UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/605,046	11/27/2006	Thomas Kasper	0010-254001/2005P00356US	4307

56056 7590 03/20/2018		EXAMINER
BRAKE HUGHES BELLERMANN LLP		VIZVARY, GERALD C
C/O CPA Global		
900 Second Avenue South		ART UNIT PAPER NUMBER
Suite 600		
MINNEAPOLIS, MN 55402		3624

NOTIFICATION DATE	DELIVERY MODE
03/20/2018	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):

uspto@brakehughes.com
docketing@brakehughes.com

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

Ex parte THOMAS KASPER, MATHIAS GOEBELT,
HEINRICH BRAUN, and FRANK SCHLUETER

_____

Appeal 2017-000973
Application 11/605,046
Technology Center 3600

_____

Before ST. JOHN COURTENAY III, SCOTT E. BAIN, and
STEVEN M. AMUNDSON, *Administrative Patent Judges.*

AMUNDSON, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants[1] seek our review under 35 U.S.C. § 134(a) from a final
rejection of claims 1–18. We have jurisdiction under 35 U.S.C. § 6(b).
We affirm.

STATEMENT OF THE CASE

The Invention

According to the Specification, the invention "generally relates to
computer-supported optimization techniques and more specifically to

_____

[1] Appellants identify the real party in interest as SAP SE. App. Br. 3.

computer-implemented systems and methods for supply chain optimization."
Spec. ¶ 1.[2] The invention provides an "automatic cost generation apparatus"
for "automatically converting user supplied definitions/requirements into
cost parameters for use by a cost-based supply chain optimizer," for
example, "by generating a linear programming model that incorporates the
requirements/definitions as a set of linear constraints." Abstract; *see* Spec.
¶¶ 8–10.

Exemplary Claim

Independent claim 1 exemplifies the claims at issue and reads as
follows:

> 1. A method executed by a computer system, the computer
> system including a processor and a memory, the method for use
> with an automated supply chain optimizer that optimizes a
> supply chain based on costs, the method automatically
> converting non-cost-based definitions into costs for use by the
> optimizer, the method comprising:
>
> providing, by a definitions unit executed by the computer
> system, a set of non-cost-based definitions, at least one non-
> cost-based definition in the set of non-cost-based definitions
> being a priority assigned to a business requirement;
>
> generating, by a model generation unit executed by the
> computer system, a linear programming model to automatically
> convert the non-cost-based definitions into costs, the linear
> programming model to incorporate the non-cost-based
> definitions as a set of linear constraints;

---

[2] This decision uses the following abbreviations: "Spec." for the
Specification, filed November 27, 2006; "Final Act." for the Final Office
Action, mailed July 15, 2015; "Adv. Act." for the Advisory Action, mailed
January 19, 2016; "App. Br." for the Appeal Brief, filed March 14, 2016;
"Ans." for the Examiner's Answer, mailed August 25, 2016; and
"Reply Br." for the Reply Brief, filed October 18, 2016.

> solving, by a linear programming model solution unit executed by the computer system, the linear programming model to yield a cost model; and

> extracting, by a cost extraction unit executed by the computer system, costs from the cost model for use with the automated supply chain optimizer that optimizes the supply chain based on costs for evaluating supply chain management solutions.

App. Br. 18 (Claims App.).

The Prior Art Supporting the Rejections on Appeal

As evidence of unpatentability under 35 U.S.C. § 103(a), the Examiner relies on the following prior art:

Erke et al. ("Erke")	US 2003/0061126 A1	Mar. 27, 2003
Pokorny et al. ("Pokorny")	US 2003/0154144 A1	Aug. 14, 2003
Sarthi et al. ("Sarthi")	US 7,627,493 B1	Dec. 1, 2009 (filed Aug. 25, 2000)

The Rejections on Appeal

Claims 1–18 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 6–7; Ans. 3.

Claims 1–14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Pokorny and Sarthi. Final Act. 8–19; Ans. 3.

Claims 15–18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Pokorny, Sarthi, and Erke. Final Act. 20–22; Ans. 3.

ANALYSIS

We have reviewed the rejections in light of Appellants' arguments that the Examiner erred. For the reasons explained below, we concur with the Examiner's conclusions concerning unpatentability under § 101 and

§ 103(a). We adopt the Examiner's findings and reasoning in the Final
Office Action (Final Act. 3–22), Advisory Action (Adv. Act. 2), and Answer
(Ans. 4–6). We add the following to address and emphasize specific
findings and arguments.

