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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JASON MARTIN, RAHULDEVA GHOSH, CORY CORNELIUS, IAN R. OLIVER, RAMUNE NAGISETTY, and STEVEN B. McGOWAN

Appeal 2019-000030
Application 14/859,611
Technology Center 2400

Before JUSTIN BUSCH, CATHERINE SHIANG, and SCOTT E. BAIN, *Administrative Patent Judges.*

Opinion for the Board filed by *Administrative Patent Judge* JUSTIN BUSCH.

Opinion Concurring in Part filed by *Administrative Patent Judge* SCOTT E. BAIN.

Opinion Dissenting in Part filed by *Administrative Patent Judge* CATHERINE SHIANG.

BUSCH, *Administrative Patent Judge.*

I. DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–5 and 7–20, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART and enter a new ground of rejection pursuant to our authority under 37 C.F.R. § 41.50(b).

II. CLAIMED SUBJECT MATTER

Appellant's disclosure generally "relates to performing authentications using multiple devices." Spec. ¶ 2. The disclosure relates to a wearable device that generates a token in response to a user being close to the device (i.e., a "proximity token" or "on-body token") and a computer system that generates a second token at a first time and provides the second token to the device. Spec. ¶¶ 14, 19, 22, 23, 27, 31, 33, 34, 77, Figs. 2, 9. The computer system then, at a second time, either receives the two tokens and determines whether to authenticate the user based on one of a security policy and the two tokens or removes the first token responsive to disassociation of the user from the device. Spec. ¶¶ 14, 19, 22, 23, 27, 31, 33, 34, 77, Figs. 2, 9. Claims 1, 10, and 18 are independent claims. Claim 1 is reproduced below:

> 1. A first device comprising:
> a first logic to generate a first token in response to and when a user adaptation of the first device in approximate contact

[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Intel Corporation. Appeal Br. 3.

> to the user occurs, the first token including a first timestamp associated with a time of the user adaptation;
>
> a storage to store the first token and a second token, the second token received in the first device via a communication from an authenticator and associated with an authentication of the user to a second device, the second token including a second timestamp; and
>
> a communication module to communicate the first token and the second token to the second device to cause the second device to authenticate the user based on the first and second tokens.

III. REJECTION

Claims 1–5 and 7–20 stand rejected under 35 U.S.C. § 103 as obvious in view of Bocquet (US 2009/0015371 A1; Jan. 15, 2009) and Van der Horst (US 2007/0289002 A1; Dec. 13, 2007). Final Act. 3–8.

IV. ANALYSIS

A. CONSTRUCTION OF INDEPENDENT CLAIMS 1 AND 18

Claims 1 and 18 invoke 35 U.S.C. § 112(f) because they recite means for performing recited functions without reciting the structure required to perform the recited functions. In particular, claim 1 recites, in part, "a first logic to generate a first token . . . ," and claim 18 recites, in part, "a secure logic to generate and store a first token." Appeal Br. 16, 19.

Generic terms such as "mechanism," "element," "device," and other "nonce words" used in a claim can also be considered as a substitute for the "means-plus-function" limitation and, as such, may invoke the application of 35 U.S.C. § 112(f),[2] even without reciting the term "means," because these

[2] The pre-AIA sections of the statute were applicable in *Williamson*, but pre-AIA 35 U.S.C. § 112, sixth paragraph, corresponds to the current § 112(f). We refer to 35 U.S.C. § 112(f) throughout this opinion, even when referring

generic terms or nonce words "'typically do not connote sufficiently definite structure."' *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (en banc). As in *Williamson*, the claims here do not recite the term "means," but "the [logic] limitation[s are] drafted in the same format as a traditional means-plus-function limitation, and merely replace[] the term 'means' with 'nonce' word ['logic,'] thereby connoting a generic 'black box' for performing the recited computer-implemented functions." *Williamson*, 792 F.3d at 1350.

The term "logic" in this context is used as a generic term tantamount to reciting a means because "logic" provides no indication of the structure necessary to perform the recited functions. Notably, the claim limitation in question is not the "logic" by itself; it includes all of the functions the logic performs. *See Williamson*, 792 F.3d at 1350. Specifically, at least the function of generating tokens requires structure beyond generic "logic" to carry out the claimed function. Accordingly, the presumption against applying 35 U.S.C. § 112(f) is overcome because the claim merely "recites 'function without reciting sufficient structure for performing that function.'" *Williamson*, 792 F.3d at 1348 (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

Similarly, the prefix "secure," recited in claim 18, provides one of ordinary skill in the art no insight on the structure necessary to perform the recited functions. Here, as in *Williamson*, even if one of ordinary skill in the art would be capable of constructing or programming logic to perform the

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to determinations made in cases when 35 U.S.C. § 112, sixth paragraph, was in effect, except when directly quoting cases.

recited functions, it is not sufficient to create the structure not otherwise disclosed. *Williamson*, 792 F.3d at 1351.

Even to the extent a person of ordinary skill in the art would have understood the recited "logic" and "secure logic" to include generic computer components[3] (e.g., some combination of processing hardware, software, and firmware), such generic computer components without specific programming are not capable of generating tokens. *Williamson*, 792 F.3d at 1350–51 (finding the presumption against invoking 35 U.S.C. § 112(f) is overcome because the recitation of a "distributed learning control module" connotes insufficient structure for carrying out the recited functions).

Williamson overruled previous cases which had established a strong presumption that § 112(f) is not invoked if the claim does not recite the term "means." *Williamson*, 792 F.3d at 1349. Moreover, even prior to *Williamson*, expanded panels of this Board provided guidance relating to generic processing elements. Those expanded panels found the recitation of a generic processor configured to perform functions that would require special programming invoked § 112(f). *Ex parte Lakkala*, Appeal No. 2011-001526, 2013 WL 1341108, at *6 (PTAB Mar. 11, 2013) (expanded panel)

[3] *See, e.g.*, Spec. ¶¶ 30 ("Method 200 may be performed by various combinations of hardware, software, and/or firmware, including hardware-based logic in one or more computing devices to enable creation of multiple tokens."), 49 ("For each logic unit shown other than the core(s) 502 in the SoC package 500, the logic unit may be on the processor core(s) 502 semiconductor die in some embodiments or on another die in other embodiments."), 74 ("Processor 810 further couples to a secure element 815 which in an embodiment can be implemented as a separate component, such as a hardened microcontroller unit or other circuit.").

