

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**RUDOLPH TECHNOLOGIES, INC.,**  
*Appellant*

v.

**CAMTEK, LTD.,**  
*Appellee*

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2015-1418

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. 95/001,874.

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Decided: December 22, 2016

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DANIEL W. McDONALD, Merchant & Gould P.C.,  
Minneapolis, MN, argued for appellant. Also represented  
by RACHEL C. HUGHEY, ROBERT A. KALINSKY.

DAVID LEON BILSKER, Quinn Emanuel Urquhart &  
Sullivan, LLP, San Francisco, CA, argued for appellee.

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Before NEWMAN, REYNA, and STOLL, *Circuit Judges*.

Opinion for the court filed PER CURIAM.

Opinion dissenting-in-part filed by *Circuit Judge*  
REYNA.

PER CURIAM.

Rudolph Technologies, Inc. (“Rudolph”) appeals an *inter partes* reexamination decision of the U.S. Patent and Trademark Office Patent Trial and Appeal Board (“Board”). The Board affirmed the examiner’s decision that rejected claims 1–3, 6, 7, 9–11, 14, and 17–19 of U.S. Patent No. 7,729,528 (the “’528 patent”) as obvious. The Board rejected on new grounds claims 30–34 and 36 of the ’528 patent as obvious. We *reverse* the Board’s rejection of claims 9–11 as obvious. We *affirm* the Board’s obviousness determinations for claims 1–3, 6, 7, 14, and 17–19 on original grounds as supported by substantial evidence. We *dismiss* for lack of jurisdiction Rudolph’s appeal as to the newly rejected claims.

#### BACKGROUND

The ’528 patent describes systems and methods for inspecting substrates, such as silicon wafers, used to fabricate computer chips or “die.” A substrate can consist of an individual die, a plurality of die, one portion of an individual die, or portions of an individual die. *See generally* claim 1. The claims are directed to using a visual inspection device for visually inputting multiple known good quality substrates and using a microprocessor to train the system and develop a model of a good quality wafer. ’528 Patent col. 7 ll. 5–8, 13–16. The visual inspection device may be any type of camera capable of high-resolution imaging. *Id.* cols. 9–10 ll. 67–01. By creating a model from imaging multiple substrates, the model can be used to inspect substrates of unknown quality to distinguish good quality substrates from defective substrates. The inspection device accounts for color and other visual variations that could produce false negatives if a one-to-

one comparison is used. *Id.* col. 8, l.55–col. 9 l. 42, col. 14 ll. 28–60. A gray scale is used for each pixel in the camera image, providing a value from 0 to 255 to indicate variation from pure black to pure white. *Id.* col. 14 ll. 47–53. A mean may be determined from the pool of substrates. *Id.* col. 13 ll. 13–19, col. 14 ll. 47–49. Standard deviations of the gray scale value of each pixel may also be determined from the pool. *Id.* col. 14 ll. 54–60. Acceptable variations may be adjusted based on viewing additional substrates. *Id.* col. 14 ll. 28–67.

Once a model of a good quality wafer is developed, substrates of unknown quality are inspected by the inspection device in a single inspection phase. The unknown quality substrate images are compared to the model to determine their quality. *Id.* cols. 15–18 ll. 56–21. If the model and the inspected substrate match, then the inspected substrate passes inspection; if they do not match, then the inspected substrate fails inspection. *Id.* col. 7 l.54–col. 8 l. 15.

The '528 patent has 53 claims, with independent claims 1, 9, 14, 30, and 32 being relevant to this appeal.

Claim 1 recites a “visual inspection device for visually inputting a plurality of known good quality substrates during training.” Claim 1 does not recite “training a model,” but the claim does reference “a microprocessor having processing and memory capabilities for developing a model of good quality substrate and comparing unknown quality substrates to the model.”

Claim 9 recites “training a model as to parameters of a good substrate via optical viewing of multiple known good substrates” and “inspecting the unknown quality substrates using the model.” Both claims 1 and 9 disclose the use of multiple substrates.

