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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ARUN LAKSHMINARAYANAN,
GURUDATTA HORANTUR SHIVASWAMY,
and JEAN-DAVID RUVINI

Appeal 2016-007760
Application 13/623,697
Technology Center 3600

Before JOHN A. EVANS, KARA L. SZPONDOWSKI, and
JOYCE CRAIG, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

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

We AFFIRM.

STATEMENT OF THE CASE

Appellants' invention is directed to determining and using brand information in electronic commerce. Spec. ¶ 1. Title. Claim 1, reproduced below, is representative of the claimed subject matter:

1. A method comprising:

converting a product identification number for a product into a normalized global trade item number (GTIN);

generating a plurality of GTIN prefixes from the normalized GTIN, each of the plurality of GTIN prefixes associated with the product identification number, respective GTIN prefixes of the plurality of GTIN prefixes being of different textual lengths;

identifying, by a processor, for each of the plurality of GTIN prefixes, brand names and counts of each of the brand names using product information stored in a product catalog;

determining a probability distribution of the brand names in accordance with the brand names and the counts of the brand names for the plurality of the GTIN prefixes; and

identifying a predicted brand name for the product from among the brand names for the plurality of the GTIN prefixes, the predicted brand name having a highest probability score in the probability distribution of the brand names.

REJECTION

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

ANALYSIS

After consideration of each of Appellants' arguments, we agree with the Examiner. We refer to and adopt the Examiner's findings and conclusions as set forth in the Examiner's Answer and in the action from which this appeal was taken. Ans. 2–11; Final Act. 2–7. Our discussions here will be limited to the following points of emphasis.

Issue 1: Did the Examiner err by failing to establish a prima facie case that the claims are directed to patent-ineligible subject matter?

Appellants present various arguments that the Examiner has not adequately presented a prima facie case of patent-ineligibility for claims 1–20. *See* App. Br. 8–14. First, Appellants argue “the Examiner has chosen not to base the § 101 rejection on substantial evidence, but rather chosen to rely on conclusory statements and form paragraphs that can be used to reject the claims of any application without reference to the actual elements of the claims.” *Id.* at 10–11. Appellants further argue “the alleged abstract idea of ‘brand name detection and identification’ is an examiner-written phrase that does not actually appear in any of the rejected claims . . . [and] omits numerous other limitations.” *Id.* at 11. In addition, Appellants argue “[t]he Office Action provided no reasonable comparison of this alleged abstract idea to any other concept, much less to any concept that the courts have already found to be abstract.” *Id.* at 13. Finally, Appellants argue “[t]he Examiner failed to consider the dependent claim elements separately and has not established a prima facie case against the dependent claims.” *Id.* (emphasis omitted).

We are not persuaded. The Federal Circuit has repeatedly noted “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 Federal Circuit has, thus, held 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 rejection, “together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.” *See In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011). Thus, all that is required is that the Office set forth the statutory basis of the rejection in a sufficiently articulate and informative manner so as to meet the notice requirement of § 132. *Id.*

Here, in rejecting claims 1–20 under 35 U.S.C. § 101, the Examiner analyzes the claims using the *Mayo/Alice* two-step framework, consistent 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 rejection was made on June 3, 2015. *See* Final Act. 3. The Examiner clearly articulates the reasons why the claims are not patent-eligible under § 101. *See* Final Act. 2–6; Ans. 2–11. Specifically, the Examiner notifies Appellants that the claims are directed to the abstract idea of “brand name detection and identification,” a “mathematical procedure for converting one form of numerical representation to another . . . and comparing new and stored information and using rules to identify options.” Final Act. 3–6; *see also* Ans. 3–8. The Examiner further finds the claims do not amount to significantly more than the abstract idea because the “claims

recite additional elements such as a processor, a memory, a computer readable medium and converting product identification number for a product into a normalized global trade item number (GTIN), however these are merely recitations of instructions to implement the idea on a computer, and recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the industry.” Final Act. 4–6; *see also* Ans. 8–11. Although it may be useful in some circumstances to compare the claims at issue with those in earlier cases in which a similar issue of patent-eligibility has been decided, such a comparison, contrary to Appellants’ argument (App. Br. at 13), is not required for a *prima facie* showing. Moreover, contrary to Appellants’ arguments, the Examiner expressly addressed the dependent claims in the Answer. Ans. 6–7. The Examiner, thus, performed a proper § 101 analysis such that the burden shifted to Appellants to explain why the claims are patent-eligible.