(informative). Similar to Appellant's language of "logic to"[4] generate tokens, the Board found a claim that recited, in part, "a processor adapted to" perform various functions invoked § 112(f), and explained that "[t]o see whether the presumption is overcome, we look to how a skilled artisan would understand 'processor,' whether the limitation recites sufficient structure, material, or acts for achieving the recited functions, and whether the term 'processor' is modified by functional language." *Ex parte Erol*, Appeal No. 2011-001143, 2013 WL 1341107, at *8–9 (PTAB Mar. 11, 2013) (expanded panel) (informative); *accord Ex parte Smith*, Appeal No. 2012-007631, 2013 WL 1341109, at *6–8 (PTAB Mar. 12, 2013) (expanded panel) (informative). The expanded panel further explained that, "[t]o confirm whether the presumption against such a substitution is overcome, we look to determine whether the functions performed by the processor are typical functions found in a commercially, available off-the-shelf processor, which would weigh against invoking § 112, sixth paragraph." *Erol*, 2013 WL 1341107, at *8.

Therefore, even though claims 1 and 18 recite "logic" or "secure logic" rather than a "means," claims 1 and 18 invoke 35 U.S.C. § 112(f)

[4] Although means plus function limitations generally use a gerund rather than the infinitive form of a verb, we see no difference between reciting, for example, a means *for fastening* two components and a means *to fasten* two components. *See also IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1432 (Fed. Cir. 2000) (finding claim 1's "means to sequentially display data block inquiries" recited no structure for performing the display function and, therefore, invoked 35 U.S.C. § 112(f)); *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1361 (Fed. Cir. 2000) (finding claim 27's "plastic envelope closing means . . . to close the opening and to form a closed pocket" invoked 35 U.S.C. § 112(f)).

such that they are construed as means-plus-function limitations because the recited "logic" would not be "understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure" that is *capable of carrying out each of the recited functions*. *Williamson*, 792 F.3d at 1348 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)).

B. NEW GROUND OF REJECTION OF CLAIMS 1–9 AND 18–20

Accordingly, we look to Appellant's Specification to determine whether there is sufficient structure to support the recited functions. As noted above, the Specification indicates the recited logic may include any combination of hardware, firmware, and software. *See, e.g.*, Spec. ¶¶ 30, 49, 74. On this record, then, the only disclosed structure corresponding to the recited "logic" is generic hardware, firmware, and software. As discussed above, generic computer processing elements or logic are insufficient structure to perform at least the recited function of generating tokens.

However, the Federal Circuit has held that corresponding structure may be sufficiently disclosed in the form of an algorithm. *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1348 (Fed. Cir. 1999) ("A general purpose computer, or microprocessor, programmed to carry out an algorithm creates 'a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.'" (quoting *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (en banc)). The Specification's disclosure that the recited logic may be implemented using any combination of hardware, firmware, and software suggests the broadest reasonable interpretation of the claimed logic encompasses software

executing on generic computer components, which, without specific programming, are not capable of performing each of the recited functions. *See* Spec. ¶ 30.

Appellant identifies portions of the Specification that allegedly provide support for each of the limitations recited in claims 1 and 18, including the logic and the generating token functions. Appeal Br. 5–6 (citing Spec. ¶¶ 30, 31, 47, 70–72, 74, Figs. 2 (210, 220), 4 (402), 6 (652), 8 (810)). Paragraph 30 discloses that the method may be implemented using "various combinations of hardware, software, and/or firmware," and paragraph 31 discloses, at a high level, the circumstances in which the method may generate tokens and the content that may be included in the tokens, as recited in claims 1 and 18, but these paragraphs and Figure 2 fail to disclose particular structure (e.g., algorithms) sufficient to generate tokens. Spec. ¶¶ 30, 31. Similarly, paragraphs 47, 70 through 72, and 74 and Figures 4, 6, and 8 disclose forms and components of a wearable device at a high level, but do not identify structure sufficient to perform the generating token function. Spec. ¶¶ 47, 70–72, 74, Figs. 4, 6, 8.

None of the cited disclosures describes how (e.g., an algorithm or other corresponding structure) to perform the generating tokens function. *Williamson*, 792 F.3d at 1352 ("Even if the specification discloses corresponding structure, the disclosure must be of 'adequate' corresponding structure to achieve the claimed function."). Although a general purpose computer may provide sufficient structure to perform functions that do not require special programming, the same general purpose computer is insufficient structure for performing specific functions that require special programming. *In re Katz*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). Therefore,

on this record, we conclude claim 1's "first logic to generate a first token in response to and when a user adaptation of the first device in approximate contact to the user occurs" and claim 18's "secure logic to generate and store a first token in a non-volatile storage when a user is authenticated to the system" fail "to fulfill the 'public notice function' of 35 U.S.C. § 112 ¶ 2 by 'particularly pointing out and distinctly claiming' the invention" and "exhibit the 'overbreadth inherent in open-ended functional claims.'" *Katz*, 639 F.3d at 1315 (citing *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008); quoting *Halliburton Energy Servs. v. M–I LLC*, 514 F.3d 1244, 1256 n.7 (Fed. Cir. 2008)).

For the above reasons, we determine the Specification does not provide adequate disclosure of the structure claimed by the "first logic" recited in independent claim 1 and the "secure logic" recited in independent claim 18. Therefore, we newly reject independent claims 1 and 18 as indefinite under 35 U.S.C. § 112(b) for failing to particularly point out and distinctly claim the alleged invention. Claims 2–9, 19, and 20 depend ultimately from claims 1 and 18 and, therefore, inherit the above-identified deficiencies. Accordingly, we also newly reject claims 2–9, 19, and 20 as indefinite based on their dependency from rejected claims 1 and 18.

C. THE EXAMINER'S REJECTION OF CLAIMS 1–5, 7–9, AND 18–20

Because we determine claims 1–5, 7–9, and 18–20 are indefinite, determining the necessary structure required by these claims would require speculative assumptions. Therefore, we summarily reverse the Examiner's rejection of claims 1–5, 7–9, and 18–20 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst. *In re Steele*, 305 F.2d 859, 862 (CCPA 1962) (determining a prior art rejection cannot be sustained if a person of

ordinary skill in the art would have to make speculative assumptions concerning the meaning of claim language).