Claim 14 recites “a controller for comparing pixel data for unknown quality substrates to a model of a good

quality substrate.” Unlike claims 1 and 9, claim 14 does not disclose forming a model through multiple substrates. Also, claim 14 does not recite the “training” or “training a model” limitations.

Claims 30 and 32 recite using at least two substrates to create a model. Claims 30 and 32 do not recite the “training” limitation.

All claims recite an “illuminator,” a method for “illuminating,” or a means for “illuminating” the substrate or a portion of the substrate during inspection.

#### Prior Art References

In the *inter partes* reexamination proceeding, the examiner relied on two references: U.S. Patent No. 5,982,921 (“Alumot”) and U.S. Patent No. 5,298,963 (“Moriya”). *See, e.g.*, J.A. 4–5, 1290–1303.

Alumot describes a system for inspecting individual die on semiconductor wafers. Alumot identifies defective die by comparing an inspected die to a reference pattern. Alumot teaches that inspection occurs in two phases and discloses that “it is contemplated, however, that the invention, or features thereof, could also be embodied in the apparatus which effects only the first examination or only the second examination.” J.A. 385. Alumot discloses that the reference pattern can be created using “at least one” reference:

As also indicated above, during the Phase I examination (and also the Phase II examination), the pattern of one die D, serving as the inspected pattern, is compared with the light pattern of *at least one* other die, serving as the reference pattern, to determine the likelihood of a defect being present in the inspected pattern.

Alumot col. 8 ll. 37–43 (emphasis added).

Alumot further teaches that a comparator (i.e., Comparator 77) receives data about the reference pattern from a memory storing data about the reference (i.e., Reference Die Memory 75) and data about the die under inspection. J.A. 341, 376. The comparator then compares the two data items to determine whether the die is potentially defective. The comparison is done pixel by pixel. J.A. 341, 376. The reference image or pattern may therefore be a pattern on another like article (e.g., a die-to-die comparison), another like pattern on the same article (repetitive-pattern comparison), or data stored in a database (die-to-database comparison):

Instead of using, as a reference to be compared with the data derived from the inspected article, data generated from real images of another like article (in the *die-to-die* comparison), or of another like pattern on the same article (*repetitive pattern* comparison), the reference data may be generated from simulated images derived from a database; such a comparison is called a *die-to-database* comparison.

Alumot col. 27 ll. 45–51 (emphases added); *see also* J.A. 1291.

Moriya discloses another system for inspecting the surface of semiconductor wafers. J.A. 303–21. In particular, Moriya teaches using an illuminator to provide illumination to a moving substrate and a camera for capturing still images of the moving substrate during inspection of the substrate's surface. *See, e.g.*, Moriya col. 4 ll. 32–40, col. 7 ll. 57–66, col. 8 ll. 22–38.

#### Procedural History

In 2012, Camtek Ltd. (“Camtek”) requested *inter partes* reexamination of the ’528 patent. The examiner rejected claims 1–3, 6, 7, 9–11, 14, and 17–19 as obvious over Alumot in view of Moriya and rejected claims 30–34

and 36 as anticipated by Alumot. J.A. 1290–1303. On appeal, the Board affirmed the examiner’s rejection of claims 1–3, 6, 7, 9–11, 14, and 17–19 as obvious. J.A. 10–11. The Board further rejected claims 30–34 and 36 on new grounds as obvious over Alumot. J.A. 15–16, 19–21.

The Board placed Rudolph on notice that the newly rejected claims were not final rejections. The Board advised Rudolph that it had to take further action if Rudolph wished to appeal the new grounds on which the obviousness decision was based:

Under 37 C.F.R. § 41.77(b), our decision includes a new ground of rejection. That section provides that “a new ground of rejection . . . shall not be considered final for judicial review.” That section also provides that Patent Owner, WITHIN ONE MONTH FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal proceeding as to the rejected claims . . . .

J.A. 21 (emphasis in original). According to the Board’s instructions, Rudolph was required to either reopen prosecution or request a rehearing if it wished to appeal the new-grounds rejections.

Rudolph appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(b).

