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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/975,355	10/27/2022	Takeshi TAKAHASHI	734356.682	5646

96896 7590 11/05/2024

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EXAMINER	
TAI, JESSICA [redacted]	

ART UNIT	PAPER NUMBER
4125	

NOTIFICATION DATE	DELIVERY MODE
11/05/2024	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):

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Office Action Summary	Application No. 17/975,355	Applicant(s) TAKAHASHI, Takeshi	
	Examiner JESSICA W TAI	Art Unit 4125	AIA (FITF) 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 27 October 2022.

☐ 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) 1-4 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) 1-4 is/are rejected.

8) ☐ Claim(s) _____ 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 10/27/2022 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: _____.

DETAILED ACTION

This action is in response to the application filed 17/975,355. Claims 1-4 are pending and have been examined.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Information Disclosure Statement

The information disclosure statements (IDS) were submitted on 10/27/2022 and 7/3/2023 and have been considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(f):

> (f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The claims in this application are given their broadest reasonable interpretation using the plain meaning of the claim language in light of the specification as it would be understood by one of ordinary skill in the art. The broadest reasonable interpretation of a claim element (also commonly referred to as

a claim limitation) is limited by the description in the specification when 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is invoked.

As explained in MPEP § 2181, subsection I, claim limitations that meet the following three-prong test will be interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph:

(A) the claim limitation uses the term "means" or "step" or a term used as a substitute for "means" that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;

(B) the term "means" or "step" or the generic placeholder is modified by functional language, typically, but not always linked by the transition word "for" (e.g., "means for") or another linking word or phrase, such as "configured to" or "so that"; and

(C) the term "means" or "step" or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.

Use of the word "means" (or "step") in a claim with functional language creates a rebuttable presumption that the claim limitation is to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites sufficient structure, material, or acts to entirely perform the recited function.

Absence of the word "means" (or "step") in a claim creates a rebuttable presumption that the claim limitation is not to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is not interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites function without reciting sufficient structure, material or acts to entirely perform the recited function.

Claim limitations in this application that use the word "means" (or "step") are being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an

Office action. Conversely, claim limitations in this application that do not use the word "means" (or "step") are not being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an Office action.

This application includes one or more claim limitations that do not use the word "means," but are nonetheless being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because the claim limitation(s) uses a generic placeholder that is coupled with functional language without reciting sufficient structure to perform the recited function and the generic placeholder is not preceded by a structural modifier. Such claim limitation(s) is/are: "detection unit", "input detection unit", and "control unit" in Claim 1, as supported in the Specification by line 17 in page 25, line 20 in page 6, and line 11 in page 6 respectively, and "a wireless communication unit" in Claim 3 as supported by line 31 in page 10.

Because this/these claim limitation(s) is/are being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, it/they is/are being interpreted to cover the corresponding structure described in the specification as performing the claimed function, and equivalents thereof.

If applicant does not intend to have this/these limitation(s) interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, applicant may: (1) amend the claim limitation(s) to avoid it/them being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph (e.g., by reciting sufficient structure to perform the claimed function); or (2) present a sufficient showing that the claim limitation(s) recite(s) sufficient structure to perform the claimed function so as to avoid it/them being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

Claim Rejections - 35 USC § 102

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 (i.e., changing from AIA to pre-AIA) 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.

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.

Claim(s) 1-2 and 4 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Puskarich (U.S. Patent No 20170180898A1).

Regarding Claim 1, Puskarich anticipates:

- **A headphone comprising: a detection unit configured to detect whether the headphone is worn on an ear of a user** (Puskarich discloses "ear presence sensors… formed from force sensors, from switches or other mechanical sensors" configured to "determine whether or not the earbuds… are located in the ears of a user" [0032]); **an input detection unit configured to detect an input operation by the user** (Puskarich discloses "If desired, accessory 20 may include user input devices 42 such as buttons (see, e.g., the buttons associated with button controller 30 of FIG. 1), touch-based input devices (e.g., touch screens, touch pads, touch buttons), a microphone to gather voice input, and other user input devices." [0031]); **and a control unit configured to execute processing according to the input operation by the user, wherein the control unit executes first processing in a case that a first input operation by the user is detected while the wearing of the headphone on the ear of the user is detected** (Puskarich discloses "Controller unit 30 may also have buttons that receive user input from a user

of system 8. A user may, for example, manually control the playback of media by pressing button 30A to pause or increase audio volume, by pressing button 30B to pause or stop media playback, and by pressing button 30C to reverse media playback or decrease audio volume (as examples)" [0024]); **and executes second processing different from the first processing in a case that the first input operation by the user is detected while no wearing of the headphone on the ear of the user is detected** (Puskarich discloses a "… device 10 can be operated in a two-earbuds-out mode (step 78). For example, device 10 may use earbuds 28 as desktop speakers by playing music through earbuds 28 at a volume… sufficient to be listened to comfortably by the user… If desired, an auxiliary speaker such as speaker 52 of FIG. 3 may be used as a supplemental speaker during audio playback in the two-earbuds-out mode." [0048]).