D. THE EXAMINER'S REJECTION OF CLAIMS 10, 16, AND 17[5]

The Examiner rejects independent claim 10 as obvious in view of Bocquet and Van der Horst. Final Act. 5–6. Appellant argues "independent claim 10 is patentable" for similar reasons asserted with respect to independent claim 1. Appeal Br. 11. Therefore, we apply Appellant's arguments regarding claim 1 to claim 10, and we address those arguments herein. We start by noting that, although claim 10 is similar to claim 1, claim 10 recites different limitations than claim 1. In particular, claim 10 recites:

> 10. At least one computer readable storage medium comprising instructions that when executed enable a computing system to:
>
> generate in the computing system a second token having a second timestamp, responsive to authentication of a user to the computing system at a first time;
>
> send the second token from the computing system to a wearable device associated with the user to enable storage of the second token in the wearable device;
>
> receive a first token and the second token in the computing system from the wearable device and determine whether to authenticate the user to the computing system at a second time according to a security policy, the first token including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user; and
>
> if the user is authenticated at the second time, grant access to a protected session within the computing system.

Appellant acknowledges Bocquet relates to access control techniques and teaches a user with user equipment (e.g., a badge or wristband) entering

[5] A majority of the panel affirms the Examiner's rejection of claims 10, 16, and 17 as obvious in view of Bocquet and Van der Horst.

a security sensitive area (e.g., a lab) and being near a service device having a service identifier (SID). Appeal Br. 8. Appellant further acknowledges Bocquet's service device provides an SID to the user equipment that, in turn, sends it along with other information to an access control system that generates an authorization token and sends the token "to the user equipment, for use by the service device to determine access permissions." Appeal Br. 8 (citing Bocquet ¶¶ 37, 105).

i. Appellant's Argument Regarding the "in response to and when" Limitation[6]

Appellant argues Bocquet fails to teach or suggest "logic to generate a first token '*in response to and when a user adaptation of the first device in approximate contact to the user occurs. . . .*'" Appeal Br. 9. Appellant contends Bocquet's cited disclosures teach providing a user with user equipment and establishing communication between the service device and user equipment when the devices are proximate to each other, but do not teach or suggest generating a token when a user adapts the user equipment in approximate contact. Appeal Br. 9 (citing Bocquet ¶ 42, Fig. 5); *see* Reply Br. 2–3. Appellant also argues Bocquet teaches a user ID that may include various information and transmitting a service identifier to user equipment, but Bocquet's service ID is not a token and, moreover, Bocquet's service ID neither includes a timestamp associated with a time of user adaptation nor is generated in response to user adaptation. Appeal Br. 9–10; Reply Br. 3. Appellant argues the Examiner's citation to Bocquet's "Time of Arrival

[6] This limitation is recited in claim 1, but not recited in claim 10. However, as discussed above, because Appellant argues the claims as a group, we apply Appellant's arguments regarding claim 1 to our analysis regarding the Examiner's rejection of claim 10.

(ToA)" is merely a technique for determining location data by measuring signal propagation delays and does not teach a timestamp associated with a time of user adaptation. Appeal Br. 10.

As indicated above, the scope of claims 1 and 10 are not identical. Of particular note, independent claim 10 does not recite generating a first token "in response to and when a user adaptation of the first device in approximate contact to the user occurs" or a commensurate limitation. Appeal Br. 17. Instead, with respect to the first token, claim 10 merely recites receiving the first token, which includes "a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user," from the wearable device. Appeal Br. 17. Accordingly, Appellant's argument that Bocquet fails to teach generating a first token "in response to and when a user adaptation of the first device in approximate contact to the user occurs" is not commensurate with the scope of independent claim 10 and, therefore, not persuasive of error.

ii. The "first token including a first timestamp" Limitation

I next evaluate the portion of Appellant's argument asserting that Bocquet fails to teach or suggest the first token includes "a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user," as recited in claim 10. The Examiner finds Bocquet discloses activating a wearable device and generating a token from when the wearable device is proximate to a service area. Final Act. 6 (citing Bocquet ¶ 50, Fig. 5 (300, 302); Ans. 4 (citing Bocquet ¶¶ 33–34, 37, 42, 55). The Examiner finds "[t]he user bringing the device within the vicinity of sensitive area which provides service corresponds to the claimed limitation of user adapts the device." Ans. 4. The Examiner further finds Bocquet's

disclosure that a service device may include a timestamp in the auxiliary information sent to the user equipment that is then used to generate a token teaches or suggests a token including a timestamp. Ans. 4 (citing Bocquet ¶¶ 63, 71, 89, 91); *see* Bocquet ¶ 89. The Examiner finds Bocquet's disclosed "Time of Arrival is the time the user adapts the device by bringing the device to an area." Ans. 4 (citing Bocquet ¶ 70).[7]

I agree with the Examiner that Bocquet clearly discloses wearable devices that may receive, store, and transmit information and tokens. Bocquet ¶¶ 42 ("The users . . . who are likely to need access to services available within a security sensitive area Ak have to be provided with, or carry, or wear, a user equipment (a device) . . . such as a picture identification card, a badge, a wrist band, a clip, a pin, etc."), 50, 52, 64, 66, 67, 70, 71. Moreover, Bocquet discloses that information sent to the wearable device may include auxiliary information such as timestamps. Bocquet ¶¶ 63, 70, 71, 89, 104.

Although I agree Bocquet discloses wearable devices that receive, store, and transmit tokens and timestamps, I find the combination of Bocquet and Van der Horst fails to teach or suggest a first token that includes "a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user," as recited in claim 10. Specifically, although Bocquet arguably at least suggests a token *includes* a timestamp, I find Bocquet fails to teach or suggest a timestamp *associated with a time of user*

[7] The "Time of Arrival (ToA)" disclosed in Bocquet is one of various techniques (other techniques include "Angle of Arrival" and "Received Signal Strength Indication") that may be used to determine location data of the wearable device and does not relate to timestamps or particular times at which certain events occur.

adaptation of a wearable device. Rather, Bocquet discloses only timestamps associated with a time a user comes in proximity to a service device (i.e., a device different than Bocquet's wearable device).