#### STANDARD OF REVIEW

During a reexamination proceeding, the presumption of patent validity does not apply, and a petitioner may prove obviousness invalidity by preponderant evidence. *Q. I. Press Controls, B.V. v. Lee*, 752 F.3d 1371, 1379 (Fed. Cir. 2014). A patentee can demonstrate error by showing that the Board either reached an incorrect conclusion on obviousness or based its obviousness determination on

incorrect factual predicates. *See In re Giannelli*, 739 F.3d 1375, 1378 (Fed. Cir. 2014).

Obviousness under 35 U.S.C. § 103 is a question of law based on underlying findings of fact. *Flo Healthcare Sols., LLC v. Kappos*, 697 F.3d 1367, 1375 (Fed. Cir. 2012) (citing cases). We review the Board’s legal determinations de novo and factual findings for substantial evidence. *See In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004). “Substantial evidence is more than a mere scintilla, and such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Ad Hoc Shrimp Trade Action Comm. v. United States*, 618 F.3d 1316, 1321 (Fed. Cir. 2010) (citations omitted).

During reexamination, the Board must construe claims giving them their broadest reasonable interpretation consistent with the specification. *In re Rambus, Inc.*, 753 F.3d 1253, 1255 (Fed. Cir. 2014). The Board’s interpretation of disputed claim language must be reasonable. *In re Morris*, 127 F.3d 1048, 1055 (Fed. Cir. 1997). When findings of fact extrinsic to the patent are not at issue, we review de novo the Board’s determination of the broadest reasonable interpretation of the claims. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2134–35 (2016).

#### DISCUSSION

Rudolph appeals the Board’s decision that claims 1–3, 6, 7, 9–11, 14, 17–19, 30–34, and 36 are obvious under 35 U.S.C. § 103. Rudolph does not separately challenge the Board’s decision on the dependent claims. Therefore, we review the Board’s decision on the independent claims only.

#### Independent Claims 1, 9, and 14

Rudolph’s primary argument concerns Alumot’s die-to-die comparison description, which discloses comparing the pattern of an inspected die to the pattern of “at least one” other die. Alumot col. 5 ll. 24–29; *see also* J.A. 9–11.

Rudolph argues that the Board erred in interpreting “at least one” to mean either multiple one-to-one die comparisons or comparing multiple die patterns collectively. Rudolph argues that the Board erred in determining that both possibilities exist. Rudolph argues that the language “at least one” modifies the phrase “serving as the reference pattern,” which is singular and denotes only one-to-one comparisons. Rudolph cites the following passage and contends that the phrase “at least one” discloses singular, not multiple, comparisons:

In this manner, different dies on the same wafer are continuously scanned to produce the scattered light collected by the light collectors 42 (or 42', FIGS. 6a–8a) so as to enable a die-by-die comparison to be made of each die, called the inspected die, with another die, called the reference die, to produce an indication of the probability of a defect in the inspected die.

Alumot col. 9 ll. 3–9.

Rudolph also contends that Alumot does not disclose a model, training a model, or using a microprocessor for developing a model. Rudolph argues that Alumot’s die-to-database comparison is not a model based on images from multiple substrates; rather, it is a purely theoretical disclosure based on mathematics.

Rudolph suggests that Alumot criticizes as inefficient the inspection of patterned wafers using images of patterns, and that Alumot characterizes the use of substrate images for inspection as “extremely slow.” Alumot col. 1 l. 34.

Rudolph also argues that the Board failed to define the level of ordinary skill in the art.

Camtek responds that the Board’s conclusions on obviousness are supported by substantial evidence. Camtek argues that the Board’s analysis of the “at least one”

language is consistent with the teaching of Alumot and comports with the understanding of a skilled artisan that the phrase contemplates using more than one die as a reference for comparisons. Camtek contends that Alumot's reference-pattern disclosure corresponds to the claimed "model" because the reference pattern is created using the intensities of individual pixels from an image of the reference die with a classification type for each pixel. Camtek also rejects the notion that Alumot teaches away from the use of imagery during die inspections. Finally, Camtek argues that Rudolph fails to show prejudice from any failure by the Board to define the level of ordinary skill in the art.

