2410b and compare the temperature values of each to the inward facing sensor 2410a. The WCD can then select the most accurate temperature value from the outward facing sensors.

**[00261]** Based on the measured skin temperature and measured ambient temperature, the WCD can automatically adjust the thermostat 2420 to alter the ambient temperature of the room. In this regard, if a user's skin temperature is too high, the WCD can instruct the thermostat 2420 to lower the ambient temperature. Similarly, if the user's skin temperature is too cold, the WCD can instruct the thermostat 2420 to raise the temperature. The WCD 2410 can instruct the thermostat (and/or an HVAC controller) directly, e.g., via a direct wireless link 2415, or indirectly, e.g., via one or more of the mobile device 2440 and the access point 2430. The WCD can also use historic temperature data to develop trend temperature data.

**[00262]** In another example, the WCD can be part of a system 2400C for controlling home appliances. The system 2400C can include a WCD 2410C, one or more home appliances 2420C, and an access point 2430C. Such home appliances 2420C can include, for example, a television, lights, speakers, microwave, range, stove, oven, etc. Each of the home appliances can include an antenna that allows the respective home appliances to communicate wirelessly with one or more access points 2430C. In one example, the appliances can include a ScenSor DW1000 chip provided by DecaWave. In this way, the locations of the appliances in the room can be determined to an accuracy of approximately 10 cm. The location of the WCD 2410C can also be determined, using the above-referenced chip, or by using signal strengths of one or more base stations.

**[00263]** Having established the position of one or more home appliances and the user in a room, the user can make a gesture to control such home appliances 2420C. For example, the user can point at the TV (while wearing the WCD) in order to turn it on/off. Knowing the position of the user and the position of the TV, the direction of the gesture and the type of gesture can indicate what action to take on which device. The accelerometer and/or magnetometer on the WCD can be used to create a vector to the object to control, and a wireless packet can bet sent to a wireless access point to control the respective appliance.



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**[00264]** Fig. 24D is a flow chart depicting a method 2400D of controlling home appliances according to one or more aspects of the disclosure. At block 2410D, the locations of one or more home appliances in a room and/or house can be ascertained/determined. As described above, the appliances can include a processor configured to identify location within a room. At block 2420D, the location of the WCD is determined. At block 2430D, the user can make a gesture toward a home appliance to exert control over the home appliance. Such gesture can include a snap, a point, etc. At block 2440D, the accelerometer and/or magnetometer on the WCD can be used to create a vector to the object to control. At block 2450D, a wireless packet can bet sent to a wireless access point to control the respective appliance. The access point can then issue the command to the respective appliance.

**[00265]** Fig.25 is a perspective view of the hand of a user employing a two-factor authentication technique according to one or more aspects of the disclosure.

**[00266]** As shown, the user 2500 is wearing a WCD 2510 and is approaching a locked door 2520 with an access node 2530 associated therewith. The access node 2530 can be a wireless access node of a conventional or custom arrangement, and can communicate wirelessly according to any type of wireless protocol, such as WiFi or Bluetooth. As the user approaches the door 2520, the WCD 2510 can initiate a communication link, e.g., Bluetooth or WiFi, with the access node 2530. In this way, the WCD and the access node can engage in one or more handshaking or query procedures to verify the WCD. For example, the access node 2530 can detect a MAC address, IP address, or other alphanumeric identifier associated with the WCD and compare it to a list of authorized users. Such network-based communication processes should also be clear to those of skill.

**[00267]** Once the MAC address or other identifier is verified, the user can engage in a pre-defined gesture 2550 to complete the authentication procedure. The gesture 2550 can be any type of hand and/or finger motion that can be performed by the user. In this regard, the accelerometer or magnetometer can detect the gesture 2550 performed by the user and provide the gesture information to the access node. If the provided gesture information corresponds with an authorized gesture stored at or accessible by the access



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node, then the user may be granted authorization and the door can be unlocked. The authorized gesture can be a general authorized gesture for all users, or can be a specific gesture authorized only for the particular MAC address.

**[00268]** In addition to a door, the method above can be use to gain access to other features, such as unlocking a mobile phone, unlocking a car door, starting a car. The authentication technique above is advantageous in that it can eliminate extraneous authentication devices, such as key fobs for a car, a door, keypads for entry control, etc., and can provide a secure two-factor authentication technique to avoid unwanted access. More generally any type of keyless entry system (e.g. a keypad, card-reader, keyless lock, etc.) can be equipped with appropriate communication interfaces (RF, IR, etc.) to communicate with the WCD and operate based on a gesture and/or proximity of the user using the techniques described above. The WCD can also be employed generally in this manner to activate or deactivate a residential or commercial alarm system—substituting, for example, for a key fob used for this purpose.

**[00269]** Fig. 26A is a schematic view of a charging apparatus for charging the WCD according to one or more aspects of the disclosure. As shown, a mobile device 2610 can be received within a case 2620. The mobile device 2610 can be electrically connected to the case 2620 via a port 2610a on the mobile device 2610 and a connector 2620a on the case 2620. As shown in phantom, the case 2620 can include an integrated battery 2630 within the case that can charge the mobile device via the connector or can charge a WCD, as will be described in greater detail below.

**[00270]** The integrated battery can be connected to an antenna 2640 disposed on or within the case 2620 that can emit an RF signal, as shown in the block diagram in Fig. 26C. The RF signal can have a power of less than 500mW and a frequency of 13.56MHz. The RF signal can be emitted in all directions around the case such that it can be received by a WCD in proximity to the case.

**[00271]** Fig. 26B shows a WCD 2650 including an RF antenna 2660 and charging circuitry 2670. The RF antenna 2640 can be disposed within the housing 2680 and can receive the RF signal emitted by the case 2620 and convert it to a current that can be used to charge the WCD battery (not shown). This can advantageously allow the user to



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charge the WCD without removing the WCD from the finger. As shown in Fig. 26D, the charging can occur whenever the WCD is in close proximity to the case, such as when a user talking on the phone or merely handling the phone. In another implementation, the case can utilize inductive charging to charge the WCD. In this regard, the case can include an induction coil subjected to a predetermined current to produce a magnetic field. A corresponding induction coil within the housing of the WCD can be subjected to the magnetic field to produce a current that can charge the onboard battery in accordance with know electromagnetic principles.

**[00272]** Fig. 27A is a pictorial diagram and Fig. 27B is a block diagram of a WCD employing flash storage according to one or more aspects of the disclosure. As described above, the WCD 2700 can include a housing 2710, an antenna 2720, and an integrated circuit (IC) 2730 including a flash memory 2740. The IC and the flash memory can be disposed within the housing 2710. The flash memory 2740 can be powered by a battery 2750 and connected to the IC 2730, which can be implemented as a system-on-a-chip (SoC) IC 2760. The IC can include Bluetooth Low Energy (BLE) capability to allow for communication with another device. The flash memory can be used to store data, or can be used in any of the authentication techniques described above. The WCD can transmit data stored on the flash memory to another device 2780 via the BLE connection, or can receive data and store the data on the flash memory.

**[00273]** Fig. 28A is a schematic diagram of one or more WCDs performing proximity functions according to one or more aspects of the disclosure. The WCD can detect a strength of an RF signal received by its antenna, and calculate a distance to the source of the RF signal using a Received Signal Strength Indicator (RSSI). In one example, the RF signal can be from a mobile device, an access point, or another WCD. The use of RSSI can have many applications in proximity detection. For example, the WCD can be placed on a child and can be connected to mobile device held by a parent. If the WCD travels a predetermined distance from the mobile device, the WCD can issue an alert to the mobile device, thereby alerting the parent that the child has wandered too far. In another example, the parent can wear a first WCD and the child can wear a second WCD. The first WCD can alert the parent that a child has wandered too far.



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**[00274]** A single user can wear a first WCD 2800 on a first finger on a first hand and a second WCD 2810 on a second finger on a second hand. In this regard, the user can measure the relative distance between the first and second fingers using an RSSI via a wireless link 2830 between the WCDs 2800, 2810, such as a BLE connection. This can be used to measure an approximate dimension of an object held in both hands or to estimate a mid-air measurement.

**[00275]** In some examples, a first user can wear a first WCD 2800 and a second user can wear a second WCD 2810. The RSSI can be collected over a period of time and the processor can analyze the data to develop trends or statistics. For example, the RSSI data can indicate that the first and second users have spent a certain amount of time together and can serve as a relationship monitor.

**[00276]** The WCD can also detect when the first user and second user are holding hands. Fig. 28B is a schematic diagram of one or more WCDs 2800, 2810 performing proximity functions according to one or more aspects of the disclosure. Similar to the ECG monitoring techniques described above, a circuit can be formed when the users hold hands 2840 (with the respective hands wearing the WCDs). The circuit can be used to transmit data and/or electrical impulses between the respective WCDs via the circuit. The WCDs can collect data regarding the length of time that the users are holding hands and, in combination with the amount of time spent together, monitor the relationship of the two users. In addition, the WCD can collect data regarding communication between the users, e.g., e-mail, social media, etc. Based on all of the above factors, the WCD can develop a relationship score between respective WCD users, with a higher relationship score indicating more and more frequent interactions.

**[00277]** Fig.29A is a flow chart depicting a method of initiating gesture input according to one or more aspects of the disclosure. The WCD can be used to perform one or more commands, or to instruct another device, such as a mobile device, to perform one or more commands. Such commands can include, initiate sleep state of WCD, initiate sleep mode or default mode of WCD, powering off/on of the WCD, turning on/off an LED light of the WCD, powering on/off of a mobile device, placing a phone call on the mobile device, etc. The user can establish one or more custom gestures to initiate any



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of the commands above. For example, the user can select a command to be customized from a number of commands. Once selected, the user can perform a custom gesture to be associated with that command. In some examples, the user can perform the custom gesture multiple times to allow the WCD to better identify the gesture and to develop error tolerances for registering the gesture.

**[00278]** At block 2910, the user can perform a first gesture. In this example, the user can perform a finger snap. At block 2920, WCD can register the gesture, via the accelerometer and/or the magnetometer. At block 2930, the accelerometer can send an interrupt signal to the processor. At block 2940, the processor can wake from a sleep or default system state. At block 2950, the processor can monitor the accelerometer for a second gesture, at which point the user can perform a second gesture. If the second gesture matches a gesture in the gesture command database, then the WCD can perform the associated command. If not, the WCD can return to the sleep state.

**[00279]** Fig.29B is a chart 2900B showing an exemplary graph of acceleration vs. time as measured by the accelerometer of the WCD. As shown at peak2910B, the gesture can only be registered if it reaches a predetermined acceleration threshold. If the gesture performed at 2910 meets the threshold, it can proceed to block2930 where the interrupt procedure is performed.

**[00280]** Fig. 30 is a perspective view of a WCD 3000 employing an illustrative reset function and associated procedure/process. As shown, the WCD 3000 can be removed from the finger of the user in order to initiate a system reset of the WCD. In one example, the system reset can be initiated by spinning about a rotation axis R at a predetermined speed. The predetermined speed can be any value, and in one example is a rotational velocity. Upon performing the reset procedure at the predetermined speed, operation of the WCD 3000 can be interrupted and the onboard components of the 3000 can power off, and revert to factory default settings. Additionally, a series of movements can initiate a rest, such as putting the ring on a table and turning it over several times.

**[00281]** Fig. 31A is a perspective view of a WCD including an LED indicator according to one or more aspects of the disclosure. As shown, the WCD 3100 can include an internal/external housing 3112 and an internal/external potting 3114. The



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WCD can include an LED 3120 that can be visible through the internal/external potting 3114.

**[00282]** Figs. 31B and 31C are cross sections along line C-C of a WCD employing an LED indicator according to one or more aspects of the disclosure. As described above, the WCD 3100 can have an internal and/or external potting 3114 that can be transparent. This allows light sources within the housing to pass through the potting without changing, or with minimal change to, the optical properties of the light. In this way, a light source 3120, such as an LED, can be disposed on the PCB 3140 and can be powered at least partially by battery 3130. The LED can be encapsulated by the potting 3112 and can project light through the potting 3112. As shown in Fig. 31B, the LED 3120 can include a vertical LED, while 31C depicts a right angle LED. The vertical LED can project light along direction L1, while the right angle LED can project light along direction L2. When light is projected along L2, the light can travel around a circumference of the finger of the user. . Note that, according to aspects of the disclosure, the potting can be generally adapted in whole or in part to condition, filter or modify the wavelengths and/or projection qualities of light by for example, embedding lensmatic components, applying light-diffusive additives, light attenuating filter materials, etc.

**[00283]** Fig. 32 is flow chart depicting a method 3200 of communicating with a near field communication (NFC) device according to one or more aspects of the disclosure.

**[00284]** In some examples, the WCD can enable or disable NFC or change the functionality of a NFC device. For example, the WCD can itself engage in NFC with another computing device, or the WCD can be connected via wireless link to a computing device that engages in NFC with a different computing device. In certain existing NFC devices, NFC will connect and begin transmitting data as soon as it is queried. In the present example, NFC is enabled or begin transmitting data exclusively upon performing of a pre-determined gesture. However, a variety of other transmission processes can be implemented—for example a periodic chirp or handshake request by the WCD for communication with appropriate devices.



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**[00285]** At block 3210, a NFC capable device is provided. The device can be any type of device, such as a laptop, tablet, mobile device, or dedicated NFC device.

**[00286]** At block 3220, the WCD initiates a connection with the NFC device. The connection can be a direct connection via NFC, or an indirection connection via an intermediate device. At this point, no data has yet been transmitted between the WCD and the NFC device.

**[00287]** At block 3230, a user performs a predetermined gesture that is registered by the WCD. The gesture can be any type of gesture, such as a point, a snap, waving the hand, etc.

**[00288]** At block 3240, data transmission begins between the NFC device and the WCD.

**[00289]** In other examples, the user can perform another gesture to cease NFC communication. The gesture can be the same gesture as described above or a different gesture. Additionally, the user can remove the ring to disable the NFC. Upon donning the ring the user will be prompted by the application on the mobile device to re-authenticate by entering a PIN, whereby the proper PIN results in re-enabling the NFC functionality.

**[00290]** In yet another example, the WCD device employing NFC can be configured on the fly to map to different data sets stored thereon. For example, the WCD device employing NFC can employ data thereon to make purchases, e.g., account information, data to access a building, e.g., a key fob, and data thereon to board public transportation, e.g., smart card, metro card, etc. A user can perform a predetermined different gesture for each of the above data sets to access the data. Once accessed, the WCD device employing NFC can initiate a link with another computing device to initiate a transaction, to open a door, or to board public transportation, etc.

**[00291]** VII. Optical Element and Attachment Frame

**[00292]** Fig. 33A depicts a perspective view of a WCD assembly 3300 according to one or more aspects of the disclosure, while Figs. 33B-D depict exploded views of the WCD assembly and 33E depicts a cross sectional view of the WCD assembly along A-A. In this example, the WCD assembly 3300 includes a WCD 3310, an attachment frame



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3320, and an optical element 3330. The WCD 3310 can be any of the WCD examples described above or below in the present application.

**[00293]** The attachment frame 3320 is releasably attached to the WCD3310. The optical element 3330 is itself releasably attachable to the attachment frame 3320. In this regard, the attachment frame 3320 provides an attachment interface between the WCD 3310 and the optical element 3330, thereby allowing the optical element 3330 to be at a fixed position in space with respect to the WCD 3310 or any portion thereof. The attachment frame3320 can be made of any material, such as a metal, polymer, etc. Any type of polymer can be used, such as thermosetting plastics, thermoplastics, PETE, polycarbonate, polyethylene, LDPE, or any other type of plastic.

**[00294]** The attachment frame can be sized and shaped to fit along the curved surface of the WCD. For example, the attachment frame can have a curved undersurface to allow a flush fit with the curved surface of the WCD. The attachment frame can have any shape, size, or radius of curvature depending on the size and shape of the WCD.

**[00295]** The attachment frame 3320 includes a first retaining a portion 3322 and a pair of second retaining portions 3324. The first retaining portion 3322 defines a conical recess 3322a configured to receive the optical element 3330, and provides a generally unoccluded pathway for light to pass through the optical element and onto the WCD. Although depicted as defining a conical or frustoconical shape, the recess 3322a can be any other shape depending on the shape of the optical element 3330. Each of the second retaining portions3324 includes a respective locking feature 3324a. The respective locking features3324 and a extend from the second it retaining portion3324 toward one another such that a distance between the respective locking features is greater than a distance between the remaining portions of the second retaining portions. As shown in Fig. 33E, the locking features engage with an inward-facing surface 3350 of the WCD to ensure a secure fit. In one example, the inward-facing surface of the WCD may itself have one or more features 3360 to engage with the locking features of the second retaining portions. Such one or more WCD features can include projected surfaces, recesses, or any other type a feature to allow for engagement with the attachment frame.



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**[00296]** The optical element 3330 can be made of any material capable of modifying, e.g., focusing, incident electromagnetic radiation, such as visible light, ultraviolet light, infrared light, or any other type of electromagnetic radiation. In some examples, the optical element 3330 can be constructed from a polymer, such as any of the polymers identified above. In another example, the optical element can be made of glass, quartz, diamond, zirconium, or any other material capable of focusing light. More generally, the optical element 3330 is formed with a general outward appearance simulative of a faceted jewel with an appropriate tint or coloration (including clear/white). The term "jewel" can also be used in the alternative to describe the optical element 3330 herein.

**[00297]** The WCD can include CPV cell 3312 that can be disposed directly underneath the attachment frame 3320 and optical element 3330 when assembled. In other examples, the CPV can be positioned within the housing and can receive electromagnetic radiation via a transparent potting material. In this regard, incident light striking the optical element 3330 can be focused on to the CPV cell to allow for charging of the internal battery of the WCD. The optical element 3330 provides an increased charging efficiency when compared to the CPV exclusively receiving ambient light, since the ambient light is collected/gathered from a wider field, and then focused onto the CPV by the optical element 3330. In one example, a focal length of the optical element 3330 is different than a distance between the optical element and the CPV. For example, the focal length can be greater than or less than the distance between the optical element and the CPV. This can be advantageous in various aspects of the disclosure so as to avoid the light from focusing at a focal point directly on the CPV, which could cause damage to the CPV itself by over-concentrating the light at that single point of the overall CPV surface.

**[00298]** Figs.34A-B depict a WCD assembly 3400 according to one or more aspects of the disclosure. In this example, the attachment frame 3420 does not extend to an inward-facing surface of the WCD 3410, but is instead form entirely on the outside-facing surface of the WCD. In some examples, the attachment frame 3420 can be semi-permanently or permanently affixed to the outward-facing surface of the WCD and can have a plurality of retaining portions (mounting prongs) 3422 that at least partially define



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a recess 3422a for receiving the optical element. As shown in Fig.34B, the optical element 3430 is releasably attached to the attachment frame 3420. This configuration can be particularly desirable, as it exhibits ornamental similarities to a traditional engagement ring while still having the increased functionality of the WCD. Note that while not shown, the mounting prongs can include small hook ends springably retain the optical element 3430 when attached, but that can release the optical element based upon a prying motion. A customized grasping tool (not shown) can also be employed to remove (and attach) the optical element in this example.

**[00299]** **VI. Enclosure/Packaging**

**[00300]** Fig. 35A depicts an enclosure or case 3500 for storing a WCD according to one or more aspects of the disclosure. As shown, the enclosure3500 includes a lid 3510 and a base 3520. The lid 3510 and base 3520 can engage via a recessed portion 3522 formed in the base 3520 to provide a substantially sealed interior environment.

**[00301]** The lid 3510 can be cuboidal in external dimensions, or define any other type of geometric shape that allows sufficient internal volume to contain the WCD. For example a custom design shape (polyhedral, etc.) can be employed. In this example, the top portion3510 is substantially cuboidal as shown, including rounded edges rather than vertices. The lid can be substantially transparent to allow viewing of the WCD while enclosed therein, and can be made of any type of material, such as a polymer, glass, etc. The lid can also be mounted with pins on a hinge.

**[00302]** The base 3520 can be cuboidal, or any other type of geometric shape. In this example, the bottom portion is substantially cuboidal, including rounded edges rather than vertices as shown. The bottom portion can be made of any material and can be transparent or opaque.

**[00303]** The base 3520 can define a receptacle 3524 for receiving the WCD3505. The receptacle 3524 can be sized and shaped to receive the WCD 3505 and in this example is semicylindrical, e.g., a portion of a cylinder. The radius of the semicylinder can be slightly larger than a radius of the WCD in order to accommodate the WCD securely. The receptacle can lined with a soft material to allow for a soft, safe material to receive the WCD, such as a silicone, thermoplastic, fabric, felt, or other material.



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**[00304]** Fig.35B is a cross sectional view of the assembled enclosure3500 shown above along the line B-B. As shown, when assembled, the WCD 3505 fits securely within the receptacle 3524. The interior of the lid3510 can be sized and shaped to conform to the shape of the WCD such that the WCD is completely surrounded and enclosed by the lid 3510, while in other examples, the lid3510 can be sized and shaped to allow for airspace 3514 between the lid surface and the WCD.

**[00305]** Fig.35C is a cross section of the enclosure along line A-A. As shown, the lid 3510 can include an integral optical element 3512. The optical element3512 can be a lens or any other device to modify, e.g. focus, light that passes therethrough. In this example, the optical element 3512 can be disposed at a predetermined distance away from one or more CPV cells 3507 disposed on the WCD 3505. This distance *d* can be measured from the center of the optical element to the CPV cells 3507, and the optical element can itself have a focal length *f*. In one example, the distance *d* can be greater than the focal length *f*, such that the optical element focuses light at a point above the WCD in the enclosure. In this regard, the light will not focus directly on the CPV cells disposed at the surface of the WCD, thereby avoiding overheating or damage to the CPV cells. In other examples, the distance *d* can be less than the focal length, which can also prevent light from focusing at a surface of the WCD.

**[00306]** Fig. 36 depicts an enclosure 3600 including air vents 3650 according to one or more aspects of the disclosure. In this example, the enclosure 3600 includes a plurality of vent holes 3650. The vent holes can be arranged on one or more faces of the lid. The vent holes 3650 can prevent overheating within the enclosure during charging of the WCD by allowing for circulation of convective air current. During shipping, the vent holes3650 can be covered by an adhesive and/or adhering (peel-off) polymer sheet of conventional arrangement to prevent debris or moisture from entering the enclosure. The enclosure can include a lid 3610, base 3620, receptacle 3624, and optical element 3612 as in the examples set forth above.

**[00307]** **VII. Sizing**



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**[00308]** Fig. 37 depicts a method 3700 of sizing a finger according to one or more aspects of the disclosure. At block 3710, the hand of a user can be provided. The hand can be held still in mid-air or alternatively can be resting on a surface.

**[00309]** At block 3720, a first image is taken of the user's hand from a first perspective. The image can be taken by any type of imaging apparatus, such as a CCD or CMOS camera, a digital camera, a camera associated with a mobile phone, etc. The first image can be stored in a memory.

**[00310]** At block 3730, a second image is taken of the user's hand at a second perspective. In this regard, the second perspective is different from the first perspective so as to provide a distinct view in the second image of the user's hand. Block 3730 can be repeated any number of times. For example, a third image can be taken of the user's hand at a third perspective. In this regard, the third perspective is different from both the first and second perspectives so as to provide a distinct view in the third image of the user's hand, and so on.

**[00311]** At block 3740, a size of the user's finger can be derived from the plurality of images taken above. In some examples, as few as two images may be required, while in other scenarios, more than three images may be required, depending on a number of circumstances including image quality, selected perspectives, etc. The size can be derived from the plurality of images by any number of techniques, such as stitching the plurality of images together to generate a 3D typography of the fingers, then using photogrammetry algorithms to identify features on the fingers to determine the appropriate ring size. Furthermore, the touch screen of the smart phone can be used to measure the hardness of tissue by measuring the footprint/impression the fingers make while pressing a finger against the touch screen of a mobile phone.

**[00312]** Fig. 38 is a pictorial diagram showing a plurality of image perspectives of a user's hand 3802. As shown, perspectives 3810, 3820, and 3830, as well as the other perspectives, produce corresponding images (in a strip) 3812, 3822, and 3832. The images can be used to derive a size of the user's finger according to the methods described above.



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**[00313]** Fig. 39 depicts a sizing tool for sizing the finger of a user. As shown, the tool 2900 can include a plurality of finger holes 3910-3950. The tool 3900 can be made of any material, such as plastic, metal, or cardboard.

**[00314]** Fig. 40 depicts a sizing tool for sizing the finger of a user according to an alternate example. As shown, the tool 4000 can include a plurality of finger holes 4010-4050. The tool 4000 can be made of any material, such as plastic, metal, or cardboard.

**[00315]** Fig. 41 depicts yet another alternate example of a sizing tool for sizing the finger of a user. As shown, the tool 4100 can include a plurality of finger holes 4110-4150. The tool 4100 can be made of any material, such as plastic, metal, or cardboard. The thickness of the card reflects the thickness of the ring to ensure proper fit. Additionally, the sizing tool is designed such that it can be easily mailed to the user with a standard mail service such as USPS.

**[00316]** Any of the tools 3900, 4000, or 4100 can be provided to a user prior to purchase of the ring in order to obtain accurate sizing information prior to purchase. The tools include holes, as shown above, that can come in a plurality of predetermined finger sizes to allow a user to match his or her finger size with the tool. The best match, e.g., closest size that ensures a comfortable fit, can be identified using the tools. Alternatively, the tools can be provided at retail locations to size the finger of the user on site prior to purchase. More generally, a variety of other sizing techniques, such as those employed by conventional jewelers can be employed according to further aspects of the disclosure.

**[00317]** In another embodiment, a packaging or enclosure of the WCD can include a sizing diagram or interface embodied therein to allow a user to size a finger during the purchase process.

**[00318]** Fig. 42 depicts a method 4200 of monitoring activity according to one or more aspects of the disclosure.

**[00319]** At block 4210, a user can don or place the WCD onto the finger to secure it in the wearing position.

**[00320]** At block 4220, a user can perform any number of daily activities, such as running on a treadmill, walking, exercising, typing, etc.



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**[00321]** At block 4230, the WCD, contemporaneous with block 3220, can use one or more sensors to sense the activities of the user. For example, the sensors can detect location, speed, acceleration, orientation, heart rate, etc.

**[00322]** At block 4240, the WCD, or another computing device, can generate an entry in an activity log at the conclusion of a detected activity. If the activity detected by the sensors has a profile that has not yet been identified, the WCD can prompt the user to identify the activity. For example, the user can identify profiles such as "Run in Central Park," "Typing," "Run on Treadmill," etc. The WCD can associate the identity provided by the user with the activity profile identified by the sensors and store the identified activity in the WCD memory, or any other memory. Later, if the user performs the same activity and the WCD detects the activity profile as being similar to a saved activity, the WCD can identify the activity while the user is performing the activity and save the activity in the activity log. Each of the activities performed can be saved in the overall activity log and can be stored in a memory on the WCD, or other device, for later viewing.

**[00323]** Fig.43 depicts a method 4300 of determining whether a user is wearing gloves according to one or more aspects of the disclosure. At block 4310, a user is provided while wearing the WCD, where such user may or may not be wearing gloves.

**[00324]** At block 4320, one or more light sensors on board the WCD can detect surrounding ambient light. Such light sensors could include, for example, a CPV or other light sensitive element.

**[00325]** At block 4330, one or more additional measurements maybe made. Such additional measurements can include, for example, an ambient temperature measurement and or a proximity measurement, e.g., detecting proximity of an object to the WCD via reflected electromagnetic radiation in the form of IR light.

**[00326]** At block 4340, a measured ambient temperature and ambient light measurements are compared to predetermined thresholds. If the ambient temperature measurement is above a certain predetermined temperature threshold and the ambient light measurement is below a certain threshold, it can be determined that the user is wearing a glove over the WCD.



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**[00327]** At block 4350, a measured proximity and ambient light measurements are compared to respective predetermined thresholds. If the proximity measurement is below a certain distance threshold (e.g., determines an item is in close proximity to the WCD) and the ambient light measurement is below threshold, it can determined that the user is wearing a glove over the WCD. In any of the above examples, an intensity of LED indicators of the WCD can be adjusted according to a detected ambient light using an appropriate algorithm or process that compares the ambient light to a scale and adjusts a desired driving current/voltage for the LEDs according to a predetermined formula (e.g. a proportional adjustment using an adjustment coefficient) or scale (e.g. a lookup table). For example, where there is abundant ambient light (e.g., detected ambient light above a predetermined threshold), the intensity of the LED indicators can be increased. In the same way, where there is little ambient light (detected ambient light below a predetermined threshold), the intensity of the LED indicators can be decreased.

**[00328]** In one example, the WCD can detect whether it is removed and or installed on the finger of the user. In this regard, as mentioned above, the WCD can have inward-facing light sensors, CPV, or temperature sensors. When a user installs a ring on his finger the measure of ambient light may decrease or the temperature may increase. Such changes in ambient light and/or temperature can be detected by one or more sensors onboard the WCD and a determination can be made that the user has removed and or installed the ring on his finger.

**[00329]** Fig.44 depicts a method 4400 of securing data onboard the WCD according to one or more aspects of the disclosure. At block 4410, a user may don the WCD on the finger. At block 4420, a user may execute an application on a mobile device, or other computing device, that can be previously associated and authenticated with the WCD. At block 4430, the user can enter an authorization code into the application running on the mobile device, such as a PIN code. At block 4440 the mobile device may transmit the authorization code to the WCD by any means of communication, such as, wired, wireless, Bluetooth, NFC, etc. At block 4450, the user wearing the WCD can now be again authenticated and associated with the WCD and can be granted access to certain functions and/or data storage of the WCD. At block 4460 a user may remove



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the WCD. At block4470 the WCD can detect that it is removed such as bio detection (including e.g., biometric identification) techniques described above with respect to inward facing sensor changes, temperature changes, or heart rate decreasing to zero. At block 4480, the authorization code previously stored on the WCD can be automatically deleted upon detection of removal to avoid unauthorized access to such information by a subsequent wearer or other querying party. Further or alternatively, additional information can be automatically deleted upon removal of the WCD, for example any data and or instructions stored on the onboard memory of the WCD such as personal information, banking information, confidential information, or other sensitive data.

**[00330]** **VIII.. Timepiece System**

**[00331]** Fig. 45A is a timepiece system 4500 according to one or more aspects of the disclosure. As shown, the timepiece system 4500 can include a conventional timepiece 4510 and a timepiece computing device (TCD) 4520. The TCD can be any shape, and in this example is in the shape of a cylinder. The radius can be significantly greater than a height of the TCD to provide the shape of a puck. The TCD can have one or more structural and/or functional components, and can be similar to the WCD described above with respect to hardware features, components, sensors, etc. Although depicted as cylindrical, the TCD can have any shape depending on the shape of the conventional timepiece. For example, where the timepiece has a rectangular or square face, the TCD can similarly have a rectangular or square profile.

**[00332]** A top surface 4520a of the TCD can include a pressure sensitive adhesive (PSA) layer 4522 to allow for adhesion of the TCD to the under surface of the timepiece 4510. The TCD 4520 can have a radius or circumference that does not exceed radius or circumference of the face of the conventional timepiece so as not to be seen when a user is wearing the timepiece system 4500. The TCD can enhance the conventional timepiece with many of the features described above with respect to the WCD such as, heart rate sensing, temperature sensing pedometer, activity sensing, gesture sensing and control, without having to alter the look of the conventional timepiece.

**[00333]** Fig 45B is a bottom view of the TCD. As shown, the TCD can include a battery 4540, any printed circuit board 4550 with one or more components attached



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thereto (not shown) such as motion sensors, power management circuitry, charging circuitry, etc. As with the WCD, the printed circuit board of the TCD can be overmolded 4560. The overmold can be transparent or substantially transparent to allow electromagnetic radiation to pass through to be incident upon one or more components of the TCD.

**[00334]** As shown, the TCD can include a light pipe 4524 around the perimeter thereof. The lightpipe 4524 can be substantially annular in shape and can be formed in part by the overmold of the TCD. The lightpipe can be constructed from a conventional transparent or translucent moldable material (e.g. acrylic, polycarbonate, etc), and can be arranged to focus ambient light onto a CPV disposed onboard the TCD for additional charging capability. The optical arrangement/geometry of the light pipe can be implemented using skill in the art to achieve the desired optical characteristics. In another example, excess heat generated by the TCD or excess body heat emitted from the skin of the user can be converted to electrical energy via a thermoelectric (TEG) module, such as a Peltier module, disposed onboard the TCD.

**[00335]** The TCD can also include any number of CPV cells, either on a top surface or bottom surface, to allow for charging. For example, a CPV cell can be placed on the underside of the TCD to allow for docking with a charging/docking station.

**[00336]** Fig.46 depicts a WCD 4600 with a pair of LED indicators 4610-4620 disposed at an inward-facing portion of the WCD. As shown, the WCD 4600 can include a pair of transparent regions 4640-3650 and an opaque region 4630. The LEDs 4610-3620 can be positioned under the transparent regions 4640-3650 to allow light from the LEDs to exit the WCD. In one example, the LEDs 4610-3620 can create a subtle diffuse glow to the skin to provide a desirable visual effect to user. In another example, a user feedback LED can be placed at an inward facing surface and a second can be placed at an outward facing surface of the WCD. Depending on the circumstances, one of the LEDs may be disabled to save battery life. For example, LEDs that are facing away from a user e.g. facing down or away from user's line of sight, may be disabled. As described above, the WCD can determine its orientation based on onboard sensors, such as the magnetometer, accelerometer, GPS, etc.



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**[00337]** Fig. 47A is a system for generating and managing alerts according to one or more aspects of the disclosure. As shown, the system can include a WCD 4710A, one or more networks 4720A, and one or more server computers 4730A according to one or more aspects of the disclosure. The WCD 4710A can communicate directly and/or indirectly with the server 4730A via the network 4720A. In this regard, data generated and/or stored at the WCD 4710A can be transmitted to the server 4730A and vice versa. In one example, such data can include biometric data pertaining to a user wearing the WCD that is detected and stored by the WCD.

**[00338]** Fig. 47B depicts a block process diagram for generating and managing alerts according to one or more aspects of the disclosure and Fig. 47C is a flow chart depicting a method for generating and managing alerts according to one or more aspects of the disclosure.

**[00339]** At block 4710C, and as shown at process block 4710B, the user is authenticated with respect to the WCD. In this regard, a single user can be associated with a single WCD and can be associated with a predetermine identifier, such as an alphanumeric number. If the user is not authenticated or the authentication process is not conclusive, the WCD may invite the user to retry authentication at block 4715C until the user is successfully authenticated. In some examples, the WCD may timeout the authentication process, lock the WCD, or place the WCD in safe mode in the event of too many unsuccessful authentication attempts as a security measure.

**[00340]** The user can be authenticated according to any of the authentication methods described in the present application, such as via a unique capillary map, a unique ECG profile, etc.

**[00341]** If the user is authenticated, biometric data can be transmitted to the server at block 4720C. The captured biometric data 4720B can be transmitted to the server via network 4720A, 47222B

**[00342]** Once received at the server, the biometric data can be aggregated, sorted, categorized, or profiled at block 4730C and as shown at process block 4730B. In this regard, a profile (corresponding to the alphanumeric identifier) may be created at a database at the server that stores data for a particular user. The profile can store



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transmitted biometric data, as well as other data, such as user gender, height, weight, age, family history, disease information, location, etc.

**[00343]** In some examples, identifying information may be removed from the data and/or not transmitted to allow for anonymity and/or to comply with regulations regarding transmission of medical data. The transmitted biometric data can be normalized in order to comply with predetermined data requirements in order to be added to the profile. In one example, a minimum amount of data may be required in order to be considered viable for association with the profile. The biometric data of a single profile can be aggregated, or in other examples multiple profiles can be aggregated simultaneously.

**[00344]** Aggregation of the user's biometric data into a single profile allows for the profile to be visualized or analyzed according to any number of methods. For example, a timeline can be created showing biometric data over a period of time. The data can also be synthesized or analyzed to calculate trend data, or other mathematical features.

**[00345]** Although only one WCD is depicted, it is contemplated that a plurality of WCDs can exist, with each WCD corresponding to a distinct user (and distinct alphanumeric identifier) and therefore resulting in a plurality of distinct profiles at the server. Accordingly, each of the distinct users/WCDs may be authenticated separately according to the methods described herein.

**[00346]** At block 4740C, once the transmitted data has been associated with the user profile, the updated profile can be correlated with one or more other profiles stored at the server as shown as process block 4740B. The profiles may be correlated according to any number of correlation standards, such as correlating users with similar traits such as age, gender, location, profession, or by any other data stored at the server. In some examples, one or more of the traits can be used to make such a correlation. The biometric data from the one or more users that are correlated with one another can be combined to form a group profile. The group profile can be the aggregation, average, range, or sum of individual profiles that form the group profile. For example, for a particular group profile, a range of resting heart can be generated by taking the maximum and minimum values of resting heart from the individual profiles. In other examples, an



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average (and standard deviation or standard deviation of the mean) can be generated for each trait, such as average resting heart rate, average active heart rate, average blood pressure, average blood sugar, average skin temperature, ECG profiles, as well as any other features capable of being detected by the WCD as described above.

**[00347]** At block 4750C, transmitted biometric data can be compared to the established values from the group profile. In this way, if a user's heart rate deviates by a predetermined threshold (such as by predetermined magnitude or standard deviation), an alert can be generated at process block 4750B. The comparison process can occur at the server after transmission of the biometric data. In another example, the group profile data can be transmitted to the WCD for comparison at the WCD. This advantageously allows the comparison to be made where the WCD cannot establish a network link. The group profile can be updated on a continuous basis or a predetermined time interval or at each transmission of biometric data.

**[00348]** At block 4760C, the alert is transmitted to the WCD and displayed to the user at process block 4760B. The alert can indicate that the user's biometric data has deviated from the profile group and may advise the user to seek medical attention. In another example, the server can directly contact a medical health professional. In the example where block 4750C occurs at the WCD, transmission of alert information from the server may not be necessary.

**[00349]** The alert at the WCD can be any type of audio or visual indicator, such as an LED, haptic feedback, audible alarm, etc. The indicator may also invite the user to rest, make an appointment with a medical health professional, recommend a particular medication, or suggest certain physical activities that may health condition that caused the alert.

**[00350]** As shown in Fig. 47B, the authentication 4710B, aggregation 4730B, and correlation 4740B can occur at server 4730A, which can include a process, memory, and any other features of a general purpose computer. The authentication 4710B, aggregation 4730B, and correlation 4740B can access a database stored at the memory, where profiles, group profiles, and biometric data can be stored.



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**[00351]** Fig. 48A is a method for variable sampling according to one or more aspects of the disclosure. As described above, the processor module of the WCD can determine (e.g., based on identified physical activities, routine pattern, and/or time) a frequency at which one or more sensors in the sensor modules should operate.

**[00352]** At block 4810A, one or more sensors of the WCD may take one or more measurements. For example, the WCD can detect temperature, heart rate, acceleration, as described above.

**[00353]** At block 4820A, the WCD can calculate an activity level of a user. For example, the WCD can compare to a number of stored activity profiles (as described above) stored by the user, or can compare the sensor measurements to sensor threshold values corresponding to different activities, such as sitting, running, sleeping etc. In one example, the WCD detect acceleration values over time to generate an activity level for a particular time period.

**[00354]** At block 4830A, the WCD may compare the identified activity level to a predetermine activity threshold value. In one example, the WCD may categorize the detected activity as either a high level activity or a low level activity. High level activities can include running, swimming, biking etc., while low level activities may include sitting, standing still, or sleeping.

**[00355]** At block 4840A, the WCD can set a first sample rate for high level activities and at block 4850A, the WCD can set a second sample rate for low level activities. The first sample rate can be a shorter time interval than the second sample rate, resulting in more data being detected and generated during a set amount of time while the user is active. This allows for increased power efficiency of the WCD while also providing the advantage of generating more data when a user is more active, thereby providing added biometric data for later analysis.

**[00356]** In another example, the sample rate can be scaled according to activity level. For example, the sample rate can be scaled to be directly proportional to heart rate. This results in a shorter time interval for sampling (more frequent data gather) for running than for walking.



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**[00357]** As activity level changes, the method above can be repeated a plurality of times at certain intervals in order to quick or abrupt activity changes.

**[00358]** Fig. 48B and 48c are graphs depicting one or more aspects of the sample method of Fig. 48A. As shown in Fig. 48B, the WCD may determine a user is engaging in a high level activity by detecting acceleration values that are above a predetermined threshold value. In this regard, a shorter time interval (more frequent data gathering) can be set. As shown in Fig. 48C, the user is engaging in a low level activity since the acceleration values are below a predetermined threshold. A longer sample rate (less frequent data gathering) can be set in this instance.

**[00359]** FIG. 49 a diagrammatic representation of a machine in the example form of a computer system 4900 within which a set of instructions, for causing the machine to perform any one or more of the methodologies discussed herein, may be executed. Specifically, FIG. 49 shows a diagrammatic representation of a machine in the example form of a computer system within which instructions (e.g., software or program code) for causing the machine to perform any one or more of the methodologies discussed herein may be executed. In alternative embodiments, the machine operates as a standalone device or may be connected (e.g., networked) to other machines. In a networked deployment, the machine may operate in the capacity of a server machine or a client machine in a server-client network environment, or as a peer machine in a peer-to-peer (or distributed) network environment.

**[00360]** The machine may be a server computer, a client computer, a personal computer (PC), a tablet PC, a set-top box (STB), a personal digital assistant (PDA), a cellular telephone, a smartphone, a web appliance, a network router, switch or bridge, or any machine capable of executing instructions (sequential or otherwise) that specify actions to be taken by that machine. Further, while only a single machine is illustrated, the term "machine" shall also be taken to include any collection of machines that individually or jointly execute instructions to perform any one or more of the methodologies discussed herein.

**[00361]** The example computer system includes a processor (e.g., a central processing unit (CPU), a graphics processing unit (GPU), a digital signal processor



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(DSP), one or more application specific integrated circuits (ASICs), one or more radio-frequency integrated circuits (RFICs), or any combination of these), a main memory, and a non-volatile memory, which are configured to communicate with each other via a bus. The computer system may further include graphics display unit (e.g., a plasma display panel (PDP), a liquid crystal display (LCD), a projector, or a cathode ray tube (CRT)). The computer system may also include alphanumeric input device (e.g., a keyboard), a cursor control device (e.g., a mouse, a trackball, a joystick, a motion sensor, a touch screen, or other pointing instrument), a storage unit, a signal generation device (e.g., a speaker), and a network interface device, which also are configured to communicate via the bus.

**[00362]** The storage unit includes a non-transitory machine-readable medium on which is stored instructions embodying any one or more of the methodologies or functions described herein. The instructions may also reside, completely or at least partially, within the main memory or within the processor (e.g., within a processor's cache memory) during execution thereof by the computer system, the main memory and the processor also constituting machine-readable media. The instructions may be transmitted or received over a network via the network interface device.

**[00363]** While machine-readable medium is shown in an example embodiment to be a single medium, the term "machine-readable medium" should be taken to include a single medium or multiple media (e.g., a centralized or distributed database, or associated caches and servers) able to store instructions. The term "machine-readable medium" shall also be taken to include any medium that is capable of storing instructions for execution by the machine and that cause the machine to perform any one or more of the methodologies disclosed herein. The term "machine-readable medium" includes, but not be limited to, data repositories in the form of solid-state memories, optical media, magnetic media, or other non-transitory machine readable medium.

**[00364]** **IX.. Conclusion**

**[00365]** It should be clear that the WCD and TCD arrangements described according to various aspects of the disclosure provide a highly versatile and useful item of wearable electronics that is comfortable and convenient to wear, conveniently charged,



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and weatherproof for all-purpose and all-condition wearing. Various options for style and appearance can be implemented, as well as a variety of storage options. The functions and structure of the device lend themselves to both a ring version and a wrist-worn version. All versions are designed for long-life with minimal maintenance, and are adaptable to interoperate with a variety of networked devices including computers, smartphones, home controllers, security systems, and virtually any other device capable of communicating over a wireless link—including another WCD or TCD.

**[00366]** The foregoing has been a detailed description of illustrative embodiments of the invention. Various modifications and additions can be made without departing from the spirit and scope of this invention. Features of each of the various embodiments described above may be combined with features of other described embodiments as appropriate in order to provide a multiplicity of feature combinations in associated new embodiments. Furthermore, while the foregoing describes a number of separate embodiments of the apparatus and method of the present invention, what has been described herein is merely illustrative of the application of the principles of the present invention. For example, as used herein various directional and orientational terms such as "vertical", "horizontal", "up", "down", "bottom", "top", "side", "front", "rear", "left", "right", and the like, are used only as relative conventions and not as absolute orientations with respect to a fixed coordinate system, such as the acting direction of gravity. Note also, as used herein the terms "process" and/or "processor" should be taken broadly to include a variety of electronic hardware and/or software based functions and components. Moreover, a depicted process or processor can be combined with other processes and/or processors or divided into various sub-processes or processors. Such sub-processes and/or sub–processors can be variously combined according to embodiments herein. Likewise, it is expressly contemplated that any function, process, application, and/or processor here herein can be implemented using electronic hardware, software consisting of a non-transitory computer-readable medium of program instructions, or a combination of hardware and software. Also, while a variety of visible and near-visible radiation sources are described as LEDs, it is expressly contemplated that other types of sources can be employed according to aspects of the disclosure—for



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example plasma discharge sources and bioluminescent sources, as well as sources that are based upon developing technologies. Electronic circuits and RF components can similarly be based on alternate and/or developing technologies. Accordingly, this description is meant to be taken only by way of example, and not to otherwise limit the scope of this invention.

**[00367]** What is claimed is:



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# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 14556062 |
| **Filing Date:** | 28-Nov-2014 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Attorney Docket Number:** | 340/0002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| Utility filing Fee (Electronic filing) | 4011 | 1 | 70 | 70 |
| Utility Search Fee | 2111 | 1 | 300 | 300 |
| Utility Examination Fee | 2311 | 1 | 360 | 360 |
| **Pages:** | | | | |
| **Claims:** | | | | |
| Claims in excess of 20 | 2202 | 30 | 40 | 1200 |
| Independent Claims in Excess of 3 | 2201 | 10 | 210 | 2100 |
| **Miscellaneous-Filing:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| Late Filing Fee for Oath or Declaration | 2051 | 1 | 70 | 70 |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
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| **Extension-of-Time:** | | | | |
| **Miscellaneous:** | | | | |
| | | **Total in USD ($)** | | **4100** |

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|---|---|
| **EFS ID:** | 21520450 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 17-FEB-2015 |
| **Filing Date:** | 28-NOV-2014 |
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| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Applicant Response to Pre-Exam Formalities Notice | MechioRespMissingParts0002.pdf | 310171<br>5712262deb77d6708a04e56869643dfdf8b5f79f | no | 5 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Drawings-only black and white line drawings | MechioFormalDrawingss0002.pdf | 4118345<br>a5dd5406c0fbbac05647c3f766ae5c64d6da4969 | no | 64 |
| **Warnings:** | | | | | |
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| 3 | Specification | MechioSubstituteSpecClean0002.pdf | 246751<br>f0b3dc8e1caa0b64bb98e2f8837bcd253e2ff312 | no | 57 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Specification | MechioSubstituteSpecMarked0002.pdf | 285120<br>c7aed78afefe55b3cd3125254883b7ccb3967512 | no | 71 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Fee Worksheet (SB06) | fee-info.pdf | 40409<br>3bd7abaf854643cee9ab89e475b36fa02a9ae84a | no | 2 |
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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**WITHDRAWAL NOTICE**

*OC000000073607769*

Date Mailed: 02/26/2015

## Letter Regarding a New Notice and/or the Status of the Application

If a new notice or Filing Receipt is enclosed, applicant may disregard the previous notice mailed on 12/16/2014. The time period for reply runs from the mail date of the new notice. Within the time period for reply, applicant is required to file a reply in compliance with the requirements set forth in the new notice to avoid abandonment of the application.

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/nton/

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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## PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/556,062

### APPLICATION AS FILED - PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY FEE($) |
|---|---|---|---|---|---|---|---|
| BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | 70 | | N/A | |
| SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | 300 | | N/A | |
| EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | 360 | | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | 50 minus 20 = | * 30 | x 40 = | 1200 | OR | | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | 13 minus 3 = | * 10 | x 210 = | 2100 | | | |
| APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | 0.00 | | | |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | 0.00 | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | 4030 | | TOTAL | |

### APPLICATION AS AMENDED - PART II

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT A | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE($) | ADDITIONAL FEE($) | OR | RATE($) | ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT B | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**FORMALITIES LETTER**

*OC000000073607793*

Date Mailed: 02/26/2015

## NOTICE TO FILE CORRECTED APPLICATION PAPERS

***Filing Date Granted***

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - More than one figure is present and each figure is not labeled "Fig." with a consecutive Arabic numeral (1, 2, etc.) or an Arabic numeral and capital letter in the English alphabet (A, B, etc.)(see 37 CFR 1.84(u)(1)). See Figure(s) 48C. A brief description of the several views of the drawings (see 37 CFR 1.74) should be added or amended to correspond to the corrected numbering of the figures. See also 37 CFR 1.77(b)(9).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**Items Required To Avoid Processing Delays:**

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Curt C. von Badinski
  Michael J. Strasser
  Peter Twiss



Petitioner Samsung Ex-1004, 0742

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/nton/

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



Petitioner Samsung Ex-1004, 0743

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | 2668 | 4100 | 340/0002 | 50 | 13 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**FILING RECEIPT**

*OC00000007360792*

Date Mailed: 02/26/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Curt C. von Badinski, Valencia, CA;
Michael J. Strasser, San Francisco, CA;
Peter Twiss, Lakewood, CA;

**Applicant(s)**

Mechio Inc., San Francisco, CA

**Power of Attorney:** None

**Domestic Priority data as claimed by applicant**

This appln claims benefit of 61/910,201 11/29/2013
and claims benefit of 62/006,835 06/02/2014

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

**If Required, Foreign Filing License Granted:** 12/11/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/556,062**
**Projected Publication Date:** To Be Determined - pending completion of Corrected Papers
**Non-Publication Request:** No



Petitioner Samsung Ex-1004, 0744

**Early Publication Request:** No
** **SMALL ENTITY** **
**Title**

WEARABLE COMPUTING DEVICE

**Preliminary Class**

382

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



Petitioner Samsung Ex-1004, 0745

## LICENSE FOR FOREIGN FILING UNDER

## Title 35, United States Code, Section 184

## Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

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---


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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): von Badinski, et al.<br><br>Application No.: 14/556,062<br><br>Filed: 11/28/2014<br><br>Title: WEARABLE COMPUTING DEVICE<br><br>Attorney Docket No.: 340/0002 | Art Unit:<br>2668 |

**RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS**

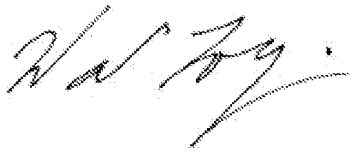
Sir:

This is in response to a Notice to File Corrected Application Papers under 37 CFR 1.84 and 37 CFR 1.121(d) electronically filed via the United States Patent and Trademark Office EFS website. Enclosed is a copy of said Notice and the following documents and fees to complete the filing requirements of the above-identified application.

( X ) Other: Replacement Drawings (Figs. 1-64) with Correction Sheet. Applicant has provided a new, corrected Figure 48C. This figure was inadvertently numbered as Figure 48D in the original filing. However, it is clearly identified as Figure 48C in the Brief Description and Description sections. Thus, this correction is fully supported by the original text, and no new matter is added.

Applicant requests that the undersigned by contacted by telephone should any questions remain.

