

NOTE: This disposition is nonprecedential.

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

COLLABO INNOVATIONS, INC.,
Appellant

v.

SONY CORPORATION,
Appellee

UNITED STATES,
Intervenor

2019-1152

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2017-
00960.

COLLABO INNOVATIONS, INC.,
Appellant

v.

SONY CORPORATION,
Appellee

UNITED STATES,
Intervenor

2019-1154

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-00958.

Decided: February 25, 2020

DANIEL FLETCHER OLEJKO, Bragalone Conroy PC, Dallas, TX, argued for appellant. Also represented by PATRICK J. CONROY, MONTE BOND, TERRY SAAD.

ANDREW BALUCH, Smith Baluch LLP, Washington, DC, argued for appellee. Also represented by MATTHEW A. SMITH, Menlo Park, CA.

DENNIS FAN, Appellate Staff, Civil Division, United States Department of Justice, Washington, DC, argued for intervenor. Also represented by SCOTT R. MCINTOSH, JOSEPH H. HUNT; THOMAS W. KRAUSE, FARHEENA YASMEEN RASHEED, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA.

Before PROST, *Chief Judge*, LOURIE and CLEVINGER,
Circuit Judges.

Opinion for the court filed by *Chief Judge* PROST.

Opinion dissenting in part filed by *Circuit Judge*
CLEVINGER.

PROST, *Chief Judge*.

Collabo Innovations, Inc. (“Collabo”) appeals from the

final written decisions of the Patent Trial and Appeal Board (“Board”) in two *inter partes* reviews, each finding claims 1–18 of U.S. Pat. No. 7,023,034 (“the ’034 patent”) unpatentable. Because we agree with the Board that Collabo did not present a timely claim construction argument, and because substantial evidence supports the Board’s findings regarding the prior art, we affirm.

I

Collabo owns the ’034 patent, which is generally directed to a “solid-state imaging device in which a plurality of light-sensitive elements are arranged in a matrix form.” ’034 patent col. 1 ll. 7–10. Relevant to this appeal, the ’034 patent describes and claims a pair of “reflecting walls” that exist over each light-sensitive element (such as a photodiode), partitioning each element from neighboring light-sensitive elements. Light that approaches the photodiode at an oblique angle, which might otherwise be inadvertently received by an adjacent photodiode, instead reflects off of the reflecting walls onto the aperture of the desired photodiode, preventing color mixing and minimizing variation across the image.

Sony Corporation (“Sony”) filed two petitions for *inter partes* review of the ’034 patent. The first petition alleged that each of claims 1–18 was either anticipated by Japanese Patent Application Publication No. 2001-237404 (“Tomoda”), or obvious over Tomoda in view of various additional references including, *inter alia*, Japanese Patent Application Publication No. H11-087674 (“Abe”). *Sony Corp. v. Collabo Innovations, Inc.*, No. IPR2017-00958, Paper 31, at 10 (PTAB Aug. 31, 2018) (“-958 Decision”). The second petition alleged that the same claims were rendered obvious by U.S. Patent Application Publication No. 2001/0026322 (“Takahashi”) in view of various secondary references including Abe. *Sony Corp. v. Collabo*

Innovations, Inc., No. IPR2017-00960, Paper 31, at 10 (PTAB Aug. 31, 2018) (“-960 Decision”).¹

The Board instituted trial on both petitions, held a consolidated hearing, and issued separate final written decisions concluding that claims 1–18 are unpatentable under each set of grounds. The decisions were unanimous with respect to claims 1, 2, 4–11, and 13–18. With respect to claims 3 and 12, a majority of the Board concluded that Abe discloses the claim limitation “wherein a vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base.” Administrative Patent Judge Anderson dissented in each case and would have found claims 3 and 12 not unpatentable. -958 Decision at 69; -960 Decision at 72.