Rudolph is correct with respect to claim 9. Claim 9 requires "training a model as to parameters of a good substrate via optical viewing of multiple known good substrates." '528 patent col. 21 ll. 60–61.

It is undisputed that Alumot does not teach training a model using multiple known good substrates. Alumot merely states: "the pattern of one die D, serving as the inspected pattern, is compared with the light pattern of at least one other die, serving as the reference pattern." *Alumot* col. 8 ll. 39–41. Even the Board found that "Alumot does not indicate clearly whether [its] multi-die comparison . . . involves (1) multiple one-to-one die comparisons as Patent Owner contends or (2) comparing multiple patterns collectively to an inspected die as Requestor contends." J.A. 13. Nonetheless, the Board concluded, without any evidentiary support, that "skilled artisans would understand that there are only two possibilities to compare a die's pattern with that of multiple other dies in Alumot: the comparison is either done individually on a die-by-die basis (i.e., multiple one-to-one comparisons) or collectively (i.e., plural-to-one comparison)" and, as such, Alumot renders obvious "training a model as to parameters of a good substrate via optical

viewing of multiple known good substrates.” ’528 patent col. 21 ll. 60–61.

For the Board to have found that the “at least one other die” disclosure in Alumot suggests multiple-die comparison is one thing. But extrapolating this disclosure even further, to find that Alumot suggests training a composite model, is quite another, requiring more inferences than are justified considering the sum and substance of Alumot. “A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966)). Indeed, one must “be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be [modified] to produce the claimed invention.” *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1368 (Fed. Cir. 2012) (quoting *Inogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008)). Because the Board relied on no evidence for its determination that one of ordinary skill would have known of training a model using multiple dies as one of two ways to compare an inspected light pattern to that of “at least one other die,” substantial evidence does not support the factual findings underlying its obviousness conclusion for claim 9 and the claims depending from it. Accordingly, we find claim 9 not obvious over Alumot in view of Moriya.

Independent claims 1 and 14, however, do not require a single model to be trained using multiple dies. Claim 1 refers to “inputting of a plurality of known good quality substrates having a user defined level of quality during training” and later provides for “developing a model,” but it leaves open the possibility that a model might be trained from a single known good substrate. ’528 patent col. 21 ll. 23–33. As the Board found, “multiple wafers

are needed to train the *system*,” but not to train the *model*, for claim 1. A8. Similarly, claim 14 refers to a “model of a good quality substrate,” which could be prepared from a single known good substrate. ’528 patent col. 22 ll. 38–39. Accordingly, claims 1 and 14 and their dependent claims are rendered obvious.

We are not persuaded by Rudolph’s argument that the Board erred by failing to articulate the level of ordinary skill in the art. Failure to address the level of skill in the art is not error when the parties do not put such a determination at issue and when the level of an artisan’s skill is evident from the prior art and patent. While it is preferable that the fact finder specify the level of skill it has found to apply to the invention at issue, “the absence of specific findings on the level of skill in the art does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown.’” *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)); see also *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 963 (Fed. Cir. 1986) (noting that the district court’s failure to make a specific finding as to the level of skill in the art is not reversible error when the failure did not influence the ultimate conclusion of obviousness). On the record evidence, we are satisfied that the patent and prior art reflect the appropriate level of skill. We also are not persuaded by Rudolph’s suggested teaching-away argument. Although Alumot characterized certain inspection systems as “extremely slow,” the Board did not err in concluding that skilled artisans would still consider using those inspection systems.

We *affirm* the Board’s decision that claims 1–3, 6, 7, 14, and 17–19 are obvious over the prior art, and *reverse* the Board’s decision with respect to claims 9–11.

