.

26. The inventions of the '144 patent solve technical problems associated with the design of and input to mobile devices wherein a fast, reliable, and efficient system for entering input is used. "[T]he data entry system of the invention using few keys is a very quick and accurate system." '144 patent at 89:19-20. The inventions are directed to mobile phone input technology using touchscreens instead of physical keys, for example by using virtual keyboards shown on a

touchscreen: “the keys of said data entry system of the invention may be soft keys being implemented within a surface of said display unit of said electronic device.” ’144 patent at 71:4-6. “[I]nstead of physical keys (e.g. 6501-6506), virtual (e.g. soft) keys may be defined on a display unit of said Tablet PC, and used with the data entry system.” ’144 patent at 91:49-52. The ’144 patent discloses numerous improvements over the prior art, including input techniques that involve a user sweeping a finger on a touchscreen over multiple virtual keys, instead of pushing individual physical keys. “The advantage of a sweeping procedure on a sensitive pad over pressing/releasing action of conventional non-sensitive keys (e.g. keys of a conventional telephone keypad) is that when using the sweeping procedure, a user may lifts his finger from said sensitive surface only after finishing sweeping over the zones/keys corresponding to several (or all) of the letters of a word-part-of-a-word. Even if the user ends the speech of said portion before the end of the corresponding sweeping action, the system considers the entire corresponding sweeping action (e.g. from the time the user first touches a first zone/key of said surface till the time the user lifts his finger from said surface).” ’144 patent at 81:30-41. The claimed arrangement is not a generic implementation, but a detailed configuration designed to enhance the functionality of the device. The claims all involve specific hardware configurations of mobile phones. For example, claim 1 describes structural features of a mobile phone including a housing, display unit, a user interface, and no physical keys on its front surface. At the time of the invention, the claimed structural features represented a non-conventional approach to mobile phone design, providing a novel, sleek, and seamless mobile phone. Other claims recite additional configurations that are grounded in technology and improved over existing mobile phone user interfaces, such as a touch sensitive display and virtual keyboard that can be displayed in both portrait and landscape modes, as well as a plurality of icons corresponding to applications, where a processor is configured to identify a

sweeping action on a touch-sensitive surface of a device and to display other icons corresponding to other applications. The claims address technical problems related to mobile phone design, such as maximizing display area, eliminating physical buttons, adapting text display based on device orientation, and the efficient display of numerous application icons.

27. The claims of the ’144 patent do not merely recite a pre-mobile device system placed on a mobile device. Instead, the claims of the ’144 patent recite inventive concepts that are rooted in user interfaces and the input of data on mobile devices, as well as the physical design of those mobile devices. Such features are specifically grounded in and overcome problems with efficiency and flexibility specifically arising in the realm of input technologies and problems in the area of mobile device design, and are not well-understood, routine, nor conventional elements. For example, inputting data to a mobile phone by using a sweeping gesture across multiple virtual keys on a touchscreen, where the sweeping gesture is evaluated in its totality, is an aspect of the claimed inventions that improves over prior art techniques that merely considered individual keys being pressed. ’922 patent at 81:30-32. As another example, the ’144 patent teaches improvements involving using virtual keyboards, including miniaturized virtual keyboards, and other input that does not require physical keys, to evaluate the input more thoroughly than merely evaluating individual key presses, so that, for example, the mobile device can determine that a user mistakenly pressed a key, and can consider a neighboring key instead. “The data entry system of the invention may use a PC-type miniaturized/virtual keyboard. By targeting a key for pressing it, even if a user misspresses said key (by for example, pressing a neighboring key), according to one embodiment of the invention and based on the principles of the date entry system of the invention, the user may speak a speech corresponding to said key. If the speech of the user does not correspond to the key being pressed, then the system may suggest that the said key was mistakenly pressed. the system,

then, may consider that neighboring keys and correspond said speech to one of said keys. By using this embodiment, miniaturized keyboards may easily be used with normal user fingers, easing and speeding up the data entry through those keyboards." '144 patent at 97:13-27.

28. The claims of the '144 patent recite inventions that are not merely the routine or conventional composition of mobile device systems. Instead, the claimed inventions of the '144 patent recite innovative, technical improvements relating to the physical layout and user interface design of a mobile device. For example, the absence of physical keys, on a screen that covers the entire front surface of a mobile device, at the time of the invention represents a non-conventional approach to mobile phone design. Furthermore, the features of other claims also involve specific and non-conventional arrangements, for example, the use of a virtual keyboard in both landscape and portrait positions, which provides a seamless user experience and a specific improvement in mobile phone interfaces at the time of the invention. Furthermore, other claims present a specific arrangement and method of displaying application icons, which is not a conventional or generic method but a particular implementation that improves the usability of the device.

29. The technology claimed in the '144 patent does not preempt all systems for the physical design and user interface of a mobile device. The specification discusses many approaches to receiving input on a mobile device that would not be preempted by the claims of the '144 patent, such as using physical keys, thus demonstrating that the claims are directed to a specific implementation of providing user input to a touch-sensitive mobile device.

30. Accordingly, each claim of the '144 patent recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

U.S. Patent No. 9,304,602

31. Keyless is the lawful owner of all rights, title, and interest in United States Patent

No. 9,304,602 titled "System for capturing event provided from edge of touch screen," including the right to sue and to recover for infringement thereof. The '602 patent was duly and legally issued on April 5, 2016, naming Benjamin F. Ghassabian as the inventor. A true and correct copy of the '602 patent is attached as Exhibit 2.

32. The inventions of the '602 patent solve technical problems related to capturing input from the edge of a mobile device's touch-sensitive display. The claimed inventions relate to a specific hardware configuration, including a touchscreen with at least one window that functions independently of an interface of an application in use on the touchscreen. This invention is not a generic implementation but a specific arrangement that enhances the functionality of a touchscreen device. Likewise, the claimed inventions do not merely invoke a computer as a tool, but rather are directed to improvements to the way a user interacts with a mobile device having a limited-size touchscreen.

33. The '602 patent recognizes various existing approaches to data input on mobile devices using techniques such as a limited key set ambiguously associated with a plurality of letters, mode keys to change the meaning of keys, and specific strokes and key presses assigned to letters. '602 patent at 1:45-57, 2:9-12, 2:31-35. As noted in the specification, these prior art approaches are problematic for users because the approaches are complicated, slow, inconvenient, error-prone, and/or require extensive memorization. See, e.g., '602 patent at 2:41-43 ("These methods require that the user remember the associations between the strokes and the letters, which may be problematic for some users."), 2:53-55 ("Use of a multi-tap scheme, however, is slow and inconvenient to many users."). As such, the '602 patent is directed to an unconventional approach that overcomes or avoids the problems associated with these prior art approaches, and thus improves the way that users interact with mobile devices having a limited-size touchscreen.

34. The claims of the ’602 patent do not merely recite a pre-mobile device system placed on a mobile device. Nor do the claims of the ’602 patent merely apply a longstanding human activity to a touch-sensitive mobile device. Instead, the claims of the ’602 patent recite inventive concepts that are rooted in user interfaces, and the capture of particular input events, on mobile devices. Such features of the ’602 patent are specifically grounded in and overcome problems arising in the realm of user input technologies for mobile devices with touchscreens, and are not well-understood, routine, nor conventional elements. The patent specification describes challenges that arise when users interact with mobile devices – challenges that do not apply to interactions with larger devices, such as laptops and desktop computers. “One problem of the mobile devices is text entry, which is problematic due to their small size.” ’602 patent at 1:45-47. For example, mobile devices typically do not have all of the keys that are available on a full-size physical keyboard, yet there is a need to input all of the characters that can be input using a full-size physical keyboard. The ’602 patent recites improved methods to address challenges that arise in the field of input technology for mobile devices that the prior art did not disclose. “Another problem of mobile devices is entering symbols other than the alphanumeric characters. The number of keys on the mobile devices is limited and various methods have been suggested to allow simple entering of symbols with limited keys. Still there is a need for better solutions.” ’602 patent at 2:4-8. Additionally, touchscreen interfaces present challenges that do not apply to other input devices, such as full-size physical keyboards where typing simply involves pressing a key down. For example, touchscreens can be configured so that touching the screen using different methods or sequences (e.g., tapping in one place versus gliding over a distance) can convey different input. As the patent explains, the prior art disclosed touchscreen input methods that are suboptimal, such as finger strokes or gestures that must be input in a certain way and therefore “require that the user

remember the associations between the strokes and the letters, which may be problematic for some users." '602 patent at 2:41-43.

35. The claims of the '602 patent recite inventions that are not merely the routine or conventional composition of mobile device systems. Instead, the inventions teach a novel system for capturing, processing, and responding to events provided from the edge of a touch-sensitive display. For example, the claimed inventions detect and respond to a novel interaction including a gliding action, provided from outside the touchscreen towards the inside of the touchscreen, that interacts with a window. Compared to the prior art discussed in the '602 patent that is slow and cumbersome (see previous paragraph), this novel interaction provides a non-conventional method of user interaction that improves the way a user interacts with the mobile device, allowing faster and more accurate user input and input processing. For example, a processor on the device detects a gliding action provided from the outer edge of the touchscreen and processes the detected action to trigger a specific action assigned to the window. This quicker, more accurate, and simpler user input process provides a concrete technological improvement to mobile device user interfaces over prior art systems. As another example, the '602 patent teaches interpreting sweep gestures differently based on whether the gesture begins at the edge of a touchscreen, and if so, which edge: "a touch screen adapted to give different interpretations to different sweep gestures on the screen. Optionally, sweep gestures beginning from an edge of the touch screen is given a different interpretation than sweep gestures beginning at points within the touch screen. For example, sweep gestures beginning at a right and/or left edge of the screen …." '602 patent at 7:60-66. The claims further specify that the window operates independently of the application in use. The '602 patent teaches that the operating system, rather than another process or application being displayed on the screen, may handle a sweep gesture from the edge of the screen, and the relevant window at

the edge of the screen may be extremely thin, or not viewable: "a thin window is defined along one or more edges of the touch screen such that sweep gestures beginning at the edge of the touch screen are events directed by an operating system of the device to be handled by a process associated with the thin window and not by a general process which handles sweep gestures not assigned to any specific window. Optionally, the thin window has a width of less than 50 pixels, less than 20 pixels or even less than 10 or 5 pixels. In some embodiments of the invention, is barely viewable by the user or even not viewable at all." '602 patent at 8:3-13. This provides a specific and improved user interface design that allows for additional functionality beyond prior art touchscreen input techniques, such as user input strokes that required memorization (see previous paragraph).

36. The technology claimed in the '602 patent does not preempt all systems for receiving input on a mobile device. The specification discusses many approaches to receiving an input on a mobile device that would not be preempted by the claims of the '602 patent, thus demonstrating that the claims are directed to a specific implementation of providing user input to a touch-sensitive mobile device. For example, the '602 patent discusses specific strokes or gestures that must be memorized for inputting letters, or "a data entry system in which mode keys are used to change the meaning of other keys of the data entry system," where mode keys can be activated with certain inputs to a touch screen. '602 patent at 2:11-12, 2:41-43.

37. Accordingly, each claim of the '602 patent recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

U.S. Patent No. 10,976,922

38. Keyless is the lawful owner of all rights, title, and interest in United States Patent No. 10,976,922 titled "Data entry systems," including the right to sue and to recover for

infringement thereof. The ’922 patent was duly and legally issued on April 13, 2021, naming Benjamin F. Ghassabian as the inventor. A true and correct copy of the ’922 patent is attached as Exhibit 3.

39. The inventions of the ’922 patent solve technical problems related to devices displaying multiple applications simultaneously as well as an on-screen keyboard. The claimed inventions relate to specific hardware configurations, including an electronic device with a touchscreen and an on-screen keyboard. The inventions provide zones for the applications’ and keyboard’s interfaces, and allow dynamically managing the size and arrangement of the applications’ and on-screen keyboard’s interfaces to enable displaying multiple interfaces simultaneously, in a manner that allows using multiple applications at the same time yet avoids cluttering the screen. As the ’922 patent states, “[t]he screen of a device is intended to display the output.” ’922 patent at 1:34-35. But when the on-screen keyboard takes up too much of the screen, which is one of the problems specific to touch-screen devices that the invention addresses, the keyboard (for input) is displayed, not the output. “Having a full keyboard with many keys on the screen covers a significant portion of the screen, hindering the use of many current applications and limiting creation of many other applications.” ’922 patent at 1:35-28. The claimed arrangement is not a generic implementation, but a detailed configuration designed to enhance the functionality of the device.

40. The claims of the ’922 patent do not merely recite a pre-mobile device system placed on a mobile device. Instead, the claims of the ’922 patent recite inventive concepts that are rooted in computerized user interfaces and input of data on mobile devices. Such features are specifically grounded in and overcome problems with efficiency and flexibility specifically arising in the realm of input technologies, and are not well-understood, routine, nor conventional elements.

The ’922 patent discloses solutions to problems with mobile device interfaces that the prior art does not solve. As the ’922 patent states, “[a] real mobile data entry system must be mobile, enabling to enter data in any environment such as while standing, walking, in the dark, etc. In addition, such system must preferably free the screen from an interface that occupies a large portion of the screen.” ’922 patent at 1:39-43. For instance, displaying a full keyboard on a small screen makes the size of each key in the keyboard too small. “Due to the size of mobile devices, and the number of keys of a full keyboard, such keys are reduced in size rendering the keyboard cumbersome and the data entry slow.” ’922 patent at 1:31-34. Despite being cumbersome and slow, an on-screen keyboard with keys that are too small nonetheless takes up valuable and limited space on the screen, rendering the device less usable. “Having a full keyboard with many keys on the screen covers a significant portion of the screen, hindering the use of many current applications and limiting creation of many other applications.” ’922 patent at 1:35-28.

41. The claims of the ’922 patent recite inventions that are not merely the routine or conventional composition of mobile device systems. Instead, the inventions teach concepts including a touch-sensitive mobile device displaying a keyboard for input into a first application and a second application. For example, the system activates a second application based on a condition controlled by the keyboard, which is a unique and non-conventional method of user interaction. The simultaneous display of the first application, the second application, and a reduced keyboard interface within distinct zones of the touchscreen represents a concrete technological improvement over existing systems. The ’922 patent claims improvements over prior art inferior user interfaces for mobile devices that made data entry difficult and cumbersome, such as text input “using a limited key set” that involves predicting words, or text input using a full on-screen keyboard that takes up too much of the screen yet has keys that are too small. ’922 patent at 1:13-

38. In contrast, "[t]he data entry system, described in this [the '922 patent] application, provides a system that is adapted to mobile environments. It is also intuitive, accurate, fast, and easy to understand and use." '922 patent at 1:47-50. Furthermore, the simultaneous display of multiple application interfaces along with the keyboard on a single screen is a specific and practical application that improves the multitasking capabilities and user experience on touchscreen devices.

42. The technology claimed in the '922 patent does not preempt all systems for receiving input on a mobile device. The specification discusses many approaches to receiving input on a mobile device that would not be preempted by the claims of the '922 patent, such as displaying only one application at a time, using an on-screen full keyboard, or using a limited set of keys and predicting words, thus demonstrating that the claims are directed to a specific implementation of providing user input to a touch-sensitive mobile device. '922 patent at 1:13-38.

43. Accordingly, each claim of the '922 patent recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

COUNT I

Infringement of U.S. Patent No. 11,503,144

44. Keyless incorporates by reference and realleges the foregoing paragraphs as if fully set forth herein.

45. Samsung has infringed and continues to infringe one or more claims of the '144 patent, literally and/or under the doctrine of equivalents, directly and/or indirectly, under 35 U.S.C. § 271(a) *et seq.* by making, using, selling, offering for sale, and/or importing in/into the U.S. infringing products.

46. Samsung has manufactured, used, sold, offered to sell, imported, and/or provided and continues to manufacture, use, sell, offer for sale, import, and/or provide mobile devices,

including cellular phones and tablet devices (the "Accused Instrumentalities") that infringe, either literally or under the doctrine of equivalents, one or more claims of the '144 patent in violation of 35 U.S.C. § 271(a).

47. Upon information and belief, Samsung has directly infringed at least claims 1 and 9 of the '144 patent through its Accused Instrumentalities that embody the system described in the '144 patent.

