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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/343,140	01/04/2012	Maryfaith Capparell	015444.0684	2936
139180	7590	05/10/2018	EXAMINER	
Baker Botts LLP/Bank of America Corporation 2001 Ross Avenue Suite 700 Dallas, TX 75201			SHRESTHA, BIJENDRA K	
			ART UNIT	PAPER NUMBER
			3691	
			NOTIFICATION DATE	DELIVERY MODE
			05/10/2018	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARYFAITH CAPPARELL, BRIAN J. HASCUP,
JAMES KARDELL, ITAMAR GUS,
JAYALAKSHMI BALASUBRAMANIAN, JULIA KIRSHTEN,
AMIT A. KARVE, KANNAN PICHAI,
ANCILLA AMBROSE-LOURDES, SARA M. CUMMINGS,
BALAJI VADHIYAR, and STEVEN F. INFUSO

Appeal 2017-000402¹
Application 13/343,140²
Technology Center 3600

Before ANTON W. FETTING, NINA L. MEDLOCK, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Our decision references Appellants' Appeal Brief ("Br.," filed April 26, 2016) and the Examiner's Answer ("Ans.," mailed August 12, 2016) and Non-Final Office Action ("Non-Final Act.," mailed December 31, 2015).

² Appellants identify Bank of America Corporation as the real party in interest. Br. 2.

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED INVENTION

Appellants' claimed invention "relates to financial liquidity and more specifically to a liquidity assessment system" (Spec. 1).

Claims 1, 8, and 15 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A liquidity assessment system, comprising:
 - a memory configured to store:
 - financial environment data, the financial environment data identifying at least one characteristic of an existing financial environment;
 - financial liquidity data for a financial enterprise, the financial enterprise comprising a plurality of financial entities, the plurality of financial entities comprising a first financial entity and a second financial entity, the financial liquidity data identifying a liquidity position for each financial entity in the existing financial environment;
 - first financial scenario data, wherein the first financial scenario data identifies at least one change to the at least one characteristic of the existing financial environment in the first jurisdiction;
 - second financial scenario data, wherein the second financial scenario data identifies at least one change to the at least one characteristic of the existing financial environment in the second jurisdiction; and
 - a processor, communicatively coupled to the memory, the processor configured to:
 - receive, via a network, liquidity requirements promulgated by a plurality of jurisdictions comprising a first jurisdiction and a second jurisdiction;

transform the liquidity requirements promulgated by the plurality of jurisdictions into a common format, the first financial entity being subject to first liquidity requirements of the first jurisdiction, the second financial entity being subject to second liquidity requirements of the second jurisdiction;

generate a first scenario financial environment by applying the first financial scenario data to the financial environment data;

generate a second scenario financial environment by applying the second financial scenario data to the financial environment data;

determine a first scenario liquidity position for the first financial entity in the first scenario financial environment;

determine a second scenario liquidity position for the second financial entity in the second scenario financial environment;

automatically determine if the first financial entity has excess liquidity based on comparing the first scenario liquidity position to the transformed first liquidity requirements;

automatically determine if the second financial entity has insufficient liquidity based on comparing the second scenario liquidity position to the transformed second liquidity requirements; and

automatically transfer excess funds from the first financial entity having excess liquidity to the second financial entity having insufficient liquidity.

REJECTION³

Claims 1–20 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

³ The Examiner has withdrawn the rejection of claims 1–7 under 35 U.S.C. § 112, second paragraph, and the rejection of claims 1–7 under 35 U.S.C.

ANALYSIS

Non-Statutory Subject Matter

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. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp.*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are not directed to a patent-ineligible concept, e.g., an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 79, 78).

The Court acknowledged in *Mayo* that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. Therefore, the Federal Circuit has

§ 101 as failing to “provide the structure of the device or the hardware that performs the function” (Ans. 2).

instructed that claims are to be considered in their entirety to determine “whether their character as a whole is directed to excluded subject matter.”