Issue 2: Did the Examiner err in rejecting the claims under 35 U.S.C. § 101 because the claims are directed to an abstract idea?

Alice Corp. Pty. Ltd. v. CLS Bank International, 134 S. Ct. 2347 (2014) identifies a two-step framework for determining whether claimed subject matter is judicially-excepted from patent eligibility under 35 U.S.C. § 101. In the first step, “[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept.” *Alice*, 134 S. Ct. at 2355.

The Examiner concludes the claims are directed to “brand name determination/identification.” Final Act. 2. Specifically, “[t]he claims are drawn towards mathematical procedure for converting one form of

numerical representation to another . . . and comparing new and stored information and using rules to identify options.” Final Act. 3–4, 6; *see also* Ans. 2–7.

Appellants argue the claims are not directed to “an idea of itself” and “are not performed by a human mind or using a pen and paper,” but instead “these elements are performed by machines and not by humans.” App. Br. 16. Appellants further argue “[w]hile the claims may [allude] to mathematical calculations or formulas, the claims are not directed to such. Instead, the claims use such calculations or formulas to accomplish other goals such as predicting a brand name.” *Id.* Appellants argue the claims are “more like the rubber curing process of *Diehr*, than conversion of numerical information of *Benson*.” *Id.* As such, “Appellants assert that claim 1 does not explicitly recite a mathematical relationship.” *Id.* at 17.

We are not persuaded by Appellants’ arguments and agree with the Examiner’s conclusions. *See* Final Act. 5–6; Ans. 4–8. We agree with the Examiner that the claims are directed to, *inter alia*, a mathematical formula or procedure for converting one form of numerical representation to another (converting a product identification number for a product into a normalized GTIN) and comparing new and stored information (determining a probability distribution of the brand names in accordance with the brand names and counts of the brand names) and using rules to identify options (identifying a predicted brand name, which is the predicted brand name having a highest probability score). Thus, the claims are directed to an abstract idea because they are focused on collecting information, processing the information by mathematical algorithms, and identifying the results. *See Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed.

Cir. 2016) (“The advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.”); *Digitech Image Techs. LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (“Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.”); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 Fed. Appx. 950, 955 (Fed. Cir. 2014) (“comparing new and stored information and using rules to identify medical options” is an abstract idea).

Contrary to Appellants’ arguments, the claims differ significantly from the process claimed in *Diamond v. Diehr*, which uses a mold for precisely shaping uncured synthetic rubber under heat and pressure and then curing the rubber in the mold so that the product will retain its shape and be functionally operative after the molding is completed. 101 S. Ct. 1048, 1052 (1981). The Court in *Diehr* held

That respondents’ claims involve the transformation of an article, in this case raw, uncured synthetic rubber, into a different state or thing cannot be disputed. The respondents’ claims describe in detail a step-by-step method for accomplishing such, beginning with the loading of a mold with raw, uncured rubber and ending with the eventual opening of the press at the conclusion of the cure. Industrial processes such as this are the types which have historically been eligible to receive the protection of our patent laws.

101 S. Ct. at 1055. The Court held the claims in *Diehr* to be patent eligible *despite* the fact that several steps of the process used a mathematical equation, not because of it. *Id.* Appellants’ claims describe no such

transformation of an article into a different state or thing or industrial process. Rather, contrary to Appellants' arguments, the claims are more similar to those in *Gottschalk v. Benson*, 409 U.S. 63 (1972). See *Bilski v. Kappos* 561 U.S. 593, 610 (2010) (describing that in *Benson*, "a patent application for an algorithm to convert binary-coded decimal numerals into pure binary code" was directed to an abstract idea (citing *Benson*, 409 U.S. at 64–67)).

Further, the steps in Appellants' claims can all be performed by human thought alone or by a human using a pen and paper. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011) ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101."); *Elec. Power Grp.*, 830 F.3d at 1353–54 (collecting information and "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, [are] essentially mental processes within the abstract-idea category."). The mere mention of certain claimed computer hardware components (e.g. "a processor," "a module," and "a memory") does not impose sufficiently meaningful limitations on claim scope beyond these mental steps. *CyberSource*, 654 F.3d at 1372–73, 1375 ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*").