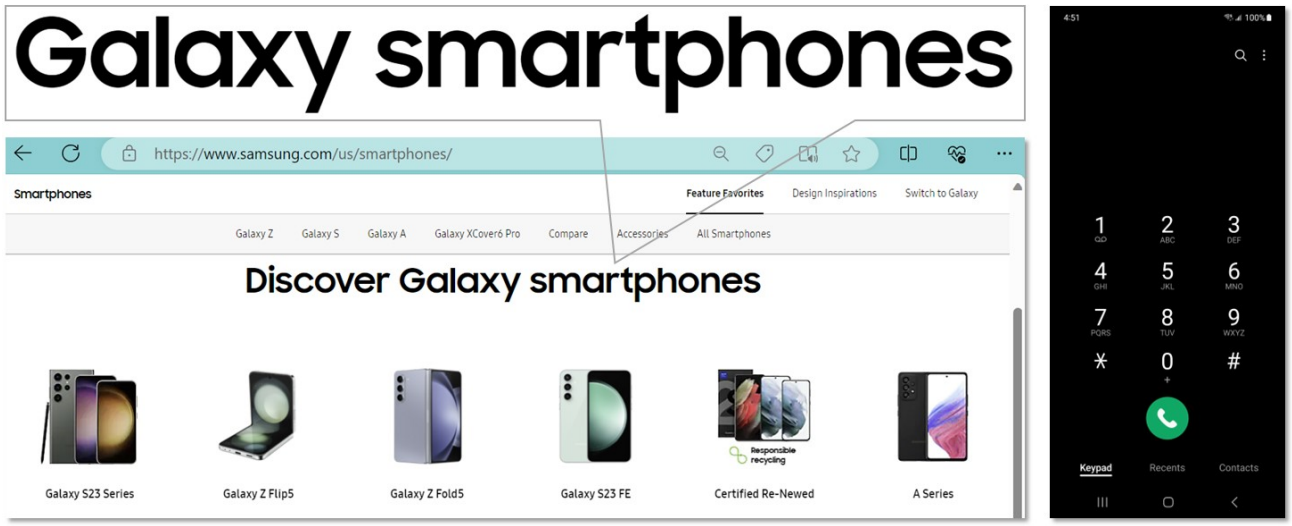
48. Samsung has directly infringed and continues to directly infringe one or more claims of the '144 patent, including at least claims 1 and 9 of the '144 patent, literally and/or under the doctrine of equivalents, by or through making, using, offering for sale, selling within the United States and/or importing into the United States the Accused Instrumentalities.

49. Claim 1 of the '144 patent, for example, reads as follows:

> 1. A mobile phone device, comprising:
>
> 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,
>
> wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and
>
> wherein the width of the front surface is substantially shorter than the length and wherein the housing has a thin thickness; and
>
> a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing;
>
> wherein said mobile phone device does not include a physical key on the front surface, and
>
> wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeable extended out from said housing.

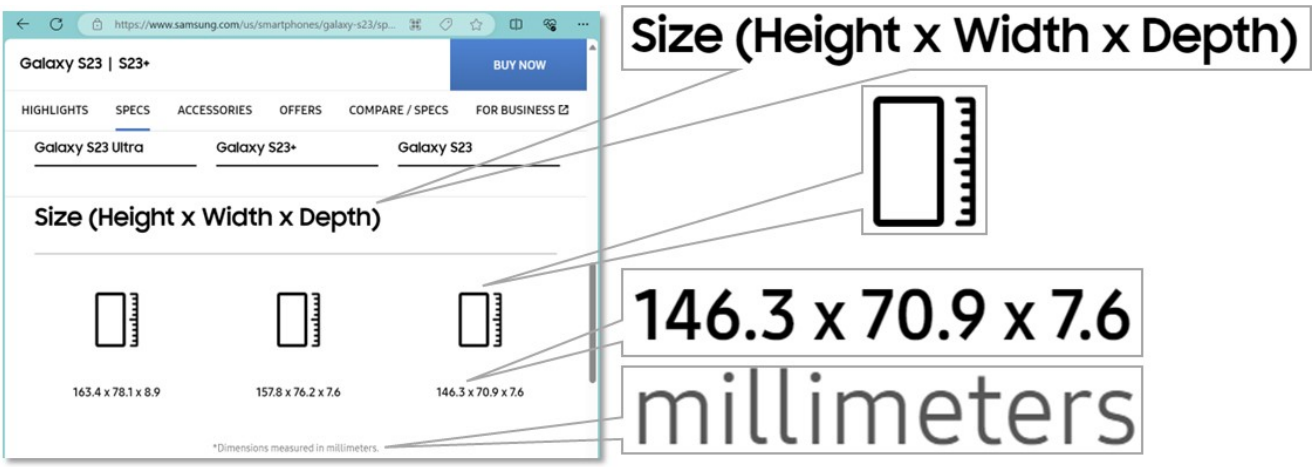
50. The Accused Instrumentalities with phone functionality, including for example the

Samsung Galaxy S23 ("S23"), are each "a mobile phone device."



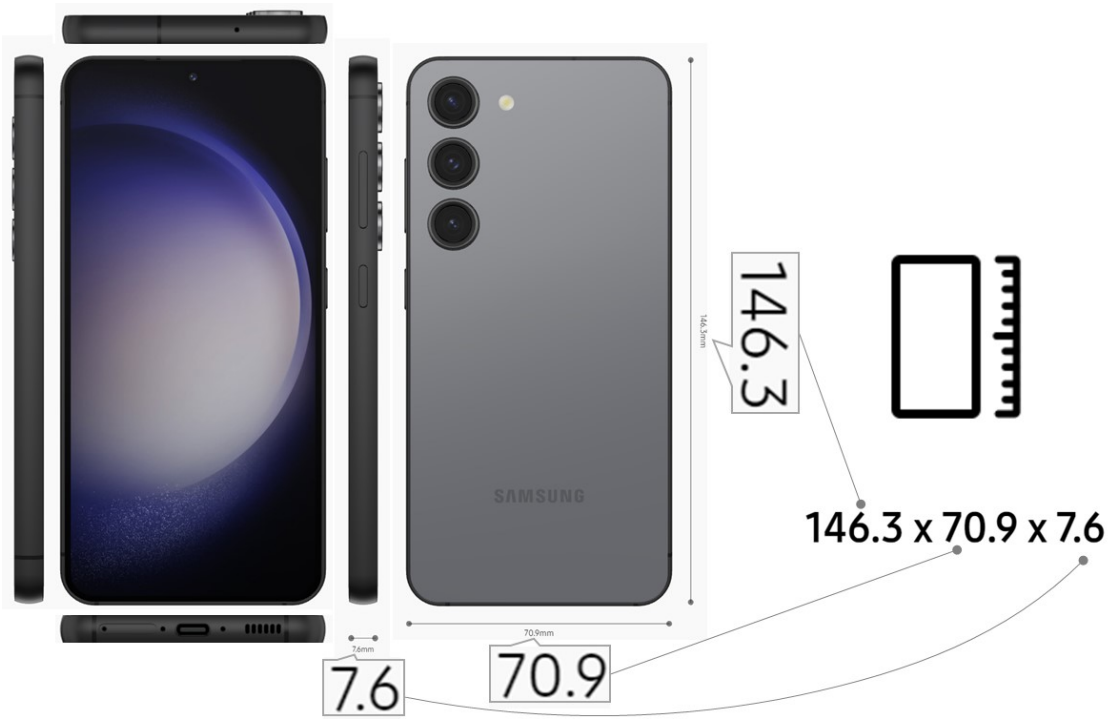
[Source: https://www.samsung.com/us/smartphones/ (left), screen shot of Galaxy S23 (right)]

51. The Accused Instrumentalities, including for example the S23, include "a practically rectangular-shaped housing within which the components of a mobile phone are integrated." The S23 has a rectangular-shaped housing in which all of the mobile phone's components are integrated, with a height of 146.3 millimeters (5.8 inches), a width of 70.9 mm (2.8 inches), and a depth of 7.6 mm (0.3 inches):



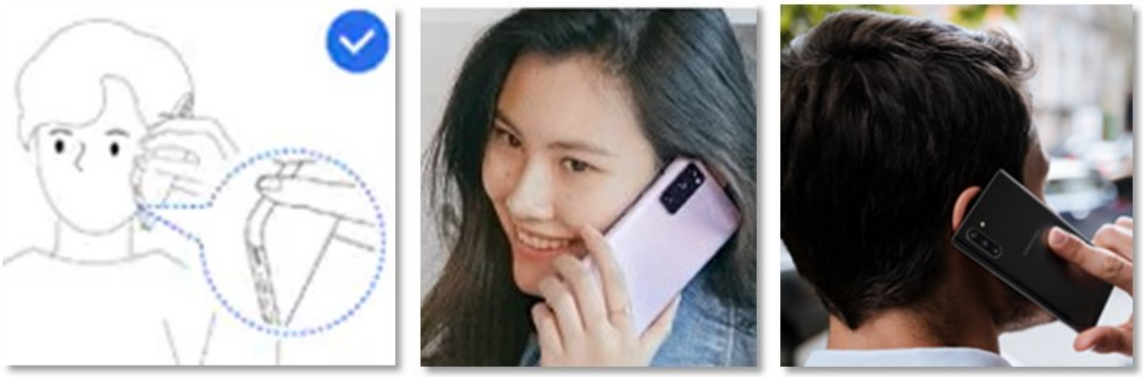
[Source: https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

52. The Accused Instrumentalities, including for example the S23, include "said housing having a front surface, a back surface, and four side surfaces." The S23 has a front surface, a back surface, and four side surfaces (top, bottom, left, and right):



[Source: https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button; https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

53. The Accused Instrumentalities, including for example the S23, include "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, the S23 has a height (length) of 146.3 millimeters (5.8 inches) (see previous paragraphs), a distance approximately corresponding to the distance between the ear and mouth of a user when held to the side of a user's face:

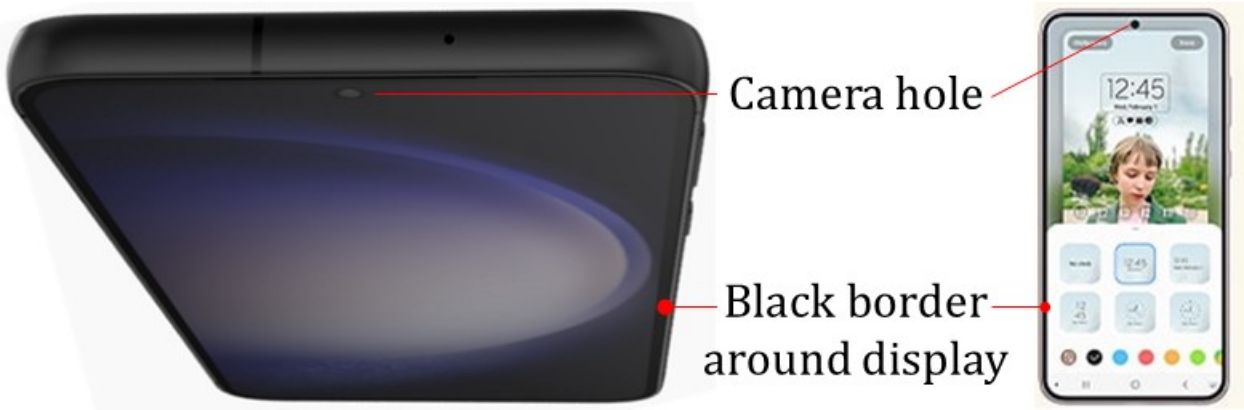


[Source: https://www.samsung.com/my/support/mobile-devices/how-can-i-improve-the-sound-of-a-voice-call-with-a-galaxy-s23/; https://www.samsung.com/ie/support/mobile-devices/how-do-i-use-the-call-functions-on-my-device/; https://www.samsung.com/us/support/troubleshooting/TSG01001240/]

54. The Accused Instrumentalities, including for example the S23, include "wherein the width of the front surface is substantially shorter than the length and wherein the housing has a thin thickness." For example, the S23's width of 70.9 mm (2.8 inches) is substantially less than its length (height) of 146.3 millimeters (5.8 inches), and its depth (thickness) of 7.6 mm (0.3 inches) is thin:

[Source: https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button; https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

55. The Accused Instrumentalities, including for example the S23, include "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing, wherein said mobile phone device does not include a physical key on the front surface." For example, the S23's display unit is integrated within the front surface of its housing and covers nearly the entire front surface of the device, except for the camera hole, and the black border around the display. The S23 has no physical keys located on its front surface.



[Source: https://www.samsung.com/us/smartphones/galaxy-s23/, including after clicking "see in 360" button]

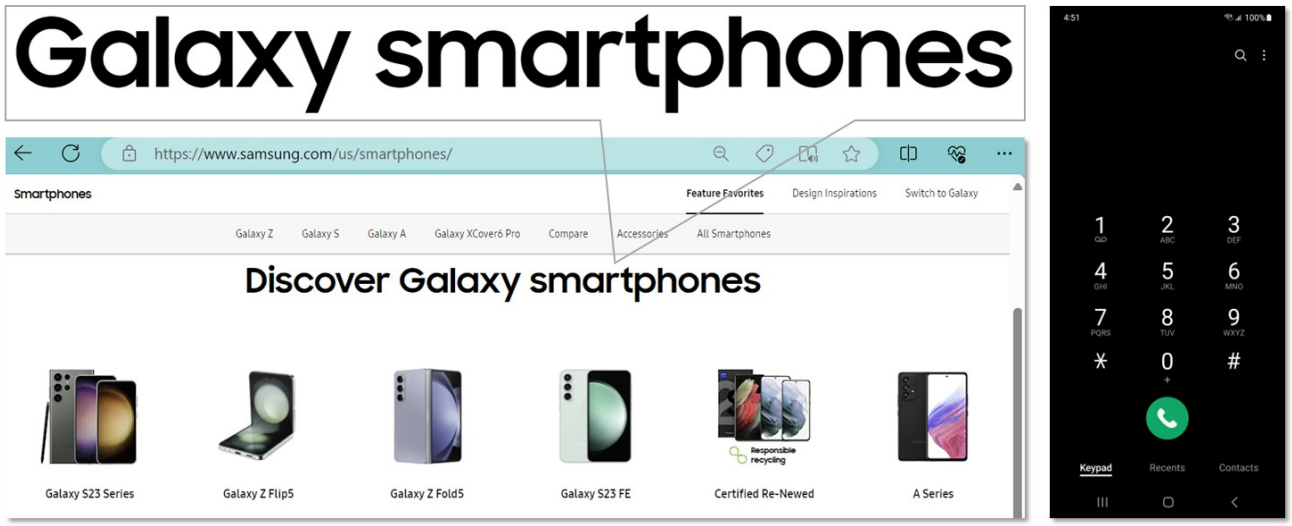
56. The Accused Instrumentalities, including for example the S23, include "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, all of the S23's components are integrated within the housing. None of the components noticeably extend out from the housing. The housing extends outward over and around the camera in the back of the phone so that the camera does not noticeably extend out from the housing. In fact, none of the camera extends out from the housing because the cover for the camera, which is part of the housing, is recessed slightly within the housing.