McRO, Inc. v. Bandai Namco Games Am., Inc., 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

In rejecting claims 1–20 under 35 U.S.C. § 101, the Examiner determined that the claims are directed to “[a] system and method of liquidity assessment of each financial entity within a financial enterprise and transferring excess funds from financial entity with excess liquidity to the financial entity with insufficient liquidity” (Non-Final Act. 5). Paraphrasing the claim language, the Examiner further noted that the claims are directed to

stor[ing] financial environment data, the financial environment data identifying at least one characteristic of an existing financial environment, financial liquidity data for a financial enterprise[,] and first and second financial scenario data[;] generat[ing] a first and second scenario financial environment by applying the first and second financial scenario data to the financial environment data; receiv[ing], via a network, liquidity requirements promulgated by a plurality of jurisdictions comprising a first jurisdiction and a second jurisdiction; transform[ing] the liquidity requirements promulgated by the plurality of jurisdictions into a common format; determin[ing] a first and second scenario liquidity position for the first and second financial entity in the first and second scenario financial environment; automatically determin[ing] if the first financial entity has excess liquidity based on comparing the first scenario liquidity position to the transformed first liquidity requirements; automatically determin[ing] if the second financial entity has insufficient liquidity based on comparing the second scenario liquidity position to the transformed second liquidity requirements; and automatically transfer[ring] excess funds from

the first financial entity having excess liquidity to the second financial entity having insufficient liquidity[,] i.e., “transferring excess funds from one financial entity to another after comparing the excess/insufficient liquidity positions of the financial entities of the financial enterprise,” which the Examiner concluded are “mathematical formulas/relationships and/or a method of organizing human activities and/or an idea ‘of itself’” (*id.* at 5–6, 10–11 (emphasis omitted)). The Examiner further determined that claims 1–20 do not include additional elements that are sufficient to amount to significantly more than the judicial exception (*id.* at 6; *see also id.* at 8–13).

We are not persuaded, as an initial matter, by Appellants’ argument that the Examiner has presented “disparate characterizations of the purported abstract idea” and has, thus, failed to “meet his burden of making a prima facie case of patent ineligibility by providing [Appellants] with adequate notice of why the claims are supposedly ineligible” (Br. 11).

The Federal Circuit has repeatedly observed that “the prima facie case is merely a procedural device that enables an appropriate shift of the burden of production.” *Hyatt v. Dudas*, 492 F.3d 1365, 1369 (Fed. Cir. 2007) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). The court has, thus, held that the USPTO carries its procedural burden of establishing a prima facie case when its rejection satisfies the requirements of 35 U.S.C. § 132 by notifying the applicant of the reasons for the rejection, “together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.” *In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (alteration in original). Thus, all that is required of the Office is that it sets forth the statutory basis of the rejection in a sufficiently articulate and informative manner as to meet the notice

requirement of § 132. *Id.*; *see also Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (“Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection.”).

In rejecting the pending claims under § 101, the Examiner analyzed the claims using the *Mayo/Alice* two-step framework, in accordance with the guidance set forth in the USPTO’s “2014 Interim Guidance on Patent Subject Matter Eligibility,” 79 Fed. Reg. 74618 (Dec. 16, 2014), in effect at the time the Non-Final Office Action was mailed (Non-Final Act. 4–13). In doing so, the Examiner set forth a detailed analysis of the claims and a comprehensive explanation of the bases for the rejection (*id.*). The Examiner, thus, notified Appellants of the reasons for the rejection in a sufficiently articulate and informative manner as to meet the notice requirement of § 132. And we find that the Examiner, in doing so, set forth a proper rejection under § 101 such that the burden shifted to Appellants to demonstrate that the claims are patent-eligible.

Appellants criticize the Examiner for first characterizing the claimed invention as directed to “[a] system and method of liquidity assessment of each financial entity within a financial enterprise and transferring excess funds from financial entity with excess liquidity to the financial entity with insufficient liquidity,” and then paraphrasing the recited functional language in further identifying the concept to which the claims are directed (Br. 11; *see also id.* at 15–17). But Appellants cannot reasonably maintain that the § 101 rejection was not understood or that the rejection otherwise fails to meet the notice requirements of 35 U.S.C. § 132. Indeed, Appellants’

understanding of the rejection is clearly manifested by Appellants' responses as set forth in the brief.

Addressing the first step of the *Mayo/Alice* framework, Appellants argue that claims 1–20 are not directed to an abstract idea because the claims are dissimilar from the concepts the USPTO identified as abstract on its July 2015 Update: Interim Eligibility Guidance Quick Reference Sheet (Br. 11). Yet, even if true, that is no basis for concluding that the Examiner erred in determining that the claims are directed to an abstract idea.

The USPTO guidance, including the Quick Reference Sheet,⁴ is intended as a tool to assist examiners in determining subject matter eligibility under § 101. But there is nothing in the guidance that precludes an examiner from determining that a claim is directed to an abstract idea unless it is similar to a concept identified on the Quick Reference Sheet. We also are aware of no controlling precedent, nor for that matter do Appellants identify any precedent, that precludes an examiner from determining that a claim is directed to an abstract idea unless it is similar to a concept that a court has previously identified as an abstract idea.