Collabo timely appealed the Board’s decisions. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II

Collabo presents two arguments on appeal. First, it argues that the Board erred by adopting an unreasonably broad construction of “reflecting walls,” and therefore its decision with respect to all claims must be reversed. Appellant’s Br. 32. Second, Collabo argues that the Board’s decision with respect to claims 3 and 12 must be reversed for the additional reason that the Board’s finding that Abe

¹ Sony’s two petitions are largely identical for the purposes of this appeal. For clarity, this opinion refers to the Board decisions, procedural history, briefing, and joint appendix of the -958 IPR (Appeal No. 19-1154) except where otherwise noted.

discloses a trapezoidal reflecting wall is not supported by substantial evidence. *Id.* at 49. We address each in turn.²

A

During an *inter partes* review, claims are given their broadest reasonable interpretation consistent with the specification. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2146 (2016).³ Applying that standard, the Board construed the term “reflecting walls” as “structures having approximately vertical surfaces that reflect light.” -958 *Decision* at 16. Collabo now argues that this was unreasonably broad, and the Board should have given the term its “plain and ordinary meaning,” which it contends is “a wall that reflects oblique light from a micro lens onto a corresponding light-sensitive element.” Appellant’s Br. 43. Sony responds that Collabo waived its claim construction argument by failing to raise it before the Board in a timely

² In its opening brief, Collabo also argued that the Board’s application of *inter partes* review to patents issued before the passage of the Leahy-Smith America Invents Act was an unconstitutional taking or a violation of due process. Appellant’s Br. 54–50. Prior to Collabo’s reply brief, however, this court issued *Celgene Corporation v. Peter*, concluding that such actions were not unconstitutional. 931 F.3d 1342, 1362–63 (Fed. Cir. 2019). Collabo conceded on reply that its arguments were “foreclosed by the Court’s recent precedent in *Celgene*” and related cases. Appellant’s Reply Br. 28. We agree, and therefore do not further address Collabo’s constitutional argument.

³ Although this standard has changed, the broadest reasonable interpretation continues to apply to petitions, like those at issue here, filed before November 13, 2018. *See Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (codified at 37 C.F.R. pt. 42).

manner, and that in any case the Board's construction was correct. It notes that Collabo did not raise any claim construction challenge until the hearing before the Board, and the Board found that untimely challenge "expressly or impliedly waived." Appellee's Br. 21 (quoting *-958 Decision* at 16).

Decisions related to compliance with the Board's procedures are reviewed for an abuse of discretion." *Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). The Board's authority to consider timely arguments, and to find untimely arguments waived, is a matter of compliance with 37 C.F.R. § 42.5 and the Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012), which states that "[n]o new evidence or arguments may be presented at the oral argument." See *Dell Inc. v. Accelaron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018). Therefore, the Board's decision to find an argument waived, as it did in this case, is reviewed for an abuse of discretion. See *id.* (applying abuse of discretion standard to Board's refusal to consider "untimely argument").

In its IPR petition, Sony proposed that the term "reflecting walls" be construed as "structures having approximately vertical surfaces that reflect light." J.A. 92. Collabo did not contest this construction in its patent owner preliminary response. J.A. 594 ("[F]or the purposes of this Preliminary Response, Patent Owner does not offer a construction for any of the claim terms in the '034 patent."). On that record, "and based on the [s]pecification," the Board preliminarily adopted Sony's construction in its institution decision. J.A. 779.

Following the Board's institution decision, Collabo again declined to contest Sony's construction or the Board's adoption of that construction. In its patent owner response, Collabo stated that it had "applie[d] the Board's construction for its analysis." J.A. 874. Similarly,

Collabo's expert testified that he "applied the constructions recommended by the board," but "doesn't agree or disagree" with them. J.A. 1274. Collabo expressly reserved the right "to seek alternative constructions in *other* proceedings and matters," but did not indicate that it was challenging the Board's construction in this proceeding. J.A. 874 (emphasis added).

At the hearing before the Board, however, Collabo nevertheless attempted to challenge the Board's claim construction. See J.A. 1500 ("disagree[ing]" with "the current construction that has been preliminarily adopted by the Board"). When pressed, Collabo conceded that it had not previously alerted the Board to its claim construction challenge, and that its claim construction challenge "is not in the record." J.A. 1499. Following the hearing, Collabo filed a motion requesting additional briefing on the construction of reflecting walls. See J.A. 1465. The Board denied this motion, noting that Collabo "had ample opportunity to argue for an alternative construction" in its patent owner response but "did not do so." J.A. 1466.

In its final written decision, the Board reiterated that Collabo had not raised a timely claim construction argument and concluded that Collabo "expressly or impliedly waived any argument contrary to the preliminary construction from the Institution Decision." *-958 Decision* at 13. After further considering the claim language, the specification, and the prosecution history, the Board formally adopted Sony's proposed construction of reflecting walls and performed its obviousness analysis under that construction. *Id.* at 15–16.

