UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
MANDEL, MONICA A

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte AARON MARKING, KENNETH GOELLER, and JEFFREY
BRUCE LOTSPIECH

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Appeal 2019-000528
Application 12/839,105
Technology Center 3600

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Before ROBERT E. NAPPI, ERIC S. FRAHM, and JOHN A. EVANS,
Administrative Patent Judges.

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's

final rejection of claims 13 through 21 and 23 through 79. We have

jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R.
§ 1.42(a). According to Appellant, Secure Content Storage Association LLC
is the real party in interest. Appeal Br. 2.

INVENTION

The invention is directed to a method of validating a memory device. Spec. Abstract. Claim 13 is illustrative of the invention and is reproduced below.

> 13. A method of validating a content memory device after coupling the content memory device to a playback device having a controller, the method performed using the controller, comprising:
>
> reading a unique data pattern from a region of the content memory device, the region having content memory device inherent random physical manufacturing defects identified in a defect map, the unique data pattern being a first data pattern written to the region and altered by the content memory device inherent random physical manufacturing defects in the region identified in the defect map; and
>
> validating the content memory device based at least in part upon the unique data pattern, the written data pattern, and the defect map.

EXAMINER'S REJECTIONS[2]

The Examiner rejected claims 13 through 21 and 23 through 79 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Final Act. 4–6.

The Examiner rejected claims 54 through 57, 68 through 71, and 73 under 35 U.S.C. § 112 second paragraph as being indefinite. Final Act. 6–8.

The Examiner rejected claims 13 through 20, 23 through 27, 30 through 37, 39 through 44, 47, 49 through 52, 54 through 57, 59, 61, 63

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[2] Throughout this Decision we refer to the Appeal Brief filed February 15, 2018 ("Appeal Br."); Final Office Action mailed June 14, 2017 ("Final Act."); and the Examiner's Answer mailed July 20, 2018 ("Ans.").

through 71, 73, and 75 through 79 under 35 U.S.C. § 103 as being unpatentable over Roberts (US 2006/0200414 A1; published Sept. 7, 2006) and Noble (US 6,782,458 B1; issued Aug. 24, 2004). Final Act. 8–29.

The Examiner rejected claims 21, 38, 48, 53, and 62 under 35 U.S.C. § 103 as being unpatentable over Roberts, Noble, and Suzuki (US 2002/0023248 A1; published Feb. 21, 2002). Final Act. 29–33.

The Examiner rejected claims 28, 29, 45, and 46 under 35 U.S.C. § 103 as being unpatentable over Roberts, Noble, and Ono (US 2002/0052053 A1; published May 2, 2002). Final Act. 33–34.

The Examiner rejected claims 58 and 72 under 35 U.S.C. § 103 as being unpatentable over Roberts, Noble, and Vishwanath (US 2005/0149759 A1; published July 7, 2005). Final Act. 35–36.

The Examiner rejected claims 60 and 74 under 35 U.S.C. § 103 as being unpatentable over Roberts and Noble. Final Act. 36–37.

ANALYSIS

Initially, we note Appellant presents arguments directed to objections to the Specification and the claims. These arguments are directed to petitionable issues and not an appealable issues. *See In re Schneider*, 481 F.2d 1350, 1356–57 (CCPA 1973) and *In re Mindick*, 371 F.2d 892, 894 (CCPA 1967). *See* also Manual of Patent Examining Procedure § 1002.02(c), item 4 and § 1201. Accordingly, we have not considered any of the issues raised by these arguments.

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Rejection under 35 U.S.C. § 101

PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the
Patent Act, which recites:

> Whoever 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.

There are, however, three judicially created exceptions to the broad
categories of patent-eligible subject matter in 35 U.S.C. § 101: "[l]aws of
nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank
Int'l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus
Labs., Inc.*, 566 U.S. 66, 70 (2012).

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*. *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);

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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 (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 (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 United States Patent and Trademark Office "USPTO" published revised guidance on the application of § 101. USPTO's *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Memorandum"). Under that guidance, we first determine 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)).