Independent Claims 30 and 32

The Board rejected claims 30–34 and 36 on new grounds as obvious over Alumot. The Board placed Rudolph on notice that the newly rejected claims were not final rejections, citing 37 C.F.R. § 41.77(b). Camtek argues that we lack jurisdiction to review the newly rejected claims. Camtek contends that Rudolph was required to reopen prosecution or request a rehearing on the newly rejected claims, and that Rudolph failed to do so. Rudolph responds that review is proper because those claims were rejected for the same reasons as the other claims. Rudolph explains that a patent owner is required to reopen prosecution or request rehearing only under certain circumstances. For example, in reopening prosecution, the patent owner must present “either an amendment of the claims so rejected or new evidence related to the claims so rejected, or both.” 37 C.F.R. § 41.77(b)(1). Rudolph asserts that because it does not seek to amend or submit new evidence, it was not required to reopen prosecution or request a rehearing.

We agree with Camtek that review of the newly rejected claims is not properly before us. Under 37 C.F.R. § 41.77(b), “[a]ny decision which includes a new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” *Id.* § 41.77(b). Upon receiving a rejection on new grounds, the regulation directs the patentee to pursue one of two options within one month of the decision to “avoid termination of the appeal proceeding.” *Id.* § 41.77(b)(1)–(2). The regulation makes clear that the penalty for failing to pursue one of these two options is that the appeal will be terminated as to those newly rejected claims.

Section 41.77(b) requires parties to either reopen prosecution or request rehearing to exhaust their administrative remedies. *See, e.g., Acme Scale Co. v. LTS Scale Co.*, 615 F. App’x 673, 677–78 (Fed. Cir. 2015). The Board placed Rudolph on clear, express notice of this requirement and the consequences for failing to act. J.A. 21.

That Rudolph does not seek to amend or present new evidence does not absolve Rudolph from following procedural requirements for appealing newly rejected claims. The purpose of the regulation is fundamental. We have often said that only final agency determinations and court judgments are ripe for appeal. *See Morris v. United States*, 392 F.3d 1372, 1376 (Fed. Cir. 2004). Section 41.77(b) permits review of decisions on new grounds only after the Board has received evidence or argument challenging the Board's determination. To the extent Rudolph believed its argument and evidence made in connection with claims 1–3, 6, 7, 9–11, 14, and 17–19 subsumed any additional argument it could have made as to claims 30–34 and 36, Rudolph should have requested a rehearing and simply so stated.

Rudolph's appeal as to claims 30–34 and 36 is *dismissed* for want of jurisdiction.

#### CONCLUSION

The Board's decision for claims 1–3, 6, 7, 14, and 17–19 is correct and supported by substantial evidence. We *affirm* the Board's decision on those claims. The Board's finding of obviousness for claims 9–11 is not supported by substantial evidence, and we *reverse* the Board's decision on those claims. We *dismiss* Rudolph's appeal as to claims 30–34 and 36 because we lack jurisdiction to review the Board's new grounds for rejection.

#### **AFFIRMED-IN-PART, REVERSED-IN-PART, AND DISMISSED-IN-PART**

#### COSTS

Each party shall bear its own costs.

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
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2015-1418

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REYNA, *Circuit Judge*, dissenting in part.

I agree with the court's opinion except with respect to claim 9 and the claims depending from it. For claim 9, the majority concludes that the Board's determination of obviousness is unsupported by substantial evidence. I disagree.

The Board found, based on the text of the Alumot reference, that "Alumot at least suggests . . . comparing multiple patterns collectively to an inspected die." A10. Alumot specifically explains that the system compares "the inspected pattern" to "the light pattern of at least one

other die, serving as the reference pattern.” (A374, 8:37–43.) In my view, a POSITA would read the term “at least one” to include more than one: “at least” means that both exactly one die and multiple dies are possible.

Curiously, however, the majority claims that “the Board relied on *no evidence* for its determination that one of ordinary skill would have known of training a model using multiple dies as one of two ways to compare an inspected light pattern to that of at least one other die.” Maj. Op. 10 (emphasis added). The majority does not explain how or why the text from the Alumot reference does not count as evidentiary support, nor does it cite legal authority for that proposition. Indeed, a basic tenet of U.S. Patent law is that the text, diagrams, and figures of a prior art reference are evidence. *See, e.g., Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 (1976) (listing prior patents and prior art publications as types of evidence in an obviousness inquiry); *Okajima v. Bourdeau*, 261 F.3d 1350, 1356 (Fed. Cir. 2001) (citing the scope and content of the prior art references as substantial evidence in support of the Board’s determination of nonobviousness). The interpretation of such evidence results in factual findings. “Art can legitimately serve to document the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness.” *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015). These factual findings can “include findings as to the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, the presence or absence of a motivation to combine or modify with a reasonable expectation of success, and objective indicia of non-obviousness.” *Id.* at 1364.