Respectfully submitted,



By _____
William A. Loginov,

Reg. No. 34863
Date: April 27, 2015
Telephone No.: 603-336-3026

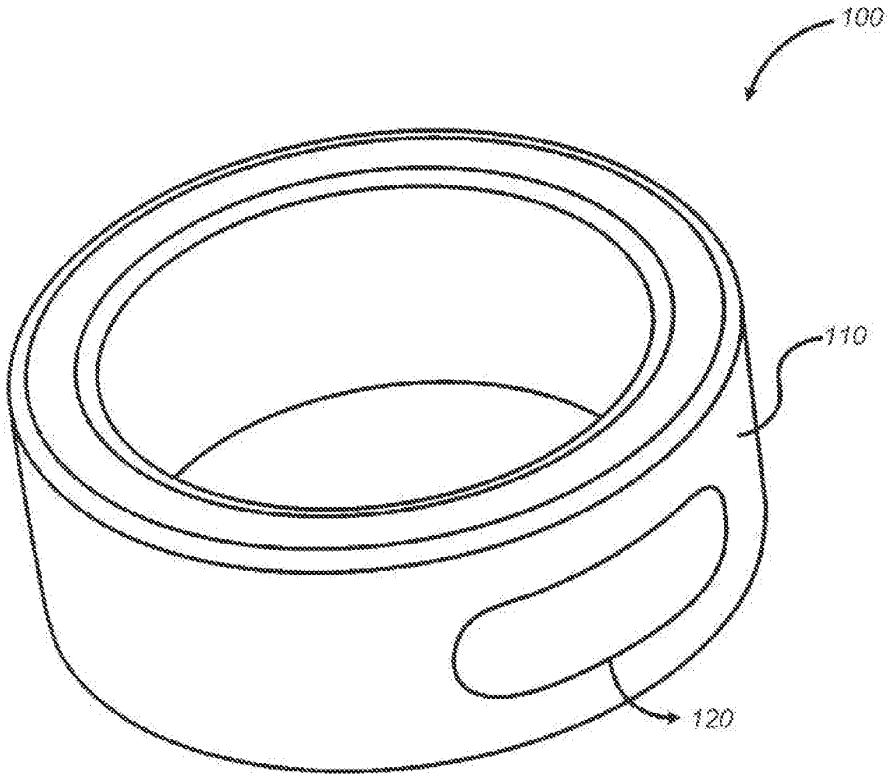



FIG. 1A

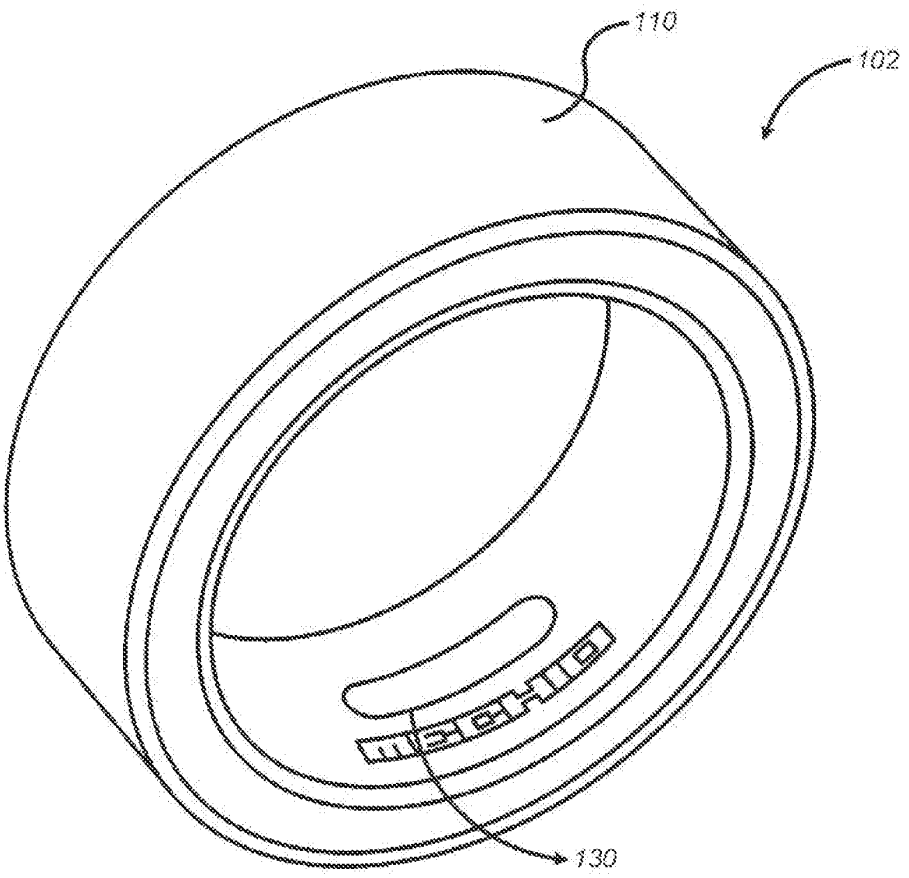



FIG. 1B

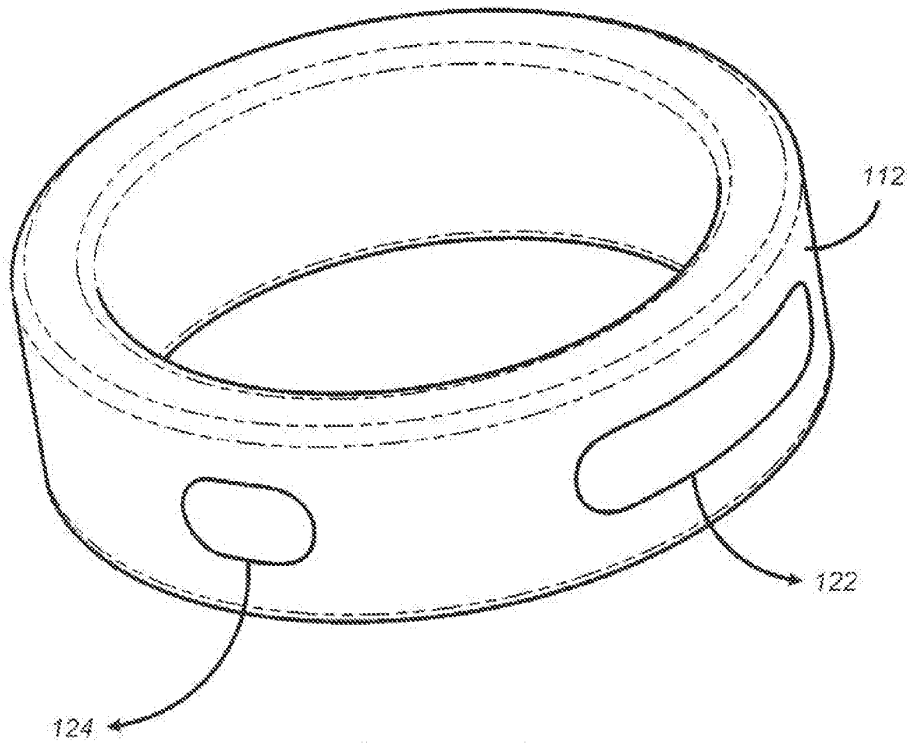



FIG. 1C

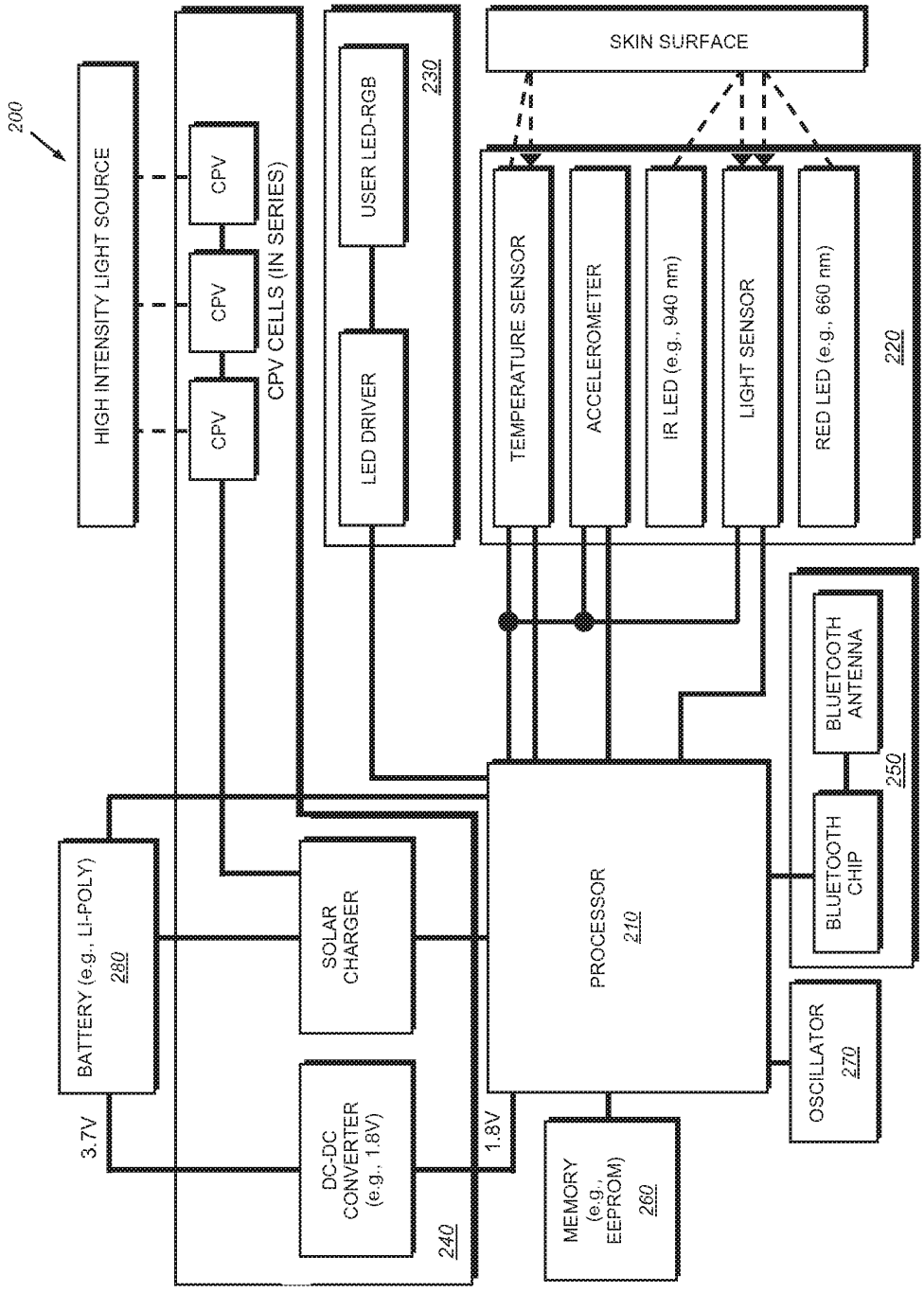

200
HIGH INTENSITY LIGHT SOURCE
CPV
CPV
CPV
CPV CELLS (IN SERIES)
USER LED-RGB
230
LED DRIVER
SKIN SURFACE
TEMPERATURE SENSOR
ACCELEROMETER
IR LED (e.g., 940 nm)
LIGHT SENSOR
RED LED (e.g., 660 nm)
220
BLUETOOTH ANTENNA
250
BLUETOOTH CHIP
BATTERY (e.g., LI-POLY)
280
SOLAR CHARGER
PROCESSOR
210
OSCILLATOR
270
3.7V
DC-DC CONVERTER (e.g., 1.8V)
240
1.8V
MEMORY (e.g., EEPROM)
260

FIG. 2

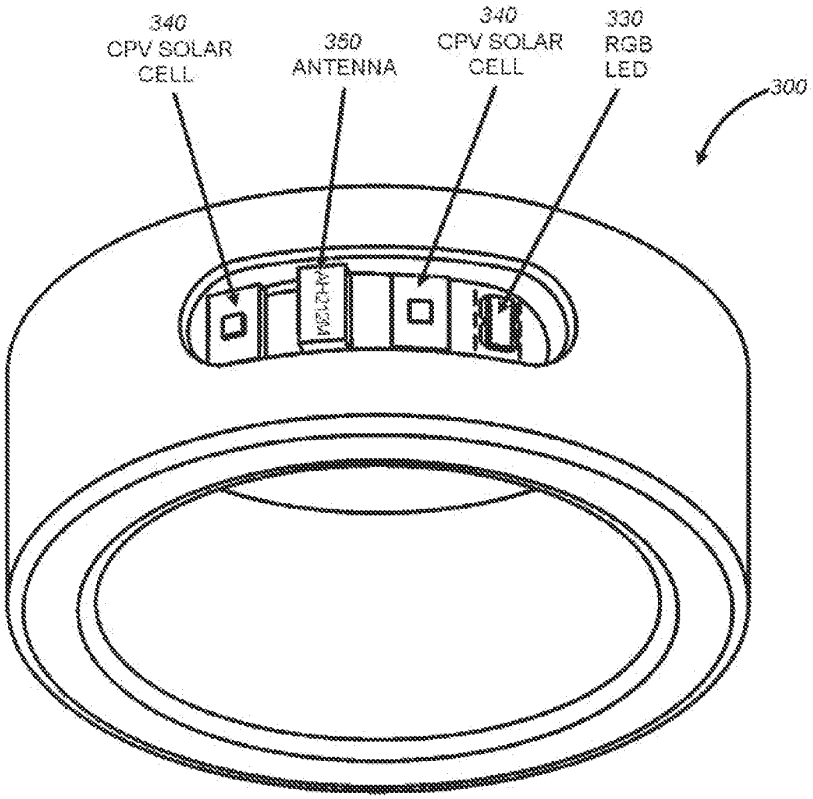

340
CPV SOLAR CELL
350
ANTENNA
340
CPV SOLAR CELL
330
RGB LED
300

FIG. 3A

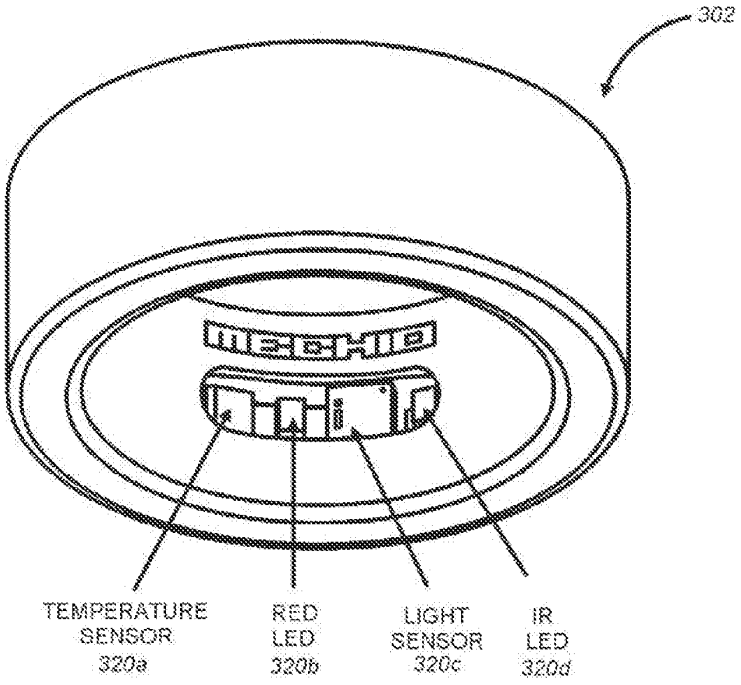

302
TEMPERATURE SENSOR 320a
RED LED 320b
LIGHT SENSOR 320c
IR LED 320d

FIG. 3B

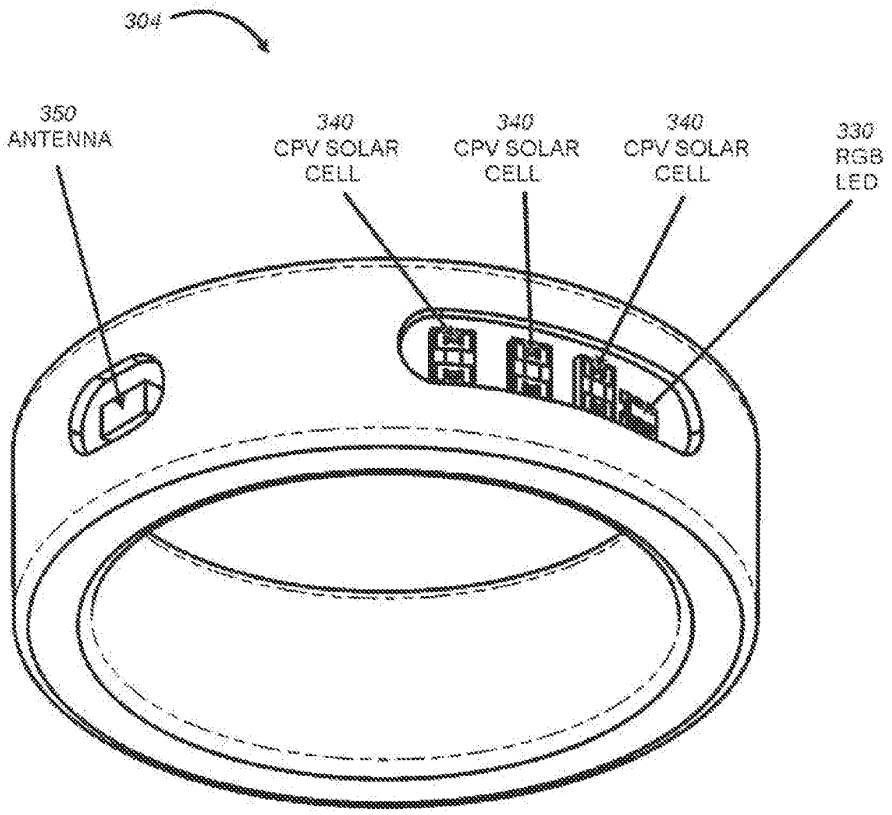

304
350
ANTENNA
340
CPV SOLAR
CELL
340
CPV SOLAR
CELL
340
CPV SOLAR
CELL
330
RGB
LED

FIG. 3C

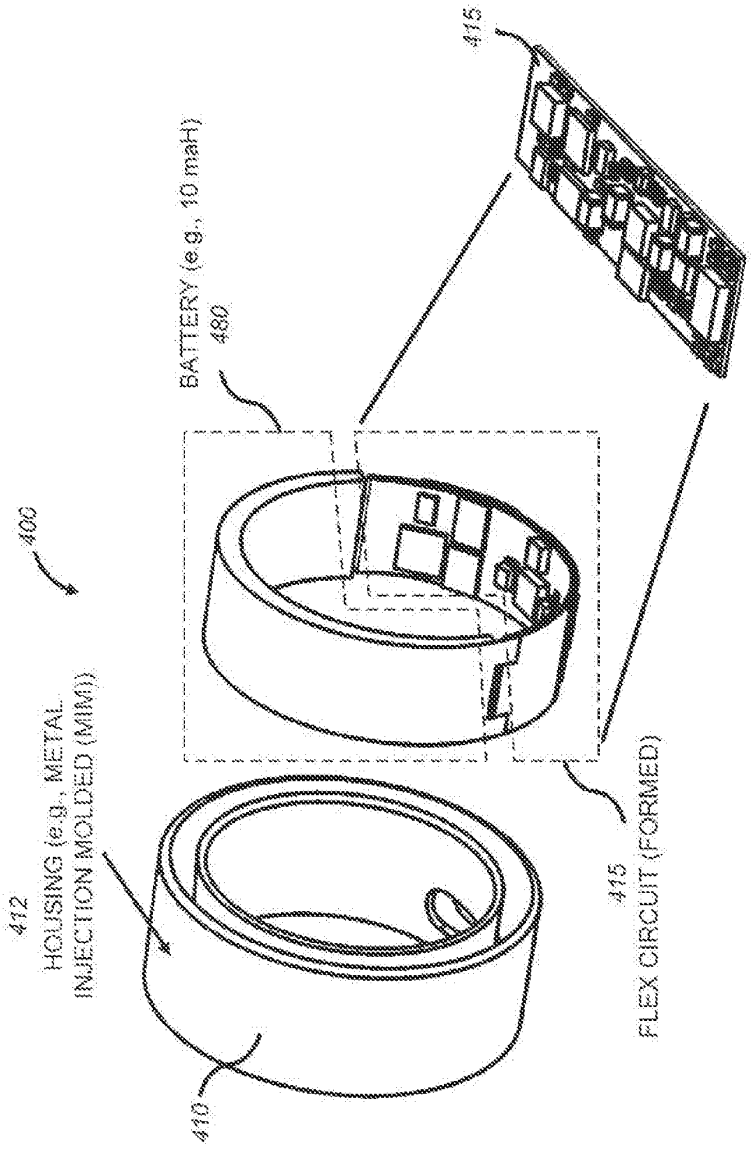

400
412
HOUSING (e.g., METAL INJECTION MOLDED (MIM))
410
BATTERY (e.g., 10 maH)
480
415
FLEX CIRCUIT (FORMED)
415

FIG. 4

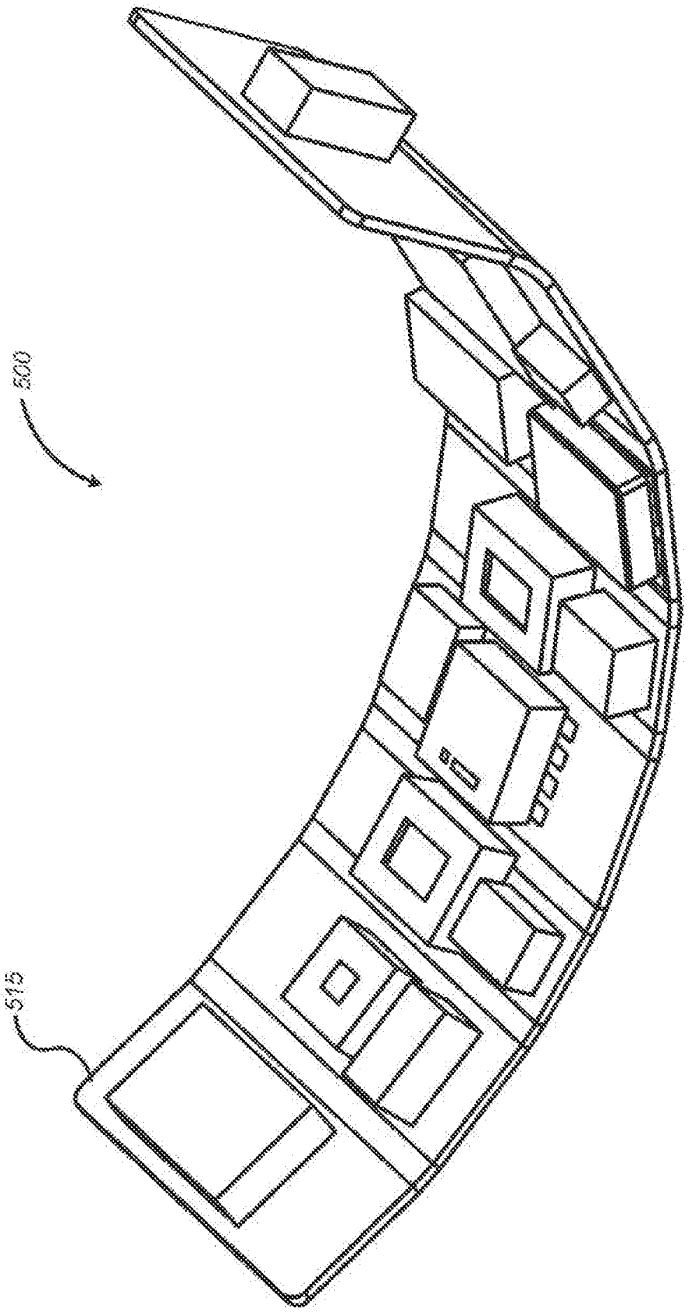



FIG. 5

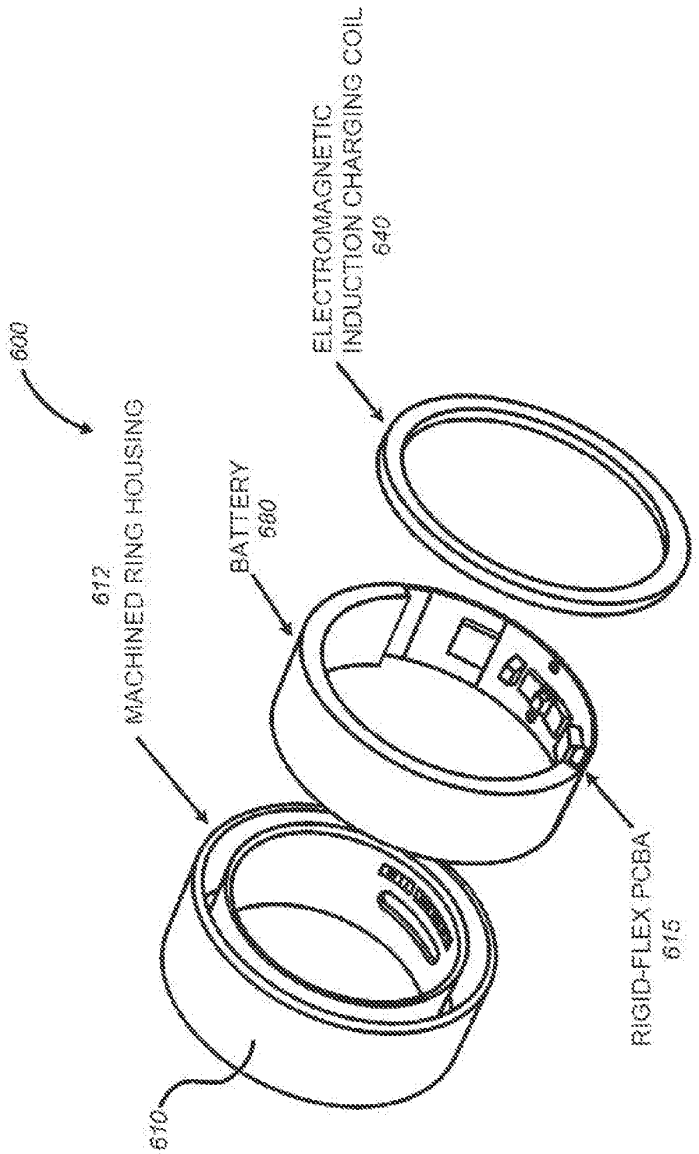

600
612
MACHINED RING HOUSING
BATTERY
660
ELECTROMAGNETIC
INDUCTION CHARGING COIL
640
610
RIGID-FLEX PCBA
615

FIG. 6

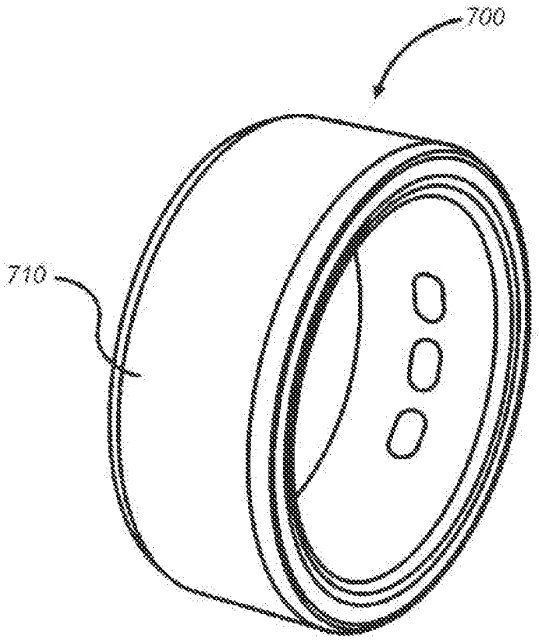



FIG. 7

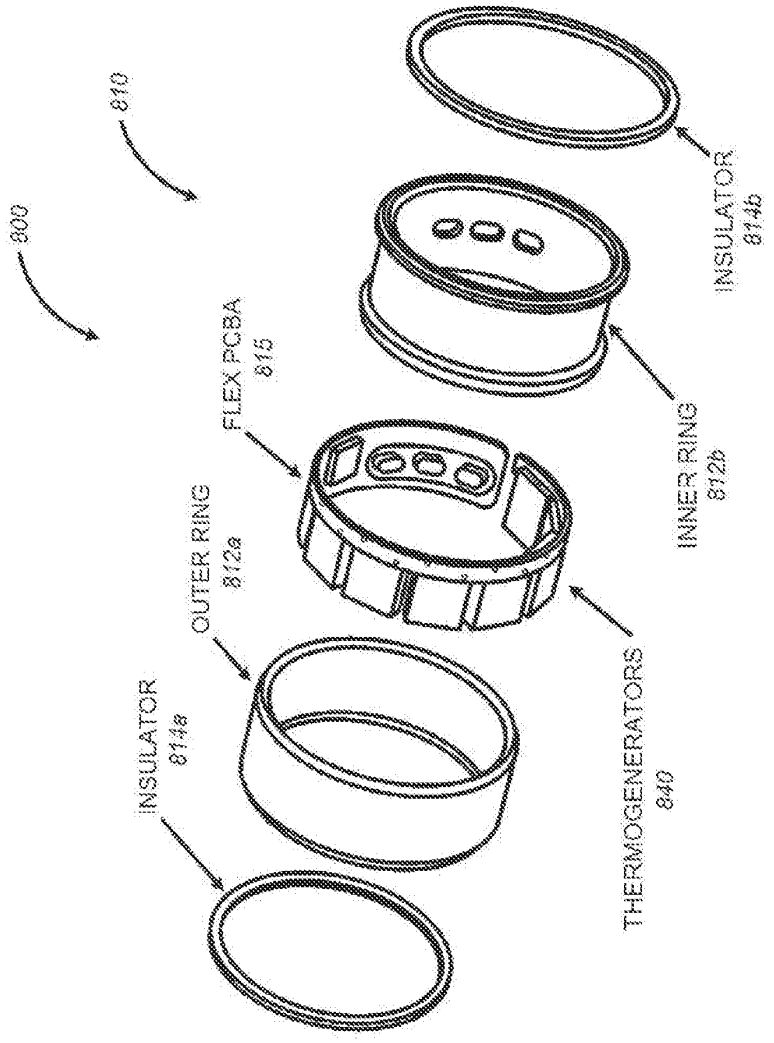

800
810
INSULATOR
814a
OUTER RING
812a
FLEX PCBA
815
THERMOGENERATORS
840
INNER RING
812b
INSULATOR
814b

FIG. 8

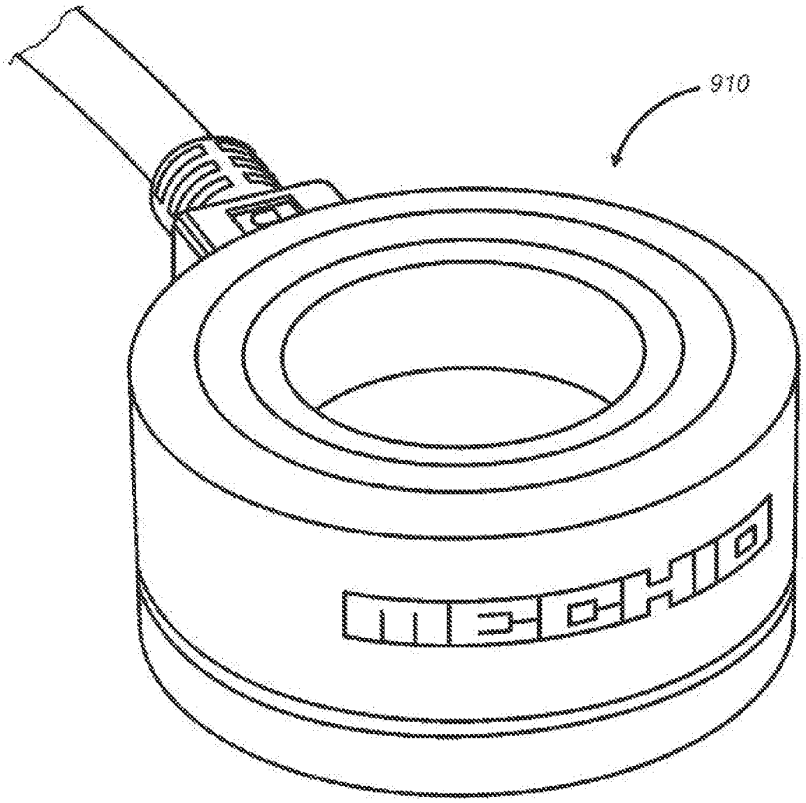



FIG. 9A

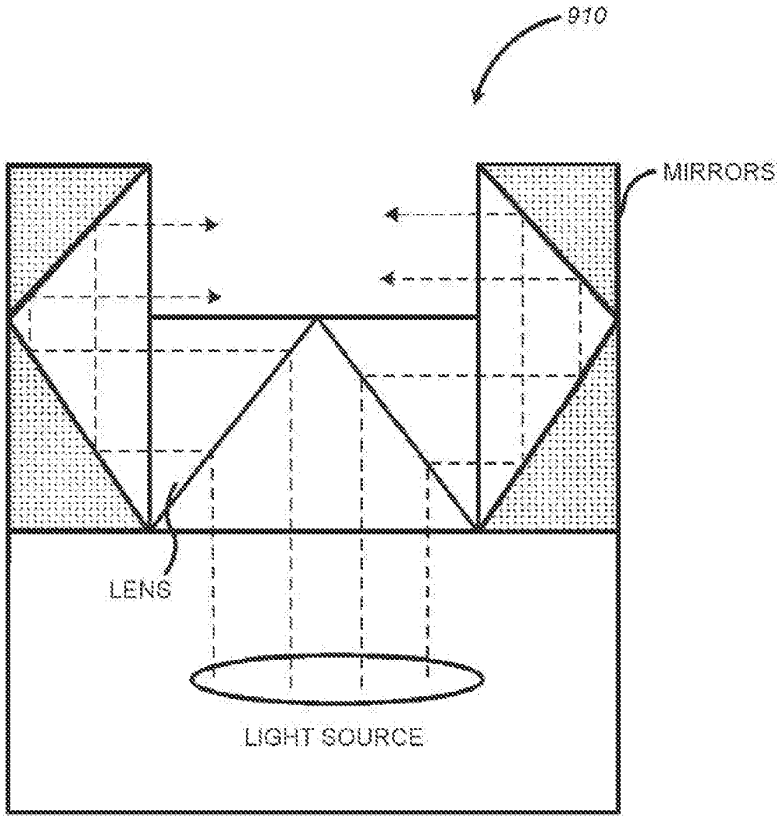



FIG. 9B

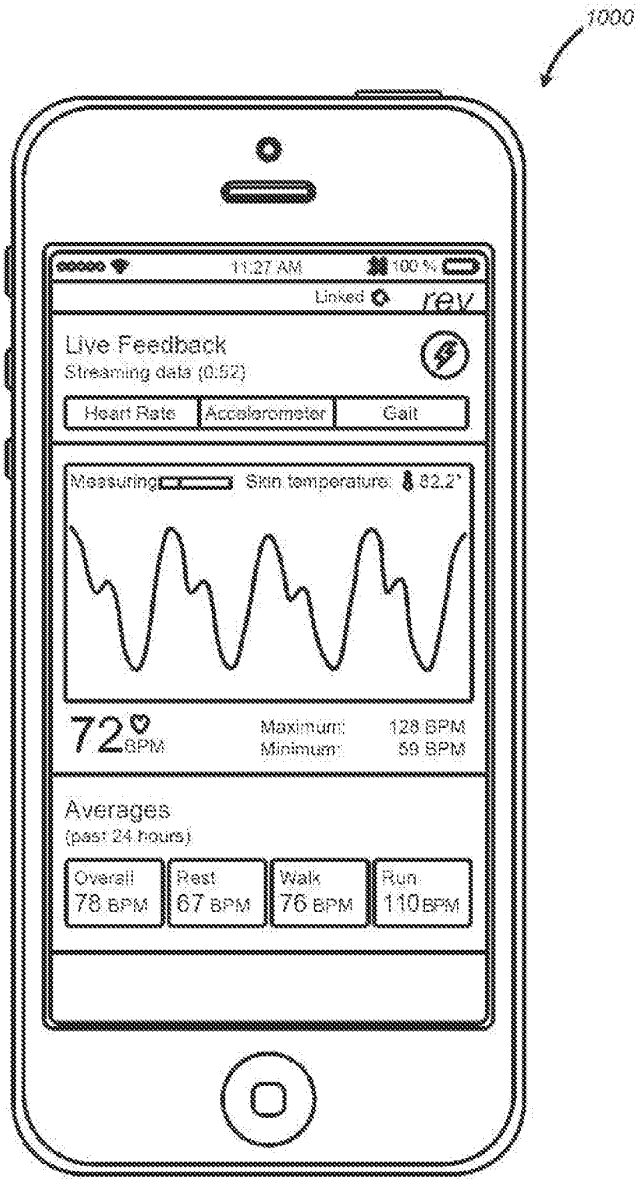

1000
11:27 AM
100 %
Linked
rev
Live Feedback
Streaming data (0:52)
Heart Rate
Accelerometer
Gait
Measuring
Skin temperature: 82.2°
72
BPM
Maximum: 128 BPM
Minimum: 59 BPM
Averages
(past 24 hours)
Overall
78 BPM
Rest
67 BPM
Walk
76 BPM
Run
110 BPM

FIG. 10

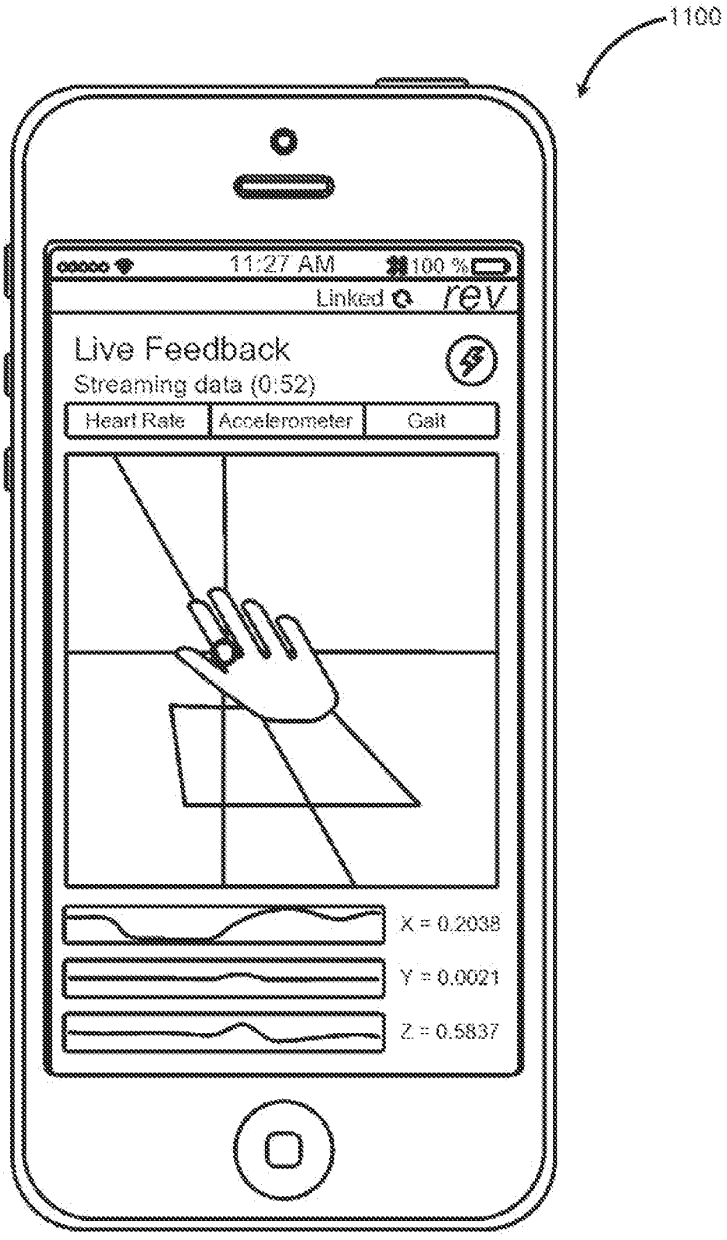

1100
11:27 AM
100 %
Linked
rev
Live Feedback
Streaming data (0:52)
Heart Rate
Accelerometer
Gait
X = 0.2038
Y = 0.0021
Z = 0.5837

FIG. 11

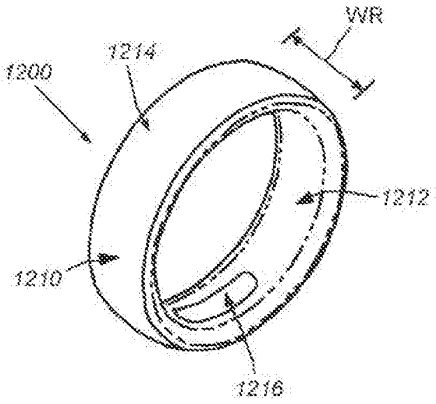



FIG. 12A

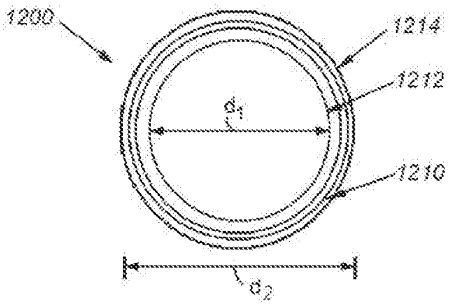



FIG. 12B

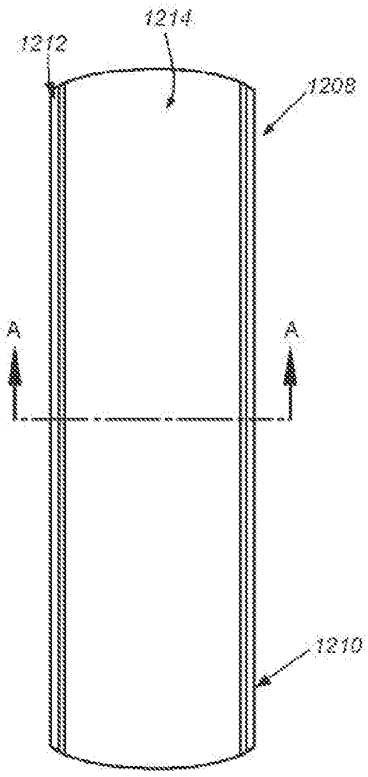



FIG. 12C

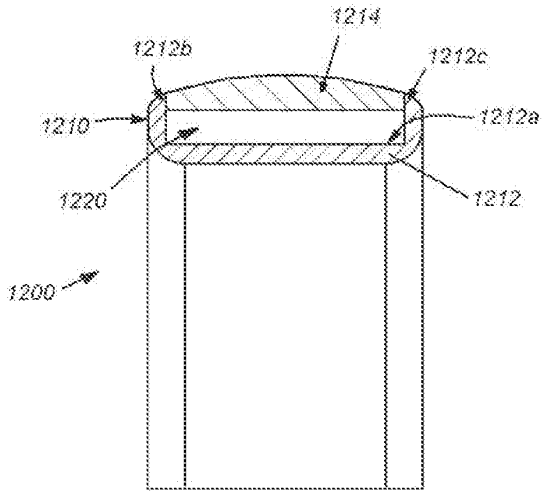



FIG. 12D

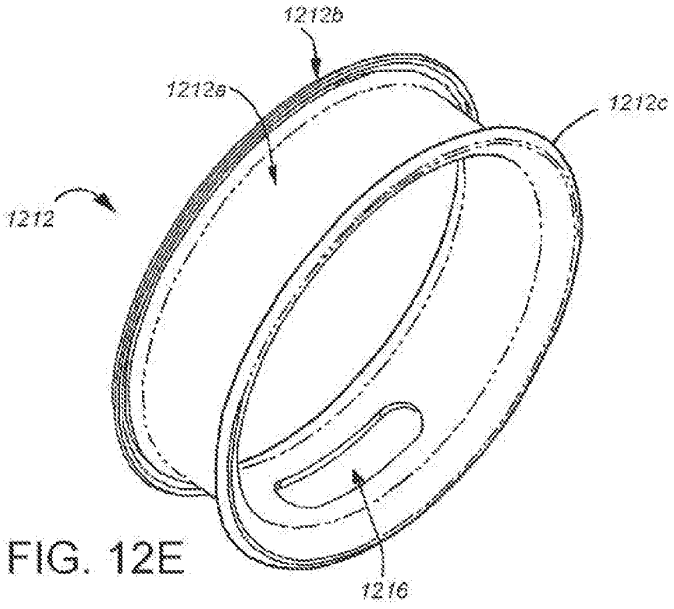



FIG. 12E

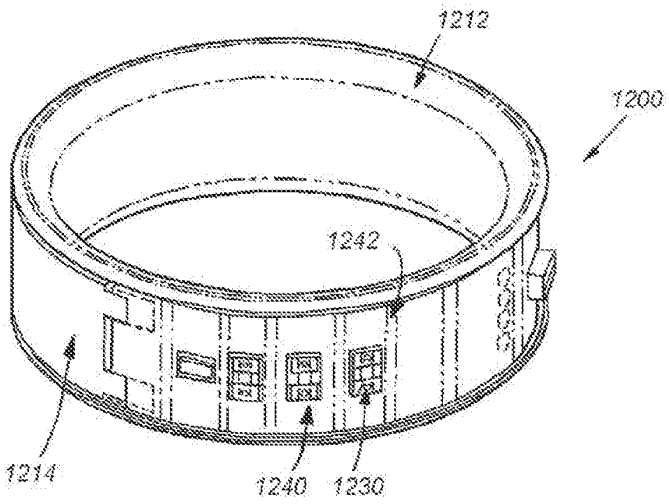



FIG. 12F

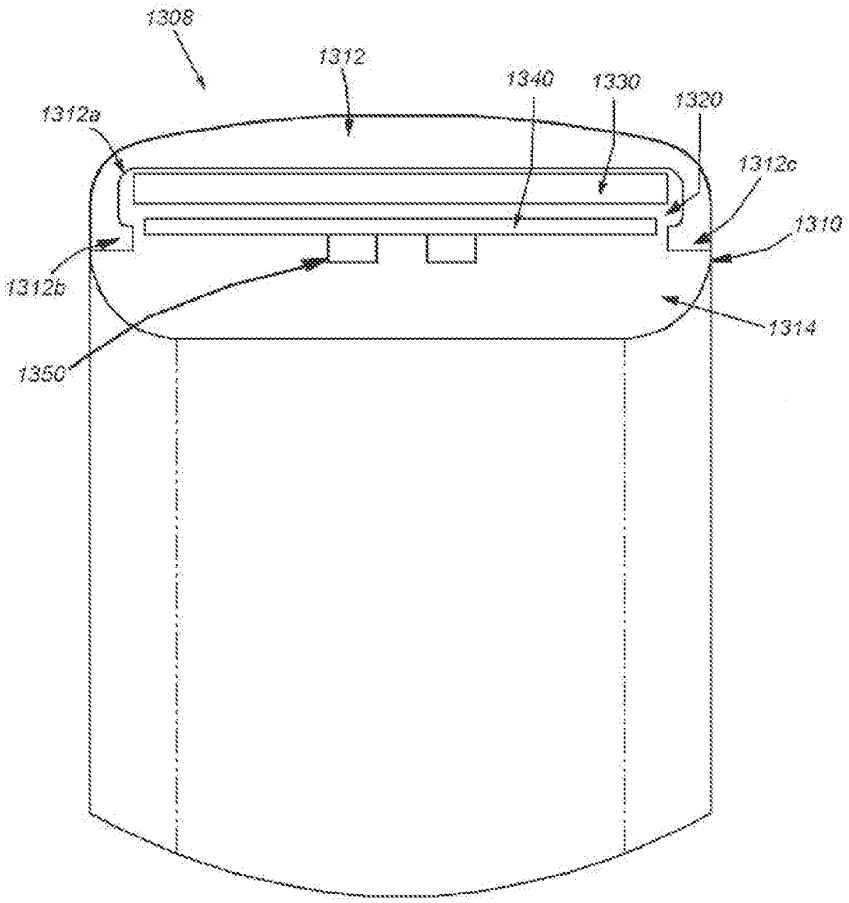



FIG. 13

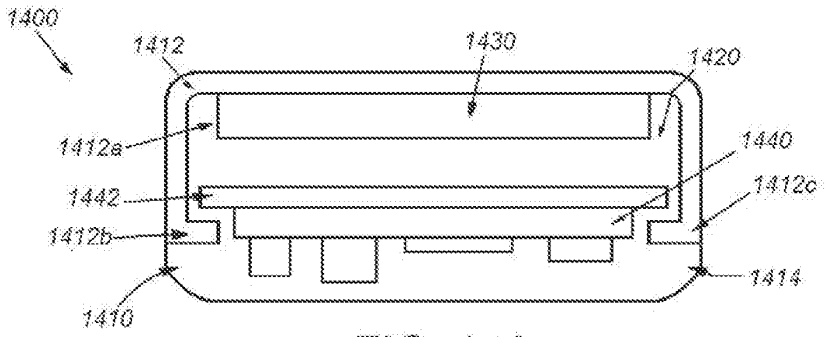



FIG. 14A

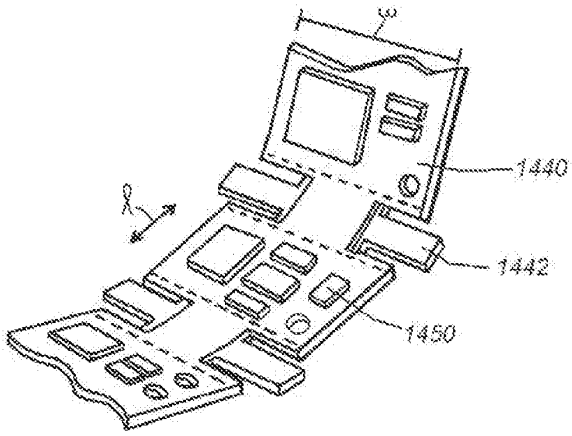



FIG. 14B

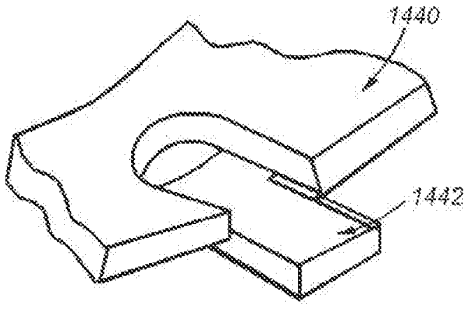



FIG. 14C

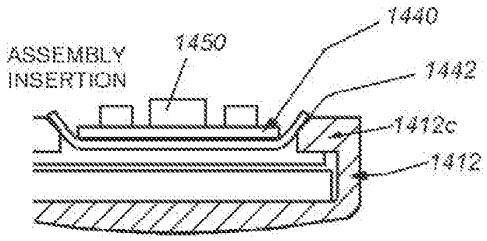



FIG. 14D

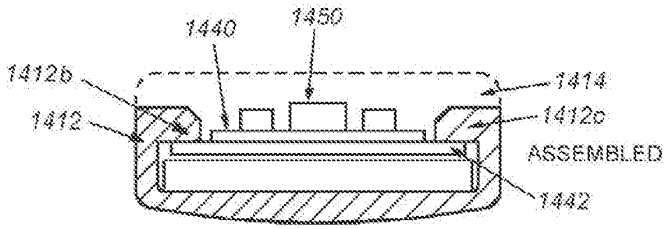



FIG. 14E

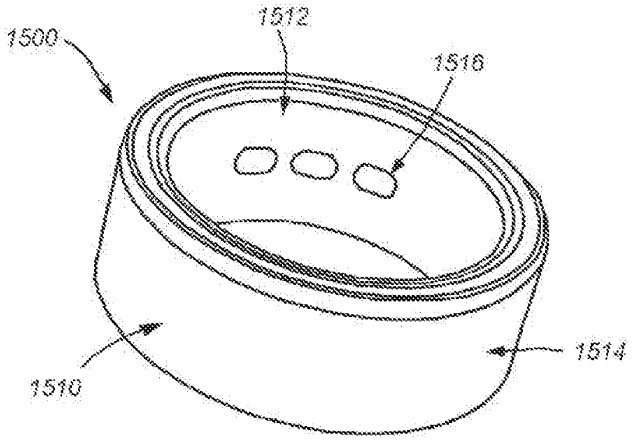



FIG. 15A

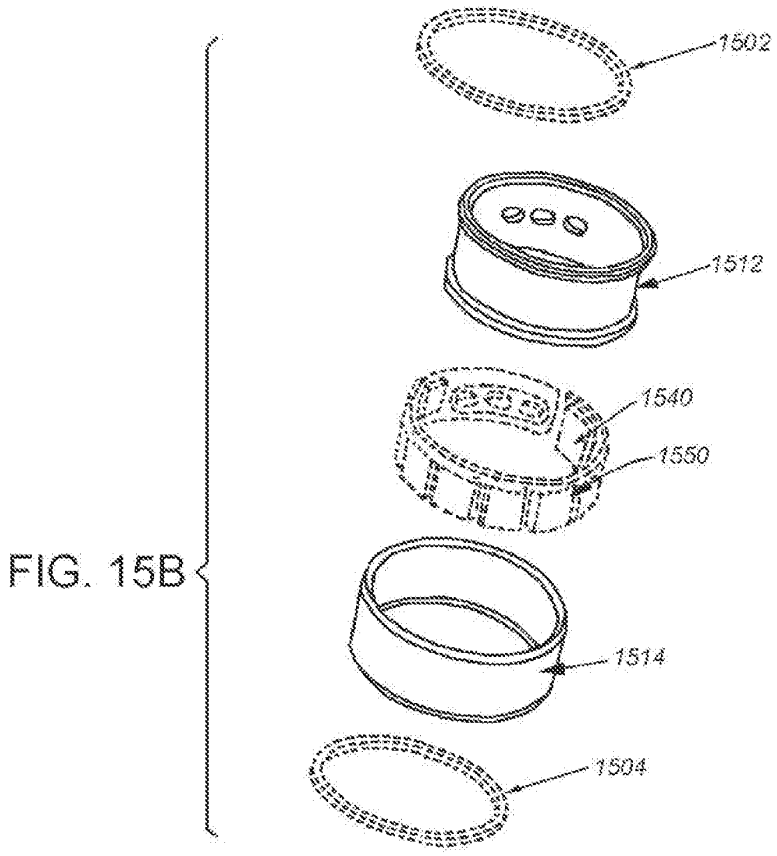
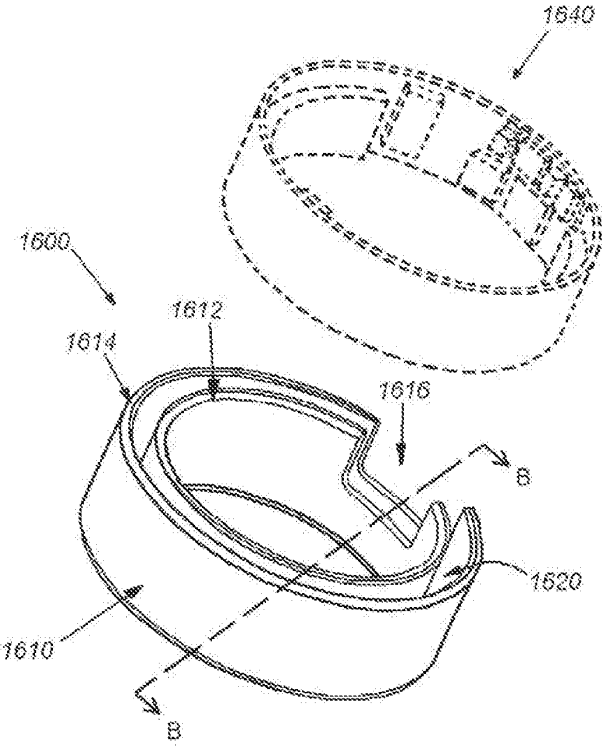