On this record, we agree with Sony that the Board did not abuse its discretion when it declined to consider Collabo's claim construction argument. Collabo admitted at the hearing that it had not previously raised this argument. J.A. 1499. And neither Collabo's patent owner preliminary response nor its patent owner response contain a

facial challenge to Sony's proposed claim construction or the Board's adoption of that construction. See J.A. 594, 874. Accordingly, Collabo did not properly present its claim construction argument before the Board and is not entitled to present that argument before us. See *In re Baxter Int'l*, 678 F.3d 1357, 1362 (Fed. Cir. 2012) ("Absent exceptional circumstances, we generally do not consider arguments that the applicant failed to present to the Board") (internal citations omitted).

Collabo's argument to the contrary is not persuasive. It primarily relies on our non-precedential opinion in *Intertainer, Inc. v. Hulu, LLC*, 660 F. App'x 943 (Fed. Cir. Sept. 26, 2016) for the proposition that a party's claim construction arguments on appeal are not waived so long as they are "consistent with those it made to the Board." Appellant's Br. 43–44. We disagree that *Intertainer* presents the same situation as this case. In *Intertainer*, this court concluded that a party's claim construction challenge was not waived because, although framed differently, it took "the same position" before the Board that it took on appeal. 660 F. App'x at 947. As we noted, the "original scope of *Intertainer*'s claim construction position" had not changed. *Id.* at 948.

The same cannot be said for Collabo's position here. In its patent owner response and patent owner preliminary Response, Collabo acquiesced to Sony and the Board's construction, and expressly applied that construction in its analysis. Now, on appeal, it argues that this construction was incorrect, and the term should be accorded its "plain and ordinary meaning." Appellant's Br. 28. And, for the first time, Collabo specifies that this plain and ordinary meaning is "a wall that reflects oblique light from a micro lens onto a corresponding light-sensitive element." Appellant's Br. 42–43. Because Collabo's new claim construction argument on appeal does not present "the same position" it took below, *Intertainer* is inapplicable.

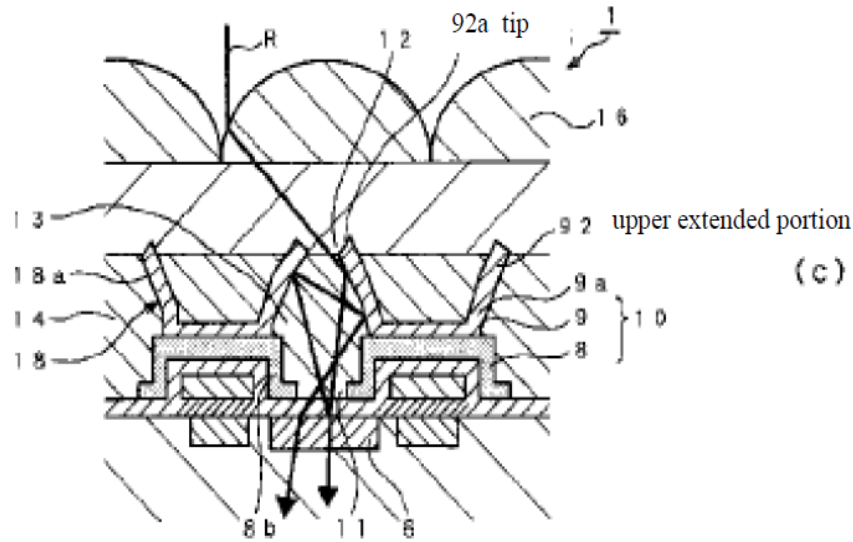
Because Collabo did not raise its claim construction argument below, that argument is waived, and we need not address its merits on appeal.

B

Independent of its claim construction argument, Collabo challenges the Board's conclusion that the prior art renders claims 3 and 12 obvious. Claims 3 and 12 each recite the dependent limitation "wherein a vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base." Collabo does not dispute that the Abe reference discloses a vertical cross section of a reflecting wall, but argues that substantial evidence does not support the Board's conclusion that the cross section disclosed in Abe is a trapezoid.

