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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DIETER EHRENSCHWENDER, GERHARD HENKEL,
STEFAN KALCK, and HEIKO KERN

Appeal 2017-002613
Application 12/293,203¹
Technology Center 3600

Before DENISE M. POTHIER, SCOTT B. HOWARD, and
JOHN D. HAMANN, *Administrative Patent Judges*.

HAMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants file this appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 20 and 39–48. Claims 1–19 and 21–38 have been canceled. App. Br. 17. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ According to Appellants, the real party in interest is Deutsche Telekom AG. App. Br. 1.

THE CLAIMED INVENTION

Appellants' claimed invention relates to "pseudonymizing digital data records from a source system that are directed to a destination system," where "[p]seudonymization is a process of modifying person-specific (i.e., personal) data by using an assignment rule in such a way that the individual data pertaining to personal or material circumstances can no longer be attributed to an individual person without knowledge or use of the assignment rule." Spec. ¶¶ 3–4.² Claim 20 is illustrative of the subject matter of the appeal and is reproduced below.

20. A method for pseudonymizing digital data records for transmission from a source computing system to a destination computing system, the method comprising:

receiving, by a client component of an identity protector system, person-specific data from a source computing system provided with a source identifier, wherein the person specific data comprises unique identifiers corresponding to a person;

generating, by the client component of the identity protector system, a pre-pseudonym (PI) based on the unique identifiers and a protected hash function;

sending, by the client component of the identity protector system, the PI with the source identifier to the source computing system;

erasing, by the client component of the identity protector system, the person-specific data from the client component of the identity protector system;

² The instant application was filed with a original specification ("Original Spec."), a Preliminary Amendment to the original specification, and a clean copy of the Specification as amended by the Preliminary Specification. Unless otherwise indicated, all citations to the Specification ("Spec.") are to the clean version of the substitute specification.

receiving, by a master component of the identity protector system, the PI with the source identifier from the source computing system;

generating, by the master component of the identity protector system, a pseudonym (PPI) based on the PI and the source ID, wherein generating the PPI is performed in response to a request for possible re-identification for a data record corresponding to the source identifier from the destination computing system; and

transmitting, by the master component of the identity protector system, the PPI to the destination computing system; and

storing, at a trusted database component of the identity protector system, an assignment of the PPI to the PI and the source ID to facilitate re-identification for the data record corresponding to the source identifier.

REJECTIONS ON APPEAL

(1) The Examiner rejected claims 20 and 39–48 under 35 U.S.C. § 101 as being directed to patent ineligible subject matter.

(2) The Examiner rejected claims 20 and 39–48 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter Appellants regard as their invention.

(3) The Examiner rejected claims 20, 39–41, 43–46, and 48 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Gilbert et al. (US 2002/0073138 A1; published June 13, 2002) (hereinafter “Gilbert”) and Thielscher et al. (US 2005/0043964 A1; published Feb. 24, 2005) (hereinafter “Thielscher”).

(4) The Examiner rejected claims 42 and 47 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Gilbert, Thielscher, and Sudia (US 5,841,865; issued Nov. 24, 1998).

ISSUES

The dispositive issues for this appeal are:

- (1) Whether claims 20 and 39–48 amount to significantly more than the abstract idea to which the Examiner finds that they are directed;
- (2) Whether claims 20 and 39–48 are indefinite with respect to the term “pre-pseudonym”; and
- (3) Whether the combination of Gilbert and Thielscher teaches or suggests a “master component” that “generat[es] . . . a pseudonym (PPI) based on . . . [a pre-pseudonym (PI)] and [a] source ID” as recited in independent claim 20 and similarly recited in independent claim 44?

ANALYSIS

We find Appellants’ arguments discussed here persuasive.

(1) Whether claims 20 and 39–48 amount to significantly more

Appellants contend the Examiner improperly rejected claim 20 under 35 U.S.C. § 101.³ See App. Br. 4–9; Reply Br. 2–5. Section 101 of the Patent Act provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The Supreme

³ Appellants argue the rejected claims (i.e., claims 20 and 39–48) as a group. Thus, we decide the appeal of the § 101 rejection on the basis of representative claim 20, and refer to the rejected claims collectively herein as “the claims.” See 37 C.F.R. § 41.37(c)(1)(iv); *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

Court has explained that this provision is subject to a long-standing, implicit exception that abstract ideas are not patentable. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). The Court has set forth a two-part inquiry to determine whether this exception applies. The first part is to determine if the claim at issue is directed to an abstract idea. *Id.* at 2355. Second, if the claim is directed to an abstract idea, we consider the elements of the claim “both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application,” so as to ensure the claims amount to “significantly more” than the abstract idea. *Alice*, 134 S. Ct. at 2355 (quotation marks omitted) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72 (2012)); *id.* at 2357.

The Examiner finds that the claims “are directed to the abstract idea of reorganizing and extracting data using mathematics or rules, such as the hash function.” Final Act. 2; *see also* Ans. 3 (citing *Digitech Image Tech., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014)).

