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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PARIJAT DUBE, KARTHIK SUBBIAN,
and LAURA WYNTER

Appeal 2017-004442
Application 12/147,252¹
Technology Center 3600

Before ERIC B. CHEN, HUNG H. BUI, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's decision finally rejecting claims 1–3, 5–14, and 16–22, which are all the claims pending in the application.² We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify International Business Machines Corporation as the real party in interest. *See* Appeal Br. 1.

² Claims 4 and 15 are cancelled. *See* Appeal Br. 3, 5.

STATEMENT OF THE CASE

Invention

Appellants' invention "relates to the formation of coalitions, particularly in e-commerce, among buyers and sellers. More specifically, a feedback mechanism permits initially-proposed constraints to be selectively relaxed to formulate a coalition that is more optimal in at least one aspect." Spec. ¶ 1.

Exemplary Claims

Claims 1 and 13 are independent. Claims 1 and 11 are exemplary and are reproduced below with limitation at issue emphasized.

1. A method for assisting in expediting a coalition formation, said method comprising:

storing, in a memory unit, data for one or more coalitional and/or service constraints from potential members of a possible coalition, each said coalitional constraint including at least one parameter that quantitatively defines a characteristic of the proposed coalition considered as important by at least one said potential member and each said service constraint including at least one parameter that quantitatively defines a characteristic of a service considered as important by at least one said potential member;

retrieving one or more of said coalitional and/or service constraints from said memory unit;

executing a sensitivity analysis on a processor of a computer, to calculate marginal benefits of one or more constraints of a current coalition or a currently-proposed coalition;

determining which marginal changes would be optimal to perform; and

reporting said determined optimal marginal changes,

said performing of the sensitivity analysis and reporting of optimal marginal changes thereby providing a feedback mechanism assisting in expediting said coalition formation.

11. A non-transitory, computer-readable storage medium tangibly embodying a sequence of machine-readable instructions executable by a digital processing apparatus to execute the method defined by claim 1.

Appeal Br. 42, 44.

REFERENCES

The Examiner relies upon the following prior art in rejecting the claims on appeal:

| | | |
|----------------------|--------------------|---------------|
| Weiss | US 6,681,156 B1 | Jan. 20, 2004 |
| Chen et al. (“Chen”) | US 2007/0299705 A1 | Dec. 27, 2007 |
| Elad et al. (“Elad”) | US 7,512,558 B1 | Mar. 31, 2009 |

REJECTIONS

Claims 1–3, 5–14, and 16–22 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 4–20.

Claims 1–3, 5–14, and 16–22 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 20–21.

Claims 11 and 12 stand rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim. Final Act. 21–22.

Claims 1–3, 5–14, and 16–22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Weiss, Elad, and Chen. Final Act. 22–37.

Our review in this appeal is limited only to the above rejections and the issues raised by Appellants. Arguments not made are waived. *See* MANUAL OF PATENTING EXAMINING PROCEDURE (MPEP) § 1205.02 (9th Ed., Rev. 08.2017; Jan. 2018); 37 C.F.R. §§ 41.37(c)(1)(iv) and 41.39(a)(1) (2013).

ANALYSIS

Rejection Under § 101

Issue: Does the Examiner properly reject the claims under 35 U.S.C. § 101 as being directed to non-patentable subject matter?

Appellants argue the claims as a group. *See* Appeal Br. 9. We select independent claim 1 as exemplary of Appellants’ arguments for claims 2, 3, 5–14, and 16–22. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner determines claim 1 is directed to a fundamental economic practice as well as a method of organizing human activities, and, thus, recites an abstract idea. *See* Final Act. 9, 13. The Examiner also determines the claim does not include “any element or combination of elements . . . sufficient to ensure that the claim amounts to significantly more than the abstract idea itself.” Final Act. 5.

Appellants present several arguments against the § 101 rejection. We do not find Appellants’ arguments persuasive. The Examiner has provided a comprehensive response to Appellants’ arguments supported by a preponderance of evidence. *See* Ans. 2–6. Thus, we adopt the Examiner’s findings and conclusions. *See* Final Act. 4–20; Ans. 2–6.