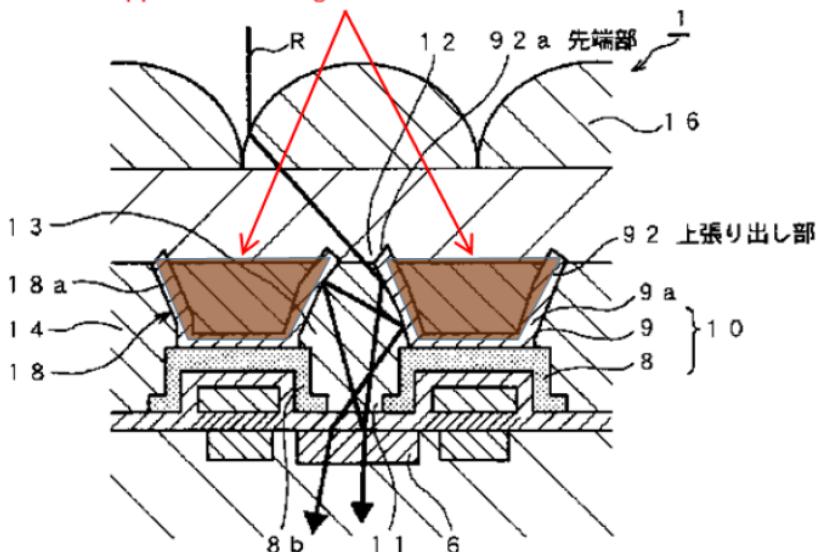
"We review the PTAB's factual findings for substantial evidence and its legal conclusions de novo." *Redline Detection, LLC v. Star Envirotech, Inc.*, 811 F.3d 435, 449 (Fed. Cir. 2015) (citation omitted). While obviousness is ultimately a question of law, it is based on underlying findings of fact. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). As relevant here, the Board's findings regarding "the scope and content of the prior art" are reviewed for substantial evidence. *Id.* at 1319 (internal quotation omitted). "Substantial evidence is something less than the weight of the evidence but more than a mere scintilla of evidence. It is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *In re NuVasive, Inc.*, 842 F.3d 1376, 1379–80 (Fed. Cir. 2016) (internal citations and quotations omitted). "If the evidence in the record will support several reasonable but contradictory conclusions, we will not find the Board's decision unsupported by substantial evidence simply because the Board chose one conclusion over another plausible alternative." *Redline*, 811 F.3d at 449 (quoting *In re Jolley*, 308 F.3d 1317, 1320 (Fed. Cir. 2002)).

In its petition, Sony relied primarily on Figure 3 of Abe and the accompanying description to teach the “is a trapezoid” limitation. Figure 3 of the English translation of Abe is reproduced below:



J.A. 461. Sony’s petition further explained that element 9 is a “second light shielding film,” having “lateral faces 9a” that are approximately vertical surfaces, and upper extended portions 92. J.A. 122–123 (citing Abe ¶¶ 38, 47). Sony provided the following annotation of Figure 3 to support its contention that this figure discloses a trapezoidal reflecting wall:

vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base



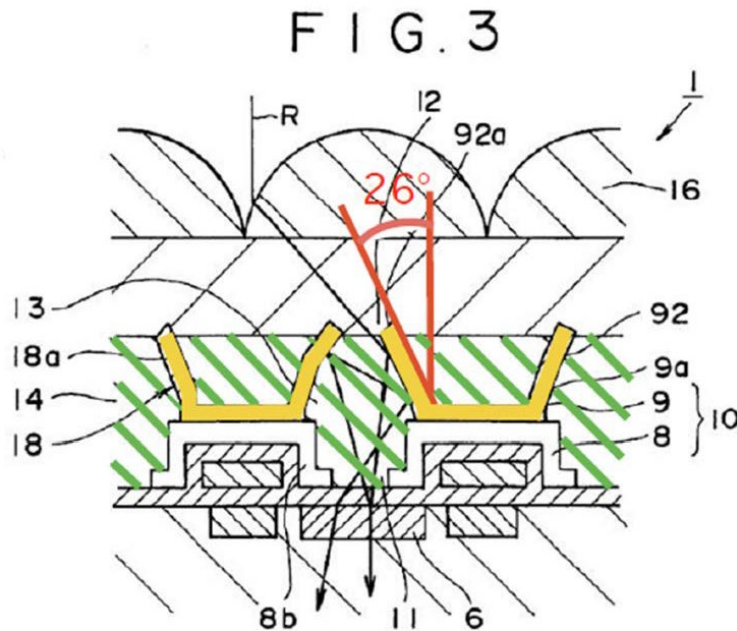
J.A. 122. As Sony explained:

Abe recites that “upper extended portions 92 may be extended so as to incline upwardly from the upper ends of the lateral faces 9a of the second light shielding film 9.” ([Abe], ¶0044)([Expert declaration], ¶146). This describes that the vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base, as seen in Fig. 3. ([Expert declaration], ¶146).