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.

DISCUSSION

The Examiner determined the claims are not patent eligible because they are directed to a judicial exception without reciting significantly more. Final Act. 4–6. Specifically, the Examiner finds the claims are directed to the abstract idea of data recognition and storage. Final Act. 4 (citing *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014)).

Appellant argues the claim is "not directed to an abstract idea or a generic computer performing conventional steps to implement the abstract idea, but instead a device that has interconnected physical and tangible elements that solves a technical problem." Appeal Br. 16. Further, Appellant argues that "claim 30 solves the technical problem of validating the content memory of a memory device, and it accomplishes this by using operations that modify the characteristics of the region of the memory device itself." Appeal Br. 16 (*DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). Further, Appellant asserts the Examiner has not established that the claimed elements are well known and conventional. Appeal Br. 25–26.

Appellant's arguments have persuaded us of error in the Examiner's rejection of independent claims 13, 30, 47, 61, and 75 under 35 U.S.C. § 101, because the record does not support the Examiner's determination that the claims do not recite an improvement in a computer related

technology.

Each of the independent claims recite limitations directed to reading a unique pattern (a data gathering or observation element), and validating a device based upon the unique pattern, the written data pattern and the defect map (a data analysis or evaluation element). Thus, the claims include limitations which recite an abstract mental process. However, the remainder of each independent claim recites that the validation is for a memory device, and that the unique pattern is read from a region of the memory device which has inherent and random defects that alter a data pattern written thereto which creates the unique data pattern. As such, the claims are directed to an improvement in a computer-related technology, i.e., providing the ability to verify the authenticity of the memory device.

We concur with Appellant that the claimed invention is necessarily rooted in computer technology and improves the operation of the computer network, as were the claims in *DDR Holdings*. In *DDR Holdings*, the claimed invention created a hybrid web page that combined advantageous elements from two web pages, bypassing the expected manner of sending a visitor to another party's web page, in order to solve the internet-centric problem of retaining website visitors. *DDR Holdings*, 773 F.3d at 1257–1259. Here the verification of the memory devices is to prevent the use of cloned memory devices, by using inherent random defects in the memory device in the validation process. *See* Specification para. 22. Thus, similar to *DDR Holdings*, the instant claims overcome a problem specifically arising in computer memory devices, solves it in a manner specific to the computer memory and, thus, are necessarily rooted in computer technology and improve the operation of the computer. As such, the independent claims,

and the claims which depend thereupon, recite patent-eligible subject matter. Accordingly, we do not sustain the Examiner's rejection of independent claims 13, 30, 47, 61, 75, and the claims which depend thereupon, under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter.

Rejection under 35 U.S.C. § 112

Appellant acknowledges the deficiency in claims 54 through 57, 68 through 71, and 73 and do not identify any error in the Examiner's rejection of these claims under 35 U.S.C. § 112. App. Br. 19. As such, there are no issues for us to decide with respect to this rejection and we sustain it *pro forma*.

Rejection under 35 U.S.C. § 103

Independent claims 13, 30, 47, 61, and 75

Appellant argues that the Examiner's rejection is in error as Roberts does not disclose a pattern written to a region having inherent defects, to produce a unique data pattern as claimed. Appeal Br. 22. Appellant argues that Noble teaches inherent defects in memory devices exist, but does not teach validation using a unique pattern as claimed. Appeal Br. 23–24. Further, Appellant argues

> even when combined, Roberts/Noble do not teach the notion of the controller writing data to a medium having inherent defects and using the data read back to validate the device. Noble teaches that inherent defects exist, but the medium of Roberts itself would also have inherent defects, yet Roberts still expressly teaches that the memory blocks be deliberately altered or purposefully corrupted.

Appeal Br. 24.

