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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TONY SPINELLI, DAVID HANNIGAN, and
NICK NEDOSTUP

Appeal 2017-010380
Application 12/365,974
Technology Center 3600

Before ST. JOHN COURTENAY III, DENISE M. POTHIER, and
JOYCE CRAIG, *Administrative Patent Judges*.

CRAIG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 39–42, 44–50, and 52–61, which are all of the claims pending in this application.² We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

¹ According to Appellants, the real party in interest is Equifax, Inc. App. Br. 1.

² Claims 1–38, 43, and 51 have been canceled, and claims 62 and 63 have been withdrawn from consideration in accordance with a restriction requirement by the Examiner (election by original presentation). Final Act. 2; *see also* App. Br. 1.

INVENTION

Appellants' invention relates to providing data security. Abstract.

Claim 39 is illustrative and reads as follows:

39. A method comprising:

generating, by a device comprising a processor, hashed credit bureau records by hashing credit bureau records of a majority of individuals having an age over a pre-set age and residing in at least one of the United States of America or a state within the United States of America, and storing the hashed credit bureau records;

deleting, by the device, the credit bureau records subsequent to generating the hashed credit bureau records;

subsequent to deleting the credit bureau records, hashing, by the device, updated credit bureau records received subsequent to hashing the credit bureau records, and modifying the stored hashed credit bureau records using the hashed updated credit bureau records;

deleting the updated credit bureau records subsequent to modifying the stored hashed credit bureau records using the hashed updated credit bureau records; and

subsequent to deleting the updated credit bureau records:

receiving, by the device, an electronic communication addressed to an additional device in a network,

hashing, by the device, content from the electronic communication,

determining, by the device, that the hashed content from the electronic communication matches at least one of the stored hashed credit bureau records as modified using the hashed updated credit bureau records, and

preventing the electronic communication from being transmitted to the additional device via the network based on determining that the hashed content from the electronic communication matches at least one of the stored hashed credit bureau records as modified using the hashed updated credit bureau records.

REJECTIONS³

Claims 39–42, 44–50, and 52–61 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception without significantly more. Final Act. 7–11.

Claims 39, 40, 42, 44, 47, 48, 50, 52, 55, and 57 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti (US 2003/0140049 A1; published July 24, 2003), Shaffer et al. (US 2002/0136381 A1; published Sept. 26, 2002) (“Shaffer”), and Igakura (US 2002/0042796 A1; published Apr. 11, 2002). Final Act. 12–17.

Claims 41, 49, and 56 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti, Shaffer, Igakura, and Seinfeld et al. (US 2007/0179903 A1; published Aug. 2, 2007) (“Seinfeld”). Final Act. 17–18.

Claims 45, 53, and 58 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti, Shaffer, Igakura, and Hahn et al. (US 7,934,098 B1; issued Apr. 26, 2011) (“Hahn”). Final Act. 18–20.

Claims 46 and 54 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti, Shaffer, and Igakura, Labaton (US 2009/0265768 A1; published Oct. 22, 2009), and Rawat et al. (US 2006/0224602 A1; published Oct. 5, 2006) (“Rawat”). Final Act. 20–21.

Claims 59 and 60 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti, Shaffer, Igakura, and Nemoto

³ In the Answer, the Examiner withdrew a rejection of claim 61 under 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. *See* Ans. 3.

et al. (US 2008/0010686 A1; published Jan. 10, 2008) (“Nemoto”). Final Act. 21–22.

Claim 61 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Radatti, Shaffer, Igakura, and Pavlyushchik (US 8,099,785 B1; issued Jan.17, 2012). Final Act. 22–23.

ANALYSIS

Rejection of Claims 39–42, 44–50, and 52–61 under 35 U.S.C. § 101

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.

However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental

economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding . . . rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 193 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive

concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (internal citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (“2019 Guidance”). Under that guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) § 2106.05(a)–(c), (e)–(h)) (9th Ed., Rev. 08.2017, Jan. 2018)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that are not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 2019 Guidance.

Here, Appellants contend the Examiner erred because preventing communication of sensitive information via data networks is not an abstract

idea. App. Br. 23. Appellants also argue each independent claim provides a solution that is necessarily rooted in computer technology (e.g., a combination of hashing sensitive data and deleting the sensitive data) in order to overcome a problem specifically arising in the realm of computer networks. App. Br. 10. Appellants further argue the particular arrangement of claim elements (e.g., the arrangement of hashing sensitive data, deleting the un-hashed sensitive data after hashing, and preventing data transmissions after deleting the un-hashed sensitive data) improves existing technological processes (e.g., data communications). *Id.*

Step 2A, Prong One — Recited Judicial Exception

Step 2A of the 2019 Guidance is a two-prong inquiry. In Prong One, we evaluate whether the claim recites a judicial exception. Under Supreme Court precedent, claims directed purely to an abstract idea are patent ineligible. As set forth in the 2019 Guidance, which extracts and synthesizes key concepts identified by the courts, abstract ideas include (1) mathematical concepts, (2) certain methods of organizing human activity, and (3) mental processes. Among those mental processes identified in the 2019 Guidance are concepts performed in the human mind, such as observation, evaluation, judgment, and opinion. In addition, the Federal Circuit has concluded that claims to the mental process of “translating a functional description of a logic circuit into a hardware component description of the logic circuit” are directed to an abstract idea because the claims “read on an individual performing the claimed steps mentally or with pencil and paper.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149–50 (Fed. Cir. 2016); *see also Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)) (noting that the claimed “conversion of [binary-coded decimal] numerals to pure

binary numerals can be done mentally,” i.e., “as a person would do it by head and hand.”).