J.A. 123. Sony cited to the declaration of its expert, who opined that these passages of Abe, “as shown in Abe’s Figure 3 . . . disclose[] that the vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base.” J.A. 263–64. Based on this explanation, the Board correctly explained in its final written decision that Sony “has identified, through its annotations, what it contends are the boundaries of Abe’s trapezoidal reflecting wall, namely, the lateral faces of light shielding film 9, the bottom surface of light shielding film 9, and the top surface of second insulating film 14 within the interior of light

shielding film 9.” -958 Decision at 41 (citing Abe ¶¶ 38–39).

The Board acknowledged Collabo’s counter-argument that Abe does not disclose a trapezoid. “Petitioner relies on Abe’s U-shaped design or the cup shape or bowl-shaped design of these walls . . . Patent Owner argues that there is no top to Abe’s structure and, because it is a cup, it is not a trapezoid.” -958 Decision at 43–44. Collabo provided the following annotation to represent its preferred reading of Abe:



-960 Decision at 46; see also -958 Decision at 44 (incorporating Collabo’s arguments from the ’960 IPR).⁴ As the Board noted, Collabo and its expert contended that the striped green lines “represent transparent insulation 14 of Abe.” -960 Decision at 46.

⁴ The 26 degree angle measurement depicted in this annotation correlates to an unrelated argument made below, which Collabo does not pursue on appeal.

After weighing both parties' positions, the Board found that Abe does disclose a trapezoid. Citing Sony's petition, as well as the same portions of Abe cited in Sony's petition, the Board determined that "the entire cup shaped structure, including the material within, is the recited 'reflecting wall.'" *-958 Decision* at 45. As a result, "Abe's description [of Figure 3] . . . describes that the vertical cross section of the reflecting wall is a trapezoid." *Id.* (citing Abe ¶ 44, Sony's petition, and the declaration of Sony's expert).

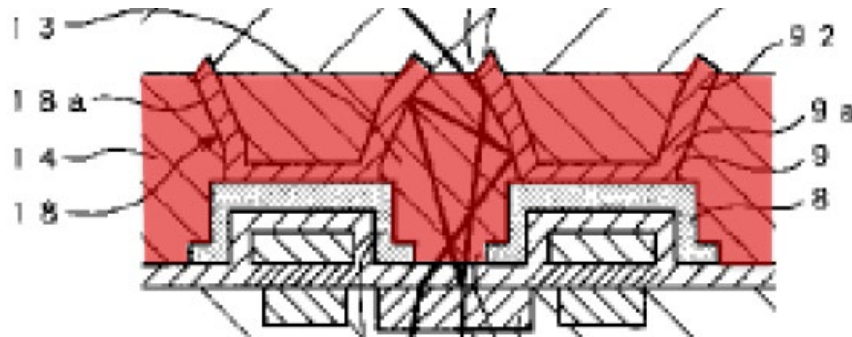
Collabo argues that we must reverse the Board because this finding was not supported by substantial evidence. We disagree. The Board was presented with two alternative interpretations of Abe, both supported by citations to Figure 3, the text of the reference, and expert testimony. The question before us is not which of these interpretations we would find more compelling in a vacuum. "[I]t is not for us to second-guess the Board's assessment of the evidence." *Velander v. Garner*, 348 F.3d 1359, 1378–79 (Fed. Cir. 2003). Rather, "[o]ur task is to determine whether substantial evidence supports the conclusion chosen by the Board." *Id.* Here, we conclude that it does.

Figure 3 of Abe, on its face, discloses a trapezoidal shape. As the Board described, it shows a quadrilateral bounded by the lateral faces of light shielding film 9, the bottom surface of light shielding film 9, and the top surface of second insulating film 14 within the interior of light shielding film 9. *-958 Decision* at 41 (citing Abe ¶¶ 38–39). The top surface, made of a portion of second insulating film 14, is longer than the bottom surface of light shielding film 9. Abe undisputedly discloses that the lateral faces of the light shielding film 9 reflect light. *See* Appeal No. 19-1152 J.A. 937 (Collabo's expert referring to light shielding film 9 as a "reflector"). Therefore, we hold that substantial evidence supports the Board's conclusion that Abe discloses "a vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base."

