

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

CLEARCORRECT OPERATING LLC,  
Petitioner,

v.

ALIGN TECHNOLOGY, INC.,  
Patent Owner.

---

Case No. IPR2025-00816  
Patent No. 11,369,456

---

**PATENT OWNER'S SUR-REPLY**

## TABLE OF CONTENTS

|      |                                                                                                                         |    |
|------|-------------------------------------------------------------------------------------------------------------------------|----|
| I.   | Introduction.....                                                                                                       | 1  |
| II.  | Ground 1 Fails .....                                                                                                    | 1  |
| A.   | Petitioner Fails to Show Chishti-511 Discloses Identifying Collisions<br>and Performing a Modification in Response..... | 2  |
| 1.   | Petitioner shifts theories regarding Chishti-511 .....                                                                  | 3  |
| 2.   | Petitioner’s reply arguments are unsupported and lack merit ....                                                        | 7  |
| B.   | Petitioner Fails to Show Sachdeva Identifies Collisions .....                                                           | 12 |
| C.   | Petitioner Fails to Show a POSITA Would Combine Chishti-511 and<br>Sachdeva as Proposed .....                           | 15 |
| III. | Ground 2 Fails .....                                                                                                    | 19 |
| IV.  | Petitioner’s Continual Shifts in the Level of Skill Confirms Petitioner’s Case<br>Lacks Credibility .....               | 23 |
| V.   | Conclusion .....                                                                                                        | 26 |

## **I. INTRODUCTION**

The reply confirms the shortcomings of the petition. In maintaining that the ground references render obvious the challenged claims, Petitioner continues to stretch the applied prior art beyond its common-sense reading. Petitioner also advances improper new arguments and pivots to a new reference in an effort to fix its deficient petition case. Accordingly, the Board should find that Petitioner has failed to meet its burden in establishing obviousness.

## **II. GROUND 1 FAILS**

After Align's response exposed the petition case as based on lazy analysis and misapprehension of the prior art, Petitioner's reply arguments for Ground 1 narrow the issues in dispute. The petition uncritically seized on a statement in Chishti-511 about first defining collision-free treatment paths but failed to appreciate that the subsequent computer design of aligners to execute those collision-free movements says nothing about collisions. This is no surprise, as Chishti-511 reasonably would have expected the collision-free paths Chishti-511 describes to be just that: collision-free. Petitioner simply misunderstood the prior art in its argument about what was allegedly disclosed. While the reply now admits that Chishti-511's system "first defines" collision-free paths as part of its path determination process (Reply, 1), Petitioner abandons reliance on this process

as teaching *identifying a collision*<sup>1</sup> (limitation 1(c)) and *performing a first modification ... in response to the identifying* (limitation 1(d)). Instead, the reply now pivots to asserting that Chishti-511 identifies deviations from those collision-free paths during the next step—the aligner calculation process—and that a deviation **could** result in a collision. Reply, 1-2.

The reply only highlights the reasons that Ground 1 fails. Besides being improperly new, Petitioner’s allegations that Chishti-511’s aligner calculation process could involve collision identification continues to turn on numerous misconceptions and illogical inferences. These misconceptions not only render Petitioner’s reliance on Chishti-511 alone deficient, they also infect and render flawed Petitioner’s combination of Chishti-511 with Sachdeva.

**A. Petitioner Fails to Show Chishti-511 Discloses Identifying Collisions and Performing a Modification in Response**

As Align’s response demonstrated, the petition improperly conflated Chishti-511’s path determination process and aligner calculation process in misapprehending that Chishti-511 describes identifying collisions and modifying a schedule of movement in response. POR, 13-17, 29-34. In reply, Petitioner now backs away from its assertions that Chishti describes such features and instead

---

<sup>1</sup> Consistent with Align’s Response, claim language is italicized throughout.

shifts its stance to one of possibility: because Chishti-511's simulation of a calculated aligner "may" lead to a deviation from a predetermined movement, a determination that an aligner is unacceptable could involve a collision (despite Chishti-511 saying nothing of the sort). Reply, 2. This shift represents an improper new thrust in the basis for Petitioner's challenge that should be dismissed by the Board. Moreover, even on the merits, Petitioner's speculative assertions regarding what could happen during Chishti-511's aligner calculation process are unsupported and at odds with Chishti-511's disclosure.

