



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/336,339	07/21/2014	David GEDEON	AC-4010-286	2766
23117	7590	05/01/2019	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			BOVEJA, NAMRATA	
			ART UNIT	PAPER NUMBER
			3696	
			NOTIFICATION DATE	DELIVERY MODE
			05/01/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOMAIL@nixonvan.com
pair_nixon@firsttofile.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVE GEDEON, DARRIN DECOSTA,
and MATTHEW PATTERSON

Appeal 2017-011699
Application 14/336,339
Technology Center 3600

Before ERIC B. CHEN, NABEEL U. KHAN, and
MICHAEL M. BARRY, *Administrative Patent Judges*.

CHEN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to a system that tracks and stores a value representing an amount of cash generated by securities in an index over a predetermined time period. The index is rebalanced by adjusting a weight or a value of a second security included in the group of securities based on the value that indicates the amount of cash generated by securities in the index. An updated index value is calculated for the index based on the group of securities that includes the second security with the adjusted weight.

(Abstract.)

Claim 1 is exemplary:

1. A[n] index rebalancing computer system for a group of securities represented by an index, the index rebalancing computer system comprising:

a transceiver configured to send and receive electronic communication signals from or to one or more remote computers;

a memory device configured to store:

[i] a listing of a group of securities used to generate the index; and

[ii] an indication of an amount of cash generated by at least a first security from among the group of securities over a certain time period; and

a processing system that includes at least one processing circuit coupled to the memory and the transceiver, the processing system configured to:

[iii] in response to an index rebalance request signal, rebalance the index towards a target index by at least adjusting a weight of a second security associated in the group of securities as a function of the stored indication of the amount of cash generated by at least the first security over the certain time period calculate an index value for the index by using at least the second security with the adjusted weight; and

[iv] transmit index component data, via the transceiver, to the one or more remote computers in accordance with the rebalanced index.

Claims 1–20 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

ANALYSIS

We are unpersuaded by Appellants’ arguments (App. Br. 7–14; *see also* Reply Br. 2–4.) that independent claims 1, 10, and 16 are directed to patent-eligible subject matter under 35 U.S.C. § 101.

The Examiner determined that independent claims 1, 10, and 16 describe limitations of performing mathematical computations or performing calculations using a formula (adjusting a weight of a second security as a function of stored information, calculating an index value describe mathematical relationships, formula and calculations) and organize information and transmit organized information (transmitting index component data in accordance with the rebalanced index). (Final Act. 6–7.) As such, the Examiner determined that “the claims are limited to concepts of obtaining information and applying mathematical relationships or formulas, organizing information and transmitting the organized information which are abstract ideas as both concepts are found to be abstract ideas.” (*Id.* at 7.) Moreover, the Examiner determined that the claims “require no more than a generic computer and peripheral components.” (*Id.* at 8.) We agree with the Examiner’s determinations and ultimate conclusion that the claims are directed to patent-ineligible subject matter.

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) (citation omitted).

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, 67 (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 (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 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 (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 2019 Revised Patent Subject Matter Eligibility Guidance,

84 Fed. Reg. 50 (Jan. 7, 2019). 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* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. 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 84 Fed. Reg. at 56.

*Are the claims at issue directed
to a patent-ineligible concept?*

Step One

Claim 1 is a system claim, which falls within the “manufacture” category of 35 U.S.C. § 101. Likewise, claim 10 is a computer readable storage medium claim having several steps, which falls within the “manufacture” category of 35 U.S.C. § 101, and claim 16 is a method claim,

which falls within the “process” category of 35 U.S.C. § 101. Therefore, claims 1, 10, and 16 fall within one of the four statutory categories of patentable subject matter identified by 35 U.S.C. §101.

Although claims 1, 10, and 16 fall within the statutory categories, we must still determine whether the claims are directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 216. Thus, we must determine whether the claims recite a judicial exception and whether the exception is integrated into a practical application. *See* 84 Fed. Reg. at 52–55. If both elements are satisfied, the claim is directed to a judicial exception under the first step of the *Alice/Mayo* test. *See id.*

Step 2A, Prong One

Independent claim 1 is a system claim, and includes the following limitations: “[i] a listing of a group of securities used to generate the index” and “[ii] an indication of an amount of cash generated by at least a first security from among the group of securities over a certain time period.” Such method steps of claim 1 are directed to a patent-ineligible abstract idea of certain methods of organizing human activity, such as a collecting data. *See, e.g., Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (“collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.”).

Moreover, independent claim 1 recites “[iii] in response to an index rebalance request . . . rebalance the index towards a target index by at least adjusting a weight of a second security associated in the group of securities as a function of the stored indication of the amount of cash generated by at

least the first security over the certain time period.” Such limitation of claim 1 is directed to a patent-ineligible abstract idea of certain methods of organizing human activity, such as the use of mathematical algorithms to manipulate existing information. *See, e.g., Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (“[w]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible”).

Additionally, independent claim 1 recites “[iv] transmit index component data” Such limitation of claim 1 is directed to a patent-ineligible abstract idea of certain methods of organizing human activity, such as routing information. *See Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1337 (2017) (“The claim requires the functional results of . . . ‘routing,’ . . . but does not sufficiently describe how to achieve these results in a non-abstract way”).

Thus, claim 1 recites a judicial exception. Claims 10 and 16 recite limitations similar to those discussed with respect to claim 1. Accordingly, claims 10 and 16 also recite a judicial exception.

