UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/809,774	07/27/2015	Oksen Toros Baris	5222-30800/P4473	2123

61507 7590 12/27/2019

Entropy Matters LLC
P.O. Box 2250
NEW YORK, NY 10021

EXAMINER	
BRYANT, REBECCA CAROLE	

ART UNIT	PAPER NUMBER
2877	

MAIL DATE	DELIVERY MODE
12/27/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte OKSEN TOROS BARIS and RAGHAV BABULNATH

Appeal 2019-000094
Application 14/809,774
Technology Center 2800

Before ROMULO H. DELMENDO, DONNA M. PRAISS, and MERRELL C. CASHION JR., *Administrative Patent Judges*.

CASHION, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's Final Rejection of claims 1–20, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as KLA-Tencor Corp. Appeal Br. 2.

STATEMENT OF THE CASE

The invention generally relates to systems and methods for inspecting a wafer after performing multiple process steps on the wafer to determine which of the process steps corresponds to the defects detected by the inspection. Spec. 1. The Specification discloses that prior art techniques for detecting defects in a wafer monitor each process step for excursions and performance using a single inspection step, covering only one-to-one correlations between process and inspection. *Id*. at 2. That is, each inspection step is correlated to its one respective process step, which makes the wafer processing time consuming and inefficient. *Id*. at 2–3; *see* Application Figure 7. According to the Specification, such an approach can generate different results in the different inspection/review processes for each process step. *Id*. at 2. Current methodologies rely on these simple correlations in which any result from an inspection tool can be directly used for understanding the process issues from a process tool. *Id*. The invention seeks to provide a technique for detecting defects in a wafer that are less time-intensive and more efficient than the prior art's technique. *Id*. at 3. Claim 1 is illustrative of the subject matter claimed and is reproduced below (formatting added):

> 1. A system configured to detect defects on a wafer, comprising:
>
> an optical subsystem comprising at least a light source and a detector, wherein the optical subsystem is configured to direct light generated by the light source to the wafer and to detect light from the wafer with the detector during an inspection process perforn1ed on the wafer to thereby generate output responsive to the light from the wafer, wherein the inspection process is performed after at least first and second

process steps have been performed on the wafer, wherein inspection of the wafer is not performed between the first and second process steps, wherein first patterned features in a first portion of a design for the wafer are formed on the wafer in the first process step, wherein second patterned features in a second portion of the design for the wafer are formed on the wafer in the second process step, wherein the first and second portions of the design are mutually exclusive in space on the wafer, and wherein the first and second patterned features have non-overlapping positions in the x and y directions; and

one or more computer subsystems configured for:

receiving the output generated by the detector responsive to the light detected by the detector;

detecting defects on the wafer based on the output;

determining positions of the defects with respect to the first and second patterned features in the first and second portions of the design based on the non-overlapping positions of the first and second patterned features in the x and y directions;

determining the portion of the design that the defects are positioned on or in using information about which of the first and second patterned features are included in which of the first and second portions of the design thereby correlating the defects to the first and second portions of the design that correspond to the first and second process steps; and

associating different portions of the defects with the first or second process step based on the positions of the defects with respect to the first and second patterned features in the first and second portions of the design by correlating the defects to the first and second process steps based on results of said correlating the defects to the first and second portions of the design, wherein the

> one or more computer subsystems comprise one or more processors executing instructions from a memory medium.

Independent claim 20 is directed to a method of acquiring three-dimensional ultrasound data essentially using the system of claim 1. Independent claim 19 is directed to a non-transitory computer-readable medium having a program code (software) readable and executable by a processor to perform a method corresponding to that of claim 1.

Appellant requests review of the following rejections maintained by the Examiner:

I. Claims 1–20 rejected under 35 U.S.C. § 101, as directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.

II. Claims 1–20 rejected under 35 U.S.C. § 103 as unpatentable over Tanaka (US 2003/0054573 A1, published March 20, 2003).

ANALYSIS

Rejection under 35 U.S.C. § 101 (ineligible subject matter)[2]

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).

[2] We limit our discussion to independent claims 1, 19, and 20.

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 concepts (*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 (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 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.* (internal 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 (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.* (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.*

The PTO recently published revised guidance on the application of 35 U.S.C. § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (the "Guidance"), updated in October 2019.[3] Under the Guidance, we first look to whether the claim recites:

[3] We note that the Guidance was not available to the Examiner and Appellant during the prosecution of the instant Application.