FIG. 15B

FIG. 16A



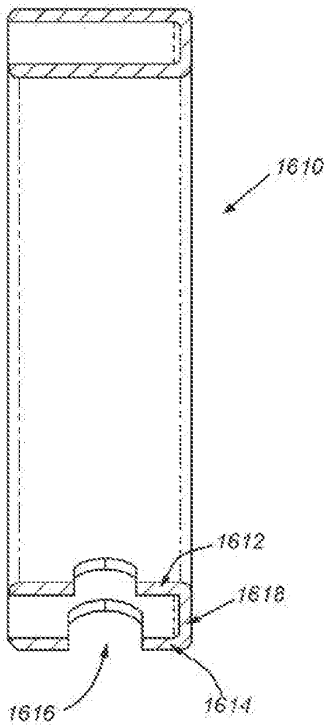



FIG. 16B

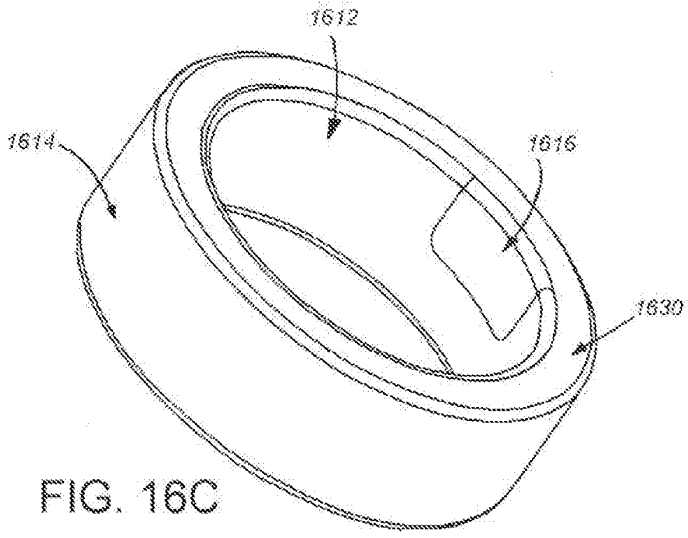



FIG. 16C

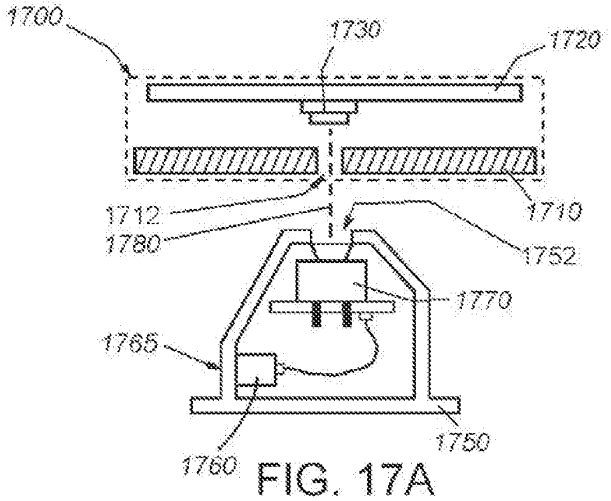



FIG. 17A

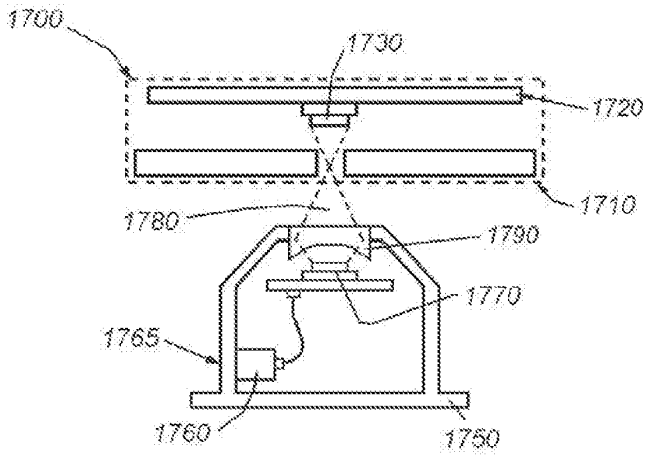



FIG. 17B

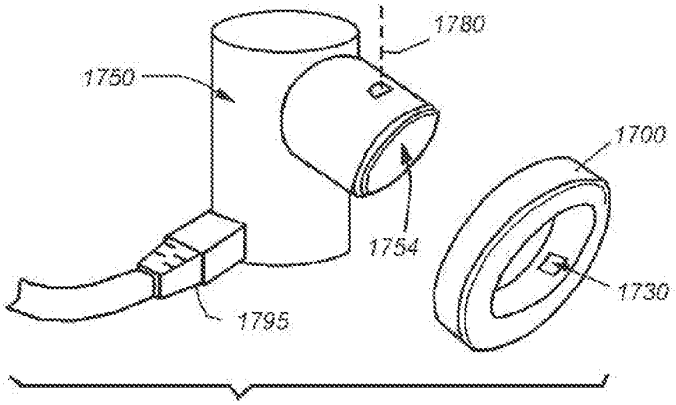



FIG. 17C

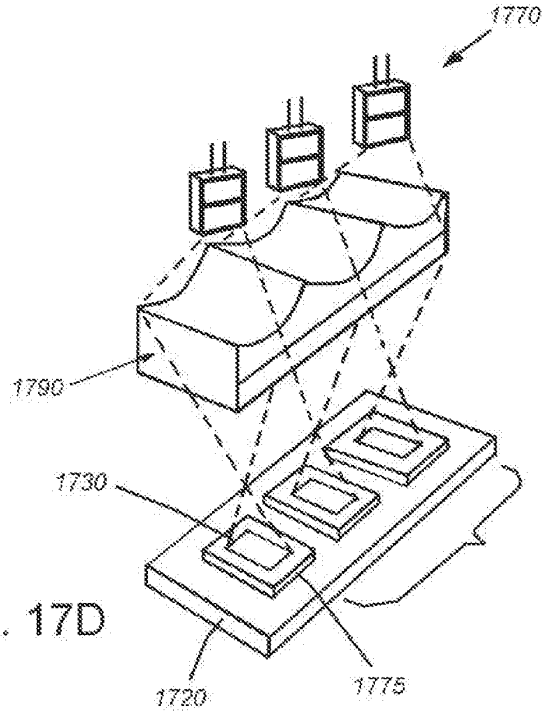



FIG. 17D

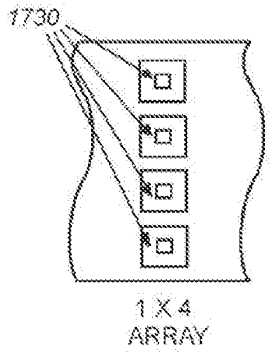



FIG. 17E

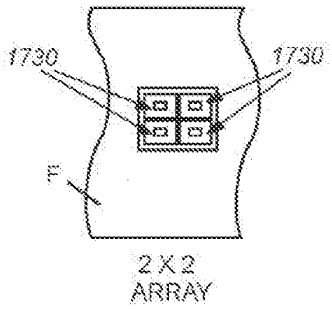



FIG. 17F

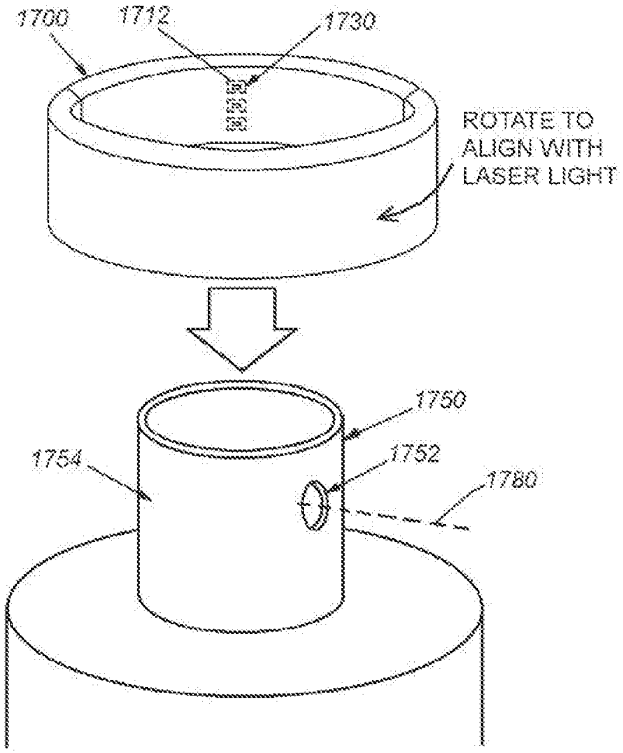



FIG. 17G

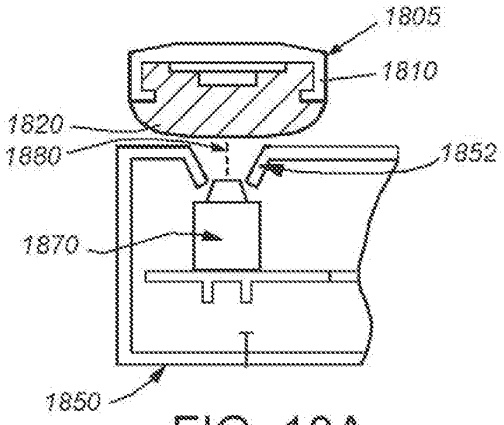



FIG. 18A

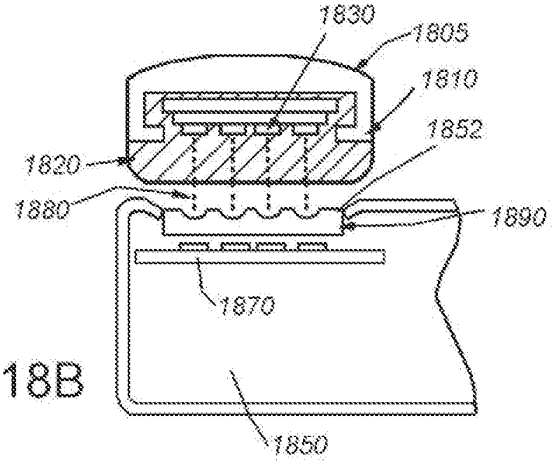



FIG. 18B

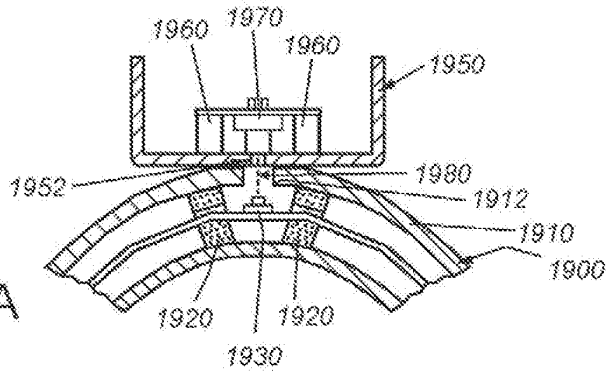



FIG. 19A

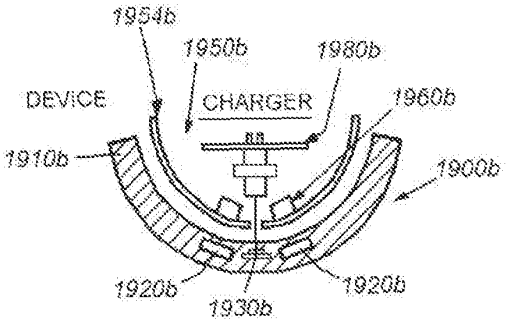



FIG. 19B

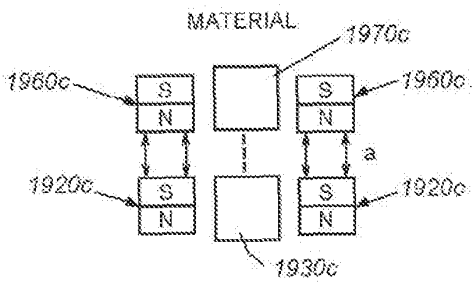



FIG. 19C

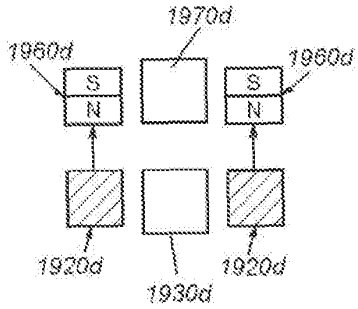



FIG. 19D

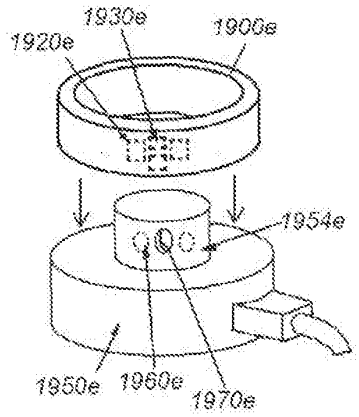



FIG. 19E

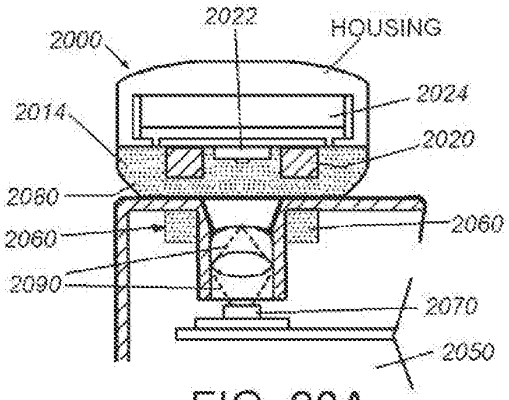



FIG. 20A

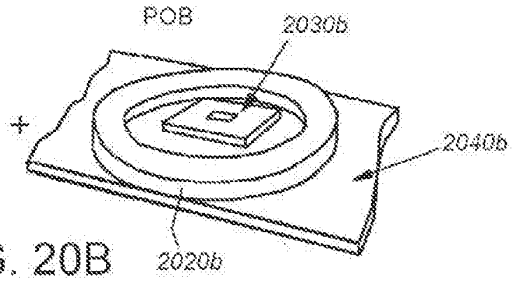



FIG. 20B

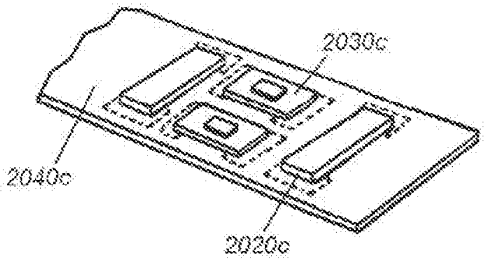



FIG. 20C

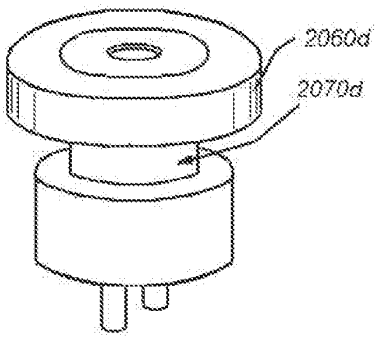



FIG. 20D

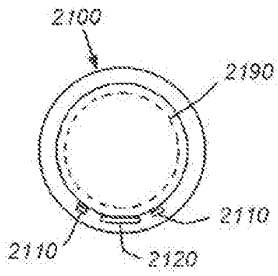



FIG. 21A

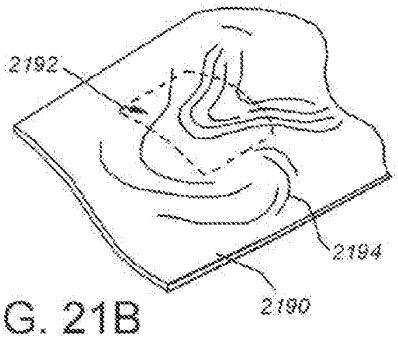



FIG. 21B

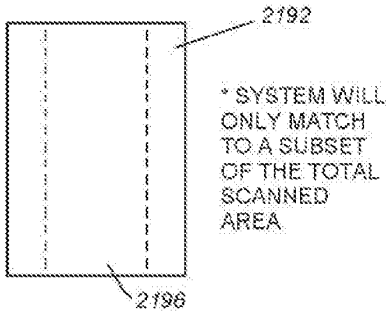



FIG. 21C

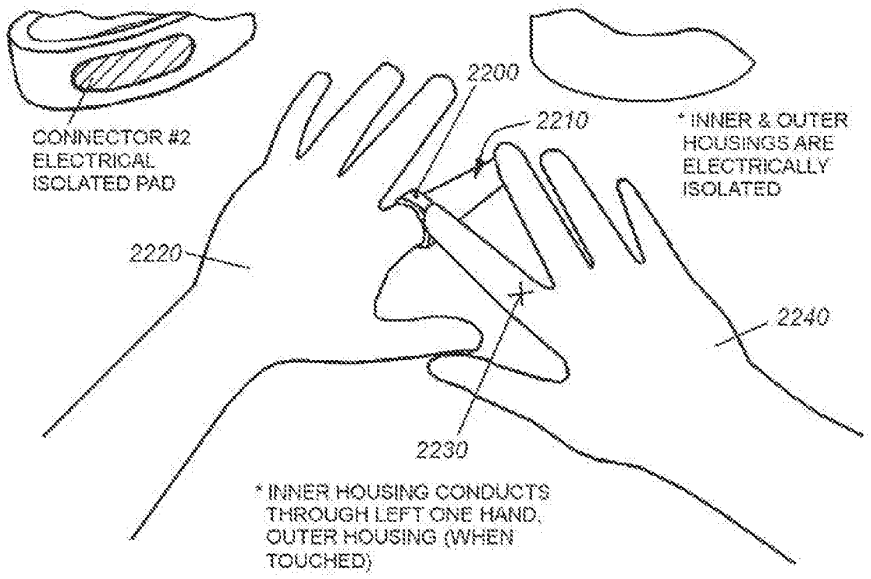



FIG. 22A

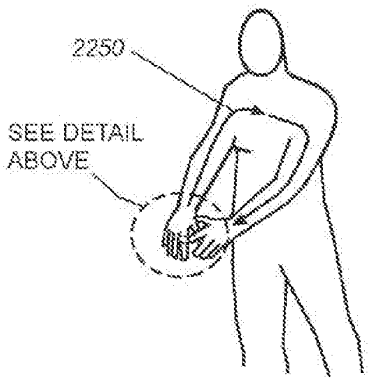



FIG. 22B

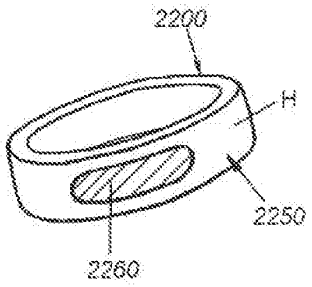



FIG. 22C

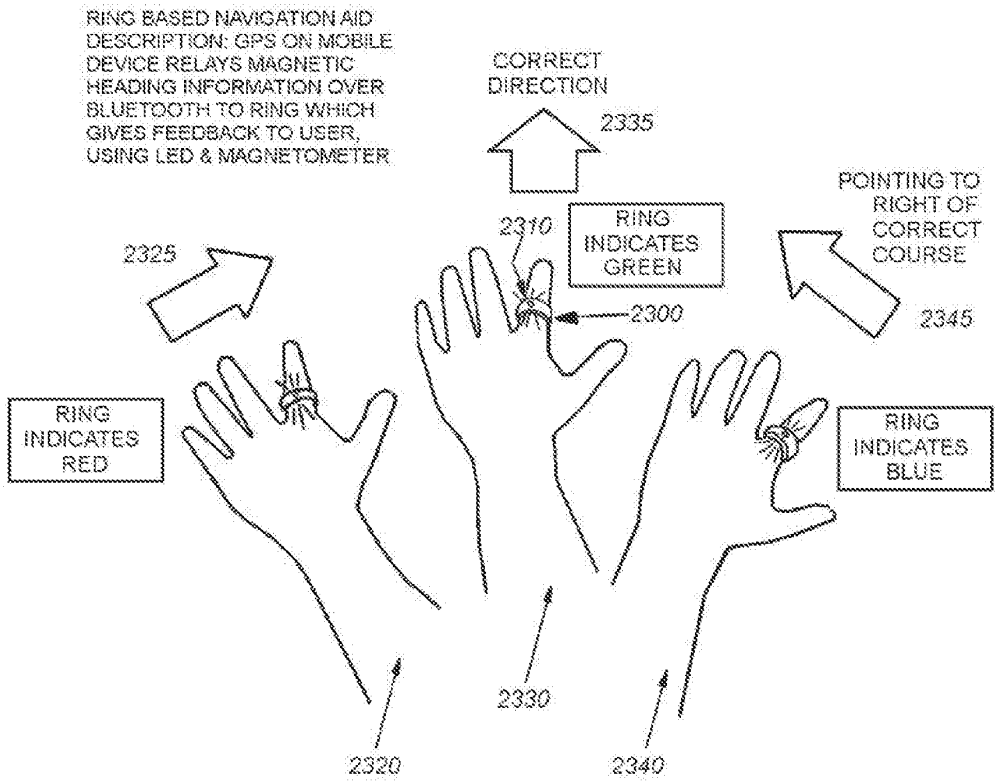

RING BASED NAVIGATION AID DESCRIPTION: GPS ON MOBILE DEVICE RELAYS MAGNETIC HEADING INFORMATION OVER BLUETOOTH TO RING WHICH GIVES FEEDBACK TO USER, USING LED & MAGNETOMETER
CORRECT DIRECTION
2335
POINTING TO RIGHT OF CORRECT COURSE
2345
2310
RING INDICATES GREEN
2325
2300
RING INDICATES RED
RING INDICATES BLUE
2330
2320
2340

FIG. 23A

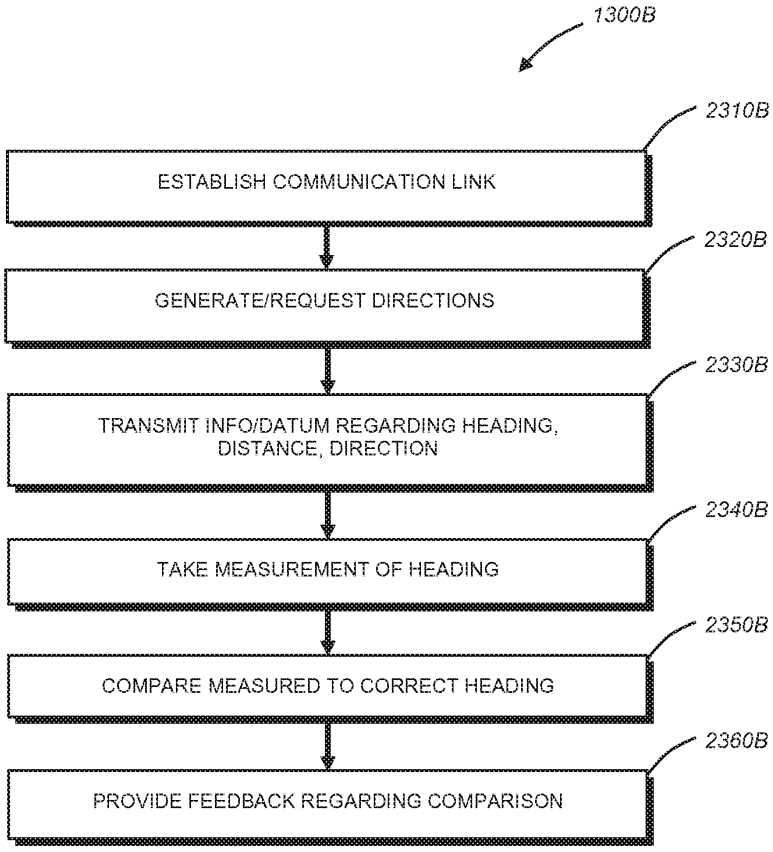

1300B
2310B
ESTABLISH COMMUNICATION LINK
2320B
GENERATE/REQUEST DIRECTIONS
2330B
TRANSMIT INFO/DATUM REGARDING HEADING, DISTANCE, DIRECTION
2340B
TAKE MEASUREMENT OF HEADING
2350B
COMPARE MEASURED TO CORRECT HEADING
2360B
PROVIDE FEEDBACK REGARDING COMPARISON

FIG. 23B

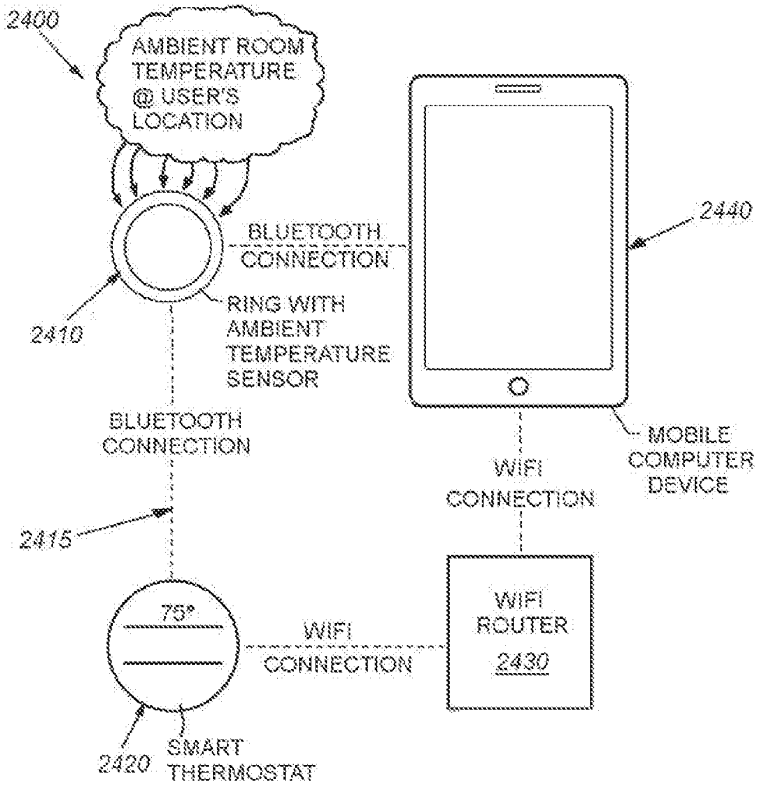



FIG. 24A

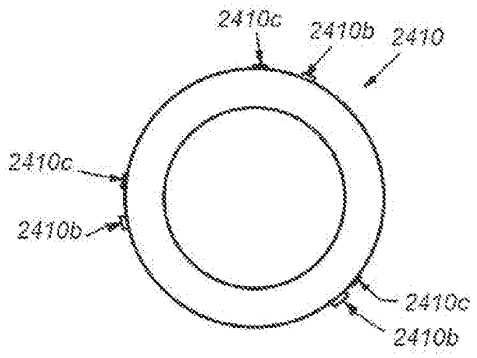



FIG. 24B

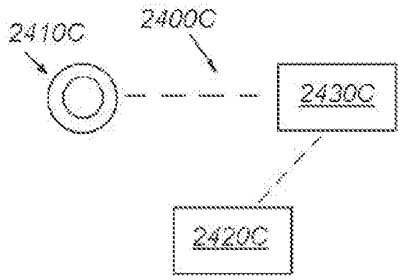



FIG. 24C

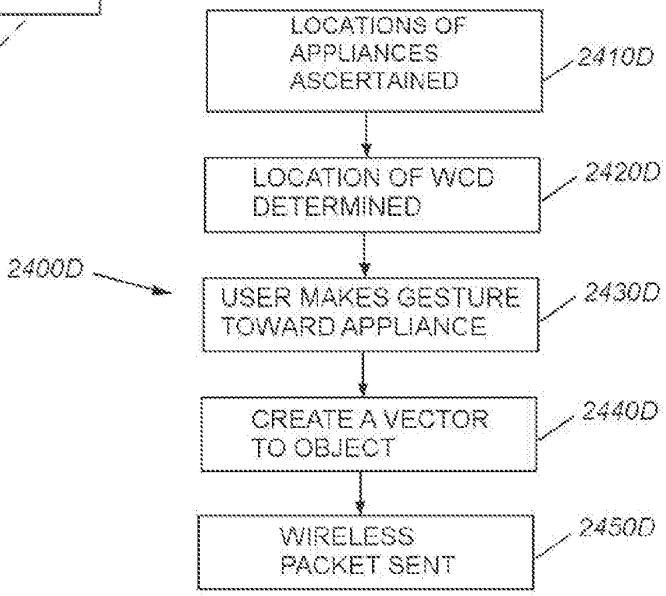



FIG. 24D

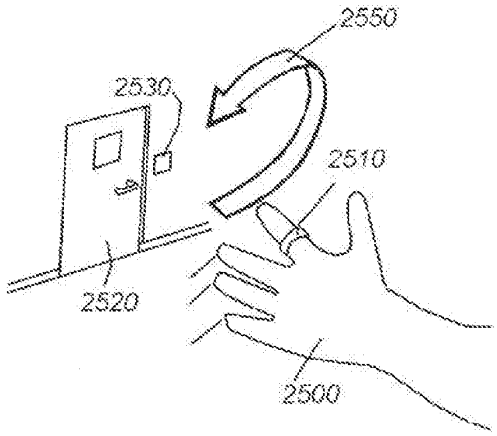



FIG. 25

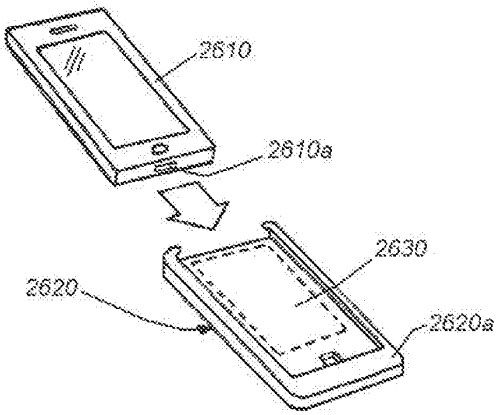



FIG. 26A

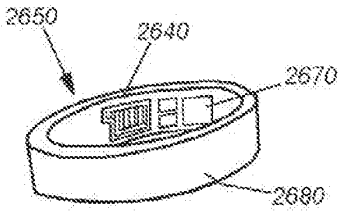



FIG. 26B

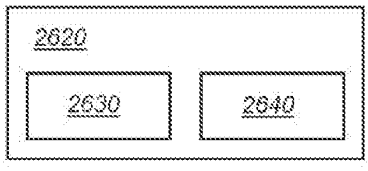



FIG. 26C

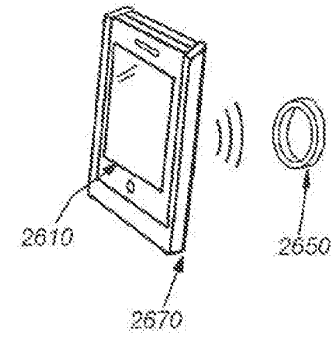



FIG. 26D

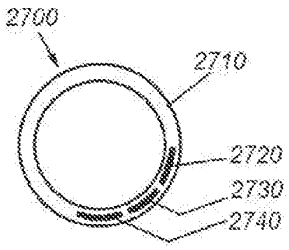



FIG. 27A

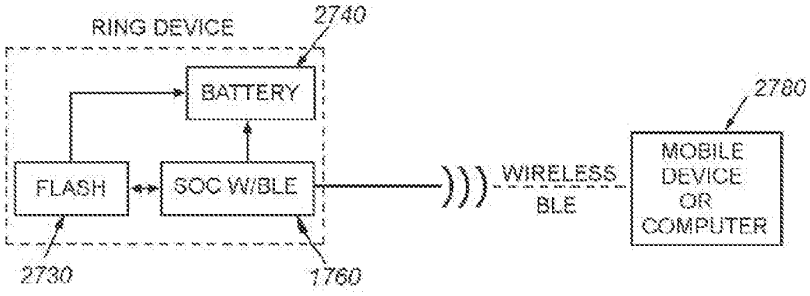



FIG. 27B

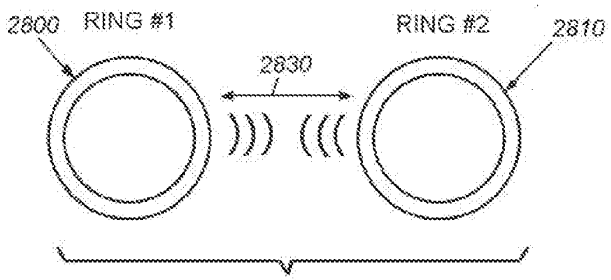



FIG. 28A

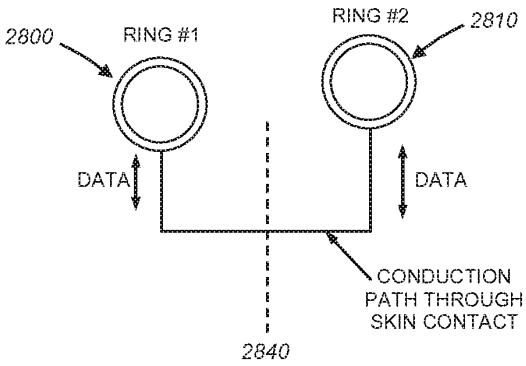



FIG. 28B

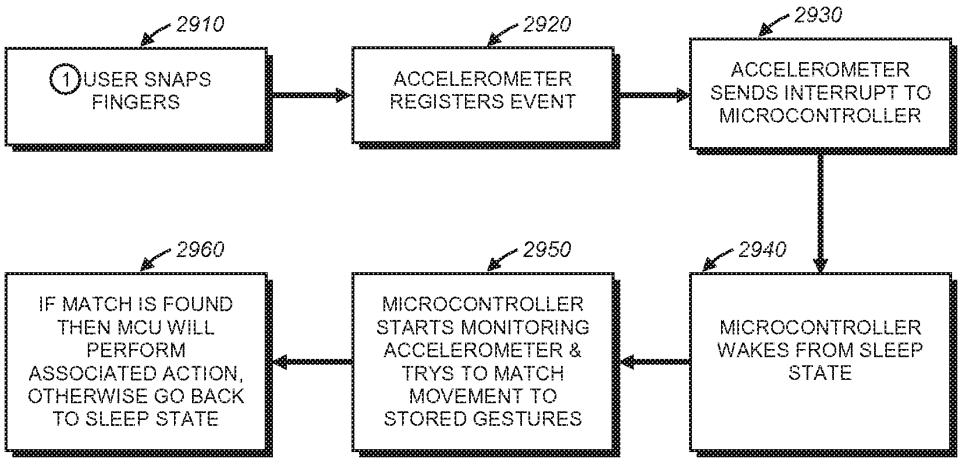



FIG. 29A

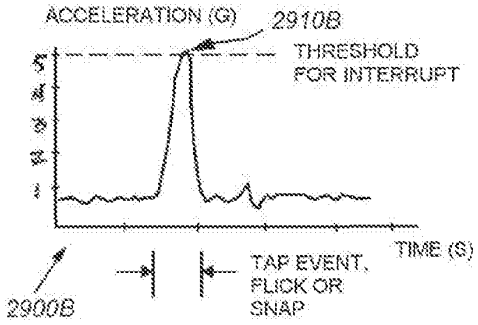



FIG. 29B

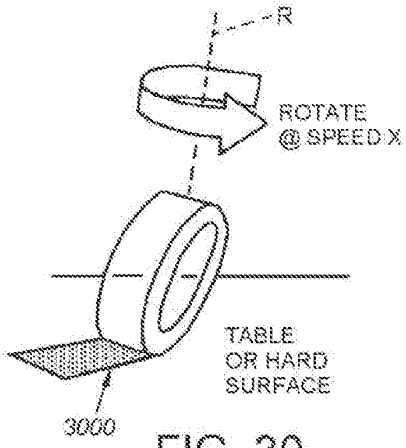



FIG. 30

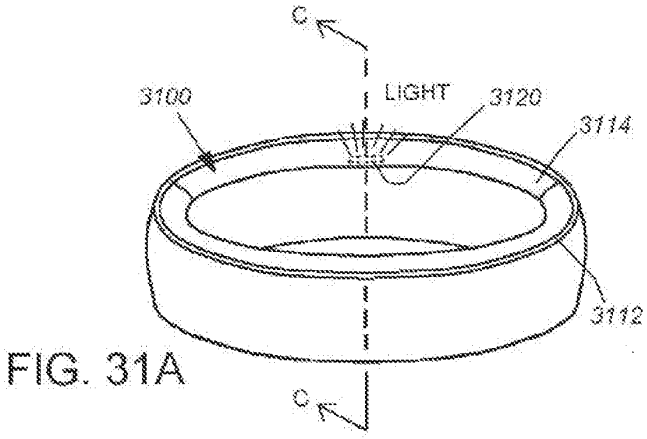



FIG. 31A

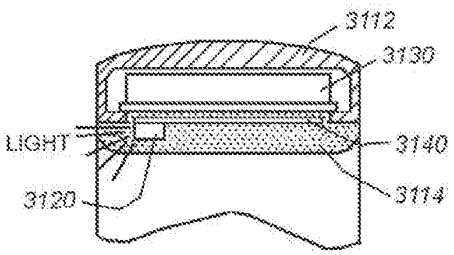



FIG. 31C

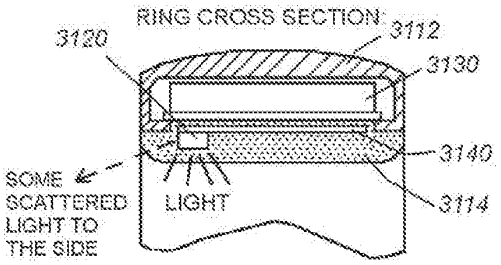



FIG. 31B

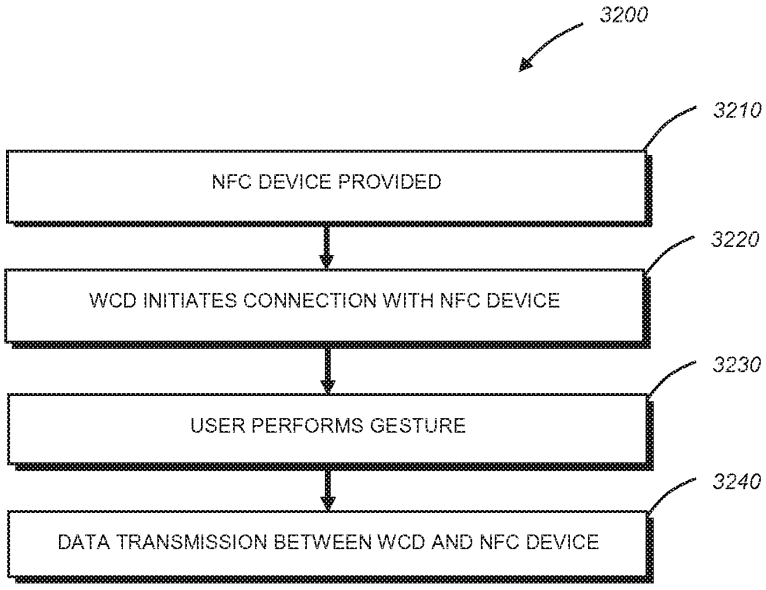

3200
3210
NFC DEVICE PROVIDED
3220
WCD INITIATES CONNECTION WITH NFC DEVICE
3230
USER PERFORMS GESTURE
3240
DATA TRANSMISSION BETWEEN WCD AND NFC DEVICE

FIG. 32

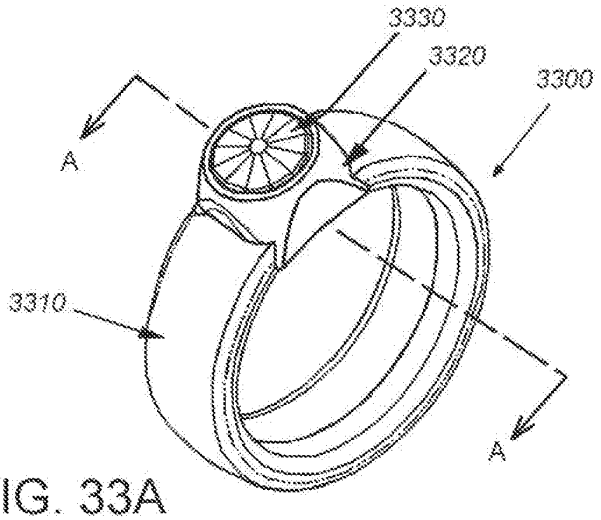



FIG. 33A

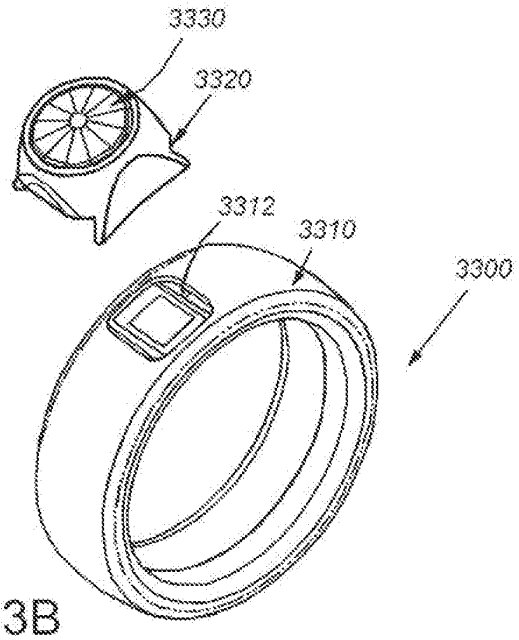



FIG. 33B

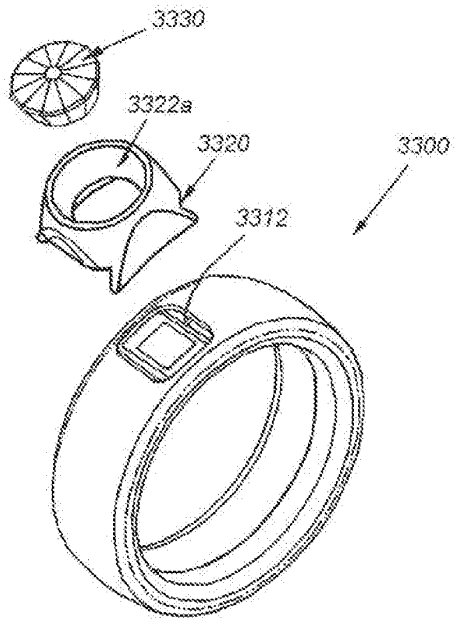



FIG. 33C

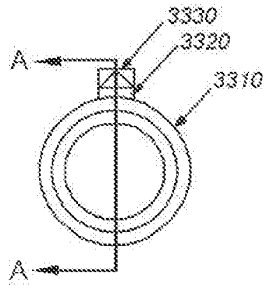



FIG. 33D

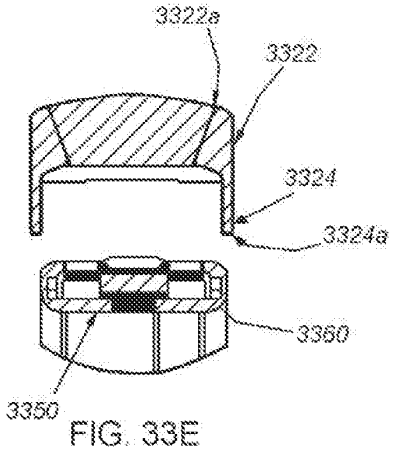



FIG. 33E

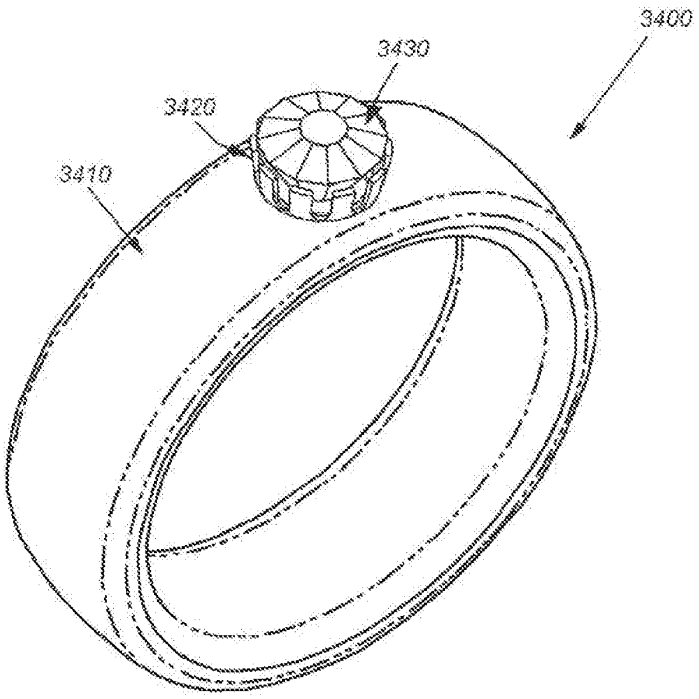



FIG. 34A

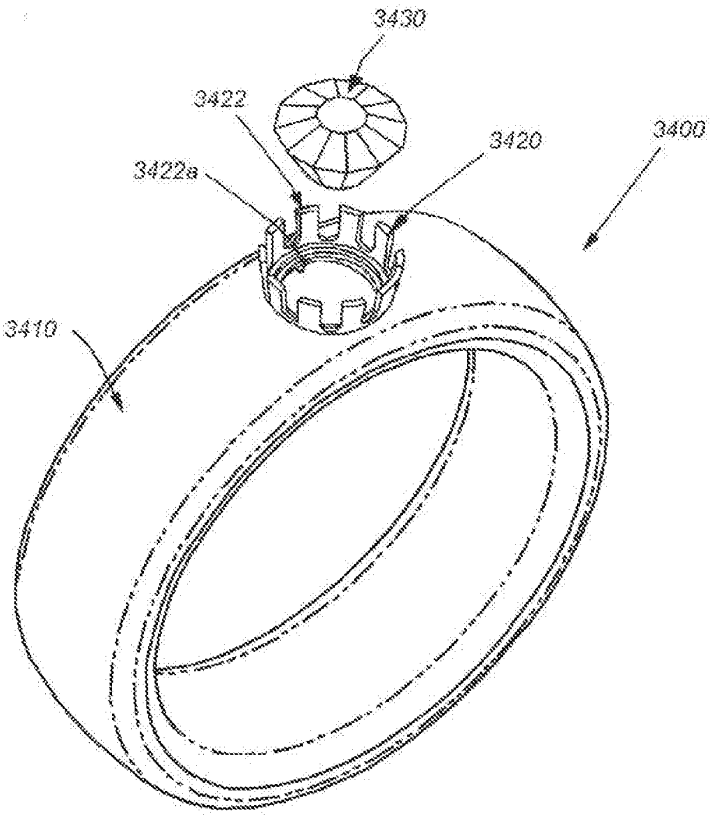



FIG. 34B

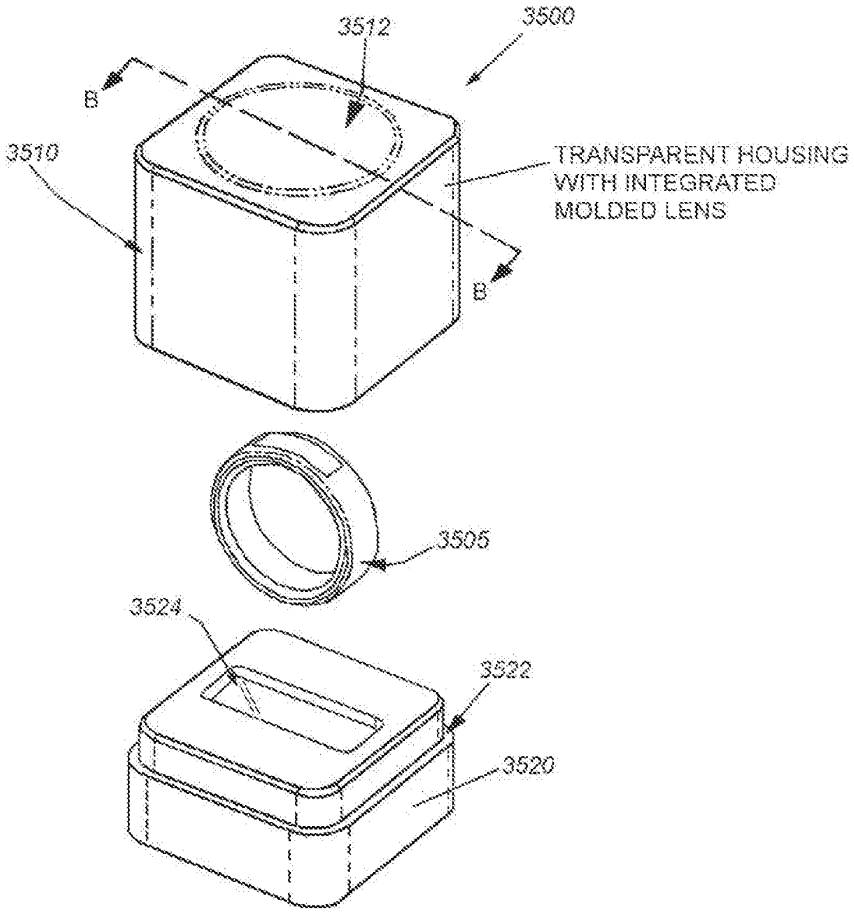

3512
3500
B
3510
TRANSPARENT HOUSING
WITH INTEGRATED
MOLDED LENS
B
3505
3524
3522
3520

FIG. 35A

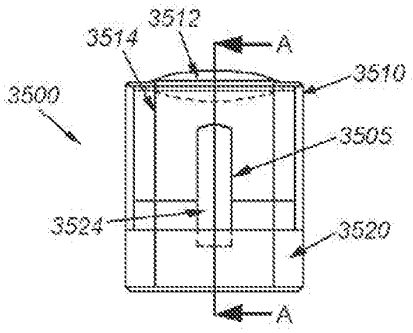



FIG. 35B

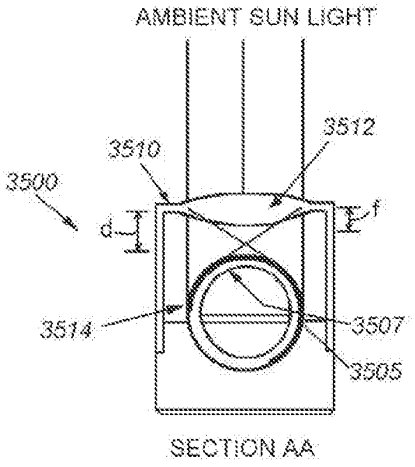



FIG. 35C

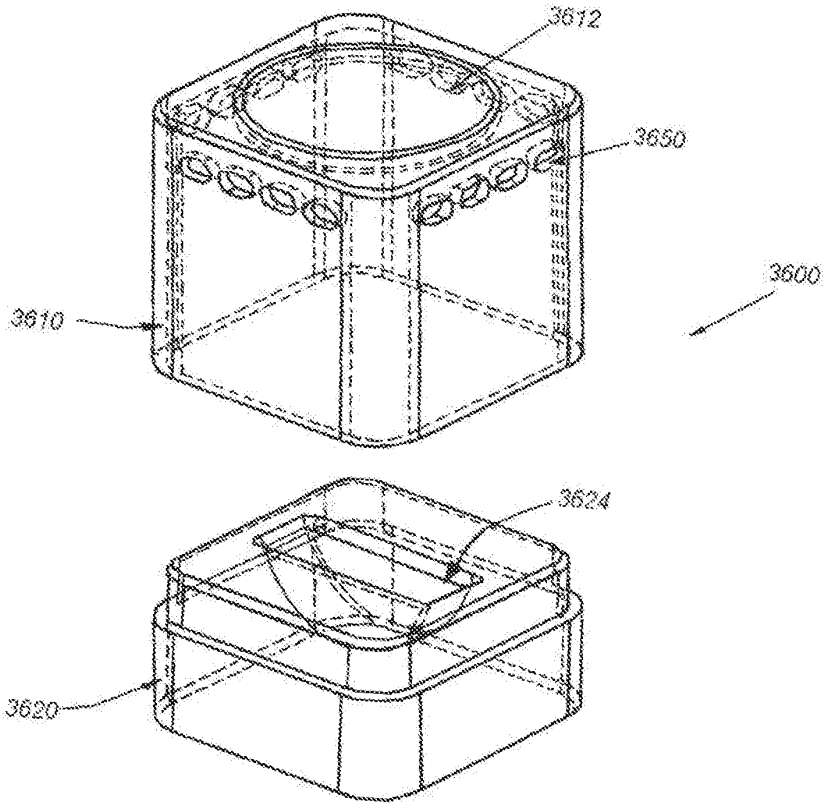



FIG. 36

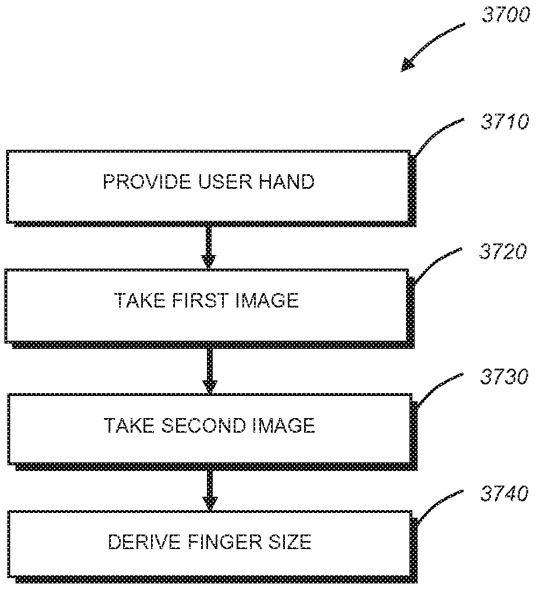

3700
3710
PROVIDE USER HAND
3720
TAKE FIRST IMAGE
3730
TAKE SECOND IMAGE
3740
DERIVE FINGER SIZE

FIG. 37

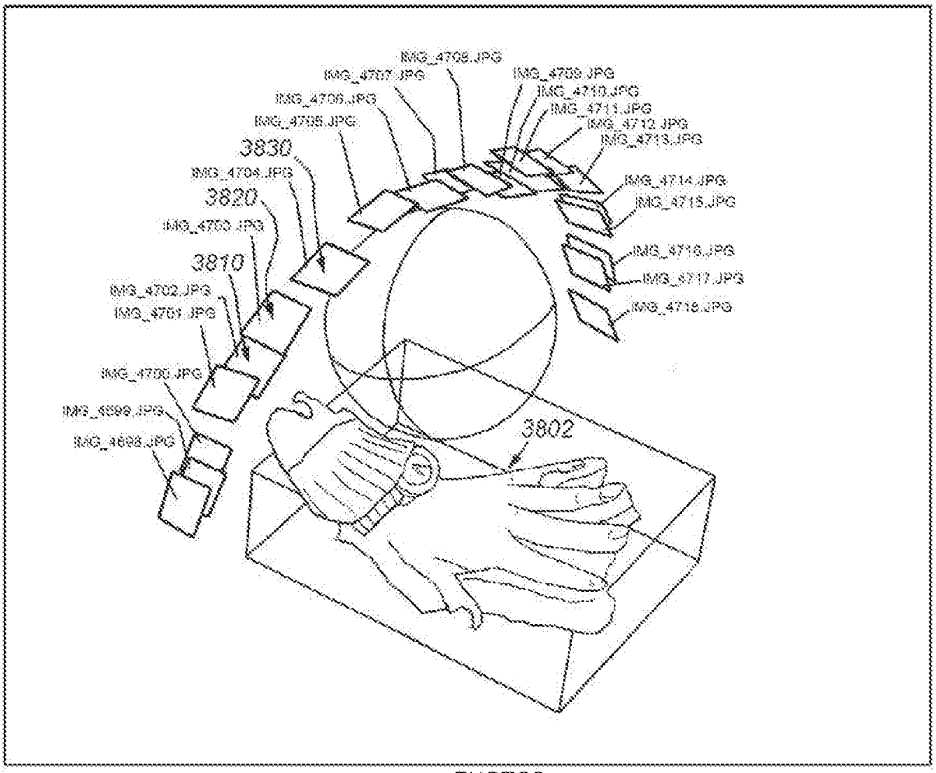

IMG_4708.JPG
IMG_4707.JPG
IMG_4709.JPG
IMG_4706.JPG
IMG_4710.JPG
IMG_4705.JPG
IMG_4711.JPG
IMG_4712.JPG
3830
IMG_4713.JPG
IMG_4704.JPG
IMG_4714.JPG
3820
IMG_4715.JPG
IMG_4703.JPG
IMG_4716.JPG
3810
IMG_4717.JPG
IMG_4702.JPG
IMG_4718.JPG
IMG_4701.JPG
IMG_4700.JPG
IMG_4699.JPG
IMG_4698.JPG
3802
PHOTOS
IMG_4702.JPG
IMG_4703.JPG
IMG_4704.JPG
IMG_4705.JPG
IMG_4706.JPG
IMG_4707.JPG
IMG_4708.JPG
3812
3822
3832