[Source: https://www.samsung.com/us/smartphones/galaxy-s23-ultra/; https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button]

57. Claim 9 of the '144 patent, for example, reads as follows:

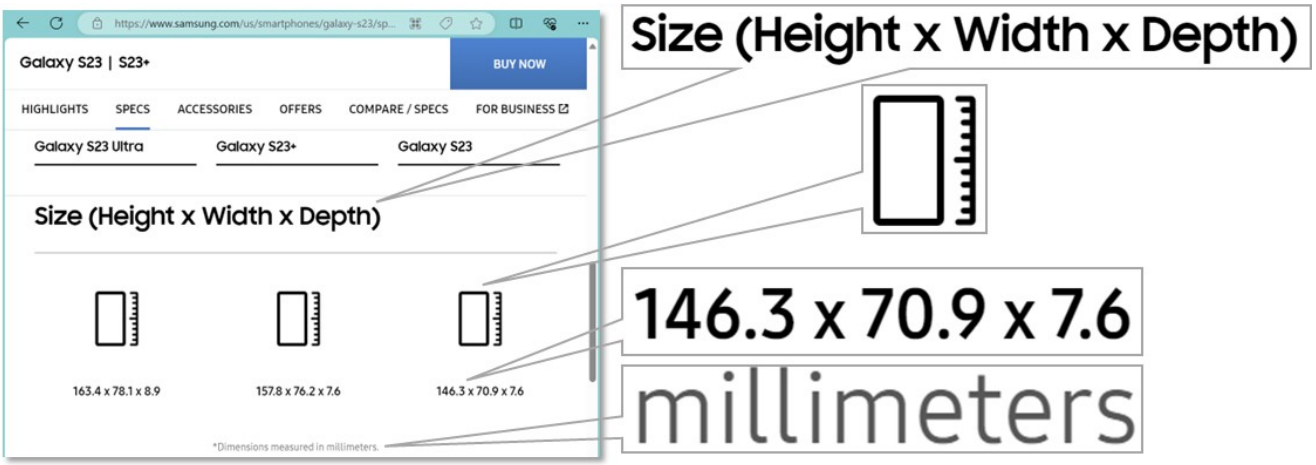
> 9. A mobile phone, comprising:
>
> a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces, wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and wherein the width of the front surface of the mobile phone is significantly shorter than the length, and wherein said body has a thin thickness;
>
> a touch sensitive display unit;
>
> a virtual keyboard to enter text; and
>
> a microphone and a speaker;
>
> wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and 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, and
>
> 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.

58. The Accused Instrumentalities with phone functionality, including for example the Samsung Galaxy S23 ("S23"), are "a mobile phone."

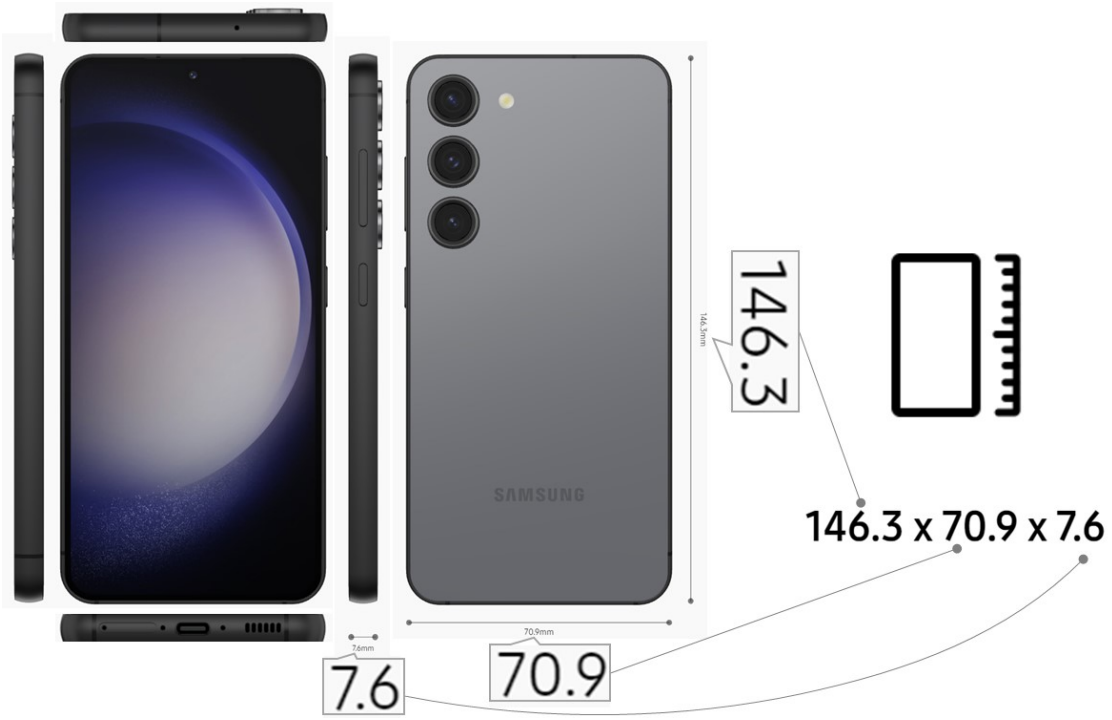


[Source: https://www.samsung.com/us/smartphones/ (left), screen shot of Galaxy S23 (right)]

59. The Accused Instrumentalities, including for example the S23, include "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." For example, the S23 has a rectangular-shaped housing, with a height of 146.3 millimeters (5.8 inches), a width of 70.9 mm (2.8 inches), and a depth of 7.6 mm (0.3 inches). The S23 has a front surface, a back surface, and four side surfaces (top, bottom, left, and right).

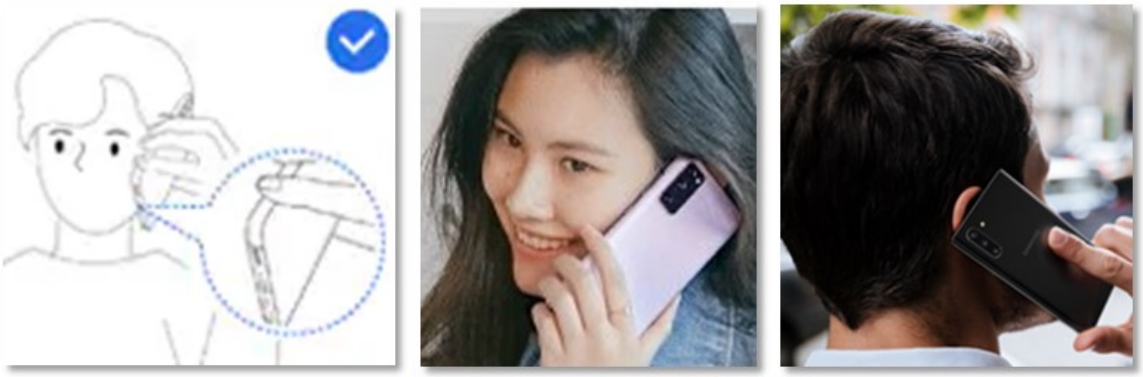


[Source: https://www.samsung.com/us/smartphones/galaxy-s23/specs/]



[Source: https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button; https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

60. The Accused Instrumentalities, including for example the S23, include "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." For example, the S23 has a height (length) of 146.3 millimeters (5.8 inches) (see previous paragraph), a distance approximately corresponding to the distance between the ear and mouth of a user when held to the side of a user's face:



[Source: https://www.samsung.com/my/support/mobile-devices/how-can-i-improve-the-sound-of-a-voice-call-with-a-galaxy-s23/; https://www.samsung.com/ie/support/mobile-devices/how-do-i-use-the-call-functions-on-my-device/; https://www.samsung.com/us/support/troubleshooting/TSG01001240/]

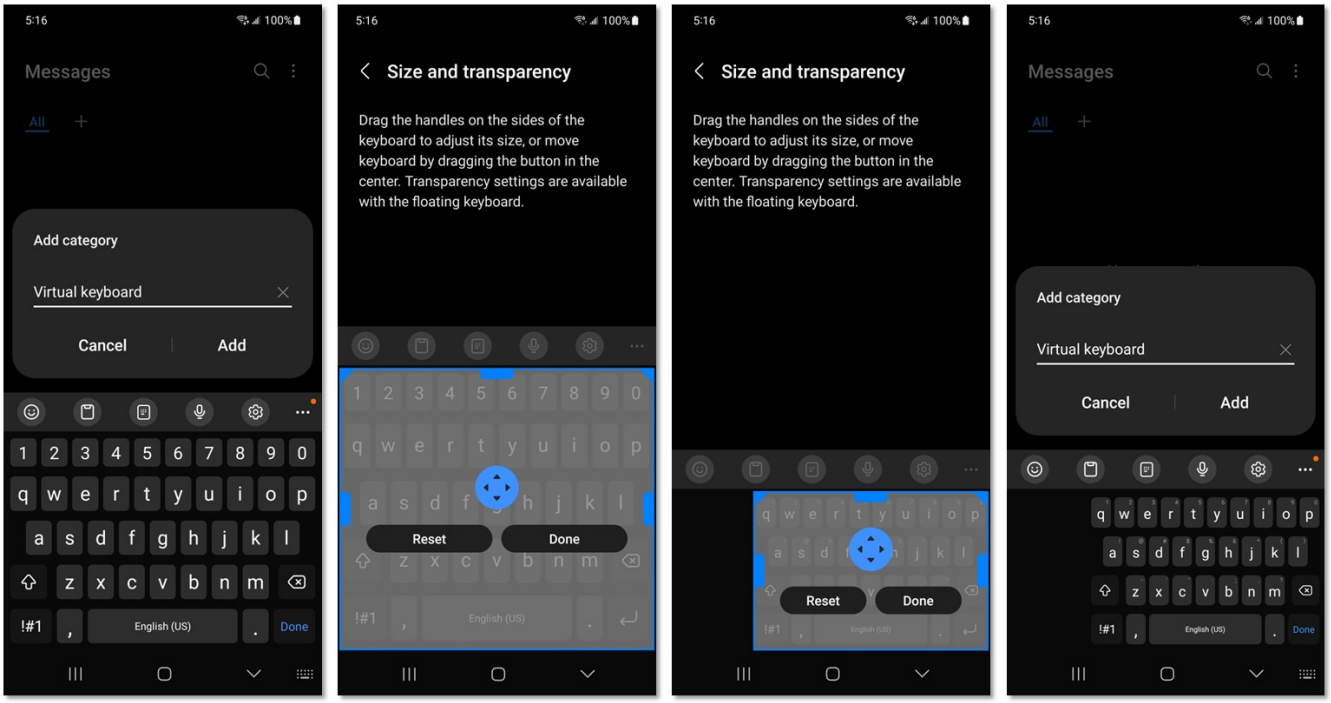
61. The Accused Instrumentalities, including for example the S23, include "wherein the width of the front surface of the mobile phone is significantly shorter than the length, and wherein said body has a thin thickness." For example, the S23's width of 70.9 mm (2.8 inches) is substantially less than its length (height) of 146.3 millimeters (5.8 inches), and its depth (thickness) of 7.6 mm (0.3 inches) is thin:

[Source: https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button; https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

62. The Accused Instrumentalities, including for example the S23, include "a touch sensitive display unit." For example, Samsung Galaxy phones and tablets feature a touchscreen display.

[Source: https://www.samsung.com/us/support/troubleshooting/TSG01213974/]

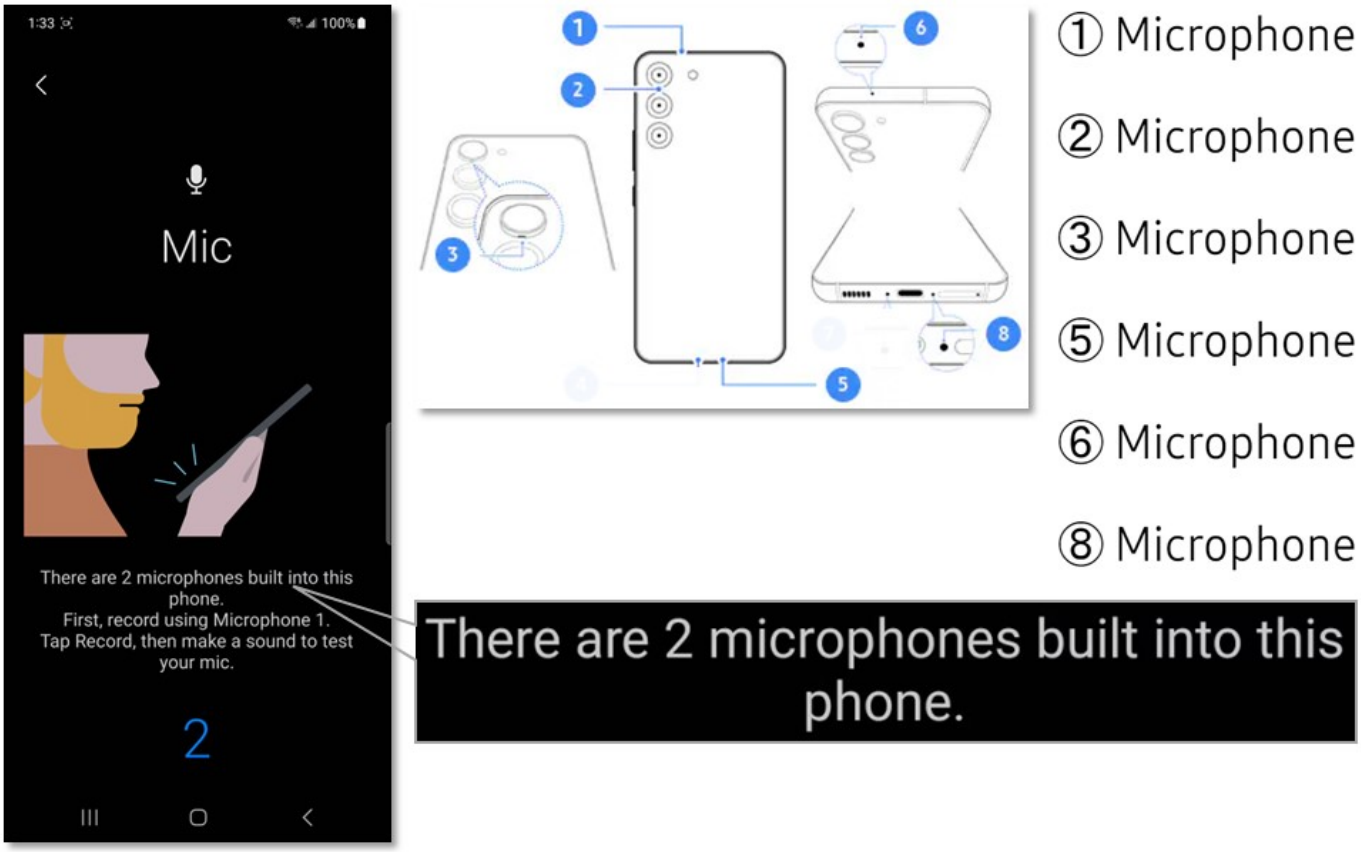
63. The Accused Instrumentalities, including for example the S23, include "a virtual keyboard to enter text." For example, the S23 has a virtual keyboard that can be moved, resized, and otherwise adjusted (e.g., to show numbers or not) using software settings.