Here, claim 1, for example, is directed to a liquidity assessment system comprising a memory and a processor communicatively coupled to the memory. Claim 1 recites that the memory stores certain financial information (i.e., financial environment data, financial liquidity data for a financial enterprise, and financial scenario data); and that the processor generates a scenario financial environment by applying the financial scenario data to the financial environment data, determines scenario liquidity

⁴ Available at <https://www.uspto.gov/sites/default/files/documents/ieg-qrs.pdf>

positions for each financial entity within the financial enterprise, and compares the scenario liquidity positions with liquidity requirements of jurisdictions governing the financial entities. In other words, claim 1 involves nothing more than collecting data, analyzing the data, and comparing the results of the analysis to certain requirements — activities squarely within the realm of abstract ideas. *See, e.g., Elec. Power Grp. LLC v. Alstom, S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas). Although claim 1 also recites “automatically transfer[ring] excess funds from the first financial entity having excess liquidity to the second financial entity having insufficient liquidity,” we agree with the Examiner that this is merely insignificant post-solution activity (Non-Final Act. 8), which does not make the claim any less abstract. *See Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (“*Flook* [i.e., *Parker v. Flook*, 437 U.S. 584 (1978)] stands for the proposition that the prohibition against patenting abstract ideas ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or adding ‘insignificant post-solution activity.’”) (quoting *Diamond v. Diehr*, 450 U.S. 175, 191–92 (1981)).

We also are not persuaded of Examiner error to the extent that Appellants argue that the claims are patent-eligible based on the lack of art-based rejections (Br. 15). A finding of novelty or non-obviousness does not automatically lead to the conclusion that the claimed subject matter is patent-eligible. “Groundbreaking, innovative, or even brilliant discovery

does not by itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diehr*, 450 U.S. at 188–89 (“The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.”).

Turning to the second step of the *Mayo/Alice* framework, Appellants maintain that even if the claims are directed to an abstract idea, the claims are nonetheless patent-eligible because the claims recite significantly more than an abstract idea (Br. 17–23).

Ostensibly alluding to *In re Alappat*, 33 F.3d 1526, 1543 (Fed. Cir. 1994), Appellants first argue that the claims recite significantly more than an abstract idea because they “employ a specifically programmed special-purpose computer to perform compliance testing and resource transfers among entities in different jurisdictions . . . to ensure that the entities have sufficient liquidity” (*id.* at 18). However, the Federal Circuit, in *Eon Corp. v. AT&T Mobility LLC*, 785 F.3d 616, 623 (Fed. Cir. 2015), explicitly noted that “*Alappat* has been superseded by *Bilski*, 561 U.S. at 605–06, 130 S. Ct. 3218, and *Alice Corp. v. CLS Bank Int’l*, — U.S. —, 134 S. Ct. 2347, 189 L.Ed.2d 296 (2014).”

There is no indication here that any specialized hardware or inventive computer components are required or that the claimed invention is implemented using something other than generic computer components. In fact, Appellants ostensibly concede that the claimed invention can be implemented by an appropriately programmed general purpose computer

(Br. 20). And, as the Supreme Court made clear in *Alice*, merely implementing an abstract idea on a general purpose computer is not patent-eligible. *See Alice Corp.*, 134 S. Ct. at 2358 (holding that if a patent’s recitation of a computer amounts to a mere instruction to implement an abstract idea on a computer, that addition cannot impart patent eligibility).

Appellants’ argument that the claims “do not tie up any basic tools of science and technology” is similarly unpersuasive of Examiner error (Br. 18–19). There is no dispute that the Supreme Court has described “the concern that drives [the exclusion of abstract ideas from patent eligible subject matter] as one of pre-emption.” *Alice Corp.*, 134 S. Ct. at 2354. But, characterizing preemption as a driving concern for patent eligibility is not the same as characterizing preemption as the sole test for patent eligibility. “The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability” and “[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice Corp.*, 134 S. Ct. at 2354). “[P]reemption may signal patent ineligible subject matter, [but] the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

Appellants also misapprehend the controlling precedent to the extent Appellants maintain that the claimed invention is patent-eligible, i.e., that the claims amount to “significantly more” than an abstract idea because the claims are allegedly novel and/or non-obvious in view of the prior art (Br. 18–19). Although the second step in the *Mayo/Alice* framework is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for “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 Corp.*, 134 S. Ct. at 2355 (alteration in original). As described above, a novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90.

Appellants further argue that the claims are patent-eligible under *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) (Br. 20–22). But, we find no parallel between the present claims and those at issue in *DDR Holdings*.