FIG. 38

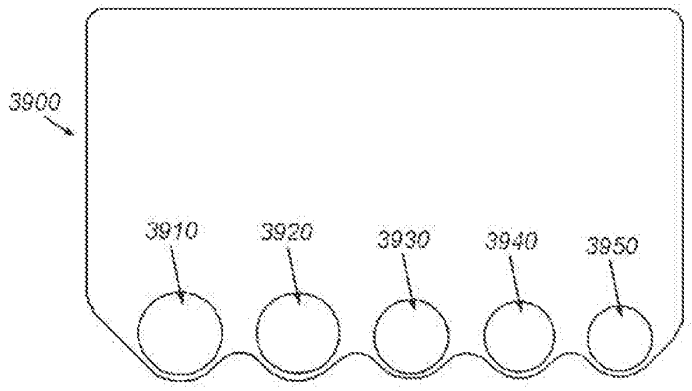



FIG. 39

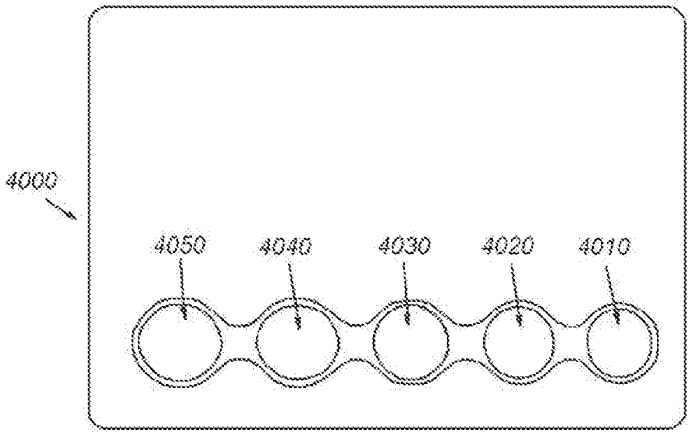



FIG. 40

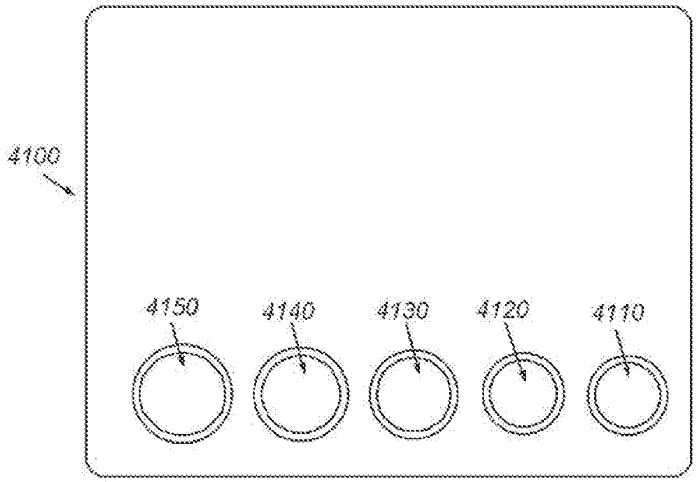



FIG. 41

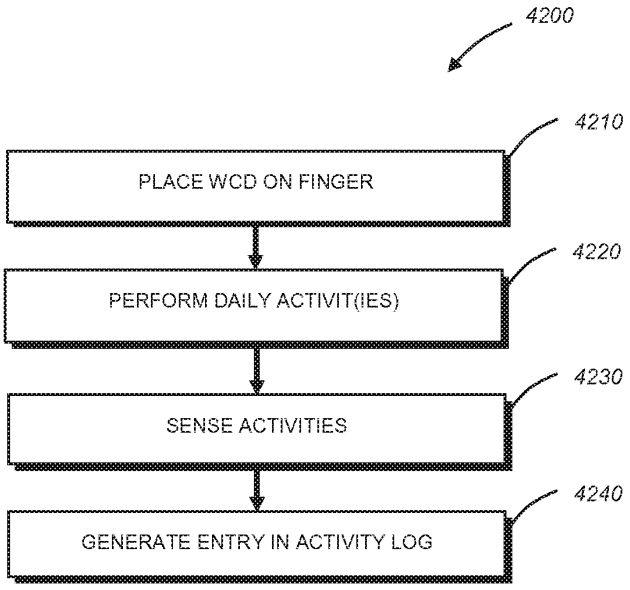

4200
4210
PLACE WCD ON FINGER
4220
PERFORM DAILY ACTIVIT(IES)
4230
SENSE ACTIVITIES
4240
GENERATE ENTRY IN ACTIVITY LOG

FIG. 42

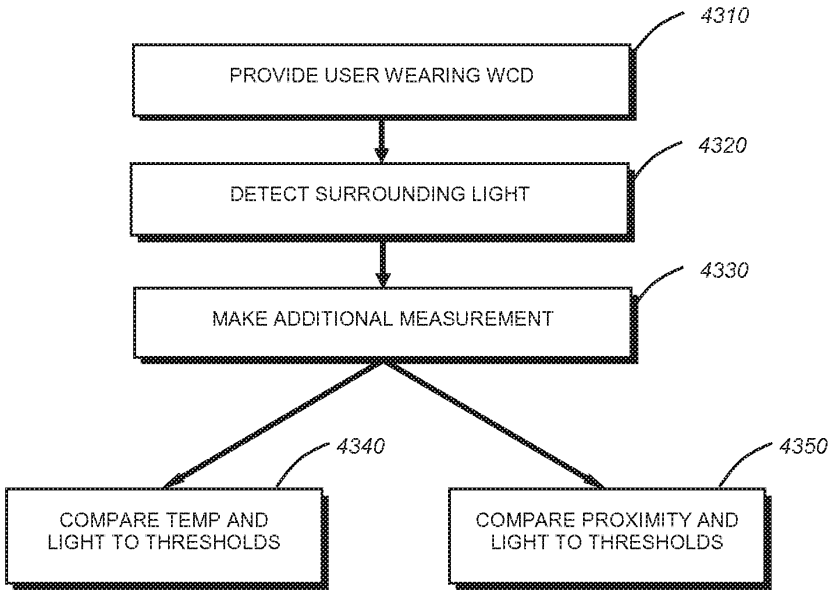

4310
PROVIDE USER WEARING WCD
4320
DETECT SURROUNDING LIGHT
4330
MAKE ADDITIONAL MEASUREMENT
4340
COMPARE TEMP AND LIGHT TO THRESHOLDS
4350
COMPARE PROXIMITY AND LIGHT TO THRESHOLDS

FIG. 43

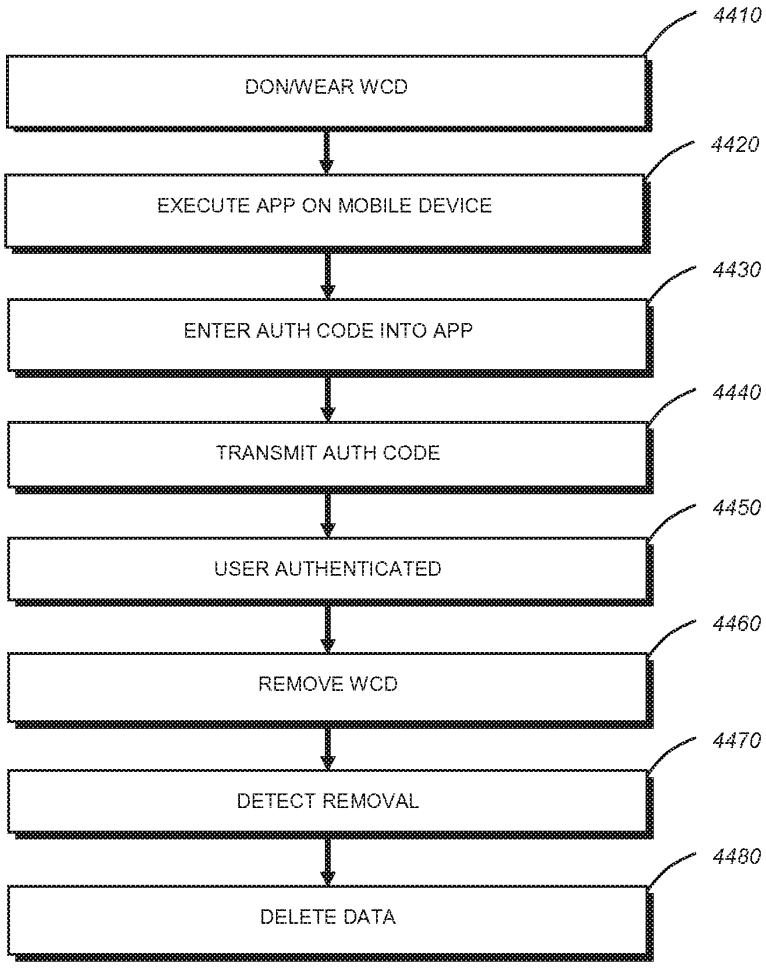

4410
DON/WEAR WCD
4420
EXECUTE APP ON MOBILE DEVICE
4430
ENTER AUTH CODE INTO APP
4440
TRANSMIT AUTH CODE
4450
USER AUTHENTICATED
4460
REMOVE WCD
4470
DETECT REMOVAL
4480
DELETE DATA

FIG. 44

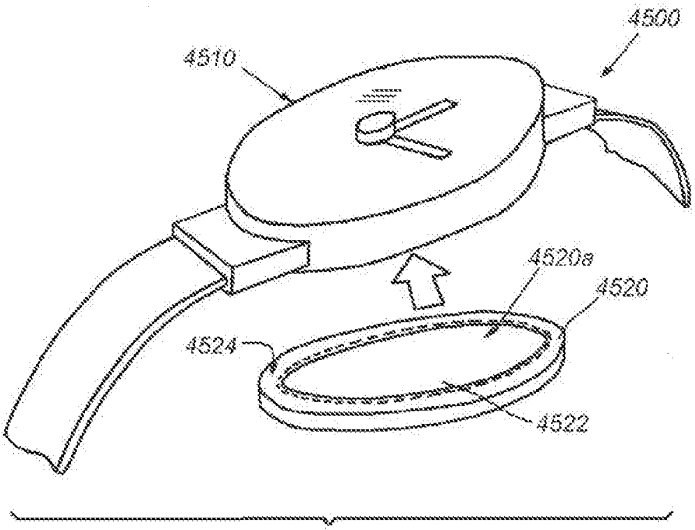



FIG. 45A

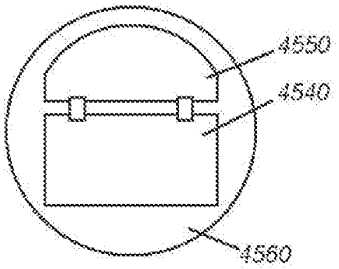



FIG. 45B

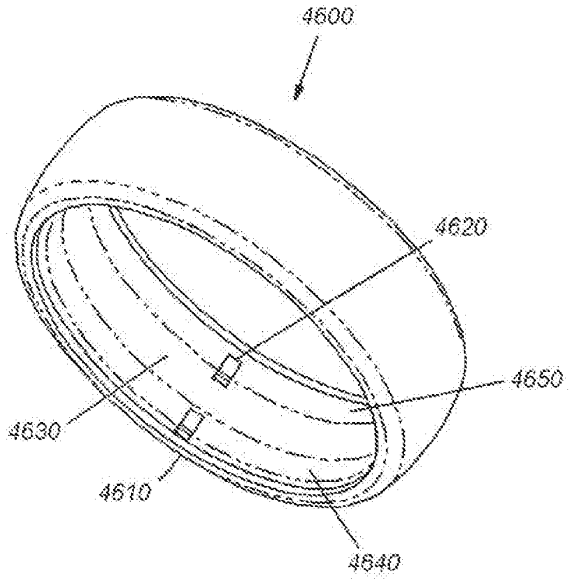



FIG. 46

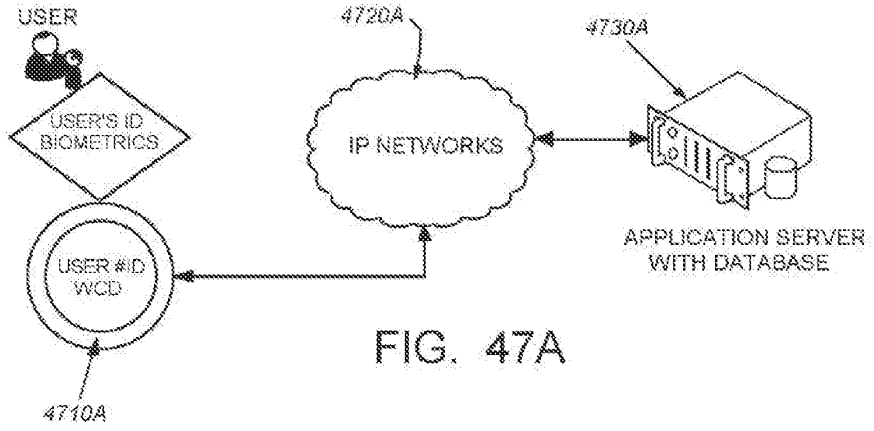



FIG. 47A

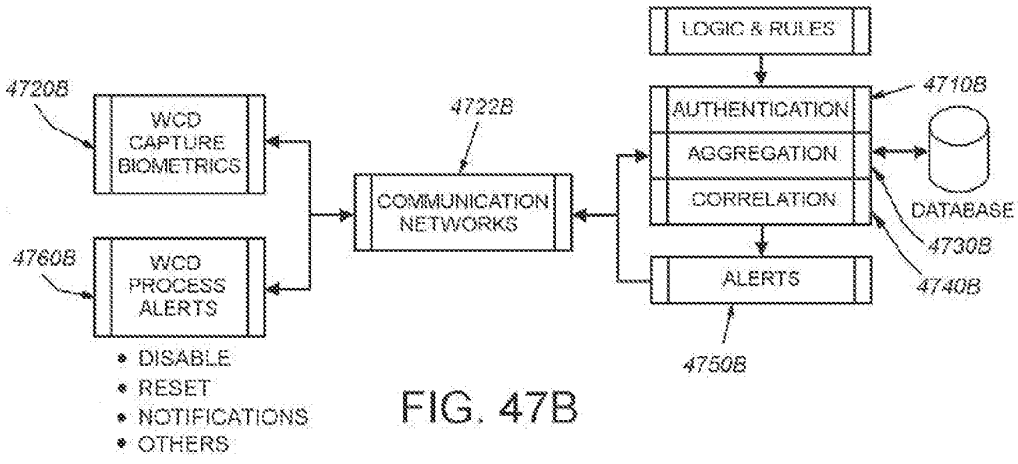



FIG. 47B

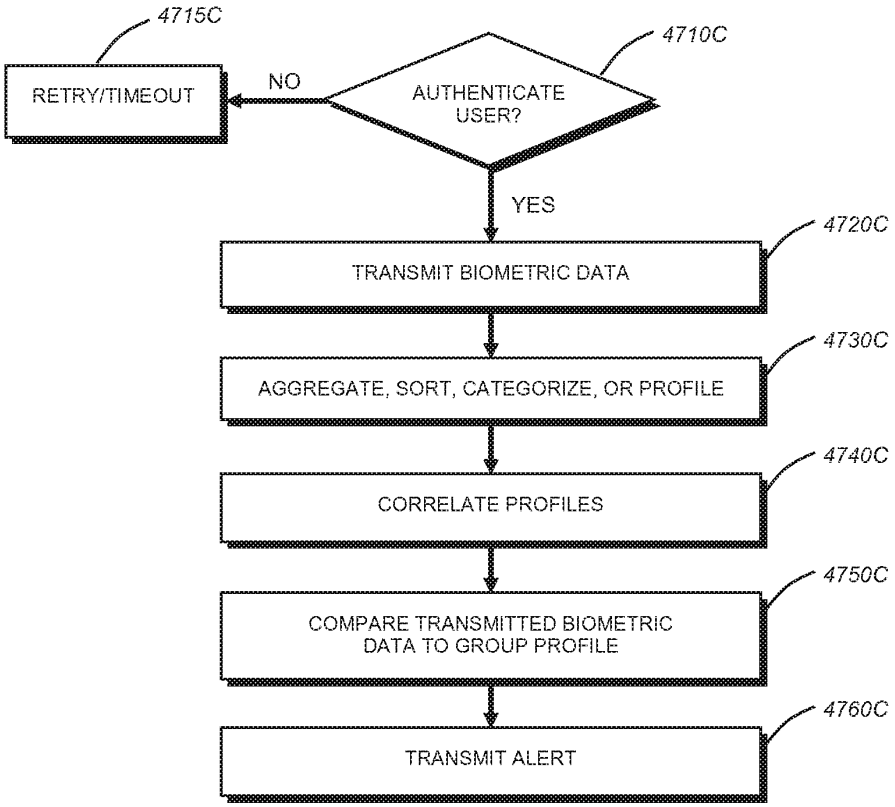

4715C
RETRY/TIMEOUT
NO
4710C
AUTHENTICATE USER?
YES
4720C
TRANSMIT BIOMETRIC DATA
4730C
AGGREGATE, SORT, CATEGORIZE, OR PROFILE
4740C
CORRELATE PROFILES
4750C
COMPARE TRANSMITTED BIOMETRIC DATA TO GROUP PROFILE
4760C
TRANSMIT ALERT

FIG. 47C

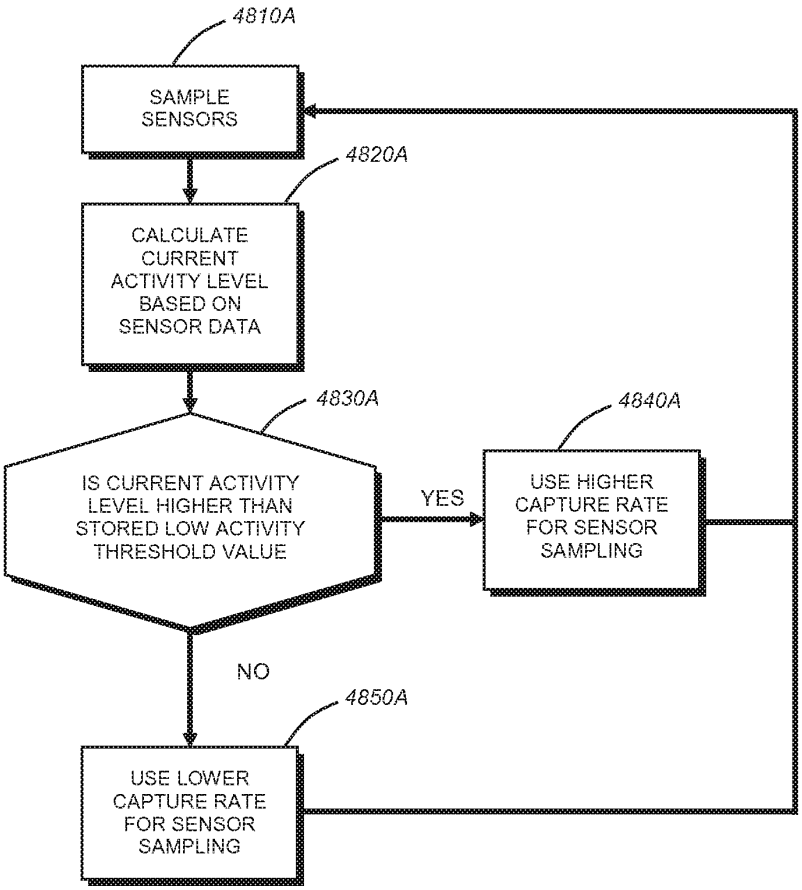

4810A
SAMPLE SENSORS
4820A
CALCULATE CURRENT ACTIVITY LEVEL BASED ON SENSOR DATA
4830A
IS CURRENT ACTIVITY LEVEL HIGHER THAN STORED LOW ACTIVITY THRESHOLD VALUE
YES
4840A
USE HIGHER CAPTURE RATE FOR SENSOR SAMPLING
NO
4850A
USE LOWER CAPTURE RATE FOR SENSOR SAMPLING

FIG. 48A

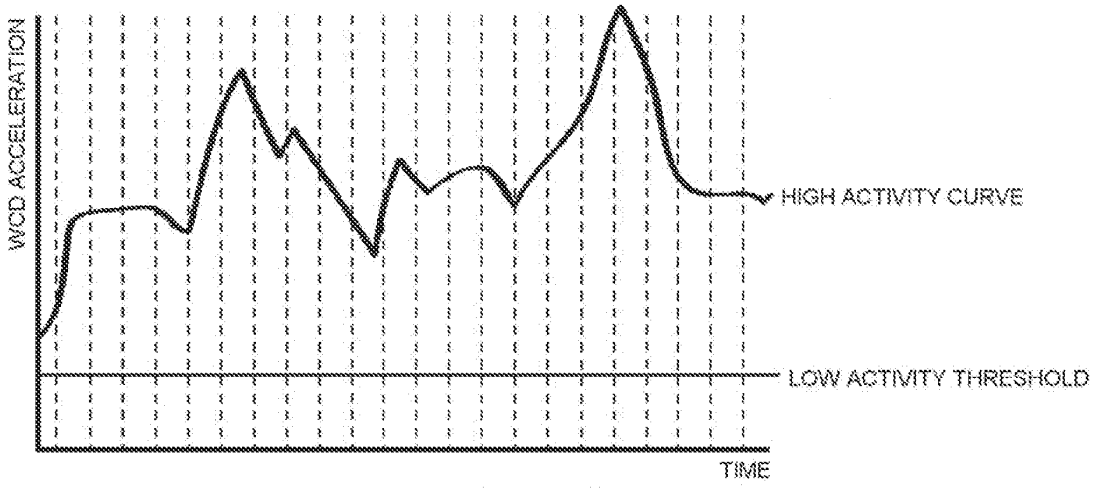



FIG. 48B

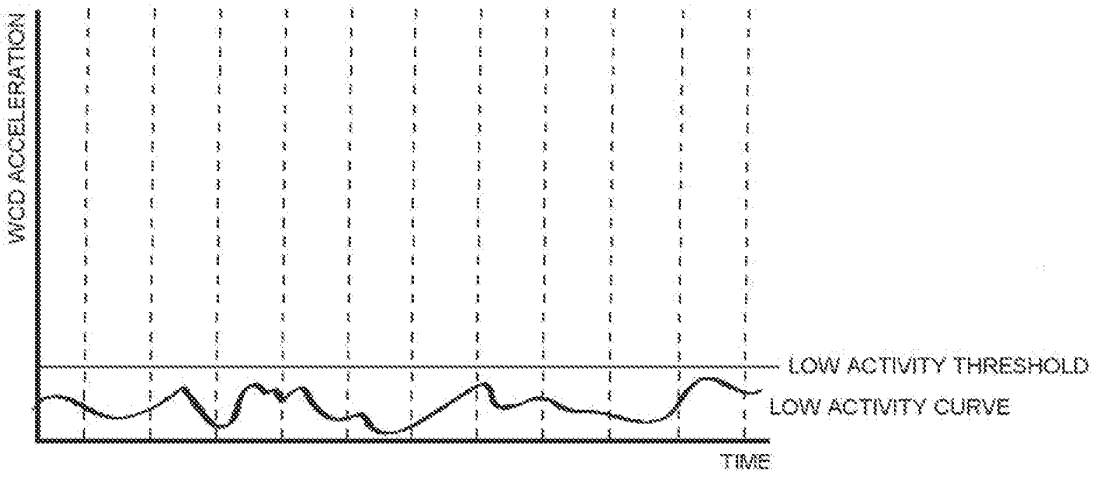



FIG. 48C

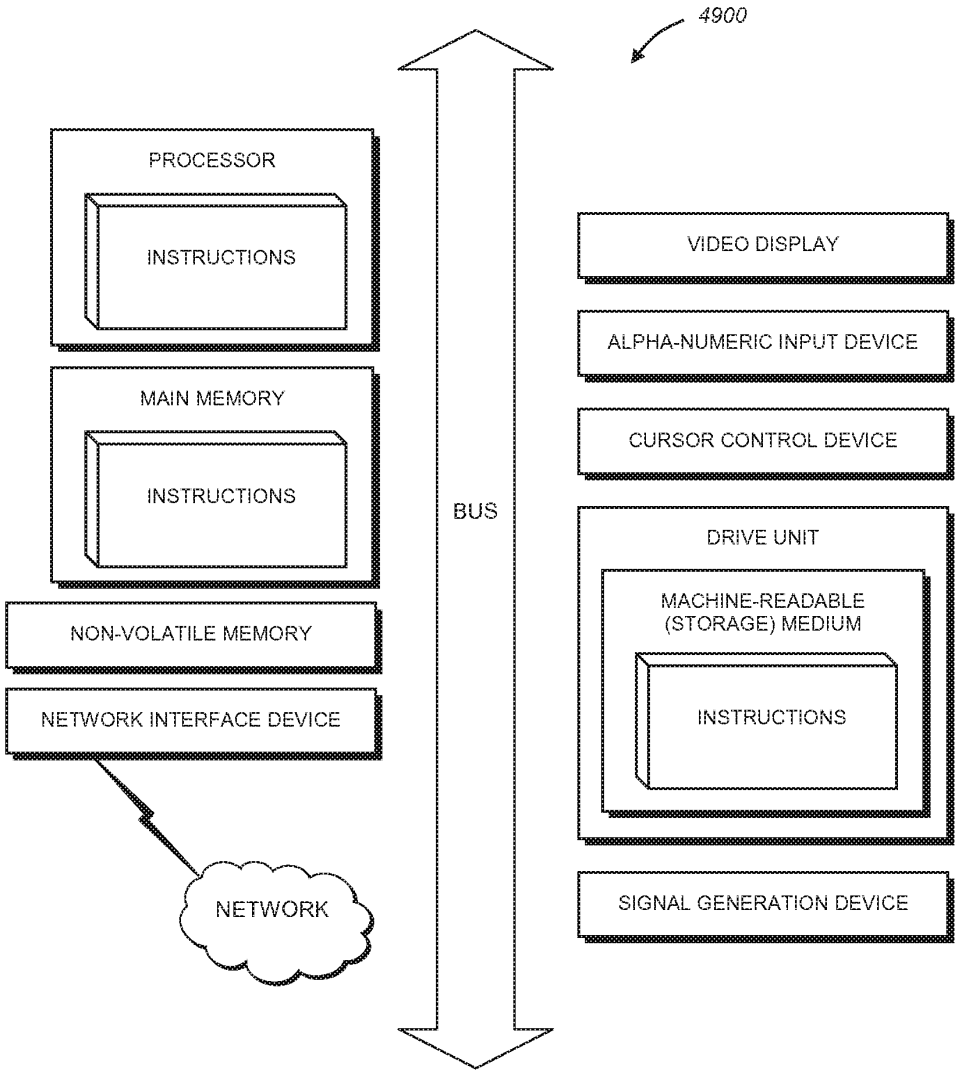

4900
PROCESSOR
INSTRUCTIONS
MAIN MEMORY
INSTRUCTIONS
NON-VOLATILE MEMORY
NETWORK INTERFACE DEVICE
NETWORK
BUS
VIDEO DISPLAY
ALPHA-NUMERIC INPUT DEVICE
CURSOR CONTROL DEVICE
DRIVE UNIT
MACHINE-READABLE (STORAGE) MEDIUM
INSTRUCTIONS
SIGNAL GENERATION DEVICE

FIG. 49

CORRECTION

63/64

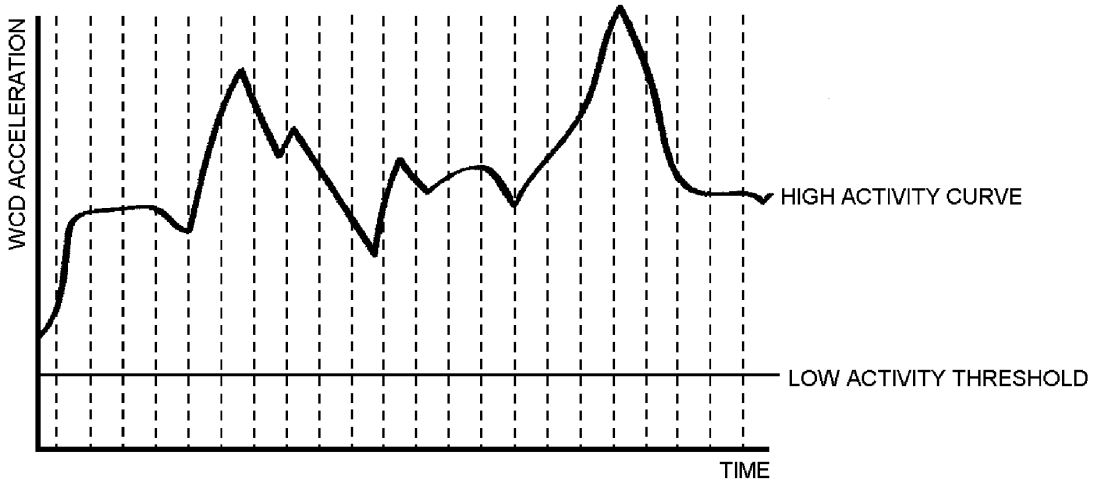



FIG. 48B

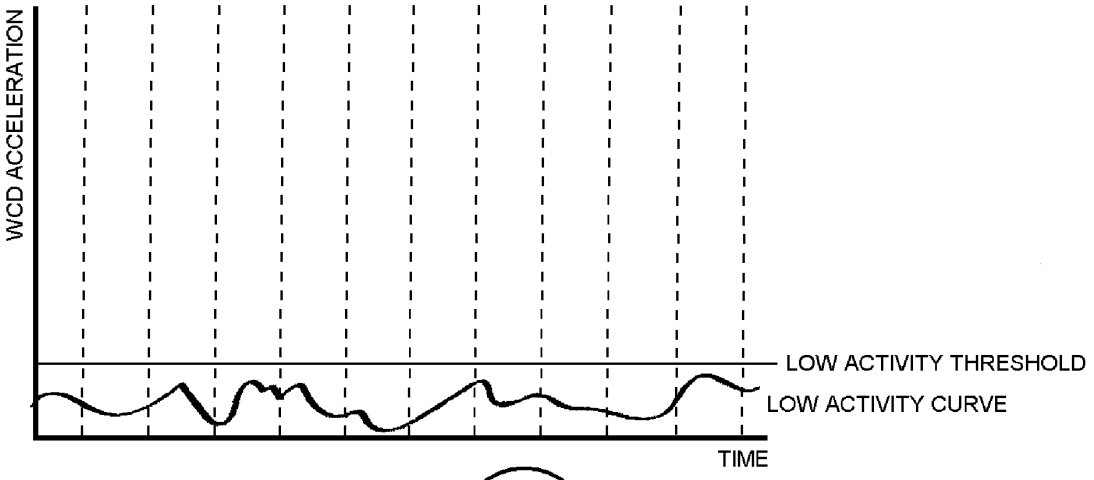



FIG. 48D

Corrected Typo to "48C"

# Electronic Acknowledgement Receipt

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|---|---|
| **EFS ID:** | 22180514 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 27-APR-2015 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 17:11:56 |
| **Application Type:** | Utility under 35 USC 111(a) |

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| **Information:** | | | | | |
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| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2668 |
| Examiner Name | |
| Attorney Docket Number | 340/0002 |

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| | 2 | 20110038511 | A1 | 2011-02-17 | Takiguchi | |
| | 3 | 20110057901 | A1 | 2011-03-10 | Raty, et al. | |
| | 4 | 20110312311 | A1 | 2011-12-22 | Abifaker, et al. | |
| | 5 | 20120130203 | A1 | 2012-05-24 | Stergiou, et al. | |

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| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 6 | 20120220835 | A1 | 2012-08-30 | Chung | |
| | 7 | 20120317024 | A1 | 2012-12-13 | Rahman, et al. | |
| | 8 | 2013044215 | A1 | 2013-02-21 | Rothkopf, et al. | |
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| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

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| | Application Number | 14556062 |
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| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2015-04-30 |
|---|---|---|---|
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



Petitioner Samsung Ex-1004, 0819

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
LOGINOV, WILLIAM A.

LOGINOV & ASSOCIATES, PLLC 214 SOUTH MAIN STREET CONCORD NH 03301-4844 USA

# PCT

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

**(PCT Rule 44.1)**

| | |
|---|---|
| Date of mailing *(day/month/year)* | 30 April 2015 (30.04.2015) |
| Applicant's or agent's file reference: 340/0002PCT | **FOR FURTHER ACTION** See paragraphs 1 and 4 below |
| International application No.: **PCT/US2014/067823** | International filing date *(day/month/year)*: **28 November 2014 (28.11.2014)** |
| Applicant: **MECHIO INC. et al** | |

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   **Filing of amendments and statement under Article 19:**

   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   **When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   **How?** Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   **For more detailed instructions,** see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 . 9-011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis*.1 and 90*bis*.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within **19 months** from the priority date, the applicant may request that a supplementary international search be carried out by an International Searching Authority, that offers this service (Rule 45*bis*.1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

| | |
|---|---|
| Name and mailing address of the ISA/KR<br>International Application Division<br>Korean Intellectual Property Office<br>189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea | Authorized officer<br>COMMISSIONER |
| Facsimile No. +82 42 472 7140 | Telephone No. 82-42-481-5875 |

Form PCT/ISA/220 (July 2014)

Petitioner Samsung Ex-1004, 0820

* Attention

Copies of the documents cited in the international search report can be searched in the following Korean Intellectual Property Office English website for six months(expire date : **2015.10.30** ) from the date of mailing of the international search report.

http://www.kipo.go.kr/en/ => PCT Services => PCT Services

ID : PCT international application number
PW : **D78US669**

Inquiries related to PCT International Search Report or Written Opinion prepared by KIPO as an International Searching Authority can be answered not only by KIPO but also through IPKC (Intellectual Property Korea Center), located in Vienna, VA, which functions as a PCT Help Desk for PCT applicants.

Homepage: http://www.ipkcenter.com

Email: ipkc@ipkcenter.com

Notes to Form PCT/ISA/220 (July 2014)

PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

**(PCT Article 18 and Rules 43 and 44)**

| Applicant's or agent's file reference<br>340/0002PCT | **FOR FURTHER ACTION** | see Form PCT/ISA/220<br>as well as, where applicable, item 5 below. |
|---|---|---|
| International application No.<br>**PCT/US2014/067823** | International filing date *(day/month/year)*<br>**28 November 2014 (28.11.2014)** | (Earliest) Priority Date *(day/month/year)*<br>29 November 2013 (29.11.2013) |
| Applicant<br>**MECHIO INC. et al** | | |

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **9** sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of :
      ☒ the international application in the language in which it was filed
      ☐ a translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☒ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract,**
   ☐ the text is approved as submitted by the applicant.
   ☒ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. **1A**
      ☒ as suggested by the applicant.
      ☐ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figures is to be published with the abstract.



Petitioner Samsung Ex-1004, 0822

# INTERNATIONAL SEARCH REPORT

International application No.
**PCT/US2014/067823**

**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Ⅰ. Claims 1-30, 32-34 are directed to a wearable computing device and its related system.
Ⅱ. Claim 31 is directed to a timepiece system.
Ⅲ. Claims 35-37 are directed to a method of identifying an authorized user of a wearable computing device.
Ⅳ. Claims 38-39 are directed to a method of navigating.
Ⅴ. Claims 40-42 are directed to a method of regulating temperature.
VI. Claim 43 is directed to a method of controlling appliances.
VII. Claims 44-47 are directed to a method of generating an alert.
VIII. Claims 48-50 are directed to a method of determining a sampling rate of a wearable computing device.

1. ☒ As all required addtional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of any additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
☐ No protest accompanied the payment of additional search fees.



Petitioner Samsung Ex-1004, 0823

**Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)**

The present disclosure describes a wearable computing device (WCD) in the form of a ring that can be worn on the finger of a human user. The WCD enables a wearable fitness monitor which is suitable for prolonged usage with accurate results. One aspect of the disclosure provides the WCD comprising an interior wall, an exterior wall, a flexible printed circuit board disposed between the interior wall and the exterior wall, and at least one component disposed on the flexible printed circuit board, wherein at least one of the interior wall and the exterior wall defines a window that facilitates at least one of data transmission, battery recharge, and status indication.



Petitioner Samsung Ex-1004, 0824

**INTERNATIONAL SEARCH REPORT**

International application No.
**PCT/US2014/067823**

**A. CLASSIFICATION OF SUBJECT MATTER**

**G06F 1/16(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

G06F 1/16; A61B 5/01; H04N 7/18; G06F 3/044; A61B 5/021; H04W 24/00; G06F 3/042; G06K 9/00; G06Q 40/00; H04M 3/00; A61B 5/117; A61B 5/0205; G06F 3/041; G01K 7/00; A61B 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & keywords: wearable computing device, data transmission, battery recharge, status indication, photovoltaic element, concentrated light source

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | US 2013-0044215 A1 (FLETCHER R. ROTHKOPF et al.) 21 February 2013<br>See paragraphs [0033], [0037]; claims 1-15; and figures 4A-4B, 6A-6B. | 1-30,32-34 |
| Y | US 2011-0057901 A1 (MATTI RATY et al.) 10 March 2011<br>See paragraphs [0030]-[0050]; and figures 2-5. | 1-30,32-34 |
| X | US 2013-0144176 A1 (RYSZARD M. LEC) 06 June 2013<br>See paragraphs [0027]-[0078]; and figures 1-3. | 31 |
| X | US 2011-0038511 A1 (KIYOAKI TAKIGUCHI) 17 February 2011<br>See paragraphs [0053]-[0065], [0118]-[0124]; claims 1-16; and figures 2-3. | 35-37 |
| X | US 8457654 B1 (JAMES ROSKIND) 04 June 2013<br>See column 3, line 57 - column 5, line 53; column 10, line 62 - column 11, line 43; and figures 1, 6. | 38-39 |
| X | US 2012-0317024 A1 (HOSAIN SADEQUR RAHMAN et al.) 13 December 2012<br>See paragraphs [0046]-[0049], [0056], [0067]-[0069]; and figures 3, 5B, 6C. | 40-42 |
| X | US 2011-0312311 A1 (CHADIA ABIFAKER et al.) 22 December 2011<br>See paragraphs [0040]-[0045], [0053]-[0061]; and figures 1, 3-4. | 43 |

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art

"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 30 April 2015 (30.04.2015) | **30 April 2015 (30.04.2015)** |

Name and mailing address of the ISA/KR
International Application Division
Korean Intellectual Property Office
189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea
Facsimile No. ++82 42 472 7140

Authorized officer
LEE, Dong Yun
Telephone No. +82-42-481-8734

Form PCT/ISA/210 (second sheet) (January 2015)

Petitioner Samsung Ex-1004, 0825

**INTERNATIONAL SEARCH REPORT**

International application No.
**PCT/US2014/067823**

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | US 2012-0220835 A1 (WAYNE CHUNG) 30 August 2012<br>See paragraphs [0027]-[0033], [0038]-[0047]; and figures 1, 3. | 44-47 |
| Y | US 2008-0045806 A1 (BERNHARD KEPPLER) 21 February 2008<br>See paragraphs [0048]-[0050]; claim 1; and figure 1b. | 44-47 |
| X | US 2012-0130203 A1 (STERGIOS STERGIOU et al.) 24 May 2012<br>See paragraphs [0029]-[0046]; claim 7; and figure 3. | 48-50 |



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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.
**PCT/US2014/067823**

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2014/067823**

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2014/067823**

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.
**PCT/US2014/067823**

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Petitioner Samsung Ex-1004, 0830

# PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
LOGINOV, WILLIAM A.

LOGINOV & ASSOCIATES, PLLC 214 SOUTH MAIN STREET CONCORD NH 03301-4844 USA

# PCT

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

**(PCT Rule 43bis.1)**

| | |
|---|---|
| Date of mailing *(day/month/year)* | **30 April 2015 (30.04.2015)** |
| Applicant's or agent's file reference<br>340/0002PCT | **FOR FURTHER ACTION**<br>See paragraph 2 below |

| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
|---|---|---|
| **PCT/US2014/067823** | **28 November 2014 (28.11.2014)** | 29 November 2013 (29.11.2013) |

International Patent Classification (IPC) or both national classification and IPC

***G06F 1/16(2006.01)i***

Applicant
**MECHIO INC. et al**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

| Name and mailing address of the ISA/KR | Date of completion of this opinion | Authorized officer |
|---|---|---|
| International Application Division<br>Korean Intellectual Property Office<br>189 Cheongsa-ro, Seo-gu, Daejeon<br>Metropolitan City, 302-701, Republic of Korea<br>Facsimile No. ++82 42 472 7140 | 30 April 2015 (30.04.2015) | LEE, Dong Yun<br>Telephone No. +82-42-481-8734 |

Form PCT/ISA/237 (cover sheet) (January 2015)

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
**PCT/US2014/067823**

**Box No. I Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of :

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:

   a. ☐ forming part of the international application as filed:
      ☐ in the form of an Annex C/ST.25 text file.
      ☐ on paper or in the form of an image file.

   b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

   c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
      ☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
      ☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:



Petitioner Samsung Ex-1004, 0832

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
**PCT/US2014/067823**

**Box No. IV Lack of unity of invention**

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
   - ☒ paid additional fees
   - ☐ paid additional fees under protest and, where applicable, the protest fee
   - ☐ paid additional fees under protest but the applicable protest fee was not paid
   - ☐ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
   - ☐ complied with
   - ☒ not complied with for the following reasons:

Ⅰ. Claims 1-30, 32-34 are directed to a wearable computing device and its related system.
Ⅱ. Claim 31 is directed to a timepiece system.
Ⅲ. Claims 35-37 are directed to a method of identifying an authorized user of a wearable computing device.
Ⅳ. Claims 38-39 are directed to a method of navigating.
Ⅴ. Claims 40-42 are directed to a method of regulating temperature.
Ⅵ. Claim 43 is directed to a method of controlling appliances.
Ⅶ. Claims 44-47 are directed to a method of generating an alert.
Ⅷ. Claims 48-50 are directed to a method of determining a sampling rate of a wearable computing device.

The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1, because under PCT Rule 13.2 they lack the same or corresponding special technical features for the following reasons: they are separate inventions with distinct fields of search.

4. Consequently, this opinion has been established in respect of the following parts of the international application :
   - ☒ all parts.
   - ☐ the parts relating to claims Nos. _____



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**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
**PCT/US2014/067823**

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Claims | 1-50 | YES |
| | Claims | NONE | NO |
| Inventive step (IS) | Claims | NONE | YES |
| | Claims | 1-50 | NO |
| Industrial applicability (IA) | Claims | 1-50 | YES |
| | Claims | NONE | NO |

2. Citations and explanations :

Reference is made to the following documents:

Reference related to group I, is made to the following documents:
(Note: claims 1-30, 32-34 belong to group 1)
D1: US 2013-0044215 A1 (FLETCHER R. ROTHKOPF et al.) 21 February 2013
D2: US 2011-0057901 A1 (MATTI RATY et al.) 10 March 2011

Reference related to group II, is made to the following document:
(Note: claim 31 belongs to group 2)
D3: US 2013-0144176 A1 (RYSZARD M. LEC) 06 June 2013

Reference related to group III, is made to the following document:
(Note: claims 35-37 belong to group 3)
D4: US 2011-0038511 A1 (KIYOAKI TAKIGUCHI) 17 February 2011

Reference related to group IV, is made to the following document:
(Note: claims 38-39 belong to group 4)
D5: US 8457654 B1 (JAMES ROSKIND) 04 June 2013

Reference related to group V, is made to the following document:
(Note: claims 40-42 belong to group 5)
D6: US 2012-0317024 A1 (HOSAIN SADEQUR RAHMAN et al.) 13 December 2012

Reference related to group VI, is made to the following document:
(Note: claim 43 belongs to group 6)
D7: US 2011-0312311 A1 (CHADIA ABIFAKER et al.) 22 December 2011

Continued on Supplemental Box



Petitioner Samsung Ex-1004, 0834

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
**PCT/US2014/067823**

**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 7 is unclear because "the internal housing" has not been previously defined. Therefore, claim 7 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that "the internal housing" is "the internal housing portion".)

Claim 7 relates to a wearable computing device, but claim 8 dependent on claim 7 relates to the wearable device. As claim 8 does not clearly define the matter for which protection is sought, this claim does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that claim 8 relates to the wearable computing device.)

Claim 9 is worded in reference to the external potting of claim 8. However, the external potting has not been worded in claim 8. Therefore, claim 9 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that the external potting is the transparent external potting.)

Claim 12 is unclear because "the external housing" has not been previously defined. Therefore, claim 12 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that "the external housing" is "the external housing portion".)

Claim 12 relates to a wearable computing device, but claim 13 dependent on claim 12 relates to the wearable device. As claim 13 does not clearly define the matter for which protection is sought, this claim does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that claim 13 relates to the wearable computing device.)

Claim 14 is worded in reference to the internal potting of claim 13. However, the internal potting has not been worded in claim 13. Therefore, claim 14 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that the internal potting is the transparent internal potting.)

Claims 21, 24-25 are worded in reference to the WCD of claim 17. However, the WCD has not been worded in claim 17. Therefore, claims 21, 24-25 do not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that the WCD is the wearable computing device.)

Claim 27 is unclear because "the wearable computing" has not been previously defined. Therefore, claim 27 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that "the wearable computing" is "the wearable computing device".)

Claim 32 relates to a wearable computing device system, but claim 33 dependent on claim 32 relates to the wearable computing system. As claim 33 does not clearly define the matter for which protection is sought, this claim does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that claim 33 relates to the wearable computing device system.)

Claim 39 is worded in reference to the gesture of claim 38. However, the gesture has not been worded in claim 38. Therefore, claim 39 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that the gesture is the gesturing.)

Claim 43 is unclear because "the first direction" has not been previously defined. Therefore, claim 43 does not meet the requirements of PCT Article 6.
(Note: The international search report and the written opinion have been established on the assumption that "the first direction" is "the first appliance".)

Claims 38, 48, 49 do not meet the requirements of PCT Article 6 for the following grammatical reasons:
Claim 38, line 5: "the comparison of the first direction of the predetermined direction" should be replaced with "the comparison of the first direction and the predetermined direction" for clarity.
Claim 48, line 1: "determine" should be replaced with "determining" for clarity.
Claim 48, lines 6-7: "a predetermined activity threshold" should be replaced with "the predetermined activity threshold" for clarity.
Claim 49, line 2: "a predetermined activity threshold" should be replaced with "the predetermined activity threshold" for clarity.



Petitioner Samsung Ex-1004, 0835

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Box No. V

Reference related to group VII, is made to the following documents:
(Note: claims 44-47 belong to group 7)
D8: US 2012-0220835 A1 (WAYNE CHUNG) 30 August 2012
D9: US 2008-0045806 A1 (BERNHARD KEPPLER) 21 February 2008

Reference related to group VIII, is made to the following document:
(Note: claims 48-50 belong to group 8)
D10: US 2012-0130203 A1 (STERGIOS STERGIOU et al.) 24 May 2012

1. Novelty (PCT Article 33(2)) and Inventive Step (PCT Article 33(3))

1.1. Claims 1-6

1.1.1. Independent claim 1

Claim 1 is an independent claim and relates to a wearable computing device.

D1, which is considered to be the closest prior art to the subject matter of claim 1, discloses a wearable video device comprising:
a flexible substrate (see claim 1 in D1); and
an electronic module (see claim 1 in D1).

The subject matter of claim 1 differs from that of D1 in the features of an interior wall and an exterior wall, wherein at least one of the interior wall and the exterior wall defines a window that facilitates at least one of data transmission, battery recharge, and status indication. However, the different features can be easily derived from the feature of D2 considering a base (see paragraph [0030] in D2) and an external surface (see paragraph [0031] in D2) and the feature of D1 considering a user interface configured to transmit at least a portion of a user input and recharge a battery (see claims 14-15 in D1). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 1 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.1.2. Dependent claims 2-6

The additional features of claims 2-3, dependent on claim 1, can be merely matters of

Continued on The Next Page



Petitioner Samsung Ex-1004, 0836

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

design option in view of the feature of D1 considering the user interface (see claim 14 in D1).

The additional features of claims 4-6, directly or indirectly dependent on claim 1, can be merely matters of design option in view of the feature of D1 considering the user interface configured to transmit at least the portion of the user input and recharge the battery (see claims 14-15 in D1).

Accordingly, claims 2-6 would have been obvious over D1 in view of D2. Therefore, claims 2-6 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.2. Claims 7-11

1.2.1. Independent claim 7

Claim 7 is an independent claim and relates to a wearable computing device.

D1, which is considered to be the closest prior art to the subject matter of claim 7, discloses a wearable video device comprising:
a flexible substrate (see claim 1 in D1);
an electronic module (see claim 1 in D1); and
a fabric covering which covers the electronic module (see paragraph [0033] in D1).

The subject matter of claim 7 differs from that of D1 in the feature of an internal housing portion configured to be disposed near a finger of a user. However, the different feature can be merely a matter of design option in view of the feature of D2 considering a base for contacting a user's body (see paragraph [0030] in D2). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 7 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.2.2. Dependent claims 8-11

The additional feature of claim 8, dependent on claim 7, can be easily derived from the feature of D2 considering an input area (see paragraph [0033] in D2).

Continued on The Next Page



Petitioner Samsung Ex-1004, 0837

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

The additional feature of claim 9, dependent on claim 8, can be easily derived from the feature of D2 considering an LED (see paragraph [0038] in D2).

The additional feature of claim 10, dependent on claim 8, can be easily derived from the feature of D2 considering photovoltaic panels as part of optical sensors (see paragraph [0050] in D2).

The additional feature of claim 11, dependent on claim 8, can be merely a matter of design option in view of the feature of D1 considering the flexible substrate having a curled state (see claim 1 in D1).

Accordingly, claims 8-11 would have been obvious over D1 in view of D2. Therefore, claims 8-11 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.3. Claims 12-16

1.3.1. Independent claim 12

Claim 12 is an independent claim and relates to a wearable computing device.

D1, which is considered to be the closest prior art to the subject matter of claim 12, discloses a wearable video device comprising:
a flexible substrate (see claim 1 in D1);
an electronic module (see claim 1 in D1); and
a fabric covering which covers the electronic module (see paragraph [0033] in D1).

The subject matter of claim 12 differs from that of D1 in the feature of an external housing portion. However, the different feature can be easily derived from the feature of D2 considering an external surface (see paragraph [0031] in D2). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 12 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.3.2. Dependent claims 13-16

The additional feature of claim 13, dependent on claim 12, can be easily derived from the

Continued on The Next Page



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**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

feature of D2 considering a base (see paragraph [0030] in D2).