The § 101 Rejection of Claims 1–18

INTRODUCTION

The Patent Act defines patent-eligible subject matter broadly:
"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." 35 U.S.C. § 101. In *Mayo Collaborative
Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 70 (2012), and *Alice
Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014), the Supreme
Court explained that § 101 "contains an important implicit exception" for
laws of nature, natural phenomena, and abstract ideas. *See Diamond v.
Diehr*, 450 U.S. 175, 185 (1981). In *Mayo* and *Alice*, the Court set forth a
two-step analytical framework for evaluating patent-eligible subject matter:
First, "determine whether the claims at issue are directed to" a patent-
ineligible concept, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If so,
"consider the elements of each claim both individually and 'as an ordered
combination' to determine whether the additional elements" add enough to
transform the "nature of the claim" into "significantly more" than a patent-
ineligible concept. *Id.* at 2355, 2357 (quoting *Mayo*, 566 U.S. at 79); *see
Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257
(Fed. Cir. 2016).

Step one in the *Mayo/Alice* framework involves looking at the "focus" of the claims at issue and their "character as a whole." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Step two involves the search for an "inventive concept." *Alice*, 134 S. Ct. at 2355; *Elec. Power Grp.*, 830 F.3d at 1353. An "inventive concept" requires more than "well-understood, routine, conventional activity already engaged in" by the relevant community. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 79–80). But "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Under step two, "an inventive concept must be evident in the claims." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

MAYO/ALICE STEP ONE

For *Mayo/Alice* step one, the Examiner concludes that claim 1 "recites an abstract idea," in particular:

> optimizing a supply chain based on costs, converting non-cost-based definitions into costs for use by the optimizer, at least one non-cost-based definition in the set of non-cost-based definitions being a priority, using a linear programming model to automatically convert the non-cost-based definitions into costs to yield a cost model and using costs from the cost model to optimize the supply chain based on costs for evaluating supply chain management solutions.

Ans. 4; *see* Final Act. 6.

Appellants assert that the Examiner "improperly alleges that Claim 1 'recites' an abstract idea without proper analysis of whether the claims are

'directed to' a patent-ineligible abstract idea." Reply Br. 7 (emphasis omitted). Appellants also assert that the Examiner "simplistically, but erroneously, maps all of Claim 1 as being an abstract idea without considering the specific requirements of the claim and failing to properly determine what alleged abstract idea the claims are 'directed to.'" *Id.* at 9. Appellants add that the Examiner's analysis "oversimplifies the claims." *Id.*

Appellants' assertions do not persuade us of Examiner error. In the Final Office Action, the Examiner concludes that claim 1 is "directed to" the same abstract idea identified in the Answer. *Compare* Final Act. 6, *with* Ans. 4. Appellants acknowledge that the Examiner "alleged that Applicant's [sic] claims are **directed to** an 'abstract idea' specifically" the same abstract idea identified in the Answer. *Compare* Reply Br. 5 (emphasis added), *with* Final Act. 6, *and* Ans. 4.

Further, for *Mayo/Alice* step one, the Examiner accurately assesses the "focus" of the claims. *See Elec. Power Grp.*, 830 F.3d at 1353. The Examiner explains that claim 1 encompasses two concepts: (1) "comparing new and stored information and using rules to identify options," i.e., "optimizing a supply chain based on costs, converting non-cost-based definitions into costs"; and (2) "organizing information through mathematical correlations," i.e., "using a linear programming model to automatically convert the non-cost-based definitions into costs to yield a cost model and using costs from the cost model to optimize the supply chain based on costs for evaluating supply chain management solutions." Ans. 4.

The Examiner's analysis comports with Federal Circuit decisions. In *SmartGene*, the Federal Circuit decided that claims directed to "comparing new and stored information and using rules to identify medical options" did

6

not satisfy *Mayo/Alice* step one. *See SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 951–52, 955–56 (Fed. Cir. 2014). And in *Digitech*, the Federal Circuit decided that claims directed to "organizing information through mathematical correlations" did not satisfy *Mayo/Alice* step one. *See Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350–51 (Fed. Cir. 2014). Adding one abstract idea ("optimizing a supply chain based on costs, converting non-cost-based definitions into costs") to another abstract idea ("using a linear programming model to automatically convert the non-cost-based definitions into costs to yield a cost model and using costs from the cost model to optimize the supply chain based on costs for evaluating supply chain management solutions") does not suffice for patent eligibility under *Mayo/Alice* step one. *See RecogniCorp*, 855 F.3d at 1327.