[Source: Screenshots of Galaxy S23]

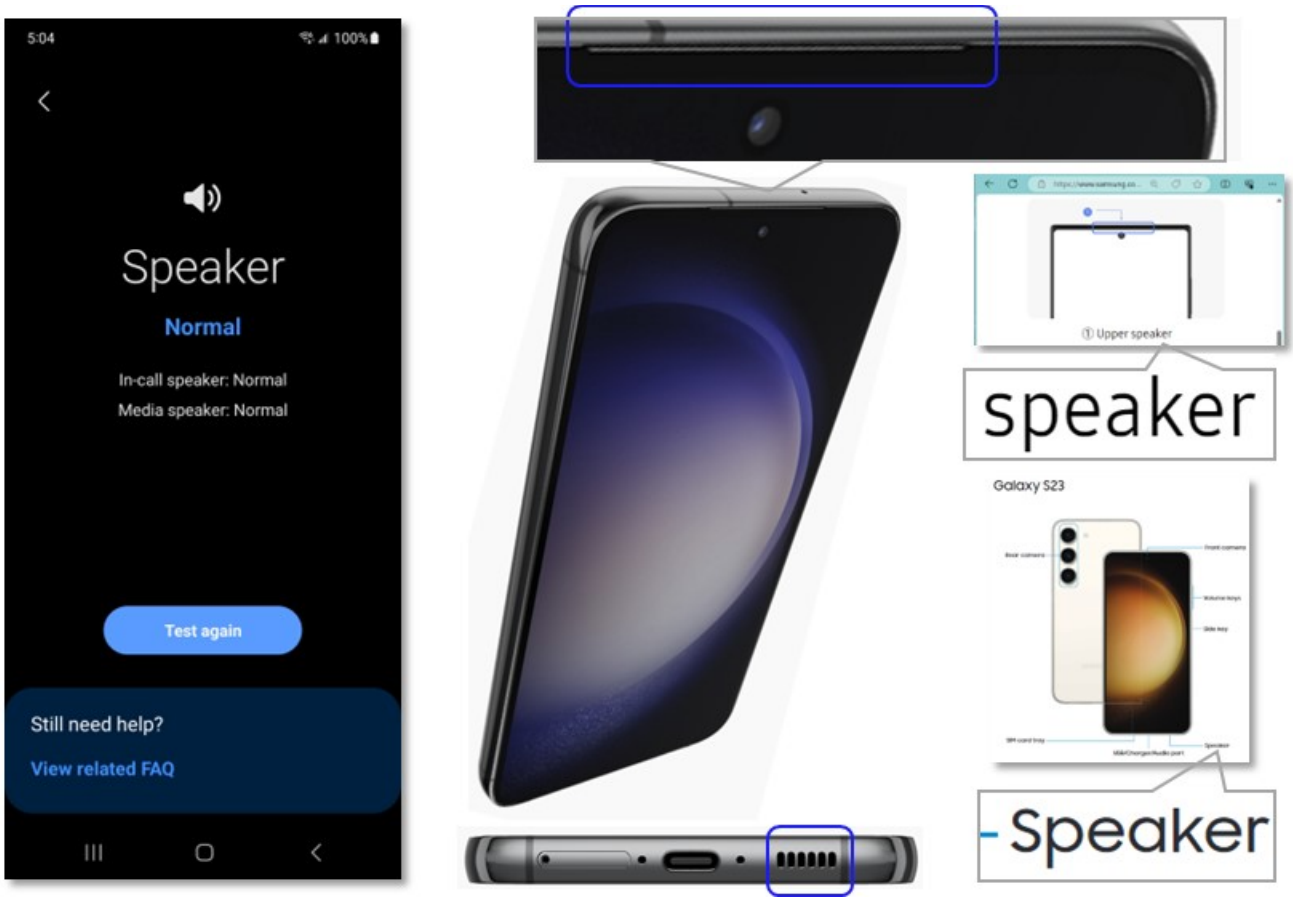
64. The Accused Instrumentalities, including for example the S23, include "a microphone and a speaker."

65. For example, the S23 includes at least two microphones.



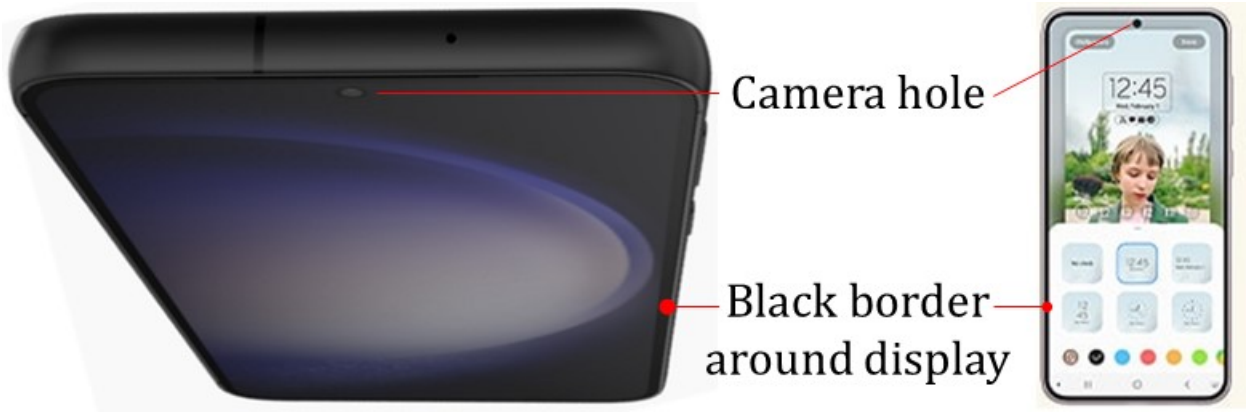
[Source: Screenshots of Galaxy S23; https://www.samsung.com/my/support/mobile-devices/how-can-i-improve-the-sound-of-a-voice-call-with-a-galaxy-s23/ (section: The sound of a voice call with a Galaxy S23 device is noticeably quiet) (annotated)]

66. For example, the S23 includes at least two speakers, one speaker at the bottom of the phone, and another speaker (difficult to see) above the camera hole on the front of the phone.



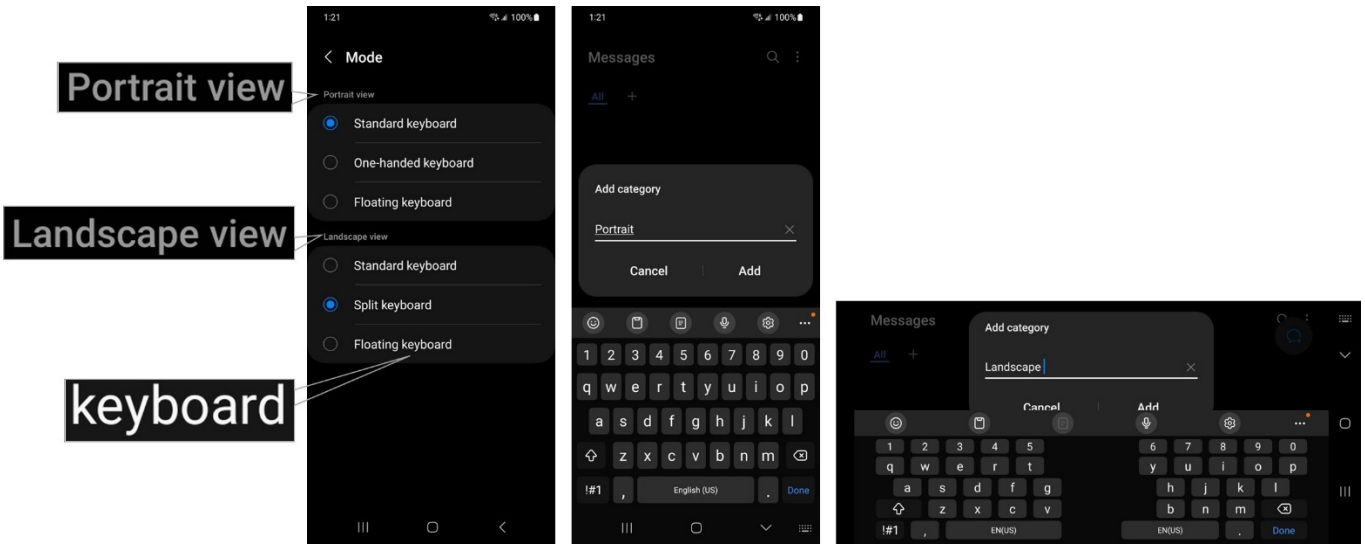
[Source: Screenshots of Galaxy S23; https://www.samsung.com/my/support/mobile-devices/how-can-i-improve-the-sound-of-a-voice-call-with-a-galaxy-s23/ (section: I am using a non-genuine screen protector and call volume is quiet); https://downloadcenter.samsung.com/content/UM/202302/20230207045923682/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL.pdf, p. 7; https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button.]

67. The Accused Instrumentalities, including for example the S23, include "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and 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." For example, the S23's display unit occupies nearly the entire front surface of the mobile phone, except for the camera hole, and the black border around the display, and is integrated within the mobile phone. The S23 has no physical button or keyboard located on its front surface.



[Source: https://www.samsung.com/us/smartphones/galaxy-s23/ after clicking "see in 360" button]

68. The Accused Instrumentalities, including for example the S23, include "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 example, the S23 displays text entered through a virtual keyboard in landscape direction when the S23 is used in landscape position, and in portrait direction when the S23 is used in portrait position.



[Source: Screenshots of Galaxy S23]

69. Samsung has indirectly infringed and continues to indirectly infringe one or more claims of the '144 patent by inducing infringement by others. For example, Samsung induces

Samsung's customers and end-users, in this District and elsewhere in the United States, to implement and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). Samsung's customers and end-users infringe via their use of the Accused Instrumentalities. Samsung has also indirectly infringed and continues to indirectly infringe one or more claims of the '144 patent by inducing infringement by others, such as Samsung's subsidiaries, parents, partners, affiliates, importers, and resellers in this District and elsewhere in the United States, to implement, manufacture/make, sell/resell, import/export, and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). For example, Samsung's parents, partners, affiliates, importers, and resellers infringe via their use of the Accused Instrumentalities. Samsung induces such direct infringement through its affirmative acts of making, using, selling, offering to sell, and/or importing the Samsung devices and their components and supporting the input technology. Samsung performs these affirmative acts with knowledge of the '144 patent and with the intent, or willful blindness, that the induced acts directly infringe the '144 patent. Samsung took active steps with the specific intent to cause its customers and/or end users, as well as its subsidiaries, parents, partners, affiliates, importers, and/or resellers to use the Accused Instrumentalities in a manner that infringes one or more claims of the '144 patent, including at least claim 1 and claim 9. Such steps by Samsung include, among others, advising or directing customers and/or end users, as well as subsidiaries, parents, partners, affiliates, importers, and/or resellers, to use the Accused Instrumentalities in an infringing manner, advertising and promoting the use of the Accused Instrumentalities in an infringing manner, and/or distributing instructions, demonstrations, brochures, videos, and user guides that intentionally instruct and guide users to use the Accused Instrumentalities in an infringing manner.

70. Samsung has actual notice of its infringement of the ’144 patent by the filing of this Complaint, and Samsung was or is now aware of the ’144 patent or has willfully blinded itself as to the existence of the ’144 patent and Samsung’s infringement thereof.

71. Samsung has known of the ’144 patent at least by November 15, 2022. Samsung has cited to numerous members of the ’144 patent family, including without limitation: (1) U.S. Patent Publication No. 2007/0188472, cited by Samsung in U.S. Patent Publication No. 2009/0058815 with priority date September 4, 2007 and publication date March 5, 2009, U.S. Patent Publication No. 2014/0350925 with priority date May 21, 2013 and publication date November 27, 2014, U.S. Patent Publication No. 2014/0359514 with priority date June 4, 2013 and publication date December 4, 2014, U.S. Patent Publication No. 2015/0012872 with priority date November 23, 2007 and publication date January 8, 2015, U.S. Patent Publication No. 2015/0199553 with priority date January 13, 2014 and publication date July 16, 2015, and U.S. Patent No. 11,630,576 with priority date August 8, 2014 and April 18, 2023; and, (2) U.S. Patent Publication No. 2016/0005150, cited by Samsung in U.S. Patent Publication 2015/0128082 with priority date November 1, 2013 and publication date May 7, 2015, U.S. Patent Publication No. 2017/0235373 with priority date February 15, 2016 and publication August 17, 2017, and European Patent Publication No. 3480813 with priority date August 31, 2016 and publication date May 8, 2019.

72. Samsung’s infringement of the ’144 patent has been willful and egregious.

73. Samsung has also indirectly infringed and continues to indirectly infringe the ’144 patent by contributing to direct infringement by others, such as Samsung’s customers and end-users and other telephone manufacturers, in this District and elsewhere in the United States, in violation of 35 U.S.C. § 271(c). Samsung’s affirmative acts of providing the Samsung devices to

implement and support the input technology in this District and elsewhere in the United States, and causing the patented invention to be used and implemented by Samsung's customers and end-users and other voice-service providers, contribute to their implementation and use of the infringing technology, such that the '144 patent is directly infringed by Samsung's customers and end-users and such device manufacturers. The accused components in the Samsung devices are material to the inventions claimed in the '144 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Samsung to be specially made or adapted for use in the infringement of the '144 patent. Samsung performs these acts with knowledge of the '144 patent and with the intent, or willful blindness, that they cause direct infringement of the '144 patent.

74. As a result of Samsung's infringement of the '144 patent, Keyless has suffered monetary damages and is entitled to no less than a reasonable royalty for Samsung's use of the claimed inventions of the '144 patent, together with interest and costs as determined by the Court. Keyless will continue to suffer damages in the future unless Samsung's infringing activities are enjoined by this Court.

75. Samsung does not have any rights to use the '144 patent as alleged in this Complaint.

76. Keyless has complied with 35 U.S.C. § 287.

77. Keyless will be irreparably harmed unless a permanent injunction is issued enjoining Samsung and its agents, employees, representatives, affiliates, and others acting in concert with Samsung from infringing the '144 patent.

78. Keyless' patents, including the '144 patent, are publicly available from the United States Patent Office and other online resources such as Google Patents.

COUNT II

Infringement of U.S. Patent No. 9,304,602

79. Keyless incorporates by reference and re-alleges the foregoing paragraphs as if fully set forth herein.

80. Samsung has infringed and continues to infringe one or more claims of the ’602 patent, literally and/or under the doctrine of equivalents, directly and/or indirectly, under 35 U.S.C. § 271(a) *et seq.* by making, using, selling, offering for sale, and/or importing in/into the U.S. infringing products.

81. Samsung has manufactured, used, sold, offered to sell, imported, and/or provided and continues to manufacture, use, sell, offer for sale, import, and/or provide mobile devices, including cellular phones and tablet devices (the “Accused Instrumentalities”) that infringe, either literally or under the doctrine of equivalents, one or more claims of the ’602 patent in violation of 35 U.S.C. § 271(a).

82. Upon information and belief, Samsung has directly infringed at least claim 1 of the ’602 patent through its Accused Instrumentalities that capture touchscreen events originating from an edge of the screen.

83. Claim 1 of the ’602 patent, for example, reads as follows:

> 1. A system for capturing an event provided from an edge of a touch screen comprising:
>
> a device having a touch screen;
>
> at least one window located in the touch screen on an edge of the touch screen, wherein said at least one window functions independently of an interface of an application in use on the touch screen; and
>
> a processor;
>
> wherein a gliding action provided from outside of the touch screen towards inside of the touch screen, said gliding action at first interacting with said at

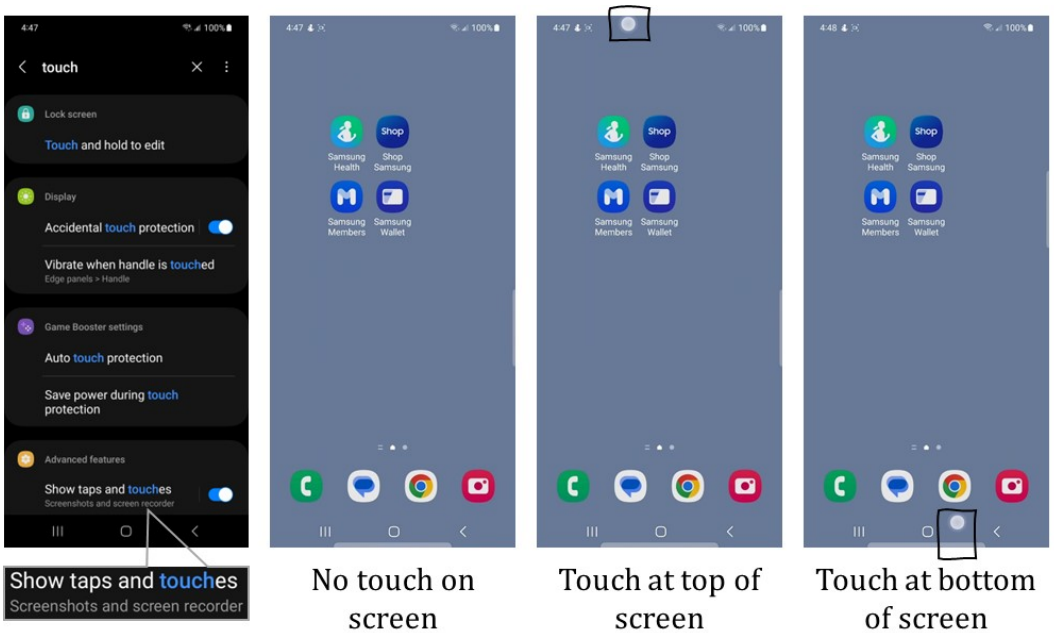
least one window on the touch screen, is processed by said processor to cause an action assigned to said window, and wherein said at least one window is located on the touch screen before said gliding action begins.

84. Samsung has directly infringed and continues to directly infringe one or more claims of the ’602 patent, including at least claim 1 of the ’602 patent, literally and/or under the doctrine of equivalents, by or through making, using, offering for sale, selling within the United States and/or importing into the United States the Accused Instrumentalities.

