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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK A. HEYNER[1]

Appeal 2018-005778
Application 13/888,322
Technology Center 3600

Before ROBERT E. NAPPI, JOHNNY A. KUMAR, and JOHN A. EVANS, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's non-final rejection of claims 1 through 24, and 44 through 67. Claims 25 through 43, have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] According to Appellant, Institutional Cash Distributors Technology, LLC is the real party in interest. App. Br. 1.

INVENTION

The invention is directed to a technique for executing an electronic transaction which makes use of an encapsulated security token that encapsulates data using two cryptographic systems. Abstract. Claim 1 is illustrative of the invention and is reproduced below.

> 1. A method for use in securing functional data for use in electronic transactions, comprising:
>
> 1) constructing a security token that incorporates a first set of first transaction elements that are required for an electronic transaction, said constructing a security token comprising:
>
> a) operating a first processing system to generate a first data object including at least a first subset of said first set of first transaction elements:
>
> b) transmitting the first data object, directly or indirectly, from said first processing system to a second processing system;
>
> c) first operating the second processing system to generate an at least once-encapsulated data object by encapsulating at least the first data object using a first digital signature system including a first digital signature of a first party, for encapsulating the first data object and a first signature verification for verifying the first signature and de-encapsulating the first data object;
>
> d) transmitting the at least once-encapsulated data object to a third processing system; and
>
> e) second operating the third processing system to generate an at least twice-encapsulated data object by adding at least a second subset of said first transaction elements, different than said first subset, to said once-encapsulated data object and encapsulating at least the at least once-encapsulated data object and said second subset of said first transaction elements using a second digital signature system including a second digital signature of a second party, for encapsulating the at least once-encapsulated data object and a second signature verification for verifying the second signature and de-encapsulating the at least once-encapsulated data object;

> wherein said security token comprises said at least twice-encapsulated data object;
> 2) transmitting said security token to a transaction processing system; and
> 3) transmitting, to said transaction processing system, signature information sufficient to allow said transaction processing system to use said second signature system to de-encapsulate said at least twice-encapsulated data object so as to obtain said second subset of said first transaction elements and to use said first signature system to de-encapsulate said at least once-encapsulated data object to obtain said first subset of said first transaction elements and to compare said first financial transaction elements of said security token with second financial transaction elements of a transaction request to verify said transaction request.

EXAMINER'S REJECTIONS[2]

The Examiner rejected claims 1 through 24, and 44 through 67 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Final Act. 3–8.

The Examiner has rejected claims 1 through 24, and 44 through 67 under 35 U.S.C. § 103(a) as being unpatentable over Atkinson (US 2004/0073518 A1, published Apr. 15, 2004) and Frisch (US 2004/0243811 A1, published Dec. 2, 2004). Final Act. 12–23.

The Examiner has rejected claims 1 through 24, and 44 through 67 under 35 U.S.C. § 112(b) second paragraph as being indefinite. Final Act. 11–12.

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[2] Throughout this Decision we refer to the Appeal Brief filed July 11, 2017 ("App. Br."); the Reply Brief filed May 16, 2018 ("Reply Br."); Final Office Action mailed January 12, 2017 ("Final Act."); and the Examiner's Answer mailed March 21, 2018 ("Ans.").

ANALYSIS

We have reviewed Appellant's arguments in the Briefs, the Examiner's rejections, and the Examiner's response to Appellant's arguments. Appellant's arguments have persuaded us of error in the Examiner's rejections of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 103(a), of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 101 and of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 112(b).

Rejection 35 U.S.C. § 101.

PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

> Whoever 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.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: "[l]aws of nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012).

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*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). 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, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); 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 176; *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. "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 United States Patent and Trademark Office "USPTO" recently published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* ("Memorandum"). Under that guidance, we first determine 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* MPEP § 2106.05(a)–(c), (e)–(h)).

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 is 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 Memorandum.

ANALYSIS

The Examiner determines the claims are not patent eligible as they are directed to judicial exception without reciting significantly more. Final Act. 3–4. Specifically, the Examiner determines the claims are directed to the abstract idea of "managing/executing transactions for a party on behalf of another party using digital signatures, which is a method of organizing a human activity" and are steps that can be performed mentally or by pen and paper. Final Act. 4–8 (citing several cases which the Examiner considers to show the court found similar ideas to be abstract). Thus, the Examiner concludes

> the claims, when considered separately, do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the claims require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry. There is no improvement to the functioning of the computer nor is there an improvement to another technology or technical field.

Final Act. 7.

Appellant argues the Examiner's rationale that the claimed steps could be performed mentally or by using a pen and paper is incorrect and does not seem to consider the use of an electronic security token, the once and twice-encapsulated data objects and first and second signatures as claimed. App. Br. 8–10. Additionally, Appellant argues the claims are necessarily rooted in computer technology as they overcome a problem arising in computer networks (i.e., hackers gaining access to account information to invoke unauthorized transactions), and as such are patent eligible. App. Br. 10–12 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014)). Appellant argues the claimed invention is not directed to an abstract idea of securing an cash channel for electronic funds transfer, but rather is an ordered combination of limitations relating to multiple encapsulation and de-encapsulation process of the security token where the sequence is coordinated with a particular transaction elements by various parties and as such is patent eligible. App. Br. 12–14 (citing *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016). Further, Appellant argues that the Examiner has not provided a proper factual inquiry into what is well-understood, routine and conventional steps of using encapsulation in a security token as claimed. Reply Br. 7–8 (citing *Berkheimer v. HP, Inc.*, 881 F.3d 1360 (Fed. Cir. 2018).