Section 101 provides that “[w]hoever 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. The provision, however, “contains an important implicit exception: ‘Laws of nature, natural phenomena, and abstract ideas’” are not patentable. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (bracketed alteration omitted)). The “abstract ideas” category embodies the longstanding rule that an idea, by itself, is not patentable. *Alice*, 134 S. Ct. at 2355 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

In *Alice*, the Supreme Court sets forth an analytical “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” 134 S. Ct. at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 76–77 (2012)). The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts,” such as an abstract idea. *Alice*, 134 S. Ct. at 2355.

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “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). In other words, the second step is to “search for an ‘inventive concept’—*i.e.*, 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*, 134 S. Ct. at 2355 (brackets in original) (quoting *Mayo*, 566 U.S. at 72–73). The prohibition against patenting an abstract idea “cannot be circumvented by attempting to limit the use of the . . . [abstract idea] to a particular technological environment’ or adding ‘insignificant postsolution activity.’” *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (quoting *Diamond v. Diehr*, 450 U.S. 175, 191–92 (1981)).

Initially, the Examiner determines and we agree that independent claim 1 is “directed to a process.” Final Act. 8. As such, we agree with the Examiner that claim 1 is directed to a statutory class of invention within 35 U.S.C. § 101. *Id.*

Alice Step 1: Abstract Idea

Turning to the first step of the *Alice* inquiry, we must determine whether claim 1, being directed to a statutory class of invention, nonetheless, falls within a judicial exception. The Examiner determines that “the **concept of forming a business coalition**” is an abstract idea because it is both a fundamental economic activity as well as a method of organizing human activities. Final Act. 12; *see* Final Act. 13. Appellants, in turn, do not rebut the Examiner’s determination that claim 1 is directed to a fundamental economic activity or a method of organizing human activities, or both. *See* Appeal Br. 9–13 (“even if ‘forming a business coalition . . . is [a] fundamental economic practice . . .’ such observation is irrelevant since the claimed invention provides a specific, concrete mechanism that can only be implemented on a computer, to improve conventional computerized methods of assisting in coalition formation”) (emphasis omitted).

We agree with the Examiner that claim 1 is directed to a fundamental economic activity and a method of organizing human activities, and such

activities fit “squarely within the realm of abstract ideas.” Final Act. 12. Forming a business coalition of buyers or sellers is a method of organizing human economic activity and a fundamental economic activity long prevalent in our system of commerce, like the risk hedging in *Bilski* (see *Bilski*, 561 U.S. at 593), the intermediated settlement in *Alice* (see *Alice*, 134 S. Ct. at 2356–57), the verifying of credit card transactions in *CyberSource* (see *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011)), the collecting and analyzing of information to detect and notify of misuses in *FairWarning* (see *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016)), and the guaranteeing of transactions in *buySAFE* (see *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014)). Forming a business coalition is also a building block of a market economy. Thus, we agree with the Examiner that claim 1, like the fundamental economic activities identified *supra*, is directed to an “abstract idea” beyond the realm of patent-eligible subject matter under § 101. See *Alice*, 134 S. Ct. at 2356.

Alice Step 2: Inventive Concept

Turning to the second step of the *Alice* inquiry, the Examiner determines, and we agree, that the claimed structural elements (e.g., a processor of a computer and a memory unit), when taken in combination with the respective functional elements of “executing a sensitivity analysis,” “determining which marginal changes . . . to perform,” and storing data, together do not offer significantly more than the abstract idea itself. Final Act. 16; see Final Act. 17–20. The Examiner also correctly finds that the Specification discloses mere general purpose computing equipment for performing the steps of the invention. Final Act. 17 (citing Spec. ¶¶ 102–08,

Fig. 7). Thus, the elements of claim 1 simply recite an abstract idea executed using generic computer technology, such as “a processor of a computer” and a “memory unit.” *See* Appeal Br. 42.

Appellants argue that an inventive concept arises from “the unconventional use of marginal analysis of coalition constraints to determine and identify which marginal changes would benefit the coalition formation” in claim 1. Appeal Br. 21.

We are not persuaded. Claim 1 recites the basic steps of storing and retrieving data from a memory, performing calculations, and reporting the results of the calculations. This is a classic case of implementing an abstract idea on a computer, which is not eligible under *Alice*. *See Alice*, 134 S. Ct. at 2358. The Federal Circuit rejected a similar argument in *Electric Power Group*, finding that “[m]erely requiring the selection and manipulation of information—to provide a ‘humanly comprehensible’ amount of information useful for users . . . by itself does not transform the otherwise-abstract processes of information collection and analysis.” *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016) (internal citation omitted) (“merely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas”). Nor, as the Examiner correctly determines, do the pre-processing or post-processing limitations in the claim add anything sufficient to make the claims eligible. Rather, these limitations are directed to using a computer to perform routine computer activity. *See* Final Act. 16.

