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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JACK CHUNG

Appeal 2018-008451
Application 13/912,989
Technology Center 2400

Before: CAROLYN D. THOMAS, JOSEPH P. LENTIVECH, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

LENTIVECH, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134 from a rejection of claims 48–56. Claims 1–47 have been cancelled. Br. 20 (Claims Appendix). We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ According to Appellant, the real party in interest is Matrixstream Technologies. Br. 3.

STATEMENT OF CASE

The claims are directed to “transferring information, such as video content, via a network.” Spec. ¶ 2. Claim 48, reproduced below, is illustrative of the claimed subject matter:

48. A method for downloading digital content to a user of a client system from a server system in response to a request by the user for the digital content, the method comprising:

authenticating the user; and

initiating download of the digital content from the server system to the client system via a best-effort network using a TCP protocol determined by a protocol handling module within the client system, the protocol comprising:

initializing a plurality of communication streams from the server system through the network to the client system, the plurality of communication streams including a control stream, a chapter stream and a plurality of data content streams, the data content streams being configured to carry the requested digital content;

monitoring at least one of network performance, network latency, and transmission progress of the requested digital content; and

adjusting, via the control stream, download parameters of the data content streams in response to the monitoring;

wherein the best-effort network, to which the client system and the server system are directly connected, is the internet.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hendricks	US 5,990,927	Nov. 23, 1999
Hameleers	US 2005/0021804 A1	Jan. 27, 2005
Jain	US 2005/0183120 A1	Aug. 18, 2005
Li	US 2005/0275752 A1	Dec. 15, 2005

REJECTIONS

The Examiner made the following rejections:

Claims 48–56 stand rejected under 35 U.S.C. § 101 because the claimed subject matter is judicially-excepted from patent eligibility under § 101. Final Act. 6.

Claims 48–51, 53, 55, and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Hameleers, Jain, and Li. Final Act. 6–16.

Claims 52 and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Hameleers, Jain, Li, and Hendricks. Final Act. 16–18.

ANALYSIS

Rejection under 35 U.S.C. § 101

Regarding the rejection of claims 48–56 under 35 U.S.C. § 101, Appellant does not substantively argue the claims separately with particularity, but relies on the same arguments for all claims. *See* Br. 11–12. In accordance with 37 C.F.R. § 41.37(c)(1)(iv), we select independent claim 48 as the representative claim. Remaining claims 49–56 stand or fall together with claim 48.

PRINCIPLES OF LAW

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. 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 Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012) and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). 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 184 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); 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 176; *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 (internal 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. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Memorandum”). Under that 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); 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, Jan. 2018)).

See Memorandum, 84 Fed. Reg. at 52, 54–55. 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.

See Memorandum, 84 Fed. Reg. at 56.

OUR REVIEW

STEP 1

Under “Step 1” of the analysis, we determine whether the claimed subject matter falls within the four categories of patentable subject matter identified by 35 U.S.C. § 101. Memorandum, 84 Fed. Reg. at 53–54. Claim 48 is directed to a method and, therefore, falls within the four categories of patentable subject matter—a process.

Alice/Mayo—Step 1 (Abstract Idea)
Step 2A—Prongs 1 and 2 identified in the Revised Guidance

Step 2A, Prong 1 (Does the Claim Recite a Judicial Exception?)

Under “Step 2A, Prong One” of the analysis, we determine whether the claim recites a judicial exception. Memorandum, 84 Fed. Reg. at 54. Claim 48 recites, among other things, the limitation “authenticating the user.” This limitation, as drafted, is a process that, under its broadest reasonable interpretation, is an observation, evaluation, or judgment that can be performed in the human mind. For example, a person can authenticate another person based on determining that a person looks like the person pictured on a government issued identification card. Thus, this limitation recites a mental process and, therefore, an abstract idea. Memorandum, 84 Fed. Reg. at 52.

Claim 48 also recites “monitoring at least one of network performance, network latency, and transmission progress of the requested digital content.” This limitation, as drafted, is a process that, under its broadest reasonable interpretation, can be performed in the human mind. For example, a person can use an application executing on a computer to download digital content from a server. The application may display an icon indicating a current percentage of the content that has been downloaded to the computer. The user may monitor a transmission progress of the digital content by observing the icon. Thus, this limitation recites a mental process and, therefore, an abstract idea. Memorandum, 84 Fed. Reg. at 52.

Step 2A—Prong 2 (integration into Practical Application)²

Under “Step 2A, Prong Two,” we determine whether the claim as a whole integrates the recited judicial exception into a practical application of the exception. Memorandum, 84 Fed. Reg. at 54. Claim 48 recites the following additional limitations:

initiating download of the digital content from the server system to the client system via a best-effort network using a TCP protocol determined by a protocol handling module within the client system, the protocol comprising:

initializing a plurality of communication streams from the server system through the network to the client system, the plurality of communication streams including a control stream, a chapter stream and a plurality of data content streams, the data content streams being configured to carry the requested digital content;

. . . and

adjusting, via the control stream, download parameters of the data content streams in response to the monitoring;

wherein the best-effort network, to which the client system and the server system are directly connected, is the internet.

Br. 20 (Claims Appendix).

With respect to these additional limitations, the Examiner finds “the steps of setting up the download . . . is a generic function since any data transfer on the internet is comprised of uploading and downloading” and “it does not appear that initiating a download on the internet is beyond a generic function.” Ans. 2. The Examiner further finds the additional limitations

² We acknowledge that some of the considerations at Step 2A, Prong 2, properly may be evaluated under Step 2 of *Alice* (Step 2B of the Office guidance). For purposes of maintaining consistent treatment within the Office, we evaluate them under Step 1 of *Alice* (Step 2A of the Office guidance). See Memorandum, 84 Fed. Reg. at 55 n 25, 27–32.