### **1. Petitioner shifts theories regarding Chishti-511**

Petitioner now concedes that Chishti-511 describes two distinct steps as part of its system: a path determination process, where the system first defines "collision-free tooth paths," and an aligner calculation process, where aligners are designed to execute the predefined movements. *See* Reply, 1. Contrary to its confused assertions in the petition, Petitioner does not contend that any collisions detected during the path determination process satisfy the limitations of the claims. Instead, Petitioner's reply makes clear that its obviousness case turns on whether Chishti-511 could **also** identify collisions during its aligner calculation process. *See id.*, 1-2. However, not only are Petitioner's reply assertions unfounded (*infra*, §II.A.2), they also represent a fundamental shift in theory from what was presented in the petition.

Even before turning to Sachdeva, the petition argued that Chishti-511 taught limitations 1(c)-1(d). Pet., 36, 39. For limitation 1(c), the petition argued that Chishti-511 *identif[ies] a collision* because “[a] POSITA would have understood that a schedule of movement resulting in a collision would be orthodontically unacceptable and unlikely to reach an acceptable end position.” Pet., 36-37 (citing EX1004, 4:7-22, 5:25-32). Based on this alleged understanding, the petition concluded, unequivocally, that Chishti-511 therefore “identifies unacceptable movements, including those resulting in a collision.” *Id.*; *see also* EX1003, ¶106. The petition advanced similar assertions for limitation 1(d). *See* Pet., 39 (arguing “[a] POSITA would have understood [transferring control to the path determination process] is performed in response to identifying a collision”), 40 (“Thus, this path redefinition will be performed ‘in response to the identifying’ of a collision.”); EX1003, ¶109. Thus, the petition’s theory was premised on confusing different aspects of Chishti-511 and allegations of what allegedly was disclosed in Chisti-511 regarding how path redefinition is performed.

Petitioner’s reply backs away from these assertions. Faced with evidence that a POSITA would not have such an understanding, the reply abandons its petition assertions of what Chishti-511 allegedly does disclose, and pivots to what Petitioner newly imagines could be done. Specifically, the reply now speculates that collisions “may” occur during Chishti-511’s aligner calculation process. For

instance, the reply posits that because “Chishti-511 recognizes that simulation [of a calculated aligner] may show that teeth will deviate from their ideal path/movements” if that aligner were used, then these deviations “may lead” to collisions during the simulation. Reply, 1-2; *see also id.*, 2 (“deviations ... may result in collisions”), 3-4 (same); EX1040, ¶¶11-12. Petitioner’s reply therefore argues that because collisions “may” occur when Chishti-511 assesses the viability of an aligner configuration, then a collision might be detected during the aligner calculation process. None of this is stated in Chishti-511, of course, nor is the reply argument the same as what was argued in the petition.

The Federal Circuit has acknowledged that this type of pivot in what a reference does disclose versus what it allegedly could have conveyed to a POSITA represents a new and untimely change to the thrust of an obviousness case. In *In re Leithem*, 661 F.3d 1316 (Fed. Cir. 2011), the court addressed claims related to an improved diaper comprising “fluff pulp.” *Id.*, 1317. The examiner rejected the claims as obvious based on a combination involving a secondary reference that allegedly disclosed a method of making fluff pulp as recited. *Id.* On appeal to the Board, the applicant argued that the reference described its pulp as wet-laid paper, rather than fluff pulp as alleged by the examiner. *Id.*, 1317-18. While the Board agreed with the applicant, the Board nevertheless sustained the obviousness

rejection because the reference's pulp "may be fluffed." *Id.*, 1318; *see also id.*, 1319.

The Federal Circuit found this to constitute a new ground of rejection. As the court explained, "[m]ere reliance on the same statutory basis and the same prior art reference, alone, is insufficient to avoid making a new ground of rejection when the Board relies on new facts and rationales not previously raised." *Id.*, 1319. While the examiner cited the reference "as teaching a fluff pulp," the Board only found that the pulp "may be fluffed," which the court found raised "new facts concerning the scope and content of the prior art." *Id.*, 1320. This changed the "thrust" of the obviousness rejection and therefore constituted a new ground. *See id.*, 1320-21.