Like those concepts, claim 39 recites mental processes that practically could be performed via pen and paper or in a person’s mind:

generating . . . hashed credit bureau records by hashing credit bureau records of a majority of individuals having an age over a pre-set age and residing in at least one of the United States of America or a state within the United States of America, and storing the hashed credit bureau records;

deleting . . . the credit bureau records subsequent to generating the hashed credit bureau records;

subsequent to deleting the credit bureau records, hashing . . . updated credit bureau records received subsequent to hashing the credit bureau records, and modifying the stored hashed credit bureau records using the hashed updated credit bureau records;

deleting the updated credit bureau records subsequent to modifying the stored hashed credit bureau records using the hashed updated credit bureau records;

The limitation “*generating . . . hashed credit bureau records by hashing credit bureau records*” of certain individuals and “*storing the hashed credit bureau records*” practically could be performed via pen and paper or in a person’s mind. Because the claim does not limit the complexity of either the hashing algorithm or the credit bureau records, a person with pen and paper could generate a written record on paper by hashing, mentally or on paper, credit bureau records, and then store the paper on which the record appears. A person with pen and paper could also “*delet[e] . . . the credit bureau records subsequent to generating the hashed credit bureau records,*” for example, by crossing them out with a pen. The same logic applies to the last two limitations, above, which recite updated credit bureau records and require “*subsequent to deleting the credit bureau*

records, hashing . . . updated credit bureau records received subsequent to hashing the credit bureau records, and modifying the stored hashed credit bureau records using the hashed updated credit bureau records,” and “deleting the updated credit bureau records subsequent to modifying the stored hashed credit bureau records using the hashed updated credit bureau records.”

Similarly, we conclude the following steps of independent claim 47 recite mental processes that practically could be performed via pen and paper or in a person’s mind:

generate hashed credit bureau records by hashing the credit bureau records and storing the hashed credit bureau records,
delete the credit bureau records subsequent to generating the hashed credit bureau records,
hash, subsequent to deleting the credit bureau records, updated credit bureau records received subsequent to . . . hash[ing] the credit bureau records,
modify the stored hashed credit bureau records using the hashed updated credit bureau records,
delete the updated credit bureau records subsequent to . . . modify[ing] the stored hashed credit bureau records using the hashed updated credit bureau records;

We also conclude the following steps of independent claim 55 recite mental processes that could practically be performed via pen and paper or in a person's mind:

generating hashed credit bureau records by hashing credit bureau records of a majority of individuals having an age over eighteen and residing in the United States of America, and for storing the hashed credit bureau records;
deleting the credit bureau records subsequent to generating the hashed credit bureau records;

subsequent to deleting the credit bureau records, hashing updated credit bureau records received subsequent to hashing the credit bureau records, and for modifying the stored hashed credit bureau records using the hashed updated credit bureau records;

deleting the updated credit bureau records subsequent to modifying the stored hashed credit bureau records using the hashed updated credit bureau records;

Because we conclude the independent claims recite an abstract idea, we proceed to Prong Two to determine whether the claims are integrated into a practical application.

Step 2A, Prong Two – Practical Application

If a claim recites a judicial exception, in Prong Two we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application. If the recited judicial exception is integrated into a practical application, the claim is not directed to the judicial exception.

Here, claim 39 recites the additional elements of:

subsequent to deleting the updated credit bureau records:

receiving, by the device, an electronic communication addressed to an additional device in a network,

hashing, by the device, content from the electronic communication,

determining, by the device, that the hashed content from the electronic communication matches at least one of the stored hashed credit bureau records as modified using the hashed updated credit bureau records, and

preventing the electronic communication from being transmitted to the additional device via the network based on

determining that the hashed content from the electronic communication matches at least one of the stored hashed credit bureau records as modified using the hashed updated credit bureau records.

Claim 39 also recites the additional element of “a device comprising a processor.”

Considering the claim as a whole, the “preventing” step applies or uses the abstract idea in a meaningful way such that the claim as a whole is more than a drafting effort designed to monopolize the exception. The “preventing” is “based on determining that the hashed content from the electronic communication matches at least one of the stored hashed credit bureau records as modified using the hashed updated credit bureau records.” Because the preventing is based on the hashed content from the electronic communication matching the stored hashed credit bureau records, the limitation imposes meaningful limits on the claim such that it is more than nominally or tangentially related to the invention. In other words, the limitation amounts to more than insignificant extra-solution activity. Thus, the abstract idea in claim 39 is integrated into a practical application. Claims 47 and 55 recite similar “preventing” steps, which applies or uses the abstract idea in a meaningful way.