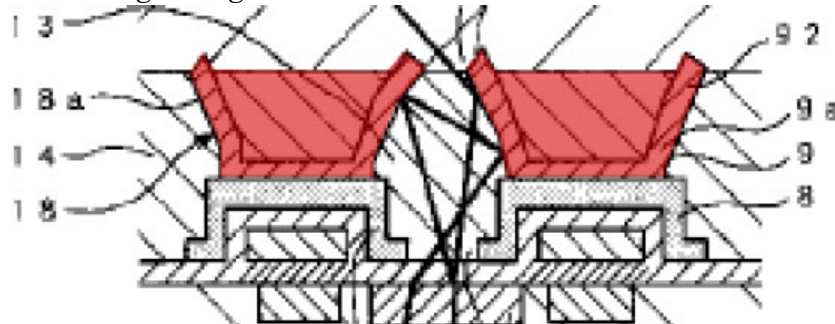
None of Collabo's arguments on appeal demonstrate that the Board's conclusion was not supported by substantial evidence. First, Collabo argues that it was "improper for the Board to conclude 'that the entire cup shaped structure, including the material within, is the recited reflecting wall,'" because Sony allegedly "never argued [this] in the petition." Appellant's Br. 51 (quoting *-958 Decision* at 45). We disagree. In its petition, Sony presented the annotation shown above, overlaying a solid brown trapezoid on top of light shielding film 9 and insulating film 14 as depicted in Figure 3 of Abe. This annotation could reasonably be read—indeed, could only credibly be read—as an argument by Sony that the trapezoidal reflecting wall includes both the light shielding film and the insulating film inside of it, as both were shown within the brown trapezoidal annotation. *See also* Appeal No. 19-1152 J.A. 992 (Sony's expert referring to insulating film 14 as the "top of the structure comprising the reflecting walls" during his deposition). Thus, we are not persuaded by Collabo's argument that the Board "changed the 'thrust' of Sony's unpatentability theory," Appellant's Br. 51, when it concluded that the entire cup shaped structure, including the material within, is the reflecting wall.⁵

⁵ On appeal, Collabo does not argue that Abe fails to disclose a trapezoid merely because the trapezoid is made of two different materials. *See* Oral Arg. at 9:53–10:01, available at <http://www.cafc.uscourts.gov/oral-argument-recordings> ("We're not arguing that you can't have a trapezoidal reflecting wall that's made of multiple materials. That's not our argument."). Such an argument would be meritless. The Board's construction of "reflecting walls" does not preclude a reflecting wall made of multiple materials. Nor could it, as the '034 patent itself depicts a reflecting wall made of a cup-shaped metal layer filled with a second material. *See* '034 patent at Fig. 5H.

Collabo further argues that, even assuming insulating film 14 was part of the reflecting wall in Abe, the resulting shape is not a trapezoid. Collabo presents numerous proposed annotations, shown below, to demonstrate what it contends are the shapes of the various structures in Abe. For example, it presents the following annotation of Abe's Figure 3 purporting to show that "insulating film 14' is not a trapezoid, it is a different shape entirely."



Appellant's Br. 52. Collabo presents another annotation of the same figure, shown below, to alternatively argue that Abe's walls are not trapezoids because its "structures have at least eight edges or sides and vertices or corners."



Appellant's Br. 53.

As an initial matter, this argument was not made before the Board and is therefore waived. *See Baxter*, 678 F.3d at 1362. Collabo argued to the Board that Abe's structure was "simply not a trapezoid." J.A. 1508–09. But it made that statement only in the context of its argument that Abe discloses a "U-shaped design or [a] cup shape." *Id.* at 1509. The two new shapes argued by Collabo in its

opening brief, which are neither trapezoid nor cup, do not appear anywhere in the record before the Board, nor does any corresponding argument.