85. The Accused Instrumentalities, including for example the S23, each comprise “a system for capturing an event provided from an edge of a touch screen comprising: a device having a touch screen.” For example, Samsung Galaxy phones and tablets, including the S23, include hardware and software for capturing events provided from the edge of a touch screen. Each of the Accused Instrumentalities features a touch screen display.

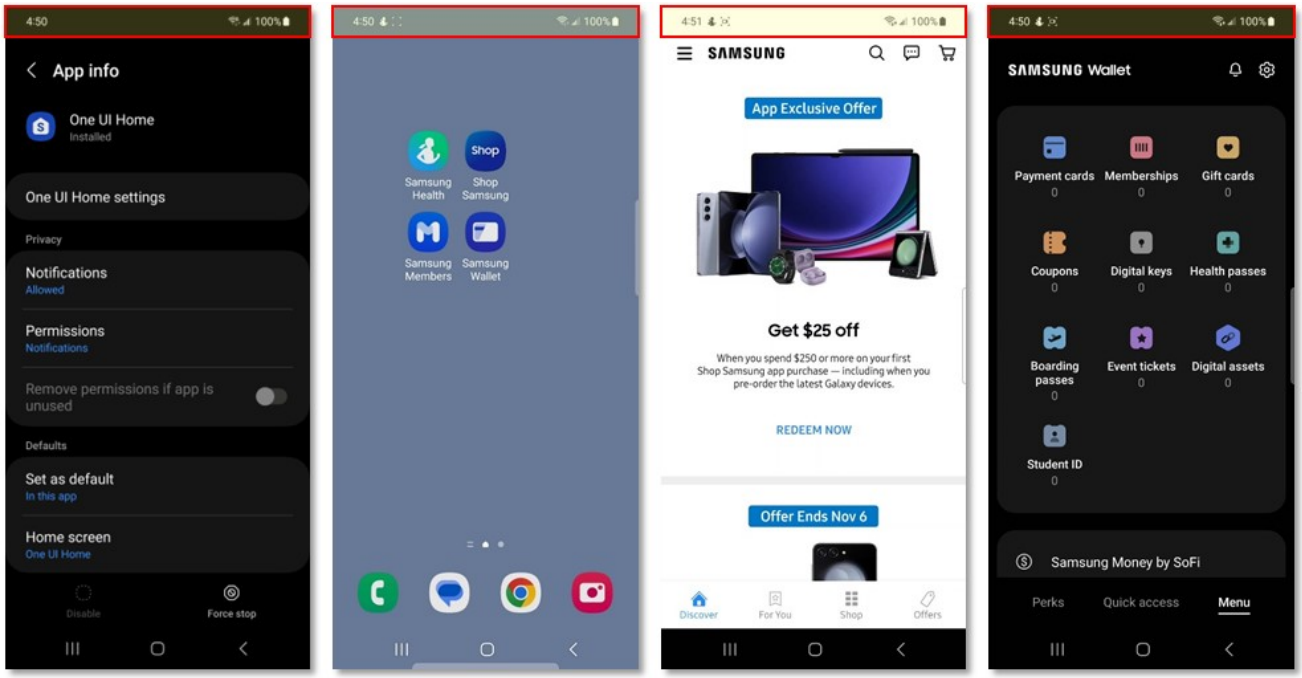
[Source: https://www.samsung.com/us/support/troubleshooting/TSG01213974/]

86. In the exemplary screen shots shown in the following paragraphs, generated by the S23's built-in screen recording function, the user's touch on the touchscreen is captured from the edge of the touch screen and is shown with a circle, as depicted below.



[Source: Screenshot (left) and frames taken from screen recording (right 3 images) of touch interface on Galaxy S23]

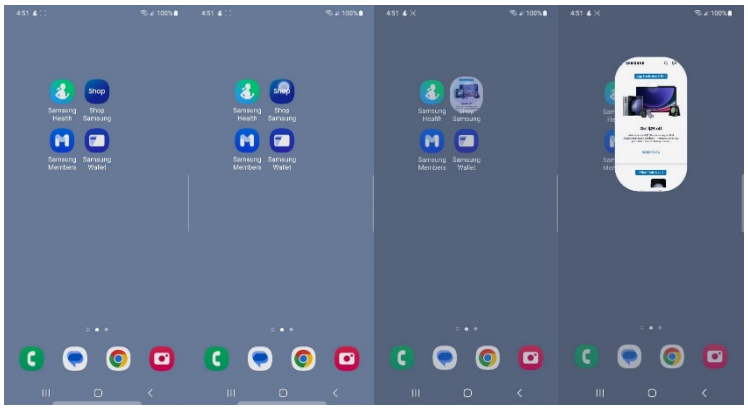
87. The Accused Instrumentalities, including for example the S23, include "at least one window located in the touch screen on an edge of the touch screen, wherein said at least one window functions independently of an interface of an application in use on the touch screen." For example, as shown below, the S23 includes a notification bar located in the touch screen on the top edge of the display that functions independently of an application in use on the touch screen. The notification bar functions the same way regardless of what application is active in the display.

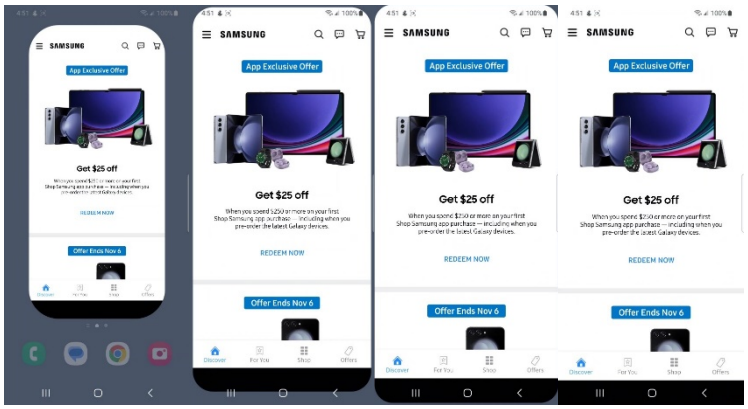


App: Settings | App: One UI Home | App: Shop Samsung (note top bar content is black) | App: Samsung Wallet (note top bar content is white)

[Source: Screenshots of touch interface on Galaxy S23]

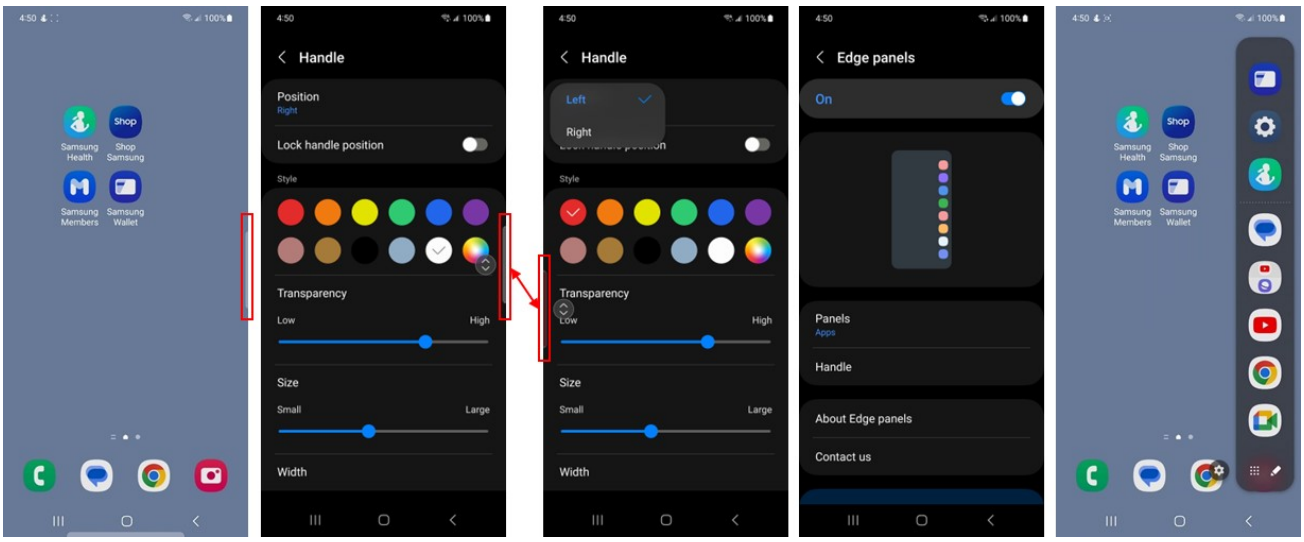
88. The notification bar functions independently of the application shown in the display. For example, launching the "Shop Samsung" application from the home screen causes the "Shop Samsung" application to be shown in front of the "One UI Home" application, but the notification bar continues to provide the same information and functionality.





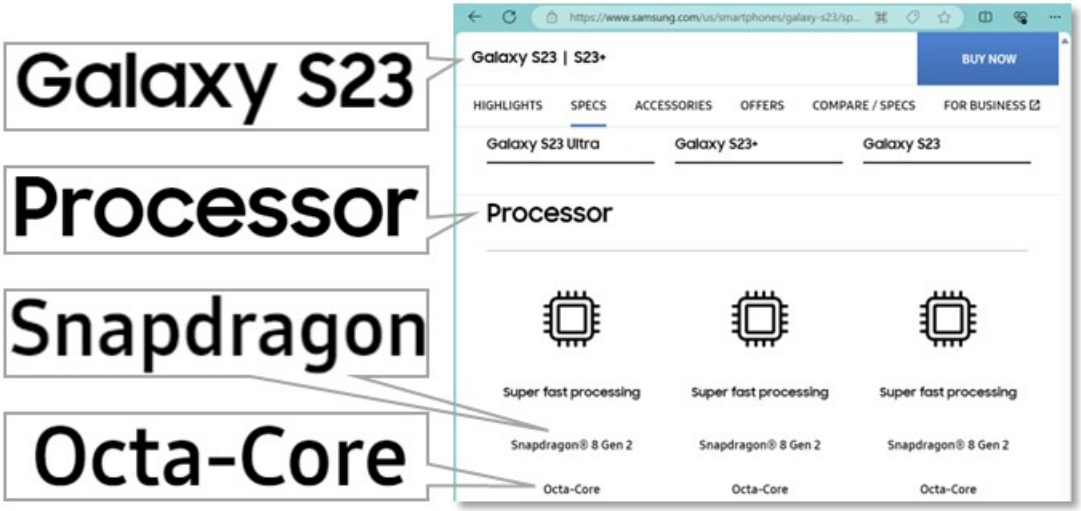
[Source: frames taken from screen recording of touch interface on Galaxy S23]

89. As an additional example, as shown below, the S23 includes "Edge panels" (which are "on" in the default settings) located in the touch screen on the right edge of the display that functions independently of an application in use on the touch screen. The Edge panels function independently of the application shown in the display. For example, a user can move the vertical location of the "handle" for Edge panels by pressing down on the handle, then dragging it to a different location on the right edge of the screen. A user can also move the handle to the left edge of the screen, or change the color, transparency, size, width of the handle. That functionality is independent of the "One UI Home" app shown in the display.



[Source: Screenshots of touch interface on Galaxy S23]

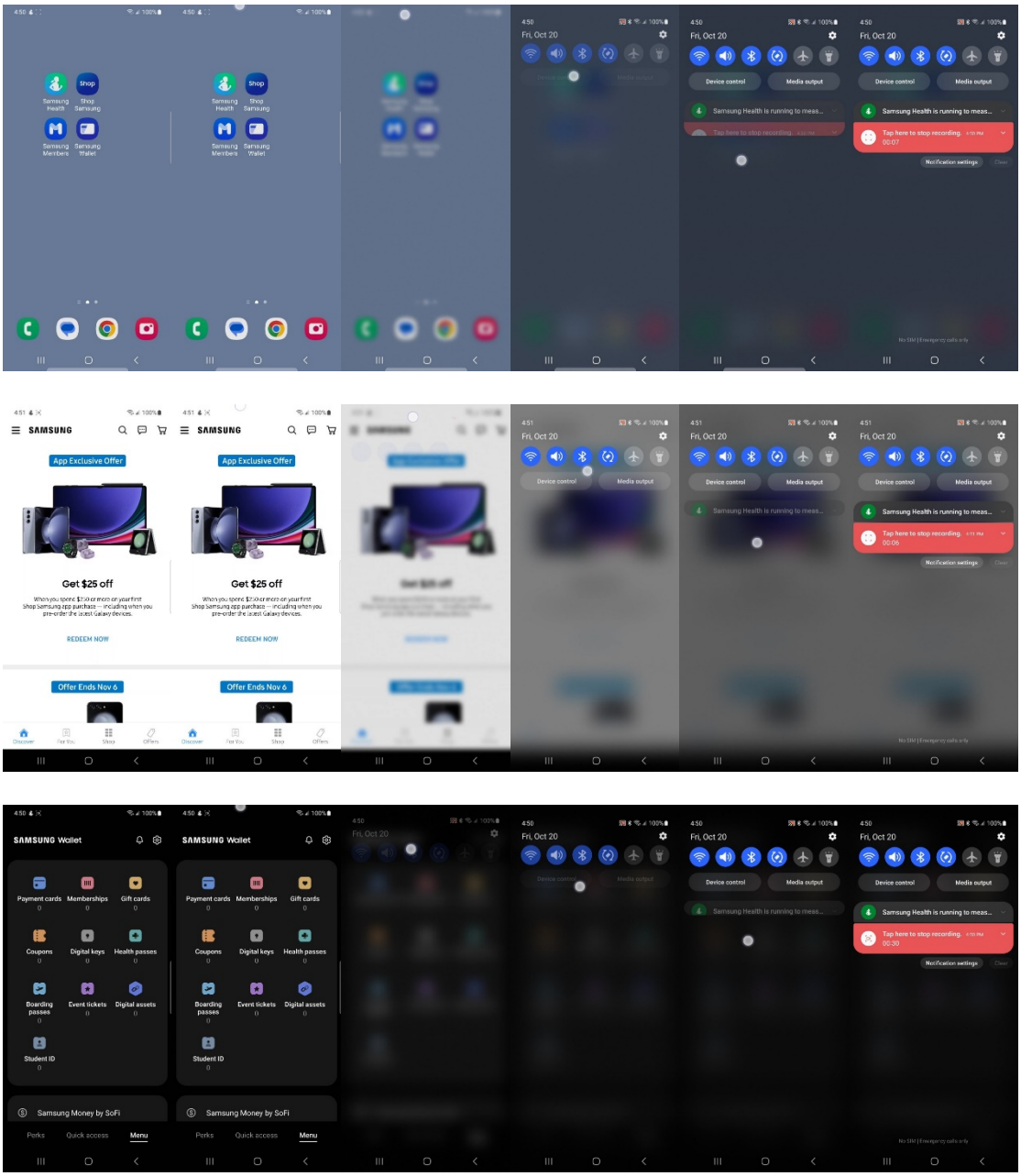
90. The Accused Instrumentalities, including for example the S23, include "a processor." The S23 includes a Snapdragon Octa-Core processor, as shown below:



[Source: https://www.samsung.com/us/smartphones/galaxy-s23/specs/]

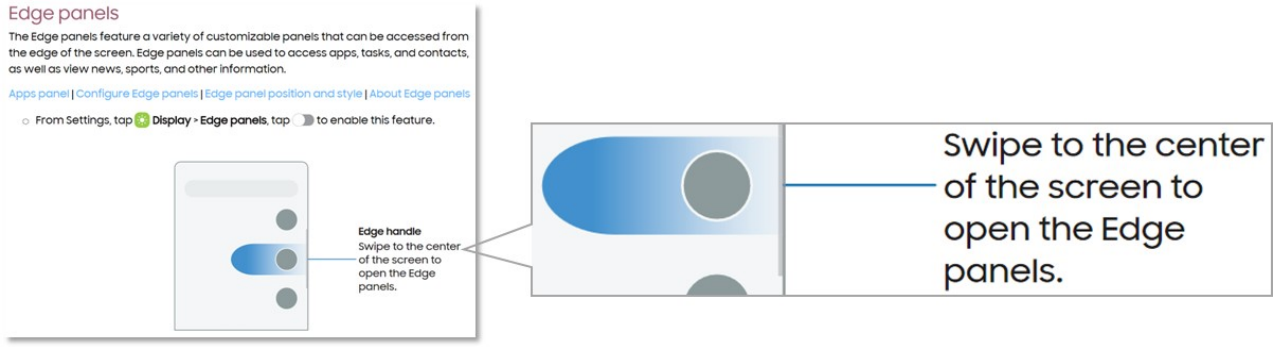
91. The Accused Instrumentalities, including for example the S23, include "wherein a gliding action provided from outside of the touch screen towards inside of the touch screen, said gliding action at first interacting with said at least one window on the touch screen, is processed by said processor to cause an action assigned to said window, and wherein said at least one window is located on the touch screen before said gliding action begins."