We begin our analysis for a review of the Examiner’s determination regarding *Alice* step two, which is dispositive. The Examiner determines that “[t]he claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception.” Final Act. 2–3. Instead, the Examiner further determines that the claimed steps “perform purely generic computer functions” (e.g., “sending, receiving, storing and erasing data”), which are “well-understood and commonly implemented computer functions.” *Id.* at 3; *see also* Ans. 4.

Appellants argue that the Examiner “does not set forth an analysis” supporting the Examiner’s finding that the claims are not significantly more

than the abstract idea. App. Br. 6. Put differently, Appellants argue that the Examiner “[im]proper[ly] . . . allege[s] that the claims contain an abstract idea and then make[s] a conclusory allegation that the claims do not recite ‘sufficiently more’ because the other individual steps are ‘well-understood.’” Reply Br. 4–5 (citing *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016)).

Appellants also argue that the Examiner fails to consider the claim limitations as a whole, including failing to consider “the practical environment in which” the claim limitations function. App. Br. 7; Reply Br. 5. Appellants argue that the claims as a whole “overcome a problem specifically arising in the realm of computer networks—i.e., relating to anonymizing digital data records via a two-step pre-pseudonymization plus pseudonymization process to protect user privacy during computer-to-computer communications.” *Id.* at 8–9 (citing Spec. ¶ 42).

We agree with Appellants that the Examiner has not set forth a *prima facie* case that the claims constitute patent ineligible subject matter. More specifically, we agree that the Examiner does not sufficiently explain why the claims purportedly do not amount to significantly more than the abstract idea. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.”). Rather, the Examiner merely states that the individual limitations amount to generic computer functions, which is insufficient. *Bascom*, 827 F.3d at 1350 (“The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art.”).

In addition, we agree with Appellants that the claims include an “inventive concept—*i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 134 S. Ct. at 2355 (quotation marks omitted) (quoting *Mayo, Inc.*, 566 U.S. at 72–73). In particular, we find that the claims here are like those in *Bascom*, where the Federal Circuit found an inventive concept. *Bascom*, 827 F.3d at 1349–50.

In *Bascom*, the claims were directed to the inventive concept of providing customizable Internet-content filtering which, under Step 2 of the *Alice* analysis, was found to transform the abstract idea of filtering content into a patent-eligible invention. *Id.* at 1350. Although the underlying idea of filtering Internet content was deemed to be abstract, under step 2 of the *Alice* analysis, the claims carved out a specific location for the filtering system, namely a remote Internet service provider (ISP) server, and required the filtering system to give users the ability to customize filtering for their individual network accounts. *Id.* In so doing, the Federal Circuit found that the claims “improve[d] an existing technological process.” *Id.* at 1351 (citing *Alice*, 134 S. Ct. at 2357).

Here, when considered as an *ordered combination*, as in *Bascom*, claim 20 recites an inventive concept sufficient to transform the purported abstract idea into a patent-eligible application, namely by improving anonymizing of digital data records by employing a *two-step* pre-pseudonymization plus pseudonymization process to protect user privacy during computer-to-computer communications. App. Br. 17 (Claims App’x) (reciting claim 20); *see also Bascom*, 827 F.3d at 1349–52. This characterization is also consistent with the Specification. Spec. ¶ 48.

This technological improvement, then, adds significantly more to the purported abstract idea, thus rendering the claimed invention patent-eligible. *See Alice*, 134 S. Ct. at 2358–59 (explaining why the claims in *Diamond v. Diehr*, 450 U.S. 175 (1981) were eligible because they *improved an existing technological process*—not because they were implemented on a computer); *see also Bascom*, 827 F.3d at 1351 (explaining that the claimed invention was eligible because it was a *technology-based solution* to filter Internet-based content that overcame existing problems with other Internet filtering systems, and was not merely an abstract-idea-based solution implemented conventionally with generic technical components). Furthermore, “our conclusion that the claims are directed to an improvement of an existing technology is bolstered by the [S]pecification’s teachings that the claimed invention achieves other benefits over conventional” pseudonymization, such as improved prevention of an uncontrolled re-identification in the destination system. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016); Spec. ¶ 48.

Accordingly, we do not sustain the Examiner’s § 101 rejection of claim 20, as well as claims 39–48 grouped therewith.

(2) *Whether claims 20 and 39–48 are indefinite*

Appellants argue that claims 20 and 39–48 are not indefinite with respect to the term “pre-pseudonym.” App. Br. 9–10; Reply Br. 5–6. More specifically, Appellants argue that the term “pre-pseudonym” is definite because “[o]ne of ordinary skill in the art would readily understand that, in the context of the presently claimed invention, a ‘pre-pseudonym’ . . . is an anonymized parameter generated [by] the client component of the identity protector system (e.g., a T-IP client) pursuant to a ‘pre-pseudonymization’

process.” App. Br. 9–10; *see also id.* (citing Original Spec. ¶¶ 31–39, 54–64) (disclosing the claimed pseudonymization process). Appellants argue that in this context “[t]he claim language recites that the pre-pseudonym (PI) is generated based on the unique identifiers and a protected hash function, and the original [S]pecification . . . provide[s] examples where pre-pseudonyms are generated based on name, birth date, and other unique identifie[r]s.” App. Br. 9 (citing Original Spec. ¶¶ 32, 56).