Nevertheless, I agree with the Examiner's obviousness conclusion regarding claim 10. As discussed further below, I find the recited timestamps constitute non-functional descriptive material and, therefore, the recited timestamps do not patentably distinguish claim 10 over the prior art. Therefore, I agree with Examiner's conclusion that claim 10 is obvious in view of Bocquet and Van der Horst.

The question of whether claimed subject matter is directed to non-functional descriptive material is a question of claim construction. Claim construction is an issue of law that we review *de novo*. *Cordis Corp. v. Boston Scientific Corp.*, 561 F.3d 1319, 1331 (Fed. Cir. 2009).

As discussed, Bocquet discloses wearable devices that may receive, store, and transmit information, including timestamps, and tokens. Bocquet ¶¶ 42, 50, 52, 63, 64, 66, 67, 70, 71, 89, 104. Bocquet also discloses using an authorization token "to decide whether the user should be granted access to the service identified by the activated service identifier SID." Bocquet ¶ 37. When computing the authorization token, even to the extent Bocquet does not disclose including specific information in the token, Bocquet uses the auxiliary information, including a timestamp, to determine whether to authorize access to a service. Bocquet ¶ 63. When Bocquet's wearable device submits the received authorization token, a service control device may check the authorization token information to decide whether to grant access. Bocquet ¶ 67.

Thus, Bocquet teaches or suggests: (1) a wearable device that receives and transmits a token; (2) the wearable device receives a timestamp associated with a time when the user with the wearable device came in proximity to a service device; (3) the received timestamp may be used to compute the token; and (4) checking the "token information to decide whether the user should be granted or denied access to the service." Bocquet ¶¶ 42, 50, 55, 63, 67. In other words, Bocquet teaches or suggests a first token including information used to determine whether to grant access, and Bocquet's teaches or suggests generating the token based on a timestamp associated with a time when the user moves the wearable device into proximity with a service device. Bocquet arguably at least suggests a token including a timestamp, but Bocquet does not explicitly teach or suggest that the first token *includes* the first timestamp, and Bocquet does not teach or suggest that the timestamp is *associated with a time of user adaptation of the wearable device*.

The Federal Circuit has "long held that if a limitation claims (a) printed matter that (b) is not functionally or structurally related to the physical substrate holding the printed matter, it does not lend any patentable weight to the patentability analysis." *In re Distefano*, 808 F.3d 845, 848 (Fed. Cir. 2015). In *King Pharmaceuticals*, the Federal Circuit extended the printed matter non-functional descriptive material doctrine to a claimed method. *King Pharms., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1279 (Fed. Cir. 2010) ("Although these 'printed matter' cases involved the addition of printed matter . . . to a known product, we see no principled reason for limiting their reasoning to that specific factual context. *See In re Ngai*, 367 F.3d 1336, 1338–39 (Fed. Cir. 2004); *In re Gulack*, 703 F.2d 1381, 1385–87

(Fed. Cir. 1983). Rather, we believe that the rationale underlying these cases extends to the situation presented in this case, wherein an instructional limitation is added to a method, as opposed to a product, known in the art."). *King Pharmaceuticals* explains that method claims may include non-functional descriptive matter not entitled to patentable weight, which does not confer patentability to inventions that are otherwise either anticipated or obvious over the prior art. On the other hand, when a claim recites "data structures [that] impose a physical organization on the data" that is *more than* "merely the information content of a memory," the limitation may be entitled to weight in the patentability analysis. *Compare In re Lowry*, 32 F.3d 1579, 1583–84 (Fed. Cir. 1994), *with Distefano*, 808 F.3d at 848 ("a limitation is printed matter only if it claims the content of information").

In *Nehls*, in the context of computer-related inventions, this Board distinguished *functional* descriptive material from *non-functional* descriptive material. *Ex parte Nehls*, 88 USPQ2d at 1888–1890 (*comparing In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994), *with In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994)). The Board determined that the sequences recited in the claims were non-functional descriptive material that could not render nonobvious an otherwise obvious claim. *Nehls*, 88 USPQ2d at 1888 ("There is no evidence that SEQ ID NOs 9-1008 functionally affect the process of comparing a target sequence to a database by changing the efficiency or accuracy or any other characteristic of the comparison. Rather, the SEQ ID NOs are merely information being manipulated by a computer").

Here, I determine the same rationale applies to claim 10's limitations of "a second token having a second timestamp" and "the first token including a first timestamp associated with a time of a user adaptation of the

wearable device with respect to the user." Neither claim 10 nor any of its dependent claims recite a functional relationship between the recited content of the timestamp and the substrate (i.e., the computer readable storage medium) or the recited steps. Rather, the timestamps included in the tokens are referenced only as elements of what the tokens include when claiming the generation or receipt of the tokens, but claim 10 recites no particular details regarding generating or receiving the tokens that would be affected by the particular information in the timestamps. Put another way, the content of the timestamp does not affect the manner in which the tokens are generated or received in claim 10. Accordingly, claim 10 does not distinguish over the cited prior art based on the fact the tokens include a timestamp—i.e., the informational content of the token.

The recited timestamps, therefore, are similar to other informational content the Board and Federal Circuit previously have found to be non-functional for failing to affect how the claimed steps were carried out. *Nehls*, 88 USPQ2d at 1887–90 ("[T]he nature of the information being manipulated does not lend patentability to an otherwise unpatentable computer-implemented product or process."); *Ngai*, 367 F.3d at 1338; *Ex parte Mathias*, 84 USPQ2d 1276, 1279 (BPAI 2005) (informative) ("[N]onfunctional descriptive material cannot lend patentability to an invention that would have otherwise been anticipated by the prior art."), *aff'd*, 191 F. App'x 959 (Fed. Cir. 2006) (Rule 36); *see also* MPEP § 2111.05 (9th ed., August 2017) ("[W]here the claim as a whole is directed to conveying a message or meaning to a human reader independent of the intended computer system, and/or the computer-readable medium merely

serves as a support for information or data, no functional relationship exists.").