The majority appears to concede that the Board’s finding that “Alumot suggests multiple-die comparison” was likely valid. Maj. Op. 10. The Board found that there are two ways to implement multiple-die comparison, “(1)

multiple one-to-one die comparisons . . . or (2) comparing multiple patterns collectively to an inspected die,” and that Alumot is ambiguous as to which is used. A9–10. The second option, collective comparison, corresponds closely to training a model. The Board, citing the Alumot specification as evidence, found that “Alumot at least suggests” the second alternative. A10. So perhaps in stating that there is no evidence, the majority meant that there is no evidence that speaks specifically to the fact that a POSITA might choose the second alternative suggested by Alumot.

Even so, no such specific evidence is required. *See Okajima*, 261 F.3d at 1356 (even though only the prior art references themselves were presented, this was substantial evidence for the Board’s findings). The Board’s ultimate finding was that it would have been obvious to a skilled artisan to train a model “using plural known good quality substrates.” A10. To get from a choice of two options, the second of which entails training a model, to actually training a model, a POSITA merely needs to make a simple binary decision. That choice is a small mental leap that the Board found the POSITA would make after reading the cited evidence in the patent. This finding, what a POSITA would have learned after reading the specification of the reference, is a factual finding. *See Ariosa*, 805 F.3d at 1365; *cf. KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 400 (2007) (findings about the “specific understanding or principle” within a POSITA’s knowledge are unnecessary).

The majority errs in its belief that the standard of substantial evidence requires an express statement of the system rendered obvious or a specific explanation in evidence for how a POSITA would address every yes-or-no question. *See, e.g., Merck & Cie v. Gnosis S.p.A.*, 808 F.3d 829, 834–35 (Fed. Cir. 2015) (making inferences from context of prior art references about what a POSITA would have understood); *In re Gartside*, 203 F.3d 1305,

1320 (Fed. Cir. 2000) (finding substantial evidence for a POSITA's motivation to combine references even when there was no explicit teaching in the references suggesting that they be combined). Yet that is the evidentiary justification the majority seems to require of the Board.

Substantial evidence is a deferential standard of review. "Substantial evidence is more than a mere scintilla, and such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Ad Hoc Shrimp Trade Action Comm. v. United States*, 618 F.3d 1316, 1321 (Fed. Cir. 2010) (citations omitted). Even when a reasonable fact-finder "could have found some facts differently," the result "must be sustained if it is supported by substantial evidence on the record." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1062 (Fed. Cir. 2016) (*en banc*) (upholding presumed fact findings based on substantial evidence).

The Board's factual finding is supported by substantial evidence. Here, a reasonable mind might have found Alumot's suggestion that multiple known good dies be used as a reference as sufficient to support the idea that a POSITA might have built such a system by creating a model of those multiple known good dies. In fact, the reasonable minds at the Board came to this very conclusion. That the majority would have found otherwise is immaterial.

"[A]s an appellate court, it is beyond our role to reweigh the evidence or consider what the record might have supported, or investigate potential arguments that were not meaningfully raised." *Apple*, 839 F.3d at 1062. "Our review is limited to whether fact findings made and challenged on appeal are supported by substantial evidence in the record, and if so, whether those fact findings support the legal conclusion of obviousness." *Id.*

Here, the majority errs in that it sets aside what the Board properly found to be "evidence" to find that there is

“no evidence.” This is contrary to the standard of review of substantial evidence. A reasonable person reading Alumot could conclude that a skilled artisan reading the reference would think to try training a model of known good dies. For this reason, I dissent from the majority as to claim 9.