(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), (designated as Step 2A (Prong 1) in the Guidance); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)) (designated as Step 2A (Prong 2) in the Guidance).

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 are 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 (designated as Step 2B in the Guidance).

Step 2A (Prong 1) and Step 2A (Prong 2) are used for the analysis under the first step of *Alice*, while Step 2B informs the analysis under the second step of *Alice*.

Determination of Claims' Statutory Category

Before any consideration as to whether a claim is directed to a patent ineligible subject matter, such as an abstract idea, we must first determine if the claim falls under a statutory category, a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101.

There is no dispute between Appellant and the Examiner that the claims fall under a statutory category under 35 U.S.C. § 101. *See generally* App. Br.; Final Act. 4.

For completeness, we note that independent claim 1 is a system claim comprising an optical subsystem (light source, detector) and one or more computer subsystems. We interpret claim 1 as falling under the statutory category of "machine," i.e., a structure that can be termed a machine under 35 U.S.C. § 101.

Independent claim 19 recites a non-transitory computer-readable medium, which the Specification describes as "a magnetic or optical disk, or a magnetic tape or any other suitable non-transitory computer-readable medium known in the art." Spec. 29. Manufactures are articles that result from the process of manufacturing, i.e., they were produced "from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Samsung Elecs. Co. v. Apple Inc*., 137 S. Ct. 429, 435 (2016) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308, (1980)); *In re Nuijten*, 500 F.3d 1346, 1356–57 (Fed. Cir. 2007). Manufactures also include "the parts of a machine considered separately from the machine itself." *Samsung Elecs.*, 137 S. Ct. at 435 (quoting 1 W. Robinson, *The Law of Patents for Useful Inventions* § 183, p. 270 (1890)). Therefore, we interpret claim 19 as falling under the statutory category of "manufacture" under 35 U.S.C. § 101.

Independent claim 20 recites a method of detecting defect on a wafer using the system of claim 1. We interpret claim 20 as falling under the statutory category of a "process."

Having established that the claim falls in a statutory category, we now follow the Guidance to analyze claims 1, 19, and 20 to determine if they are directed to a patent ineligible subject matter.

Determination of Patent Subject Matter Eligibility

Applying the guidance set forth in the Guidance, we conclude that claims 1–20 do recite patent-eligible subject matter.

a. *Alice* Step 1 (Office Revised Step 2A (Prong 1))

The Examiner finds that the claims are directed to an abstract idea of data manipulation with no significant differentiation from a mental process. Final Act. 10; *see generally* Ans.

Under Step 2A (Prong 1) of the Guidance, we must first determine whether the claims include any limitations that fall within the subject matter groupings of abstract ideas enumerated in Section I of the Guidance. Guidance, 84 Fed. Reg. at 51–54.

As we note above, claim 1 recites a system (apparatus) comprising an optical subsystem having a light source and a detector, and one or more computer subsystems. Claim 1 also recites that the computer subsystem comprises one or more processors executing instructions from a memory medium. The computer subsystem is described in the Specification as encompassing any device having one or more processors that executes instructions from a memory medium. Spec. 10–11. In other words, the computer subsystem encompasses a general purpose computer.

The computer subsystem is configured to perform a number of method steps that merit consideration to determine whether the claim recites any judicial exception to patent eligibility. We consider the following steps

in our deliberations.

a. The step of detecting defects on the wafer based on the detector output

This step is recited at a high level of generalization. The Specification describes that this step may involve comparing the detector's output to a threshold to identify (1) any output having one or more values above the threshold as a potential defect (2) any output not having one or more values above the threshold as not a potential defect. Spec. 18.

Comparing data is a step that can be performed in the human mind. As such, this step is a mental step.

b. The step of determining positions of the defects with respect to the first and second patterned features in the first and second portions of the design

The step of determining positions of the defects is recited at a high level of generalization. The Specification describes that this step involves optically determining the position of defects with respect to portions of the designs where they are located by overlaying design files from both process steps with detected defect locations. Spec. 20–21.

Overlaying designs on a wafer with detected defects to visually determine the location of the defects is a step that can be performed in the human mind. As such, this step is also a mental step.

c. The step of determining the portion of the design that the defects are positioned on . . .