To agree with Appellant's reasoning would mean that each novel timestamp or other information included in a token is sufficient to warrant a separate patent, even if the remainder of the invention is unchanged. In addition to resulting in Appellant's token including the recited timestamp distinguishing over the prior art, the same token including a different timestamp also would distinguish over the prior art, as would the inclusion of every single unique piece of information in the token. We would need to ignore our reviewing court's concerns with repeated patenting to come to this result. I decline to do so. My rationale behind affirming this prior art rejection is preventing the repeated patenting of essentially a known product or process by the mere inclusion of novel non-functional descriptive material. *King Pharms.*, 616 F.3d at 1279 ("The rationale behind this line of cases is preventing the indefinite patenting of known products by the simple inclusion of novel, yet functionally unrelated limitations."); *cf. Ngai*, 367 F.3d at 1339 ("If we were to adopt Ngai's position, anyone could continue patenting a product indefinitely provided that they add a new instruction sheet to the product.").

We agree with the Examiner that the prior art renders claim 10 obvious because it teaches or suggest each and every limitation of claim 10. I find any argued difference between the prior art and the claimed invention is simply a substitution of one piece of non-functional descriptive material (information included in a token) for another piece of non-functional descriptive material (a timestamp associated with a time of user adaptation of a wearable device), which does not change the functioning of the

computer system, its storage medium, or the recited steps carried out when executing the claimed instructions. For these reasons, I do not find Bocquet's and Van der Horst's failure to explicitly disclose tokens including the recited timestamps to be fatal to the Examiner's conclusion of obviousness because the particular information content (i.e., the timestamp included in the tokens) is not given patentable weight.

iii. The "second token having a second timestamp" Limitation

Appellant also argues Van der Horst fails to teach or suggest a second token "associated with an authentication of the user to a second device." Appeal Br. 11. Appellant argues Van der Horst's portions the Examiner cited in the rejection relate to a server sending a cookie and an electronic message when the server receives a user ID. Appeal Br. 11. Appellant additionally contends Van der Horst's portions cited in the Answer merely teach including an identifier in the access request. Reply Br. 3. Appellant asserts these disclosures fail "to teach or suggest the recited second token that is *associated with an authentication of a user to another device*." Appeal Br. 11. Appellant contends any user authentication in Van der Horst "occurs *after* both the cookie and the electronic message are sent to the client device, and the client device in turn sends these values back to the authentication server." Appeal Br. 11.[8] Appellant argues Van der Horst fails

[8] The relevant limitations recited in claims 1 and 10 are slightly different such that claims 1 and 10 differ in scope. In particular, claim 1 recites that "the second token received in the first device" is merely "associated with an authentication of the user to a second device" and claim 10 recites generating "a second token . . . responsive to authentication of a user to the computing system." Appeal Br. 16, 17. In other words, claim 1 merely requires the second token is *associated with* authentication of the user to a second device whereas claim 10 is narrower because claim 10 requires that

to teach the recited tokens, let alone tokens including a timestamp. Reply Br. 3–4.

The Examiner finds Van der Horst discloses a process in which a user submits an access request that includes an ID to an authentication server and the authentication server verifies the submitted ID before generating and sending at least two authorization tokens to the user device. Ans. 5 (citing Van der Horst ¶¶ 44, 45, 71, Fig. 5 (510, 525, 550). The Examiner determines these disclosures teach or suggest a device receiving a second token from an authenticator after authenticating with the second device. Ans. 4–5.

Appellant's arguments do not persuade us that the Examiner erred in finding Van der Horst teaches generating the second token as recited in claim 10. The relevant portion of claim 10 regarding Van der Horst's contested teachings recites: "generate in the computing system a second token having a second timestamp, responsive to authentication of a user to the computing system at a first time." Appeal Br. 17. I already discussed Bocquet's disclosure of generating tokens using timestamps, Bocquet's arguable suggestion that a token includes a timestamp, and the non-functional descriptive nature of the second token "having a second timestamp." We now address Appellant's assertion that Van der Horst fails to teach generating a token at all.

Van der Horst discloses systems and methods "for authenticating users through multiple communication channels . . . enabling secure sharing,

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the second token is generated *responsive to* authentication. Nevertheless, due to claim 10's narrower scope as compared to claim 1, Appellant's arguments regarding Van der Horst's alleged deficiencies are applicable to claim 10.

auditing, delegation, and revocation of authority." Van der Horst, Abstract. Van der Horst depicts and discloses a system and method in which a user's client computing device submits an identifier to an authorization server and the authorization server provides a cookie comprising an authentication token to the client computing device, validates the identifier and, if valid, sends an electronic message including a token to the user. Van der Horst ¶¶ 20–24, 44, 45, 69–73, 77–81, Figs. 4, 5 (510–530). At some later time, Van der Horst's authorization server then receives from the client computing device the tokens previously sent to the user, validates the tokens and, if valid, grants the client computing device access to a restricted resource, which may include sending message granting access. Van der Horst ¶¶ 45, 56, 69, 74, 82–84, Figs. 4, 5 (550–570)

We agree with the Examiner that Van der Horst discloses generating tokens because Van der Horst's authorization server generates tokens and transmits the tokens to the client computing device using at least two channels. Furthermore, we agree that Van der Horst teaches "generat[ing] in the computing system a second token . . . responsive to authentication of a user to the computing system at a first time." The Examiner explicitly maps (1) Van der Horst's authentication or authorization server to the recited "second device," (2) Van der Horst's tokens sent via multiple channels to the recited "second token," and (3) Van der Horst's client device to the recited "first device." Ans. 4–5. Van der Horst generates authorization tokens and sends the tokens to the client computing device in response to an access request that includes an identifier and only sends the token embedded in the electronic message after validating the received identifier. Van der Horst ¶¶ 20, 24, 44, 45, 70–73, 77–81, Fig. 5 (525, 530). Appellant provides no

persuasive explanation why generating a token in response to validating an identifier in an access request fails to teach "generat[ing] in the computing system a second token . . . responsive to authentication of a user to the computing system at a first time," as recited in claim 10.

iv. Claim 10 Analysis Summary

For the above reasons, we are not persuaded the Examiner erred in rejecting independent claim 10 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst. Appellant did not separately argue claims 16 and 17, which depend directly from claim 10, with particularity. Therefore, for the same reasons as discussed with respect to claim 10, we are not persuaded the Examiner erred in rejecting dependent claims 16 and 17 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst.