“appear to be related to the identified abstract idea ‘delivering user-selected media content to portable devices’” and “the steps regarding monitoring and adjusting . . . appear to be directed to ‘comparing new and stored information and using rules to identify options’” and, therefore, “are directed toward an abstract idea.” Ans. 2–3.

Appellant argues the additional limitations “recite not simply the downloading of digital content in response to [a] user request, but also the steps necessary to carry out the downloading” and the additional limitations “go[] well beyond what would have been understood at the time of filing as ‘*generic functions*.’” Br. 11. Appellant further argues the claimed “initiating download of the digital content” “details a specific technological method that results in the desired download [of digital content]” and provides the technological benefit of “providing highly efficient transfer of large [data] files without requiring QOS [Quality of Service] network functionality.” Br. 11.

We find Appellant’s arguments persuasive. Although each of the additional limitations analyzed individually may be viewed as mere extra-solution activity, the claim as a whole is directed to a particular improvement in downloading content from a server. Appellant’s Specification provides that “existing file transfer and download-scheduling techniques employ relatively inefficient protocols characterized by slow download times and network-traffic bottlenecks” and that “[s]uch inefficient data-transfer protocols limit VOD [Video-On-Demand] quality and functionality.” Spec. ¶ 4. With respect to addressing these problems, the Specification provides:

Use of plural data streams significantly improves delivery of bandwidth-intensive content, such as video, over best-effort networks, which lack Quality Of Service (QOS) guarantees. Use of plural data streams helps to stabilize content-transfer rates and to increase acceptable content transfer rates. Furthermore, auxiliary data streams provide auxiliary information that enables embodiments of the present invention to offer greatly enhanced functionality over conventional network-based content-delivery systems, such as conventional VOD systems.

Spec. ¶ 8. As such, we find the additional limitations recited in claim 48 improve the functioning of a computer and, therefore, integrate the recited judicial exception into a practical application. *See* Memorandum, 84 Fed. Reg. at 54–55. Thus, claim 48 recites patent eligible subject matter because it is not directed to the recited judicial exception. *Id.* Claims 49–56 recite corresponding limitations and, therefore, recite patent eligible subject matter for the reasons discussed above with respect to claim 48.

Rejections under 35 U.S.C. § 103(a)

Issue: Did the Examiner err by finding the combination of Hameleers, Jain, and Li teaches or suggests “initiating download of the digital content from the server system to the client system via a best-effort network using a TCP protocol determined by a protocol handling module within the client system,” as recited in claim 48?

Appellant contends the cited references fail to teach or suggest the disputed limitations because Li, upon which the Examiner relies, does not teach “the use of a TCP protocol **determined by a protocol handling module within the client system** to initiate download of digital content from a server to a client system,” as required by claim 48. Br. 14.

Appellant argues “all the teachings in the cited passage [of Li] concern the

operation of the *server* sending data into the channel which eventually leads to the client system, and adjusting the number of connections as desired.”

Br. 14.

We find Appellant’s argument persuasive. Regarding the claimed “TCP protocol,” the Examiner finds:

Paragraph [0003] of Li discloses enabling a streaming server to perform minimal real-time processing and rate control when outputting a very large number of simultaneous unicast (on-demand) streams. Paragraph [0008] discloses typically, RTP [Real-time Transport Protocol] runs on top of the UDP [User Datagram Protocol] protocol, although the specification is general enough to support other transport protocols. The User Datagram Protocol is a connectionless protocol that, like TCP, runs on top of IP networks.

Final Act. 8–9. Additionally, the Examiner finds Li teaches an architectural framework for streaming scalable coded video over IP networks that allows a server to create multiple RTP connections to accommodate each sub-layer of a layered video stream which allows for the desired adaptation based on client preference. Ans. 5; Final Act. 2–3 (citing Li ¶ 25). The Examiner concludes Li teaches or suggests “a TCP protocol determined by a protocol handling module within the client system” because Li’s teaching regarding allowing for adaptation based on client preference “indicates client involvement in the scalable connections” and “Li’s disclosure of using TCP requires that both the server and the client have appropriate TCP handling modules in order to use TCP to communicate.” Ans. 5.

The Examiner’s findings fail to show how “indicat[ing] client involvement in the scalable connections” teaches or suggests that the TCP protocol is determined by a protocol handling module within a client system, as required by claim 48. Instead, Li explicitly teaches that the architectural

framework “allow[s] a *server* to create multiple RTP connections to accommodate each sub-layer of a layered video stream which allows for the desired adaptation to channel characteristics, complexity, client preference, etc.” Li ¶ 25 (emphasis added). Thus, we find one of ordinary skill in the art would understand Li as teaching that the server creates multiple RTP connections (e.g., determines a protocol for streaming scalable coded video over an IP network) based on client preferences.

Accordingly, we do not sustain the Examiner’s rejection of claim 48; independent claims 55 and 56, which recite similar limitations; and claims 49–51 and 53, which depend from claim 48.

Claims 52 and 54 depend from claim 48. Br. 21 (Claims Appendix). Claims 52 and 54 are rejected under 35 U.S.C. § 103(a) based on Hameleers, Jian, Li, and Hendricks. Final Act. 16–18. The Examiner does not find the teachings of Hendricks cures the deficiencies in the teachings of Li discussed above with respect to claim 48. *See id.* Accordingly, we also do not sustain the rejection of claims 52 and 54.

Because we find this issue to be dispositive as to the obviousness rejection of all the pending claims, we do not reach the issues raised by Appellant’s remaining arguments.

DECISION

We reverse the Examiner’s rejection of claims 48–56 under 35 U.S.C. § 101.

We reverse the Examiner’s rejections of claims 48–56 under 35 U.S.C. § 103(a).

REVERSED