92. For example, as shown below, when a gliding action is provided from the outside of the top edge towards the inside of the screen, the gliding action first interacts with the notification bar at the top of the screen and is processed by the processor to cause a specific action, e.g., opening the notification window. The gliding action is depicted with a circle showing where the user is currently touching the screen. The gliding action opens the notification window the same way regardless of what application is active in the display.



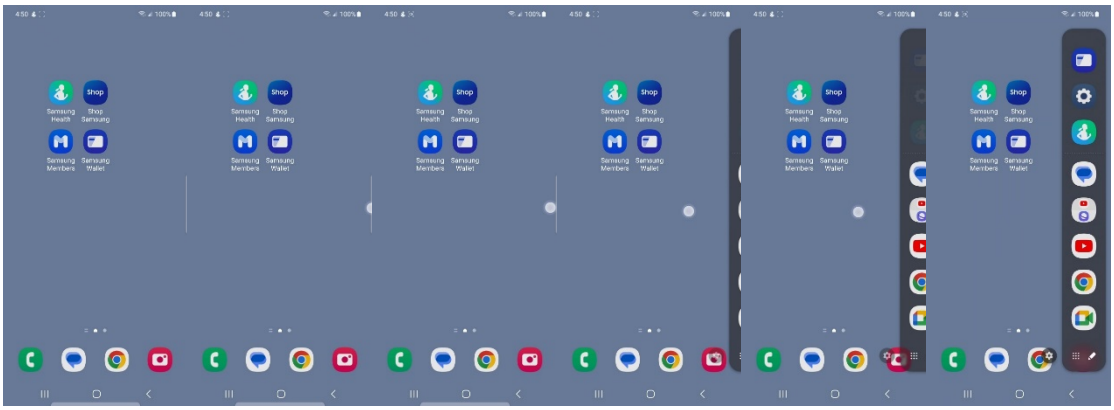
[Source: frames taken from screen recording of touch interface on Galaxy S23]

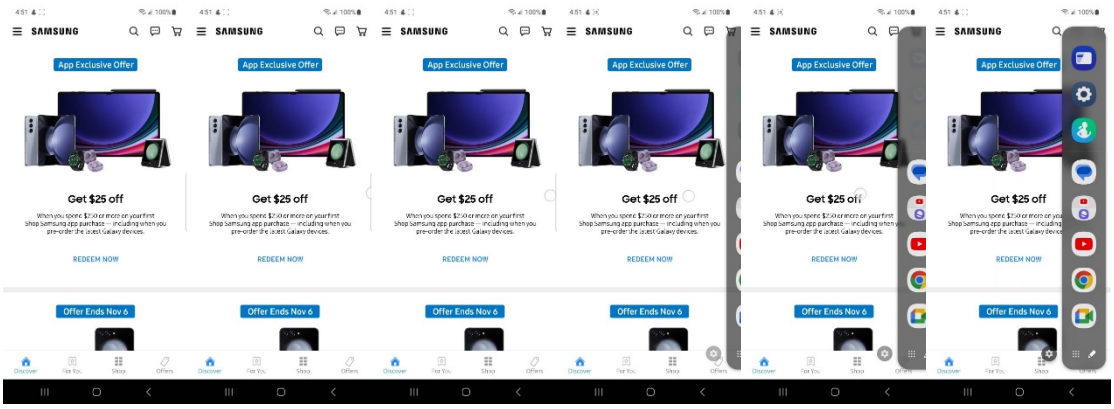
93. As an additional example, when a gliding action is provided from the outside of the right edge (or left edge, if the user puts the handle on the left edge) towards the inside of the screen, said gliding action first interacts with the handle at the right of the screen and is processed by the processor to cause a specific action, e.g., opening the “Edge panels” window.

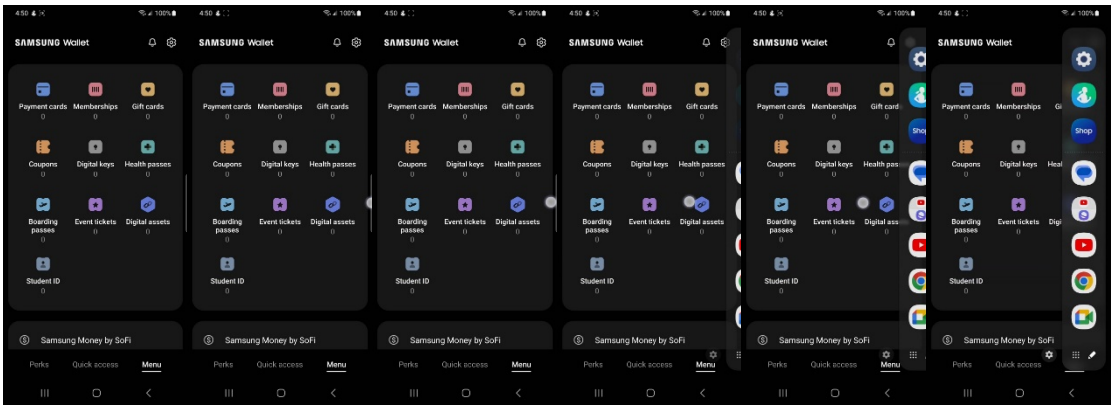


[Source:https://downloadcenter.samsung.com/content/UM/202302/20230207045923682/SAM_S911_S916_S918_EN_UM_OS13_020223_FINAL.pdf, p. 49]

94. The gliding action is depicted with a circle showing where the user is currently touching the screen. The gliding action opens the Edge panels window the same way regardless of what application is active in the display.







[Source: frames taken from screen recording of touch interface on Galaxy S23]

95. Samsung has indirectly infringed and continues to indirectly infringe one or more claims of the ’602 patent by inducing infringement by others. For example, Samsung induces Samsung’s customers and end-users, in this District and elsewhere in the United States, to implement and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). Samsung’s customers and end-users infringe via their use of the Accused Instrumentalities. Samsung has also indirectly infringed and continues to indirectly infringe one or more claims of the ’602 patent by inducing infringement by others, such as Samsung’s subsidiaries, parents, partners, affiliates, importers, and resellers in this District and elsewhere in the United States, to implement, manufacture/make, sell/resell, import/export, and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). For example, Samsung’s parents, partners, affiliates, importers, and resellers infringe via their use of the Accused Instrumentalities. Samsung induces such direct infringement through its affirmative acts of making, using, selling, offering to sell, and/or importing the Samsung devices and their components and supporting the input technology. Samsung performs these affirmative acts with knowledge of the ’602 patent and with the intent, or willful blindness, that the induced acts directly infringe the ’602 patent. Samsung took active steps with the specific intent to cause its customers and/or end users, as well as its parents, partners, affiliates, importers, and/or resellers, to use the Accused Instrumentalities in a

manner that infringes one or more claims of the ’602 patent, including at least claim 1. Such steps by Samsung include, among others, advising or directing customers and/or end users, as well as parents, partners, affiliates, importers, and/or resellers, to use the Accused Instrumentalities in an infringing manner, advertising and promoting the use of the Accused Instrumentalities in an infringing manner, and/or distributing instructions, demonstrations, brochures, videos, and user guides that intentionally instruct and guide users to use the Accused Instrumentalities in an infringing manner.

96. Samsung has actual notice of its infringement of the ’602 patent by the filing of this Complaint, and Samsung was or is now aware of the ’602 patent or has willfully blinded itself as to the existence of the ’602 patent and Samsung’s infringement thereof.

97. Samsung has known of the ’602 patent at least by November 15, 2021. The U.S. Patent and Trademark Office Examiner cited the ’602 patent in the published “List of References,” dated November 15, 2021, in U.S. Patent Application No. 16/516,892, as applied by Samsung. Samsung then cited to the ’602 patent in resultant U.S. Patent No. 11,281,370, with priority date February 28, 2015, application date July 19, 2019, and publication date March 22, 2022. In U.S. Patent No.10,540,441 with publication date January 1, 2021, Samsung also cited both the parent to the ’602 patent, PCT/IL2010/001075, as WIPO No. 2013/123,124, and the child to the ’602 patent, U.S. Patent Publication No. 2022/0129126A9. Samsung also cited to numerous members of the ’602 patent family, including without limitation: (1) U.S. Patent Publication No. 2011/0141027, cited by Samsung in both European Patent Publication No. 2597561 with priority date November 25, 2011 and publication date May 29, 2013, and U.S. Patent No. 10,402,088 with priority date May 5, 2012 and publication date September 3, 2019; and, (2) U.S. Patent Publication

No. 2011/0291940, cited by Samsung in U.S. Patent Publication No. 2012/0162086 with priority date December 27, 2010 and publication date June 28, 2012.

98. Samsung's infringement of the '602 patent has been willful and egregious.

99. Samsun has also indirectly infringed and continues to indirectly infringe the '602 patent by contributing to direct infringement by others, such as Samsung's customers and end-users and other telephone manufacturers, in this District and elsewhere in the United States, in violation of 35 U.S.C. § 271(c). Samsung's affirmative acts of providing the Samsung devices to implement and support the input technology in this District and elsewhere in the United States, and causing the patented invention to be used and implemented by Samsung's customers and end-users and other voice-service providers, contribute to their implementation and use of the infringing technology, such that the '602 patent is directly infringed by Samsung's customers and end-users and such device manufacturers. The accused components in the Samsung devices are material to the inventions claimed in the '602 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Samsung to be specially made or adapted for use in the infringement of the '602 patent. Samsung performs these acts with knowledge of the '602 patent and with the intent, or willful blindness, that they cause direct infringement of the '602 patent.

100. As a result of Samsung's infringement of the '602 patent, Keyless has suffered monetary damages and is entitled to no less than a reasonable royalty for Samsung's use of the claimed inventions of the '602 patent, together with interest and costs as determined by the Court. Keyless will continue to suffer damages in the future unless Samsung's infringing activities are enjoined by this Court.

101. Samsung does not have any rights to use the ’602 patent as alleged in this Complaint.

102. Keyless has complied with 35 U.S.C. § 287.

103. Keyless will be irreparably harmed unless a permanent injunction is issued enjoining Samsung and its agents, employees, representatives, affiliates, and others acting in concert with Samsung from infringing the ’602 patent.

104. Keyless’ patents, including the ’602 patent, are publicly available from the United States Patent Office and other online resources such as Google Patents.

COUNT III

Infringement of U.S. Patent No. 10,976,922

105. Keyless incorporates by reference and re-alleges the foregoing paragraphs as if fully set forth herein.

106. Samsung has infringed and continues to infringe one or more claims of the ’922 patent, literally and/or under the doctrine of equivalents, directly and/or indirectly, under 35 U.S.C. § 271(a) *et seq.* by making, using, selling, offering for sale, and/or importing in/into the U.S. infringing products.

107. Samsung has manufactured, used, sold, offered to sell, imported, and/or provided and continues to manufacture, use, sell, offer for sale, import, and/or provide mobile devices, including cellular phones and tablet devices (the “Accused Instrumentalities”) that infringe, either literally or under the doctrine of equivalents, one or more claims of the ’922 patent in violation of 35 U.S.C. § 271(a).

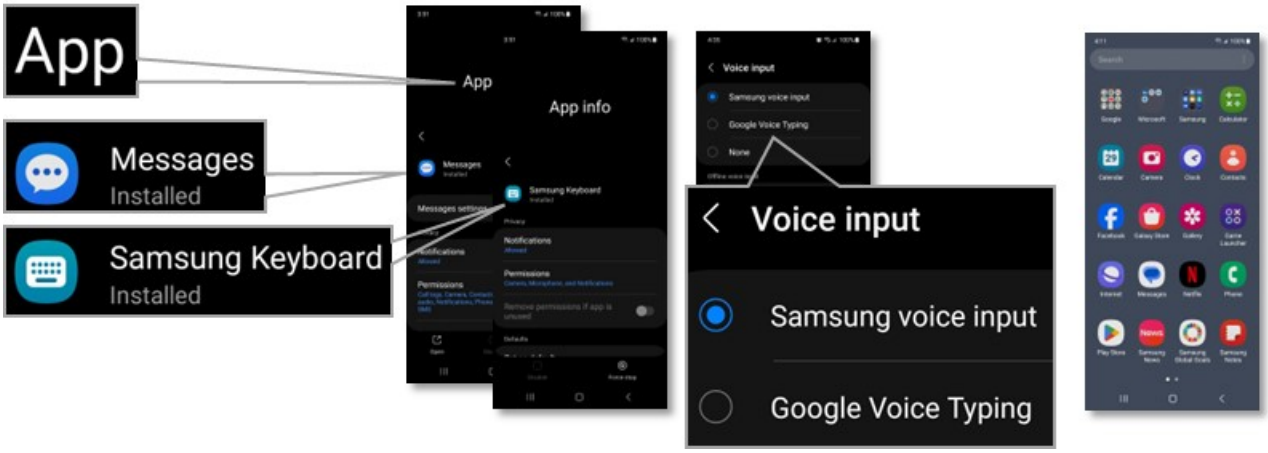
108. Upon information and belief, Samsung has directly infringed at least claim 1 of the ’922 patent through its Accused Instrumentalities that allow for the use of multiple applications on the screen of a device.

109. Claim 1 of the ’922 patent, for example, reads as follows:

> 1. A system for using multiple applications on a screen of a device, comprising:
>
> an electronic device having a touchscreen;
>
> an on-screen keyboard for entering text in a first application running within said device wherein a first zone of said touchscreen is assigned to an interface of said first application and a second zone of said touchscreen is assigned to said keyboard; and
>
> wherein based on accomplishment of a condition under the control of said keyboard, the system activates a second application and displays an interface of the second application and a reduced interface corresponding to said keyboard on at least a portion of said second zone, and;
>
> wherein said interface of said first application, said interface of said second application, and the reduced interface corresponding to said keyboard are simultaneously displayed on said touchscreen.

110. Samsung has directly infringed and continues to directly infringe one or more claims of the ’922 patent, including at least claim 1 of the ’922 patent, literally and/or under the doctrine of equivalents, by or through making, using, offering for sale, selling within the United States and/or importing into the United States the Accused Instrumentalities.

111. The Accused Instrumentalities, including for example the S23, comprise “A system for using multiple applications on a screen of a device.” For example, the S23 uses the Samsung Messages, Samsung Keyboard, and Samsung Voice Input apps.