E. THE EXAMINER'S REJECTION OF CLAIMS 11–13

Claim 11 depends directly from independent claim 10 and further recites instructions that, when executed, "enable the computing system to authenticate the user to the computing system at the first time according to a multi-factor authentication." Appeal Br. 17. The Examiner rejects dependent claim 11 as obvious in view of Bocquet and Van der Horst, finding Bocquet teaches the additional limitation recited in claim 11 relating to authentication using multi-factor authentication. Final Act. 6–7 (citing Bocquet ¶ 39).

Appellant argues dependent claim 11 is patentable for similar reasons asserted with respect to independent claim 10 from which it depends and further argues Bocquet fails to teach or suggest multi-factor authentication. Appeal Br. 12–13. Appellant asserts Bocquet fails to teach authenticating a user "to any device, let alone according to a multi-factor authentication." Appeal Br. 13. The Examiner finds Bocquet's disclosure of using multiple

forms of identification to authenticate the user teaches or suggest the claimed multi-factor authentication. Ans. 7 (citing Bocquet ¶¶ 37, 44, 63). Appellant does not respond to the Examiner's additional explanation and findings in the Answer. *See* Reply Br. 4–5.

The Specification does not provide a definition of multi-factor authentication. Nevertheless, we look to the Specification for guidance regarding how a person of ordinary skill in the art would have understood the term. The Specification explains that "initial user authentication may be according to a multi-factor authentication *such that a plurality of tokens can be generated in this user authentication.*" Spec. ¶ 31 (emphasis added). It is worth noting that the rejection is based on a combination of Bocquet and Van der Horst and the Examiner finds the combination of Bocquet and Van der Horst teaches or suggests generating the first and second tokens. Notably, the Examiner relies on Van der Horst to teach generating the second token. Furthermore, Van der Horst teaches receiving multiple tokens via different communication channels. *See, e.g.*, Van der Horst ¶¶ 2, 6, 10, 12, 17, 45 ("In response to sending the access request, the client computing device 110 may receive two or more authorization tokens 142 that are delivered via separate channels from an authorization server 140 or the like."), Abstract.

Given the Examiner's findings, including the additional explanation in the Answer to which Appellant did not respond, and the relevant disclosures in Bocquet and Van der Horst, we are not persuaded the Examiner erred in concluding the combination of Bocquet and Van der Horst teaches or suggests the subject matter recited in claim 11. For the above reasons, we are not persuaded the Examiner erred in rejecting dependent claim 11 under

35 U.S.C. § 103 as obvious over Bocquet and Van der Horst. Claims 12 and 13 ultimately depend from claim 11. Appellant did not separately argue claims 12 and 13 with particularity. Therefore, for the same reasons as discussed with respect to claim 11, we are not persuaded the Examiner erred in rejecting claims 12 and 13 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst.

F. THE EXAMINER'S REJECTION OF CLAIMS 14 AND 15

Claim 14 depends directly from independent claim 10 and further recites instructions that, when executed, "enable the computing system to send the first token and the second token to a remote authentication server, and provide a grant indication received from the remote authentication server to the wearable device when the user is authenticated at the second time." Appeal Br. 18. Claim 15 depends directly from claim 14. The Examiner rejects dependent claim 14 as obvious in view of Bocquet and Van der Horst, finding Van der Horst teaches the additional limitation recited in claim 11 relating to authentication using multi-factor authentication. Final Act. 7 (citing Van der Horst, Fig. 2 (220)).

Appellant argues dependent claim 14 is patentable for similar reasons asserted with respect to independent claim 10 from which it depends and further argues Van der Horst fails to teach or suggest a remote authentication server providing a grant indication to another system. Appeal Br. 13. Appellant asserts Van der Horst's cited portions merely teach a token collection module that aggregates and sends authentication tokens. Appeal Br. 13. The Examiner finds (1) Van der Horst explicitly discloses granting access to restricted resources and (2) Van der Horst's disclosure of informing a user device when access is granted and recording in an audit log

when an authentication server grants access to a user for resources teaches or suggest the limitation relating to a grant indication received from another source. Ans. 8 (citing Van der Horst ¶¶ 71, 82, 84, Figs. 2 (260), 5 (570)). Appellant does not respond to the Examiner's additional explanation and findings in the Answer. *See* Reply Br. 4–5.

Appellant's argument that the Examiner points only to the token collection module is not persuasive because the Examiner identifies additional disclosures in the Answer. We agree with the Examiner that Van der Horst discloses a client computing device sending multiple tokens to an authentication server and, in response, the authentication server determines whether access to a restricted resource is granted and, optionally, "send[s] a message granting access to particular resources." Van der Horst ¶¶ 82, 84.

Given the Examiner's findings, including the additional explanation in the Answer to which Appellant did not respond, and the relevant disclosures in Bocquet and Van der Horst, we are not persuaded the Examiner erred in concluding the combination of Bocquet and Van der Horst teaches or suggests the subject matter recited in claim 14. For the above reasons, we are not persuaded the Examiner erred in rejecting dependent claim 14 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst. Claim 15 depends directly from claim 14. Appellant did not separately argue claim 15 with particularity. Therefore, for the same reasons as discussed with respect to claim 14, we are not persuaded the Examiner erred in rejecting claim 15 under 35 U.S.C. § 103 as obvious over Bocquet and Van der Horst.

V. CONCLUSION

The Examiner's rejection of claims 1–5, 7–9, and 18–20 under 35 U.S.C. § 103 is reversed. The Examiner's rejection of claims 10–17

under 35 U.S.C. § 103 is affirmed. We newly reject claims 1–9, and 18–20 under 35 U.S.C. § 112(b) as indefinite.

VI. DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed	New Ground
1–5, 7–20	103	Bocquet, Van der Horst	10–17	1–5, 7–9, 18–20	
1–5, 7–9, 18–20	112(b)	Indefiniteness			1–9, 18–20
Overall Outcome			10–17	1–5, 7–9, 18–20	1–9, 18–20

VII. TIME PERIOD FOR RESPONSE

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. . . .
>
> (2) *Request rehearing*. Request that the proceeding be reheard under §41.52 by the Board upon the same Record. . . .

