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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ALEXANDER ULANOV and
ANDREY SIMANOVSKY

Appeal 2017-010911
Application 13/420,149
Technology Center 2600

Before ERIC B. CHEN, JEREMY J. CURCURI, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CURCURI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 5–8, 11, 12, and 15–28. Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

Claims 1, 5–8, 11, 12, and 15–28 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Final Act. 5–7.

We affirm.

¹ According to Appellants, the real party in interest is Hewlett Packard Enterprise Development LP. App. Br. 3.

STATEMENT OF THE CASE

Appellants' invention relates to "[a]utomatic extraction of new terms from documents" Spec. ¶ 1. Claim 1 is illustrative and reproduced below:

1. A method to update a vocabulary collection in a memory, the method comprising:
 - accessing, via a processor, a web-site;
 - parsing, via a processor circuit in communication with the memory, the web-site to obtain an n-gram phrase indicative of a new term, the phrase comprised of a plurality of words;
 - breaking, via the processor circuit, the n-gram phrase into a bi-gram phrase by decomposing the n-gram phrase into all possible unique bi-gram phrases to create multiple first and second phrase part combinations, each combination comprising a first and a second phrase part, the first and second phrase part including at least one word;
 - determining, via the processor circuit, whether the first or second phrase part is in the vocabulary collection by:
 - for each first and second phrase part combination:
 - searching the vocabulary collection in the memory for vocabulary collection phrases that include the first or second phrase part and comparing domains of the first or second phrase part and each vocabulary collection phrase to identify a subset of the vocabulary collection phrases based upon a domain similarity;
 - determining a collocation similarity between the first or second phrase part and the identified subset of the vocabulary collection phrases to estimate the probability that the bi-gram phrase should be in the vocabulary collection if it is not; and
 - adding, via the processor circuit, the bi-gram phrase to the vocabulary collection in the memory if the probability that the bi-gram phrase should be in the vocabulary collection exceeds a minimum threshold level.

ANALYSIS

Contentions

The Examiner finds claims 1, 5–8, 11, 12, and 15–28 are directed to a judicial exception without significantly more. *See* Final Act. 5–7. In particular, the Examiner finds the claimed invention “corresponds to organizing human activities that can be achieved by a human using a pen and a paper (i.e.,] an idea of itself).” Final Act. 6. In particular, the Examiner further finds, “the[] additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself.” Final Act. 6–7.

Appellants present the following principal arguments:

i. The claims are not directed to an abstract idea. *See* App. Br. 9–14. For example, “the claims are necessarily rooted in (and inextricably tied to) computer technology in order to overcome a problem specifically arising in how a computer supplements a vocabulary collection.” App. Br. 10. For example, “[i]t would not be feasible for a user to use ‘pen and paper,’ as alleged by the Final Office Action, to go through a vocabulary collection of this size, in the specific way that is recited in the claims, to determine whether to add a new term to the vocabulary collection.” App. Br. 10–11; *see also* Reply Br. 1–6.

ii. The claims recite significantly more than any abstract idea. *See* App. Br. 15–16. For example, “none of the claims stand rejected over the prior art. In other words, no showing has been made that the claimed invention, as recited in the claims, is known in the art, whether performed

manually or by executing instructions known in the art on a generic computer.” App. Br. 15.

Our Review

A patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court has held that this provision 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); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work”). Notwithstanding that a law of nature or an abstract idea, by itself, is not patentable, the application of these concepts may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71–72 (2012). In *Mayo*, the Court stated that “to transform an unpatentable law of nature into a patent-eligible *application* of such a law, one must do more than simply state the law of nature while adding the words ‘apply it.’” *Mayo*, 566 U.S. at 72 (internal citation omitted).

In *Alice*, the Supreme Court reaffirmed the framework set forth previously in *Mayo* “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of these concepts.” *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are directed to a

patent-ineligible concept, then 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.’” *Id.* (brackets in original) (quoting *Mayo*, 566 U.S. at 72–73). “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.* at 2357 (brackets in original) (quoting *Mayo*, 566 U.S. at 77–78). The prohibition against patenting an abstract idea “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment or adding ‘insignificant post[-]solution activity.’” *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (internal citation omitted). The Court in *Alice* noted that “[s]imply appending conventional steps, specified at a high level of generality,’ was not ‘*enough*’ [in *Mayo*] to supply . . . [the] ‘inventive concept.’” *Alice*, 134 S. Ct. at 2357 (quoting *Mayo*, 566 U.S. at 82–83, 77–78, 72–73).