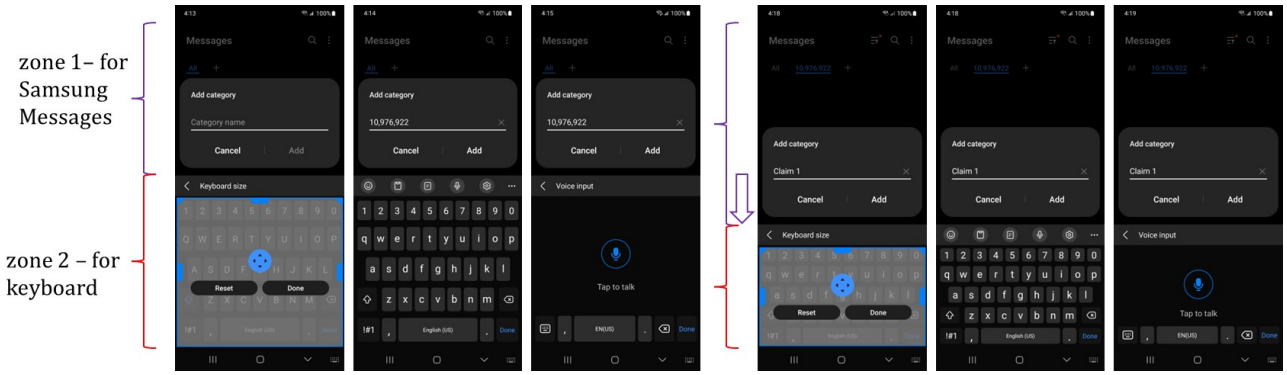


[Source: Screenshots of Galaxy S23]

112. The Accused Instrumentalities, including for example the S23, are "an electronic device having a touchscreen." The S23 features a touch screen display, as shown below:

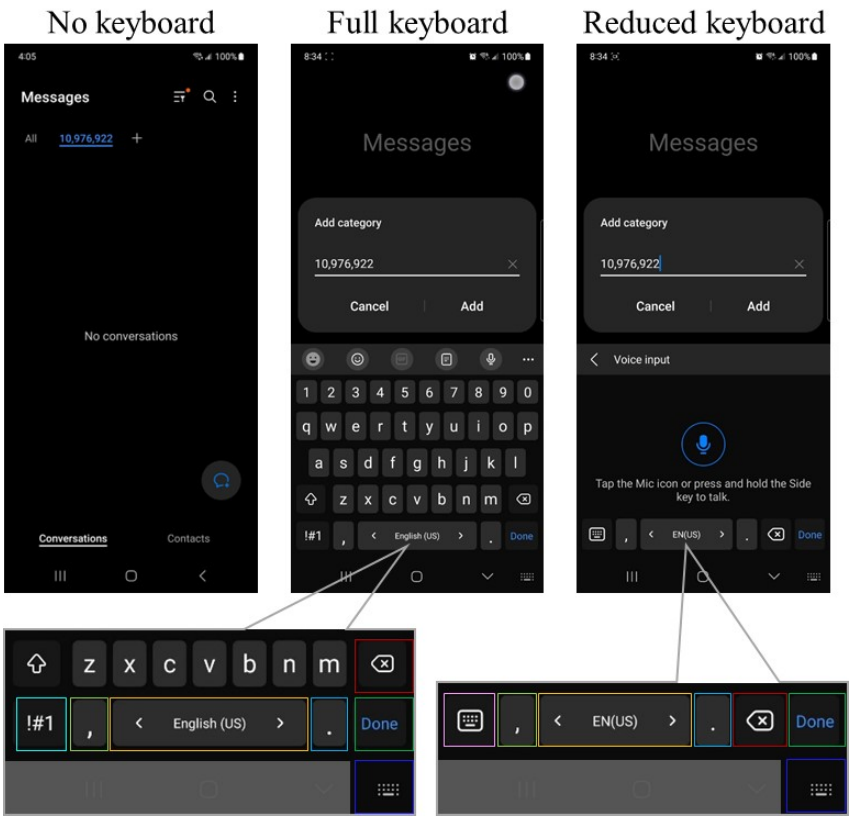
[Source: https://www.samsung.com/us/support/troubleshooting/TSG01213974/]

113. The Accused Instrumentalities, including for example the S23, have "an on-screen keyboard for entering text in a first application running within said device wherein a first zone of said touchscreen is assigned to an interface of said first application and a second zone of said touchscreen is assigned to said keyboard." For example, the Galaxy S23 includes an on-screen keyboard for entering text in the Samsung Messages application interface, where the Messages application is assigned to a first zone of the touchscreen and the keyboard is assigned to a second zone. The zone assigned to the keyboard is adjustable, and the remainder of the display is assigned to the Samsung Messages application interface. The keyboard zone displays a keyboard and/or a second application, such as the Samsung Voice Input application.



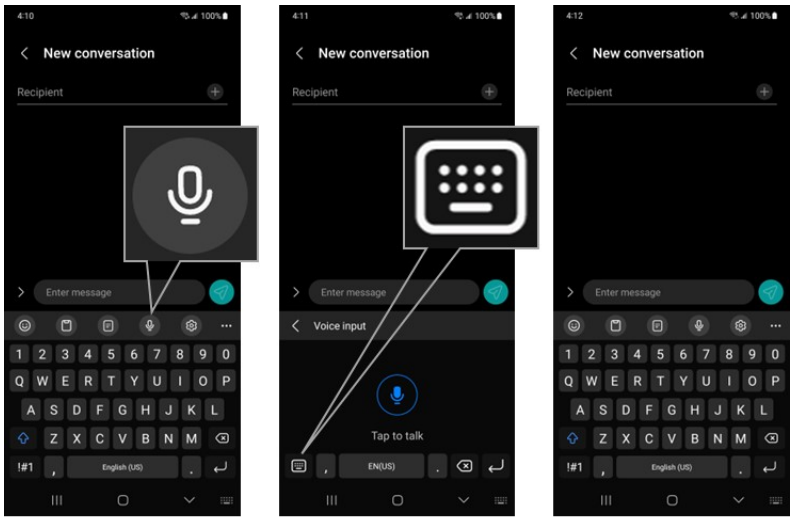
[Source: Screenshot of touch interface on Galaxy S23]

114. The Accused Instrumentalities, including for example the S23, include "wherein based on accomplishment of a condition under the control of said keyboard, the system activates a second application and displays an interface of the second application and a reduced interface corresponding to said keyboard on at least a portion of said second zone." For example, the S23 Samsung Keyboard application allows a user to tap the microphone icon to activate the Samsung Voice Input application in the zone for the keyboard and displays a reduced interface for the keyboard. The reduced interface includes the same comma, space bar, period, "Done", delete, and keyboard icon (in the lower right corner) keys that are displayed in the full-size keyboard. The delete key moves down one row to be on the same row as the space bar, between the period and "Done" keys. The space bar key is narrower, to make room for the delete key, and displays the shorted "EN(US)" instead of "English (US)" to denote the keyboard language.



[Source: Screenshot and frames taken from screen recording of Galaxy S23]

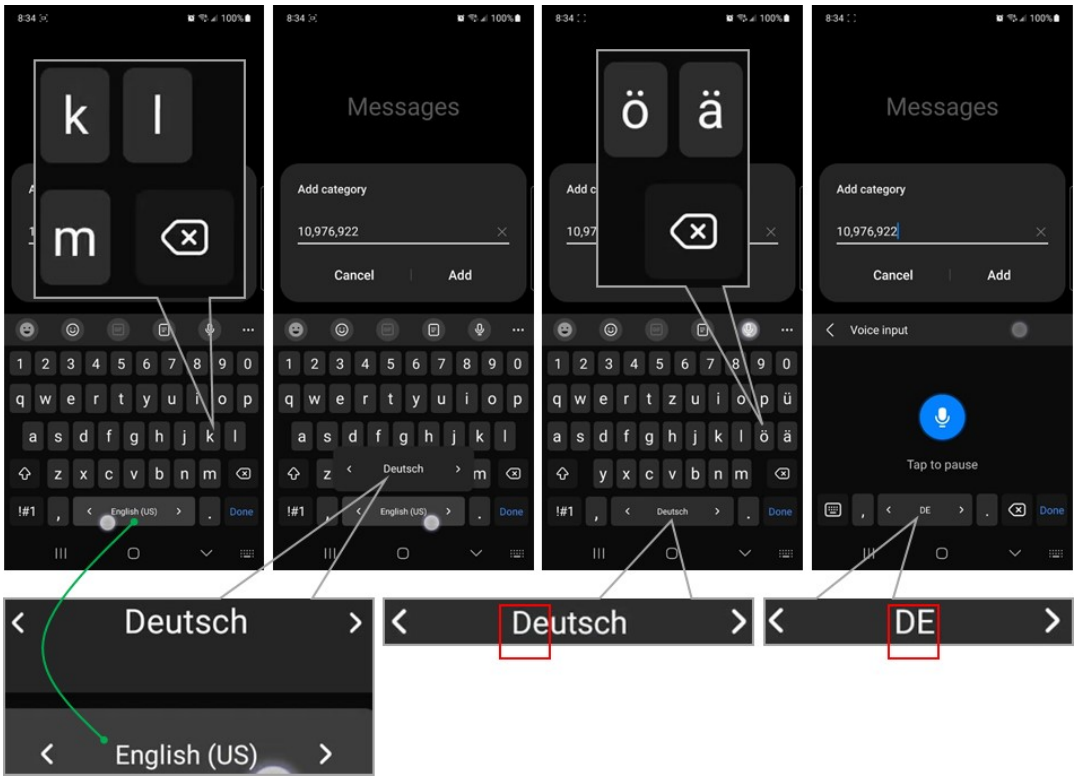
115. The reduced interface for the keyboard also includes a key that displays an icon for a keyboard, instead of "!#1" as the full keyboard displays. Tapping the reduced interface keyboard icon restores the full keyboard.

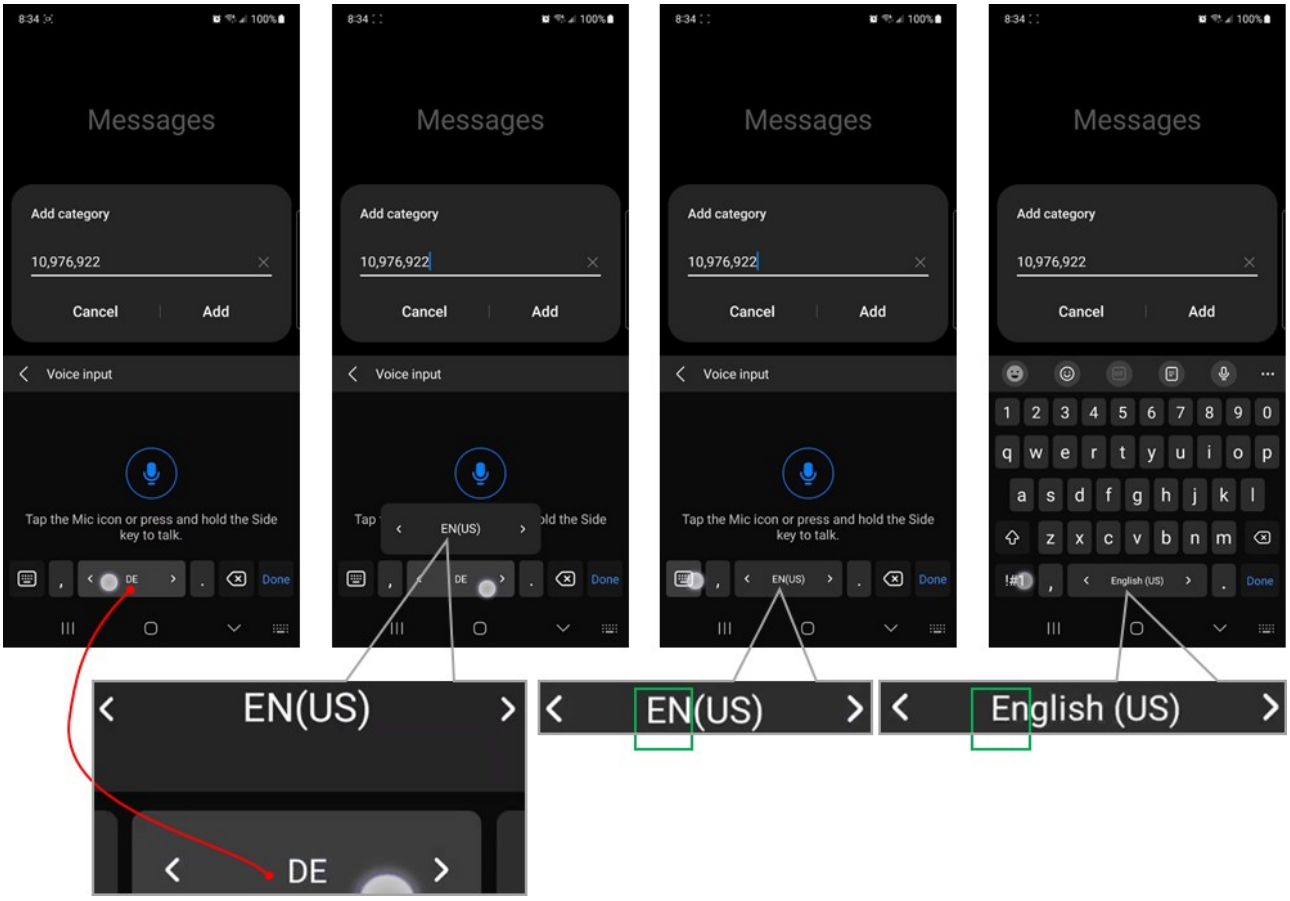


Tap mic icon for voice input app | Tap reduced interface for keyboard | Return to keyboard

[Source: Screenshots of Galaxy S23]

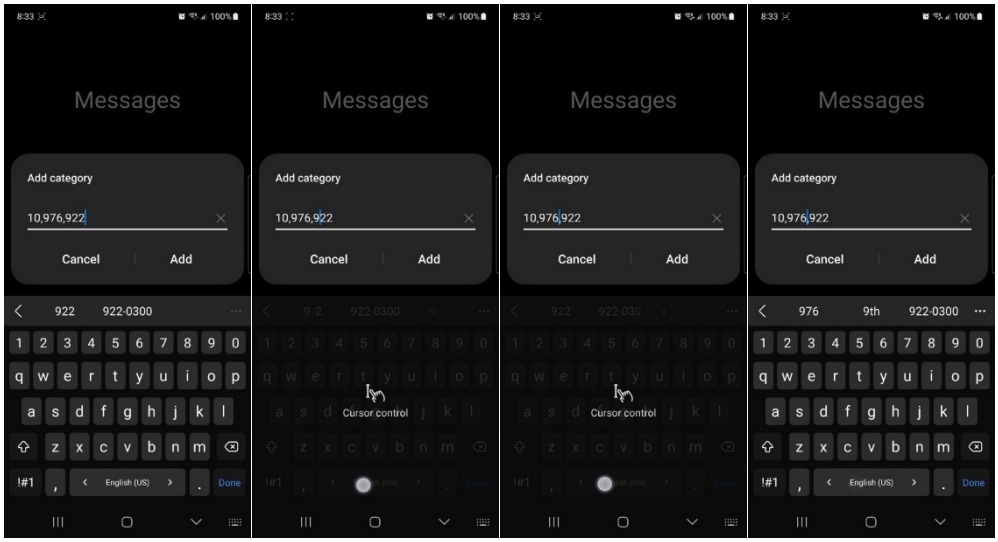
116. The keys that are shown in both the full interface and reduced interface behave similarly. For example, swiping the space bar allows the user to change the keyboard's language. Changing the language from English to German (Deutsch) in the full interface, as shown in the example screen recording below, causes the keyboard language to continue to be German when it is in voice input mode with a reduced interface. Similarly, changing the language from German to English in the reduced interface causes the language to continue to be English when switching from the reduced interface to the full interface.