Appellant's arguments have persuaded us of error in the Examiner's rejection of claims 1 through 24, and 44 through 67 as being directed to patent-ineligible subject matter. Here, even if the Examiner's determination that the claim is directed to an abstract idea was taken to be proper, we determine that the rejection is in error as the Examiner has not adequately

shown that the claim limitations, when considered individually or as an ordered concept, are no more than routine steps which interact in well-known ways.

Since the Examiner's Answer was mailed, the Federal Circuit, addressing step two of the *Mayo/Alice* framework in *Berkheimer*, has held that the question of whether a claim element or combination of elements is well-understood, routine, and conventional to a skilled artisan in the relevant field is a question of fact. *Berkheimer*, 881 F.3d at 1368. Shortly after the Federal Circuit issued its decision in *Berkheimer*, the USPTO issued an April 19, 2018 Memorandum to the Patent Examining Corps entitled, "Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)" (the "*Berkheimer* Memorandum"), in which the Office revised the procedures set forth in the Manual of Patent Examining Procedure ("MPEP") § 2106.07(a) (Formulating a Rejection For Lack of Subject Matter Eligibility) and MPEP § 2106.07(b) (Evaluating Applicant's Response). *Berkheimer* Memorandum 3. Here, the requirements of the *Berkheimer* memo have not been adequately met to the specific nature of the claim at issue.

Further, the Examiner does not sufficiently establish that the "ordered combination" of the recited elements also fails to "'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217. "[A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces," even if these pieces constitute generic computer, network, and internet components. *BASCOM*, 827 F.3d at 1350.

As discussed above, the Appellant argues the inventive concept is

found in the encapsulation and de-encapsulation an electronic security token and verifying the recovered information to control a transaction and as such the claims are patent eligible. The Examiner, in the Final Action, identifies these steps as being part of the abstract idea of managing transactions, further that they are recited at a high level of generality "simply perform the generic computer functions of transmitting, receiving, encapsulating, de-encapsulating, generating, using, operating, & comparing." Final Act. 5 and 7; Answer 5, 7, and 8. We consider these findings and responses insufficient to meet the evidentiary requirements set forth in *Berkheimer*. Each of independent claims 1 and 44 recite limitations directed performing two operations using two different signature systems to encapsulate data objects to form a security token that comprises a once encapsulated data object (encapsulating a data object using a first digital signature) and a twice encapsulated data object (encapsulating a the once encapsulated data object and another data object using a second digital signature), i.e., a specific ordered combination of elements. Thus, the claims, recite an order of steps to be performed to create a security token containing once and twice-encapsulated data. The Examiner has cited to paragraph 14 of Appellant's Specification to show that the invention uses generic computers; however this cite is insufficient to demonstrate the steps of creating a security token containing once and twice-encapsulated data are well-understood, routine, and conventional to a skilled artisan in the relevant field. As such the Examiner has not shown that the claim recitation of an ordered combination of elements fails to transform the nature of the claim into a patent-eligible application. Accordingly, we do not sustain the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 101 as being

directed to patent-ineligible subject matter.

Rejection 35 U.S.C. § 103.

Appellant argues on pages 20 through 22 of the Appeal Brief that the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 103 is in error. Appellant addresses each of the references and asserts that neither of the references or the combination of the references teaches encapsulation of the a subset (less than the whole) set of required transaction elements in a layer as claimed, specifically, the claimed security token with a twice-encapsulated data object. App. Br. 22; Reply Br. 8–9.

The Examiner's rejection relies upon Atkinson to teach receiving a transaction element with a security token that has a once-encapsulated data object. Final Act. 12–15. The Examiner finds that Atkinson does not teach encapsulating the at least once encapsulating object and a second subset of transaction elements as claimed, but finds that Frisch does. Answer 15 (citing Frisch Fig. 2, paras. 38–44 and 58).

We have reviewed the teachings of Frisch and do not find that the cited portions of Frisch support the Examiner's findings of encapsulating a: first encapsulated object (in which is encapsulated a first subset of transaction elements using a first digital signature system) and a second subset of transaction elements different from the first subset, using a second digital signature system as recited in independent claims 1 and 44. Accordingly, we do not sustain the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 103.

Rejection 35 U.S.C. § 112(b).

The Examiner rejects independent claim 1 as "'transmitting, to said transaction processing system, signature information sufficient to allow said transaction processing system to use said second signature system' which renders the claims indefinite. It's unclear to a person of ordinary skill in the art what is required for the signature information to be sufficient." Final Act 12.

Appellant argues that "one skilled in the art will readily understand what public key information is needed to unscramble the information" and that the Examiner's acknowledges this technology is well known. App. Br. 23. Further Appellant cites the discussion of digital signatures on page 10 of their Specification as further support for the disputed limitation.

Appellant's arguments have persuaded us of error in the Examiner's rejection. Initially, we note that the Examiner has not addressed the Appellant's arguments in the Answer. Further, we disagree with the Examiner that the claim is ambiguous as it is unclear what is required for the signature information to be sufficient. Claims 1, and 44 recite that the information is sufficient if it contains the data needed for the signature system to de-encapsulate the encapsulated data to obtain the data. Thus, we do not sustain the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 112(b).

DECISION

We reverse the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 101.

We reverse the Examiner's rejection of claims 1 through 24, and 44

through 67 under 35 U.S.C. § 103.

We reverse the Examiner's rejection of claims 1 through 24, and 44 through 67 under 35 U.S.C. § 112(b).

REVERSED