Nor are we persuaded by Appellants' various preemption arguments. Rather than preemption, the Federal Circuit instructs that the *Alice* two-step analysis is the test for whether claims are statutory. "While 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 a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Id.*

Because Appellants' exemplary claim 1 is directed to a patent-ineligible abstract concept and does not recite something "significantly more" under the second prong of the *Alice* analysis, we sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 101 as being directed to non-patentable subject matter in light of *Alice* and its progeny. The rejection of claims 2, 3, 5–14, and 16–22, which are not argued separately, or are only nominally argued separately, is sustained for the same reasons. *See* Appeal Br. 26–28.

Rejection Under § 112, second paragraph

Issue: Does the Examiner err in finding exemplary claim 1 is indefinite?

The Examiner determines claim 1 is indefinite under 35 U.S.C. § 112, second paragraph, finding "last step [6] is vague because it's not clear what 'coalition formation' it refers, 'possible coalition' of [1], or 'current coalition' or '[a currently-proposed coalition' of [3]." Final Act. 21.

Appellants argue the language is clear:

The language of the claimed invention involves wording that has clear meaning based on their plain meaning in the English language and there would be no need to attempt to interconnect possible different coalition formation stages identified in the claims, as long as this plain meaning is understood by one having ordinary skill in the art.

Appeal Br. 11.

We are not persuaded by Appellants' argument. As recently reiterated in *Ex parte McAward*, Appeal 2015-006416, 2017 WL 3669566, at *5 (PTAB Aug. 25, 2017) (precedential), we assess indefiniteness under the approach approved by the Federal Circuit in *In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014), i.e., “[a] claim is indefinite when it contains words or phrases whose meaning is unclear” (internal quotations and citation omitted). This approach is consistent with the broadest reasonable interpretation standard used by the PTO when interpreting proposed patent claims to ensure that they are “clear, unambiguous, and drafted as precisely as the art allows.” *McAward*, 2017 WL 3669566, at *3. When a broadest reasonable interpretation reveals ambiguity in the claim language “the applicant may ‘amend his claims to obtain protection commensurate with his actual contribution to the art.’” *Id.* (quoting *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984)). The Federal Circuit acknowledged the desirability of resolving questions of compliance with § 112 during prosecution in *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008) (cited with approval in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014)).

Here, we agree with the Examiner that in claim 1, it is unclear whether “said coalition formation” (claim 1, line 16) refers to “a current coalition or a currently-proposed coalition,” or to both (claim 1, line 12).

See Final Act. 21. Moreover, in the event of further prosecution, the Examiner should also determine whether there are other antecedent basis issues in the claim such as whether the limitation “*said performing* of the sensitivity analysis” (claim 1, line 15, emphasis added) has sufficient antecedent basis.

Appellants further request “the Board remand this application with an order that the Examiner work more constructively with Appellants’ representative to get any outstanding issue(s) resolved quickly.” Reply Br. 11. The Examiner’s alleged lack of diligence, however, is not an appealable matter. Appropriate recourse for addressing this issue would be to either: (1) request the Examiner’s Supervisory Patent Examiner (SPE) to exercise supervisory oversight, or (2) file a petition to the Director to invoke supervisory authority under 37 C.F.R. § 181(a)(3).

Accordingly, we affirm the Examiner’s decision to reject claims 1–3, 5–14, and 16–22 under 35 U.S.C. § 112, second paragraph, as indefinite.

Rejection Under § 112, fourth paragraph

Issue: Does the Examiner err in finding claims 11 and 12 are of improper dependent form for failing to further limit the subject matter of claim 1?

In rejecting claims 11 and 12, the Examiner states “[t]he test as to whether a claim is a proper dependent claim is that it shall include every limitation of the claim from which it depends or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim.” Final Act. 21 (citing MPEP § 608.01(n) Section III)). More particularly, the Examiner finds “[t]he ‘article’ of claims 11–12 do not

further limit the features of the method steps of claim 1” and “[a]s a result claims 11–12 are in improper dependent form.” Final Act. 21–22.