The Examiner finds that Roberts teaches validating by reading a

unique pattern from a memory region where the region has defects identified in a defect map, and the unique pattern being from a first data pattern written and altered by the defects in the region of memory. Final Act. 9 (citing Roberts ¶¶ 44, 45.) The Examiner finds that Noble teaches memory has inherent defects and that they are mapped. Final Act. 9 (citing Noble col. 6, ll. 23–30), Ans. 4. The Examiner finds it would have been obvious to the skilled artisan to use the inherent memory defects in the system of Roberts (Final Act. 9–10). Further, in response to Appellant's arguments, the Examiner states

> the Examiner does not see why Roberts cannot teach both inherent and deliberate defects. In fact, while Roberts does not explicitly recite inherent defects, one having ordinary skill in the art at the time the invention was made would know and as taught by Noble, that naturally occurring defects are commonplace in memory devices.

Ans. 4.

We concur with the Examiner's findings and are not persuaded of error by Appellant's arguments. Appellant's argument that the Examiner's rejection "cannot overcome the express teaching of Roberts to use deliberately altered or purposefully corrupted memory" is a teaching away argument and is not persuasive. "'A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.'" *Ricoh Co., Ltd. v. Quanta Computer, Inc.*, 550 F.3d 1325, 1332 (Fed. Cir. 2008) (quoting *Optivus Tech., Inc. v. Ion Beam Applications S.A.,* 469 F.3d 978, 989 (Fed. Cir. 2006)). A reference does not teach away if it merely

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expresses a general preference for an alternative invention from amongst options available to the ordinarily skilled artisan, and the reference does not discredit or discourage investigation into the invention claimed. *In re Fulton,* 391 F.3d 1195, 1201 (Fed. Cir. 2004). Here, we find no teaching in Roberts that using inherent defects would not work or should not be used. Further, we consider the manner in which the defect is created, either inherent or deliberately made, does not result in a non-obvious difference between the two system, rather is substitution one known type of defect for another. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). Accordingly, Appellant's arguments have not persuaded us of error in the Examiner's rejection of independent claim 13. Appellant did not present separate augments directed to similarly rejected claims 15, 16, 18, 23, 27, 30, 32, 33, 35, 39, 41, 44, 47, 49, 54 through 57, 59, 61, 63, 67 through 70, 73, 75, 76, 78, and 79. Accordingly, we sustain the rejection of these claims for the same reason as claim 13.

Dependent claims 14, 17, 19, 31, 34, 36, 37, and 77

Appellant argues on pages 25 and 26 of the Appeal Brief that the Examiner's rejection of dependent claims 14 and 31 is in error. Appellant argues that claims 14 and 31 recite that the written data pattern is also stored in the device memory and that teachings of Noble, which the Examiner relies upon to teach this limitation, merely teaches the defect list is stored in the device memory not the written pattern. Appeal Br. 25 (citing Final Act. 10 and Noble col. 6, ll. 29–30)

The Examiner has not responded to this argument by Appellant and the rejection cites to Noble col. 6, ll. 25–30 to teach this limitation. Final Act. 10. We have reviewed the cited teachings of Noble and agree with Appellant that it discusses device memory storing the defect list but not the written pattern. Accordingly, we do not sustain the Examiner's rejection of claims 14 and 31. We similarly do not sustain the Examiner's rejection of clams 17, 19, 34, 36, 37, and 77, which depend upon claims 14 and 31.

Dependent claims 20 and 37

Appellant argues on page 27 of the Appeal Brief that the Examiner's rejection of depend claims 20 and 37 are in error. Appellant argues that claim 20

> recites that the controller accesses the content memory device to retrieve the defect map itself. The Office Action indicates that this is disclosed by Roberts at [0044]-[0045], however, that portion of Roberts merely says that the defective program pattern is "known to the program" ... it does not say how that defective program pattern becomes known to the program.

Appeal Br. 27.

As discussed above, claim 37 is dependent upon claim 31, accordingly, we do not sustain the Examiner's rejection of claim 37. With regard to claim 20, we are not persuaded of error. While Roberts teaches that the pattern is known to the program, Noble in column 6, line 29 teaches that the defect list is stored on the media. Thus, we are not persuaded of error in the Examiner's rejection and sustain the rejection of claim 20.