The same circumstances are present here. The petition alleged that Chishti-511 "identifies unacceptable movements, including those resulting in a collision" and path redefinition "is performed in response to identifying a collision." Pet., 37, 39. In contrast, the reply argues collisions "may result," which may then be detected and the paths redefined in response. Reply, 1-2. This, in effect, raises "new facts concerning the scope and content of the prior art" and thus changes the thrust of the petition's ground. *Leithem*, 661 F.3d at 1320. Further, Petitioner cannot defend its shifting position merely because it responds to POR arguments that Petitioner misunderstood the reference. Much like the Board's theory was

raised in response to the applicant's showing that the applied art did not disclose fluff pulp, *Leithem* demonstrates that Petitioner's changing stance regarding the scope of Chishti-511's teachings is improper. Accordingly, Petitioner's reply arguments can be dismissed as untimely because they constitute a new ground.

## **2. Petitioner's reply arguments are unsupported and lack merit**

Notwithstanding the impropriety of Petitioner's reply regarding Chishti-511, Petitioner's assertions also lack credible support. First and foremost, Petitioner does not (and cannot) dispute that Chishti-511 says nothing about detecting collisions during its aligner configuration process. *See* Reply, 1-4. As noted in Align's response, Chishti-511 only mentions collisions in relation to its path determination process (*i.e.*, step 150). *See* POR, 29-30.

Instead, Petitioner resorts to out-of-context snippets from Chishti-511 and contorted logic. For example, ignoring that Chishti-511 expressly states it first generates a "collision-free" plan, Petitioner imagines that "[a]n orthodontic treatment plan that produces collisions between teeth is, by definition, not orthodontically acceptable." Reply, 3. Petitioner completes its circular logic in arguing that when Chishti-511 identifies an aligner as not "orthodontically acceptable," it could therefore include a collision. *Id.* Besides circular reasoning and lack of support, the argument is contradicted by Chishti-511. Chishti-511 explains that the aligner calculation process (step 170) runs a simulation and first

“evaluates whether the teeth have reached the desired end position for the current path segment.” EX1004, 5:7-25, FIG. 2 (step 230). “If an acceptable end position is not reached by the teeth,” the process calculates a new candidate aligner shape. *Id.*, 5:25-27 (step 240). Only “[i]f an acceptable end position **is** reached” will the system evaluate the motions of the teeth “to determine whether they are orthodontically acceptable.” *Id.*, 5:27-30 (step 232) (emphasis added); *see also* EX1003, ¶53 (Dr. Yadav describing same). Petitioner’s assertion that “orthodontically acceptable” can somehow be read to extend to collisions is hindsight-based imagination: orthodontic acceptability is only evaluated in circumstances where the teeth **have reached** their desired end positions. Chishti-511 never mentions collisions in this context and, logically, the assessment of orthodontic acceptability has nothing to do with collisions since the simulation showed teeth reaching their proper end position of the **collision-free** path segments. Thus, as Dr. Valley explained, a POSITA would not have understood “orthodontically acceptable” to mean that a schedule of movement results in a collision. *See* EX2013, ¶¶90-93.

In addition, attempting to twist Chishti-511’s disclosure to read on collision detection, Petitioner misleadingly characterizes the purpose of the aligner calculation process. For example, Petitioner attempts to re-write the paths outputted by the path determination process as “idealized, collision-free tooth

paths.” Reply, 1. According to Petitioner, “Chishti-511 recognizes that simulation may show that teeth will deviate from their ideal path/movements” and the aligner calculation process’s aim is to “simulate how it expects a patient’s teeth to actually move if they were to use the calculated aligners.” *Id.*, 1-2; *see also* EX1040, ¶10; Reply, 3-4. Petitioner thus misleadingly suggests that the predetermined collision-free paths are just “idealized” paths and the aligner calculation process serves to assess the paths that are actually taken by teeth using a calculated aligner, where if the simulated paths lead to collisions, then the original collision-free paths must be redefined.