The additional feature of claim 14, dependent on claim 13, can be easily derived from the feature of D2 considering an LED (see paragraph [0038] in D2).

The additional feature of claim 15, dependent on claim 13, can be easily derived from the feature of D2 considering photovoltaic panels as part of optical sensors (see paragraph [0050] in D2).

The additional feature of claim 16, dependent on claim 13, can be merely a matter of design option in view of the feature of D1 considering the flexible substrate having a curled state (see claim 1 in D1).

Accordingly, claims 13-16 would have been obvious over D1 in view of D2. Therefore, claims 13-16 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.4. Claims 17-26

1.4.1. Independent claim 17

Claim 17 is an independent claim and relates to a system.

D1, which is considered to be the closest prior art to the subject matter of claim 17, discloses a wearable video device comprising ambient light energy collectors (see paragraph [0037]; and claim 1 in D1).

The subject matter of claim 17 differs from that of D1 in the feature of a base assembly, the base assembly including a concentrated light source directed at a photovoltaic element. However, the different feature can be merely a matter of design option in view of the feature of D2 considering a light element, such as an LED, wherein light emitted by the LED traverses an optical element and part of it reflects back from a finger such that an optical sensor may detect it (see paragraph [0038] in D2). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 17 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

Continued on The Next Page



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**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

1.4.2. Dependent claims 18-26

The additional feature of claim 18, dependent on claim 17, can be merely a matter of design option in view of the feature of D2 considering fastening means (see paragraph [0030] in D2).

The additional feature of claim 19, dependent on claim 17, can be merely a matter of design option in view of the feature of D2 considering the light element (see paragraph [0038] in D2).

The additional feature of claim 20, dependent on claim 17, can be easily derived from the feature of D2 considering the LED (see paragraph [0038] in D2).

The additional feature of claim 21, dependent on claim 17, can be merely a matter of design option in view of the feature of D2 considering an input area (see paragraph [0033] in D2).

The additional features of claims 22-23, directly or indirectly dependent on claim 17, can be merely matters of design option in view of the feature of D2 considering the optical element (see paragraph [0038] in D2).

The additional feature of claim 24, dependent on claim 17, can be easily derived from the feature of D2 considering the input area (see paragraph [0033] in D2).

The additional feature of claim 25, dependent on claim 17, can be merely a matter of design option in view of the feature of D2 considering a base for contacting a user's body (see paragraph [0030] in D2).

The additional feature of claim 26, dependent on claim 17, can be easily derived from the feature of D2 considering photovoltaic panels as part of the optical sensor (see paragraph [0050] in D2).

Accordingly, claims 18-26 would have been obvious over D1 in view of D2. Therefore, claims 18-26 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

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**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

1.5. Claims 27-30

1.5.1. Independent claim 27

Claim 27 is an independent claim and relates to an enclosure for a wearable computing device.

D1, which is considered to be the closest prior art to the subject matter of claim 27, discloses a wearable video device comprising ambient light energy collectors (see paragraph [0037]; and claim 1 in D1).

The subject matter of claim 27 differs from that of D1 in the features of a base and an optical element configured to direct incident electromagnetic radiation to a photovoltaic cell. However, the different features can be easily derived from the feature of D2 considering a base (see paragraph [0030] in D2) and an optical element that receives light and delivers the light to an optical sensor, wherein the light refers to electromagnetic waves (see paragraph [0033] in D2). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 27 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.5.2. Dependent claims 28-30

The additional feature of claim 28, dependent on claim 27, can be merely a matter of design option in view of the feature of D2 considering fastening means (see paragraph [0030] in D2).

The additional features of claims 29-30, directly or indirectly dependent on claim 27, can be merely matters of design option in view of the feature of D2 considering the optical element (see paragraph [0038] in D2).

Accordingly, claims 28-30 would have been obvious over D1 in view of D2. Therefore, claims 28-30 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

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**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
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1.6. Independent claim 31

Claim 31 is an independent claim and relates to a timepiece system.

D3, which is considered to be the closest prior art to the subject matter of claim 31, discloses a wrist watch (see paragraph [0027] in D3).

The subject matter of claim 31 differs from that of D3 in the feature of a timepiece computing device. However, the different feature can be merely a matter of design option in view of the feature of D3 considering a computing environment having a memory and a piezoelectric transducer located on an underside of a display (see paragraphs [0045], [0068] in D3). Accordingly, claim 31 would have been obvious over D3. Therefore, claim 31 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.7. Claims 32-34

1.7.1. Independent claim 32

Claim 32 is an independent claim and relates to a wearable computing device system.

D1, which is considered to be the closest prior art to the subject matter of claim 32, discloses an accessory device comprising:
a flexible display and a flexible electronic module (see paragraph [0033] in D1); and
a bi-stable spring (see paragraph [0033] in D1).

The subject matter of claim 32 differs from that of D1 in the feature of an optical element. However, the different feature can be easily derived from the feature of D2 considering an optical element that receives light and delivers the light to an optical sensor, wherein the light refers to electromagnetic waves (see paragraph [0033] in D2). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 32 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.7.2. Dependent claims 33-34

The additional features of claims 33-34, directly or indirectly dependent on claim 32, can be merely matters of design option in view of the feature of D1 considering that the flexible display and the flexible electronic module are attached to the bi-stable spring (see

Continued on The Next Page



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**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of : Previous Page

paragraph [0033] in D1). Accordingly, claims 33-34 would have been obvious over D1 in view of D2. Therefore, claims 33-34 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.8. Claims 35-37

1.8.1. Independent claim 35

Claim 35 is an independent claim and relates to a method of identifying an authorized user of a wearable computing device.

D4, which is considered to be the closest prior art to the subject matter of claim 35, discloses a method comprising:
emitting near-infrared source light toward a part of a person, the part having an epidermal layer and a deep layer beneath the epidermal layer (see claim 13 in D4); and
detecting scattered light which is a portion of the source light that has penetrated the epidermal layer and is scattered by tissue in the deep layer (see claim 13 in D4).

The subject matter of claim 35 differs from that of D4 in the feature of generating a reference capillary map corresponding to a user based at least in part on at least one image. However, the different feature can be merely a matter of design option in view of the feature of D4 considering blood vessel information previously stored (see claim 1 in D4). Accordingly, claim 35 would have been obvious over D4. Therefore, claim 35 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.8.2. Dependent claims 36-37

The additional feature of claim 36, dependent on claim 35, can be easily derived from the feature of D4 considering that the near-infrared source light emitted is cast in multiple directions towards multiple regions of the part of the person (see claim 11 in D4).

The additional feature of claim 37, dependent on claim 35, can be easily derived from the feature of D4 considering authenticating an identity of the person associated with the part based on a comparison of the scattered light detected and the blood vessel information previously stored (see claim 1 in D4).

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**Supplemental Box**

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Accordingly, claims 36-37 would have been obvious over D4. Therefore, claims 36-37 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.9. Claims 38-39

1.9.1. Independent claim 38

Claim 38 is an independent claim and relates to a method of navigating.

D5, which is considered to be the closest prior art to the subject matter of claim 38, discloses a method comprising:
comparing a detected direction to an identified desired physical destination (see column 11, lines 12-26; and figure 6 in D5); and
providing a user with at least one indication that the detected direction is consistent with the desired physical destination if the detected direction is consistent with the desired physical destination (see column 11, lines 27-43; and figure 6 in D5).

The subject matter of claim 38 differs from that of D5 in the feature of gesturing in a first direction while wearing a wearable computing device. However, the different feature can be easily derived from the feature of D5 considering detecting a direction in which at least one defined portion of a mobile device is pointed, wherein the mobile device is a wearable computing device (see column 3, line 65 - column 4, line 3; column 11, lines 3-11; and figure 6 in D5). Accordingly, claim 38 would have been obvious over D5. Therefore, claim 38 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.9.2. Dependent claim 39

The additional feature of claim 39, dependent on claim 38, can be merely a matter of design option in view of the feature of D5 considering detecting the direction in which the at least one defined portion of the wearable computing device is pointed (see column 3, line 65 - column 4, line 3; column 11, lines 3-11; and figure 6 in D5). Accordingly, claim 39 would have been obvious over D5. Therefore, claim 39 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

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Petitioner Samsung Ex-1004, 0844

**Supplemental Box**

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1.10. Claims 40-42

1.10.1. Independent claim 40

Claim 40 is an independent claim and relates to a method of regulating temperature.

D6, which is considered to be the closest prior art to the subject matter of claim 40, discloses a method comprising:
capturing a skin temperature (see paragraph [0056] in D6); and
capturing an ambient temperature (see paragraph [0056] in D6).

The subject matter of claim 40 differs from that of D6 in the features of comparing a skin temperature to a predetermined threshold temperature and adjusting an ambient temperature based in part on the comparison. However, the different features can be easily derived from the feature of D6 considering detecting an increase in a body temperature (see paragraph [0068] in D6) and adjusting the ambient temperature (see paragraph [0068] in D6). Accordingly, claim 40 would have been obvious over D6. Therefore, claim 40 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.10.2. Dependent claims 41-42

The additional feature of claim 41, dependent on claim 40, can be merely a matter of design option in view of the feature of D6 considering a temperature sensor (see paragraph [0068] in D6).

The additional feature of claim 42, dependent on claim 41, can be merely a matter of design option in view of the feature of D6 considering an environmental sensor (see paragraph [0046] in D6).

Accordingly, claims 41-42 would have been obvious over D6. Therefore, claims 41-42 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.11. Independent claim 43

Claim 43 is an independent claim and relates to a method of controlling appliance.

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Petitioner Samsung Ex-1004, 0845

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**
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D7, which is considered to be the closest prior art to the subject matter of claim 43, discloses a method comprising:
obtaining a location of a controllable device (see paragraph [0058] in D7); and
associating an orientation of a mobile device with a direction toward the location of the controllable device and initiating one or more commands based on characterized gestures and/or physical acts (see paragraphs [0054], [0060] in D7).

The subject matter of claim 43 differs from that of D7 in the features of identifying a direction of a first appliance via a wearable computing device and issuing a controlling command to the first appliance based in part on an identified direction of a gesture. However, the different features can be easily derived from the feature of D7 considering selecting the controllable device for receiving the one or more commands responsive to the orientation of the mobile device in the direction toward the location of the controllable device, wherein the mobile device is a wearable computer (see paragraphs [0041], [0061] in D7) and initiating transmission of the one or more commands to the selected controllable device (see paragraph [0057] in D7). Accordingly, claim 43 would have been obvious over D7. Therefore, claim 43 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.12. Claims 44-47

1.12.1. Independent claim 44

Claim 44 is an independent claim and relates to a method of generating an alert.

D8, which is considered to be the closest prior art to the subject matter of claim 44, discloses a method comprising:
transmitting physiological data (see paragraph [0039] in D8);
comparing a sensor reading to a known baseline standard generated from a population of healthy people (see paragraph [0033] in D8); and
transmitting an alarm signal on detection of a potential abnormality, wherein the potential abnormality can be determined by comparing the sensor reading to the known baseline standard (see paragraphs [0033], [0041] in D8).

The subject matter of claim 44 differs from that of D8 in the features of authenticating a first wearer of a first wearable computing device as a first authenticated user and associating first biometric data with a first profile associated with the first wearer of the

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Petitioner Samsung Ex-1004, 0846

**Supplemental Box**

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first wearable computing device. However, the different features can be easily derived from the feature of D9 considering sensing biometric characteristic data of an individual and determining whether the individual is registered (see claim 1 in D9) and can be merely a matter of design option in view of the feature of D9 considering physiological characteristic data of the individual (see claim 1 in D9). Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D8 and D9, thereby arriving at the claim. Therefore, claim 44 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.12.2. Dependent claims 45-47

The additional feature of claim 45, dependent on claim 44, can be easily derived from the feature of D8 considering a heart rate and ECG signals (see paragraph [0033] in D8).

The additional features of claims 46-47, directly or indirectly dependent on claim 44, can be merely matters of design option in view of the feature of D8 considering the population of healthy people (see paragraph [0033] in D8).

Accordingly, claims 45-47 would have been obvious over D8 in view of D9. Therefore, claims 45-47 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

1.13. Claims 48-50

1.13.1. Independent claim 48

Claim 48 is an independent claim and relates to a method of determining a sampling rate of a wearable computing device.

D10, which is considered to be the closest prior art to the subject matter of claim 48, discloses a method comprising:
measuring a stimulus by a sensor, wherein the sensor is part of a ring that is wearable by a person (see paragraph [0039]; and claim 7 in D10).

The subject matter of claim 48 differs from that of D10 in the features of comparing an activity level to a predetermined activity threshold and increasing a first sensor sampling rate if the activity level is above the predetermined activity threshold. However, the

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Petitioner Samsung Ex-1004, 0847

**Supplemental Box**

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different features can be merely matters of design option in view of the feature of D10 considering that if the stimulus falls outside a threshold range, the sensor may increase or decrease its sampling rate in response (see paragraph [0039] in D10). Accordingly, claim 48 would have been obvious over D10. Therefore, claim 48 is novel under PCT Article 33(2), but lacks an inventive step under PCT Article 33(3).

1.13.2. Dependent claims 49-50

The additional feature of claim 49, dependent on claim 48, can be merely a matter of design option in view of the feature of D10 considering that if the stimulus falls outside the threshold range, the sensor may increase or decrease its sampling rate in response (see paragraph [0039] in D10).

The additional feature of claim 50, dependent on claim 49, can be merely a matter of design option in view of the feature of D10 considering the threshold range (see paragraph [0039] in D10).

Accordingly, claims 49-50 would have been obvious over D10. Therefore, claims 49-50 are novel under PCT Article 33(2), but lack an inventive step under PCT Article 33(3).

2. Industrial Applicability (PCT Article 33(4))

The subject matters of claims 1-50 are considered to be industrially applicable and meet the requirement of PCT Article 33(4).



Petitioner Samsung Ex-1004, 0848

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 22221469 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 30-APR-2015 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 16:19:08 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Information Disclosure Statement (IDS) Form (SB08) | MechioIDS20002.pdf | 612123<br>2648709e8dbaceecb69af0ffa6d2df2d891199fe | no | 5 |

| | |
|---|---|
| **Warnings:** | |
| **Information:** | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Non Patent Literature | MechioSearchReport0002PCT.pdf | 2043825<br>4439a064f71863095494b8cbc7069fced6eb6fec | no | 29 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | | **Total Files Size (in bytes):** | 2655948 | |

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**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/556,062

### APPLICATION AS FILED - PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY FEE($) |
|---|---|---|---|---|---|---|---|
| BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | 70 | | N/A | |
| SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | 300 | | N/A | |
| EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | 360 | | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | 50 minus 20 = | * 30 | x 40 = | 1200 | OR | | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | 13 minus 3 = | * 10 | x 210 = | 2100 | | | |
| APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | 0.00 | | | |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | 0.00 | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | 4030 | | TOTAL | |

### APPLICATION AS AMENDED - PART II

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT A | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE($) | ADDITIONAL FEE($) | OR | RATE($) | ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT B | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**NOTICE**

*OC000000074924393*

Date Mailed: 05/01/2015

## INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Curt C. von Badinski
  Michael J. Strasser
  Peter Twiss



Petitioner Samsung Ex-1004, 0852

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| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | 2668 | 4100 | 340/0002 | 50 | 13 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**UPDATED FILING RECEIPT**

*OC000000074924392*

Date Mailed: 05/01/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Curt C. von Badinski, Valencia, CA;
Michael J. Strasser, San Francisco, CA;
Peter Twiss, Lakewood, CA;

**Applicant(s)**

Mechio Inc., San Francisco, CA

**Power of Attorney:** None

**Domestic Priority data as claimed by applicant**

This appln claims benefit of 61/910,201 11/29/2013
and claims benefit of 62/006,835 06/02/2014

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

**If Required, Foreign Filing License Granted:** 12/11/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/556,062**
**Projected Publication Date:** 08/06/2015
**Non-Publication Request:** No



Petitioner Samsung Ex-1004, 0853

**Early Publication Request:** No
** **SMALL ENTITY** **
**Title**

WEARABLE COMPUTING DEVICE

**Preliminary Class**

382

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

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Petitioner Samsung Ex-1004, 0854

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## Title 37, Code of Federal Regulations, 5.11 & 5.15

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I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with the Customer Number: 77099

*OR*

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name Registration | Number | Name Registration | Number |
|---|---|---|---|
| | | | |
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| | | | |

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: 77099

*OR*

| | | | |
|---|---|---|---|
| [ ] Firm or Individual Name | | | |
| Address | | | |
| City | | State | Zip |
| Country | | | |
| Telephone | | Email | |

Assignee Name and Address:

Mechio, Inc.
179 11th Street, 3rd Floor
San Francisco, CA 94103

**A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**
The individual whose signature and title is supplied below is authorized to act on the behalf of the assignee

| | | | |
|---|---|---|---|
| Signature | | Date | 3/19/2015 |
| Name | Michael J. Strasser | Telephone | 415-235-2233 |
| Title | CEO | | |

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CRF 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**STATEMENT UNDER 37 CFR 3.73(c)**

Applicant/Patent Owner: von Badinski et al.

Application No./Patent No.: 14/556,062 Filed/Issue Date: 11/28/2014

Titled: WEARABLE COMPUTING DEVICE

Mechio Inc., a corporation,
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. [X] The assignee of the entire right, title, and interest.

2. [ ] An assignee of less than the entire right, title and interest (check applicable box):

   [ ] The extent (by percentage) of its ownership interest is _____ %. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   [ ] There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. [ ] The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. [ ] The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in United States Patent and Trademark Office at Reel 035478, Frame 0396, or for which a copy thereof is attached.

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____
      The document was recorded in the United States Patent and Trademark Office at
      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____
      The document was recorded in the United States Patent and Trademark Office at
      Reel _____, Frame _____, or for which a copy thereof is attached.



This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

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**STATEMENT UNDER 37 CFR 3.73(c)**

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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6. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.



| | |
|---|---|
| Signature | April 28, 2015<br>Date |
| William A. Loginov<br>Printed or Typed Name | 34863<br>Title or Registration Number |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 22325422 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 12-MAY-2015 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 16:32:43 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | | MechioExecutedDecs0002.pdf | 2123096<br>988585389578cd89ffb8e8ca5138ed5c1d19ee01 | yes | 3 |

| | Multipart Description/PDF files in .zip description | | |
|---|---|---|---|
| | **Document Description** | **Start** | **End** |
| | Oath or Declaration filed | 1 | 1 |
| | Oath or Declaration filed | 2 | 2 |
| | Oath or Declaration filed | 3 | 3 |

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| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Transmittal Letter | MechioPOATransmittal0002.pdf | 85083<br>e983a2d1d36c962fb4e19517e66649857d5ca7f1 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Power of Attorney | MechioExecutedPOA0002.pdf | 702839<br>a746ae3f4214fc80e7f96642813ce5a9b70df809 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Assignee showing of ownership per 37 CFR 3.73 | Mechio373cStmt0002.pdf | 90446<br>946a612ff64c7265f95aa8afb6a2e66c589ca4d9 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 3001464 | | |

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**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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# DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATIONS USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| | |
|---|---|
| **Title of Invention** | WEARABLE COMPUTING DEVICE |

As the below named inventor, I hereby declare that:

This declaration is directed to:

[ ] The attached application, or

[X] United States application or PCT international application number 14/556,062 filed on November 28, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

## WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published applications or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Curt C. von Badinski Date (Optional): 4/1/2015

Signature: Curt von Badinski

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comment on the amount of time you required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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# DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATIONS USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| | |
|---|---|
| **Title of Invention** | WEARABLE COMPUTING DEVICE |

As the below named inventor, I hereby declare that:

This declaration is directed to:

[ ] The attached application, or

[X] United States application or PCT international application number 14/556,062 filed on November 28, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Michael J. Strasser Date (Optional): 3/19/15

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comment on the amount of time you required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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|---|---|
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[X] United States application or PCT international application number 14/556,062 filed on November 28, 2014.

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LEGAL NAME OF INVENTOR

Inventor: Peter Twiss Date (Optional): 3/23/2015

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comment on the amount of time you required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Doc Code: PA..
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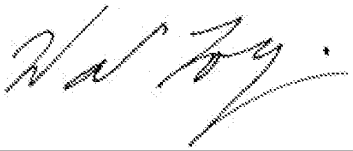
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| | |
|---|---|
| Application Number | 14/556,062 |
| Filing Date | 11/28/2014 |
| First Named Inventor | von Badinski et al. |
| Title | WEARABLE COMPUTING DEVICE |
| Art Unit | 2668 |
| Examiner Name | |
| Attorney Docket Number | 340/0002 |

**SIGNATURE of Applicant or Patent Practitioner**

| | | | |
|---|---|---|---|
| Signature |  | Date (Optional) | |
| Name | William A. Loginov | Registration Number | 34863 |
| Title (if Applicant is a juristic entity) | | | |
| Applicant Name (if Applicant is a juristic entity) | | | |

**NOTE**: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

[X] *Total of 1 forms are submitted.

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**POA ACCEPTANCE LETTER**

*OC000000075166588*

Date Mailed: 05/15/2015

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/12/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ngfissha/



Petitioner Samsung Ex-1004, 0865

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Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**PUBLICATION NOTICE**

*OC000000076720517*

**Title:**WEARABLE COMPUTING DEVICE

**Publication No.**US-2015-0220109-A1
**Publication Date:**08/06/2015

## NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



Petitioner Samsung Ex-1004, 0866

PLUS Search Results for S/N 14556062, Searched Thu Jan 21 12:24:58 EST 2016

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

77099 7590 02/18/2016
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

| EXAMINER | |
|---|---|
| HUNNINGS, TRAVIS R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2689 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 02/18/2016 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

wloginov@loginovlaw.com
kdraus@loginovlaw.com
mstevenosky@loginovlaw.com



Petitioner Samsung Ex-1004, 0868

| Office Action Summary | Application No. 14/556,062 | Applicant(s) VON BADINSKI ET AL. | |
|---|---|---|---|
| | Examiner TRAVIS HUNNINGS | Art Unit 2689 | AIA (First Inventor to File) Status Yes |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11/28/14*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5)☒ Claim(s) *1-50* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☐ Claim(s) _____ is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☒ Claim(s) *1-50* are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.



Petitioner Samsung Ex-1004, 0869

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-16, drawn to a wearable computing device.

II. Claims 17-26 and 32-34, drawn to a wearable computing device with a base or frame.

III. Claims 27-30, drawn to a wearable computing device enclosure.

IV. Claim 31, drawn to a timepiece.

V. Claims 35-37, drawn to a method of identifying an authorized user.

VI. Claims 38-39, drawn to a method for navigating.

VII. Claims 40-42, drawn to a method for regulating temperature.

VIII. Claim 43, drawn to a method for controlling appliances.

IX. Claims 44-47, drawn to a method for generating an alert.

X. Claims 48-50, drawn to a method for determining a sampling rate.The inventions are distinct, each from the other because of the following reasons:

2. Inventions I-X are directed to related but distinct inventions. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have a materially different design and/or mode of

operation. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required.

4. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of an invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable

over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other invention.

5. A telephone call was made to William Loginov on 2/2/2016 to request an oral election to the above restriction requirement, but did not result in an election being made.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be corrected in compliance with 37 CFR 1.48(a) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. A request to correct inventorship under 37 CFR 1.48(a) must be accompanied by an application data sheet in accordance with 37 CFR 1.76 that identifies each inventor by his or her legal name and by the processing fee required under 37 CFR 1.17(i).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS HUNNINGS whose telephone number is (571)272-3118. The examiner can normally be reached on 9:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer M. Stone can be reached on (571) 272-2976. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRAVIS HUNNINGS/
Primary Examiner.Art Unit 2689

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

# BIB DATA SHEET

**CONFIRMATION NO. 8229**

| SERIAL NUMBER | FILING or 371(c) DATE | CLASS | GROUP ART UNIT | ATTORNEY DOCKET NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014<br>RULE | 340 | 2689 | 340/0002 |

**APPLICANTS**
Mechio Inc., San Francisco, CA;

**INVENTORS**
Curt C. von Badinski, Valencia, CA;
Michael J. Strasser, San Francisco, CA;
Peter Twiss, Lakewood, CA;

**** CONTINUING DATA ***************************
This appln claims benefit of 61/910,201 11/29/2013
and claims benefit of 62/006,835 06/02/2014

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
12/11/2014

| Foreign Priority claimed | 35 USC 119(a-d) conditions met | Verified and Acknowledged | Met after Allowance | STATE OR COUNTRY | SHEETS DRAWINGS | TOTAL CLAIMS | INDEPENDENT CLAIMS |
|---|---|---|---|---|---|---|---|
| ☐ Yes ☑ No | ☐ Yes ☑ No | /TRAVIS HUNNINGS/ Examiner's Signature | ☐ Initials | CA | 64 | 50 | 13 |

**ADDRESS**

LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301
UNITED STATES

**TITLE**

WEARABLE COMPUTING DEVICE

| FILING FEE RECEIVED | FEES: Authority has been given in Paper | |
|---|---|---|
| 4100 | No._____ to charge/credit DEPOSIT ACCOUNT<br>No._____ for following: | ☐ All Fees<br>☐ 1.16 Fees (Filing)<br>☐ 1.17 Fees (Processing Ext. of time)<br>☐ 1.18 Fees (Issue)<br>☐ Other _____<br>☐ Credit |



Petitioner Samsung Ex-1004, 0874

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
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**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**
**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2668 |
| Examiner Name | |
| Attorney Docket Number | 340/0002 |

**U.S.PATENTS** Remove

| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|---|
| | 1 | 4407295 | | 1983-08-04 | Steuer, et al. | |
| | 2 | 5191891 | | 1993-03-09 | Righter | |
| | 3 | 5490523 | | 1996-02-13 | Isaacson, et al. | |
| | 4 | 6255800 | B1 | 2001-07-03 | Bork | |
| | 5 | 6277079 | B1 | 2001-08-21 | Avicola, et al. | |
| | 6 | 7427979 | B2 | 2008-09-23 | Park, et al. | |
| | 7 | 7444001 | B2 | 2008-10-28 | Roberts, et al. | |
| | 8 | 8346327 | B2 | 2013-01-01 | Campbell, et al. | |

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
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| | Application Number | 14556062 |
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| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

| | | | | | | |
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| | 9 | 8373656 | B2 | 2013-02-12 | Hou, et al. | |
| | 10 | 8515506 | B2 | 2013-08-20 | Ridder, et al. | |
| | 11 | 8554297 | B2 | 2013-10-08 | Moon, et al. | |
| | 12 | 8570372 | B2 | 2013-10-29 | Russell | |
| | 13 | 8583167 | B2 | 2013-11-12 | Chun | |
| | 14 | 8626249 | B2 | 2014-01-07 | Ungari, et al. | |
| | 15 | 8638190 | B1 | 2014-01-28 | Want, et al. | |

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| Examiner Initial* | Cite No | Publication Number | Kind Code[1] | Publication Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|---|
| | 1 | 20020156352 | A1 | 2002-10-24 | Eggers | |
| | 2 | 20030142065 | A1 | 2003-07-31 | Pahlavan | |

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| Art Unit | 2668 |
| Examiner Name | |
| Attorney Docket Number | 340/0002 |

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|---|---|---|---|---|---|---|
| | 3 | 20050038348 | A1 | 2005-02-17 | Avicola, et al. | |
| | 4 | 20060046709 | A1 | 2006-03-02 | Krumm, et al. | |
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| | 8 | 20110070829 | A1 | 2011-03-24 | Griffin, et al. | |
| | 9 | 20120218184 | A1 | 2012-08-30 | Wissmar | |
| | 10 | 20120254809 | A1 | 2012-10-04 | Yang, et al. | |
| | 11 | 20130167221 | A1 | 2013-06-27 | Vukoszavlyev, et al. | |
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| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 14 | 20130261771 | A1 | 2013-10-03 | Ten Kate | |
| | 15 | 20130271069 | A1 | 2013-10-17 | Partovi | |

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|---|---|---|---|---|---|---|---|---|
| | 1 | 2660680 | EP | A1 | 2013-11-06 | Turkiewicz, et al. | | ☐ |
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| Examiner Initials* | Cite No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | T[5] |
|---|---|---|---|

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|---|---|---|
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| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

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| | 1 | | ☐ |

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**EXAMINER SIGNATURE**

| | | | |
|---|---|---|---|
| Examiner Signature | /TRAVIS R HUNNINGS/ | Date Considered | 02/04/2016 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2015-01-12 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.


ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

Petitioner Samsung Ex-1004, 0881

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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| **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( **Not for submission under 37 CFR 1.99**) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

| **U.S.PATENTS** | | | | | | Remove |
|---|---|---|---|---|---|---|
| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
| | 1 | 8457654 | B1 | 2013-06-04 | Roskind | |
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|---|---|---|---|---|---|---|
| Examiner Initial* | Cite No | Publication Number | Kind Code[1] | Publication Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
| | 1 | 20080045806 | A1 | 2008-02-21 | Keppler | |
| | 2 | 20110038511 | A1 | 2011-02-17 | Takiguchi | |
| | 3 | 20110057901 | A1 | 2011-03-10 | Raty, et al. | |
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| | 5 | 20120130203 | A1 | 2012-05-24 | Stergiou, et al. | |



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| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 6 | 20120220835 | A1 | 2012-08-30 | Chung | |
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| | 8 | 2013044215 | A1 | 2013-02-21 | Rothkopf, et al. | |
| | 9 | 20130144176 | A1 | 2013-06-06 | Lec | |

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|---|---|---|---|---|---|---|---|---|
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| Examiner Initials* | Cite No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | T[5] |
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| | 1 | | ☐ |

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**EXAMINER SIGNATURE**

| Examiner Signature | /TRAVIS R HUNNINGS/ | Date Considered | 02/04/2016 |
|---|---|---|---|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2668 |
| Examiner Name | |
| Attorney Docket Number | 340/0002 |

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

| | | |
|---|---|---|
| **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( **Not for submission under 37 CFR 1.99)** | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2668 |
| | Examiner Name | |
| | Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2015-04-30 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.


ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

Petitioner Samsung Ex-1004, 0886

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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| **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( **Not for submission under 37 CFR 1.99)** | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

**U.S.PATENTS** Remove

| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
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|---|---|---|---|---|---|---|
| | 1 | 20120323521 | A1 | 2012-12-20 | De Foras, et al. | |
| | 2 | 20130033418 | A1 | 2013-02-07 | Bevilacqua, et al. | |
| | 3 | 20130186962 | A1 | 2013-07-25 | Kennett, et al. | |
| | 4 | 20130314028 | A1 | 2013-11-28 | Tseng | |

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| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

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| | 1 | | |

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**EXAMINER SIGNATURE**

| Examiner Signature | | Date Considered | |
|---|---|---|---|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
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| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

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The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

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| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2016-04-01 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

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Petitioner Samsung Ex-1004, 0889

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



Petitioner Samsung Ex-1004, 0890

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25388977 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 04-APR-2016 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 15:24:55 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Information Disclosure Statement (IDS) Form (SB08) | MechioIDS30002.pdf | 1009386<br>9c965768a89cdb923cd2d131706de84611b5f248 | no | 4 |

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| **Information:** | |

| Total Files Size (in bytes): | 1009386 |
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): von Badinski, et al.<br>Application No.: 14/556,062<br>Filed: 11/28/2014<br>Title: WEARABLE COMPUTING DEVICE<br>Attorney Docket No.: 340/0002 | Art Unit:<br>2689<br>Examiner:<br>Travis Hunnings |

Loginov & Associates, PLLC
214 South Main Street
Concord, NH 03301
April 18, 2016

Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**RESTRICTION REQUIREMENT UNDER 37 CFR 1.142**

Dear Sir:

In response to the Restriction Requirement mailed February 18, 2016 applicant hereby elects Group I for prosecution on the merits. This election is made without traverse.



Petitioner Samsung Ex-1004, 0893

## REMARKS

This paper is responsive to the Restriction Requirement mailed February 18, 2016. This election is made without traverse and hereby addresses the issues raised by the Examiner.

The Examiner has identified ten distinct groups of claims, and required Applicant to elect a single group of claims. Accordingly, Applicant has elected Group I, as identified by the Examiner, comprising claims 1-16 of the originally filed application. Applicant explicitly reserves the right to rejoinder of any non-elected claims upon allowance of a generic linking claim. Applicant also explicitly reserves the right to file one or more divisional and/or continuation applications directed to non-elected claim features or any other subject matter disclosed in the present application.



Petitioner Samsung Ex-1004, 0894

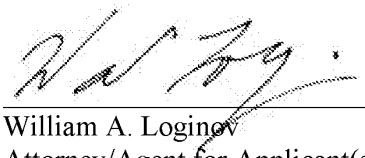
## Conclusion

The claims should now be in condition for allowance with each of the objections and/or rejections being addressed or traversed. Accordingly applicant respectfully requests the Examiner to issue a Notice of Allowance at the earliest possible date.

Should any unresolved issues remain that require further attention, it is respectfully requested that the Examiner telephone the undersigned attorney for applicant at 603-336-3026 so that such issues may be resolved as expeditiously as possible.

Please charge any fee or fee deficiency that is otherwise unpaid to Deposit Account Number 504479.

Respectfully Submitted,



William A. Loginov
Attorney/Agent for Applicant(s)
Reg. No. 34863

William A. Loginov
214 South Main Street
Concord, NH 03301-4844
Tel. 603-336-3026



Petitioner Samsung Ex-1004, 0895

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25521336 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Nathaniel Wickliffe |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 18-APR-2016 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 16:00:58 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Response to Election / Restriction Filed | MechioRespRestReq0002.pdf | 72986<br>dc92c6013611004 8c856173b07014ffbaad7c020 | no | 3 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| Total Files Size (in bytes): | 72986 |
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

77099 7590 05/18/2016
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

| EXAMINER | |
|---|---|
| HUNNINGS, TRAVIS R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2689 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 05/18/2016 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

wloginov@loginovlaw.com
kdraus@loginovlaw.com
mstevenosky@loginovlaw.com



Petitioner Samsung Ex-1004, 0898

| Office Action Summary | Application No. 14/556,062 | Applicant(s) VON BADINSKI ET AL. | |
|---|---|---|---|
| | Examiner TRAVIS HUNNINGS | Art Unit 2689 | AIA (First Inventor to File) Status Yes |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11/28/14*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5)☒ Claim(s) *1-16* is/are pending in the application.

5a) Of the above claim(s) *17-50* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-4 and 7-16* is/are rejected.

8)☒ Claim(s) *5 and 6* is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *11/28/14* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.



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## DETAILED ACTION

### *Election/Restrictions*

1. Claims 17-50 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/18/2016.

### *Claim Rejections - 35 USC § 102*

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

4. Claims 1-4, 7 and 12 rejected under 35 U.S.C. 102(a)(1) as being anticipated by Mastandrea (US 20130027341).

Regarding claim 1, Mastandrea discloses the following claimed limitations:

The claimed interior wall and exterior wall is met by the two opposing housing pieces 101 and 102 (Mastandrea: figure 1A).

The claimed flexible printed circuit board disposed between the interior wall and the exterior wall and at least one component disposed on the flexible printed circuit board is met by the circuit boards 103 and 104 being a single flexible circuit board (Mastandrea: figure 1A and paragraph 48).

The claimed wherein at least one of the interior wall and the exterior wall defines a window that facilitates at least one of data transmission, battery recharge, and status indication is met by the indicator window 114 (Mastandrea: figure 1A and paragraph 52).

Regarding claim 2, the claimed window comprises an internal window defined by the interior wall is met by the indicator window 114 (Mastandrea: figure 1A and paragraph 52). The determination of which of the two housing pieces 101 and 102 is "interior" and which is "exterior" would simply be a matter of the point of view as the claim language provides no additional functionality as to what frame of reference is required.

Regarding claim 3, the claimed window comprises an exterior window defined by the exterior wall is met by the indicator window 114 (Mastandrea: figure 1A and paragraph 52). The determination of which of the two housing pieces 101 and 102 is "interior" and which is "exterior" would simply be a matter of the point of view as the claim language provides no additional functionality as to what frame of reference is required.

Regarding claim 4, the claimed window comprises a plurality of exterior windows defined by the exterior wall is met by the 3 additional windows providing access to the mouse button functions 111, 112, and 113 (Mastandrea: figures 1A, 1B, and paragraph 47).

Regarding claim 7, the claim is interpreted and rejected as claim 1 stated above.

Regarding claim 12, the claim is interpreted and rejected as claim 1 stated above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-11 and 13-16 are rejected under 35 U.S.C. 103 as being unpatentable over Mastandrea.

Regarding claim 8, the claimed external housing portion comprises a substantially transparent external potting is met by the indicator window 114

(Mastandrea: figure 1A and paragraph 52). The use of potting is not specifically disclosed, however, it would have been obvious to one of ordinary skill in the art as potting is well known in the art.

Regarding claim 9, the claimed wherein the at least one component comprises at least one LED configured to emit at least one of visible light, infrared radiation, and ultraviolet radiation through the external potting is met by the indicator window 114 (Mastandrea: figure 1A and paragraph 52) allowing an LED to emit visual indications (Mastandrea: paragraphs 47 and 52).

Regarding claim 10, the claimed wherein the at least one component comprises a concentrated photovoltaic cell configured to receive concentrated light through the transparent external potting is met by the solar cell powering the device (Mastandrea: paragraph 51). Mastandrea does not specifically disclose that the claimed solar cell is disclosed in the external potting, however, it would have been obvious to one of ordinary skill in the art to provide some sort of access to the solar cell in order for the cell to receive solar energy to function, and since the use of potting is well known in the art, this would have been a routine modification for one of ordinary skill in the art and thus does not rise to the level of novelty or non-obviousness.

Regarding claim 11, the claimed wherein the flexible printed circuit board includes a plurality of stiffener elements configured to engage with a corresponding

plurality of flanges disposed on the internal housing portion is not specifically disclosed by Mastandrea, however, examiner takes official notice that the use of stiffener elements and flanges in the construction of electronic devices and circuit boards is well known in the art and would have therefore been obvious to one of ordinary skill in the art.

Regarding claim 13, the claim is interpreted and rejected as claim 8 stated above.

Regarding claim 14, the claim is interpreted and rejected as claim 9 stated above.

Regarding claim 15, the claim is interpreted and rejected as claim 10 stated above.

Regarding claim 16, the claim is interpreted and rejected as claim 11 stated above.

***Allowable Subject Matter***

7. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS HUNNINGS whose telephone number is (571)272-3118. The examiner can normally be reached on 9:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer M. Stone can be reached on (571) 272-2976. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRAVIS HUNNINGS/
Primary Examiner.Art Unit 2689

| Notice of References Cited | Application/Control No. 14/556,062 | Applicant(s)/Patent Under Reexamination VON BADINSKI ET AL. | |
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Petitioner Samsung Ex-1004, 0906

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
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| | 14556062 | VON BADINSKI ET AL. |
| | Examiner | Art Unit |
| | TRAVIS HUNNINGS | 2689 |

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| EAST history attached | 5/13/16 | TRH |

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**EAST Search History**

**EAST Search History (Prior Art)**

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| S13 | 512 | S5 S6 S7 S8 S9 S10 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:30 |
| S14 | 72 | S13 and(bracelet wristband wristlet armlet armband bangle) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:31 |
| S15 | 72 | S13 and (bracelet wristband wristlet armlet armband bangle) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:31 |
| S16 | 184 | S13 and (window aperture porthole) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:35 |
| S17 | 15 | S13 and (window aperture porthole) and solar | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:36 |
| S18 | 18 | S13 and (window aperture porthole opening) and solar | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/10 13:36 |
| S19 | 1 | ("re37957").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2016/05/11 15:19 |
| S20 | 73 | ("4299637" \| "4325556" \| "4398708" \| "4437670" \| "4486022" \| "4634125" \| "4858123" \| "4979750" \| "5037101" \| "5071136" \| "5137278" \| "5145173" \| "5149093" \| "5190285" \| "5201525" \| "5215792" \| "5282651" \| "5287641" \| "5356293" \| "5377975" \| "5407204" \| "5411259" \| "5433035" \| "5435568" \| | US-PGPUB; USPAT; USOCR | OR | OFF | 2016/05/11 15:19 |



Petitioner Samsung Ex-1004, 0912

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|---|---|---|---|---|---|---|
| | | "5443270" \| "5480156" \| "5533124" \| "5588678" \| "5641164" \| "5689561" \| "5743801" \| "5748731" \| "5782023" \| "5836585" \| "5841878" \| "5855001" \| "5938199" \| "5982736" \| "6179294" \| "D059527").PN. OR ("RE37957").URPN. | | | | |
| S21 | 4 | ("2011130752").PN. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/11 15:36 |
| S22 | 2 | ("20130027341").PN. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/11 15:36 |
| S23 | 11 | (US-20130144176-$ or US-20120317024-$ or US-20120218184-$ or US-20120130203-$ or US-20100100004-$ or US-20030142065-$ or US-20090306485-$ or US-20130027341-$).did. or (US-8554297-$ or US-9335790-$ or US-9110505-$).did. | US-PGPUB; USPAT | OR | OFF | 2016/05/11 15:48 |
| S24 | 5 | S23 AND SOLAR | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2016/05/11 15:48 |

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Petitioner Samsung Ex-1004, 0913

Receipt date: 04/04/2016
Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

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|---|---|---|---|---|---|---|
| | 1 | 20120323521 | A1 | 2012-12-20 | De Foras, et al. | |
| | 2 | 20130033418 | A1 | 2013-02-07 | Bevilacqua, et al. | |
| | 3 | 20130186962 | A1 | 2013-07-25 | Kennett, et al. | |
| | 4 | 20130314028 | A1 | 2013-11-28 | Tseng | |

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Receipt date: 04/04/2016

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**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

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| Examiner Signature | /TRAVIS R HUNNINGS/ | Date Considered | 05/10/2016 |
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Receipt date: 04/04/2016

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

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|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2016-04-01 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



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Receipt date: 04/04/2016

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Petitioner Samsung Ex-1004, 0917

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**
**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

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| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|---|
| | 1 | 1589547 | | 1926-06-22 | Novack | |
| | 2 | 2048878 | | 1936-07-28 | Moldenhauer | |
| | 3 | 3022648 | | 1962-02-27 | Thaler | |
| | 4 | 3653051 | | 1972-03-28 | Wu | |
| | 5 | 3684125 | | 1972-08-15 | Laurizio | |
| | 6 | 4541207 | | 1985-09-17 | Antonson | |
| | 7 | 6101843 | | 2000-08-15 | Nagano | |
| | 8 | 6495283 | B1 | 2002-12-17 | Yoon, et al. | |



Petitioner Samsung Ex-1004, 0918

| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

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|---|---|---|---|---|---|---|
| | 9 | 6502906 | B1 | 2003-01-07 | Chen | |
| | 10 | 6546749 | B1 | 2003-04-15 | Canty | |
| | 11 | 7375494 | B2 | 2008-05-20 | Daniel, et al. | |
| | 12 | 7517222 | B2 | 2009-04-14 | Rohrbach, et al. | |
| | 13 | 7526927 | B2 | 2009-05-05 | Pinto | |
| | 14 | 7637746 | B2 | 2009-12-29 | Lindberg, et al. | |
| | 15 | 8270914 | B2 | 2012-09-18 | Pascolini, et al. | |
| | 16 | 8599572 | B2 | 2013-12-03 | Neudecker, et al. | |
| | 17 | 9076589 | B2 | 2015-07-07 | Wright, et al. | |
| | 18 | 9148717 | B2 | 2015-09-29 | Shaffer | |
| | 19 | 9197270 | B2 | 2015-11-24 | Ying, et al. | |



Petitioner Samsung Ex-1004, 0919

| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

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| | 20 | 9203463 | B2 | 2015-12-01 | Asrani, et al. | |

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|---|---|---|---|---|---|---|
| | 1 | 20110070480 | A1 | 2011-03-24 | Hahn, et al. | |
| | 2 | 20130027341 | A1 | 2013-01-31 | Mastandrea | |
| | 3 | 20130069583 | A1 | 2013-03-21 | Lemelman, et al. | |
| | 4 | 20130088186 | A1 | 2013-04-11 | Hsieth | |
| | 5 | 20130108907 | A1 | 2013-05-02 | Bhardwaj, et al. | |
| | 6 | 20150037616 | A1 | 2015-02-05 | Wyatt, et al. | |
| | 7 | 20150277559 | A1 | 2015-10-01 | Vescovi, et al. | |
| | 8 | 20150303722 | A1 | 2015-10-22 | Li | |



Petitioner Samsung Ex-1004, 0920

| INFORMATION DISCLOSURE STATEMENT BY APPLICANT ( Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

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|---|---|---|---|---|---|---|
| | 9 | 20150349556 | A1 | 2015-12-03 | Mercando, et al. | |
| | 10 | 20150380961 | A1 | 2015-12-31 | Tseng, et al. | |
| | 11 | 20160013602 | A1 | 2016-01-14 | Strisower, et al. | |

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|---|---|---|---|---|---|---|---|---|
| | 1 | 103441306 | CN | A | 2013-12-11 | Yu, et al. | See English translation of Abstract attached hereto. | |
| | 2 | 204440426 | CN | U | 2015-07-01 | Lyu, et al. | See English translation of Abstract attached hereto. | |
| | 3 | 204732935 | CN | U | 2015-10-28 | Shi | See English translation of Abstract attached hereto. | |
| | 4 | 2012024889 | WO | A1 | 2012-03-01 | Wang | | |

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Petitioner Samsung Ex-1004, 0921

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|---|---|---|
| | Application Number | 14556062 |
| | Filing Date | 2014-11-28 |
| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

| | | | |
|---|---|---|---|
| | 1 | SAMEDAYFLASH, "SET OF 10 2GB/4GB/8GB/16GB WOODEN BAMBOO FLASH DRIVE - BULK PACK 0 USB 2.0 WOOD BAMBOO STICK DESIGN - WOOD USB FLASH DRIVE", "www.etsy.com/listing/248051205/set-of-10-2gb4gb8gb16gb-wooden-bamboo?ref+m", 6/2/2016, Publisher: Etsy, Published in: US | |
| | 2 | LEEF, "LEEF MAGNET USB 3.0 FLASH DRIVE", "www.leefco.com/magnet-copper", 6/2/2016, Publisher: Leef Group Limited, Published in: US | |

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|---|---|---|
| | Application Number | 14556062 |
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| | First Named Inventor | von Badinski |
| | Art Unit | 2689 |
| | Examiner Name | Travis Hunnings |
| | Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

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**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2016-06-03 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



Petitioner Samsung Ex-1004, 0923

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



Petitioner Samsung Ex-1004, 0924

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# Bibliographic data: CN204440426 (U) — 2015-07-01

## NFC ring

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## Abstract of CN204440426 (U)

A NFC ring comprises an inner ring, an outer ring, a side ring, an electronic assembly and a magnet. The outer ring sleeves the inner ring, a containing cavity is formed between the outer ring and the inner ring, the side ring is mounted on one end face of the inner ring, and the outer ring presses between the inner ring and the side ring. The electronic assembly is contained and fixed in the containing cavity. The side wall of the outer ring is provided with a containing groove, and the magnet is contained in the containing groove. The electronic assembly comprises a circuit board, a reed switch, a light emitting diode, a chip and an antenna, the reed switch, the light emitting diode, the chip and the antenna are arranged on the circuit board, the light emitting diode is connected with the chip to form a parallel circuit, one end of the parallel circuit is connected with one end of the antenna, the other end of the parallel circuit is connected with the other end of the antenna through the reed switch. In the NFC ring, a circuit can be opened or closed through cooperation of the magnet and the reed switch, so that an off state and an on state can be switched, the usage safety of the products can be raised, the risk that user information is stolen can be reduced.