The Examiner finds that the term “pre-pseudonym” is indefinite “because the original [S]pecification does not contain a lexicographic definition for the terms with the required clarity, deliberateness, and precision.” Ans. 5. The Examiner also finds the portions of the Specification and claim language, cited by Appellants, unhelpful as “this information merely provides context as to how the pre-pseudonym is created but not what it is.” *Id.*

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the [S]pecification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted); *see also Ex parte Miyazaki*, 89 USPQ2d 1207, 1210–13 (BPAI 2008) (precedential) (applying the *Orthokinetics* standard).

We agree with Appellants that one of ordinary skill in the art would understand the scope of what is being claimed in claims 20 and 39–48. For example, we agree that one of skill in the art would understand that pre-pseudonym is an anonymized parameter generated by the client component of the claimed system. App. Br. 17 (Claims App’x) (reciting claim 20); Spec. ¶¶ 38 (disclosing that the “client receives person-specific data from a

source system . . .[, and f]rom the name, birth date, and other unique identifiers, it generates a pre-pseudonym (PI”)), 55 (disclosing “for the pre-pseudonym, the name is used in conjunction with other identification features, such as birth date, place of birth, and other unique identifiers . . .[, and] are modified in the . . . client by an algorithm in such a way that the resulting character string does not make any sense to an attacker”). We also find that the Specification’s disclosure of how the pre-pseudonym is created serves to help one of ordinary skill in the art understand what is claimed, contrary to the Examiner’s finding. *Id.*

Accordingly, we do not sustain this rejection.

(3) *Whether Gilbert and Thielscher teach the master component*

Appellants argue that the combination of Gilbert and Thielscher fails to teach or suggest a “master component” that “generat[es] . . . a pseudonym (PPI) based on . . . [a pre-pseudonym (PI)] and [a] source ID,” as recited in independent claim 20 and recited in commensurate scope in independent claim 44. App. Br. 10–12; Reply Br. 7–8. More specifically, Appellants argue that Gilbert’s server 14, which the Examiner maps to the “master component,” does not “perform[] any pseudonymization operations,” let alone the disputed limitation. App. Br. 11. According to Appellants, Gilbert’s server 14 instead generates an identifier 199, which “is an arbitrary identifier assigned to master records to distinguish them from one another.” *Id.* at 12 (citing Gilbert ¶ 88). According to Appellants, Gilbert’s identifier 199 most certainly “is not a pseudonym generated based on [a] pre-pseudonym PI and [a] source ID,” as claimed. *Id.* at 11–12 (citing Gilbert ¶ 88). For example, Appellants argue Gilbert’s “normalized identification (ID) data field” cannot be the claimed “pre-pseudonym (PI)” used in

generating the pseudonym (PPI) because the normalized identification (ID) data field is not “generated based on unique identifiers and a protected hash function,” as claimed. Reply Br. 8.

The Examiner finds that the combination of Gilbert and Thielscher, and Gilbert in particular, teaches or suggests the disputed limitation. Ans. 6–8. More specifically, the Examiner finds that Gilbert discloses a master component which generates a pseudonym (i.e., identifier 199) based on a pre-pseudonym (i.e., a “normalized identification (ID) data field”) and a source ID (i.e., a “match code”). Ans. 6–7 (citing Gilbert ¶¶ 50, 56, 88). The Examiner also finds that Gilbert’s “identifier 199 is generated at a probabilistic linkage step in the matching process 80 which necessarily occurs after data is de-identified and encoded which is necessarily based on the ‘normalized identification (ID) data field[s]’ (the pre-pseudonym (PI)).” *Id.* at 7–8 (citing Gilbert ¶¶ 50, 54, 59).

We are persuaded by Appellants’ arguments. The portions of Gilbert and Thielscher cited by the Examiner fail to teach or suggest the disputed limitation. Contrary to the Examiner’s findings, the cited portions of Gilbert do not teach or suggest that identifier 199 (i.e., mapped to pseudonym (PPI)) is generated based on a pre-pseudonym (PI), which is based on *unique identifiers* and a *protected hash function* in accordance with the claims. *See* Gilbert ¶¶ 50, 54, 59, 88. We also agree with Appellants that Gilbert’s normalized identification (ID) data fields have not been shown to disclose a pre-pseudonym (PI), as the normalized identification (ID) data fields are not necessarily based on *unique identifiers* and a *protected hash function* as claim 20 requires. *Id.* ¶ 50. Rather, these fields comprise identifiers, some of which may not be unique, and are not generated using a hash function.

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Id.; *cf id.* ¶ 56 (disclosing the use of hashed identifiers as *match codes*, which the Examiner maps to Source IDs).

Accordingly, we do not sustain the Examiner's § 103 rejection of independent claims 20 and 44, as well as claims 39–41, 43, 45, 46, and 48, as they depend, directly or indirectly from one of these independent claims. We also do not sustain the Examiner's § 103 rejection of claims 42 and 47, as each of these claims depend, directly or indirectly, from one of the above independent claims.

DECISION

We reverse the Examiner's decision rejecting claims 20 and 39–48.

REVERSED