However, this is not what Chishti-511 ever states or describes. Chishti-511 never mentions “idealized” collision-free paths—it generates a collision-free path plan and the aligner calculation process evaluates whether an aligner configuration can achieve those intended paths. *See, e.g.*, EX1004, 2:45-50 (invention “confirm[s] that proposed paths can be achieved by the appliance under consideration”), 4:51-56 (stating, at step 170, the system “calculate[s] clinically acceptable appliance configurations ... that will move the teeth on the defined treatment path” defined in step 150). If an aligner configuration cannot achieve that path, Chishti-511 teaches redefining the collision-free path. *See* EX2013, ¶93. In its forced attempt to read Chisti-511 onto the claims, Petitioner wrongly recasts the described aim of Chishti-511’s aligner calculation process—from assessing

whether an aligner can execute the prescribed collision-free path to testing different paths that were never part of the Chishti-511 treatment plan.

Furthermore, Petitioner's speculation that simulated teeth movement from a calculated aligner "may lead to collisions" lacks support or a reasoned basis in Chishti-511. *See* Reply, 1-2. Petitioner points to Chishti-511's discussion where a calculated aligner may move teeth "too slow," "too far short of" or "too far past the desired end position," or "in a direction other than the desired direction" as instances where collisions may occur as a result. *Id.* (citing EX1004, 7:37-51). Chishti-511 identifies these instances as forming "rules 452," which direct changes to be made to a calculated aligner. EX1004, 7:33-51 (*e.g.*, if a tooth moved too slow, add driving material to the aligner); EX2013, ¶57. Chishti-511 does not link this assessment to the path determination process, much less to an assessment whether the detected conditions ("too far short," "too far past," etc.) are the result of a collision. Indeed, Chishti-511 explains that this evaluation is done on an **individual tooth** basis, which undermines any assertion that the process evaluates interactions **between teeth** (including collisions). *See, e.g.*, EX1004, 6:63-64 (process "iterates over the movable teeth in the model"), 7:23-51 (describing computing aligner changes "in a region of a current tooth" using rules 452), FIGS. 4 (step 430), 5A ("aligner changes for current tooth"), 5B-5D (modeling individual tooth to determine aligner changes).

Petitioner additionally cites Chishti-511's discussion that, if an aligner is unacceptable, the process may "relax" constraints (*e.g.*, a maximum displacement rate or force) as other instances where collisions may occur. Reply, 2; *see also* EX1040, ¶12. But Petitioner ignores that, under these circumstances, Chishti-511 teaches that the system repeats the aligner calculation process under the new constraints; it does not link this assessment to the path determination process. EX1004, 8:36-41; FIG. 6 (box 610). As Dr. Valley explained, this process allows for an **improved** chance of calculating an acceptable aligner for the predetermined collision-free path. EX2013, ¶56 ("by relaxing such constraints, an aligner that was previously determined unacceptable ... can be recalculated as acceptable"). Petitioner's hypothetical that relaxing such constraints may also result in collisions is not stated in Chishti-511 and is actually in tension with its disclosure that the aim of such action is to better calculate an acceptable aligner (without redefining the path segment).

Finally, Petitioner argues "Align's argument would render redundant portions of Chishti-511" because "Align provides no explanation for Chishti-511 redefining tooth paths if the initial tooth path was sufficient to guarantee a collision-free treatment plan." Reply, 4. This is an improper attempt to invert the burden and evidences Petitioner's hindsight-driven attempt to insert collision detection into Chishti-511's aligner calculation process where none exists. Only

circular reasoning presumes that the only reason a path would need to be redefined is if it resulted in a collision. As explained above, Chishti-511 evaluates whether an aligner configuration will achieve the inputted, collision-free path; if one cannot, then a new collision-free path is defined and inputted for calculation of aligner shapes that can achieve the newly-defined path. *See* POR, 13-17. There is no redundancy.

**B. Petitioner Fails to Show Sachdeva Identifies Collisions**

While Petitioner additionally relies on Sachdeva as allegedly teaching collision-detection, Petitioner misinterpreted that reference as well and the reply only confirms this. As explained in Align’s response, the petition failed to show Sachdeva teaches collision identification because a *collision* is not the same as the “conflict” described in Sachdeva, where one tooth blocks the movement of another. *See* POR, 20-21. In reply, Petitioner admits that Sachdeva only describes identifying a “conflict,” rather than a *collision*. Reply, 4. Petitioner nevertheless argues that Sachdeva’s “conflict” is a *collision* because “Sachdeva contemplates that the tooth has a movement path towards a desired position and is not merely a stationary tooth.” Reply, 6-7 (citing POR, 37-38, 43; EX1007, 5:5-8). However, merely because a tooth can have a direct movement path toward a desired location does not mean the tooth can start that movement when another tooth is blocking its path. *See* EX1007, 5:22-24; EX2013, ¶¶98-99.