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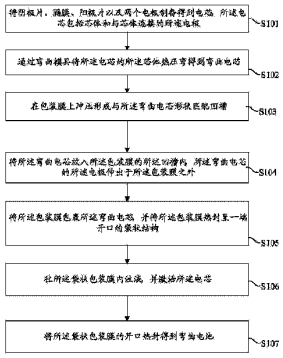
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(54)发明名称

弯曲电池制造方法

(57)摘要

一种弯曲电池制造方法，包括如下步骤：将阴极片、隔膜、阳极片以及两个电极制备得到电芯，电芯包括芯体和与芯体连接的电极；通过弯曲模具将电芯的芯体热压弯得到弯曲电芯；在包装膜上冲压形成与弯曲电芯形状匹配凹槽；将弯曲电芯放入包装膜的凹槽内，弯曲电芯的电极伸出于包装膜之外；将包装膜包裹弯曲电芯，并将包装膜热封呈一端开口的袋状结构；往袋状包装膜内注液，并激活电芯；将袋状包装膜的开口热封得到弯曲电池。上述方法中在电芯完成后便进行热压弯电芯，弯曲时正负极片以及隔膜之间的易于滑动形成弧形。配合成型有凹陷的包装膜，避免了弯折损伤和错位导致的电池性能不佳，电池损坏和外包装膜破损的问题，保障了弯曲电池的性能。




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1. 一种弯曲电池制造方法，其特征在于，包括如下步骤：

将阴极片、隔膜、阳极片以及两个电极制备得到电芯，所述电芯包括芯体和与所述芯体连接的所述电极；

通过弯曲模具将所述电芯的所述芯体热压弯得到弯曲电芯；

在包装膜上冲压形成与所述弯曲电芯形状匹配凹槽；

将所述弯曲电芯放入所述包装膜的所述凹槽内，所述弯曲电芯的所述电极伸出于所述包装膜之外；

将所述包装膜包裹所述弯曲电芯，并将所述包装膜热封呈一端开口的袋状结构；

往所述袋状包装膜内注液，并激活所述电芯；

将所述袋状包装膜的开口热封得到弯曲电池。

2. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述将所述包装膜包裹所述弯曲电芯，并将所述包装膜热封呈一端开口的袋状结构的步骤中：

热封采用的热封模具包括两个凹凸对应的热封模组，所述热封模组的凹凸形状与所述电芯的弯曲形状对应，将位于所述电芯的弯曲侧边的所述包装膜置于两个所述热封模组之间加压加热进行热封。

3. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述将所述袋状包装膜的开口热封得到弯曲电池的步骤中：

热封采用的热封模具包括两个凹凸对应的热封模组，所述热封模组的凹凸形状与所述电芯的弯曲形状对应，将位于所述包装膜置于两个所述热封模组之间加压加热进行热封。

4. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述包装膜为金属层和树脂层复合膜。

5. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述电芯制成方式为卷绕式或叠片式。

6. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述电芯和所述凹槽的弯曲形状为弧面。

7. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述将所述包装膜包裹所述弯曲电芯的步骤中，是将所述包装膜折叠以包裹所述弯曲电芯。

8. 根据权利要求 1 所述的弯曲电池制造方法，其特征在于，所述弯曲模具包括凹凸相对的两个模组。



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# 弯曲电池制造方法

## 技术领域

[0001] 本发明涉及一种电池制造方法，特别是涉及一种弯曲电池的制造方法。

## 背景技术

[0002] 目前，液态 / 凝胶 / 聚合物锂离子电池绝大多数都是形状规则的矩形电池。

[0003] 近年来，便携式电子设备逐步趋向于外观形状多样化，为这些电子装置提供电力的锂离子电池也需要随设备的形状而实现多样化，以最大限度的利用设备内部的空间。一类比较有代表性的电子装置是考虑到人体工程性设计的弧形曲面电子装置，如腕表类可佩带电子装置，可佩带于手腕上测运动量。为了给这样的弧形曲面电子设备提供尽可能多的电力，最大限度利用装置内部空间，锂离子电池需要被设计为弯曲电池。

[0004] 传统制造方法是在矩形电池成型后，直接用弧形成形模型对矩形电池进行加压，加热，弯曲，形成弯曲电池。

[0005] 直接通过加压加温的方式热压弯折成型，存在以下品质问题和安全性风险：

[0006] 热压弯折成型，会导致电池内部极片相对移动，产生短路，极片之间界面也受损导致电化学性能劣化，还可能对电池的外包装膜造成破坏，引起电池漏液和气胀，导致弯曲电池损坏和引发安全性事故。

## 发明内容

[0007] 基于此，有必要提供一种可提高电池性能稳定性的弯曲电池制造方法。

[0008] 一种弯曲电池制造方法，包括如下步骤：

[0009] 将阴极片、隔膜、阳极片以及两个电极制备得到电芯，所述电芯包括芯体和与所述芯体连接的所述电极；

[0010] 通过弯曲模具将所述电芯的所述芯体热压弯得到弯曲电芯；

[0011] 在包装膜上冲压形成与所述弯曲电芯形状匹配凹槽；

[0012] 将所述弯曲电芯放入所述包装膜的所述凹槽内，所述弯曲电芯的所述电极伸出于所述包装膜之外；

[0013] 将所述包装膜包裹所述弯曲电芯，并将所述包装膜热封呈一端开口的袋状结构；

[0014] 往所述袋状包装膜内注液，并激活所述电芯；

[0015] 将所述袋状包装膜的开口热封得到弯曲电池。

[0016] 其中一个实施例中，所述将所述包装膜包裹所述弯曲电芯，并将所述包装膜热封呈一端开口的袋状结构的步骤中：

[0017] 热封采用的热封模具包括两个凹凸对应的热封模组，所述热封模组的凹凸形状与所述电芯的弯曲形状对应，将位于所述电芯的弯曲侧边的所述包装膜置于两个所述热封模组之间加压加热进行热封。

[0018] 其中一个实施例中，所述将所述袋状包装膜的开口热封得到弯曲电池的步骤中：

[0019] 热封采用的热封模具包括两个凹凸对应的热封模组，所述热封模组的凹凸形状与



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所述电芯的弯曲形状对应，将位于所述包装膜置于两个所述热封模组之间加压加热进行热封。

[0020] 其中一个实施例中，所述包装膜为金属层和树脂层复合膜。

[0021] 其中一个实施例中，所述电芯制成方式为卷绕式或叠片式。

[0022] 其中一个实施例中，所述电芯和所述凹槽的弯曲形状为弧面。

[0023] 其中一个实施例中，所述将所述包装膜包裹所述弯曲电芯的步骤中，是将所述包装膜折叠以包裹所述弯曲电芯。

[0024] 其中一个实施例中，所述弯曲模具包括凹凸相对的两个模组。

[0025] 上述弯曲电池制造方法中在电芯完成后便进行热压弯电芯，此时的电芯没有外包装的束缚，弯曲时正负极片以及隔膜之间的易于滑动形成弧形。配合冲压成型有对应凹陷的包装膜，使得热封包装膜后直接得到弯曲电池。如此避免了传统的在电池成型后强行弯曲产生的弯折损伤和错位导致的电池性能不佳，电池损坏和外包装膜破损的问题，保障了弯曲电池和矩形电池一样的性能和高的电池合格率。此外，由于包装膜的弯曲形状为直接成型，也避免了传统方式 中热压弯的包装膜回弹形变问题。

## 附图说明

[0026] 图 1 为本发明一较佳实施例的弯曲电池制造方法步骤流程图；

[0027] 图 2 为本实施例的卷绕式电芯的结构示意图；

[0028] 图 3 为通过弯曲模具将图 2 所示的电芯弯曲工艺示意图；

[0029] 图 4 为弯曲后的电芯的结构示意图；

[0030] 图 5 为冲压有与与弯曲电芯形状匹配的凹槽的包装膜的结构示意图；

[0031] 图 6 为图 5 所示的包装膜另一视角的结构示意图；

[0032] 图 7 为图 4 所示的弯曲电芯放入到图 5 所示的包装膜的凹槽内后的状态示意图；

[0033] 图 8 为弯曲电芯被包装膜包裹且热封呈袋状结构的状态示意图；

[0034] 图 9 为热封模具热封位于电芯的弯曲侧边的包装膜的工艺示意图；

[0035] 图 10 为将所述袋状包装膜的开口热封后的结构示意图；

[0036] 图 11 为通过图 1 所示的方法制造的弯曲电池结构示意图。

## 具体实施方式

[0037] 如图 1 所示，其为本发明一较佳实施例的弯曲电池制造方法步骤流程图，包括如下步骤：

[0038] 步骤 S101，将阴极片、隔膜、阳极片以及两个电极制备得到电芯，所述电芯包括芯体和与芯体连接的所述电极。

[0039] 电芯制成方式可以是卷绕式或叠片式，如图 2 所示，其为本实施例的卷绕式电芯 20 的结构示意图，其包括芯体 201 和伸出于芯体 201 的两个电极 202。所述电芯 20 的芯体 201 为平板状。

[0040] 步骤 S102，通过弯曲模具将所述电芯的所述芯体热压弯得到弯曲电芯。

[0041] 电芯弯曲形状可以是标准弧形，也可以是非标准弧形的其他弯曲或弯折结构，此形状根据实际需要设定。



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[0042] 如图 3 所示，其为通过弯曲模具 30 将图 2 所示的电芯 20 弯曲工艺示意图。弯曲模具 30 包括凹凸相对的两个弯曲模组 301 和 302，将电芯 20 置于两个弯曲模组 301 和 302 之间，加压加热后分离，得到如图 4 所示的弯曲电芯 20。图 4 中，电芯 20 的芯体 201 弯曲成弧形结构。由于弯曲过程中，电芯 20 阴极片、隔膜、阳极片由于没有外包装膜的束缚，弯曲时便于各层之间产生的相对滑动释放其张力易于形成弧形。

[0043] 步骤 S103，在包装膜上冲压形成与所述弯曲电芯形状匹配凹槽。

[0044] 本实施例的包装膜金属层和树脂层复合膜，如图 5 和图 6 所示，其为包装膜 50 冲压形成凹槽 501 的正反面结构示意图，包装膜 50 一面形成凹槽 501，另一面则为与所述凹槽 501 对应的凸起结构。凹槽 501 的底部为弯曲电芯 20 形状匹配的弯曲面，本实施例为弧面。采用的冲压模具形状和所述弯折模具的成型部分形状相同或相对应。

[0045] 步骤 S104，将所述弯曲电芯放入所述包装膜的所述凹槽内，所述弯曲电芯的所述电极伸出于所述包装膜之外。

[0046] 如图 7 所示，其为图 4 所示的弯曲电芯 20 放入到图 5 所示的包装膜 50 的凹槽 501 内后的状态示意图。由于凹槽 501 与弯曲电芯 20 的形状匹配，使得弯曲电芯 20 的外表面与所述包装膜 40 贴合。

[0047] 步骤 S105，将所述包装膜包裹所述弯曲电芯，并将所述包装膜热封呈一端开口的袋状结构。

[0048] 本实施例中，位于所述电芯弯曲侧边的所述包装膜热封后形成与所述电芯弯曲相同的形状。即采用弧形热封工艺，所述弧形可以为标准弧形或非标准弧形。

[0049] 如图 8 所示，其为弯曲电芯 20 被包装膜 50 包裹且热封呈袋状结构的状态示意图。执行步骤是，首先沿着箭头 A 方向折叠包装膜 50 使得包装膜 50 覆盖凹槽 501，然后通过热封模具，将包装膜 50 沿着电芯 20 的边缘进行热封，热封线 801 和包装膜 50 一起形成袋状结构，开后为箭头 B 所指位置。由于本实施例的包装膜 50 折叠边缘无需热封，所以此步骤中只需热封电极 202 所在侧边以及其中一个弯曲侧边，所以图 8 中热封线 801 为 L 型。所留的开口部分是为了便于烘烤、注液和预充激活产生的气体的储存。

[0050] 请同时参阅图 9，其为热封模具 90 热封位于电芯 20 的弯曲侧边的包装膜 50 的工艺示意图。热封模具 90 包括两个凹凸对应的热封模组 901 和 902，热封模组 901 和 902 的凹凸形状与所述电芯 20 的弯曲形状对应。先将位于电芯 20 的弯曲侧边包装膜 50 置于两个热封模组 901 和 902 之间加压加热后分离，即可实现弯曲热封。

[0051] 步骤 S106，往所述袋状包装膜内注液，并激活所述电芯。

[0052] 步骤 S107，将所述袋状包装膜的开口热封得到弯曲电池。

[0053] 本实施例中，所述开口位置的包装膜热封后形成与所述电芯弯曲相同的形状。同样采用上述热封模具进行热封。

[0054] 如图 10 和 11 所示，其为将所述袋状包装膜 50 的开口热封后的结构示意图，电芯 20 被包装膜 50 贴合包裹，形成弯曲电池 100。

[0055] 上述步骤 S106 的实际操作中注液后，需预热封所述袋状包装膜的开口，此时的热封位置离电芯较远，便于容纳激活时产生的气体。激活后，再执行步骤 S107，此时的热封位置则为贴近电芯的侧边位置。

[0056] 上述弯曲电池制造方法相对传统制造方法主要不同之处在于：



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[0057] 传统制造方法在矩形电池成型后，热压弯整个电池。上述方法中在电芯完成后便进行热压弯电芯，此时的电芯没有外包装的束缚，弯曲时正负极片以及隔膜之间的易于滑动形成弧形。配合冲压成型有对应凹陷的包装膜，使得热封包装膜后直接得到弯曲电池。如此避免了传统的在电池成型后强行弯曲产生的弯折损伤和错位导致的电池性能不佳，电池损坏和外包装膜破损的问题，保障了弯曲电池和矩形电池一样的性能和高的电池合格率。此外，由于包装膜的弯曲形状为直接成型，也避免了传统方式中热压弯的包装膜回弹形变问题。

[0058] 以下为利用上述弯曲电池的制造方法制备电池的实验数据。

[0059] (1)配方与极片参数设计：

[0060] 最大厚度 4.50mm，最大宽度 15.5mm，最大长度 35.0mm，弧形 R25；

[0061] 最小容量 200mAh，设计中值容量 210mAh。

[0062] 按照以上参数进行配方与正负极片参数设计。

[0063] (2)正负极片制作：按照设计好的配方按照常规锂离子电池生产流程进行 配料，混料，并按照设计好的极片参数涂布，压片，分切 / 段切后制成正 / 负极极片。

[0064] (3)通过上述弯曲电池的制造方法制备电池。

[0065] (4)电池续充下线后测试容量与内阻，下线电压如下表所示；

[0066]

| 编号 | 内阻 (mΩ) | 容量 (0.5C，mAh) | 电压 (V) |
|---|---|---|---|
| 1 | 111.1 | 212 | 3.83 |
| 2 | 110.9 | 212 | 3.827 |
| 3 | 114.4 | 210 | 3.829 |
| 4 | 111.0 | 208 | 3.827 |
| 5 | 108.4 | 214 | 3.827 |
| 6 | 112.6 | 210 | 3.828 |
| 7 | 109.2 | 209 | 3.827 |
| 8 | 111.2 | 209 | 3.829 |
| 9 | 110.7 | 209 | 3.828 |
| 10 | 111.9 | 208 | 3.829 |
| 11 | 110.9 | 209 | 3.825 |
| 12 | 111.9 | 208 | 3.828 |
| 13 | 107.2 | 213 | 3.828 |
| 14 | 107.0 | 211 | 3.829 |
| 15 | 112.0 | 210 | 3.829 |
| 最大值 | 114.4 | 214 | 3.830 |
| 最小值 | 107.0 | 208 | 3.825 |
| 平均值 | 110.7 | 210 | 3.828 |

[0067] 下线数据显示，按照此流程生产的弯曲电池容量能达到设计容量，内阻电压无异常。

[0068] (5)弯曲电池下线后取 15 只，45 度高温老化 3 天 + 常温静置 1 天后测试 OCV1，再 45 度高温老化 3 天 + 常温静置 1 天后测试 OCV2，取两次电压差值计算弯曲电池电压降；下线电压降测试数据下表所示：

[0069]



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| 序号 | OCV1(V) | OCV2(V) | ΔV(mV/h) |
|---|---|---|---|
| 1 | 3.821 | 3.816 | 0.069 |
| 2 | 3.822 | 3.817 | 0.069 |
| 3 | 3.823 | 3.819 | 0.056 |
| 4 | 3.821 | 3.817 | 0.056 |
| 5 | 3.816 | 3.811 | 0.069 |
| 6 | 3.821 | 3.816 | 0.069 |
| 7 | 3.823 | 3.819 | 0.056 |
| 8 | 3.822 | 3.817 | 0.069 |
| 9 | 3.82 | 3.815 | 0.069 |
| 10 | 3.823 | 3.818 | 0.069 |
| 11 | 3.819 | 3.815 | 0.056 |
| 12 | 3.822 | 3.817 | 0.069 |
| 13 | 3.817 | 3.812 | 0.069 |
| 14 | 3.82 | 3.815 | 0.069 |
| 15 | 3.822 | 3.817 | 0.069 |

[0070] OCV 测试数据显示，按照此流程生产的弯曲电池的电压降测试小于常规电芯 0.1mV/h。

[0071] (6) OCV 测试后取弯曲电池 4 只，进行 0.5C 循环 300 周测试，如下表所示：

[0072]

| 循环倍率 | 不同循环次数容降（%） | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |
| 0.5C | 5.73 | 6.48 | 7.14 | 7.79 | 8.36 | 8.73 | 9.11 | 10.42 | 11.17 |
| | 5.51 | 6.73 | 7.76 | 8.79 | 9.72 | 10.47 | 11.03 | 12.99 | 14.39 |
| | 4.61 | 6.05 | 6.72 | 7.68 | 8.55 | 9.32 | 9.51 | 11.91 | 13.54 |
| | 5.68 | 6.72 | 7.47 | 8.51 | 9.37 | 10.12 | 10.60 | 12.96 | 14.85 |

[0073] 循环数据显示，按照此流程生产的弯曲电池能满足客户循环要求。

[0074] 以上所述实施例仅表达了本发明的几种实施方式，其描述较为具体和详细，但并不能因此而理解为对本发明专利范围的限制。应当指出的是，对于本领域的普通技术人员来说，在不脱离本发明构思的前提下，还可以做出若干变形和改进，这些都属于本发明的保护范围。因此，本发明专利的保护范围应以所附权利要求为准。



Petitioner Samsung Ex-1004, 0932

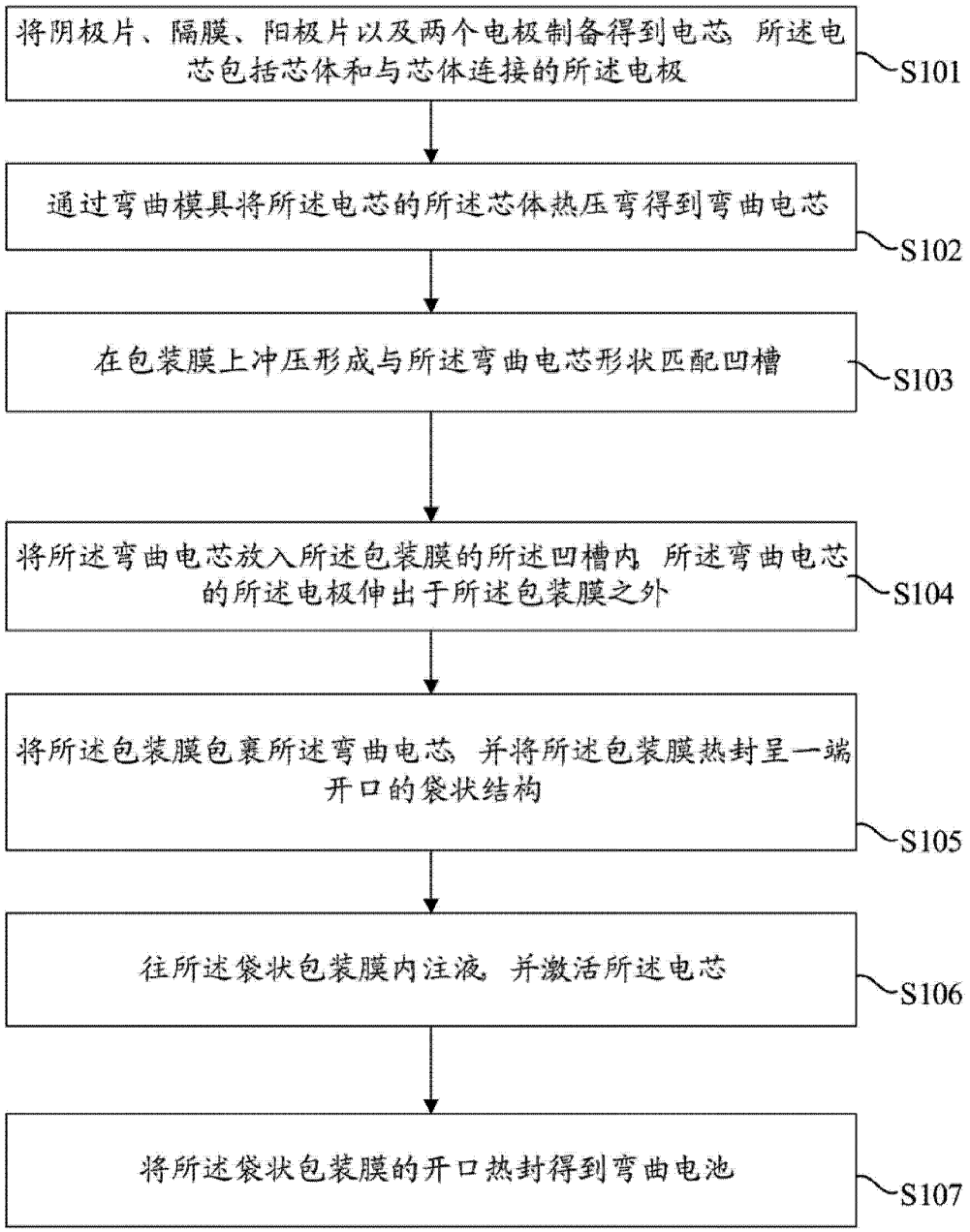



图 1



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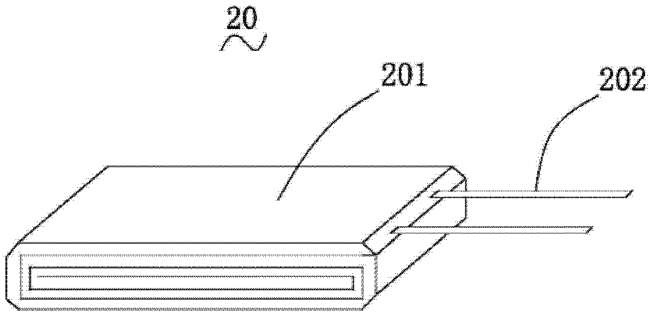



图 2

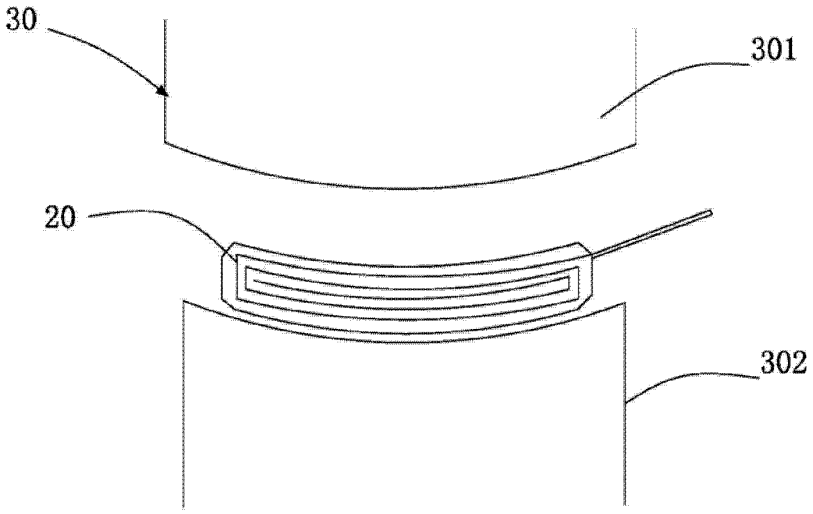



图 3

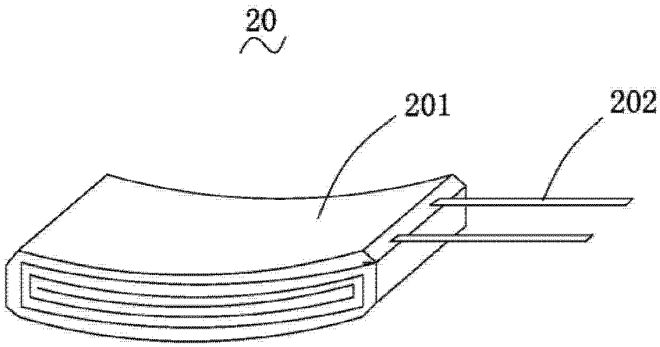



图 4



Petitioner Samsung Ex-1004, 0934

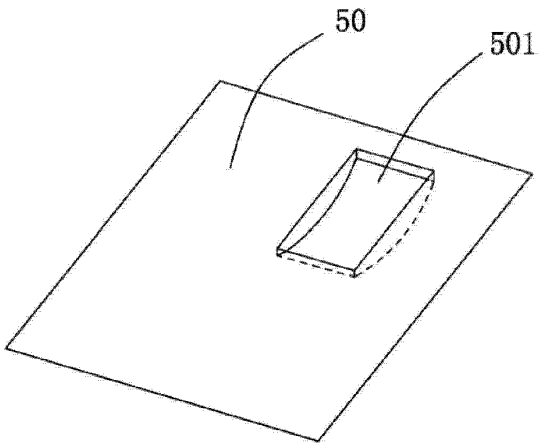



图 5

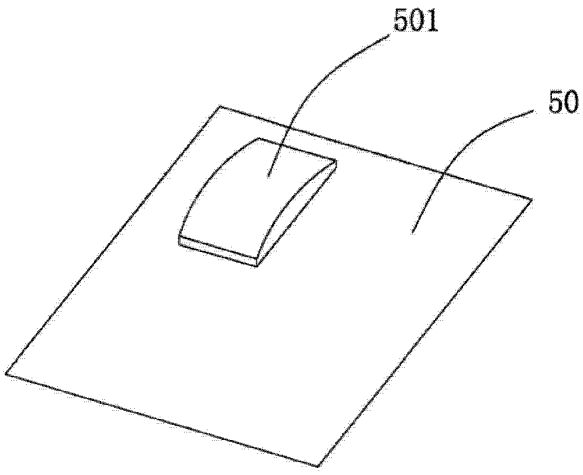



图 6



Petitioner Samsung Ex-1004, 0935

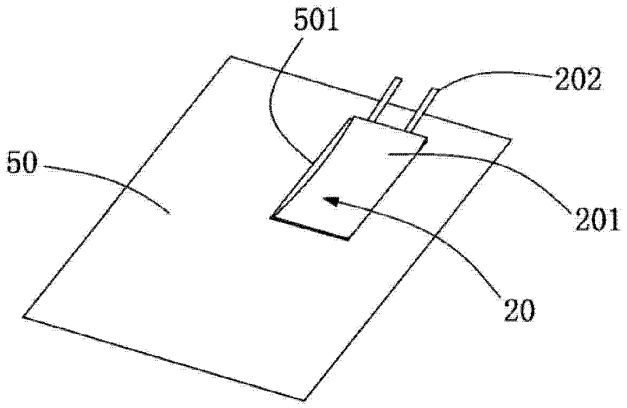



图 7

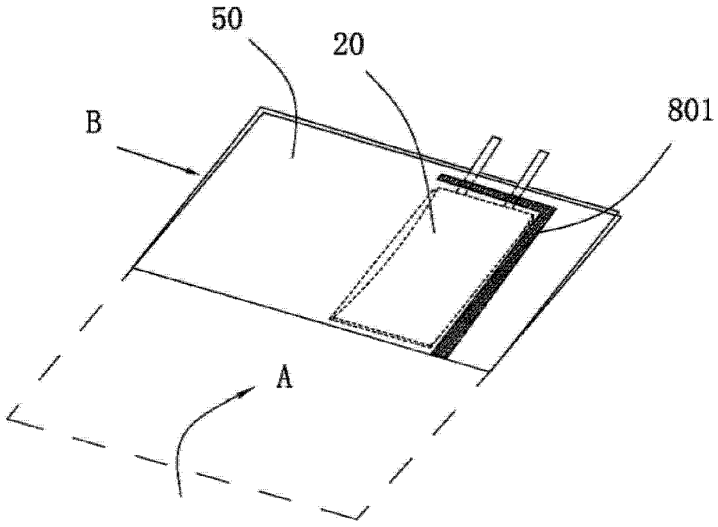



图 8



Petitioner Samsung Ex-1004, 0936

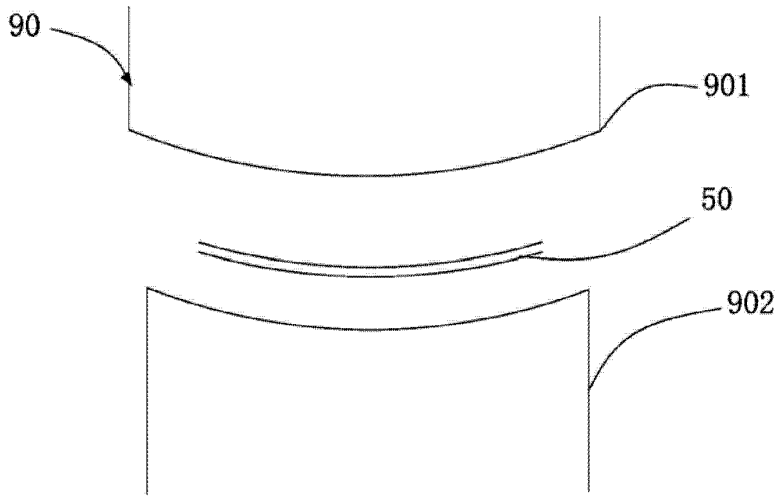



图 9

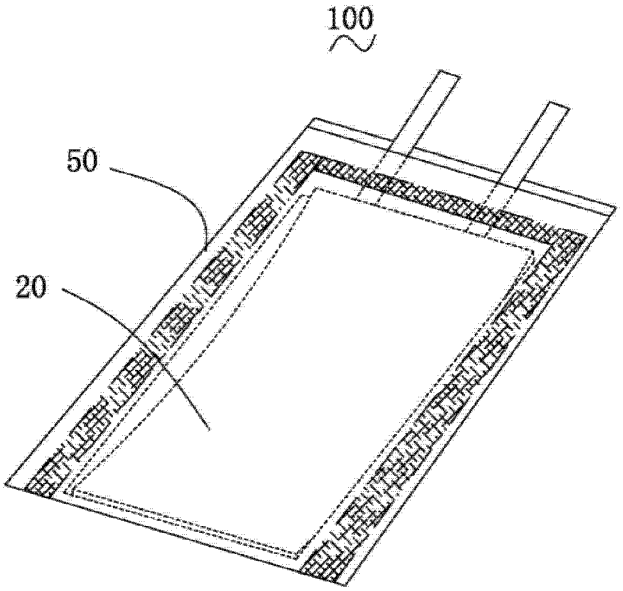



图 10



Petitioner Samsung Ex-1004, 0937

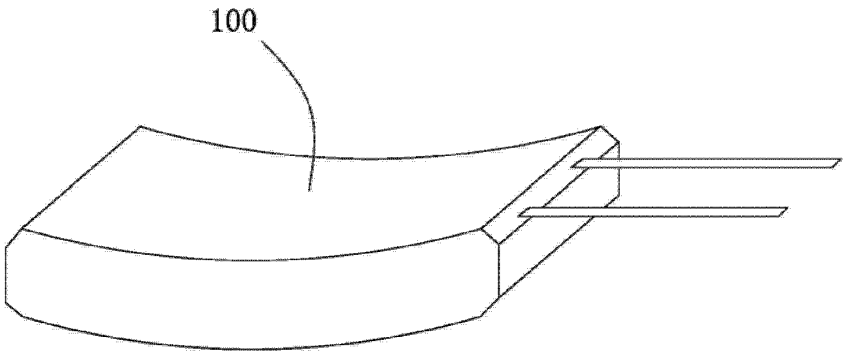



图 11



Petitioner Samsung Ex-1004, 0938

Espacenet

# Bibliographic data: CN204440426 (U) — 2015-07-01

## NFC ring

**Inventor(s):** LYU FEI; ZHANG YULU; YAN JUNJIE ± (LYU FEI, ; ZHANG YULU, ; YAN JUNJIE)

**Applicant(s):** GUANGDONG SEEDCOM ELECTRICAL & LIGHTING CO LTD ± (GUANGDONG SEEDCOM ELECTRICAL & LIGHTING CO., LTD)

**Classification:** **- international:** ***A44C9/00; G06K17/00***
**- cooperative:**

**Application number:** CN20142835867U 20141223

**Priority number (s):** CN20142835867U 20141223

## Abstract of CN204440426 (U)

A NFC ring comprises an inner ring, an outer ring, a side ring, an electronic assembly and a magnet. The outer ring sleeves the inner ring, a containing cavity is formed between the outer ring and the inner ring, the side ring is mounted on one end face of the inner ring, and the outer ring presses between the inner ring and the side ring. The electronic assembly is contained and fixed in the containing cavity. The side wall of the outer ring is provided with a containing groove, and the magnet is contained in the containing groove. The electronic assembly comprises a circuit board, a reed switch, a light emitting diode, a chip and an antenna, the reed switch, the light emitting diode, the chip and the antenna are arranged on the circuit board, the light emitting diode is connected with the chip to form a parallel circuit, one end of the parallel circuit is connected with one end of the antenna, the other end of the parallel circuit is connected with the other end of the antenna through the reed switch. In the NFC ring, a circuit can be opened or closed through cooperation of the magnet and the reed switch, so that an off state and an on state can be switched, the usage safety of the products can be raised, the risk that user information is stolen can be reduced.



Petitioner Samsung Ex-1004, 0939

(19)中华人民共和国国家知识产权局

(12)实用新型专利

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(51)Int.Cl.
*G06K 17/00*(2006.01)
*A44C 9/00*(2006.01)

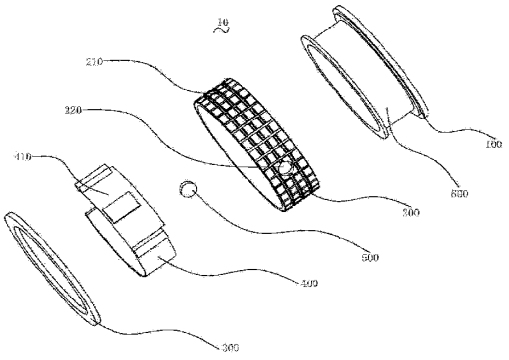
权利要求书1页 说明书3页 附图3页

(54)实用新型名称

一种NFC戒指

(57)摘要

一种NFC戒指，包括：内环、外环、边环、电子组件及磁铁。外环旋转套设于内环上，外环与内环之间形成容置腔，边环安装于内环的一端面上，外环抵持于内环与边环之间；电子组件收容并固定于容置腔内；外环的侧壁上开设有收容槽，磁铁收容于收容槽内；其中，电子组件包括：线路板、干簧管、发光二极管、芯片及天线，干簧管、发光二极管、芯片、天线布设于线路板上，发光二极管与芯片连接形成并联电路，并联电路的一端与天线的一端连接，并联电路的另一端通过干簧管与天线的另一端连接。NFC戒指通过磁铁与干簧管之间的相互配合，实现电路的断开或闭合，进而实现非工作状态与工作状态之间的切换，提高产品的使用安全性，降低用户信息被盗取的风险。




CN 204440426 U

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1. 一种 NFC 戒指，其特征在于，包括：内环、外环、边环、电子组件及磁铁；

所述外环旋转套设于所述内环上，所述外环与所述内环之间形成容置腔，所述边环安装于所述内环的一端面上，所述外环抵持于所述内环与所述边环之间；

所述电子组件收容并固定于所述容置腔内；

所述外环的侧壁上开设有收容槽，所述磁铁收容于所述收容槽内；

其中，所述电子组件包括：线路板、干簧管、发光二极管、芯片及天线，所述干簧管、所述发光二极管、所述芯片、所述天线布设于所述线路板上，所述发光二极管与所述芯片连接形成并联电路，所述并联电路的一端与所述天线的一端连接，所述并联电路的另一端通过所述干簧管与所述天线的另一端连接。

2. 根据权利要求 1 所述的 NFC 戒指，其特征在于，所述外环的外侧壁上开设有防滑纹。

3. 根据权利要求 1 所述的 NFC 戒指，其特征在于，所述容置腔为环形腔体结构，所述电子组件环绕设于所述容置腔内。

4. 根据权利要求 1 所述的 NFC 戒指，其特征在于，所述干簧管及所述芯片的数量分别为两个，两个所述干簧管分别与两个芯片串联。

5. 根据权利要求 1 所述的 NFC 戒指，其特征在于，所述收容槽为圆形凹槽。

6. 根据权利要求 1 所述的 NFC 戒指，其特征在于，所述内环、所述外环、所述边环均为陶瓷。



Petitioner Samsung Ex-1004, 0941

# 一种 NFC 戒指

## 技术领域

[0001] 本实用新型涉及一种 NFC 装置，特别是涉及一种 NFC 戒指。

## 背景技术

[0002] NFC(Near Field Communication，近距离无线通信技术）是一种短距高频的无线电技术，其在 13.56MHz 频率运行于 20 厘米距离内，其传输速度有 106Kbit/S、212Kbit/S、424Kbit/S 三种。NFC 近场通信技术是由非接触式射频识别 (RFID) 及互联互通技术整合演变而来，在单一芯片上结合感应式读卡器、感应式卡片和点对点的功能，能在短距离内与兼容设备进行识别和数据交换。

[0003] 现有的具备 NFC 支付功能的各类产品，使用者在不注意时将此产品靠近读写器，容易导致误触发的情况发生，从而给使用者带来不必要的麻烦和财物损失。更有甚者，一些不法分子利用特制的大功率读写器，通过远距离来盗取用户信息或钱财，诸如此类情况，这给用户使用带来了安全隐患。

## 实用新型内容

[0004] 本实用新型的目的是克服现有技术中的不足之处，提供一种提高使用安全性的 NFC 戒指。

[0005] 本实用新型的目的是通过以下技术方案来实现的：

[0006] 一种 NFC 戒指，包括：内环、外环、边环、电子组件及磁铁；

[0007] 所述外环旋转套设于所述内环上，所述外环与所述内环之间形成容置腔，所述边环安装于所述内环的一端面上，所述外环抵持于所述内环与所述边环之间；

[0008] 所述电子组件收容并固定于所述容置腔内；

[0009] 所述外环的侧壁上开设有收容槽，所述磁铁收容于所述收容槽内；

[0010] 其中，所述电子组件包括：线路板、干簧管、发光二极管、芯片及天线，所述干簧管、所述发光二极管、所述芯片、所述天线布设于所述线路板上，所述发光二极管与所述芯片连接形成并联电路，所述并联电路的一端与所述天线的一端连接，所述并联电路的另一端通过所述干簧管与所述天线的另一端连接。

[0011] 在其中一个实施例中，所述外环的外侧壁上开设有防滑纹。

[0012] 在其中一个实施例中，所述容置腔为环形腔体结构，所述电子组件环绕设于所述容置腔内。

[0013] 在其中一个实施例中，所述干簧管及所述芯片的数量分别为两个，两个所述干簧管分别与两个芯片串联。

[0014] 在其中一个实施例中，所述收容槽为圆形凹槽。

[0015] 在其中一个实施例中，所述内环、所述外环、所述边环均为陶瓷。

[0016] 旋转外环，外环绕内环旋转，设于外环的收容槽内的磁铁随之旋转，从而实现磁铁远离或靠近位于容置腔内的干簧管。



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[0017] 当磁铁远离干簧管时，干簧管上的簧片触点相互分离，此时干簧管、芯片、天线形成的电路处于断开状态；当磁铁靠近干簧管时，干簧管上的簧片触点相互接触，此时干簧管、芯片、天线形成的电路处于闭合状态。

[0018] 当干簧管、芯片、天线形成的电路处于断开状态时，芯片与天线之间断开连接，NFC戒指处于非工作状态，保证了NFC戒指的使用安全性。

[0019] 当干簧管、芯片、天线形成的电路处于闭合状态时，芯片与天线之间闭合连接，NFC戒指处于工作状态，可以进行数据传输，同时发光二极管发光指示工作状态。

[0020] NFC戒指通过磁铁与干簧管之间的相互配合，实现电路的断开或闭合，进而实现非工作状态与工作状态之间的切换，提高了产品的使用安全性能，降低了用户信息被盗取的风险。

## 附图说明

[0021] 图1为本实用新型一实施例的NFC戒指的结构分解图；

[0022] 图2为一实施例的干簧管、发光二极管、芯片、天线的电路连接图；

[0023] 图3为另一实施例的干簧管、发光二极管、芯片、天线的电路连接图；

[0024] 图4为磁铁远离干簧管时的状态图；

[0025] 图5为磁铁靠近干簧管时的状态图。

## 具体实施方式

[0026] 下面结合实施例及附图对本实用新型作进一步详细的描述，但本实用新型的实施方式不限于此。

[0027] 如图1所示，其为本实用新型一实施例的NFC戒指10的结构分解图。NFC戒指10包括：内环100、外环200、边环300、电子组件400及磁铁500。

[0028] 外环200旋转套设于内环100上，外环200与内环100之间形成容置腔600。边环300安装于内环100的一端面上，外环200抵持于内环100与边环300之间。内环100、外环200、边环300相互连接形成一环形整体结构，外环200绕内环100可旋转，边环300可从内环100上拆卸，以使得外环200可从内环100上取出。

[0029] 特别的，外环200的外侧壁上开设有防滑纹210，防滑纹210提高了外环200的防滑性能，当通过手指使外环200绕内环100旋转时，防滑纹210可增大手指与外环200之间的接触摩擦力。

[0030] 电子组件400收容并固定于容置腔600内。在本实施例中，容置腔600为环形腔体结构，电子组件400环绕设于容置腔600内。

[0031] 电子组件400包括：线路板410、干簧管420、芯片430、天线440及发光二极管450，干簧管420、芯片430、天线440、发光二极管450布设于线路板410上。请参阅图2，其为一实施例的干簧管420、芯片430、天线440、发光二极管450的电路连接图，发光二极管450与芯片430连接形成并联电路，所述并联电路的一端与天线440的一端连接，所述并联电路的另一端通过干簧管420与天线440的另一端连接。在干簧管420的作用下，干簧管420、芯片430、天线440形成的电路可以闭合或断开。

[0032] 请参阅图3，其为另一实施例的干簧管420、芯片430、天线440、发光二极管450的



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电路连接图。在此实施例中，干簧管 420、芯片 430、发光二极管 450 的数量分别为两个。例如，一个干簧管 420 和一个芯片 430 的组合可以实现商务名片的数据传输，另一个干簧管 420 和另一个芯片 430 的组合可以实现移动支付功能。干簧管 420 及芯片 430 的数量不限于上述限定，还可以为多个，根据需要选择。

[0033] 还要说明的是，在电路中接入发光二极管 450，通过天线 440 切割磁力线所产生的电流来驱动发光二极管 450 发光，从而在触发芯片 430 读写的过程中可实现发光二极管 450 发光，用来指示读写工作状态，给使用者明确的互动指示。

[0034] 外环 200 的侧壁上开设有收容槽 220，磁铁 500 收容于收容槽 220 内。在本实施例中，收容槽 220 为圆形凹槽，磁铁 500 为圆形片状体。

[0035] 在本实施例中，内环 100、外环 200、边环 300 均为陶瓷。现有金、银、钛钢等金属戒指容易导致 NFC 天线读取的干扰，需加入昂贵的吸波材料来解决抗干扰问题，本实施例中通过选用陶瓷，不但解决了原来金属戒指对 NFC 信号的干扰，而且使得产品成本可以有效降低。

[0036] 请同时参阅图 4 及图 5，其分别为磁铁 500 远离和靠近干簧管 420 时的状态图。

[0037] 旋转外环 200，外环 200 绕内环 100 旋转，设于外环 200 的收容槽 220 内的磁铁 500 随之旋转，从而实现磁铁 500 远离或靠近位于容置腔 600 内的干簧管 420。

[0038] 当磁铁 500 远离干簧管 420 时，干簧管 420 上的簧片触点 422 相互分离，此时干簧管 420、芯片 430、天线 440 形成的电路处于断开状态；当磁铁 500 靠近干簧管 420 时，干簧管 420 上的簧片触点 422 相互接触，此时干簧管 420、芯片 430、天线 440 形成的电路处于闭合状态。

[0039] 当干簧管 420、芯片 430、天线 440 形成的电路处于断开状态时，芯片 430 与天线 440 之间断开连接，NFC 戒指 10 处于非工作状态，保证了 NFC 戒指 10 的使用安全性。

[0040] 当干簧管 420、芯片 430、天线 440 形成的电路处于闭合状态时，芯片 430 与天线 440 之间闭合连接，NFC 戒指 10 处于工作状态，可以进行数据传输。

[0041] 要特别说明的是，干簧管 420 为一种非接触式的密封开关，其体积小、重量轻，易于安装且不显眼，无需复杂的凸轮或曲柄，不会出现金属疲劳现象，提高了使用寿命。干簧管 420 的簧片触点 422 被密封于惰性气体中，不与外界环境接触，大大减少了簧片触点 422 在开、闭过程中由于火花而引起的氧化和碳化，并可防止外界水蒸气和灰尘等杂质对簧片触点 422 的侵蚀，提高了工作寿命长。

[0042] NFC 戒指 10 通过磁铁 500 与干簧管 420 之间的相互配合，实现电路的断开或闭合，进而实现非工作状态与工作状态之间的切换，提高了产品的使用安全性能，降低了用户信息被盗取的风险。

[0043] 上述实施例为本实用新型较佳的实施方式，但本实用新型的实施方式并不受上述实施例的限制，其他的任何未背离本实用新型的精神实质与原理下所作的改变、修饰、替代、组合、简化，均应为等效的置换方式，都包含在本实用新型的保护范围之内。



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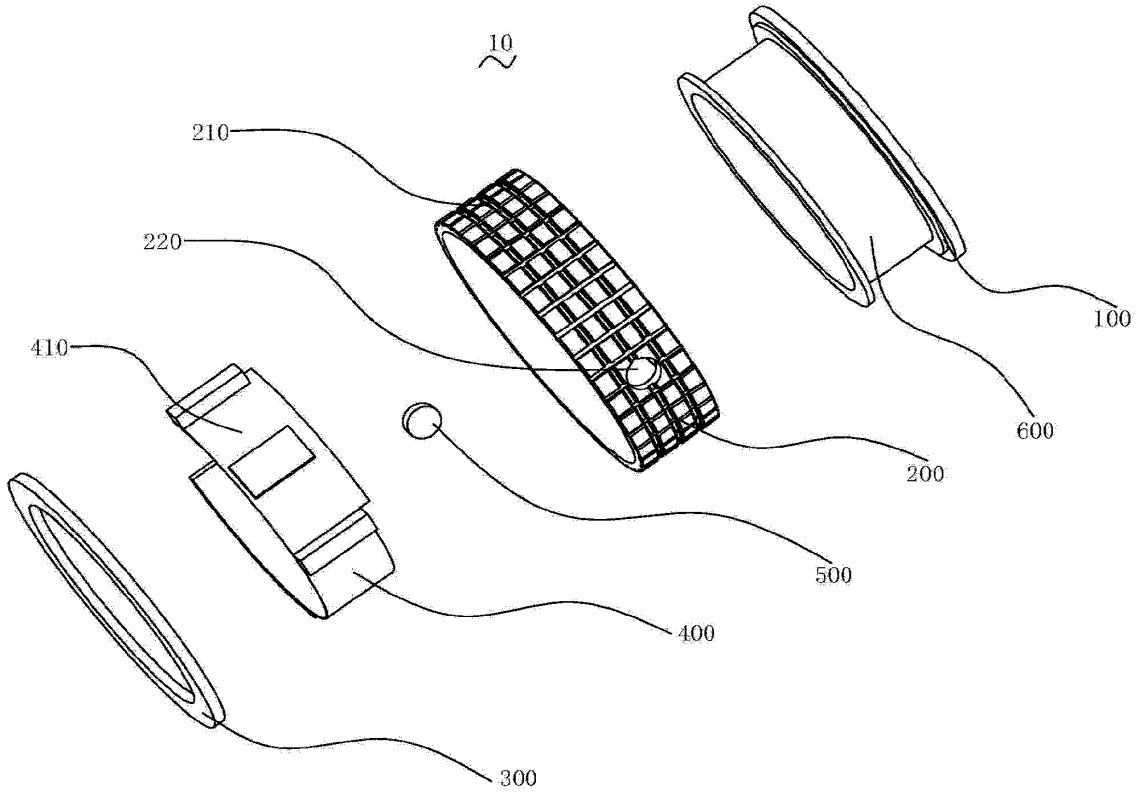



图 1

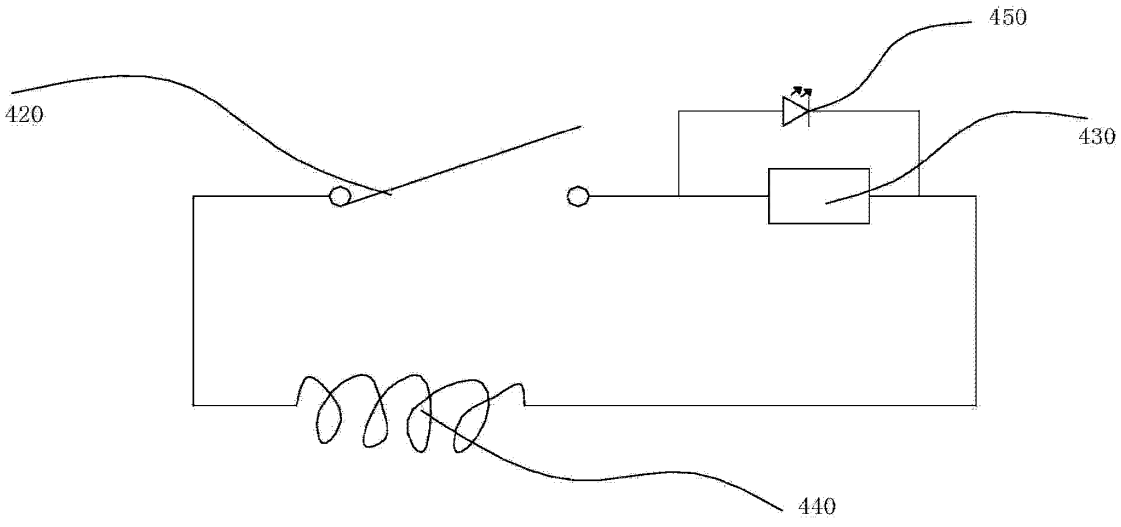



图 2



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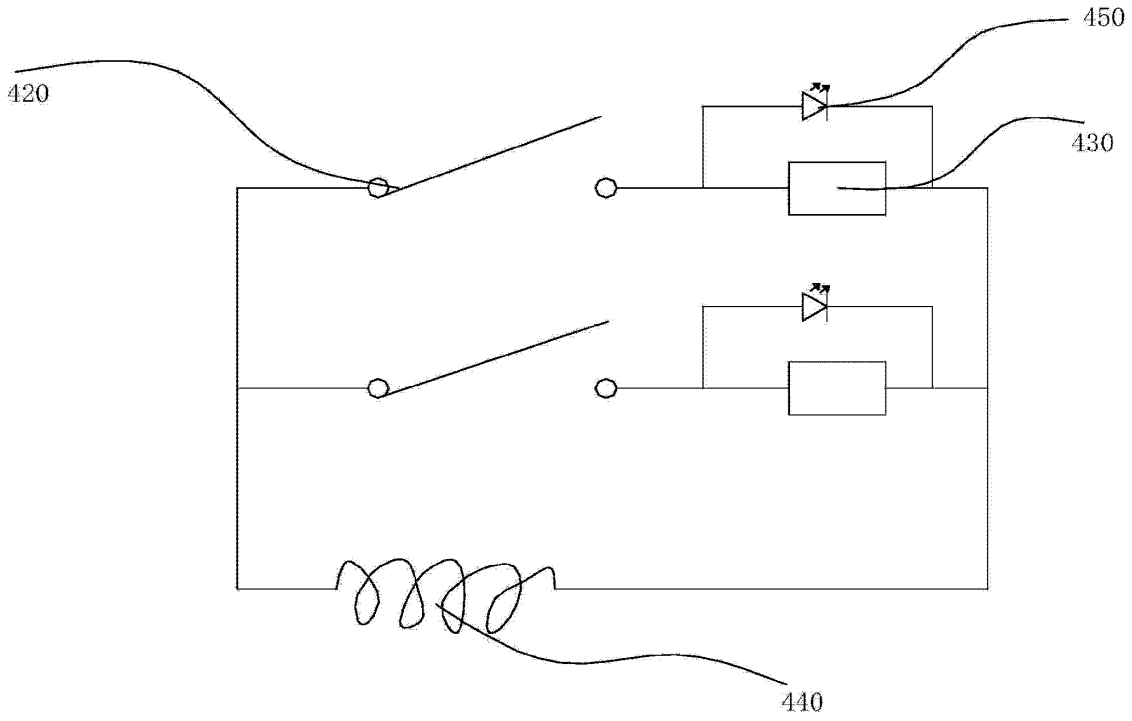



图 3

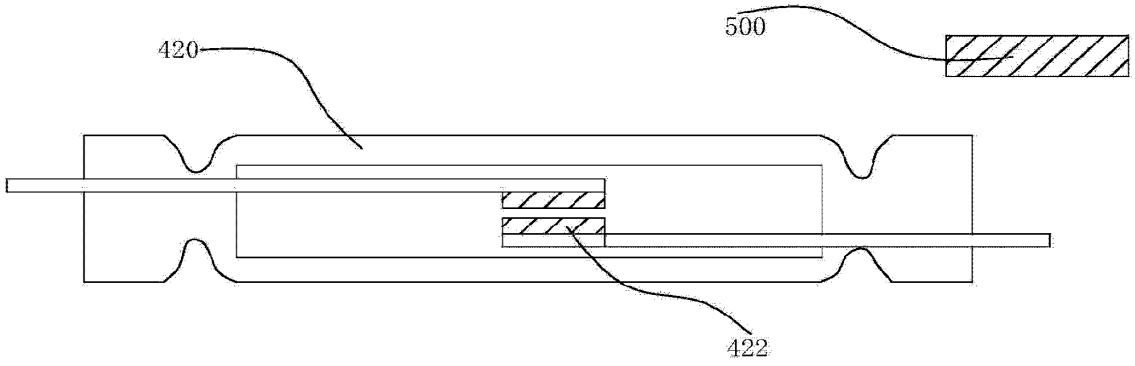



图 4



Petitioner Samsung Ex-1004, 0946

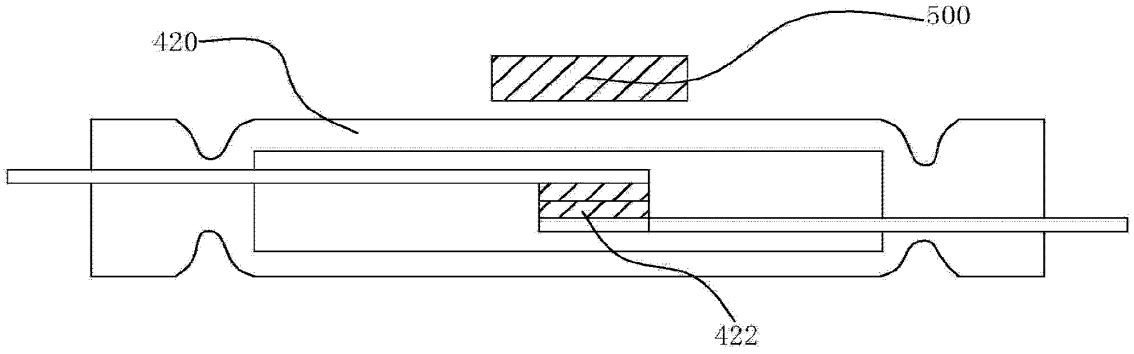



图 5



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Espacenet

# Bibliographic data: CN204732935 (U) — 2015-10-28

## Miniature charger


**Inventor(s):** SHI XIONG ± (SHI XIONG)

**Applicant(s):** SHI XIONG ± (SHI XIONG)



**Classification:** **- international:** ***H02J7/00***
**- cooperative:**

**Application number:** CN20152504255U 20150713

**Priority number(s):** CN20152504255U 20150713


## Abstract of CN204732935 (U)


The utility model discloses a miniature charger, including base and top cap, wherein base and top cap are hollow structure, and base and top cap are inside all to be equipped with magnet piece and air gap pd, has all inlayed the electrode slice on base and the top cap, still is equipped with circuit board and power plug in the base, and the base outside still is equipped with smart machine charging plug and USB interface, and electrode slice, power plug, smart machine charging plug and USB interface on the base all link to each other with the circuit board, still are equipped with the key -ring on the top cap. The utility model discloses when not using, the adsorption of base and top cap accessible magnet piece and closing to a whole when needs use dry battery or rechargeable battery, separates base and top cap, adsorbs the battery live, fixes between base and top cap through the magnet piece, and the through the electrode piece forms the route makes battery and circuit board continuous, can charge for battery or other equipment through power plug, perhaps charge for other equipment through the battery, therefore convenient to use not only, easily carry in addition.