Further guidance on responding to a new ground of rejection can be found in the MPEP § 1214.01.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2017).

AFFIRMED IN PART;
37 C.F.R. § 41.50(b)

BAIN, *Administrative Patent Judge*, concurring in part.

I join the Opinion for the Board ("Opinion") except as set forth below, and concur in the results as to all claims on appeal. I write separately as to Section IV.D.ii., because I would not reach the issue of whether any limitation in independent claim 10 constitutes non-functional descriptive material. Instead, I agree with the Examiner's findings and conclusion that the combination of Bocquet and Van der Horst teaches or suggests all of the limitations of claim 10, including the disputed limitation of instructions to "receive a first token . . . the first token including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user." Appeal Br. 17 (claims appendix).

As the Examiner finds, and the Opinion explains, Bocquet (like Appellant's claim 10) is directed to a wearable device receiving and utilizing "tokens" for purposes of authentication. Final Act. 6; Bocquet Abstract, ¶¶ 2, 26, 34. Bocquet teaches that these tokens include "information" to "decide whether the user should be granted or denied access" to a particular service (broadly defined as including any equipment or resource). Bocquet ¶¶ 28, 67. Bocquet further teaches the wearable device receiving a (first) token that includes a first "timestamp," as recited in the disputed limitation of claim 10. *Id.* ¶¶ 63, 67, 70, 89, 104.[9] Up to this point, I agree with the Opinion's analysis.

[9] In addition, as the Examiner finds, Van der Horst teaches a "second" token including time information and responsive to authentication, as recited elsewhere in claim 10. Van der Horst Fig. 5, ¶¶ 22–24, 82–84. Appellant does not dispute the Examiner's rationale in combining the references, both of which are directed to the same goal and purpose of token-based

Contrary to the Opinion, however, I would find the prior art also teaches or suggests the remainder of the disputed limitation, namely, the first timestamp being "associated with a time of a user adaptation of the wearable device with respect to the user," as recited in claim 10. As the Examiner finds, Bocquet teaches tagging or stamping a wearable user device based upon its relative "proximity" or position at a particular time. Bocquet Fig. 5, ¶¶ 33–34, 50; Final Act. 6. In one embodiment of Bocquet, when (i.e., at a time) a user's equipment "comes in close proximity" to a service device, the user equipment is "tagged," or stamped, which activates the device. Bocquet ¶¶ 33–34. In other embodiments, Bocquet teaches similar use of "location tags" and "timestamps" for authentication. *Id.* ¶¶ 70–71. Thus, Bocquet teaches a first timestamp associated with the relative position, or proximity, of a user device at a particular time.

The disputed limitation of claim 10 recites "first timestamp associated with a time *of a user adaptation* of the wearable device *with respect to the user*." Appeal Br. 17 (emphasis added). As explained by the Specification, the phrase "user adaptation" in claim 10 refers to relative *proximity* or position of the wearable device. Spec. ¶¶ 31, 74–75; *see also id.* Fig. 9 (910). As the Specification further explains, the term "user adaptation" of the device can mean "put[ting] on the wearable device," or "plac[ing] the wearable device in at least approximate contact," or other "proximity-based" detection causing "the wearable device [to] generate [a] proximity token,

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authentication. Final Act. 6; *see also* Van der Horst ¶¶ 2, 6–12; Bocquet ¶¶ 2, 7–9, 26, 33; Final Act. 6. There is ample support in the record for the Examiner's rationale. *Id.*; *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1365 (Fed. Cir. 2006) (rationale to combine references may be found within the references themselves).

e.g., with a timestamp." Spec. ¶¶ 31, 74–75. "User adaptation of the wearable device with respect to the user" is not, therefore, limited to wearing the device.

In my view, one of ordinary skill in the art would have understood Bocquet's teaching of proximity-based timestamps to include the foregoing. Namely, although proximity *with respect to the user* is not one of the express examples cited in Bocquet, one of ordinary skill would have understood that Bocquet's "proximity tag" could be measured with respect to the user or any other reference point. Bocquet ¶¶ 28, 33–36, 71, 85, 104 (describing various reference points and means by which to measure proximity or position of the wearable device, thereby generating a timestamp); *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 418 (2007) (holding that the obviousness "analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim," but can "take account of the inferences and creative steps that a person of ordinary skill in the art would employ").

Nothing in Bocquet suggests limiting its teachings to proximity based on any particular reference point. Moreover, Appellant's argument regarding claim 10 points to no evidence that detecting proximity to a user (as opposed to any other reference point) would have been "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Leapfrog Enters., Inc. v. Fisher-Price, Inc*., 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418–19).

Accordingly, in my view, Appellant has not demonstrated that the Examiner erred in finding the combination of Bocquet and Van der Horst

teaches or suggests the limitations of claim 10. I would sustain the rejection of claim 10 on that basis. I, therefore, would not reach any determination as to whether elements in claim 10 constitute non-functional descriptive material, and do not join in that portion of the Opinion.

SHIANG, *Administrative Patent Judge*, dissenting in part.

I join my colleagues in the decision reversing the Examiner's rejection of claim 1–5, 7–9, and 18–20 under 35 U.S.C. § 103, and newly rejecting claims 1–9 and 18–20 under 35 U.S.C. § 112(b) as being indefinite.

I respectfully dissent from the decision affirming the Examiner's rejection of claims 10–17 under 35 U.S.C. § 103.

I

I have reviewed the Examiner's rejection in light of Appellant's contentions and the evidence of record. I concur with Appellant's contentions that the Examiner erred in finding the cited portions of Bocquet teach "the first token *including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user*," as recited in independent claim 10 (emphasis added). *See* Appeal Br. 9; Reply Br. 3.

The Examiner finds:

> the first token including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user see Fig. 5 item 300, 302 & Par. 0050(the user wearable device is activated) & Par. 0085(the time stamp of arrival).

Final Act. 6.