Further, the Federal Circuit has ruled that claims merely requiring data collection and analysis—like claim 1—did not pass muster under a § 101 review for patent eligibility. *See, e.g., Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1368–73 (Fed. Cir. 2017); *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1047, 1054–56 & n.6 (Fed. Cir. 2017); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1339–40 (Fed. Cir. 2017); *Elec. Power Grp.*, 830 F.3d at 1351–54.

Appellants argue that: (1) the Examiner "has made no showing that Appellant's [sic] claims disproportionately pre-empt uses of, or improvements to, the alleged abstract idea"; and (2) claim 1 "does not disproportionately pre-empt or prohibit other persons from using, or making other improvements to, 'the automated supply chain optimizer that optimizes

the supply chain based on costs for evaluating supply chain management solutions,'" for example, "by using a set of definitions other than the set of non-cost-based definitions" specified in claim 1. Reply Br. 11–12; *see* App. Br. 10–11.

Appellants' arguments regarding preemption do not persuade us of Examiner error. While preemption may denote patent ineligibility, its absence does not demonstrate patent eligibility. *See FairWarning, IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016). For claims covering a patent-ineligible concept, preemption concerns "are fully addressed and made moot" by an analysis under the *Mayo/Alice* framework. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

Appellants contend that claim 1 is "like the claims in *McRO*" because claim 1 uses "unconventional rules" to "optimize a supply chain." Reply Br. 7 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016)). Appellants misplace their reliance on *McRO*. The claims in *McRO* recited a "specific . . . improvement in computer animation" using "unconventional rules that relate[d] sub-sequences of phonemes, timings, and morph weight sets." *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15. In *McRO*, "the incorporation of the claimed rules, not the use of the computer," improved an existing technological process. *Id.* at 1314. In contrast to the claims in *McRO*, claim 1 does not improve an existing technological process. *See Alice*, 134 S. Ct. at 2358 (explaining that "the claims in *Diehr* were patent eligible because they improved an existing technological process"). Instead, claim 1 concerns "computer-supported optimization techniques" for "supply chain optimization." *See* Spec. ¶ 1,

Abstract. In addition, Appellants do not direct us to any evidence that the claimed "linear programming model" or "non-cost-based definitions" correspond to unconventional rules. *See* App. Br. 9–13; Reply Br. 4–12.

Appellants contend that claim 1 is "like the claims in *Enfish*." Reply Br. 9. *Enfish* does not help Appellants. The claims in *Enfish* were directed to a "specific improvement to the way computers operate," i.e., an improved database configuration that permitted faster searching for data. *Enfish*, 822 F.3d at 1330–33, 1336. We note that the claims at issue are silent regarding a database. Nor do Appellants describe an advance in hardware or software that, for example, causes a computer to operate faster or more efficiently. The alleged improvement to "computer-supported optimization techniques" for "supply chain optimization" does not parallel the improvement in *Enfish* and does not impart patent eligibility under *Mayo/Alice* step one. *See Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 910 (Fed. Cir. 2017) (explaining that the claims in *Enfish* "focused on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity"). Claim 1 uses a computer in its ordinary capacity. Accordingly, the Examiner determines that claim 1 fails to recite an improvement to either "the functioning of the computer itself" or "another technology or technical field." Final Act. 7; *see id.* at 3; Ans. 5.

Appellants assert that claim 1 concerns "a particular process for achieving the desired result." Reply Br. 9–10 (emphasis omitted). That assertion does not persuade us of Examiner error. At best, claim 1 limits the abstract idea to one field of use or particular environment. *See* Final Act. 3–4; *see also* Adv. Act. 2. "[L]imiting an abstract idea to one field of

use" does not impart patent eligibility under *Mayo/Alice* step one. *See Bilski v. Kappos*, 561 U.S. 593, 612 (2010); *Intellectual Ventures I*, 850 F.3d at 1340; *see also Parker v. Flook*, 437 U.S. 584, 589–90 (1978); *Affinity Labs*, 838 F.3d at 1259. As the Examiner reasons, the claims in *Bilski* "fell outside section 101 notwithstanding the fact that they disclosed a very specific method of hedging against price increases." Final Act. 3–4 (citing *Bilski*, 561 U.S. at 599–601).

