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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KOJI MIKAMI, YUICHI GYODA,
KOUICHIROU TSUJITA, and HIROYUKI ISHII

Appeal 2017-006871
Application 13/198,032¹
Technology Center 2800

Before JAMES C. HOUSEL, BRIAN D. RANGE, and
SHELDON M. McGEE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
decision rejecting claims 1–12. We have jurisdiction. 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is CANON
KABUSHIKI KAISHA. Appeal Br. 2.

STATEMENT OF THE CASE²

Appellants describe the invention as relating to “a decision method and a storage medium.” Spec. ¶ 1. In particular, the Specification indicates that the invention relates to an improved method of transferring a pattern onto a substrate (for example, a wafer). *Id.* at ¶ 2. The method involves deciding exposure conditions for the exposure apparatus, and the Specification states that exposure conditions are “the effective light source and the like.” *Id.* at ¶ 33. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of determining an exposure condition to be set in an exposure apparatus including an illumination optical system that illuminates a pattern including a plurality of pattern elements, and a projection optical system that projects the pattern onto a substrate, the method being executable by a processor and comprising:
 - a first step of setting a first line to be used to evaluate dimensions of images of the pattern elements on an image plane of the projection optical system;
 - a second step of setting a second line to be used to evaluate whether the images of the pattern elements are resolved on the image plane of the projection optical system;
 - a third step of obtaining a distance between intersections of the first line and contours of the images of the pattern elements by obtaining the image of the pattern formed on the image plane of the projection optical system;
 - a fourth step of determining whether there exist intersections of the second line and the contours of the images of the pattern elements to evaluate whether the images of the pattern elements are resolved;

² In this opinion, we refer to the Final Office Action dated September 22, 2015 (“Final Act.”), the Appeal Brief filed February 22, 2016 (“Appeal Br.”), the Examiner’s Answer dated January 25, 2017 (“Ans.”), and the Reply Brief filed March 26, 2017 (“Reply Br.”).

a fifth step of evaluating the obtained image of the pattern by setting a value of the distance obtained in the third step as an evaluation value upon the fourth step determining that no intersections exist, and setting an outlier different from the value of the distance obtained in the third step as the evaluation value upon the fourth step determining that the intersections exist;

a sixth step of determining the exposure condition based on an evaluation result obtained in the fifth step so that the image of the pattern formed on the image plane of the projection optical system satisfies a criterion for evaluation; and

a seventh step of outputting the exposure condition determined by the sixth step to a display device.

Appeal Br. 10 (Claims App.).

REJECTION

On Appeal, the Examiner maintains the rejection of claims 1–12 as unpatentable under 35 U.S.C. § 101. Final Act. 2.

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) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”)). After considering the evidence presented in this Appeal and each of Appellants’ arguments, we are not persuaded that Appellants identify reversible error. Thus, we affirm the

Examiner's rejections for the reasons expressed in the Final Office Action and the Answer. We add the following primarily for emphasis.

Appellants argue all claims as a group. We therefore limit our discussion to claim 1. All other claims stand or fall with that claim. 37 C.F.R. § 41.37(c)(1)(iv) (2013).

The Examiner rejects all claims on appeal under 35 U.S.C. § 101 as being directed to an abstract idea. The Examiner states that the claims on appeal are “directed to an abstract idea of setting, obtaining, determining and evaluating data and deciding exposure conditions for a lithographic apparatus based on the data which is then displayed.” Final Act. 2. The Examiner determines that the claims' recited steps do not actually adjust any lithographic exposure conditions in the real world. *Id.* at 2–3. Appellants do not persuasively dispute this determination.

Appellants argue that claim 1 is not abstract because the claimed subject matter does not fall within examples of abstract ideas provided by Patent Office guidance (Appeal Br. 5), because the claimed method is similar to claims held patent eligible in *Research Corp. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010) (*id.* at 5–6), and because the claimed method “contributes to precise formation of a pattern in lithography technology” (*id.* at 6) and are thus similar to the patent eligible claims of *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

To assess whether claim 1 is directed to an abstract idea, we apply the two part *Alice* framework. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). The first step of that framework is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* (citation omitted). If so, the second step is to consider the

elements of the claims “individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* In other words, the second step is to “search for an ‘inventive concept’—i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original) (citation and internal quotes omitted).

The U.S. Supreme Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). We therefore look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea while merely invoking generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

Here, the Examiner correctly applied step one of the *Alice* analysis in determining that claim 1 is directed to an abstract idea. Final Act. 2–3. In particular, claim 1 is directed to the recited abstract method of setting, obtaining, determining and evaluating data and deciding exposure conditions for a lithographic apparatus based on the data which is then displayed. *Id.* at 2. The Examiner explains that nearly all steps of claim 1 (recited steps 1 through 6) relate to a computer processor evaluating stored information. Ans. 3–4. The final recitation of claim 1 displays the exposure setting identified through steps 1 to 6. *Id.* at 3. Appellants do not persuasively dispute the Examiner’s characterization of the claims in this manner.