Step one: Are the claims at issue directed to a patent-ineligible concept?

Appellants argue the claims as a group. *See* App. Br. 9–14. We select independent claim 1 as representative of Appellants’ arguments for claims 5–8, 11, 12, and 15–28. 37 C.F.R. § 41.37(c)(1)(iv). Claim 1 is a method claim comprising multiple steps, each of which could, aside from nominal

recitations of a generic “processor,” “processor circuit,” and “memory” be performed in the human mind or by a human using pen and paper. In particular, the steps could be performed by a person reviewing a document (web-site), and performing all of the various processing steps mentally or on paper to determine, based on a probability, whether or not to add a bi-gram phrase from the document to an existing dictionary (vocabulary collection).

Because all the method steps of claim 1 can either be performed by human thought alone, or by a human using pen and paper, claim 1 is directed to a patent-ineligible abstract idea. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (“[U]npatentable mental processes” include “steps [that] can be performed in the human mind, or by a human using a pen and paper”). Independent claims 8 and 12 recite limitations similar to those discussed with respect claim 1. Thus, claims 8 and 12 are also directed to a patent-ineligible abstract idea.

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

Appellants again argue the claims as a group. *See App. Br.* 15–16. Here, we select independent claims 1, 8, and 12, as representative of Appellants’ arguments for claims 5–7, 11, and 15–28. 37 C.F.R. § 41.37(c)(1)(iv). Because claims 1, 8, and 12 are directed to an abstract idea, the question to be settled next, according to *Alice*, is whether claims 1, 8, and 12 recite an element, or combination of elements, that is enough to ensure that the claim is directed to significantly more than the abstract idea.

Claim 1 is a method claim, which includes “a processor,” “a processor circuit,” and “a memory.” Claim 8 is a corresponding apparatus claim that includes “a processor circuit,” “a memory,” and various modules stored in

the memory. Claim 12 is a corresponding article of manufacture claim that includes “a non-transitory computer-readable storage medium.”

These claimed hardware and software components are 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.

Appending various combinations of a conventional “processor,” “processor circuit,” “memory,” and various modules stored in memory to an abstract idea is not enough to transform the idea into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2358 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention”).

Regarding Appellants’ argument (i), this argument does not show any error in the Examiner’s findings and conclusions. In short, although the computer may update the vocabulary collection faster than a human using pen and paper could update the vocabulary collection, this alone does not improve the computer functionality because the invention itself is not making the computer faster or otherwise improved; rather, the computer is operating as a generic computer performing steps that would otherwise be performed with pen and paper. *See Bancorp Services, L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“the fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”). Again, because all the method steps of claim 1 can either be performed by human thought alone, or by a human using pen and paper, claim 1 is directed to a patent-ineligible abstract idea. *See CyberSource*

Corp. v. Retail Decisions, Inc., 654 F.3d 1366, 1372–73 (Fed. Cir. 2011). Further, information collection and analysis, including when limited to particular content, is within the realm of abstract ideas. *See, e.g., Elec. Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (explaining that a claim to “gathering and analyzing information of a specified content, then displaying the results,” absent “any particular assertedly inventive technology for performing those functions,” is directed to an abstract idea).

Regarding Appellants’ argument (ii), this argument does not show any error in the Examiner’s findings and conclusions because the claims do no more than require generic computer elements to perform generic computer functions, rather than improve computer capabilities. Put another way, “[t]he ‘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.” *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (quoting *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981)).

Accordingly, we sustain the rejection of independent claims 1, 8, and 12 under 35 U.S.C. § 101. Claims 5–7, 11, and 15–28 variously depend from claims 1, 8, and 12, and Appellants have not presented any additional substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 5–7, 11, and 15–28 under 35 U.S.C. § 101, for the same reasons discussed with respect to independent claims 1, 8, and 12.

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ORDER

The Examiner's decision rejecting claims 1, 5–8, 11, 12, and 15–28 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).

AFFIRMED