Because claims 39, 47, and 55 integrate the recited judicial exception into a practical application, they are not “directed to” a judicial exception and, therefore, our inquiry ends.

For these reasons, under the 2019 Guidance, we reverse the Examiner’s § 101 rejection of independent claims 39, 47, and 55. We also reverse the Examiner’s § 101 rejection of the dependent claims and are persuaded that the Examiner erred in concluding claims 40–42, 44–46, 48–

50, 52–54, and 56–61, which fall with the independent claims from which they depend.

Rejection of Claims 39–42, 44–50, 52–58, and 61 under 35 U.S.C. § 103(a)

We have reviewed the § 103(a) rejections of claims 39–42, 44–50, 52–58, and 61 in light of Appellants’ arguments that the Examiner erred. We have considered in this decision only those arguments Appellants actually raised in the Briefs. Any other arguments Appellants could have made, but chose not to make, in the Briefs are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellants’ arguments are not persuasive of error. We agree with and adopt as our own the Examiner’s findings of facts and conclusions as set forth in the Answer and in the Action from which this appeal was taken. We provide the following explanation for emphasis.

With respect to independent claim 39, Appellants contend the cited portions of Radatti, Shaffer, and Igakura do not disclose the “particular sequence of hashing credit bureau records, deleting the un-hashed credit bureau records, and then matching the hashed version of the deleted records to an electronic communication,” recited in claim 39. App. Br. 32–35. Appellants argue “Radatti does not teach *deleting the files used to create the hash values* in its system, let alone using hashed versions of deleted data for some other purpose.” *Id.* at 33–34. Appellants further argue Shaffer and Igakura fail to cure Radatti’s deficiency. *Id.* at 34.

We are not persuaded that the Examiner erred. Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). The test for

obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the combined teachings of those references. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Appellants attack Radatti individually, even though the Examiner relied on the combination of Shaffer, Igakura, and Radatti in rejecting claim 39. *See In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d at 425). The Examiner found Radatti teaches the steps of generating hashed records, deleting the original records, and hashing updated records. Final Act. 12; Ans. 10–11. The Examiner relied on Igakura in combination with Radatti and Shaffer as teaching deleting updated records. Final Act. 13–14; Ans. 11.

Appellants have not persuasively rebutted the Examiner’s findings. In particular, Appellants have not persuasively argued why the disputed claim limitations would not have been obvious to those of ordinary skill in the art in light of the cited teachings of the combined references. *See App. Br.* 32–35.

For these reasons, we are not persuaded that the Examiner erred in finding that the combination of Shaffer, Igakura, and Radatti teaches or suggests the disputed limitations of claim 39.

Accordingly, we sustain the Examiner’s § 103(a) rejection of independent claim 39, as well as the Examiner’s § 103(a) rejection of independent claims 47 and 55, which Appellants argue are patentable for similar reasons. *App. Br.* 32. We also sustain the Examiner’s rejection of

dependent claims 40–42, 44–46, 48–50, 52–54, 56–58, and 61, not argued separately with particularity. *Id.* at 30–31.

Claims 59 and 60

Appellants argue that the Examiner erred in rejecting dependent claim 59 because the cited portions of Radatti, Shaffer, and Igakura fail to teach or suggest that the device of claim 39 “is included in an additional network” and “wherein the performs the determining step based on the network to which the electronic communication is addressed being external to the additional network,” and “wherein the device omits the determining step and the preventing step for an additional electronic communication addressed to the additional network that includes the device.” App. Br. 37.

We are persuaded that the Examiner erred. Claim 59 requires that the “determining” and “preventing” steps of claim 39 are omitted for additional electronic communications addressed to an additional network that includes the device. We agree with Appellants that the Examiner has not cited sufficient teachings in Nemoto for the requirements of claim 59. Neither Nemoto’s Abstract nor Nemoto’s paragraph 146, cited by the Examiner, teaches or suggests omitting the determining and preventing steps as claim 59 requires. *See* Ans. 11–12. Nemoto’s Abstract teaches that a control unit determines whether to permit accesses to resources from an external apparatus, in accordance with access control levels. *See* Ans. 11 (citing Nemoto Abstract). Paragraph 146 of Nemoto merely teaches that a control unit receives rank information and an address of an access target from an external apparatus via an external interface and compares the rank information with a stored upper limit value. *See* Nemoto ¶ 146. The cited portions of Nemoto do not sufficiently teach or suggest the disputed

limitation “the device omits the determining step and the preventing step for an additional electronic communication addressed to the additional network that includes the device.”

For these reasons, on the record before us, we do not sustain the Examiner’s § 103(a) rejection of claim 59, or of claim 60, dependent thereon. Accordingly, we reverse the Examiner’s § 103(a) rejection of dependent claims 59 and 60.

DECISION

We reverse the Examiner’s decision rejecting claims 39–42, 44–50, and 52–61 under 35 U.S.C. § 101.

We affirm the Examiner’s decision rejecting claims 39–42, 44–50, 52–58, and 61 under 35 U.S.C. § 103(a).

We reverse the Examiner’s decision rejecting claims 59 and 60 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART