

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

KOHLER CO.,
Petitioner,
v.
DELTA FAUCET CO.,
Patent Owner.

Case No. IPR2024-00700

U.S. Patent No. 10,393,363

**PETITIONER'S REQUEST FOR DIRECTOR REVIEW OF THE PANEL'S
FINAL WRITTEN DECISION**

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Petitioner Kohler requests Director Review of the Board’s Final Written Decision (“FWD,” Paper 32) regarding the ’363 patent in this proceeding.

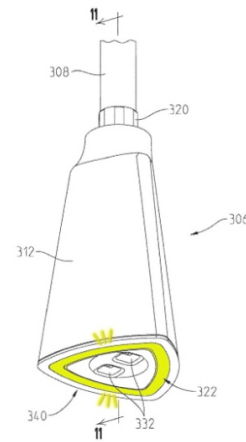
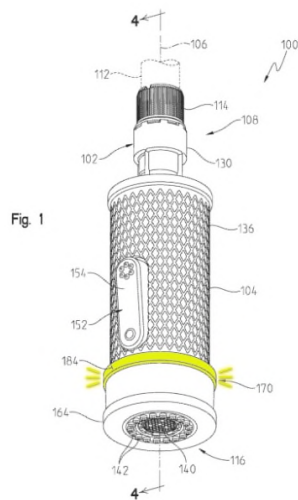
Respectfully, the Board abused its discretion and made material factual errors in confirming the patentability of claim 10 over Tseng and claim 19 over Tse. The Board found that Tseng’s sprayhead—which includes a “light conductor” that diffuses and scatters light towards an integrated circular rib or annular protrusion that “extend[s]” and “exposes outside” the sides of the sprayhead to “enhance illumination”—somehow emits light only downwards and not to the side. Not only is this contrary to Tseng, but Patent Owner’s expert **admitted** during cross examination that at least some light does in fact emit from the sprayhead sides. The Board also determined that Tse’s showerhead does not employ “translucent” material. But Patent Owner’s counsel **admitted** during oral argument that it does.

Because it ignored highly relevant Patent Owner and expert admissions, arrived at contradictory and illogical conclusions, and ruled in a way that is facially inconsistent with the prior art, the Board’s decisions regarding independent claims 10 and 19 must be reversed.

I. INTRODUCTION

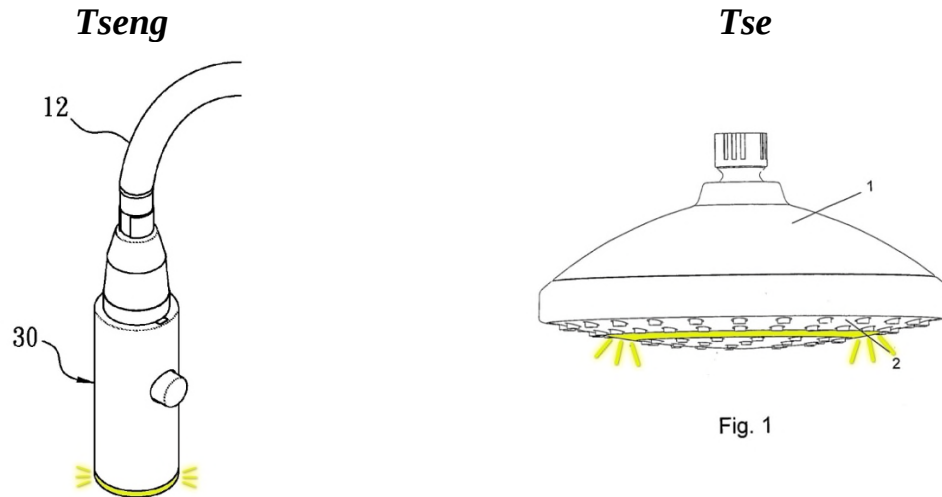
The ’363 patent (Ex. 1001) relates generally to illuminated kitchen or bath fixtures. *See* ’363 patent, 1:16-18. The patent includes three independent claims: 1, 10, and 19. All three require an “illumination device” with a “translucent light pipe” that “diffuse[s] light” from “light emitters” mounted inside the fixture. Claim 1 is

broadest, requiring diffusion of light “outwardly away from the housing.” Claim 10 is directed to a “pull-down sprayhead.” It specifies that the “light pipe” must “diffuse light ... outwardly” to an “outer illumination surface” that “extend[s] perpendicular to the longitudinal axis” of the sprayhead’s “housing” (*i.e.*, light comes out the sprayhead’s sides). Claim 19 is directed to a “pendant showerhead.” The “light pipe” must be “supported by the sprayface” and “diffuse light” “outwardly in a direction parallel” to the “longitudinal axis” of the showerhead’s “housing” (*i.e.*, light comes out in the same direction as water). Examples of claim 10’s “sprayhead” and claim 19’s “showerhead” are shown below:



Id., Figs. 1, 8 (annotated).

The Petition relied on two primary prior art references: Tseng (Ex. 1004) and Tse (Ex. 1005). Tseng teaches an illuminated pull-out faucet with a “light conductor” that emits light from the end of the faucet’s sprayhead. Tse teaches an illuminated showerhead that emits light from a “cover” in its sprayface:



Tseng, Fig. 3 (cropped and annotated); Tse, Fig. 1 (annotated). Grounds 1-3 in the Petition relied on Tseng. Grounds 4-6 relied on Tse. See Petition (Paper 1), 6-7.

In its FWD, the Board found claim 1 (and several dependent claims) unpatentable in view of Tseng but determined that neither claim 10 nor claim 19 was obvious. See FWD, 65. According to the Board, (1) Tseng’s sprayhead emits light only downward, and not out its sides as claim 10 requires (*see id.*, 42-43) and (2) Tse’s pendant showerhead’s “light pipe” is not made from “translucent” material as claim 19 requires (*see id.*, 62). The evidence of record—including on-the-record admissions made by Patent Owner and its expert and the prior art itself—simply did not permit the Board to arrive at these conclusions.

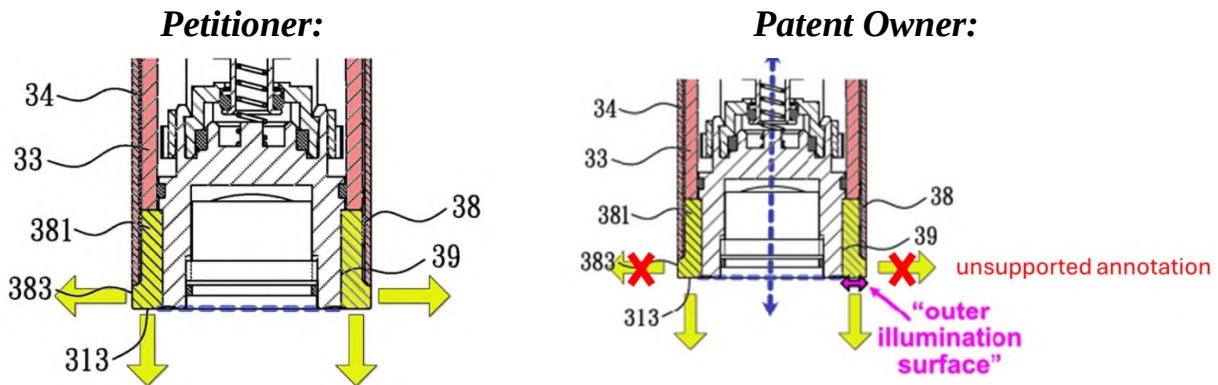
II. ARGUMENT

The Director reviews final Board decisions for, among other things, abuses of discretion or erroneous findings of material fact. See Director Review Process, § 2.B (Oct. 8, 2025). An abuse of discretion occurred if a decision “is clearly unreasonable, arbitrary, or fanciful;” “rests on clearly erroneous fact finding; or ...

involves a record that contains no evidence on which the Board could rationally base its decision.” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). The FWD here checks all these boxes.

A. The Board Abused Its Discretion Made Material Factual Errors When Comparing Tseng to Claim 10

The parties presented the Board with two differing explanations regarding Tseng’s operation. Petitioner explained that Tseng’s “light pipe” (which Tseng calls a “light conductor”) includes not only a bottom output face 313, but also a “circular rib 371” or “annular protrusion 383” “expos[ing] outside” and “extending outwardly” from the bottom of the sprayhead to “enhance light transmission[.]” Petition (Paper 1), 30-31, 34-45 (citing Tseng, ¶¶ [0094], [0097]-[0098].) Tseng’s “light conductor” is made from “translucent” material. Petition, 29 (citing Tseng, ¶ [0070]). The Petition—and Petitioner’s expert—explained that this causes light to “uniformly diffuse” out of all uncovered, exposed portions of the light conductor including both the bottom and the sides. Petition, 31-32 (citing Ex. 1003, ¶¶ 173-175). Patent Owner responded by arguing that the Petition “incorrectly allege[s]” that light comes out the sprayhead’s sides. Response (Paper 17), 25. According to Patent Owner, light will not scatter, is only transmitted “downward,” and thus somehow bypasses Tseng’s outwardly extending (and uncovered) protrusion 383. *Id.*, 31. The parties’ differing views are shown below:



Petition, 33; Response, 26 (both annotating Tseng, Fig. 34).

The Board agreed with Patent Owner, finding that “Tseng does not disclose or teach that light is emitted through the side surface of annular protrusion 383.” FWD, 34. This is wrong: (1) Patent Owner’s expert **admitted** that light comes out the sides of Tseng’s sprayhead, (2) the Board had already **rejected the central premise** of Patent Owner’s argument when it found that Tseng’s light conductor/pipe diffuses and scatters light (which means that light must come out the sides), (3) the Board effectively **negated** Tseng’s characterization of its sprayhead’s operation, and (4) the Board makes it **impossible to determine** what claim 10 actually covers.

1. The Board Ignored Admissions Made by Patent Owner’s Expert

To begin, the Board completely ignored that Patent Owner’s expert Dr. Klopp **admitted** during cross examination that **Tseng does not operate** in the way Patent Owner alleges it does. Dr. Klopp was asked if “some [light] photons would make their way to surface 383” in Tseng’s sprayhead. He unambiguously responded: “I think that is believable.” Ex. 1015, 37:3-7; *see also id.*, 37:8-15 (similarly noting that “no one could say that no photons at all would reach 383”). This admission was

identified in Petitioner's reply (*see* Paper 22, 7), in Petitioner's hearing demonstratives (*see* Ex. 1016, 18), and during oral argument (*see* Paper 29, 17:8-20). The Board even asked Patent Owner about this testimony. *See id.*, 41:13-23.

Inexplicably, however, Dr. Klopp's admission is nowhere to be found in the Board's final decision. It is not cited, mentioned, or discussed. Instead, the Board cited only other, different testimony where Dr. Klopp attempted to minimize the import of his admission by characterizing the amount of light coming out the sides of Tseng's sprayhead as not "meaningful." *See* FWD, 33 (quoting Ex. 1015, 37:25-38:1). The total quantity of light coming out the sides of Tseng's sprayhead is irrelevant. The Petition explained that the '363 patent's claims are satisfied so long as "some" light makes its way out the sides of the sprayhead. *See* Petition, 37-38. Patent Owner did not dispute this. And the Board did not hold otherwise. Thus, the fact that Patent Owner's expert admitted that some light reaches outwardly facing surface 383 such that it is emitted from the sides of Tseng's sprayhead should have ended the analysis. Regardless, even if the claims somehow did require large amounts of light to be emitted (they do not) Patent Owner conceded during oral argument that there would "certainly" be "more internal scattering" of light from a translucent material like that taught by Tseng. Paper 29, 47:25-48:7.

The only reasonable conclusion the Board could have reached in view of Dr. Klopp's admission is that Tseng "diffuse[s] light ... outwardly" to an "outer illumination surface" that "extend[s] perpendicular to the longitudinal axis" just as

claim 10 requires. The Board’s failure to take the admission into account by itself requires reversal. *See Prime Time Toys LLC v. Spin Master, Inc.*, IPR2023-01339, Paper 12 (U.S.P.T.O Director Review, Jul. 9, 2020) (“*Prime Time Toys*”) (vacating Board decision that “overlooks admissions from Patent Owner’s expert”).

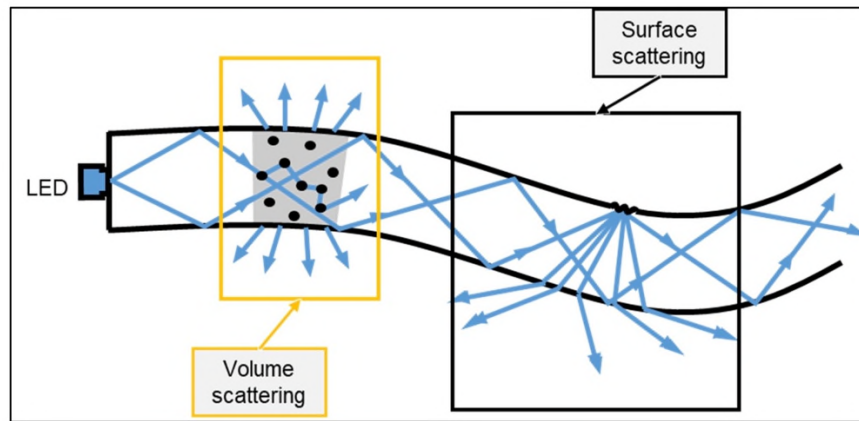
2. The FWD Is Internally Inconsistent and Lacks Factual Support

Next, the Board’s decisions regarding claims 1 and 10 are facially inconsistent. In finding claim 1 obvious, the Board determined that Tseng’s light conductor/pipe operates to “diffuse (or scatter) light” emitted by internal LEDs. FWD, 28-29. This, the Board explained, allows Tseng to “output[] diffused light through the transmission portion” of the “spray head.” *Id.*, 28 (emphasis added). The Board rejected Patent Owner’s argument that Tseng’s second and third embodiments—including that shown in the figure above—do not engage in light scattering. *Id.*, 26. According to the Board, Patent Owner’s and its expert’s position are “inconsistent with Tseng’s disclosures as a whole....” *Id.* These findings cannot be squared with the Board’s determination that claim 10 is not obvious.

Despite finding that Tseng’s light conductor/pipe diffuses and scatters light, the Board determined that light will for some reason only be emitted downward as it exits the conductor/pipe. *See id.*, 33. According to the Board, no light “is emitted through the side surface of annular protrusion 383.” *Id.*, 34. In support, the Board points only to the testimony of Patent Owner’s expert Dr. Klopp. The Board notes

that Dr. Klopp opined that “light from [Tseng’s] LED would bypass annular protrusion 383 of outer cliff 381, while transmitting downwardly toward the output face 313.” *Id.* (quoting Ex. 2003, ¶¶ 101-102, 105).

What the Board missed, however, is that Dr. Klopp’s opinion regarding Tseng’s operation relies and is exclusively premised on his characterization of Tseng’s light conductor/pipe as being made of material that **does not scatter light**. See, e.g., Ex. 2003, ¶¶ 93 (wrongly explaining that Tseng does not engage in the “scattering ... required to achieve radially outward light emission”), 98 (incorrectly noting that “there is no disclosure of scattering that would send light emitted vertically from the LED into the light pipe radially”), 100 (once again wrongly noting that there is no “material scattering”). Dr. Klopp **never opined** that a light conductor/pipe that diffuses and scatters light—as the Board found Tseng does—will not emit light from all exposed surfaces. That would make no sense. Scattered and diffused light will plainly be emitted from every uncovered, exposed surface of Tseng’s light conductor/pipe. Indeed, this is exactly what Dr. Klopp says throughout his declaration. According to Dr. Klopp, translucent light pipes “scatter the light” resulting in more diffuse and “dimmer” light emission. *Id.*, ¶ 104; see also *id.*, ¶ 42 (similarly noting that “translucent” light pipes “experience surface scattering and/or volume scattering”). Dr. Klopp even included a figure in his declaration showing light coming out the sides of one such example “translucent” light pipe:



Id., ¶ 42.

So, Dr. Klopp **did not even take** the position the Board attributes to him. Dr. Klopp's opinion is that—in his view—Tseng does not “scatter” light. Dr. Klopp explained that when there is no scattering, light will be emitted only downwards and not out of the sides of Tseng's light conductor/pipe. Dr. Klopp did not opine that a translucent light conductor/pipe that scatters light—which is what the Board found Tseng teaches—would somehow only emit light downwards. That is a finding that the Board appears to have reached entirely on its own without any record support. It follows that once the Board rejected Dr. Klopp's opinion that there is no light scattering in Tseng, it **also** rejected his opinion regarding claim 10. In ruling to the contrary, the Board contradicted itself and failed to adhere to the evidence of record. Its finding is also contrary to logic. The Board effectively found that light diffuses and scatters in Tseng's light conductor/pipe but then for some reason becomes entirely directional upon reaching protrusion 383 at the bottom of the conductor. There is nothing in the record that suggests or remotely supports such a conclusion.

3. The Board's Decision Contradicts Other Evidence of Record

The Board's decision also improperly negates Tseng's disclosure. Tseng repeatedly depicts its light conductor/pipe exposed and uncovered on the side of its sprayhead. See Tseng, Figs. 1, 3, 4, 5, 27, 32. It also explains multiple times that the light conductor/pipe includes an element—"rib 31d" in Figure 5, "circular rib 371" in Figure 27, and "annular protrusion 383" in Figure 32—that "extend[s] outwardly" or "exposes outside" the "bottom end" of its sprayhead "[t]o enhance light transmission" or "illumination." *Id.*, ¶¶ [0079], [0094], [0098]. This is plainly referring to structure that emits light **outwardly** from the sides of Tseng's sprayhead. This was highlighted in the Petition (see Paper 1 at 17, 30-31), reply (see Paper 22 at 3, 4, 5-6), and during oral argument (see Paper 29, 12:15-25).

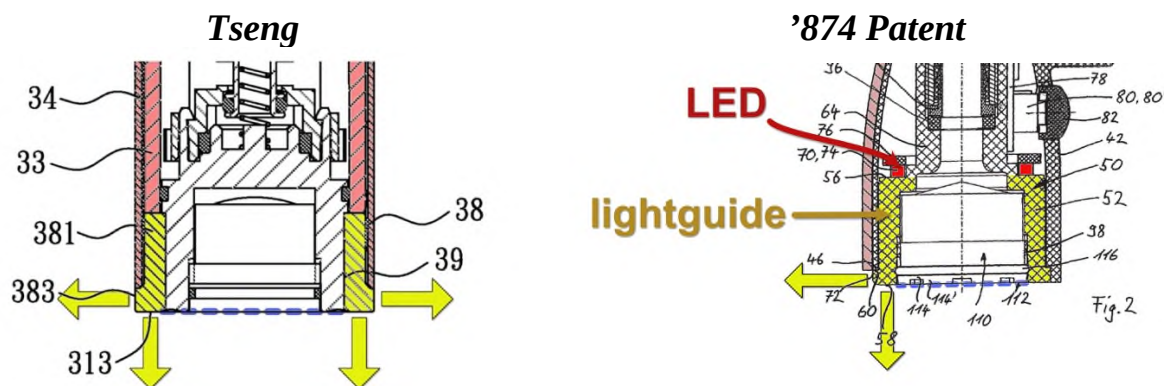
The Board, however, found that this "outwardly" extending element "expos[ing] outside" to "enhance illumination" could somehow do nothing more than provide a "larger bottom output face." FWD, 35. This makes little sense. Tseng would not have used the language it did—"outwardly" and "exposes outside"—if it intended light to only be emitted downward. Moreover, the mere fact that annular protrusion 383 is uncovered by Tseng's housing shows that light **must** be emitted out the sprayhead's sides. Indeed, Patent Owner conceded as much in its briefing by recognizing light moving perpendicularly through Tseng's light conductor/pipe will emit out the sides of the sprayhead if not blocked by the housing. See Response, 32 (noting that sleeves 32/34 forming Tseng's housing "block light

transmission in the perpendicular direction”). Annular protrusion 383 is not blocked by the housing. Ergo, light must be coming out of sides of Tseng’s sprayhead. Petitioner also highlighted this in its briefing (see Paper 22 at 7) and at oral argument (see Paper 29, 18:11-19:20). The Board failed to address it.

Next, the Board wrongly determined that Petitioner’s expert—Mr. Cook—only offered “conclusory” testimony. See FWD, 34. Mr. Cook (1) repeatedly pointed to Tseng’s reference to “outwardly extending” light conductor elements, (2) discussed the structural design of Tseng’s light conductor, and (3) highlighted that Tseng’s use of a translucent material will result in light diffusion. See Ex. 1003, ¶¶ 163-198. He then concluded from all this that light will emit from the sides of Tseng’s sprayhead. See *id.* Moreover, Mr. Cook generated annotated figures showing how light is transmitted through Tseng’s light conductor. See *id.*, ¶¶ 174-175. And he compared Tseng’s light conductor/pipe to that in the ’363 patent’s figures and found it indistinguishable. *Id.*, ¶¶ 169, 176. It is unclear what more could possibly have been required. Simply labeling comprehensive testimony “conclusory” as the Board does here does not make it so.

The Board’s finding is also contrary to other prior art. As Petitioner highlighted in its reply, Tseng references (and improves upon) the earlier ’874 patent. See Paper 22, 8-9. This patent explains that its light conductor—which is structured similarly to Tseng’s—emits light both from its bottom and sides. See ’874 patent (Ex. 2009), 3:51-62. The Board dismissed this, stating that it required

expert testimony to understand the '874 patent. See FWD, 37-39. It does not. A simple side-by-side comparison of Tseng's and the '874 patent's figures is enough:



Tseng, Fig. 32; '874 patent, Fig. 2 (both cropped and annotated). In any event, Patent Owner's expert Dr. Klopp agreed during cross examination that Tseng's and the '874 patent's sprayheads are "quite similar" and "analogous" "at a very high level." Ex. 1015, 48:13-49:1. Dr. Klopp also agreed that the '874 patent does in fact state that light is emitted out the sides of its sprayhead. *Id.*, 49:8-50:21, 53:3-54:1

So rather than properly weighing, considering, and engaging with the evidence of record, the Board did little more than adopt the testimony of Patent Owner's expert Dr. Klopp, whom the Board believed "has greater experience with the technology at issue—optical systems and methods...." FWD, 36. While the Board is of course free to make credibility determinations, the mere fact that "an expert may be qualified by experience does not mean that experience, standing alone, is a sufficient foundation rendering reliable any conceivable opinion the expert may express." *Prime Time Toys* at 10-11 (quoting *US v. Frazier*, 387 F.3d 1244, 1261 (11th Cir. 2004).) Here, Dr. Klopp's testimony contradicts what Tseng

teaches. Thus, regardless of his perceived qualifications, Dr. Klopp's testimony was not entitled to significant weight. *See Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1378 (Fed. Cir. 2017) (arguments "plainly inconsistent with the record" cannot show non-obviousness). The Board erred in finding otherwise.

4. The Board's Decision Effectively Renders Claim 10 Meaningless

Finally, the Board's decision makes it virtually impossible for the public to determine if a sprayhead falls within the scope of claim 10. The Board held that a prior art reference that (1) includes a translucent light pipe that diffuses and scatters light, (2) purposefully extends this light pipe out the sides of the sprayhead, and (3) admittedly causes at least some light to exit from the sides of the sprayhead (thus making light visible from the sides) somehow fails to satisfy claim 10. If this is not enough to show claim coverage, it is unclear whether the claims cover anything at all. This separately requires reversal. *See Wasica Fin. GmbH v. Cont'l Automotive Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017) ("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous."). There is nothing in the '363 patent that justifies interpreting the claims in the strained way the Board does. Once again, the only reasonable way to interpret claim 10 is that any amount of light emission from the sides of a light conductor/pipe is sufficient. This is exactly what Tseng teaches.

B. The Board Abused Its Discretion and Made Material Factual Errors When Comparing Tse to Claim 19

The Board also abused its discretion and erred when assessing the Tse reference. Again, Tse is the primary reference at issue in Grounds 4-6 addressing claim 19. Here, the Board found the claims patentable solely because it believed that the Petition’s “position that Tse’s semi-transparent cover ... is translucent consists solely of a conclusory assertion to that effect....” FWD, 59. While Petitioner pointed out that there was no dispute that Tse teaches translucent materials, the Board disagreed, finding that “Patent Owner does not concede that Tse’s semi-transparent cover is translucent.” *Id.*, 60. This is incorrect. Patent Owner **admitted at the hearing** that Tse teaches “translucent” materials.

Tse explains that its showerhead’s cover “is made of transparent or semi-transparent material so that the light emitted” by the LEDs inside the shower head “can be seen.” Tse, 3:3-5. In its Preliminary Response, Patent Owner alleged that there is a difference between Tse’s “semi-transparent” material and the “translucent” light pipe material required by claim 19. *See* Paper 5, 45-46. Patent Owner, however, abandoned this argument and did not re-make it when it filed its post-institution response. *See generally* Paper 17. Instead, it argued only that the Tse’s cover has an insufficient “thickness-to-width aspect ratio” to qualify as a light pipe. *Id.*, 63. Petitioner noted this both in its reply (*see* Paper 22, 17) and during oral argument (*see* Paper 29, 22:17-24:7).

The Board asked Patent Owner’s counsel about this very issue at the hearing. In particular, the Board queried whether there was a “dispute that Tse’s disclosure of semi-transparent material includes the translucent light pipe claim limitation.” *Id.*, 55:19-22. Patent Owner responded that “[i]t’s not in dispute that Tse describes a semi-transparent material, and we didn’t dispute that would – as Petitioner alleges, refer to a translucent material.” *Id.*, 55:23-56:6 (emphasis added). Given this admission, the Board was not free to find—as it did—that Tse does not teach “translucent” materials. Patent Owner admitted on the record that it does. Patent Owner’s admission thus left the Board with one question to consider for Grounds 4-6: whether Tse’s cover—which is admittedly translucent—is thick enough to constitute the claimed “light pipe” (either alone or when modified in view of Carter). The Board’s failure to answer this question while instead reaching a conclusion that contradicts Patent Owner’s express admission constituted yet another abuse of discretion.

III. CONCLUSION

For the reasons outlined above, Petitioner respectfully requests that the Board’s final decision regarding claims 10 and 19 be reversed, and the decision be returned to the Board for further consideration of any remaining issues (such as unaddressed dependent claims) consistent with this reversal.

Respectfully submitted,

ORRICK, HERRINGTON & SUTCLIFFE LLP

Dated: October 31, 2025

/K. Patrick Herman/

K. Patrick Herman, Reg. No. 75,018
Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
Telephone: (212) 506-3596
Email: P52PTABDocket@orrick.com

Attorneys for Petitioner

CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing paper was caused to be served on October 31, 2025 via email upon counsel for Patent Owner at the addresses indicated:

David L. Cavanaugh
R. Gregory Israelsen
Jungyeon Kim
Anna Mizzi
WILMER CUTLER PICKERING HALE AND DORR, LLP
david.cavanaugh@wilmerhale.com
Greg.Israelsen@wilmerhale.com
john.kim@wilmerhale.com
Anna.Mizzi@wilmerhale.com

/K. Patrick Herman/

K. Patrick Herman, Reg. No. 75,018
Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
T: 212-506-3596; F: 212-506-5151
Email: P52PTABDocket@orrick.com