In response to Appellant's arguments, the Examiner further finds:

> the first token, which corresponds to Bocquet's authorization token, is generated when the user is near/proximate to an area that provides a service (Bocquet Par. 0037). That is, the user device can be a wearable device (Bocquet Par. 0042), and when the user brings the device within a proximity of service area, an authorization token is generated (Bocquet Par. 0055 & Par. 0037). And additionally, the user adapts the device is similar to

> bringing the device to a sensitive area, which initiates the association, awakening and activating of SID (Bocquet Par. 0033-0034). The user bringing the device within the vicinity of sensitive area which provides service corresponds to the claimed limitation of user adapts the device.
>
> The second argument relating to the timestamps being part of the token is also taught by Bocquet. The authorization token (instant claim's first token) having information relating to identifiers, timestamps, other features see Bocquet Par. 0071 & Par. 0089 & Par. 0091. The token includes auxiliary data (Par. 0091) that includes timestamp of user entering the area see Par. 0063. The Time of Arrival is the time user adapts the device by bringing the device to an area, which is stored in the token see Bocquet Par. 0070.

Ans. 4.

I have reviewed the Bocquet portions cited by the Examiner, and they do not discuss "a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user," as required by independent claim 10. For example, Bocquet explains:

> Accordingly, users, for instance employees or visitors, *have simply to be equipped with a badge, wristband, etc. containing the user equipment 3 and to move close to a service device* 4 provided on a service support 48 in the security sensitive area Ak in order to request access to the service associated with the service device. *This will trigger* "*activation" of the service identifier SIDi attached to the requested service for that user*, and subsequently service access control, in a transparent and dynamic manner.
> . . . .
> The Angle of Arrival (AoA) technique that uses the positions of two receivers 50 at known locations, and determines the position of the location tag 35 using triangulation.

Bocquet ¶¶ 50, 85 (emphases added); *see also* Bocquet ¶¶ 33–34, 37, 42, 55, 63, 70–71, 89, 91.

The above paragraphs discuss a timestamp associated with a time when a user (who *is already equipped with* a wearable device, such as a badge or wristband) moves close to a service device that is not the wearable device. That timestamp does not indicate the time when the user puts on the wearable device, because the user *is already equipped with* the wearable device then. Therefore, the above paragraphs do not discuss "a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user," as required by independent claim 10. For similar reasons, the remaining paragraphs cited by the Examiner do not discuss the disputed limitation.

My interpretation of the disputed claim limitation is consistent with the Specification, which provides the following examples of the claimed "user adaptation of a wearable device," such as "when the user puts on the wearable device" (Spec. ¶ 31):

> As shown, method 200 begins by generating a first token including a first timestamp (block 210). This first token may be generated responsive to user adaptation of a wearable device. As such, this first token may be generated, e.g., in the wearable device itself, *when the user puts on the wearable device or otherwise places the wearable device in at least approximate contact.* Note that the first timestamp included in this first token may be associated with the time at which the user puts on or otherwise adapts the wearable device.
>
> . . . .
>
> . . . . In addition, *user adaptation can also be identified based at least in part on one or more body sensors 830, such as a heart rate sensor*. . . .

> . . . . Method 900 begins by generating a proximity token responsive to *user adaptation of the wearable device (block 910)*. In some cases, the wearable device itself may generate this proximity token, e.g., with a timestamp, and store it in a database of the wearable device. In a wearable device having insufficient computing capacity, this token may be received from another system.

Spec. ¶¶ 31, 74–75 (emphases added).

Because the cited portions of Bocquet do not teach "the first token *including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user*," as required by independent claim 10 (emphasis added), the Examiner has not shown the cited prior art portions teach independent claim 10, and corresponding dependent claims 11–17.

II

I disagree with the determination that the term "the first token *including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user*" (emphasis added) is non-functional descriptive material.

First, the Federal Circuit has held *printed matter* must have a functional relationship to a substrate in order to have patentable weight, because printed matter by itself is not patentable subject matter. *See In re Miller*, 418 F.2d 1392, 1396 (CCPA 1969) ("printed matter by itself is not patentable subject matter, because [it is] non-statutory," but the printed matter at issue (volumetric indicia and a legend) has patentable weight because it had a "new and unobvious functional relationship" to the claimed measuring receptacle).

Consistent with *Miller*, subsequent cases *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004) and *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983) also address printed matter. *See King Pharms., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1279 (Fed. Cir. 2010) ("these 'printed matter' cases [*Miller, Ngai* and *Gulack*] involved the addition of printed matter, such as written instructions, to a known product"). In *King Pharmaceuticals*, the Federal Circuit extended the printed matter non-functional descriptive material doctrine to "a method, as opposed to a product" ("Although these 'printed matter' cases involved the addition of printed matter . . . to a known product, we see no principled reason for limiting their reasoning to that specific factual context. . . . . Rather, we believe that the rationale underlying these cases extends to the situation presented in this case, wherein an instructional limitation is added to a method, as opposed to a product, known in the art."). *King Pharms.*, 616 F.3d at 1279.

Here, the Examiner does not establish the first token "including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user" is "printed matter" non-functional descriptive material. Therefore, the Federal Circuit's printed matter non-functional descriptive material doctrine does not apply here.

Second, this Board's *Ex parte Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential) extends the "printed matter" doctrine to the issue of a particular sequence data. *See Ex parte Nehls*, 88 USPQ2d 1883 at *6, *8 ("the particular sequence data recited in claim 13 is nonfunctional descriptive material and does not distinguish the claimed computer-based system from the prior art system that is the same except for its sequence data" because "[t]here is no evidence that SEQ ID NOs 9-1008 functionally

affect the process of comparing a target sequence to a database by changing the efficiency or accuracy or any other characteristic of the comparison. Rather, the SEQ ID NOs are merely information being manipulated by a computer").

Here, the Examiner does not show the first token "including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user" is like the particular sequence data in *Ex parte Nehls*. To the contrary, the first token "including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user" indicates *when* the first token is generated, and *when* the user adaptation of the wearable device occurs. Because the first timestamp performs those functions, it is unlike the particular sequence data in *Ex parte Nehls*.

Therefore, "the first token *including a first timestamp associated with a time of a user adaptation of the wearable device with respect to the user*" (emphases added) does not constitute non-functional descriptive material.

As a result, the Examiner fails to provide sufficient evidence or explanation to support the rejection of independent claim 10, and corresponding dependent claims 11–17. Accordingly, I respectfully disagree with the Opinion of the Board and would reverse the Examiner's rejection of claims 10–17 under 35 U.S.C. § 103.