Even if the argument were not waived, we agree with Sony that, at least as to the alleged “eight edges” annotation, no evidence supports requiring the level of geometric perfection that Collabo now advocates. Appellee’s Br. 61. That is especially true where, as here, both parties’ experts have conceded that the figures of Abe and the ’034 patent are rough approximations which do not necessarily reflect the detailed physical characteristics of the device. *See* J.A. 934. Further, Collabo’s arguments improperly require us to perform fact finding. We are not in a position to evaluate the correctness of Collabo’s new annotations. “It is not our role to ask whether substantial evidence supports fact-findings not made by the Board, but instead whether such evidence supports the findings that were in fact made.” *Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1294 (Fed. Cir. 2018).

For the reasons discussed above, substantial evidence, including Abe’s figures and text, supports the Board’s conclusion that Abe discloses “a vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base.” Although Collabo presents an alternative explanation of the Abe reference, that is insufficient for reversal under the substantial evidence standard. *See AK Steel Corp. v. U.S.*, 192 F.3d 1367, 1371 (Fed. Cir. 1999) (“[O]ur analysis is not whether we agree with [the agency]’s conclusions, nor whether we would have come to the same conclusions reviewing the evidence in the first instance, but only whether [the agency]’s determinations were reasonable.”).

III

We have considered Collabo’s remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm the Board’s construction of “reflecting wall” and its

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conclusion that claims 3 and 12 are unpatentable as obvious.

AFFIRMED

COSTS

The parties shall bear their own costs.

NOTE: This disposition is nonprecedential.

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CLEVENGER, *Circuit Judge*, dissenting-in-part.

I join Parts I and II.A of the majority’s opinion, but I respectfully dissent from Part II.B. The majority concludes, as did the Board, that JPA Publication No. H11-87674 (“Abe”) discloses a “reflecting wall” having a vertical cross section that “is a trapezoid whose upper base is longer than a lower base.” According to the majority, the Board’s finding that Abe satisfies this additional limitation of dependent claims 3 and 12 of U.S. Patent No. 7,023,034 (the “034 patent”) was supported by substantial evidence because, when drawn together, light shielding film 9 and a portion of the insulating film 14 form a trapezoid whose upper base is longer than a lower base. But by blessing the Board’s analysis, the majority commits the same error. The question is not whether two structures (or portions thereof) form a trapezoid when combined, or even whether Fig. 3 of Abe, on its face, discloses a “trapezoidal shape.” The appropriate inquiry is whether substantial evidence supports the Board’s finding that Abe actually discloses combining multiple, separately-designated, structures such that their combination forms a trapezoidal “reflecting wall”—a structure having approximately vertical surfaces that reflects light? Because Abe does not disclose a trapezoidal “reflecting wall,” I respectfully dissent-in-part.

I

Abe's cup-shaped light shielding film 9, on its own, is a structure having approximately vertical surfaces that reflect light—in other words, it is, on its own, a “reflecting wall.” It is undisputed that this light shielding film, however, is not a trapezoid. Thus, in an attempt to conjure up a trapezoidal “reflecting wall” where one does not otherwise exist, Sony simply drew a trapezoid onto Fig. 3 of Abe encompassing both light shielding film 9 and the portion of the insulating film 14 sitting directly above it.

In its Final Written Decision, the Board relied on Sony's annotated version of Fig. 3 of Abe in finding first that “Figure 3 of Abe shows a ‘pair of reflecting walls’ (i.e., a ‘plurality of reflecting walls,’ as claimed),” and second that “Abe's description that ‘upper extended portions 92 may be extended so as to incline upwardly from the upper ends of the lateral faces 9a of the second light shielding film 9’ . . . ‘describe that the **vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base.**” J.A. 47–48 (internal citations omitted) (bold in original). Thus, the Board held, and the majority affirms, that Abe discloses the trapezoidal “reflecting wall” of claims 3 and 12 of the '034 patent.