Notably, claim 1 does not recite any real world use of the recited identification or verification. Final Act. 2–3. Rather, claim 1 processes information then displays information on a screen. We thus agree with the Examiner that this processing of information is an abstract idea under prong one of the *Alice* analysis. See *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (holding claims directed to “a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions” were not patent eligible); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (holding that claims at issue were directed to abstract idea of collecting, displaying, and manipulating data).

Turning to the second step of the *Alice* framework, we agree with the Examiner that claim 1 does not recite any elements that are “significantly more” than the abstract idea itself. Final Act. 2. Rather, claim 1 recites a generic computer “processor” and “display device.” Use of a generic computer does not make a claim patent eligible. *Alice Corp. Pty.*, 134 S. Ct. 2360 (holding that method is ineligible even if recited in a system claim reciting generic computer).

Appellants’ argument that claim 1 is not analogous to any example provided by the Patent Office’s July 2015 guidelines (Appeal Br. 4–5) is not persuasive. Rather, claim 1 is similar to the claim of Example 5 of the July 2015 guidelines and is similar to claims our reviewing court determined to be not patent eligible in *Digitech Image Techs., LLC v. Electronics For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). In *Digitech*, the court determined that a method claim that determined information relating to a

color image and combined the data into a device profile was abstract because “nothing in the claim language expressly tie[d] the method to an image processor.” *Id.* Claim 1 is very similar to the not patent eligible claims of *Digitech* except that claim 1 here recites display of the finally computed information (i.e., “outputting . . . to a display device”). Output to a generic display device, however, is not enough under the second step of *Alice* to transform an abstract idea into patent eligible subject matter. *See, e.g., Elec. Power Grp. LLC*, 830 F.3d at 1354 (holding claims reciting “displaying” of various information patent ineligible).

Appellants’ argument that claim 1 usefully contributes to precision of lithography technology is also not persuasive. Appeal Br. 6–7. As explained above, Claim 1 does not recite any lithography step. The abstract idea of the claim is therefore not applied “to a new and useful end.” *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.”). Moreover, merely providing useful information to human users (for example, via “display”) is not enough to transform from an otherwise-abstract process into patent eligible subject matter. *Elec. Power Grp. LLC*, 830 F.3d at 1355.

Finally, claim 1 is distinguishable from the claims found patent eligible in the various cases cited by Appellants. For example, in *Research Corp.*, 627 F.3d at 868, our reviewing court determined that the claims at issue were directed to a process “for rendering a halftone image”—a tangible result that improved the computer display functionality. We also note that *Research Corp.* predates the Supreme Court’s decision in *Alice* and that Appellants quote a claim of the *Research Corp.* patents at issue that is *not*

used as an example in the Patent Office’s July 2015 Update. Each of the claims of Example 3 of the July 2015 Update explicitly recite “converting the binary image array to a halftoned image.” The Example 3 claims therefore differ from claim 1 because they provide a technological result.

Likewise, Claim 1 is distinguishable from *DDR*, *Enfish*, and similar decisions holding that claims were eligible where the claimed invention provided a technological improvement. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (holding that claims reciting computer processor for serving “composite web page” were patent eligible because “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks”); *Enfish*, 822 F.3d at 1338 (Fed. Cir. 2016) (holding that claims directed to self-referential table for computer database were patent eligible because claims were directed to an improvement in the functioning of a computer); *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017) (holding that claims directed to “an improved computer memory system” having many benefits were patent eligible). In contrast with the claims of these decisions, claim 1 only provides information output to a screen rather than providing a tangible technological improvement. While claim 1 relates to information processing that relates to later lithography, the future lithography does not improve the computer performing the information processing. The present fact pattern is thus more akin to, for example, that of *Elec. Power Grp. LLC* than it is to *Visual Memory LLC*. *See Elec. Power Grp. LLC*, 830 F.3d at 1354 (determining claims were abstract where “the focus of the claims is not on such an

improvement in computers in tools, but on certain independently abstract ideas that use computers as tools”).

Claim 1 is also distinguishable from claim 1 of *Amdocs (Israel) Ltd. V. Openet Telecom Inc.*, 841 F.3d 1288 (Fed. Cir. 2016). While claim 1 at issue in *Amdocs*, as quoted by Appellants (Reply Br. 4), appears broad on its face, our reviewing court construed claim 1’s recitation “to enhance the first network account[] record” narrowly. In particular, the court held that the term “enhance” required “‘in a distributed fashion’ and . . . ‘close to the source’ of network information requirements” that, in turn, provided an unconventional and tangible improvement to prior network systems. *Amdocs (Israel) Ltd.*, 841 F.3d at 1300. Appellants have not directed us to any recitation of Appellants’ claim 1 that similarly would limit the scope of the claim as requiring concrete technological requirements.

In sum, Appellants’ arguments do not establish that the Examiner erred in rejecting claim 1 as patent ineligible because the claimed subject matter does not provide an output that results in a technological improvement and does not recite significantly more than an abstract idea.

DECISION

For the above reasons, we affirm the Examiner’s rejections of claims 1–12.

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

AFFIRMED