Petitioner further argues that “Align focuses on the subsequent modification (delaying the non-priority tooth) to argue that the tooth is stationary.” Reply, 7. Align never argued that. Rather, as the response explained, Sachdeva describes a conflict is identified where a stationary tooth is unable to move at all because it is blocked by another tooth (thus necessitating the blocking tooth be moved before the stationary tooth can move at all). EX2013, ¶¶98-99. This conflict identification occurs before any “subsequent modification.” Indeed, Sachdeva describes the conflict due to blocking in terms of how to select which tooth should be labeled the priority tooth. See EX1007, 5:14-26. Thus, the point still stands that, for a multi-tooth conflict, the petition misapprehended that the Sachdeva “conflict” only describes a scenario in which the teeth do not move at all (because one is blocking the other). As Petitioner’s expert conceded, that is not a *collision*. Reply, 9 (citing EX2015, 47:20-48:6).

The notion that Sachdeva describes a conflict in terms of blocking, stationary teeth is not undermined by the ’456 patent claims. Reply, 7. As Petitioner acknowledges, claim 8 recites modifying a schedule of movement by delaying the initial movement of a tooth after a collision between teeth has been identified. Merely because claim 8 recites utilizing delays to avoid a collision does not mean that Sachdeva’s discussion of delaying movement of the non-priority tooth arises from the same issue (*i.e.*, a collision versus the described blocking

scenario). Thus, there is no “glaring inconsistency” to Align’s arguments (Reply, 7) because the issues identified as requiring a delay are still distinct between the ’456 patent and Sachdeva.

Tacitly conceding that Sachdeva does not provide the necessary disclosure, Petitioner turns to an entirely different reference, U.S. Patent No. 6,632,089 (“Rubbert”), in an attempt to cure Sachdeva’s deficiencies. Reply, 7-8. As an initial matter, Petitioner’s reliance on Rubbert should be rejected as an improper attempt to gap-fill the disclosure missing from Sachdeva. *See Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016) (affirming Board’s finding that a petitioner’s reliance on new references exceeded scope of proper reply); Trial Practice Guide, §II.I (improper for a reply to present “newly cited prior art references intended to ‘gap-fill’”). Rubbert is a continuation-in-part of a continuation-in-part of Sachdeva and adds a substantial amount of new matter.

Even if Rubbert is improperly considered, it does not “confirm” that Sachdeva’s “conflict” means a *collision*. Reply, 7-8. There is no dispute that any discussion of a collision in Rubbert is absent from Sachdeva, confirming Sachdeva’s deficiency. Moreover, Rubbert refers to “suitable collision detection algorithms,” **not** to Sachdeva. *See* EX1043, 30:1-16. It is only after “the collisions are detected” does Rubbert mention using Sachdeva’s features for

“selecting one tooth as a primary tooth.” *Id.* This is a blatant gap-filling effort. Indeed, Sachdeva itself highlights why Rubbert fails to “confirm” that Sachdeva’s “conflict” means a *collision*. Sachdeva describes a “conflict” as also existing “for a single tooth” where “the tooth cannot obtain its desired position due to distance of movement and treatment constraints.” EX1007, 5:37-44; *see also* EX2013, ¶¶68, 98, 100. As Dr. Valley explained, such a scenario does not involve collision, further illustrating that Sachdeva’s “conflict” cannot be equated to a *collision*. EX2013, ¶100.

Finally, the reply acknowledges that Dr. Yadav admitted that a “tooth collision” occurs when “[o]ne moving tooth strikes against another.” Reply, 9 (citing EX2015, 47:20-48:6). Petitioner, however, argues that this admission does not support Align’s arguments because Dr. Yadav was opining on “one type of collision.” *Id.* While Petitioner argues that a collision may also involve “a moving tooth striking a stationary tooth” as another example, this is consistent with Dr. Yadav’s admitted understanding of a collision. *See id.* This again does not undermine Align’s point that, in describing a “conflict” between two teeth, Sachdeva only describes a blocking scenario where neither tooth moves.