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(12)实用新型专利

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代理人 张景根

(51)Int.Cl.
*H02J 7/00*(2006.01)

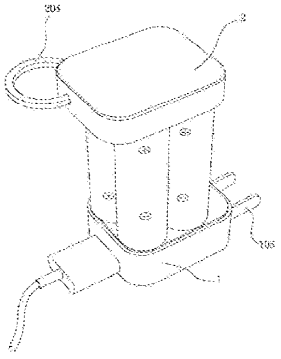
权利要求书1页 说明书3页 附图7页

(54)实用新型名称

一种微型充电器

(57)摘要

本实用新型公开了一种微型充电器，包括基座和顶盖，其中基座和顶盖均为中空结构，基座和顶盖内部均设有磁铁片和隔磁片，基座和顶盖上均嵌有电极片，基座内还设有电路板和电源插头，基座外部还设有智能设备充电插头和USB接口，基座上的电极片、电源插头、智能设备充电插头和USB接口均与电路板相连，顶盖上还设有钥匙环。本实用新型不使用时，基座和顶盖可通过磁铁片的吸附作用而合为一个整体，当需要使用干电池或充电电池时，将基座和顶盖分开，通过磁铁片将电池吸附住、固定在基座和顶盖之间，通过电极片形成通路使得电池和电路板相连，即可通过电源插头为电池或其他设备充电，或者通过电池为其他设备充电，因而不仅使用方便，而且易于携带。



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1. 一种微型充电器，其特征在于，包括基座 (1) 和顶盖 (2)，其中：所述基座 (1) 包括第一外壳 (101) 和第一内壳 (102)，所述第一外壳 (101) 和第一内壳 (102) 构成中空结构，所述基座 (1) 内设有电路板 (103)、磁铁片 (3)，所述第一内壳 (102) 上镶嵌有与电路板 (103) 相连的电极片 (4)，所述磁铁片 (3) 位于电极片 (4) 与电路板 (103) 之间，所述第一内壳 (102) 上设有与电路板 (103) 相连的智能设备充电插头 (104)；

所述基座 (1) 内设有插头滑槽 (105)，所述插头滑槽 (105) 内设有与电路板 (103) 相连的电源插头 (106)；

所述顶盖 (2) 包括第二外壳 (201) 和第二内壳 (202)，所述第二外壳 (201) 和第二内壳 (202) 构成中空结构，所述顶盖 (2) 内也设有磁铁片 (3)，所述第二外壳 (201) 上也镶嵌有电极片 (4)，所述第二内壳 (202) 上设有与智能设备充电插头 (104) 相匹配的插孔 (203)。

2. 如权利要求 1 所述的一种微型充电器，其特征在于：所述基座 (1) 和顶盖 (2) 内还均设有隔磁片 (5)，所述隔磁片 (5) 设于磁铁片 (3) 远离电极片 (4) 的一侧。

3. 如权利要求 1 所述的一种微型充电器，其特征在于：所述基座 (1) 上还设有与电路板 (103) 相连的 USB 插口 (107)。

4. 如权利要求 1 所述的一种微型充电器，其特征在于：所述电极片 (3) 为弹性接触片，所述第一内壳 (102) 和第二内壳 (202) 上设有用于放置电池正极的凹槽 (6)。

5. 如权利要求 1 所述的一种微型充电器，其特征在于：所述顶盖 (2) 上还设有钥匙环 (204)。



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# 一种微型充电器

## 技术领域

[0001] 本实用新型涉及一种电子设备充电装置，尤其是一种微型充电器。

## 背景技术

[0002] 随着科技的发展，手机、平板电脑已成为人们生活、工作中通讯、获取信息的必备工具，其功能越来越强大，人们对其性能要求也越来越高，如电池容量和续航能力，但由于锂离子电池技术一直停滞不前，相对手机性能的几何级数增长，手机电池的续航能力却愈发捉襟见肘，人们只能简单地增加电池容量来提升手机续航能力，或者依靠额外的移动电源来应对手机长时间无法充电的状况，而当人们长时间处于野外或遇到停电等突发状况时，移动电源也将失去作用，此时人们就需要一种应急充电设备，可以将其他电源转化为手机供电电源。为此人们开发出了一些利用干电池为手机进行应急充电的装置，如申请号为CN201320139060.2的申请文件公开了一种可利用干电池充电的手机壳，其具有专门用于放置干电池的电池仓，因此具有体积较大的缺点，不利于随身携带。

## 实用新型内容

[0003] 针对现有技术中的上述问题，本实用新型提出了一种微型充电器。

[0004] 本实用新型的技术方案为：一种微型充电器，包括基座和顶盖，其中所述基座包括第一外壳和第一内壳，所述第一外壳和第一内壳构成中空结构，所述基座内设有电路板、磁铁片，所述第一内壳上镶嵌有与电路板相连的电极片，所述磁铁片位于电极片与电路板之间，所述第一内壳上设有与电路板相连的智能设备充电插头；

[0005] 所述基座内设有插头滑槽，所述插头滑槽内设有与电路板相连的电源插头；

[0006] 所述顶盖包括第二外壳和第二内壳，所述第二外壳和第二内壳构成中空结构，所述顶盖内也设有磁铁片，所述第二外壳上也镶嵌有电极片，所述第二内壳上设有与智能设备充电插头相匹配的插孔。

[0007] 进一步地，所述基座和顶盖内还均设有隔磁片，所述隔磁片设于磁铁片远离电极片的一侧。

[0008] 进一步地，所述基座上还设有与电路板相连的USB插口。

[0009] 进一步地，所述电极片为弹性接触片，所述第一内壳和第二内壳上设有用于放置电池正极的凹槽。

[0010] 进一步地，所述顶盖上还设有钥匙环。

[0011] 本实用新型通过设于基座和顶盖内的磁铁片可将干电池或充电电池吸附在底座和顶盖之间，并通过电极片连成通路并与电路板相连，从而可用于通过智能设备充电插头或者USB接口为其他设备充电；同时可利用电源插头连接外接电源，外接电源电压经过电路板转化后即可为充电电池充电，或者通过智能设备充电插头或USB接口为其他设备充电。

[0012] 与现有技术相比，本实用新型的有益效果是：



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[0013] ①本实用新型通过在基座和顶盖内部均设置磁铁片，在不使用时，基座和顶盖可通过磁铁片的吸附作用而合为一个整体，此时基座上的智能设备充电插头可插入顶盖的插孔内，有效保护智能设备充电插头；当需要使用干电池或充电电池时，将基座和顶盖分开，通过磁铁片和电极片可将电池吸附住并固定在基座和顶盖之间，无需设置额外的导线，也无需配置放置电池的电池仓，使得本实用新型体积十分小巧、易于携带；

[0014] ②本实用新型集成了可收放的电源插头，因而可通过外接电源为设备或电池充电，功能更加全面；

[0015] ③本实用新型通过在顶盖上设置钥匙环，可用于悬挂在钥匙扣上或手提包上，便于随身携带；

[0016] ④本实用新型通过在磁铁片一侧设置隔磁片，以隔绝磁铁片对电路板或其他设备的影响，因此避免了磁铁片影响外部电子设备而导致的安全问题；

[0017] ⑤本实用新型采用弹性接触片作为连接电池的电极片，当电池长度尺寸不一时也可保证接触良好，使其正常工作，保证了产品的性能；同时通过设置凹槽使得电池固定得更加牢固。

## 附图说明

[0018] 图 1 为本实用新型的主视图。

[0019] 图 2 为本实用新型的立体视图。

[0020] 图 3 为本实用新型的又一立体视图。

[0021] 图 4 为本实用新型所述基座的立体视图。

[0022] 图 5 为本实用新型所述顶盖的立体视图。

[0023] 图 6 为本实用新型的内部结构示意图。

[0024] 图 7 为本实用新型的应用参考图。

[0025] 图中：1- 基座，101- 第一外壳，102- 第一内壳，103- 电路板，104- 智能设备充电插头，105- 插头滑槽，106- 电源插头，107-USB 插口，2- 顶盖，201- 第二外壳，202- 第二内壳，203- 插孔，204- 钥匙环，3- 磁铁片，4- 电极片，5- 隔磁片，6- 凹槽。

## 具体实施方式

[0026] 下面结合附图及实施例对本实用新型中的技术方案进一步说明。

[0027] 如图 1 ～图 7 所示，本实用新型包括基座 1 和顶盖 2，其中：所述基座 1 包括第一外壳 101 和第一内壳 102，所述第一外壳 101 和第一内壳 102 构成中空结构，所述基座 1 内设有电路板 103、磁铁片 3，所述第一内壳 101 上镶嵌有与电路板 103 相连的电极片 4，所述磁铁片 3 位于电极片 4 与电路板 103 之间，所述第一内壳 101 上设有与电路板 103 相连的智能设备充电插头 104，所述基座 1 内设有插头滑槽 105，所述插头滑槽 105 内设有与电路板 103 相连的电源插头 106；所述基座 1 上还设有与电路板 103 相连的 USB 插口 107；

[0028] 如图 5、图 6 所示，所述顶盖 2 包括第二外壳 201 和第二内壳 202，所述第二外壳 201 和第二内壳 202 构成中空结构，所述顶盖 2 内也设有磁铁片 3，所述第二外壳 201 上也镶嵌有电极片 4，所述第二内壳 202 上设有与智能设备充电插头 104 相匹配的插孔 203，所述顶盖上设有钥匙环 204；



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[0029] 所述基座 1 和顶盖 2 内还均设有隔磁片 5，所述隔磁片 5 设于磁铁片 3 远离电极片 4 的一侧；所述电极片 4 为弹性接触片，所述第一内壳 102 和第二内壳 202 上设有用于放置电池正极的凹槽 6。

[0030] 以上所述仅为本实用新型的较佳实施例而已，并不用以限制本实用新型，凡在本实用新型的精神和原则之内，所作的任何修改、等同替换、改进等，均应包含在本实用新型的保护范围之内。



Petitioner Samsung Ex-1004, 0953

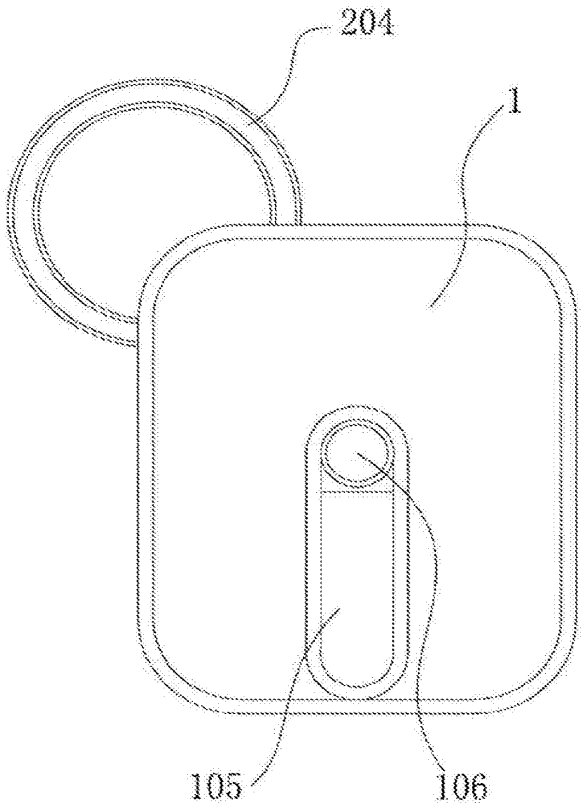



图 1



Petitioner Samsung Ex-1004, 0954

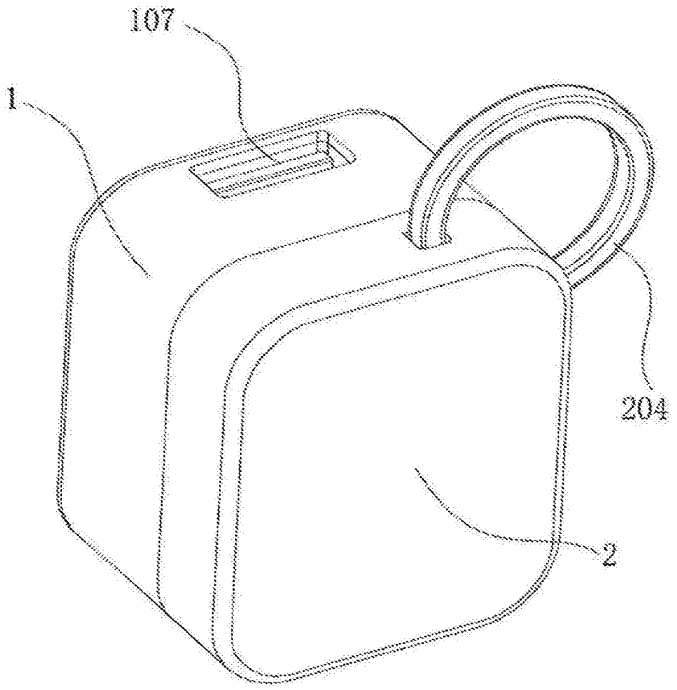



图 2



Petitioner Samsung Ex-1004, 0955

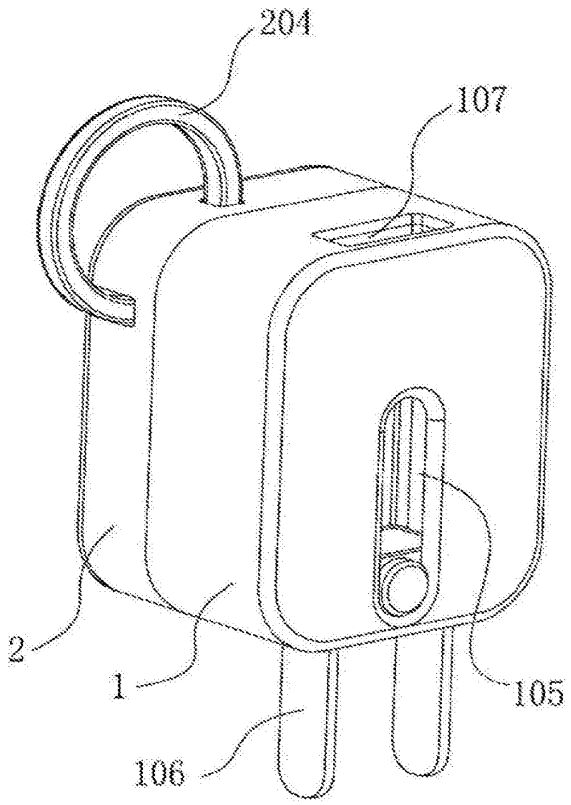



图 3



Petitioner Samsung Ex-1004, 0956

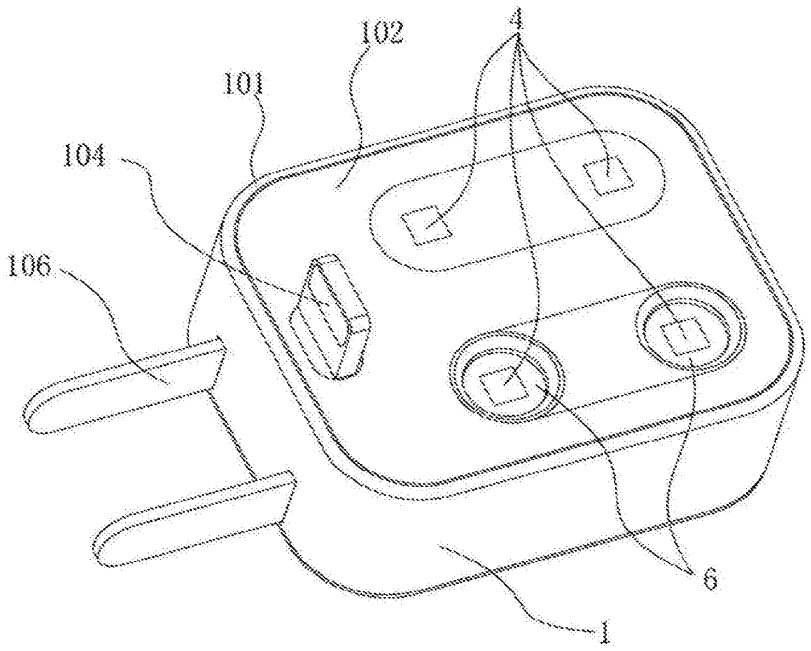



图 4



Petitioner Samsung Ex-1004, 0957

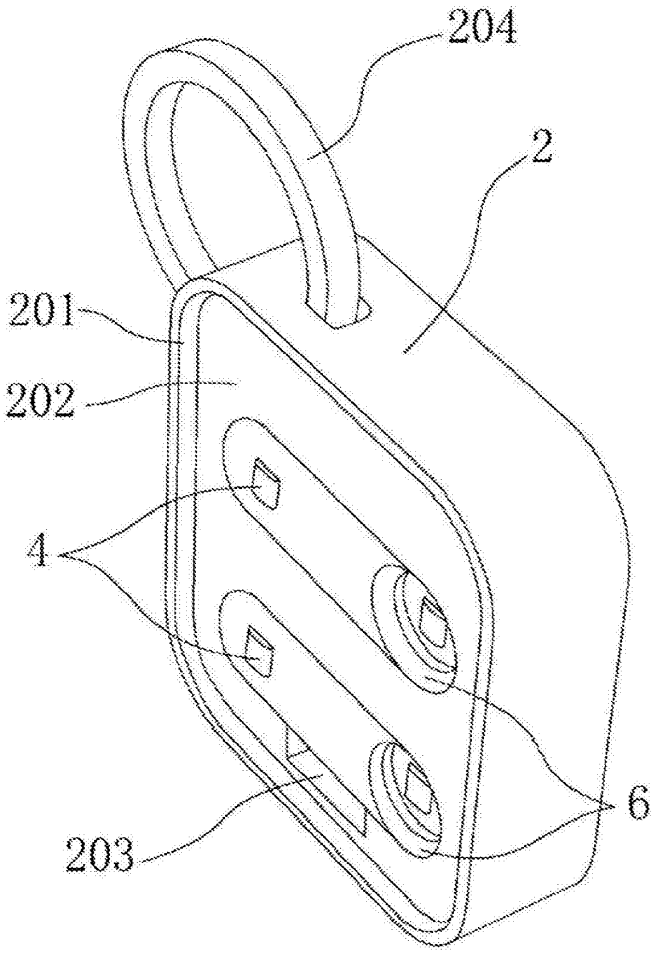



图 5



Petitioner Samsung Ex-1004, 0958

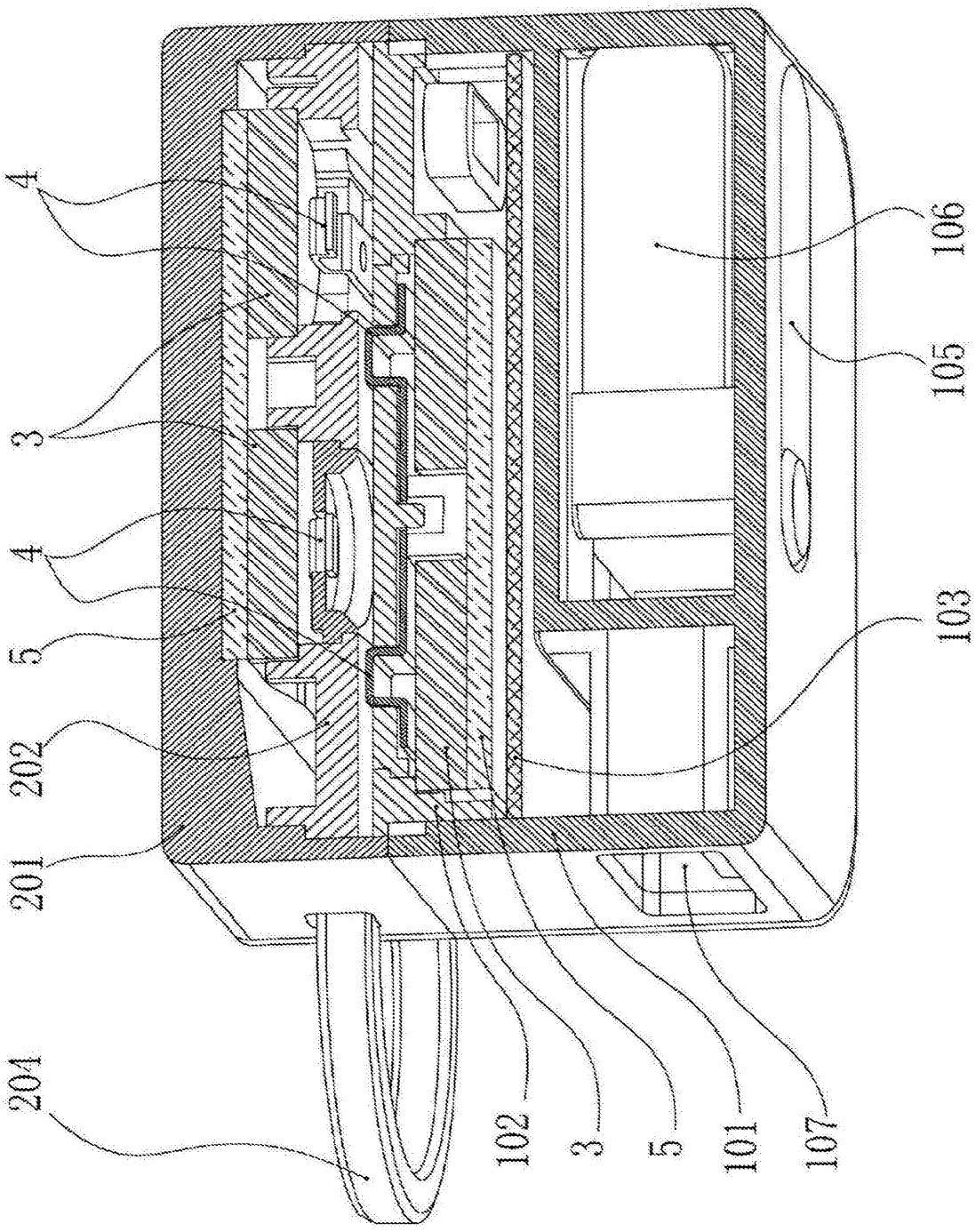



图 6



Petitioner Samsung Ex-1004, 0959

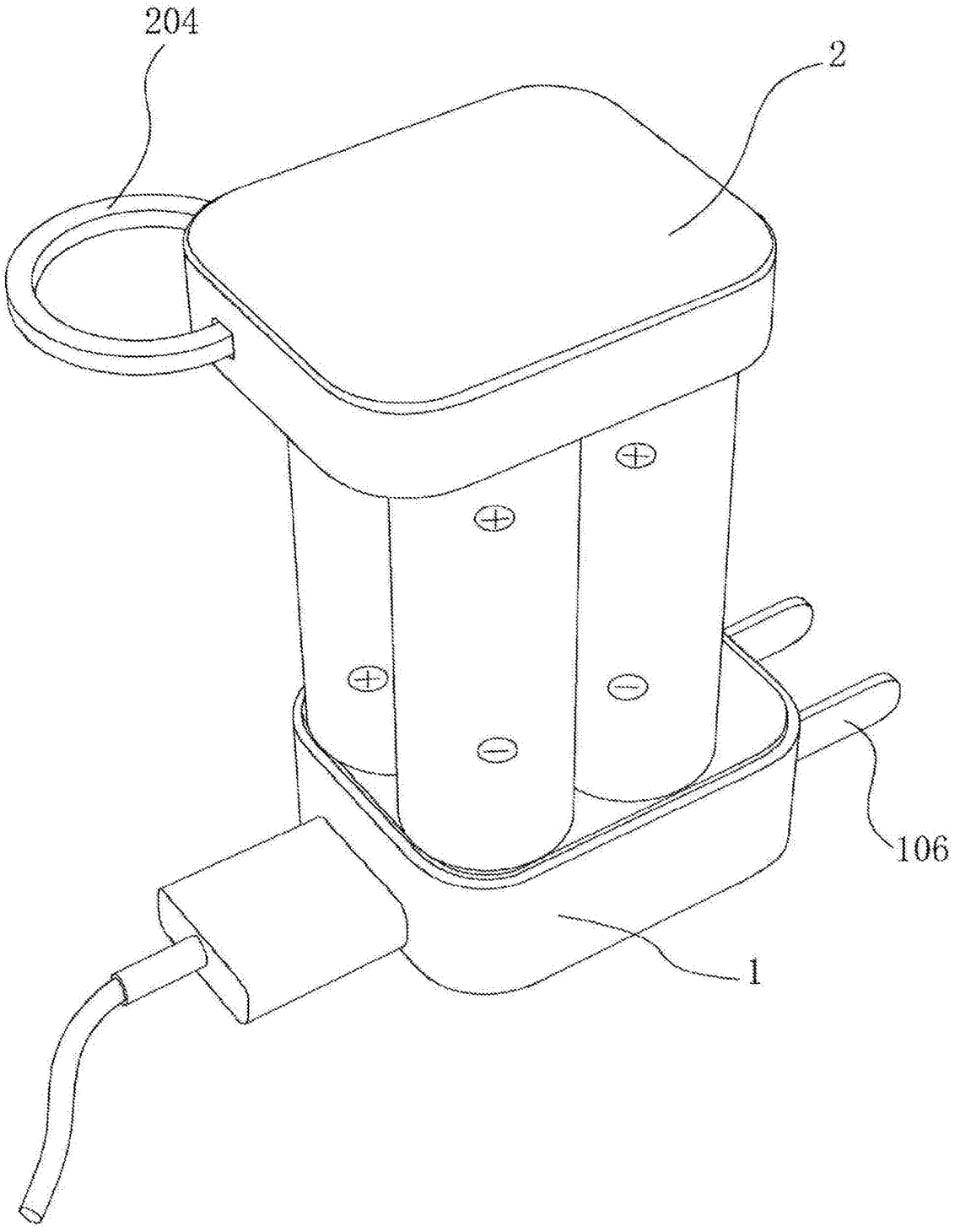



图 7



Petitioner Samsung Ex-1004, 0960

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国 际 局

(43) 国际公布日
2012 年 3 月 1 日 (01.03.2012)

PCT

(10) 国际公布号
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*H02J 7/00* (2006.01) *H01M 10/44* (2006.01)
*H01M 10/46* (2006.01)

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(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权:
201020503502.3 2010 年 8 月 23 日 (23.08.2010) CN

(72) 发明人; 及
(71) 申请人 : 王鸿 (WANG, Hong) [CN/CN]; 中国广东省东莞市清溪镇银坑工业区银松路一巷三号, Guangdong 523658 (CN)。

(74) 代理人: 深圳市嘉宏博知识产权代理事务所 (SHENZHEN JAHONGBO INTELLECTUAL PROPERTY AGENT OFFICE); 中国广东省深圳市福田区红荔西路鹏基上步工业厂房 302 栋第二楼东 201, Guangdong 518028 (CN)。

(81) 指定国 (除另有指明，要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

(84) 指定国 (除另有指明，要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)。

本国际公布:
— 包括国际检索报告(条约第 21 条(3))。

(54) Title: PORTABLE CHARGER

(54) 发明名称 : 便携式充电器

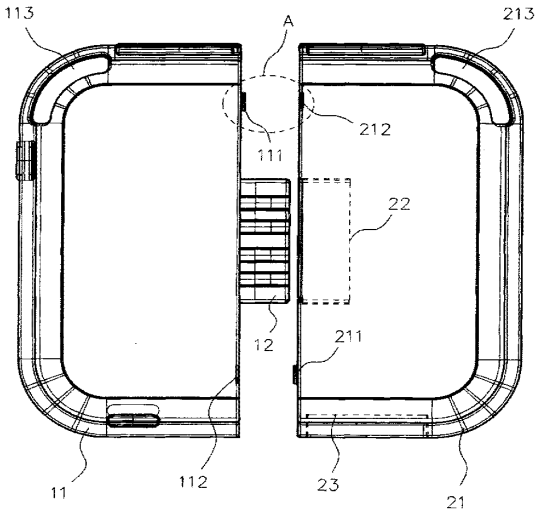



图 2 / FIG 2

(57) Abstract: A portable charger includes a first component (1) and a second component (2) capable of being separated and having internal circuits electrically connected to each other. The first component and the second component are fixed into one by a connecting device. When the portable charger is in use, the first component and the second component are fixed into one by the connecting device, and can be used for charging an electronic product; when the portable charger is not in use, the first component and the second component may be suspended from a keychain and a belt respectively or suspended from the neck through a lanyard. The portable charger is not only light and convenient for a user to use anytime, but also achieves a decorative effect.

[见续页]

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(57) 摘要:

一种便携式充电器，其包括内部电路相互电连接且可分离的第一部件（1）及第二部件（2），第一部件与第二部件通过连接装置固定为一体。便携式充电器使用时第一部件与第二部件通过连接装置固定为一体，可用于对电子产品进行充电；不使用时第一部件与第二部件可分别悬挂在钥匙扣、腰带上或通过挂绳悬挂在脖子上等，因而不仅轻便及便于使用者随时使用，而且具有装饰效果。

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# 便携式充电器

## 技术领域

本实用新型涉及一种充电器，尤其是涉及一种便携式充电器。

## 背景技术

随着经济和科技的发展，人与人之间的活动更加频繁。此外，随着移动商务的普及，使手机、个人数字助理、数码相机及笔记本电脑等持有率大幅提高。这些移动商务工具通常都设置有提供工作电源的可充电电池，虽然电池可进行长时间供电，但随着使用时间的推移，电池电量耗尽后必须通过充电器对电池进行充电。

先前的充电器体积较大，放在衣袋或包内均不方便，为解决上述问题，专利申请号为 200720140072 的中国专利揭示了一种便携式充电器，其包括插头护罩、充电电路外壳、充电插头、电源线和电源线护罩。所述充电插头和电源插极相对嵌合，收置于插头护罩内。所述插头护罩和充电电路外壳外壁同充电插头平行方向外侧一周设有凹槽，供电源线缠绕；所述电源线护套捆绕电源线外围将其保护，从而在一定程度上可减小体积及相对便于携带。然而，现有的便携式充电器仍然不能满足需要。

## 实用新型内容

本实用新型是针对上述背景技术存在的缺陷提供一种不仅轻便及便于使用者随时使用，而且具有很好的装饰效果的便携式充电器。



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为实现上述目的，本实用新型公开了一种便携式充电器，其包括内部电路相互电连接且可分离的第一部件及第二部件，所述第一部件与第二部件通过连接装置固定为一体。

进一步地，所述连接装置为一快速接头。

进一步地，所述连接装置可收容于所述第一部件或第二部件内。

进一步地，所述充电器的插头位于第一部件或第二部件上。

进一步地，所述插头可转动并收容于所述第一部件或第二部件内。

进一步地，所述充电器的充电插口位于第一部件或第二部件上。

进一步地，所述充电器的第一部件或第二部件上设置有可吊挂的挂件。

进一步地，所述插头的两插脚分别设置在所述第一部件或第二部件上。

进一步地，所述插脚可分别转动收纳于第一部件或第二部件内。

进一步地，高压电路及低压电路分别设置在所述第一部件或第二部件上，高压电路及低压电路电连接。

进一步地，所述第一收纳部件或第二部件内设有锂电池及电源转换开关，所述锂电池与所述插口电连接。

综上所述，本实用新型便携式充电器通过设置成内部电路相互电连接且可分离的第一部件及第二部件的形式，使用时所述第一部件与第二部件通过连接装置固定为一体，则可对电子产品进行充电；不使用时可分别悬挂在钥匙扣、腰带或通过挂绳悬挂在脖子上等，因而不仅轻便及便于使用者随时使用，而且具有很好的装饰效果。

**附图说明**

图 1 为本实用新型一种实施例的结构示意图；



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图 2 为图 1 所示本实用新型的分解图；

图 3 为图 2 所示本实用新型的 A 区域的放大图。

**具体实施方式**

为能进一步了解本实用新型的特征、技术手段以及所达到的具体目的、功能，下面结合附图与具体实施方式对本实用新型作进一步详细描述。

请参阅图 1 至图 3，本实用新型便携式充电器包括一第一部件 1 及一第二部件 2。所述第一部件 1 设置有一第一绝缘壳体 11，所述第一绝缘壳体 11 内装设有高压电路及与所述高压电路电连接的一 USB 公口 12，所述 USB 公口 12 与所述第一绝缘壳体 11 活动连接，所述 USB 公口 12 延伸到所述第一绝缘壳体 11 外并可收容于所述第一绝缘壳体 11 内。

所述第一绝缘壳体 11 位于所述 USB 公口 12 的两侧分别设置有一第一扣接柱 111 及一第一扣接槽 112，所述第一扣接柱 111 的自由端的横截面积大于所述第一扣接柱 111 中部的横截面积。所述第一扣接槽 112 的远离槽口的一端的宽度大于所述槽口的宽度。所述第一绝缘壳体 11 的一端设置有一第一穿孔 113，从而使所述第一绝缘壳体 11 形成一可吊挂的挂件。所述第一部件 1 连接有一与所述高压电路电连接的插头，所述插头设置有两插脚，所述插头可转动并收容于所述第一绝缘壳体内，从而所述插脚可收纳于所述第一绝缘壳体 11 内。

所述第二部件 2 设置有一第二绝缘壳体 21，所述第二绝缘壳体 21 内装设有低压电路及与所述低压电路电连接的一 USB 母口 22 及一充电插口 23，所述 USB 母口 22 与所述 USB 公口 12 位置相对应，所述第二绝缘壳体 21 位于所述 USB 母口 22 的两侧分别设置有一第二扣接柱 211 及一第二扣接槽 212，



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所述第二扣接柱 211 及所述第二扣接槽 212 分别与所述第一扣接柱 111 及所述第一扣接槽 112 位置相对。

所述第二扣接柱 211 的自由端的横截面积大于所述第二扣接柱 211 中部的横截面积。所述第二扣接槽 212 的远离槽口的一端的宽度大于所述槽口的宽度。所述第二部件 2 的一端设置有一第二穿孔 213，从而使所述第二绝缘壳体 21 形成一可吊挂的挂件。所述第二绝缘壳体 21 内装设有锂电池及电源转换开关，所述锂电池与所述低压电路及所述充电插口 23 电连接并通过所述低压电路对所述锂电池充电。所述电源转换开关作为充电模式选择开关。

使用本实用新型时，将所述第一部件 1 及第二部件 2 对应插接，即所述第一扣接柱 111 及所述第二扣接柱 211 分别与所述第二扣接槽 212 及所述第一扣接槽 112 对应插接，所述 USB 公口 12 插设在所述 USB 母口 22 上，使高压电路及低压电路实现电连接，从而组成一个功能完整的充电器。通过将所述插头与插座插接，所述充电插口 23 与手机等可充电的电子产品电连接，便可进行充电。

在本实施例中，所述所述第一扣接柱 111 及所述第二扣接柱 211 作为所述第一部件 1 及第二部件 2 的连接装置。通过设置所述锂电池及电源转换开关，因而当在旅行等出门在外时，通过将所述电源转换开关拨为锂电池向外供电的模式，从而可通过所述锂电池对手机等进行充电。

综上所述，本实用新型便携式充电器通过设置成内部电路相互电连接且可分离的第一部件 1 及第二部件 2 的形式，使用时所述第一部件 1 与第二部件 2 通过连接装置固定为一体，则可对电子产品进行充电；不使用时可分别悬挂在



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钥匙扣、腰带或通过挂绳悬挂在脖子上等，因而不仅轻便及便于使用者随时使用，而且具有很好的装饰效果。

以上所述实施例仅表达了本实用新型的一种实施方式，其描述较为具体和详细，但并不能因此而理解为对本实用新型范围的限制。应当指出的是，对于本领域的普通技术人员来说，在不脱离本实用新型构思的前提下，还可以做出若干变形和改进，例如，将所述连接装置设置为快速接头等，这些都属于本实用新型的保护范围。因此，本实用新型的保护范围应以所附权利要求为准。



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# 权 利 要 求 书

1、一种便携式充电器，其特征在于：包括内部电路相互电连接且可分离的第一部件（1）及第二部件（2），所述第一部件（1）与第二部件（2）通过连接装置固定为一体。

2、根据权利要求 1 所述的便携式充电器，其特征在于：所述连接装置为一快速接头。

3、根据权利要求 1 所述的便携式充电器，其特征在于：所述连接装置可收容于所述第一部件（1）或第二部件（2）内。

4、根据权利要求 1 所述的便携式充电器，其特征在于：所述充电器的插头位于第一部件（1）或第二部件（2）上。

5、根据权利要求 4 所述的便携式充电器，其特征在于：所述插头可转动并收容于所述第一部件（1）或第二部件（2）内。

6、根据权利要求 1 或 2 所述的便携式充电器，其特征在于：所述充电器的充电插口（23）位于第一部件（1）或第二部件（2）上。

7、根据权利要求 1 所述的便携式充电器，其特征在于：所述充电器的第一部件（1）或第二部件（2）上设置有可吊挂的挂件。

8、根据权利要求 1 所述的便携式充电器，其特征在于：所述插头的两插脚分别设置在所述第一部件（1）或第二部件（2）上。

9、根据权利要求 8 所述的便携式充电器，其特征在于：所述插脚可分别转动收纳于第一部件（1）或第二部件（2）内。



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10、根据权利要求 1 所述的便携式充电器，其特征在于：高压电路及低压电路分别设置在所述第一部件（1）或第二部件（2）上，高压电路及低压电路电连接。

11、根据权利要求 1 所述的便携式充电器，其特征在于：所述第一收纳部件或第二部件（2）内设有锂电池及电源转换开关，所述锂电池与所述插口电连接。



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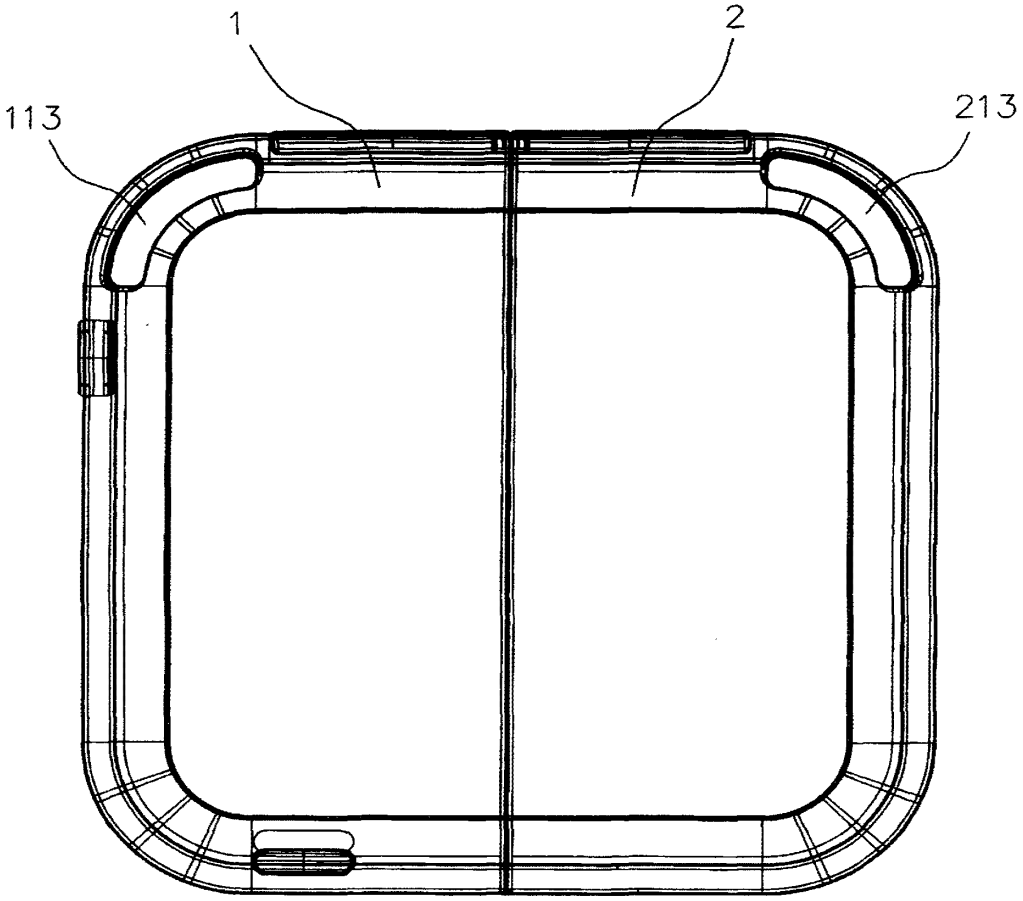



图 1



Petitioner Samsung Ex-1004, 0970

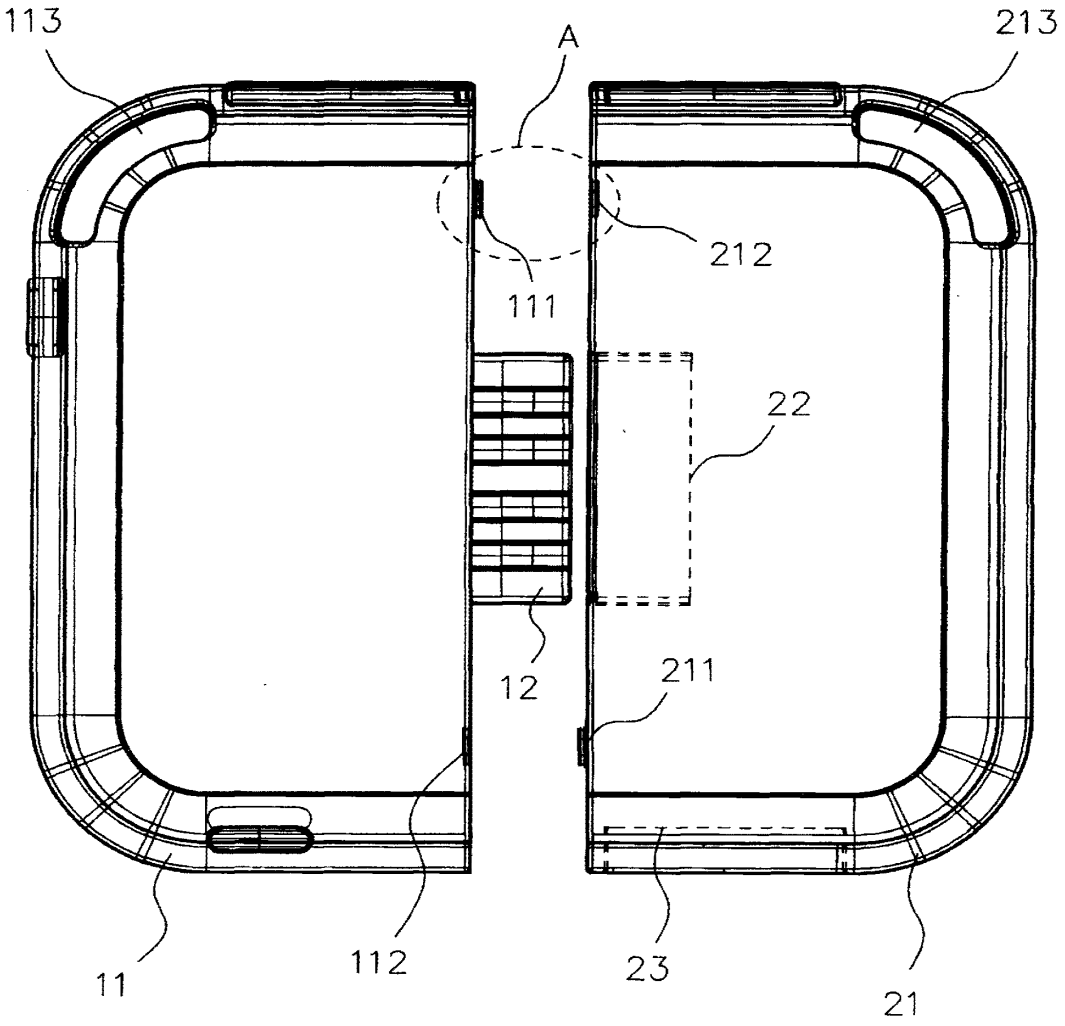



图 2



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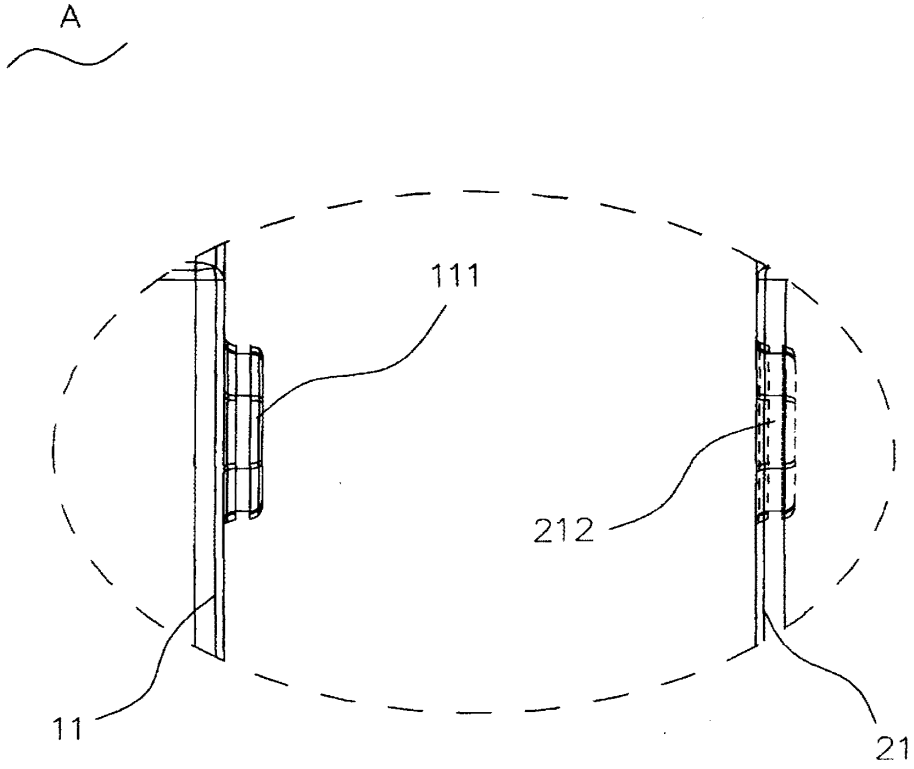



图 3



Petitioner Samsung Ex-1004, 0972

**INTERNATIONAL SEARCH REPORT**

International application No.
**PCT/CN2011/001298**

**A. CLASSIFICATION OF SUBJECT MATTER**

See the extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC: H02J, H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, EPODOC, WPI, CNKI: power supply, carry, spare, separate, charge, power, source, supply, portable, pocket, handy, emergency, secondary, auxiliary, combin+, detach+, remov+, assembly, plug, pin, blade, transformer, change, switch

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | US 2004/0204177 A1 (PORNG DA ENTERPRISE CO., LTD.), 14 October 2004 (14.10.2004), description, paragraphs 16-19, claim 1 and figure 3 | 1, 2, 4-6, 8, 9 |
| Y | | 11 |
| X | CN 201509212 U (LI, Yongheng), 16 June 2010 (16.06.2010), description, paragraphs 23-25 , and figures 1-6 | 1, 3, 7 |
| X | US 4211968 A (GENERAL ELECTRIC CO.), 08 July 1980 (08.07.1980), description, column 2, line 17 to column 4, line 10, and figures 1-8 | 1, 10 |
| Y | CN 101009433 A (SAMYA TECHNOLOGY CO., LTD.), 01 August 2007 (01.08.2007), description, page 4, 2nd last paragraph to page 7, paragraph 3, claim 1 and figures 1-9B | 11 |
| PX | CN 201781304 U (WANG, Hong), 30 March 2011 (30.3.2011), the whole document | 1-11 |

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 07 November 2011 (07.11.2011) | **17 November 2011 (17.11.2011)** |
| Name and mailing address of the ISA/CN<br>State Intellectual Property Office of the P.R.China<br>No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088, China<br>Facsimile No. (86-10) 62019451 | Authorized officer<br>**FU, Qi**<br>Telephone No. (86-10) **62411772** |

Form PCT/ISA /210 (second sheet) (July 2009)

Petitioner Samsung Ex-1004, 0973

**INTERNATIONAL SEARCH REPORT**
Information on patent family members

International application No.
**PCT/CN2011/001298**

| Patent Documents referred in the Report | Publication Date | Patent Family | Publication Date |
|---|---|---|---|
| US2004/0204177A1 | 14.10.2004 | None | |
| CN201509212U | 16.06.2010 | None | |
| US4211968A | 08.07.1980 | CA1130375A | 24.08.1982 |
| CN101009433A | 01.08.2007 | JP2007-215320A | 23.08.2007 |
| | | US2007/0182368A1 | 09.08.2007 |
| CN201781304U | 30.03.2011 | None | |



Petitioner Samsung Ex-1004, 0974

**INTERNATIONAL SEARCH REPORT**

International application No.
**PCT/CN2011/001298**

**A. CLASSIFICATION OF SUBJECT MATTER**

H02J 7/00 (2006.01) i
H01M 10/46 (2006.01) i
H01M 10/44 (2006.01) i



Petitioner Samsung Ex-1004, 0975

# 国际检索报告

国际申请号
**PCT/CN2011/001298**

**A. 主题的分类**

参见附加页

按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类

**B. 检索领域**

检索的最低限度文献(标明分类系统和分类号)

IPC：H02J, H01M

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称，和使用的检索词（如使用）)

CNPAT，EPODOC，WPI，CNKI：充电，电源，供电，便携，携带，应急，备用，辅助，组合，分体，分离，拆，组装，插头，插脚，变压，转换，开关，charge, power, source, supply, portable, pocket, handy, emergency, secondary, auxiliary, combin+, detach+, remov+, assembly, plug, pin, blade, transformer, change, switch

**C. 相关文件**

| 类　型* | 引用文件，必要时，指明相关段落 | 相关的权利要求 |
|---|---|---|
| X | US2004/0204177A1（PORNG DA ENTERPRISE CO LTD）<br>14.10 月 2004 (14.10.2004) 说明书第 16－19 段，权利要求 1，图 3 | 1,2,4-6,8,9 |
| Y | | 11 |
| X | CN201509212U（李永恒）16.6 月 2010 (16.06.2010)<br>说明书第 23－35 段，图 1－6 | 1,3,7 |
| X | US4211968A（GENERAL ELECTRIC CO）08.7 月 1980 (08.07.1980)<br>说明书第 2 栏第 17 行－第 4 栏第 10 行，图 1－8 | 1,10 |
| Y | CN101009433A（祥业科技股份有限公司）01.8 月 2007（01.08.2007）<br>说明书第 4 页倒数第 2 段－第 7 页第 3 段，权利要求 1，图 1－9B | 11 |
| PX | CN201781304U（王鸿）30.3 月 2011（30.03.2011）全文 | 1-11 |

☐ 其余文件在 C 栏的续页中列出。　　☒ 见同族专利附件。

* 引用文件的具体类型：

"A" 认为不特别相关的表示了现有技术一般状态的文件

"E" 在国际申请日的当天或之后公布的在先申请或专利

"L" 可能对优先权要求构成怀疑的文件，或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件（如具体说明的）

"O" 涉及口头公开、使用、展览或其他方式公开的文件

"P" 公布日先于国际申请日但迟于所要求的优先权日的文件

"T" 在申请日或优先权日之后公布，与申请不相抵触，但为了理解发明之理论或原理的在后文件

"X" 特别相关的文件，单独考虑该文件，认定要求保护的发明不是新颖的或不具有创造性

"Y" 特别相关的文件，当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时，要求保护的发明不具有创造性

"&" 同族专利的文件

| 国际检索实际完成的日期 | 国际检索报告邮寄日期 |
|---|---|
| 07.11 月 2011（07.11.2011） | **17.11 月 2011 (17.11.2011)** |
| ISA/CN 的名称和邮寄地址：<br>中华人民共和国国家知识产权局<br>中国北京市海淀区蓟门桥西土城路 6 号 100088<br>传真号：　(86-10)62019451 | 受权官员<br>傅琦<br>电话号码：(86-10) **6241 1772** |



Petitioner Samsung Ex-1004, 0976

**国际检索报告**
关于同族专利的信息

国际申请号
**PCT/CN2011/001298**

| 检索报告中引用的专利文件 | 公布日期 | 同族专利 | 公布日期 |
|---|---|---|---|
| US2004/0204177A1 | 14.10.2004 | 无 | |
| CN201509212U | 16.06.2010 | 无 | |
| US4211968A | 08.07.1980 | CA1130375A | 24.08.1982 |
| CN101009433A | 01.08.2007 | JP2007-215320A | 23.08.2007 |
| | | US2007/0182368A1 | 09.08.2007 |
| CN201781304U | 30.03.2011 | 无 | |



Petitioner Samsung Ex-1004, 0977

国际检索报告

国际申请号
**PCT/CN2011/001298**

A．主题的分类：

H02J 7/00 (2006.01) i

H01M 10/46 (2006.01) i

H01M 10/44 (2006.01) i



Petitioner Samsung Ex-1004, 0978

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25963628 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 03-JUN-2016 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 16:11:19 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Information Disclosure Statement (IDS) Form (SB08) | MechioIDS40002.pdf | 1010625<br>001423223d0acad282c0a379396bfe2ac7064298 | no | 7 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Foreign Reference | CN103441306.pdf | 905168<br>f5484b34abe7cdbb2795292e78ac6c9134913fa3 | no | 14 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Foreign Reference | CN204440426U.pdf | 442375<br>8c31f62193f419c4fc84348dbd7d6bcfc6fda61a | no | 9 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Foreign Reference | CN204732935U.pdf | 621759<br>aba963152ae20f4996a2b765d30e35cede7562a8 | no | 13 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Foreign Reference | WO2012024889A1.pdf | 310737<br>297f549d5e704b4d9bcfdefdcccd660d9d7b3f43 | no | 18 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 6 | Non Patent Literature | BambooFlashDrive.pdf | 178226<br>91b07ee515124a39b5e7731b3d484d94ddb54347 | no | 3 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 7 | Non Patent Literature | LeefMagnetUSBFlashdrive.pdf | 240631<br>ef54ebd7d5dfbf58e6cdb47fce49b3bc9f555595 | no | 3 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 3709521 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): von Badinski, et al.<br><br>Application No.: 14/556,062<br><br>Filed: 11/28/2014<br><br>Title: WEARABLE COMPUTING DEVICE<br><br>Attorney Docket No.: 340/0002 | Art Unit:<br>2689<br><br>Examiner:<br>Travis Hunnings |

Loginov & Associates, PLLC
214 South Main Street
Concord, NH 03301
September 20, 2016

Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**RESPONSE TO OFFICE ACTION UNDER 37 CFR 1.111**

Dear Sir:

In response to the Office Action mailed May 18, 2016, please amend this application as follows:



Petitioner Samsung Ex-1004, 0982

**IN THE CLAIMS:**

Please amend the claims as follows:

1. (Currently Amended) A wearable computing device, comprising:

~~An~~ an interior wall defining a first enclosing structure;

an exterior wall defining a second enclosing structure;

a flexible printed circuit board disposed between the interior wall and the exterior wall;

at least one component disposed on the flexible printed circuit board; and

wherein at least one of the interior wall and the exterior wall defines a window that facilitates at least one of data acquisition, data transmission, and battery recharge~~, and status indication~~.

2. (Original) The wearable computing device of claim 1, wherein the window comprises an internal window defined by the interior wall.

3. (Original) The wearable computing device of claim 1, wherein the window comprises an exterior window defined by the exterior wall.

4. (Original) The wearable computing device of claim 1, wherein the window comprises a plurality of exterior windows defined by the exterior wall.

5. (Original) The wearable computing device of claim 4, wherein the plurality of exterior windows comprises a first exterior window and a second exterior window, wherein the first exterior window facilities battery charging and the second exterior window facilities data transmission.



Petitioner Samsung Ex-1004, 0983

6. (Original) The wearable computing device of claim 4, wherein at least one concentrated photovoltaic cell, an antenna, and at least one LED are accessible via the window.