Appellants argue that the Examiner erred in determining that dependent claims 11 and 12 are in “improper dependent form” because storage medium claims 11 and 12 are each dependent on method claim 1 and, thus, directed to a different statutory class of invention compared to the claims from which they depend and such a difference in statutory class “does not, in itself render the . . . [claim] improper.” Reply Br. 13 (citing MPEP § 608.01(n) (emphasis omitted)).

We are persuaded by this argument because the statute requires that “a claim in dependent form” shall “specify a further limitation of the subject matter claimed” (*see* 35 U.S.C. § 112, fourth paragraph) and the Examiner does not sufficiently explain why dependent claims 11 and 12 do not properly specify “further limitation[s]” (*id.*) of the method recited in independent claim 1.

Accordingly, we do not sustain the Examiner’s rejection of dependent claims 11 and 12 under 35 U.S.C. § 112, fourth paragraph.

Rejection Under § 103(a)

Issue: Does the Examiner err in finding the combination of Weiss, Elad, and Chen teaches or suggests “executing a sensitivity analysis on a processor of a computer, to calculate marginal benefits of one or more constraints of a current coalition or a currently-proposed coalition,” as recited in claim 1?

Appellants dispute the Examiner’s factual findings, arguing “[n]one of the cited references teaches or suggests using sensitive/marginal analysis of

coalitional and service constraints for purpose of assisting in expediting coalition formation.” Appeal Br. 35.

Appellants’ argument is not commensurate with the scope of the claim, which does not recite using “sensitive/marginal analysis,” and, thus, we are unpersuaded of Examiner error.

Appellants further argue “Appellants can find no discussion in Weiss of any attempt to perform any marginal/sensitive analysis on any of the proprietary information in Weiss’s database.” Appeal Br. 35–36. Here also, the claim does not recite performing “marginal/sensitive analysis,” and, therefore, Appellants’ argument is not commensurate with the scope of claim 1. In addition, Appellants argue Weiss alone, even though the Examiner relies on the combination of Weiss, Elad, and Chen to teach “executing a sensitivity analysis . . . to calculate marginal benefits,” as recited in claim 1. *See* Final Act. 27–37. We, thus, are not persuaded of error because we agree with the Examiner’s findings regarding Weiss, Elad, and Chen and because Appellants’ argument is not responsive to these findings.

Appellants argue “[t]here is no suggestion in Elad to perform a marginal evaluation if the input data were to be marginally changed. Tertiary reference Chen does not even seem related to the claimed invention except possibly when a few words are taken out-of-context.” Appeal Br. 36.

Such conclusory statements, however, amounting to little more than a paraphrasing of the claim language and a general denial, are unpersuasive to rebut the prima facie case produced by the Examiner. *Cf.* 37 C.F.R. § 41.37(c)(1)(iv) (“A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim”);

see also In re Lovin, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (“[W]e hold that the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art”).

Appellants next argue none of the references suggest systematic modification of input data:

as clearly explained in paragraph [0170] of the originally-filed specification, the “sensitivity analysis” of the present invention would take the “optimized energy service package” that was formed in Weiss and then systematically varies the input data by one unit and calculates the effect of the modification using one of several alternative strategies initially selected by the user. None of the cited references makes any suggestion of such systematic modification of input data, let alone input data representing coalition constraints.

Appeal Br. 36.

Appellants’ argument that Weiss does not teach “systematically varies the input data by one unit and calculates the effect of the modification” is not commensurate with the scope of the claim. In addition, Appellants argue Weiss alone, although the rejection relies on the combination of Weiss, Elad, and Chen. Accordingly, we find Appellants’ argument unpersuasive.

Appellants have not shown error in the Examiner’s factual findings or conclusion of obviousness. We, thus, sustain the Examiner’s 35 U.S.C. § 103(a) rejection of independent claim 1. Independent claim 13 and dependent claims 2, 3, 5–12, 14, and 16–22 are not argued separately and so the rejections of these claims are sustained for the same reasons given for independent claim 1. *See* Appeal Br. 38.

DECISION

We affirm the Examiner's rejection of claims 1–3, 5–14, and 16–22 under 35 U.S.C. § 101.

We affirm the Examiner's rejection of claims 1–3, 5–14, and 16–22 under 35 U.S.C. § 112, second paragraph.

We reverse the Examiner's rejection of claims 11 and 12 under 35 U.S.C. § 112, fourth paragraph.

We affirm the Examiner's rejection of claims 1–3, 5–14, and 16–22 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).

AFFIRMED