Appellants have not adequately shown the claims are not directed to an abstract idea. Although the claim language includes more words than the phrase the Examiner used to articulate the abstract idea, this is an insufficient reason to persuasively argue the claims are not directed to an abstract idea. Cf. *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240–41

(Fed. Cir. 2016) (“An abstract idea can generally be described at different levels of abstraction. As the Board has done, the claimed abstract idea could be described as generating menus on a computer, or generating a second menu from a first menu and sending the second menu to another location. It could be described in other ways, including, as indicated in the specification, taking orders from restaurant customers on a computer.”) The Examiner has provided a reasoned rationale that identifies the judicial exception recited in the claims, i.e., abstract idea, and explained why it is an exception. *See* Ans. 2–7; Final Act. 3, 4, 6. Appellants have not provided persuasive rebuttal evidence showing the claims are *not* directed to an abstract idea.

Issue 3: Did the Examiner err in rejecting the claims under 35 U.S.C. § 101 because the claims recite something significantly more than the abstract idea?

In the second step of *Alice*, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S.Ct. 1289, 1297–98 (2012)). 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.* (quoting *Mayo*, 132 S. Ct. at 1294).

With respect to the second step of the *Alice* analysis, the Examiner concludes “Applicant’s claims recite additional elements such as a processor, a memory, a computer readable medium and converting product

identification number for a product into a normalized global trade item number (GTIN), however these are merely recitations of instructions to implement the idea on a computer, and recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the industry” which “do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amount to significantly more.” Final Act. 4, 6; *see also* Ans. 8–11.

Appellants argue “the operations recited in the claims at issue are at a lower-level of generality than the operations recited in the claims at issue in *Bilski* and *Alice*” which “indicates that the claims of the present application are more than simply an abstract idea.” App. Br. 18–19. Appellants further argue the first four limitations of claim 1 “are not explicitly directed to ‘brand name detection and identification.’” App. Br. 19.

We are not persuaded. Appellants have not directed our attention to, nor can we find, anything in the record that shows any specialized computer hardware or other “inventive” computer components are required. *See* Spec. ¶¶ 84–89, Fig. 12. Rather than reciting additional elements that amount to “significantly more” than the abstract idea, the pending claims, at best, add only a “processor,” “device,” “module,” and/or “memory,” i.e., a generic component (see Spec. ¶¶ 70–74, Fig. 10), which does not satisfy the inventive concept. *See, e.g., DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (internal quotation marks omitted) (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible. The

bare fact that a computer exists in the physical rather than purely conceptual realm is beside the point.” “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea ‘while adding the words “apply it”’ is not enough for patent eligibility.” *Alice*, 134 S. Ct. 2358 (citation omitted).

Appellants further argue “the claims constitute a claim to an improvement of the functioning of the computer since more accurate brand name prediction that may reduce various errors and thereby conserve system resources that would otherwise be consumed to compensate for inaccurate brand name predictions.” App. Br. 20.

We are not persuaded. Appellants do not identify any actual “improvement of the functioning of the computer.” Rather, Appellants’ identification of a predicted brand name is done by determining a probability distribution (i.e., the information is run through a mathematical procedure using a generic processor). *See Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he 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.”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent-eligible).

Appellants further argue “the claim clearly does not seek to tie up any judicial exception so that others cannot practice it.” App. Br. 20.

We are not persuaded by this argument. “[W]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *FairWarning IP, LLC, v. Iatric Sys.*,

Inc., 839 F.3d 1089, 1098 (Fed. Cir. 2016) (quoting *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); see also *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015), cert. denied, 136 S. Ct. 701, 193 (2015) (“[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”). Further, “[w]here 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.” *Ariosa*, 788 F.3d at 1379.

The claims, when viewed as whole, recite nothing more than performing conventional processing functions that courts have routinely found insignificant to transform an abstract idea into a patent-eligible invention. As such, the claims amount to nothing significantly more than an instruction to implement the abstract idea on a generic computer—which is not enough to transform an abstract idea into a patent-eligible invention. See *Alice*, 134 S. Ct. at 2360.

DECISION

For the above reasons, the Examiner’s rejection of 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