7. (Currently Amended) A wearable computing device, comprising:

an internal housing portion defining a first enclosing structure, the internal housing portion configured to be disposed near a finger of a user;

a flexible printed circuit board arranged around a portion of a circumference of an interior surface of the internal housing;

at least one component disposed on the flexible printed circuit board; and

an external housing portion defining a second enclosing structure, the external housing portion configured to seal the at least one component and the printed circuit board in an internal space defined by the interior surface of the internal housing.

8. (Original) The wearable device of claim 7, wherein the external housing portion comprises a substantially transparent external potting.

9. (Original) The wearable computing device of claim 8, wherein the at least one component comprises at least one LED configured to emit at least one of visible light, infrared radiation, and ultraviolet radiation through the external potting.

10. (Original) The wearable computing device of claim 8, wherein the at least one component comprises a concentrated photovoltaic cell configured to receive concentrated light through the transparent external potting.

11. (Original) The wearable computing device of claim 8, wherein the flexible printed circuit board includes a plurality of stiffener elements configured to engage with a corresponding plurality of flanges disposed on the internal housing portion.



Petitioner Samsung Ex-1004, 0984

12. (Currently Amended) A wearable computing device, comprising:

an external housing portion defining a first enclosing structure;

a flexible printed circuit board arranged around a portion of a circumference of an interior surface of the external housing;

at least one component disposed on the flexible printed circuit board; and

an internal housing portion defining a second enclosing structure, the internal housing portion configured to seal the at least one component and the printed circuit board in an internal space defined by the interior surface of the external housing.

13. (Original) The wearable device of claim 12, wherein the internal housing portion comprises a substantially transparent internal potting.

14. (Original) The wearable computing device of claim 13, wherein the at least one component comprises at least one LED configured to emit at least one of visible light, infrared radiation, and ultraviolet radiation through the internal potting.

15. (Original) The wearable computing device of claim 13, wherein the at least one component comprises a concentrated photovoltaic cell configured to receive concentrated light through the transparent internal potting.

16. (Original) The wearable computing device of claim 13, wherein the flexible printed circuit board includes a plurality of stiffener elements configured to engage with a corresponding plurality of flanges disposed on the external housing portion.

17. (New) The wearable computing device of claim 1, wherein the window comprises a plurality of windows, the plurality of windows comprising at least one exterior window defined by the exterior wall, and at least one interior window defined by the interior wall.



Petitioner Samsung Ex-1004, 0985

18. (New) The wearable computing device of claim 4, wherein the plurality of windows facilitate battery charging and data transmission.

19. (New) The wearable computing device of claim 3, wherein an antenna is accessible via the window.

20. (New) The wearable computing device of claim 19, wherein at least one of an LED or a photovoltaic cell is accessible via the window.



Petitioner Samsung Ex-1004, 0986

## REMARKS

This paper is responsive to the Office Action mailed May 18, 2016. This Response addresses each of the issues raised by the Examiner in the Office Action. Accordingly reconsideration is respectfully requested.

### Claim Status

Claims 1-4 and 7-16 are rejected by the Office Action. Claims 5-6 include allowable subject matter, but are objected to by the Office Action as depending from a rejected claim. Applicant thanks the Examiner for the indication of allowable subject matter. Claims 1, 7, and 12 are currently amended. Claims 2-5, 8-11, and 13-16 are original. Claims 17-20 are new. Claims 1-20 are currently pending.

### Claim Rejections – 35 U.S.C. § 102

Claim 1

In paragraph 4 on page 2, the Office Action has alleged that Applicant's claim 1 is anticipated by Mastandrea (US 20130027341). Although Applicant respectfully disagrees with the rejection, Applicant has amended claim 1 to expedite prosecution. Applicant's amended claim 1 now recites:

"A wearable computing device, comprising:

an interior wall defining a first enclosing structure;

an exterior wall defining a second enclosing structure;

a flexible printed circuit board disposed between the interior wall and the exterior wall;



Petitioner Samsung Ex-1004, 0987

at least one component disposed on the flexible printed circuit board; and

wherein at least one of the interior wall and the exterior wall defines a window that facilitates at least one of data acquisition, data transmission, and battery recharge."

Specifically, Applicant's amended claim 1 recites, in part, "an interior wall defining a first enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea, nor the top housing 102 of Mastandrea, teach or suggest Applicant's claimed "first enclosing structure." Applicant's amended claim 1 also recites, in part, "an exterior wall defining a second enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea, nor the top housing 102 of Mastandrea, teach or suggest Applicant's claimed "second enclosing structure." Because Mastandrea does not teach or suggest Applicant's claimed features, Applicant respectfully requests withdrawal of the rejection of claim 1, and all claims dependent threrefrom.

Claim 2

On page 3, the Office Action alleges that Mastandrea, figure 1A and paragraph 0052, anticipate Applicant's claim 2. Applicant respectfully disagrees. Claim 2 recites:

"The wearable computing device of claim 1, wherein the window comprises an internal window defined by the interior wall."

Paragraph [0052] of Mastandrea says "[a]n indicator window 114 can be located on the **exterior** of the finger mouse 100." (Emphasis added.) Applicant respectfully asserts that the indicator window 114 "located on the exterior of the finger mouse" does not teach or suggest Applicant's claimed "internal window defined by the interior wall." Because Mastandrea does



Petitioner Samsung Ex-1004, 0988

not teach or suggest this feature, Applicant respectfully requests withdrawal of the rejection of claim 2.

Claim 4

On page 4, the Office Action has alleged that "windows providing access to the mouse button functions 111, 112, and 113" of Mastandrea, referring to figures 1A and 1B and paragraph 47, anticipate Applicant's claim 4. Claim 4 recites:

> "The wearable computing device of claim 1, wherein the window comprises a plurality of exterior windows defined by the exterior wall."

Applicant respectfully asserts that Mastandrea does not teach or suggest the features of Applicant's claim 4. Claim 4 recites, in part: "a plurality of exterior windows defined by the exterior wall." As an initial matter, Applicant asserts that Mastandrea does not teach or suggest any windows providing access to the capacitive sense buttons 111, 112, and 113. Instead, the "flexible circuit 104 that can comprise capacitive sense buttons 111, 112, [and] 113" is shown in Figs. 1A and 1B of Mastandrea as being outside of the bottom housing 101. (Mastandrea Paragraph [0047].) Figs. 1A and 1B of Mastandrea are reproduced below.



Petitioner Samsung Ex-1004, 0989

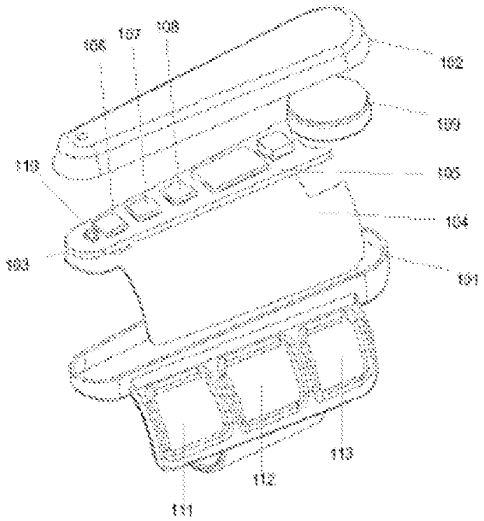



FIG. 1A

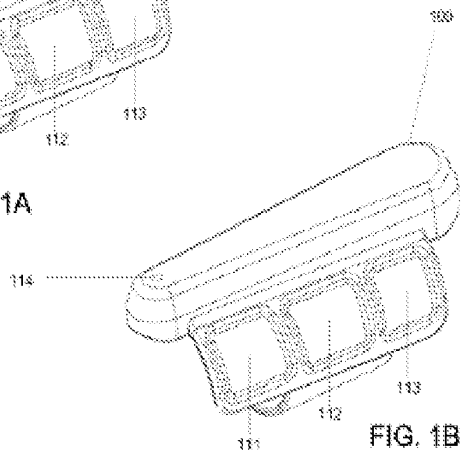



FIG. 1B

Because Mastandrea does not describe any windows providing access to the capacitive sense buttons, and because the capacitive sense buttons are located outside of the bottom housing, and because there are no windows in the housing of Mastandrea to provide access to the capacitive sense buttons that are located outside of the housing, Applicant respectfully asserts that Mastandrea does not teach or suggest Applicant's claimed "a plurality of exterior windows defined by the exterior wall." Because Mastandrea does not teach or suggest Applicant's claimed feature, Applicant respectfully requests withdrawal of the rejection of claim 4, and all dependent claims therefrom.

Claim 7



Petitioner Samsung Ex-1004, 0990

On page 4, the Office Action has alleged that claim 7 is anticipated by Mastandrea, citing to the allegations of anticipation used for claim 1. Although Applicant respectfully disagrees with the rejection, Applicant has amended claim 7 to expedite prosecution. Applicant's amended claim 7 now recites:

"A wearable computing device, comprising:

an internal housing portion defining a first enclosing structure, the internal housing portion configured to be disposed near a finger of a user;

a flexible printed circuit board arranged around a portion of a circumference of an interior surface of the internal housing;

at least one component disposed on the flexible printed circuit board; and

an external housing portion defining a second enclosing structure, the external housing portion configured to seal the at least one component and the printed circuit board in an internal space defined by the interior surface of the internal housing."

Specifically, Applicant's amended claim 7 recites, in part, "an internal housing portion defining a first enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea, nor the top housing 102 of Mastandrea, teach or suggest Applicant's claimed "first enclosing structure." Applicant's amended claim 7 also recites, in part, "an external housing portion defining a second enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea, nor the top housing 102, of Mastandrea teach or suggest Applicant's claimed "second enclosing structure." Because Mastandrea does not teach or suggest Applicant's claimed features, Applicant respectfully requests withdrawal of the rejection of claim 7, and all claims dependent threrefrom.

Claim 12



Petitioner Samsung Ex-1004, 0991

On page 4, the Office Action has alleged that claim 12 is anticipated by Mastandrea, citing to the allegations of anticipation used for claim 1. Although Applicant respectfully disagrees with the rejection, Applicant has amended claim 12 to expedite prosecution. Applicant's amended claim 12 now recites:

"A wearable computing device, comprising:

an external housing portion defining a first enclosing structure;

a flexible printed circuit board arranged around a portion of a circumference of an interior surface of the external housing;

at least one component disposed on the flexible printed circuit board; and

an internal housing portion defining a second enclosing structure, the internal housing portion configured to seal the at least one component and the printed circuit board in an internal space defined by the interior surface of the external housing."

Specifically, Applicant's amended claim 12 recites, in part, "an external housing portion defining a first enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea nor the top housing 102 of Mastandrea teach or suggest Applicant's claimed "first enclosing structure." Applicant's amended claim 12 also recites, in part, "an internal housing portion defining a second enclosing structure." Applicant respectfully asserts that neither the bottom housing 101 of Mastandrea, nor the top housing 102 of Mastandrea, teach or suggest Applicant's claimed "second enclosing structure." Because Mastandrea does not teach or suggest Applicant's claimed features, Applicant respectfully requests withdrawal of the rejection of claim 12, and all claims dependent threrefrom.



Petitioner Samsung Ex-1004, 0992

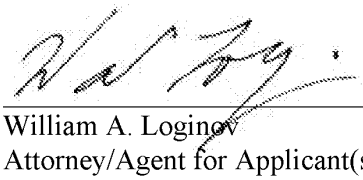
## Conclusion

The claims should now be in condition for allowance with each of the objections and/or rejections being addressed or traversed. Accordingly applicant respectfully requests the Examiner to issue a Notice of Allowance at the earliest possible date.

Should any unresolved issues remain that require further attention, it is respectfully requested that the Examiner telephone the undersigned attorney for applicant at 603-336-3026 so that such issues may be resolved as expeditiously as possible.

Please charge any fee or fee deficiency that is otherwise unpaid to Deposit Account Number 504479.

Respectfully Submitted,



William A. Loginov
Attorney/Agent for Applicant(s)
Reg. No. 34863

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214 South Main Street
Concord, NH 03301-4844
Tel. 603-336-3026



Petitioner Samsung Ex-1004, 0993

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): von Badinski, et al.<br>Application No.: 14/556,062<br>Filed: 11/28/2014<br>Title: WEARABLE COMPUTING DEVICE<br>Attorney Docket No.: 340/0002 | Art Unit:<br>2689<br>Examiner:<br>Travis Hunnings |

Loginov & Associates, PLLC
214 South Main Street
Concord, NH 03301
September 20, 2016

Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

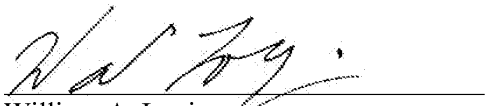
**PETITION FOR TWO-MONTH EXTENSION OF TIME**

Please extend the time for response to the Office Action mailed May 18, 2016, by **two** months to October 18, 2016.

The fee of $ 300 specified by 37 C.F.R. § 1.17(a)(1) for a small entity is transmitted herewith.

Please charge any fee or fee deficiency occasioned by this Petition that is otherwise unpaid to Deposit Account Number 504479.

Respectfully Submitted,



William A. Loginov
Attorney/Agent for Applicant(s)
Reg. No. 34863
Tel. 603-336-3026

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 14556062 |
| **Filing Date:** | 28-Nov-2014 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Filer:** | William Alex Loginov/Nathaniel Wickliffe |
| **Attorney Docket Number:** | 340/0002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| **Extension-of-Time:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| Extension - 2 months with $0 paid | 2252 | 1 | 300 | 300 |
| **Miscellaneous:** | | | | |
| | | **Total in USD ($)** | | **300** |

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 27003562 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Nathaniel Wickliffe |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 22-SEP-2016 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 13:38:07 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | Credit Card |
| Payment was successfully received in RAM | $300 |
| RAM confirmation Number | 13598 |
| Deposit Account | 504479 |
| Authorized User | |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)<br>Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees) | |

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | | MotivAmendment10002.pdf | 103533<br>34eb9ee41991721eb14cd3160f7f990afbda7750 | yes | 12 |

**Multipart Description/PDF files in .zip description**

| Document Description | Start | End |
|---|---|---|
| Amendment/Req. Reconsideration-After Non-Final Reject | 1 | 1 |
| Claims | 2 | 5 |
| Applicant Arguments/Remarks Made in an Amendment | 6 | 12 |

**Warnings:**

**Information:**

| | | | | | |
|---|---|---|---|---|---|
| 2 | Extension of Time | MotivAmendment2MoExt10002.pdf | 70297<br>283491b51ee7201ea0682a99cebf9ebdae8f9925 | no | 1 |

**Warnings:**

**Information:**

| | | | | | |
|---|---|---|---|---|---|
| 3 | Fee Worksheet (SB06) | fee-info.pdf | 30934<br>cb677096e49b0aa6c9faada6ee280dadb0523244 | no | 2 |

**Warnings:**

**Information:**

| | |
|---|---|
| **Total Files Size (in bytes):** | 204764 |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| PATENT APPLICATION FEE DETERMINATION RECORD<br>Substitute for Form PTO-875 | Application or Docket Number<br>14/556,062 | Filing Date<br>11/28/2014 | ☐ To be Mailed |
|---|---|---|---|

**ENTITY**: ☐ LARGE ☒ SMALL ☐ MICRO

## APPLICATION AS FILED – PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | RATE ($) | FEE ($) |
|---|---|---|---|---|
| ☐ BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | |
| ☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | |
| ☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | minus 20 = | * | X $ = | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | minus 3 = | * | X $ = | |
| ☐ APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | |
| ☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | |

## APPLICATION AS AMENDED – PART II

| AMENDMENT | 09/22/2016 | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|---|
| | Total (37 CFR 1.16(i)) | * 20 | Minus | ** 50 | = 0 | X $40 = | 0 |
| | Independent (37 CFR 1.16(h)) | * 3 | Minus | ***13 | = 0 | X $210 = | 0 |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | |
| | | | | | | TOTAL ADD'L FEE | 0 |

| AMENDMENT | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|---|
| | Total (37 CFR 1.16(i)) | * | Minus | ** | = | X $ = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | X $ = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | |
| | | | | | | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
DELEACHES YOUNG

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Petitioner Samsung Ex-1004, 1000

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

# NOTICE OF ALLOWANCE AND FEE(S) DUE

77099 7590 10/17/2016

LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

| EXAMINER |
|---|
| HUNNINGS, TRAVIS R |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2689 | |

DATE MAILED: 10/17/2016

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

TITLE OF INVENTION: WEARABLE COMPUTING DEVICE

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | SMALL | $480 | $0 | $0 | $480 | 01/17/2017 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**HOW TO REPLY TO THIS NOTICE:**

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**





Petitioner Samsung Ex-1004, 1001

## PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail** **Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

77099 7590 10/17/2016
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
|---|
| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

TITLE OF INVENTION: WEARABLE COMPUTING DEVICE

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | SMALL | $480 | $0 | $0 | $480 | 01/17/2017 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| HUNNINGS, TRAVIS R | 2689 | 340-539120 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Petitioner Samsung Ex-1004, 1002

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

77099 7590 10/17/2016

LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

| EXAMINER | |
|---|---|
| HUNNINGS, TRAVIS R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2689 | |

DATE MAILED: 10/17/2016

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.





Petitioner Samsung Ex-1004, 1003

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Notice of Allowability | Application No. 14/556,062 | Applicant(s) VON BADINSKI ET AL. | |
|---|---|---|---|
| | Examiner TRAVIS HUNNINGS | Art Unit 2689 | AIA (First Inventor to File) Status Yes |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 9/22/2016*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-20*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   **Certified copies:**

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.



Petitioner Samsung Ex-1004, 1005

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-20 are allowed.

2. The following is an examiner's statement of reasons for allowance: the prior art does not disclose nor suggest a wearable computing device with at least one window on an interior or exterior wall of a structure enclosing the device, wherein the window facilitates at least one of data acquisition, data transmission, and battery recharge. The closest prior art is Mastandrea (US 9,110,505) which has a window in an exterior wall of an enclosing structure of a wearable computing device, however, the window of Mastandrea is only used for indication and not for data acquisition, data transmission, or battery recharge.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Election/Restrictions*

As the application is now in condition for allowance, original claims 17-50 drawn to non-elected inventions are cancelled.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS HUNNINGS whose telephone number is (571)272-3118. The examiner can normally be reached on 9:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272.4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRAVIS HUNNINGS/
Primary Examiner.Art Unit 2689

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 14556062 | VON BADINSKI ET AL. |
| | Examiner | Art Unit |
| | TRAVIS HUNNINGS | 2689 |

| CPC- SEARCHED | | |
|---|---|---|
| Symbol | Date | Examiner |
| | | |

| CPC COMBINATION SETS - SEARCHED | | |
|---|---|---|
| Symbol | Date | Examiner |
| text | 5/10/16 | TRH |

| US CLASSIFICATION SEARCHED | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| | | | |

| SEARCH NOTES | | |
|---|---|---|
| Search Notes | Date | Examiner |
| plus/inventor search | 1/21/16 | TRH |
| EAST history attached | 5/13/16 | TRH |
| updated EAST history attached | 10/11/16 | TRH |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| US Class/ CPC Symbol | US Subclass / CPC Group | Date | Examiner |
| G 06 F | 1/163, 1635; 3/014, 017, 14 | 10/11/16 | TRH |
| G 01 P | 15/00 | 10/11/16 | TRH |
| G 04 G | 21/02 | 10/11/16 | TRH |
| G 06 K | 9/00885 | 10/11/16 | TRH |
| G 08 B | 21/02; 5/36 | 10/11/16 | TRH |
| H 02 J | 7/0044, 0047 | 10/11/16 | TRH |

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|---|---|
| | /TRAVIS HUNNINGS/<br>Primary Examiner.Art Unit 2689 |



Petitioner Samsung Ex-1004, 1008

**EAST Search History**

**EAST Search History (Prior Art)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L3 | 18 | 1 and (hole opening) | US-PGPUB; USPAT; USOCR | OR | OFF | 2016/10/11 15:28 |
| L2 | 5 | 1 and window | US-PGPUB; USPAT; USOCR | OR | OFF | 2016/10/11 15:27 |
| L1 | 34 | ("1589547" \| "20110070480" \| "20130027341" \| "20130069583" \| "20130088186" \| "20130108907" \| "20150037616" \| "20150277559" \| "20150303722" \| "20150349556" \| "20150380961" \| "20160013602" \| "2048878" \| "3022648" \| "3653051" \| "3684125" \| "4541207" \| "6101843" \| "6495283" \| "6502906" \| "6546749" \| "7375494" \| "7517222" \| "7526927" \| "7637746" \| "8270914" \| "8599572" \| "9076589" \| "9148717" \| "9197270" \| "9203463").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2016/10/11 15:23 |

**EAST Search History (Interference)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L16 | 1814 | h02j7/0047.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L15 | 1807 | h02j7/0044.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L14 | 4909 | g08c17/02.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L13 | 1630 | g08b5/36.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L12 | 1209 | g08b21/02.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L11 | 950 | g06k9/00885.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L10 | 294 | g04g21/02.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:39 |
| L9 | 911 | g01p15/00.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |
| L8 | 1071 | g06f1/1635.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |
| L7 | 4730 | g06f3/14.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |
| L6 | 10079 | g06f3/017.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |



Petitioner Samsung Ex-1004, 1009

| | | | | | | |
|---|---|---|---|---|---|---|
| L5 | 1267 | g06f3/014.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |
| L4 | 2601 | g06f1/163.cpc. | US-PGPUB; USPAT | OR | OFF | 2016/10/11 15:38 |

**10/11/2016 3:42:51 PM**
**C:\Users\thunnings\Documents\EAST\Workspaces\14 Series\14556062 - Wearable Computing Device\14556062 - 20160510.wsp**



Petitioner Samsung Ex-1004, 1010

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 14556062 | VON BADINSKI ET AL. |
| | **Examiner** | **Art Unit** |
| | TRAVIS HUNNINGS | 2689 |

| CPC | | | | | | |
|---|---|---|---|---|---|---|
| **Symbol** | | | | | **Type** | **Version** |
| G06F | | 1 | / | 163 | F | 2013-01-01 |
| G01P | | 15 | / | 00 | I | 2013-01-01 |
| G04G | | 21 | / | 02 | I | 2013-01-01 |
| G06F | | 3 | / | 014 | I | 2013-01-01 |
| G06F | | 3 | / | 017 | I | 2013-01-01 |
| G06K | | 9 | / | 00885 | I | 2013-01-01 |
| G08B | | 21 | / | 02 | I | 2013-01-01 |
| G08C | | 17 | / | 02 | I | 2013-01-01 |
| G06F | | 1 | / | 1635 | I | 2013-01-01 |
| G06F | | 3 | / | 14 | I | 2013-01-01 |
| G08B | | 5 | / | 36 | I | 2013-01-01 |
| H02J | | 7 | / | 0044 | I | 2013-01-01 |
| H02J | | 7 | / | 0047 | I | 2013-01-01 |
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| CPC Combination Sets | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Symbol** | | | | | **Type** | **Set** | **Ranking** | **Version** |
| | | | / | | | | | |
| | | | / | | | | | |

| NONE | | **Total Claims Allowed:** | |
|---|---|---|---|
| (Assistant Examiner) | (Date) | 20 | |
| /TRAVIS HUNNINGS/<br>Primary Examiner.Art Unit 2689 | 10/11/2016 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 1 | 3C |



Petitioner Samsung Ex-1004, 1011

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 14556062 | VON BADINSKI ET AL. |
| | Examiner | Art Unit |
| | TRAVIS HUNNINGS | 2689 |

| US ORIGINAL CLASSIFICATION | | INTERNATIONAL CLASSIFICATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLASS | SUBCLASS | CLAIMED | | | | | NON-CLAIMED | | | | | |
| | | G | 0 | 8 | B | 1 / 08 (2006.01.01) | | | | | | |
| CROSS REFERENCE(S) | | | | | | | | | | | | |
| CLASS | SUBCLASS (ONE SUBCLASS PER BLOCK) | | | | | | | | | | | |
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| NONE<br><br>(Assistant Examiner) | (Date) | Total Claims Allowed:<br>20 | |
|---|---|---|---|
| /TRAVIS HUNNINGS/<br>Primary Examiner.Art Unit 2689<br><br>(Primary Examiner) | 10/11/2016<br><br>(Date) | O.G. Print Claim(s)<br>1 | O.G. Print Figure<br>3C |



Petitioner Samsung Ex-1004, 1012

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 14556062 | VON BADINSKI ET AL. |
| | **Examiner** | **Art Unit** |
| | TRAVIS HUNNINGS | 2689 |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 10 | 17 | | | | | | | | | | | | |
| 2 | 2 | 9 | 18 | | | | | | | | | | | | |
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| 15 | 11 | | | | | | | | | | | | | | |
| 16 | 12 | | | | | | | | | | | | | | |
| 17 | 13 | | | | | | | | | | | | | | |
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| 20 | 16 | | | | | | | | | | | | | | |

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|---|---|---|---|
| NONE<br><br>(Assistant Examiner) | (Date) | **Total Claims Allowed:**<br>20 | |
| /TRAVIS HUNNINGS/<br>Primary Examiner.Art Unit 2689<br><br>(Primary Examiner) | 10/11/2016<br><br>(Date) | O.G. Print Claim(s)<br>1 | O.G. Print Figure<br>3C |



Petitioner Samsung Ex-1004, 1013

Receipt date: 06/03/2016
Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**
**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

**U.S.PATENTS** Remove

| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|---|
| | 1 | 1589547 | | 1926-06-22 | Novack | |
| | 2 | 2048878 | | 1936-07-28 | Moldenhauer | |
| | 3 | 3022648 | | 1962-02-27 | Thaler | |
| | 4 | 3653051 | | 1972-03-28 | Wu | |
| | 5 | 3684125 | | 1972-08-15 | Laurizio | |
| | 6 | 4541207 | | 1985-09-17 | Antonson | |
| | 7 | 6101843 | | 2000-08-15 | Nagano | |
| | 8 | 6495283 | B1 | 2002-12-17 | Yoon, et al. | |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

Petitioner Samsung Ex-1004, 1014

Receipt date: 06/03/2016

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**
**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 9 | 6502906 | B1 | 2003-01-07 | Chen | |
| | 10 | 6546749 | B1 | 2003-04-15 | Canty | |
| | 11 | 7375494 | B2 | 2008-05-20 | Daniel, et al. | |
| | 12 | 7517222 | B2 | 2009-04-14 | Rohrbach, et al. | |
| | 13 | 7526927 | B2 | 2009-05-05 | Pinto | |
| | 14 | 7637746 | B2 | 2009-12-29 | Lindberg, et al. | |
| | 15 | 8270914 | B2 | 2012-09-18 | Pascolini, et al. | |
| | 16 | 8599572 | B2 | 2013-12-03 | Neudecker, et al. | |
| | 17 | 9076589 | B2 | 2015-07-07 | Wright, et al. | |
| | 18 | 9148717 | B2 | 2015-09-29 | Shaffer | |
| | 19 | 9197270 | B2 | 2015-11-24 | Ying, et al. | |

EFS Web 2.1.17

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Receipt date: 06/03/2016

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**
**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 20 | 9203463 | B2 | 2015-12-01 | Asrani, et al. | |

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| Examiner Initial* | Cite No | Publication Number | Kind Code[1] | Publication Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|---|
| | 1 | 20110070480 | A1 | 2011-03-24 | Hahn, et al. | |
| | 2 | 20130027341 | A1 | 2013-01-31 | Mastandrea | |
| | 3 | 20130069583 | A1 | 2013-03-21 | Lemelman, et al. | |
| | 4 | 20130088186 | A1 | 2013-04-11 | Hsieth | |
| | 5 | 20130108907 | A1 | 2013-05-02 | Bhardwaj, et al. | |
| | 6 | 20150037616 | A1 | 2015-02-05 | Wyatt, et al. | |
| | 7 | 20150277559 | A1 | 2015-10-01 | Vescovi, et al. | |
| | 8 | 20150303722 | A1 | 2015-10-22 | Li | |



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Petitioner Samsung Ex-1004, 1016

Receipt date: 06/03/2016

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 9 | 20150349556 | A1 | 2015-12-03 | Mercando, et al. | |
| | 10 | 20150380961 | A1 | 2015-12-31 | Tseng, et al. | |
| | 11 | 20160013602 | A1 | 2016-01-14 | Strisower, et al. | |

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|---|---|---|---|---|---|---|---|---|
| | 1 | 103441306 | CN | A | 2013-12-11 | Yu, et al. | See English translation of Abstract attached hereto. | |
| | 2 | 204440426 | CN | U | 2015-07-01 | Lyu, et al. | See English translation of Abstract attached hereto. | |
| | 3 | 204732935 | CN | U | 2015-10-28 | Shi | See English translation of Abstract attached hereto. | |
| | 4 | 2012024889 | WO | A1 | 2012-03-01 | Wang | | |

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Petitioner Samsung Ex-1004, 1017

Receipt date: 06/03/2016

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

| | | | |
|---|---|---|---|
| | 1 | SAMEDAYFLASH, "SET OF 10 2GB/4GB/8GB/16GB WOODEN BAMBOO FLASH DRIVE - BULK PACK 0 USB 2.0 WOOD BAMBOO STICK DESIGN - WOOD USB FLASH DRIVE", "www.etsy.com/listing/248051205/set-of-10-2gb4gb8gb16gb-wooden-bamboo?ref+m", 6/2/2016, Publisher: Etsy, Published in: US | |
| | 2 | LEEF, "LEEF MAGNET USB 3.0 FLASH DRIVE", "www.leefco.com/magnet-copper", 6/2/2016, Publisher: Leef Group Limited, Published in: US | |

If you wish to add additional non-patent literature document citation information please click the Add button Add

**EXAMINER SIGNATURE**

| | | | |
|---|---|---|---|
| Examiner Signature | /TRAVIS R HUNNINGS/ | Date Considered | 10/11/2016 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

Petitioner Samsung Ex-1004, 1018

Receipt date: 06/03/2016

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | 14556062 |
| Filing Date | 2014-11-28 |
| First Named Inventor | von Badinski |
| Art Unit | 2689 |
| Examiner Name | Travis Hunnings |
| Attorney Docket Number | 340/0002 |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /William A. Loginov/ | Date (YYYY-MM-DD) | 2016-06-03 |
| Name/Print | Loginov, William A. | Registration Number | 34863 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



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Petitioner Samsung Ex-1004, 1019

Receipt date: 06/03/2016

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.R.H/

Petitioner Samsung Ex-1004, 1020

## PART B – FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to Mail** **Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax** **(571) 273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

77099 7590 07/13/2016

LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal.. This certificate cannot be used for any other accompanying papers,. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| (Depositor's name) |
|---|
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 | 8229 |

TITLE OF INVENTION: WEARABLE COMPUTING DEVICE

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| Nonprovisional | SMALL | $ 480.00 | $ 0.00 | $0.00 | $ 480.00 | 01/17/2017 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| Travis Hunnings | 2689 | 340-539120 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Loginov & Associates, PLLC
2 William A. Loginov
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Motiv, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): San Francisco, CA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☒ Advanced Order - # of Copies 10

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☒ Payment by credit card. ~~Form PTO-2038 is attached~~. Via EFS-Web
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 504479 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27 (g)(2).

NOTE: The Issue Fee and publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date January 17, 2017

Typed or printed name William A. Loginov Registration No. 34863

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



Petitioner Samsung Ex-1004, 1021

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 14556062 |
| **Filing Date:** | 28-Nov-2014 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Attorney Docket Number:** | 340/0002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| UTILITY APPL ISSUE FEE | 2501 | 1 | 480 | 480 |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Extension-of-Time:** | | | | |
| **Miscellaneous:** | | | | |
| Printed copy of patent - no color | 8001 | 10 | 3 | 30 |
| | | **Total in USD ($)** | | **510** |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 28075638 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Katherine Draus |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 17-JAN-2017 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 15:56:19 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | CARD |
| Payment was successfully received in RAM | $510 |
| RAM confirmation Number | 011817INTEFSW15584901 |
| Deposit Account | |
| Authorized User | |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: | |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Issue Fee Payment (PTO-85B) | MotivIssueFeeTrans0002.pdf | 104666<br>ee087dee4f420f103df4892b5a8dfa25fa1441e5 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 32368<br>67796ff58c09f3ba3ed7dd009be0063b86009bd1 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 137034 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

| Notice of References Cited | Application/Control No. 14/556,062 | Applicant(s)/Patent Under Reexamination VON BADINSKI ET AL. | |
|---|---|---|---|
| | Examiner TRAVIS HUNNINGS | Art Unit 2689 | Page 1 of 1 |

Change(s) applied to document, /T.G.T./ 10/28/2016

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | CPC Classification | US Classification |
|---|---|---|---|---|---|---|
| | A | US-2013/0144176 A1 | 06-2013 | Lec; Ryszard M. | A61B5/0002 | 600/485 |
| * | B | US-2012/0317024 A1 | 12-2012 | Rahman; Hosain Sadequr | G06Q30/02 | 705/42 |
| * | C | US-2012/0218184 A1 | 08-2012 | Wissmar; Stanley | G06F3/0346 | 345/158 |
| * | D | US-2012/0130203 A1 | 05-2012 | STERGIOU; Stergios | A61B5/0002 | 600/301 |
| * | E | US-2010/0100004 A1 | 04-2010 | van Someren; Eugenio Johannes Wilhelmus | A61B5/0008 | 600/549 |
| * | F | US-2003/0142065 A1 | 07-2003 | Pahlavan, Kourosh | G06F3/0346 | 345/156 |
| * | G | US-8,554,297 B2 | 10-2013 | Moon; Jim | A61B5/1118 | 600/310 |
| * | H | US-2009/0306485 A1 | 12-2009 | Bell; Jonathan Arnold | A61B5/04085 | 600/301 |
| * | I | US-9,335,790 B2 | 05-2016 | Stotler; James G. | G06F1/163 | 1/1 |
| * | J | US-9,110,505 B2 | 08-2015 | Mastandrea, Jr.; Nicholas J. | G06F3/014 | 1/1 |
| * | K | US-2013/0027341 A1 | 01-2013 | Mastandrea; Nicholas J. | G06F3/014 | 345/173 |
| | L | US- | | | | |
| | M | US- | | | | |

**FOREIGN PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Country | Name | CPC Classification |
|---|---|---|---|---|---|---|
| | N | | | | | |
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| | P | | | | | |
| | Q | | | | | |
| | R | | | | | |
| | S | | | | | |
| | T | | | | | |

**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
| | U | |
| | V | |
| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



Petitioner Samsung Ex-1004, 1026

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/556,062 | 02/28/2017 | 9582034 | 340/0002 | 8229 |

77099 7590 02/08/2017

LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

# ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Curt C. von Badinski, Valencia, CA;
Mechio Inc., San Francisco, CA;
Michael J. Strasser, San Francisco, CA;
Peter Twiss, Lakewood, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.



Petitioner Samsung Ex-1004, 1027

PTO/SB/44 (09-07)
Approved for use through 01/31/2020. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

# UNITED STATES PATENT AND TRADEMARK OFFICE
## CERTIFICATE OF CORRECTION



PATENT NO. : 9,582,034

APPLICATION NO.: 14/556,062

ISSUE DATE : February 28, 2017

INVENTOR(S) : Curt C. von Badinski, Michael J. Strasser, and Peter Twiss

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 35, line 55, claim 4, replace "The wearable computing device of claim 3" with --The wearable computing device of claim 1--.

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

Loginov IP
214 South Main Street
Concord, NH 03301

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

# Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 30736431 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | William Alex Loginov/Nathaniel Wickliffe |
| **Filer Authorized By:** | William Alex Loginov |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 23-OCT-2017 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 20:37:57 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | MotivCertCorTransmittal0002.pdf | 75536<br>5cd3f36cffa626bbb9c0d7ff21e06a872761e8cd | no | 1 |

**Warnings:**

Petitioner Samsung Ex-1004, 1030

| Information: | | | | | |
|---|---|---|---|---|---|
| 2 | Request for Certificate of Correction | MotivCertCor0002.pdf | 164373<br>1faba9d1cf52b97995a86009d556dc6d851ff720 | no | 2 |
| Warnings: | | | | | |
| Information: | | | | | |
| | | | Total Files Size (in bytes): | 239909 | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant(s): von Badinski et al.<br>Application No.: 14/556,062<br>Filed: 11/28/2014<br>Title: WEARABLE COMPUTING DEVICE<br>Attorney Docket No.: 340/0002 | Art Unit:<br>2689 |

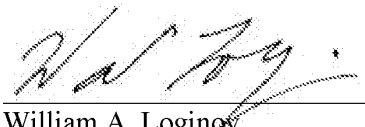
Loginov IP
214 South Main Street
Concord, NH 03301
October 23, 2017

**TRANSMITTAL OF CERTIFICATE OF CORRECTION UNDER 35 U.S.C. § 254 AND 37 C.F.R. § 1.322**

Dear Sir:

Please find the attached Certificate of Correction that corrects the dependency of claim 4 to be dependent from claim 1. Applicant hereby submits that the error was due to a printing mistake by the Office and that no fee is due. In the original patent application, and in the subsequent amendment, claim 4 is dependent from claim 1.

Respectfully Submitted,



William A. Loginov
Attorney/Agent for Applicant(s)
Reg. No. 34863

William A. Loginov
214 South Main Street
Concord, NH 03301-4844
Tel. 603-336-3026



Petitioner Samsung Ex-1004, 1032

PTO/AIA/80 (07-17)
Approved for use through 01/31/2018. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with Customer Number: 151694

**OR**

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: 151694

**OR**

[ ]

| | | |
|---|---|---|
| Firm or individual name | | |
| Address | | |
| City | State | Zip |
| Country | | |
| Telephone | Email | |

Assignee name and address: MOTIV INC.
179 11TH STREET, 3RD FLOOR
SAN FRANCISCO, CALIFORNIA 94103

**A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

| | |
|---|---|
| Signature Curt vonBadinski | Date |
| Name CURT VONBADINSKI | Telephone |
| Title CTO | |

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

# Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Motiv Inc.

Application No./Patent No.: 9,582,034 Filed/Issue Date: February 28, 2017

Titled: WEARABLE COMPUTING DEVICE

MOTIV INC., a CORPORATION

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: VON BADINSKI, CURT STRASSER, MICHAEL J. TWISS, PETER To: MECHIO INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 035478, Frame 0396, or for which a copy thereof is attached.

2. From: MECHIO INC. To: MOTIV INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 038364, Frame 0789, or for which a copy thereof is attached.



This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Petitioner Samsung Ex-1004, 1035

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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## STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

| | |
|---|---|
| /JSN/ | August 6, 2018 |
| Signature | Date |
| James S. Nolan | 53,393 |
| Printed or Typed Name | Title or Registration Number |



Petitioner Samsung Ex-1004, 1036

# Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 33402962 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 77099 |
| **Filer:** | James Scott Nolan |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | 340/0002 |
| **Receipt Date:** | 07-AUG-2018 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 18:33:17 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Power of Attorney | Executed_MOTIV_GENERAL_POA.pdf | 238275<br>b8cb758d33a1eb2f52ce6e37c0b3f20defd3b26f | no | 2 |

**Warnings:**

| Information: | | | | | |
|---|---|---|---|---|---|
| 2 | Power of Attorney | 9582034_373CFR.pdf | 119625<br>947812a8dfcef392eec78084f212a79d859423d4 | no | 3 |
| Warnings: | | | | | |
| Information: | | | | | |
| | | | Total Files Size (in bytes): | 357900 | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Patent No. 9582034
Issued Date: 28 February, 2017
Appl. No: 14/556,062
Filed.: 28 November 2014

## PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed 10/23/2017.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)
☒ Approved ☐ Approved in Part ☐ Denied

Comments:

## PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☐ This is a decision on the petition filed to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed . In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☐ Granted ☐ Dismissed

Comment:

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/JOSEPH FEILD/
Supervisory Patent Examiner, Art Unit 2689
Technology Center 2600
Phone: (571)272-4090

Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

Petitioner Samsung Ex-1004, 1040

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

77099
LOGINOV & ASSOCIATES, PLLC
214 South Main Street
CONCORD, NH 03301

**POWER OF ATTORNEY NOTICE**

*OC000000101598778*

Date Mailed: 08/10/2018

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/07/2018.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/byemane/



Petitioner Samsung Ex-1004, 1041

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 340/0002 |

**CONFIRMATION NO. 8229**

151694
JAMES SCOTT NOLAN
3033 QUIMBY ST
SAN DIEGO, CA 92106

**POA ACCEPTANCE LETTER**

*OC000000101598790*

Date Mailed: 08/10/2018

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/07/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/byemane/



Petitioner Samsung Ex-1004, 1042

UNITED STATES PATENT AND TRADEMARK OFFICE

# CERTIFICATE OF CORRECTION



| | |
|---|---|
| PATENT NO. | : 9,582,034 B2 |
| APPLICATION NO. | : 14/556062 |
| DATED | : February 28, 2017 |
| INVENTOR(S) | : Curt C. von Badinski, Michael J. Strasser and Peter Twiss |

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

In Column 35, Line 55, Claim 4, replace "The wearable computing device of claim 3" with --The wearable computing device of claim 1--.

Signed and Sealed this
Fourth Day of September, 2018



Andrei Iancu
*Director of the United States Patent and Trademark Office*

Petitioner Samsung Ex-1004, 1043

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | PATENT NUMBER | GROUP ART UNIT | REQUEST ID |
|---|---|---|---|
| 14/556,062 | 9582034 | 2689 | 109605 |

## PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 170075 on 04/09/2020 via Private PAIR in view of the certification copied below that authorized the change.

- Correspondence Address

The address for Customer Number 170075 is:
170075
Motiv, Inc.
P.O. Box 371710
SAN DIEGO, CA 92137

**I certify, in accordance with 37 CFR 1.4(d)(4) that I am:**

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

| | |
|---|---|
| **Signature:** | /JSN/ |
| **Name:** | James Scott Nolan |
| **Registration Number:** | 53393 |

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | PATENT NUMBER | GROUP ART UNIT | REQUEST ID |
|---|---|---|---|
| 14/556,062 | 9582034 | 2689 | 109605 |

## PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 170075 on 04/09/2020 via Private PAIR in view of the certification copied below that authorized the change.

- Maintenance Fee Address

The address for Customer Number 170075 is:
170075
Motiv, Inc.
P.O. Box 371710
SAN DIEGO, CA 92137

**I certify, in accordance with 37 CFR 1.4(d)(4) that I am:**

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

| | |
|---|---|
| **Signature:** | /JSN/ |
| **Name:** | James Scott Nolan |
| **Registration Number:** | 53393 |

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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# TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

| | |
|---|---|
| Application Number | 14/556,062 |
| Filing Date | 11/28/2014 |
| First Named Inventor | Curt C. von Badinski |
| Title | WEARABLE COMPUTING DEVICE |
| Art Unit | 2689 |
| Examiner Name | HUNNINGS, TRAVIS R |
| Attorney Docket Number | 984SPMO0048US |

**SIGNATURE of Applicant or Patent Practitioner**

| | | | |
|---|---|---|---|
| Signature | /Steve Y. Cho/ | Date (Optional) | |
| Name | Steve Y. Cho | Registration Number | 44612 |
| Title (if Applicant is a juristic entity) | | | |
| Applicant Name (if Applicant is a juristic entity) | | | |

**NOTE:** This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

# POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

| Application Number | Filing Date |
|---|---|
| | |

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 163435

**OR**

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

**Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:**

☑ The address associated with the above-mentioned Customer Number

**OR**

☐ The address associated with Customer Number:

**OR**

| | | | | | |
|---|---|---|---|---|---|
| ☐ Firm or Individual Name | | | | | |
| Address | | | | | |
| City | | State | | Zip | |
| Country | | | | | |
| Telephone | | Email | | | |

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Proxy, Inc.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

**SIGNATURE of Applicant for Patent**

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

| | | | |
|---|---|---|---|
| Signature | | Date (Optional) | |
| Name | Denis Mars | | |
| Title | CEO of Proxy, Inc. | | |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Proxy, Inc.

Application No./Patent No.: 9,582,034 Filed/Issue Date: 02-28-2017

Titled: WEARABLE COMPUTING DEVICE

Proxy, Inc., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 052419, Frame 0426, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.



This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Petitioner Samsung Ex-1004, 1048

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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## STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

| | |
|---|---|
| /Steve Y. Cho/ | August 21, 2020 |
| Signature | Date |
| Steve Y. Cho | 44612 |
| Printed or Typed Name | Title or Registration Number |



Petitioner Samsung Ex-1004, 1049

# Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 40351608 |
| **Application Number:** | 14556062 |
| **International Application Number:** | |
| **Confirmation Number:** | 8229 |
| **Title of Invention:** | WEARABLE COMPUTING DEVICE |
| **First Named Inventor/Applicant Name:** | Curt C. von Badinski |
| **Customer Number:** | 170075 |
| **Filer:** | Steve Yong Soo Cho/Kyle Routen |
| **Filer Authorized By:** | Steve Yong Soo Cho |
| **Attorney Docket Number:** | MOTV100.US01 |
| **Receipt Date:** | 21-AUG-2020 |
| **Filing Date:** | 28-NOV-2014 |
| **Time Stamp:** | 14:52:09 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Power of Attorney | 42I9846.PDF | 266500<br>efc879f320bd2379cb024a62ff5b34253a8c6252 | no | 2 |

**Warnings:**

| Information: | | | | | |
|---|---|---|---|---|---|
| 2 | Assignee showing of ownership per 37 CFR 3.73 | 42I9852.PDF | 134672<br>a13ef6b63c1fb1ca980540811bc5c3ccb3438a62 | no | 3 |
| Warnings: | | | | | |
| Information: | | | | | |
| | | | Total Files Size (in bytes): | 401172 | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 984SPMO0048US |

**CONFIRMATION NO. 8229**

163435
Proxy, Inc.
c/o AMPACC Law Group, PLLC
6100 219th Street SW, Suite 580
Mountlake Terrace, WA 98043

**POA ACCEPTANCE LETTER**

*OC000000119454051*

Date Mailed: 08/26/2020

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/21/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/mbeyene/



Petitioner Samsung Ex-1004, 1053

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | MOTV100.US01 |

**CONFIRMATION NO. 8229**

170075
Motiv, Inc.
P.O. Box 371710
SAN DIEGO, CA 92137

**POWER OF ATTORNEY NOTICE**

*OC000000119453996*

Date Mailed: 08/26/2020

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/21/2020.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/mbeyene/



Petitioner Samsung Ex-1004, 1054

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

| | |
|---|---|
| Application Number | 14/556,062 |
| Filing Date | 11/28/2014 |
| First Named Inventor | von Badinski et al. |
| Title | WEARABLE COMPUTING DEVICE |
| Art Unit | 2689 |
| Examiner Name | TRAVIS R. HUNNINGS |
| Attorney Docket Number | 984SPMO0048US |

**SIGNATURE of Applicant or Patent Practitioner**

| | | | |
|---|---|---|---|
| Signature | /Nathan J. Mutter/ | Date (Optional) | June 12, 2023 |
| Name | Nathan J. Mutter | Registration Number | 70,107 |
| Title (if Applicant is a juristic entity) | Attorney | | |
| Applicant Name (if Applicant is a juristic entity) | | | |

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

# POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

| Application Number | Filing Date |
|---|---|
| | |

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 179918

**OR**

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

**Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:**

☑ The address associated with the above-mentioned Customer Number

**OR**

☐ The address associated with Customer Number:

**OR**

| | | | | | |
|---|---|---|---|---|---|
| ☐ Firm or Individual Name | | | | | |
| Address | | | | | |
| City | | State | | Zip | |
| Country | | | | | |
| Telephone | | Email | | | |

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Ouraring Inc.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☑ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

**SIGNATURE of Applicant for Patent**

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

| | | | |
|---|---|---|---|
| Signature | Thomas Hale | Date (Optional) | May 26, 2023 |
| Name | Thomas Hale | | |
| Title | CEO | | |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Doc Code: MFEE.C.AD
Document Description: Maintenance Fee Address Change

PTO/AIA/47 (11-21)
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# "FEE ADDRESS" INDICATION FORM

**Address to:**
**Mail Stop Maintenance Fee**
**Director of the United States**
**Patent and Trademark Office**
**P.O. Box 1450**
**Alexandria, VA 22313-1450**

**-OR-**

**Fax to:**
**571-273-6500**

**INSTRUCTIONS:** The issue fee must have been paid for the application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application.

**When to check the first box below:** If you have a Customer Number to represent the fee address.

**When to check the second box below:** If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 179918

*OR*

☐ The attached Request for Customer Number form (PTO/SB/125)

| PATENT NUMBER (if known) | APPLICATION NUMBER |
|---|---|
| 9,582,034 | 14/556,062 |

Completed by (check one):

☐ Applicant/Inventor

☑ Attorney or Agent of record 70,107 (Reg. No.)

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) is enclosed or was filed on _____ (Date)

/Nathan J. Mutter/
Signature

Nathan J. Mutter
Typed or printed name

303-473-2700
Requester's telephone number

June 12, 2023
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. If the assignee is a juristic entity, this form must be signed by a patent practitioner (attorney or agent) of record. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0016. Public burden for this form is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Petitioner Samsung Ex-1004, 1057

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

# ELECTRONIC ACKNOWLEDGEMENT RECEIPT

| APPLICATION # | RECEIPT DATE / TIME | ATTORNEY DOCKET # |
|---|---|---|
| **14/556,062** | **06/12/2023 07:19:27 PM ET** | **984SPMO0048US** |

## Title of Invention

WEARABLE COMPUTING DEVICE

## Application Information

| | | | |
|---|---|---|---|
| APPLICATION TYPE | Utility - Nonprovisional Application under 35 USC 111(a) | PATENT # | 9582034 |
| CONFIRMATION # | 8229 | FILED BY | Sherry Soares |
| PATENT CENTER # | 62254862 | FILING DATE | 11/28/2014 |
| CUSTOMER # | 163435 | FIRST NAMED INVENTOR | Curt C. von Badinski |
| CORRESPONDENCE ADDRESS | - | AUTHORIZED BY | Nathan Mutter |

## Documents

**TOTAL DOCUMENTS: 3**

| DOCUMENT | PAGES | DESCRIPTION | SIZE (KB) |
|---|---|---|---|
| 145560628229_373STMT.pdf | 2 | Assignee showing of ownership per 37 CFR 3.73 | 106 KB |
| 145560628229_FAC.pdf | 1 | Maintenance Fee Address Change | 179 KB |
| 145560628229_POA.pdf | 2 | Power of Attorney | 722 KB |

## Digest

| DOCUMENT | MESSAGE DIGEST(SHA-512) |
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|---|---|
| 145560628229_373STMT.pdf | FDF9F429D234E49C093F73752C82A95531DBEFEB2A27C6969<br>5DF99C0FFAB769B887A0C5BE93BB43F8DD308E3F88C562307<br>2DA60963DF039A5B4EF08978ABCC7C |
| 145560628229_FAC.pdf | 6AFA07534195B9F7C8C4DB76FC394EC203392027CD027A4E3<br>39A3B4AECBDAFFC026A2C6987DF819B571E06EA80DA0AAA0<br>3D36AA6BC9FF0322062A7ABF91A4111 |
| 145560628229_POA.pdf | AA41C65EA93AD7714790D50B1AB65D06391843267E0C06A2A<br>40F20F01C6BC68A02817880C47A57A3DEEFF41533745AF57C4<br>3A43BC85AB901181A7841AA4D814E |

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/96 (08-12)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: von Badinski et al.

Application No./Patent No.: 14/556,062 Filed/Issue Date: 11/28/2014

Titled: WEARABLE COMPUTING DEVICE

Ouraring Inc., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. [✓] The assignee of the entire right, title, and interest.

2. [ ] An assignee of less than the entire right, title, and interest (check applicable box):

   [ ] The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   [ ] There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. [ ] The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. [ ] The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. [ ] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. [✓] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: C. von Badinski; M.J. Strasser, P. Twiss To: MECHIO INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 035478, Frame 0396, or for which a copy thereof is attached.

2. From: MECHIO INC. To: MOTIV INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 038364, Frame 0789, or for which a copy thereof is attached.



This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Petitioner Samsung Ex-1004, 1060

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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## STATEMENT UNDER 37 CFR 3.73(c)

3. From: MOTIV INC. To: MOTIVE (ABC), LLC

The document was recorded in the United States Patent and Trademark Office at Reel 052304, Frame 0866, or for which a copy thereof is attached.

4. From: MOTIV (ABC), LLC To: PROXY, INC.

The document was recorded in the United States Patent and Trademark Office at Reel 052419, Frame 0426, or for which a copy thereof is attached.

5. From: PROXY, INC. To: TWIN MERGER SUB II, LLC

The document was recorded in the United States Patent and Trademark Office at Reel 063805, Frame 0053, or for which a copy thereof is attached.

6. From: TWIN MERGER SUB II, LLC To: OURARING INC.

The document was recorded in the United States Patent and Trademark Office at Reel 063803, Frame 0600, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

| /Nathan J. Mutter/ | 2023-06-12 |
|---|---|
| Signature | Date |
| Nathan J. Mutter | 70,107 |
| Printed or Typed Name | Title or Registration Number |



Petitioner Samsung Ex-1004, 1061

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 984SPMO0048US |

**CONFIRMATION NO. 8229**

163435
Proxy, Inc.
c/o AMPACC Law Group, PLLC
6100 219th Street SW, Suite 580
Mountlake Terrace, WA 98043

**POWER OF ATTORNEY NOTICE**

*OC000000058287065*

Date Mailed: 06/15/2023

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/12/2023.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tmbrooks/



Petitioner Samsung Ex-1004, 1062

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 14/556,062 | 11/28/2014 | Curt C. von Badinski | 984SPMO0048US |

**CONFIRMATION NO. 8229**

179918
Holland & Hart LLP/Oura Health Oy
P.O. Box 11583
Salt Lake City, UT 84147

**POA ACCEPTANCE LETTER**

*OC000000058287095*

Date Mailed: 06/15/2023

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/12/2023.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tmbrooks/



Petitioner Samsung Ex-1004, 1063