Step 2A, Prong Two

Because claims 1, 10, and 16 recite a judicial exception, we next determine if the claims recite additional elements that integrate the judicial exception into a practical application.

System claim 1 recites “a memory device *configured to store*: [i] *a listing of a group of securities* used to generate the index; and [ii] *an indication of an amount of cash* generated by at least a first security”

(emphases added). System claim 1 further recites “the processing system *configured to: [iii] in response to an index rebalance request signal, rebalance the index towards a target index*” and “[iv] *transmit index component data, via the transceiver, to the one or more remote computers*” (emphases added).

Thus, the recited “memory device,” “processing system,” “transceiver,” and “remote computers,” are merely tools for performing the abstract idea. *See Affinity Labs v. DirecTV*, 838 F.3d 1253, 1262 (Fed. Cir. 2016) (“the claims are directed not to an improvement in cellular telephones but simply to the use of cellular telephones as tools in the aid of a process focused on an abstract idea”). Accordingly, we determine that claims 1, 10, and 16 are directed to a judicial exception because they do not recite additional elements that integrate the recited judicial exception into a practical application.

*Is there something else in the claims
that ensures that they are directed to significantly
more than a patent ineligible concept?*

Step 2B

Because claims 1, 10, and 16 are directed to a judicial exception, we next determine, according to *Alice*, whether these claims recite an element, or combination of elements, that is enough to ensure that the claim is directed to significantly more than a judicial exception.

Claim 1 is a system claim, which includes “a transceiver,” “remote computers,” a “memory device,” and “a processing system.”

With respect to the claimed hardware components, Appellants’ Specification discloses the following:

Computing system 800 may also include a network interface 818 (e.g., a transceiver) to facilitate wired (e.g., Ethernet — 802.3x) and/or wireless communication (WiFi/802.11x protocols, cellular technology, and the like) with external systems 822 and/or databases 820. External systems 822 may include other processing systems, systems that provide third party services, client devices, server systems, or other computing nodes similar to that of computing node 800 (e.g., to form a distributed computing system).

(Spec. ¶ 93 (emphases added).)

External systems 822 may also include network attached storage (NAS) to hold large amounts of data. *External systems, along with the internal storage and memory, may form a storage system for storing and maintaining information (e.g., graphical models, event log data, etc). Such a system may communicate with users and/or other computing systems to implement the techniques described herein. The database 820 may include relational, object orientated, or other types of databases for storing information (e.g., the makeup of an index, a tracked amount of cash that has been generated by index components, etc).*

(*Id.* ¶ 94 (emphasis added).)

The generalized functional terms by which the computer components are described reasonably indicate that Appellants' Specification discloses:

(i) a conventional network interface 818 (e.g., a transceiver); (ii) conventional computing system 800; and (iii) conventional external systems 822 (e.g., memory and processing systems).

In view of Appellants' Specification, the claimed hardware components, including "a transceiver," "remote computers," a "memory device," and "a processing system" reasonably may be determined to be generic, purely conventional computer elements. Thus, the claims do no more than require generic computer elements to perform generic computer functions, rather than improve computer capabilities.

Appellants argue that the “claims, like *McRO*, include specific rules and achieve an improved technological result over conventional industry practice” because “[t]he specific rules relate to tracking an amount generated by one security over a time period and using that information to adjust a weighting of a second security as a function of the tracked amount.” (App. Br. 7 (emphases omitted).) As a result, Appellants argue, “[t]he improved technological result is that fewer data processing transactions occur in order to rebalance the index” and “[t]his specifically claimed technique therefore improves the efficiency by which the rebalancing process occurs.” (App. Br. 7–8; *see also* Reply Br. 3–4.) Similarly, Appellants argue that “there is no analysis or consideration by the FOA [final Office Action] with respect to the how the weight of one part of the index is a function of the amount generated by another part of the index or how this specific type of implementation leads to an increase in efficiency of the index because less turnover occurs.” (App. Br. 12; *see also id.* at 14.) Although Appellants provide a conclusory statement that “[t]he improved technological result is that fewer data processing transactions occur in order to rebalance the index,” the claims do not require this result, and Appellants have not provided any additional explanation or evidence to support this position. For example, Appellants have not accounted for any extra data processing transactions required to perform the steps of: (i) indicating “an amount of cash generated by at least a first security from among the group of securities over a certain time period”; and (ii) to “rebalance the index towards a target index by at least adjusting a weight of a second security associated in the group of securities as a function of the stored indication of the amount of cash generated by at least the first security,” as recited in independent 1.

Appellants further argue that “construing the reach of the exclusionary principle narrowly means acknowledging that the concern regarding the exclusionary principle to the expressly provided text of 35 U.S.C. § 101 (and § 100) is ‘one of pre-emption’” and “the claimed subject matter does not tie up the ‘building blocks of human ingenuity’ because it is narrowly tailored.” (App. Br. 10.) However, although “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). Where claims are deemed to recite only patent ineligible subject matter under the two-step *Alice* analysis, as they are here, “preemption concerns are fully addressed and made moot.” *Id.*

Accordingly, we sustain the rejection of independent claims 1, 10, and 16 under 35 U.S.C. § 101. Claims 2–9, 11–15, and 17–20 depend from independent claims 1, 10, and 16 and Appellants have not presented any additional substantive arguments with respect to these claims. We sustain the rejection of claims 2–9, 11–15, and 17–20 under 35 U.S.C. § 101 for the same reasons discussed with respect to independent claims 1, 10, and 16.

DECISION

The Examiner’s decision rejecting claims 1–20 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