Dependent claims 24, 40, 50, and 64

Appellant argues on page 27 of the Appeal Brief that the Examiner's rejection of depend claims 24, 40, 50, and 64 is in error. Appellant argues that these claims recite the expected data pattern is computed using the controller by altering the written data pattern using the defect map, whereas Roberts teaches comparing expected data pattern with error messages. Appeal Br. 27.

We are persuaded of error by Appellant's arguments. The Examiner's rejection identifies that Roberts teaches the limitations of claim 24. Final Act. 13 (citing Roberts ¶¶ 44 and 45.) The Examiner has not addressed Appellant's argument regarding altered data pattern vs error messages. We have reviewed the cited teachings of Roberts and do not find that the cited paragraphs teach the controller computes the pattern. Thus, we do not sustain the Examiner's rejection of claims 24, 40, 50, and 64.

Dependent claims 25, 42, 51, and 65

Appellant argues on page 28 of the Appeal Brief that the Examiner's rejection of depend claims 25, 42, 51, and 65 is in error. Appellant argues each of these claims recite a step of error correcting the unique data pattern and that Roberts does not teach this feature. Appeal Br. 28.

The Examiner cites to Roberts as teaching the error correction in paragraphs 22, 44, and 45. Further, in response to Appellant's arguments the Examiner states Roberts teaches the error correcting as "correlating the bits written onto the device with the defective program pattern is essentially error 'correcting.'" Ans. 5.

We have reviewed the cited teaching of Roberts and disagree with the Examiner that Roberts teaches the claimed error correction as claimed. Each

of the claims recite error correction as a separate step from the comparing the written data pattern to the unique data pattern. We consider the correlation of bits, discussed by the Examiner as meeting the claimed comparing written data to the unique pattern and not the error correction. Thus, we do not sustain the Examiner's rejection of claims 25, 42, 51, and 65.

Dependent claims 26, 43, 52, 66, and 71

Appellant argues on pages 28 and 29 of the Appeal Brief that the Examiner's rejection of dependent claims 26, 43, 52, 66, and 71 is in error. Appellant argues each of these claims recite that the location of the region is unknown to an unauthorized user of the content memory, and that the portion of Roberts cited by the Examiner does not teach this feature. Appeal Br. 28–29.

The Examiner responds by citing paragraph 45 of Roberts as teaching this disputed feature. Ans. 5. We have reviewed paragraph 45 of Roberts and do not find that Roberts discusses that the location of the region of the memory device, with known defects, is unknown to the user. Accordingly, we do not sustain the Examiner's rejection of claims 26, 43, 52, 66, and 71.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
13–21, 23–79	101	Eligibility		13–21, 23–79
54–57, 68–71, 73	112 2nd par	Indefiniteness	54–57, 68–71, 73	

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Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
13–21, 23–79	101	Eligibility		13–21, 23–79
13–20, 23–27, 30–37, 39–44, 47, 49–52, 54–57, 59, 61, 63–71, 73, 75–79	103	Roberts, Noble	13, 15, 16, 18, 20, 23, 27, 30, 32, 33, 35, 39, 41, 44, 47, 49, 54–57, 59, 61, 63, 67–70, 73, 75, 76, 78, 79	14, 17, 19, 24, 25, 26, 31, 34 36, 37, 40, 42, 43, 50, 51, 52, 64, 65, 66, 71, 77
21, 38, 48, 53, 62	103	Roberts, Noble, Suzuki	21, 38, 48, 53, 62	
28, 29, 45, 46	103	Roberts, Noble, Ono	28, 29, 45, 46	
58, 72	103	Roberts, Noble, Vishwanath	58, 72	
60, 74	103	Roberts, Noble	60, 74	
Overall Outcome			13, 15, 16, 18, 20, 21, 23, 27–30, 32, 33, 35, 38, 39, 41, 44–47, 48, 49, 53–63, 67–72, 73–76, 78, 79,	14, 17, 19, 24, 25, 26, 31, 34 36, 37, 40, 42, 43, 50, 51, 52, 64, 65, 66, 77

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