Regarding Claim 2, Puskarich anticipates all of the elements of Claim 1 as shown above, and additionally anticipates:

- **The headphone according to Claim 1, wherein the input detection unit has an operation surface on which the input operation by the user is performed** (Puskarich discloses "Controller unit 30 may also have buttons that receive input from a user of system 8. A user may… manually control playback of media by pressing button 30A to play or increase audio volume, by pressing button 30B to pause or stop media playback, and by pressing button 30C to reverse media playback or decrease audio volume…" [0024]), and **the first input operation is any of a single press operation on the operation surface, a double press operation on the operation surface, a triple press operation on the operation surface, a long press operation in which the operation surface is continuously pressed for a predetermined time or more, and a flick operation on the operation surface** (Puskarich discloses "A user may… manually control

playback of media by pressing button 30A to play or increase audio volume, by pressing button 30B to pause or stop media playback, and by pressing button 30C to reverse media playback or decrease audio volume…" [0024])

Regarding Claim 4, Puskarich anticipates:

- **A method for controlling a headphone comprising: detecting whether the headphone is worn on an ear of a user** (Puskarich discloses "To determine whether or not the earbuds in which speaker drivers 40 have been mounted are located in the ears of a user, accessory 20 may have been provided with ear presence sensor structures 44. Ear presence sensor structures 44 may be configured to detect whether or not the earbuds… have been placed in the ears of a user." [0032]); **detecting an input operation by the user** (Puskarich discloses "Controller unit 30 may also have buttons that receive user input from a user of system 8." [0024]); **executing processing according to the input operation by the user** (Puskarich discloses "A user may, for example, manually control the playback of media … by pressing button 30B to pause or stop media playback…" [0024]), and **executing first processing in a case that a first input operation by the user is detected while wearing of the headphone on the ear of the user is detected,** (Puskarich discloses "Controller unit 30 may also have buttons that receive user input from a user of system 8. A user may, for example, manually control the playback of media by pressing button 30A to pause or increase audio volume, by pressing button 30B to pause or stop media playback, and by pressing button 30C to reverse media playback or decrease audio volume (as examples)" [0024]) **and executing second processing different from the first processing in a case that the first input operation is detected while no wearing of the headphone on the ear of the user is detected** (Puskarich discloses a "… device 10 can be operated in a two-earbuds-out

mode (step 78). For example, device 10 may use earbuds 28 as desktop speakers by playing music through earbuds 28 at a volume… sufficient to be listened to comfortably by the user… If desired, an auxiliary speaker such as speaker 52 of FIG. 3 may be used as a supplemental speaker during audio playback in the two-earbuds-out mode." [0048]).

Claim Rejections - 35 USC § 103

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, 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.

Claim 3 is rejected as being unpatentable under 35 U.S.C. 103 over Puskarich in view of Chandramohan et. al (U.S. Patent No 20170094399A1).

Puskarich discloses all of the elements of Claim 1 as shown in the rejection above. Puskarich does not explicitly disclose:

a wireless communication unit configured to perform wireless communication with an external terminal, wherein as the second processing, the control unit transitions an operation mode of the headphone to a pairing mode in which pairing for performing the wireless communication between the external terminal and the wireless communication unit is executable.

However, Chandramohan et. al. discloses:

a wireless communication unit configured to perform wireless communication with an external terminal ("A case for a pair of wireless earbuds having a wireless radio, the case comprising: a housing…", Claim 1)**, wherein as the second processing, the control unit transitions an operation mode**

of the headphone to a pairing mode in which pairing for performing the wireless communication between the external terminal and the wireless communication unit is executable ("… A method of wirelessly pairing a first electronic device to a second electronic device, the method comprising: receiving input from a user at a third electronic device; in response to receiving the input, the third electronic device communicates a user input signal to the first electronic device through a wired connection between the third and first electronic devices; in response to receiving the user input signal by the first electronic device, the first electronic device broadcasts a wireless pairing request; and in response to receiving the wireless pairing request, the second device wirelessly pairs with the first device" (Claim 12), wherein "…. Of claim 12…. the first electronic device is a wireless headphone set, the second electronic device is a mobile electronic device and the third electronic device is a case for the wireless headphone set" (Claim 13).

A person of ordinary skill in the art would have had the technological capabilities to incorporate both the earphones with the ear presence structures and controller component of Puskarich with the wireless communication capabilities of Chandramohan et. Al. into a combined apparatus before the effective filing date of the claimed invention. No inventive effort would have been required. Furthermore, the resulting combined apparatus would yield predictable results. Even in the context of a combined apparatus, the features of the ear presence structures and controller unit of Puskarich and the wireless communication of Chandramohan et. al. would be expected to work as intended, with each element in the combined apparatus performing the same function as it did separately. No new functionality would arise from the combination.

Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to combine the ear presence structures and controller unit of Puskarich with the wireless communication of Chandramohan et. al. to yield the predictable result of a

combined apparatus that is a wireless earphone with ear presence structures and a controller unit in the housing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA WYNN TAI whose telephone number is (703)756-4658. The examiner can normally be reached ~8:30am - 5pm ET.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michelle Bechtold,** can be reached on **(571)431-0762.** The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/J.W.T./
Examiner, Art Unit 4125

/CASEY L KRETZER/
Primary Examiner, Art Unit 2635