This step is recited at a high level of generalization. The step recites "correlating the defects to the first and second portions of the design that correspond to the first and second process steps." The Specification describes that this step involves correlating defect review images to design

to correlate each sampled and reviewed defect with design. Spec. 22.

Correlating by reviewing images is a step that can be performed in the human mind. As such, this step is also a mental step.

> *d. The step of associating different portions of the defects with the first or second process step based on the positions of the defects with respect to the first and second patterned features in the first and second portions of the design by correlating the defects to the first and second process steps based on results of said correlating the defects to the first and second portions of the design.*

This step is recited at a high level of generalization. The step recites "correlating the defects to the first and second process steps based on results of said correlating the defects to the first and second portions of the design." The Specification describes that this step involves correlating the defectivity back to the different process steps by correlating the defects to different portions of the design that correspond to the different process steps. Spec. 23.

Correlating the defects to the respective portions of the wafer is a step that can be performed in the human mind. As such, this step is also a mental step.

Independent claims 19 (non-transitory computer-readable medium) and 20 (method) recite the same or similar method steps and, thus, our analysis with respect to claim 1 is also applicable to these claims.

Accordingly, we conclude that claims 1, 19, and 20 recite an abstract idea, i.e., a mental process, and thus recites a judicial exception for the reasons the Examiner presents and we give above.

c. *Alice* Step 1 (Office Revised Step 2A (Prong 2))[4]

Having determined that the subject matter of claims 1, 19, or 20 is directed to an abstract idea, we now consider under Step 2A (Prong 2) of the Guidance whether the claim as a whole integrates the recited judicial exception into a practical application of the exception. Guidance, 84 Fed. Reg. at 54. "A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." *Id.* When a claim recites a judicial exception and fails to integrate the exception into a practical application, the claim is "directed to" the judicial exception. *Id.* at 51.

Independent claim 1 principally recites the additional elements[5] of an optical subsystem (light source, detector) and one or more computer subsystems.

To the extent that the Examiner regards the additional elements to not "amount to exceptionally more since the process tools, light source and detector are well known components in wafer manufacturing and inspection," we disagree. *See* Final Act. 10; *see also* Ans. 4–5. As we explain in our analysis below, the additional elements reflect an

---

[4] 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 generally* Guidance, 84 Fed. Reg. 50.

[5] We use the term "additional elements" for "claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception." *See* Guidance, 84 Fed. Reg. at 55 n.24.

improvement to a technology, and thus, the independent claims integrate the recited mental process into a practical application when viewed as an ordered combination.

A claim may integrate the judicial exception into a practical application when, for example, it reflects an improvement to technology or a technical field. Guidance, 84 Fed. Reg. at 55 n.25 (citing MPEP § 2106.05(a)). For instance, the Federal Circuit found claims eligible when they were directed to a "particular configuration of inertial sensors and a particular method of using the raw data from the sensors," which improved the accuracy of calculating an object's position and orientation. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (cited in MPEP § 2106.05(a)(II)(vii)). Although the claims used mathematical equations, the Federal Circuit in *Thales* explained that "[t]he mathematical equations are a consequence of the arrangement of the sensors and the unconventional choice of reference frame in order to calculate position and orientation." *Id.* The claimed system eliminated "many 'complications' inherent in previous solutions" for determining an object's position and orientation. *Id.* at 1348.

On the other hand, a claim does not integrate the abstract idea into a practical application when it merely adds insignificant extra-solution activity or generally links the judicial exception's use to a particular technological environment or field. Guidance, 84 Fed. Reg. at 55 n.32 (citing MPEP § 2106.05(h)). For example, in *Flook*, the claim used a mathematical formula to calculate a numerical limit on a process variable in the catalytic chemical conversion of hydrocarbons. *Flook*, 437 U.S. at 586 (cited in MPEP § 2106.05(h)). The Supreme Court rejected the argument that the

claim was made eligible through its limitations to the petrochemical field and oil refining. *Id.* at 589–91. Reflecting on this case, the Supreme Court in *Kappos* commented that "*Flook* established that limiting an abstract idea to one field of use or adding token post solution components did not make the concept patentable." *Kappos*, 561 U.S. at 612.

