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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LAURENCE R. LIPSTONE, WILLIAM CROWDER,
ANDREW SWART, CHRISTOPHER NEWTON, and
LEWIS ROBERT VARNEY

Appeal 2018-000162
Application 14/088,542¹
Technology Center 2400

Before CARL W. WHITEHEAD JR., IRVIN E. BRANCH, and
MICHAEL M. BARRY, *Administrative Patent Judges*.

BRANCH, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–35, which are all of the claims pending in the Application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is Level 3 Communications, LLC. Br. 2.

Technology

The application relates to performing warm-up strategies in a cache content delivery service. *See, e.g.*, Spec. ¶ 1148.

Illustrative Claim

Claim 17 is illustrative and reproduced below:

17. A computer-implemented method, operable in a content delivery (CD) network comprising multiple CD services including one or more cache CD services, said CD services running on a plurality of devices, the method operable on at least one device comprising hardware including memory and at least one processor, the method comprising:

in response to a cache CD service of said one or more cache CD services being started, performing one or more warm up strategies selected from a group comprising:

- (i) obtaining a global configuration object;
- (ii) obtaining at least some customer data; and
- (iii) pre-fetching content,

wherein said cache CD service begins accepting requests after at least some of said one or more warm up strategies have completed.

Rejections²

Claims 1–35 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Final Act. 3.

² Rather than repeat the Examiner’s positions and Appellants’ arguments in their entirety, we refer to the above mentioned Appeal Brief mailed March 27, 2017 (“Br.”), as well as the following documents for their respective details: the Final Rejection mailed August 25, 2016 (“Final Act.”) and the Examiner’s Answer mailed July 28, 2017 (“Ans.”).

Claims 1–16, 32, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Greene et al. (US 2002/0165727 A1; pub. Nov. 7, 2002) (“Greene”), Lobo et al. (US 2014/0019577 A1; pub. Jan. 16, 2014) (“Lobo”), and Constant et al. (US 6,226,694 B1; May 1, 2001) (“Constant”). Final Act. 4–17.

Claims 17–19, 21, 22, 25–27, 29–31, 33, and 35 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Greene and Lobo. Final Act. 17–26.

Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Greene, Lobo, and Chen et al. (US 2006/0047751 A1; pub. Mar. 2, 2006) (“Chen”). Final Act. 26–28.

Claims 20 and 28 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Greene, Lobo, and Devanneaux et al. (US 2007/0156845 A1; pub. July 5, 2007) (“Devanneaux”). Final Act. 28–29.

ANALYSIS

We review the appealed rejections for error based upon the issues identified by Appellants, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential). We have considered in this Decision only those arguments Appellants actually raised in the Brief. Any other arguments Appellants could have made but chose not to make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). We adopt the Examiner’s findings and conclusions as our own, to the extent consistent with our analysis herein.

The 35 U.S.C. § 101 Rejection

A. Section 101

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 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 phenomena, and abstract ideas” are not patentable. *E.g., Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

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, 69 (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 183 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.* (citation omitted) (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 (quotation marks 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.* (alterations in original) (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.*

B. USPTO Section 101 Guidance

The United States Patent and Trademark Office (USPTO) recently published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) (“Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) (*see* Memorandum Step 2A – Prong One) 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); and
- (2) (*see* Memorandum Step 2A – Prong Two) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).³

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

³ We acknowledge that some of these considerations may be properly evaluated under Step 2 of *Alice* (Step 2B of Office guidance). Solely for purposes of maintaining consistent treatment within the Office, we evaluate it under Step 1 of *Alice* (Step 2A of Office guidance). *See* Memorandum.

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum Step 2B.

C. Examiner's § 101 Rejection - Alice/Mayo - Step 1

Applying step 1 of the *Alice/Mayo* analysis, the Examiner concludes claim 17 recites the abstract idea of “a cache that receives a piece of information.” Ans. 2.

Claim 17 recites various warm up strategies to be performed by a cache content delivery (CD) service in a CD network it begins accepting requests. The limitations of claim 17 include (1) in response to a cache CD service of said one or more cache CD services being started, performing one or more warm up strategies selected from a group comprising: (i) obtaining a global configuration object; (ii) obtaining at least some customer data; and (iii) pre-fetching content; and (2) wherein said cache CD service begins accepting requests after at least some of said one or more warm up strategies have completed. These limitations, under their broadest reasonable limitation, recite neither mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or a mental process. *See* Memorandum Step 2A – Prong One. Thus, we determine that the claims are not directed to an abstract idea. We also determine that the claims are not directed to any other judicial exception.

For the foregoing reason, we do not sustain the Examiner's subject matter eligibility rejection of claim 17, and we do not sustain the rejection of claims 1–16 and 18–35 for the same reason.

The 35 U.S.C. § 103 Rejections

Claim 17 recites, in relevant part, “said cache CD service begins accepting requests after at least some of said one or more warm up strategies have completed.” Appellants argue “Lobo does not teach or suggest the claimed ‘*wherein said cache CD service begins accepting requests after at least some of said one or more warm up strategies have completed,*’” and “the Examiner provides no indication of this feature in Lobo.” Br. 17. Appellants contend that “[e]ven if Lobo teaches ‘warming up’ a cache by pre-fetching content, Lobo makes no mention of the cache not accepting requests until it has been warmed up.” *Id.*

Appellants’ arguments are unpersuasive. The Examiner finds, and we agree, that Lobo discloses the argued limitation because Lobo discloses “warming up” a cache as “a new edge caching server” being installed and “query[ing] its peer caching servers for their HTTP logs to prepopulate (through pre-fetching) the empty cache of the new edge caching server.” Ans. 4 (emphasis omitted); Lobo ¶ 27. Lobo also discloses that “[c]aching servers may also ‘pre-fetch’ resources by requesting and receiving content before the content is requested by a client computer.” Lobo ¶ 22. In view of this express disclosure, we find unconvincing Appellants’ contention that “Lobo makes no mention of the cache not accepting requests until it has been warmed up.” Br. 17.

Appellants argue the rejections of claims 1–16, 18, 20–24, 28–32, and 34 under separate headings. *Id.* at 17–27. We find Appellants’ arguments unpersuasive for the reasons stated by the Examiner. Ans. 4–10; *see also* Final Act. 4–19.

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Accordingly, in view of the foregoing, we sustain the rejections of claims 1–35.

DECISION

For the reasons above, we reverse the Examiner’s decision rejecting claims 1–35 under § 101, but we affirm the Examiner’s decision rejecting these claims are unpatentable under § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED