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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MASAHIRO KATAOKA and KEISHIRO TANAKA

Appeal 2018-005611
Application 12/973,017¹
Technology Center 2100

Before JOSEPH L. DIXON, ERIC S. FRAHM, and
CATHERINE SHIANG, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 19–27, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ Appellants identify Fujitsu Limited as the real party in interest. App. Br. 2.

STATEMENT OF THE CASE

Introduction

The present invention relates to “information processing, searching, compression, and expansion using a Huffman tree.” Spec. ¶ 2. Claim 19 is exemplary:

19. A non-transitory computer-readable recording medium storing therein an information processing program that causes a computer to execute a process comprising:

- extracting a plurality of x-gram character strings from a plurality of files, where x is a natural number larger than 1;
- generating, for each x-gram character string, nxm divided maps that correspond to nxm combinations of n codes and m codes, respectively, and represent a presence or an absence of the nxm combinations in the files,
- wherein the n codes are obtained by dividing a code representing a first gram of the x-gram character string into n parts, and
- the m codes are obtained by dividing a code representing a second gram of the x-gram character string into m parts, where n and m are natural numbers, and at least one of n and m is larger than 1.

References and Rejections²

Claims 19–27 stand rejected under 35 U.S.C. § 101 because they are directed to patent-ineligible subject matter. Ans. 3–11.

Claims 19–21 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over the collective teachings of Asada et al. (US

² Throughout this opinion, we refer to the (1) Final Office Action dated May 8, 2017 (“Final Act.”); (2) Appeal Brief dated November 2, 2017 (“App. Br.”); (3) Examiner’s Answer dated April 2, 2018 (“Ans.”); and (4) Reply Brief dated May 10, 2018 (“Reply Br.”).

5,680,612; Oct. 21, 1997) and Kataoka et al. (US 2008/0098024 A1; Apr. 24, 2008) (“Kataoka”). Final Act. 3–4.

Claims 22–24 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over the collective teachings of Asada, Kataoka, and Hatakeyama et al. (US 5,469,354; Nov. 21, 1995). Final Act. 5–8.

Claim 25 stands rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over the collective teachings of Asada, Kataoka, and Ogawa (US 2003/0177116 A1; Sept. 18, 2003). Final Act. 8–10.

Claims 26 and 27 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over the collective teachings of Asada, Kataoka, Ogawa, and Chang (US 2008/0208821 A1; Aug. 28, 2008). Final Act. 10–11.

ANALYSIS³

35 U.S.C. § 101

We have reviewed the Examiner’s rejection in light of Appellants’ contentions and the evidence of record. We concur with Appellants’ contention that the Examiner erred in this case.

Section 101 of the Patent Act provides “[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. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural

³ Appellants raise additional arguments. Because the identified issues are dispositive of the appeal, we do not need to reach the additional arguments.

phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and 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 187; *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) (“Guidance”). Under the

guidance set forth in the 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) (Step 2A, Prong 1); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) § 2106.05(a)–(c), (e)–(h)) (9th Ed., Rev. 08.2017, 2018) (Step 2A, Prong 2).

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 is 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. (Step 2B.)

See Guidance, 84 Fed. Reg. at 54–56.

Turning to Step 2B of the Guidance, “[t]he second step of the *Alice* test is satisfied when the claim limitations ‘involve more than performance of []well-understood, routine, [and] conventional activities previously known to the industry.’” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (quoting *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) and *Alice*, 573 U.S. at 225). “Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination.” *Berkheimer*, 881 F.3d at 1369.

In this case, the Examiner determines:

the “computer readable medium”, and “a computer to execute process.” are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system.

Ans. 5.

However, the Examiner has not provided the evidence required by *Berkheimer* to support the above determination. *See Berkheimer*, 881 F.3d at 1369. In particular, we agree with Appellants (Reply Br. 1–2)⁴ that the Examiner has not provided any of the four categories of information required by the Memorandum of Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) (“*Berkheimer* Memorandum”):

1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).
3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .

⁴ Because the Examiner entered a new ground of rejection under 35 U.S.C § 101 in the Answer, Appellants had good cause to raise arguments based on *Berkheimer* in the Reply Brief. *See* 37 C.F.R. § 41.41(b)(2).

4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). . . .

Berkheimer Memorandum at 3–4.

Therefore, the Examiner erred with respect to Step 2B of the Guidance, and we are constrained by the record to reverse the Examiner’s rejection of claims 19–27 on procedural grounds.

35 U.S.C. § 103

We have reviewed the Examiner’s rejection in light of Appellants’ contentions and the evidence of record. We concur with Appellants’ contention that the Examiner erred in determining the cited portions of *Asada* teach “wherein the *n* codes are obtained by dividing a code representing a first gram of the *x*-gram character string into *n* parts, and the *m* codes are obtained by dividing a code representing a second gram of the *x*-gram character string into *m* parts, where *n* and *m* are natural numbers, and at least one of *n* and *m* is larger than 1” as recited in independent claim 19 (emphases added). *See* App. Br. 5–8; Reply Br. 7–8.

The Examiner cites *Asada*’s Figure 5 and excerpts from columns 1, 3, and 5–7 for teaching the disputed claim limitation. *See* Final Act. 3; Ans. 12–14. We have reviewed the cited *Asada* portions, and they do not teach or suggest “wherein the *n* codes are obtained by dividing a code representing a first gram of the *x*-gram character string into *n* parts, and the *m* codes are obtained by dividing a code representing a second gram of the *x*-gram character string into *m* parts, where *n* and *m* are natural numbers, and at least one of *n* and *m* is larger than 1” as required by claim 19 (emphases

added). In particular, the Examiner's finding that Asada's Figure 5 teaches "each character code (each Japanese character) is converted (mapped) to EUC code which is 0xa5d7 and can be divided into two parts" (Ans. 14) is unsupported, as the Examiner does not explain why and how Asada's Figure 5 supports that finding.

Because the Examiner fails to provide sufficient evidence or explanation to support the rejection, we are constrained by the record to reverse the Examiner's rejection of claim 19.

Independent claim 25 recites a claim limitation that is substantively similar to the disputed limitation of claim 19. *See* claim 25. The Examiner applies similar findings and conclusions to both claims 19 and 25 with respect to the disputed limitation. *See* Final Act. 3, 9; Ans. 12–14. Therefore, for similar reasons, we reverse the Examiner's rejection of independent claim 25.

We also reverse the Examiner's rejection of corresponding dependent claims 20–24, 26, and 27. Although the Examiner cites additional references for rejecting some dependent claims, the Examiner has not shown the additional references overcome the deficiency discussed above in the rejection of claim 19. *See* Final Act. 5–8; 10–11.

DECISION

We reverse the Examiner's decision rejecting claims 19–27.

REVERSED