We disagree with the Examiner that the claimed invention uses "no particular configuration." Ans. 5. We also agree with Appellant that the claimed invention is similar to the facts in *Thales*. Appeal Br. 11–12.

In *Thales*, the Federal Circuit found claims eligible when they were directed to a "particular configuration of inertial sensors and a particular method of using the raw data from the sensors," which improved the accuracy of calculating an object's position and orientation. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (cited in MPEP § 2106.05(a)(II)(vii)). Although the claims used mathematical equations, the Federal Circuit in *Thales* explained that "[t]he mathematical equations are a consequence of the arrangement of the sensors and the unconventional choice of reference frame in order to calculate position and orientation." *Id*. The claimed system eliminated "many 'complications' inherent in previous solutions" for determining an object's position and orientation. *Id*. at 1348.

Specifically, the invention involves an optical subsystem configured to perform an inspection process *after* at least first and second process steps have been performed on the wafer and *not*, between the first and second process steps. The Specification describes that this configuration enables reduction of inspection steps for consecutive fabrication process steps and, in turn, reduces the amount of time needed for inspection processes in multi-steps wafer fabrication processes. Spec. 11, 26 and Application Figure 4.

The Specification also describes that the invention as monitoring to detect defects that, when correlated against wafer designs, associates the defects with the first or second process step based on the positions of the detected defects with respect to the first and second patterned features in the first and second portions of the design. Spec. 13–14, 26. That is, the invention improves the optical subsystem by configuring it so it can operate without inspecting between intervening wafer processing steps and so it can use a single inspection step to identify and associate defects that correspond to each of the wafer processing steps performed. Spec. 14 ("associate different defects with different process steps"). Appellant, thus, is concerned with solving the technical problem of identifying the defects caused by the various wafer processing steps to "mitigate the risk of the process tool going down thereby preventing extreme costs." *Id*. at 26. Appellant's described solution overcomes the limitations of existing approaches. *Id*. at 1–3.

Appellant's described technical solution is required by the independent claims. For instance, the independent claims recite detecting defects on the wafer based on the output from the optical subsystem and determining positions of the defects with respect to the first and second patterned features in the first and second portions of the design based on the non-overlapping positions of the first and second patterned features in the x and y directions. The independent claims also recite determining the portion of the design that the defects are located by correlating the defects to the first and second portions of the design corresponding to the first and second process steps and associating different portions of the defects with the first or second process step by correlating the defects to the first and second process steps based on results of the correlation. These claim limitations

address the shortcomings of the prior art techniques. Spec. 26.

The independent claims recite a practical application because the claimed system, non-transitory computer-readable medium, and method improve the operation of the optical subsystem and the wafer processing tool. Spec. 22–23. Here, as in *Thales*, the abstract idea of a mental process "does not doom the claims to abstraction." *Thales*, 850 F.3d at 1349. Instead, the abstract idea recited in the independent claims is "a consequence of the arrangement of" the system's optical subsystem and how it is used to determine defects on a wafer. *See id.*

For all these reasons, the claimed invention uses the recited mental process to improve a system, a non-transitory computer-readable medium and a method to detect defects on a wafer.

Because we find the claims are not directed to patent ineligible subject matter, we need not proceed to determine whether the claims provide an inventive concept. *See* Guidance, 84 Fed. Reg. at 56 (discussing "*Step 2B: If the Claim Is Directed to a Judicial Exception, Evaluate Whether the Claim Provides an Inventive Concept*").

Accordingly, we reverse the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101 for the reasons given above and presented by the Appellant.

Rejection under 35 U.S.C. § 103

Claim 1[6]

The Examiner finds that Tanaka discloses a system that differs from claim 1 in that Tanaka does not disclose a light source and detector as

[6] We limit our discussion to claim 1. Our determination with respect to claim 1 applies to all rejected claims.

components in the optical subsystem to perform the inspection process. Final Act. 13. The Examiner determines that it would have been obvious to one of ordinary skill in the art to have a light source and detector for wafer inspection processing since these are well understood in the art that provide a reliable, well known manner of inspecting wafers for defects. *Id*. at 13–14. The Examiner further determines that the limitations "wherein the first patterned features in a first portion . . . wherein second patterned features . . . are formed on the wafer in the second process step" are not limiting on the system to detect defects. *Id*. at 14. In addition, the Examiner determined that the computer sub-system of Tanaka's system performs or can perform the claimed data analysis steps. *Id*. at 11–12, 14.