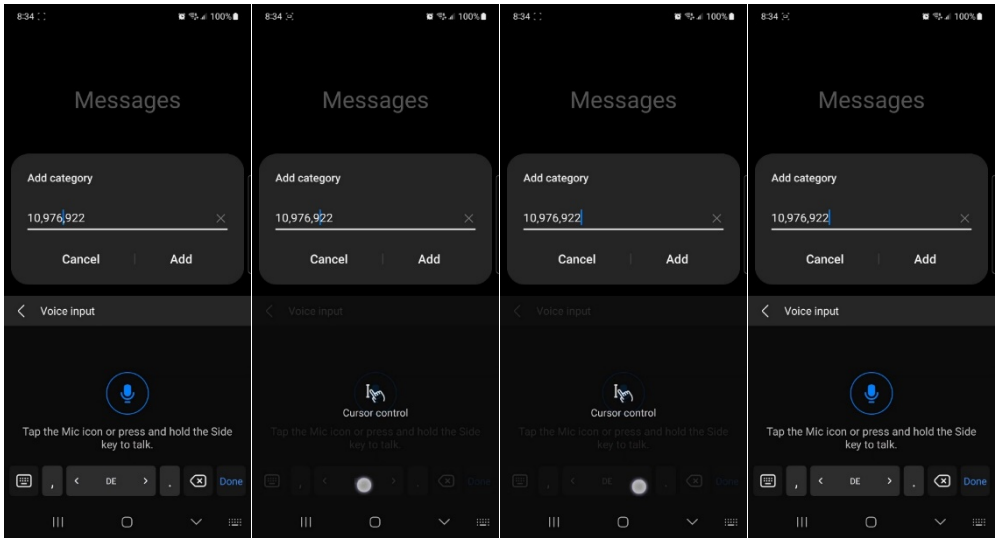

Messages
Add category
10,976,922
Cancel
Add
Voice input
Tap to pause
Deutsch
English (US)
DE


Messages
Add category
10,976,922
Cancel
Add
Voice input
Tap the Mic icon or press and hold the Side key to talk.
EN(US)
DE
English (US)

[Source: frames taken from screen recording of Galaxy S23]

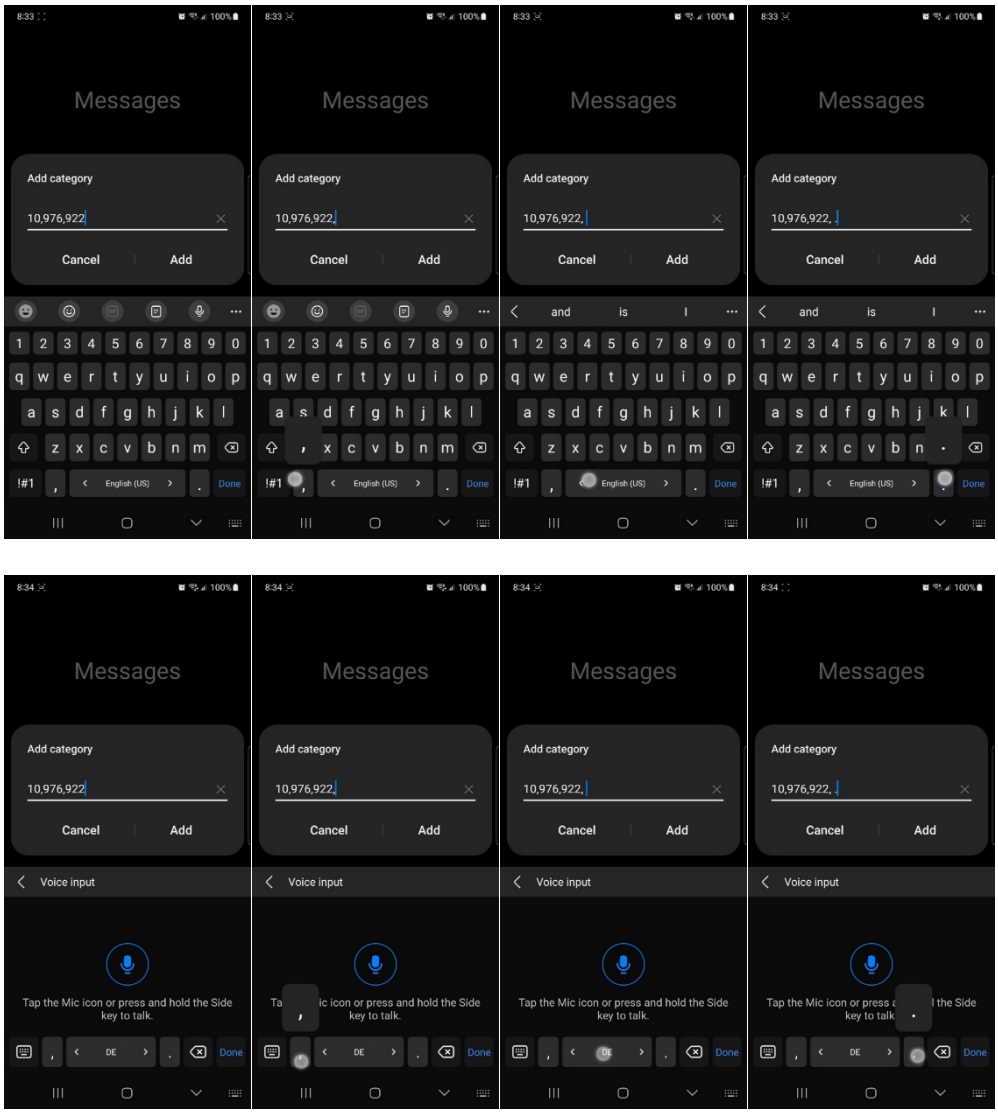
117. As another example, in each of the full and reduced interfaces, holding the space bar changes the keyboard to "control cursor" mode that allows the user to move the cursor (shown in blue, moving to the left and right, in the example screen recording below).





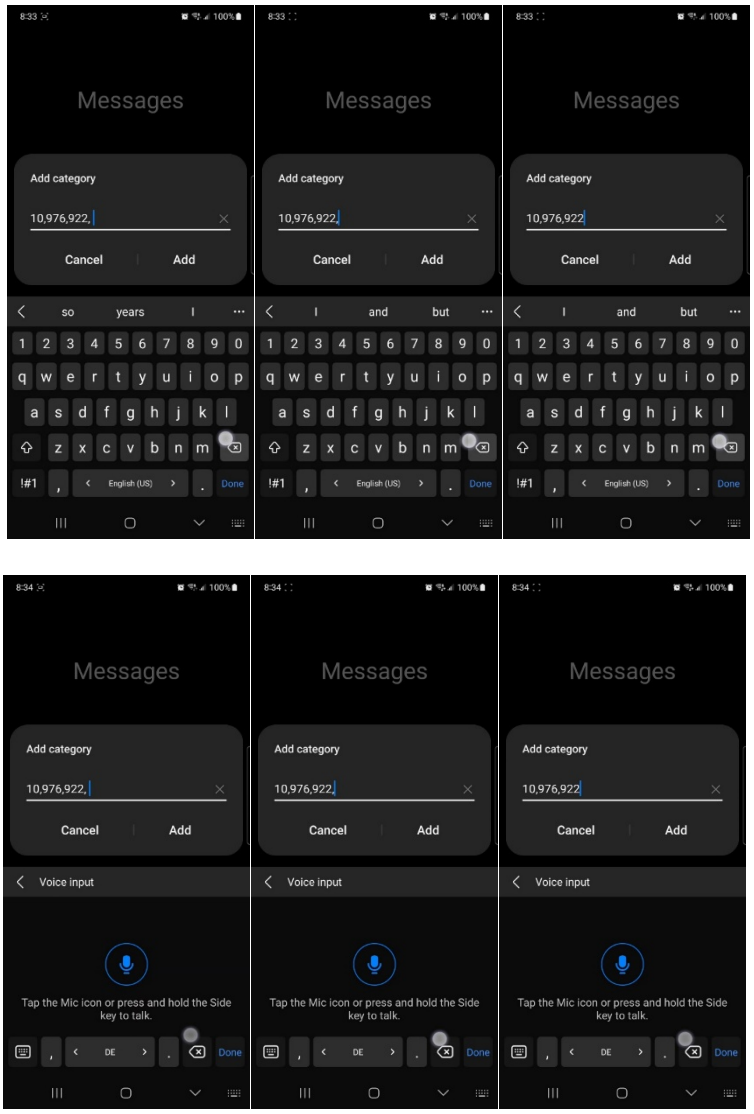
[Source: frames taken from screen recording of Galaxy S23]

118. As another example, in each of the full and reduced interfaces, tapping the comma, space bar, and period keys insert a comma, space, and period (respectively) into text.



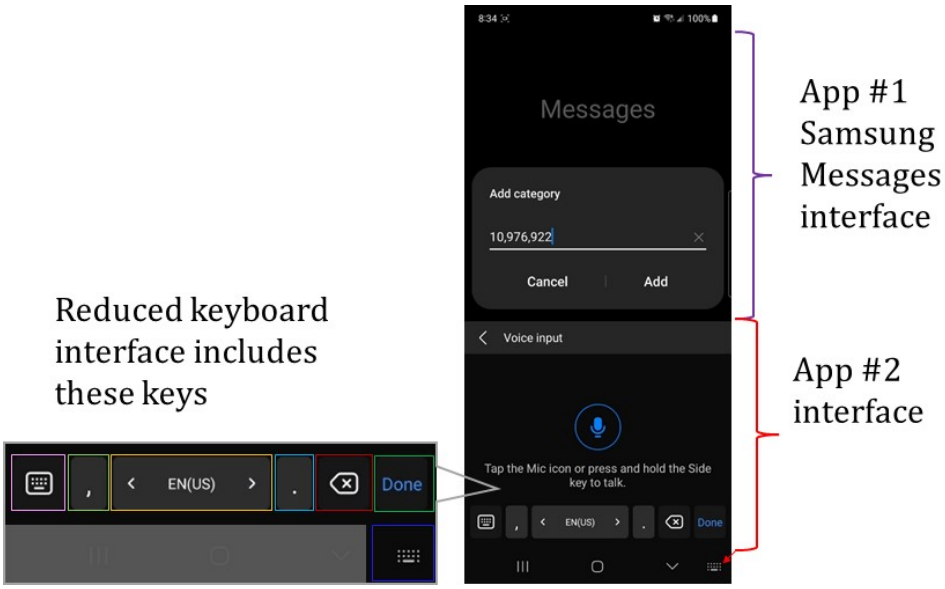
[Source: frames taken from screen recording of Galaxy S23]

119. As another example, in each of the full and reduced interfaces, tapping the delete key deletes a character.



[Source: frames taken from screen recording of Galaxy S23]

120. The Accused Instrumentalities, including for example the S23, include "wherein said interface of said first application, said interface of said second application, and the reduced interface corresponding to said keyboard are simultaneously displayed on said touchscreen." In all of the examples shown in the previous paragraphs, the interface of the first application (Samsung Messages), interface of the second application (Samsung Voice Input), and reduced interface corresponding to the keyboard (keys including the keyboard icon) are displayed simultaneously. See previous paragraphs. For example:



[Source: Screenshots of touch interface in Galaxy S23]

121. Samsung has indirectly infringed and continues to indirectly infringe one or more claims of the ’922 patent by inducing infringement by others. For example, Samsung induces Samsung’s customers and end-users, in this District and elsewhere in the United States, to implement and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). Samsung’s customers and end-users infringe via their use of the Accused Instrumentalities. Samsung has also indirectly infringed and continues to indirectly infringe one or more claims of the ’922 patent by inducing infringement by others, such as Samsung’s subsidiaries, parents, partners, affiliates, importers, and resellers in this District and elsewhere in the United States, to implement, manufacture/make, sell/resell, import/export, and/or use the patented invention in an infringing manner, in violation of 35 U.S.C. § 271(b). For example, Samsung’s parents, partners, affiliates, importers, and resellers infringe via their use of the Accused Instrumentalities. Samsung induces such direct infringement through its affirmative acts of making, using, selling, offering to sell, and/or importing the Samsung devices and their components and supporting the input technology. Samsung performs these affirmative acts with knowledge of the ’922 patent and with

the intent, or willful blindness, that the induced acts directly infringe the ’922 patent. Samsung took active steps with the specific intent to cause its customers and/or end users, as well as its parents, partners, affiliates, importers, and/or resellers, to use the Accused Instrumentalities in a manner that infringes one or more claims of the ’922 patent, including at least claim 1. Such steps by Samsung include, among others, advising or directing customers and/or end users, as well as parents, partners, affiliates, importers, and/or resellers, to use the Accused Instrumentalities in an infringing manner, advertising and promoting the use of the Accused Instrumentalities in an infringing manner, and/or distributing instructions, demonstrations, brochures, videos, and user guides that intentionally instruct and guide users to use the Accused Instrumentalities in an infringing manner.

122. Samsung has actual notice of its infringement of the ’922 patent by the filing of this Complaint, and Samsung was or is now aware of the ’922 patent or has willfully blinded itself as to the existence of the ’922 patent and Samsung’s infringement thereof.

123. Samsung has known of the ’922 patent at least by April 13, 2021, since Samsung has known of the parent of the ’922 patent parent at least by September 3, 2015. Samsung cited to the ’922 patent parent, U.S. Patent Publication No. 2016/0132233, in multiple publications, including without limitation: (1) U.S. Patent Publication No. 2015/0248235 with priority date February 28, 2014 and publication date September 3, 2015; (2) U.S. Patent No. 10,185,416 with priority date November 20, 2012 and publication date January 22, 2019; (3) U.S. Patent No. 10,194,060 with priority date November 20, 2012 and publication date January 29, 2019; (4) U.S. Patent No. 10,423,214 with priority date November 20, 2012 and publication date September 24, 2019; (5) U.S. Patent No. 10,551,928 with priority date November 20, 2012 and publication date February 4, 2020; (6) U.S. Patent No. 11,157,436 with priority date November 20, 2012 and

publication date October 26, 2021; (7) U.S. Patent No. 11,237,719 with priority date November 20, 2012 and publication date February 1, 2022; and (8) U.S. Patent No. 11,372,536 with priority date November 11, 2012 and publication date June 28, 2022. Samsung also cited to numerous members of the ’922 patent family, including without limitation: (1) U.S. Patent No. 11,106,349, cited by Samsung U.S. Patent No. 10,489,051 with priority date November 28, 2014 and publication date November 26, 2019; and (2) U.S. Patent Publication No. 2016/0041965, cited by Samsung in U.S. Patent No. 11,481,551 with priority date October 21, 2016 and publication date October 25, 2022.

124. Samsung’s infringement of the ’922 patent has been willful and egregious.

125. Samsun has also indirectly infringed and continues to indirectly infringe the ’922 patent by contributing to direct infringement by others, such as Samsung’s customers and end-users and other telephone manufacturers, in this District and elsewhere in the United States, in violation of 35 U.S.C. § 271(c). Samsung’s affirmative acts of providing the Samsung devices to implement and support the input technology in this District and elsewhere in the United States, and causing the patented invention to be used and implemented by Samsung’s customers and end-users and other voice-service providers, contribute to their implementation and use of the infringing technology, such that the ’922 patent is directly infringed by Samsung’s customers and end-users and such device manufacturers. The accused components in the Samsung devices are material to the inventions claimed in the ’922 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Samsung to be specially made or adapted for use in the infringement of the ’922 patent. Samsung performs these acts with knowledge of the ’922 patent and with the intent, or willful blindness, that they cause direct infringement of the ’922 patent.

126. As a result of Samsung's infringement of the '922 patent, Keyless has suffered monetary damages and is entitled to no less than a reasonable royalty for Samsung's use of the claimed inventions of the '922 patent, together with interest and costs as determined by the Court. Keyless will continue to suffer damages in the future unless Samsung's infringing activities are enjoined by this Court.

127. Samsung does not have any rights to use the '922 patent as alleged in this Complaint.

128. Keyless has complied with 35 U.S.C. § 287.

129. Keyless will be irreparably harmed unless a permanent injunction is issued enjoining Samsung and its agents, employees, representatives, affiliates, and others acting in concert with Samsung from infringing the '922 patent.

130. Keyless' patents, including the '922 patent, are publicly available from the United States Patent Office and other online resources such as Google Patents.

PRAYER FOR RELIEF

WHEREFORE, Keyless respectfully requests that the Court enter judgment for Plaintiff and against Defendants as follows:

A. That U.S. Patent No. 9,304,602 be judged valid and enforceable;

B. That U.S. Patent No. 10,976,922 be judged valid and enforceable;

C. That U.S. Patent No. 11,503,144 be judged valid and enforceable;

D. A judgment that each defendant is liable for infringement of one or more claims of the '602,'922, and '144 patents.

E. A judgement that each defendant's infringement has been and is willful.

F. Compensatory damages in an amount according to proof, and in any event no less than a reasonable royalty, including all pre-judgment and post-judgment interest at the maximum

rate allowed by law and including an accounting of all infringements and/or damages not presented at trial.

G. An award of enhanced damages.

H. A declaration that this case is exceptional and an award of reasonable attorneys' fees, as provided by 35 U.S.C. § 285 and that Plaintiff be awarded enhanced damages up to treble damages for willful infringement as provided by 35 U.S.C. § 284; and,

I. Plaintiff be awarded such other relief as the Court may deem appropriate.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Keyless demands a trial by jury for all issues so triable.

Dated: June 20, 2024

Respectfully submitted,

/s/ *Deron D. Dacus*
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ATTORNEYS FOR PLAINTIFF
KEYLESS LICENSING LLC

CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on June 20, 2024.

/s/ Deron R. Dacus
Deron R. Dacus