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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILLIAM T. MCDAVID¹

Appeal 2018-001845
Application 14/306,470
Technology Center 3600

Before MICHAEL L. HOELTER, JEREMY M. PLENZLER, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

HOELTER, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

This is a Decision on appeal, under 35 U.S.C. § 134(a), from the Examiner’s final rejection of claims 1–15 and 17, which constitute all the claims pending in this Application. Br., i. We have jurisdiction under 35 U.S.C. § 6(b). For the reasons explained below, we find error in the Examiner’s rejection of these claims under 35 U.S.C. § 101, but we do not find the Examiner erred in rejecting claim 15 as being anticipated by Elder.

Accordingly, we AFFIRM-IN-PART the Examiner’s rejections.

¹ “The real party in interest in this appeal is INOVA Ltd.” Br. 1. We, thus, proceed on the basis that, for purposes of this appeal, INOVA Ltd. is the “Appellant.”

CLAIMED SUBJECT MATTER

The disclosed subject matter “relates to conducting a seismic survey using a network configured to transmit data.” Spec. ¶ 2. Claims 1, 8, 15, and 17 are independent.

Claim 1 is illustrative of the claims on appeal and is reproduced below.

1. A system for conducting a seismic survey, comprising:
 - at least one seismic sensor configured to supply a signal responsive to reflections of acoustic energy from an earth surface;
 - sampling circuitry in electrical communication with the at least one seismic sensor and configured to convert the signal to a sequence of samples, wherein each sample is represented by a bit string; and
 - at least one processor and a computer memory accessible to the at least one processor, the at least one processor configured to:
 - create a sample block by storing at least a portion of the plurality of samples in memory units in the computer memory, wherein each sample is stored in a corresponding memory unit;
 - assign a number to the at least one bit of each sample;
 - form at least one column that includes bits having a same assigned number;
 - and
 - compress data contained in the sample block by encoding the at least one column to produce compressed seismic data;
 - a data communication device configured to transmit the compressed seismic data; and a recording computer configured to receive the compressed seismic data.

REFERENCE

Elder et al. US 2008/0186806 A1 Aug. 7, 2008

THE REJECTIONS ON APPEAL

Claims 1–15 and 17 (i.e., all the claims) are rejected under 35 U.S.C. § 101 as being directed to patent ineligible subject matter.

Claim 15 is rejected under 35 U.S.C. § 102(a)(1) as being anticipated by Elder.

ANALYSIS

The rejection of claim 15 as being anticipated by Elder

Appellant does not respond to the Examiner’s anticipation rejection of claim 15. *See Br. generally.* The Examiner addresses this stating “it is noted that Appellant has not argued the merits of the 35 USC [§] 102 rejection of claim 15 and therefore the [§] 102 rejection should be sustained.” Ans. 2.

In view of the above, we summarily sustain the Examiner’s rejection of claim 15 as being anticipated by Elder. *See Hyatt v. Dudas*, 551 F.3d 1307, 1314 (Fed. Cir. 2008) (“When the appellant fails to contest a ground of rejection to the Board . . . the PTO may affirm the rejection of the group of claims that the examiner rejected on that ground without considering the merits of those rejections.”). Also, Appellant acknowledges “two typos” in claim 15 and seeks to correct same. Br. 9. This is not the proper procedure to follow when seeking to amend claim language.

The rejection of claims 1–15 and 17 (i.e., all the claims) as being directed to patent ineligible subject matter

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).

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 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Gottschalk*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diamond*, 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.” *Diamond*, 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.* at 191 (citing *Gottschalk and Parker*); *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.* (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 January 7, 2019 Memorandum, *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 interactions such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

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.

In the present matter, the Examiner addresses each independent claim (i.e., claims 1, 8, 15, and 17) concluding that each is directed to “compressing seismic data and transmitting the compressed data.” Final Act. 4. Initially, we agree that the claims are not directed to methods of organizing human interactions such as a fundamental economic practice, or mental processes. As for the judicial exception of mathematical concepts, the Examiner states, “the idea of compressing seismic data and transmitting the compressed data is similar to, and not meaningfully different from, the basic concept of manipulating information *using mathematical relationships* that the courts have found to be abstract ideas.” Final Act. 4 (emphasis added). The Examiner concludes that none of the independent claims

contain elements “to qualify as ‘significantly more’” and that none of the dependent claims “contain an ‘inventive concept’” that might transform the “independent claim into a patent-eligible application of the otherwise ineligible abstract idea.” Final Act. 5.

Appellant disagrees with this characterization of all the claims being directed to an abstract idea and provides reasons for the disagreement. *See* Br. 6–9.

In accordance with the Memorandum above, we must first address the judicial exception relied on by the Examiner. Here, all the claims have been rejected as “not directed to patent eligible subject matter” on the basis that the claimed compression and transmission of data (i.e., “manipulating information”) uses “mathematical relationships.” Final Act. 2, 4. The Memorandum provides guidance on this point stating that mathematical concepts are “mathematical relationships, mathematical formulas or equations, [and/or] mathematical calculations.” *See* Memorandum.

In each independent claim, while it can be said that “mathematical relationships” and/or “mathematical calculations” are inherent therein (e.g., “wherein each sample is represented by a bit string”), the Examiner has not made clear why the mere presence of a mathematical relationship or calculation within a limitation renders the entire claimed subject matter patent ineligible. No formula or equation is recited in these claims and the Examiner fails to identify where the claims recite a limitation directed to a particular “mathematical relationship[], mathematical formula[] or equation[], [and/or] mathematical calculation[].”

Accordingly, and based on the record above, we do not agree with the Examiner’s analysis that Appellant’s claim language recites patent ineligible

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subject matter based on the employment therein of mathematical relationships. We reverse the Examiner's rejection of claims 1–15 and 17 as “not directed to patent eligible subject matter.” Final Act. 2.

DECISION

The Examiner's rejection of claim 15 as being anticipated by Elder is affirmed.

The Examiner's rejection of claims 1–15 and 17 because the claimed invention is not directed to patent eligible subject matter is reversed.

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-IN-PART