II

In focusing solely on whether Abe discloses a “trapezoidal shape,” Maj. Op. at 13, the majority commits two errors. First, by focusing on whether Fig. 3 of Abe, on its face, generally “discloses a trapezoidal shape,” *id.*, the majority reads out the requirement that it is specifically the “vertical cross section of the *reflecting wall*” that must be in the shape of a trapezoid. J.A. 179 (italics added). Second, the majority fails to consider whether the Board's finding that Abe discloses the “reflecting wall” of claims 3 and 12, which was not based on the mere existence of a “trapezoidal shape,” was actually supported by substantial evidence. It is not. For example, according to Sony, the “Board's finding

was based on substantial evidence, in the form of Abe’s disclosure and Mr. Guidash’s declaration.” Appellee’s Br. at 61 (citing Abe at ¶¶ 44, 46, corresponding to J.A. 458, Abe at Fig. 3, corresponding to J.A. 462, and Guidash Decl. at ¶341, corresponding to J.A. 381).¹ The cited portions of both Abe and the Guidash Decl., however, deal solely with the upwardly inclining portions of light shielding film 9 which, as mentioned above, is a non-trapezoidal “reflecting wall.” Abe and the Guidash Decl. are entirely silent on a light shielding film 9 / insulating film 14 combination resulting in a single trapezoidal “reflecting wall.” When pressed at the oral argument for any actual substantial evidence to support the Board’s finding that Abe discloses a trapezoidal “reflecting wall” comprising both light shielding film 9 and insulating film 14, counsel for Sony could only cite to paragraphs 38, 44, 48, and 49 of Abe. *See, e.g.*, Oral Arg. at 36:40–37:06; 26:50–37:06, <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2019-1152.mp3>. Again, these paragraphs only disclose the upwardly inclining portions of light shielding film 9. The mere fact that the lateral walls of the three-walled light shielding film 9 upwardly incline over the sensor parts 6, however, is not substantial evidence of a trapezoidal “reflecting wall” comprising *both* light shielding film 9 and insulating film 14.

While the Board and majority are correct that the claimed “reflecting walls” do not require a uniform composition, and in fact are not uniform in Fig. 5 of the ’034 patent, there is no suggestion in Abe that the alleged combination of light shielding film 9 and portions of, but not all of, insulating film 14 is, or can be used as, a

¹ Sony also argues that Collabo’s expert admitted that the identified structure is a trapezoid. However, Dr. Afromowitz appears to have admitted only that the structure arbitrarily drawn by Sony in its petition, not any “reflecting wall” shown in Fig. 3 of Abe, looks like a trapezoid.

“reflecting wall.”² Nor does Abe, or Mr. Guidash,³ explain why a person of ordinary skill in the art (“POSITA”) at the time of the invention would find it necessary to arbitrarily combine the light shielding film 9 with portions of the insulating film 14 so as to form a trapezoidal “reflecting wall.” Indeed, it appears unlikely that a POSITA would find such a combination necessary, as light shielding film 9, on its own, allows Abe to derive the same benefits as those achieved by the ’034 patent’s trapezoidal reflecting walls. *Compare* J.A. 457–58, Abe at ¶¶ 38, 44 (disclosing that “the upper extended portions 92 may be extended so as to incline upwardly from the upper ends of the lateral faces 9a of the second light shielding film 9” to more readily reflect “oblique light” towards the sensors) *with* J.A. 176, 3:57–60 (“a cross section of the reflecting wall is a trapezoid whose upper base is longer than the lower base, whereby it is possible to cause the oblique light to be reflected toward the aperture more efficiently”).

² With respect to Fig. 5, the ’034 patent explicitly states that the combination of Tugsten W film 121 and Titanium Ti film 122 (which are both reflective and not insulating) make up reflecting wall 62. *See* J.A. 178, 8:26–33. In Abe, to the contrary, there is no suggestion or disclosure of any structure formed through the combination of light shielding film 9 and insulating film 14.

³ The Guidash declaration merely states that because the upper extended portions 92 may be extended so as to incline upwardly, as discussed in Abe ¶ 44, Fig. 3 discloses that the vertical cross section of the reflecting wall is a trapezoid whose upper base is longer than a lower base. This is conclusory and belied by the fact that Abe discloses efficiently reflecting oblique light onto the sensor parts 6 using a three-sided U-shaped light shielding film 9 by itself, not a trapezoidal “reflecting wall.”

Even though Sony was unable to point to *any* substantial evidence supporting the Board’s finding, the majority finds substantial evidence in the mere existence of a “trapezoidal shape” in Fig. 3 of Abe. As previously discussed, however, the relevant inquiry is not whether Abe discloses a “trapezoidal shape,” but whether substantial evidence supports a finding that Abe discloses a trapezoidal “reflecting wall.” It is clear, on the record before us, that it does not.

III

For the foregoing reasons, this court should reverse the Board’s finding of obviousness with respect to claims 3 and 12 of the ’034 patent.