Appellant argues that Tanaka does not disclose performing different process steps on different portions of the wafer that do not overlap in the x and y directions. App. Br. 43. According to Appellant, Tanaka does not disclose forming patterned features in different sections of the wafer using different processes and, thus, the first and second patterned features formed by Tanaka's lithographic process steps would be formed in all sections of the wafer that are being inspected. *Id*. Instead, Appellant contends that Tanaka's first and second patterned features are formed in the same process because Tanaka does not disclose otherwise. *Id*. at 44. Appellant also contends that Tanaka's patterned features would overlap in the x and y directions because, "if an etch process step is performed on an entire wafer, all features formed in that etch process step are either the first patterned features or the second patterned features as presently claimed but not the first and second patterned features as presently claimed. *Id*. at 46. Appellant refers to Exhibit A, reproduced below and modified to

individually label the figures within the exhibit.

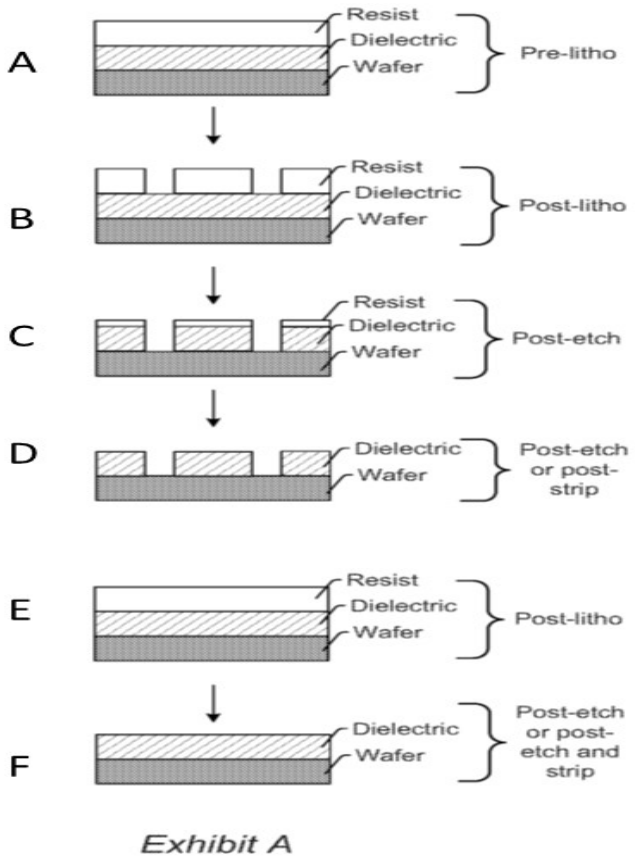

Exhibit A

The Figures in Exhibit A show the steps of a basic lithography process. *Id*. at 46.

Referring to Exhibit A, Appellant argues that the post-etch step (Figure C) and post-etch or post-strip step (Figure D) transfer the patterned features from the resist to the patterned features of the underlying dielectric material and, thus, the patterned features overlap in the x and y directions. *Id*. at 46–47. Appellant also asserts that no pattern is transferred to the exposed wafer area (trench). *Id*. at 49.

Appellant's arguments point to reversible error in the Examiner's determination of obviousness.

The Examiner asserts that "[t]he trenches and lines are certainly

distinguishable by coordinates in the x and y directions, despite the process that creates them relying upon the same underlying materials." Ans. 7. However, as Appellant argues, the Examiner's assertion does not address the fact that there are no patterned features transferred or formed on the wafer surface at the bottom of the trench after performing the post etch and the post etch/post-strip steps. App. Br. 46–49. Thus, the Examiner has not explained adequately how Tanaka teaches forming first and second patterned features having non-overlapping positions in the x and y directions. Nor does the Examiner direct us to any portion of Tanaka that teaches or suggests forming first and second patterned features having non-overlapping positions in the x and y directions.

Accordingly, we reverse the Examiner's rejection of claims 1–20 under 35 U.S.C. § 103 for the reasons given above and presented by the Appellant.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–20	101	Ineligible subject matter		1–20
1–20	103	Tanaka		1–20
Overall Outcome				1–20

REVERSED