The claims in *DDR Holdings* were directed to retaining website visitors, and in particular, to a system that modified the conventional web browsing experience by directing a user of a host website, who clicks an advertisement, to a “store within a store” on the host website, rather than to the advertiser’s third-party website. *DDR Holdings*, 773 F.3d at 1257–1258. The court determined that “the claims address a business challenge (retaining website visitors) [that] is a challenge particular to the Internet.” *Id.* at 1257. The court also determined that the invention was “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks,” and that the claimed invention did not simply use computers to serve a conventional business purpose. *Id.* Rather, there was a change to the routine, conventional functioning of Internet hyperlink protocol. *Id.*

Appellants argue that the pending claims, like the claims in *DDR Holdings*, are necessarily rooted in computer technology in order to overcome a problem (i.e., making determinations and performing calculations using information (e.g., published liquidity requirements)

received in disparate formats over a network) specifically arising in the realm of computer networks (Br. 21–22 (asserting that “[a]lthough a human reader may understand the regulations in the various formats, a computer would not be able to use the received regulations without some sort of data transformation”)). Appellants assert that claim 1 recites a “solution to this network-centric challenge: ‘*transform the liquidity requirements promulgated by the plurality of jurisdictions into a common format*’” (*id.* at 21). Yet, the difficulty with Appellants’ argument is that claim 1 merely recites that liquidity requirements are transformed into a common format; claim 1 does not recite how that transformation is achieved. *See TDE Petroleum Data Sols., Inc. v. AKM Enter., Inc.*, 657 F. App’x 991, 993 (Fed. Cir. 2016) (“As we discussed at greater length in *Electric Power*, the claims of the ’812 patent recite the *what* of the invention, but none of the *how* that is necessary to turn the abstract idea into a patent-eligible application.”) (citing *Elec. Power Grp.*, 830 F.3d at 1353); *see also Internet Patents Corp.*, 790 F.3d at 1348 (“As the district court observed, claim 1 contains no restriction on how the result is accomplished.”).

We also are not persuaded of Examiner error by Appellants’ argument that the claims are patent-eligible because transforming content from one format into another, i.e., “transform[ing] the liquidity requirements promulgated by the plurality of jurisdictions into a common format,” as recited in claim 1, cannot be performed by a human, either mentally or using a pen and paper (Br. 22–23). Appellants appear to be arguing that any invention that cannot be performed mentally or by hand, because the claim recites a computer is, therefore, “rooted in technology” and not abstract. Yet, that argument was expressly rejected by the Court in *Alice*. *See Alice*

Corp., 134 S. Ct. at 2358 (“the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention”). And, as described above, there is no indication of record here that the claimed invention is implemented using other than generic computer components.⁵

Appellants’ argument that the claims are analogous to the check processing claims at issue in *U.S. Bancorp v. Solutran, Inc.*, CBM2014-00076, 2014 WL 3943913 (PTAB Aug. 7, 2014), is similarly unpersuasive (Br. 23). There, the Board denied institution of a § 101 challenge because the petitioner failed to demonstrate that claims reciting a method for processing paper checks were directed to an abstract idea. *U.S. Bancorp*, 2014 WL 3943913, at *8–9. Specifically, the Board found “that the basic, core concept of independent claim 1 is a method of processing paper checks, which is more akin to a physical process than an abstract idea.” *Id.* at *8.

Appellants argue that, like the claims at issue in *U.S. Bancorp*, claim 1 involves “a tangible physical process: ‘automatically transfer[ring] excess funds from the first financial entity having excess liquidity to the second financial entity having insufficient liquidity’” (Br. 23 (alteration in original)). However, as described above, we agree with the Examiner that

⁵ Regarding Appellants’ reliance on *PNC Bank v. Secure Access, LLC*, CBM2014-00100, 2014 WL 4537440 (PTAB Sept. 9, 2014), what a different panel did in a different situation under a different set of facts has little bearing on the proper disposition of this case. *PNC Bank* also is a non-precedential decision of the Board; therefore, it is not binding on this panel. We also note for the record that, in holding the claims patent-eligible, the panel in *PNC Bank* relied on more than whether the claimed transformation could be performed in the human mind.

Appeal 2017-000402
Application 13/343,140

“transfer[ring] excess funds from the first financial entity having excess liquidity to the second financial entity having insufficient liquidity” is insignificant post-solution activity, which cannot be relied to circumvent the prohibition against patenting abstract ideas. *See Bilski*, 561 U.S. at 610–11.

We are not persuaded, on the present record, that the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 101. Therefore, we sustain the Examiner’s rejection.

DECISION

The Examiner’s rejection of claims 1–20 under 35 U.S.C. § 101 is affirmed.

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).

AFFIRMED