For the reasons discussed above, Appellants' arguments have not persuaded us that claim 1 satisfies *Mayo/Alice* step one.

MAYO/ALICE STEP TWO

For *Mayo/Alice* step two, the Examiner "consider[s] the claims as a whole" and determines that "no element or combination of elements in the claims are sufficient to ensure that the claims amount to significantly more than the abstract idea itself." Final Act. 6–7; *see id.* at 3; Adv. Act. 2. For claim 1, the Examiner finds that: (1) "the computer system including a processor and a memory" is "nothing more than a generic computer, performing generic, well-understood and routine computer functions"; and (2) the processor and the memory "are generic computer devices and are merely being used for their intended purpose." Final Act. 7; Adv. Act. 2. Appellants do not dispute the Examiner's findings. *See* App. Br. 9–13; Reply Br. 4–12.

Consequently, we conclude that claim 1 lacks meaningful limitations needed to transform it into significantly more than a patent-ineligible abstract idea, and thus fails to satisfy *Mayo/Alice* step two. *See* Final Act. 3–4, 6–7; Adv. Act. 2.

10

SUMMARY

For the reasons discussed above, Appellants' arguments have not persuaded us that the Examiner erred in rejecting claim 1 under § 101. Hence, we sustain the § 101 rejection of claim 1.

Appellants do not argue patentability separately for independent claims 12 and 14 or dependent claims 2–11, 13, and 15–18. App. Br. 9–13; Reply Br. 4–12. Because Appellants do not argue the claims separately, we sustain the § 101 rejection of claims 2–18 for the same reasons as claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The § 103(a) Rejections of Claims 1–18

A NON-COST-BASED DEFINITION BEING A
PRIORITY ASSIGNED TO A BUSINESS REQUIREMENT

Appellants argue that the Examiner erred in rejecting claim 1 because Pokorny "fails to disclose, teach or suggest" the following limitation in claim 1: "providing, by a definitions unit executed by the computer system, a set of non-cost-based definitions, **at least one non-cost-based definition in the set of non-cost-based definitions being a priority assigned to a business requirement**." App. Br. 14–15; Reply Br. 4. In particular, Appellants contend that Pokorny's disclosure of calculating "the cost of waste and/or delay events during manufacturing based on event information" and "setting a cost-based alert criterion for automatic report generation" differs substantially from the disputed limitation in claim 1. App. Br. 15. In addition, Appellants contend that "Pokorny describes only inputting [Process Information Per Event] PIPE data . . . into the 'other software systems'" and the "titles or names for the 'other software systems'" differ "from and do not

11

correspond to" example business priorities discussed in the Specification. Reply Br. 3; *see* Spec. ¶ 9, Fig. 2.

Appellants' arguments do not persuade us of Examiner error because, as the Examiner finds, Pokorny discloses (1) calculating the cost of delay events and (2) setting cost-based alert criteria for automatic report generation based on cost thresholds for delay events. Pokorny ¶¶ 19, 66, 69; *see* Final Act. 8, 15–16. Pokorny describes different delay events, such as transport delays and production delays, and discloses displaying the "top N" delay events and charting the "top ten categories" of delay events in terms of cost. Pokorny ¶¶ 50, 55, 62, 69, 88. Pokorny's different delay events correspond to different business requirements, and different cost thresholds assigned to different delay events correspond to different priorities assigned to different business requirements. *See* Spec. ¶ 9, Fig. 2. Thus, Pokorny teaches or suggests the disputed limitation in claim 1. Although Pokorny uses different language than claim 1, there is no requirement for identical terminology. *See In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

SUMMARY

For the reasons discussed above, Appellants' arguments have not persuaded us that the Examiner erred in rejecting claim 1 for obviousness based on Pokorny and Sarthi. Hence, we sustain the § 103(a) rejection of claim 1.

Appellants do not argue patentability separately for independent claims 12 and 14 or dependent claims 2–11, 13, and 15–18. App. Br. 14–16; Reply Br. 2–4. Because Appellants do not argue the claims separately, we sustain the § 103(a) rejections of claims 2–18 for the same reasons as claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

We affirm the rejection of claims 1–18 under 35 U.S.C. § 101.

We affirm the rejections of claims 1–18 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