**C. Petitioner Fails to Show a POSITA Would Combine Chishti-511 and Sachdeva as Proposed**

While the petition lacked clarity regarding the combination, Petitioner now concedes that its combination is premised on incorporating Sachdeva’s technique

as part of Chishti-511's aligner calculation process, rather than the path determination process. *See, e.g.*, Reply, 11-12 (alleging "it would have been obvious to use 'Sachdeva's collision-identification process [as] an option for determining the acceptability of aligners'"), 13. Thus, Petitioner effectively admits that the petition's purported motivation that a POSITA would have turned to Sachdeva to achieve Chishti-511's "clinically viable sequence of tooth positions"—an action performed during the path determination process—merely serves as a pretext for justifying Sachdeva's combination into a **different** part of Chishti-511 (the aligner calculation process). *See* POR, 38-40, 44-46 (citing Pet., 19-20).

Moreover, Petitioner cannot dismiss Align's evidence showing that Sachdeva's technique and Chishti-511's aligner calculation process have substantially distinct purposes. POR, 49-52. Petitioner argues that "similarities" exist because "Sachdeva begins with a 'path of movement' for each tooth, just as Chishti-511's process starts with defined tooth paths" and each "simulates tooth movement." Reply, 13-14. This oversimplifies the two systems. As Dr. Valley noted, Sachdeva merely simulates tooth movement based on "each tooth's direct path." EX2013, ¶116 (citing EX1007, 3:33-36, 4:40-54, 5:3-5). Chishti-511's aligner calculation process, on the other hand, utilizes finite element analysis to

model the effects of a given aligner placed over a patient's teeth. EX2013, ¶115. Sachdeva's simplistic process involves no such modeling.

Additionally, in contrast to Sachdeva's simulation of a tooth's "direct path," Chishti-511's process assesses whether an aligner moves the tooth along the predetermined, collision-free path within acceptable constraints. *See id.*, ¶¶92-93 (Chishti-511 assesses whether aligner moves the tooth to "an acceptable end position using an acceptable level of force over an acceptable time period"). Petitioner overgeneralizes these two different processes with two different purposes, while providing no objective evidence that Sachdeva's distinct process would have been viewed as applicable to Chishti-511's aligner modeling. Moreover, Petitioner's lack of any reasoned basis supporting motivation to combine is further compounded by the erroneous assertions that Chishti-511's aligner calculation process includes collision detection, as discussed above. *Supra*, §II.A.

Petitioner also argues that Sachdeva's discussion of braces does not undermine its motivation because "the state of the art recognizes the applicability of these teachings." Reply, 15. Petitioner points to Rubbert, which allegedly "explains that its treatment planning and simulation features" apply to "brackets and wires as well as 'removable, transparent aligning devices.'" *Id.* However, Petitioner ignores that Rubbert describes a distinct system that includes additional

functionalities and purposes. *See, e.g.*, EX1043, Abstract, 4:51-57. Rubbert does not characterize Sachdeva’s system as having the same broad applicability—indeed, when discussing Sachdeva specifically, Rubbert only mentions brackets, consistent with Sachdeva’s stated purpose. *Id.*, 30:1-16. Petitioner likewise cites to Chishti-511 as “stating that its disclosures apply to both conventional braces and polymeric shells.” *Id.* However, Dr. Valley explained how the aim of Sachdeva was distinct from Chishti-511’s goal of mapping out the intended tooth movements over a staged treatment plan, such as with aligner treatments. EX2013, ¶¶122-23; *see also id.*, ¶123 n.3 (noting POSITA would have viewed Sachdeva as having limited value even for braces). Thus, simply because Chishti-511 suggests its system as having broader applicability does not necessarily mean that a POSITA would have recognized Sachdeva as having the same breadth.

Finally, Petitioner does not dispute that Dr. Clark’s testimony was offered for the limited purpose of reasonable expectation of success but misses Align’s point that the testimony does not cure the deficiencies in Petitioner’s rationale. *See* Reply, 16. Whether a computer scientist could have been able to implement the proposed modification is irrelevant to the issue identified—*i.e.*, a POSITA never would have sought to combine Chishti-511 and Sachdeva in the manner proposed in the first place. *See* POR, 48.

### III. GROUND 2 FAILS

Petitioner continues to challenge the Board’s finding that the prior art taught away from the petition’s proposed combination of Chishti-511, Chishti-876, Sachdeva, and Becker. Reply, 17-20. However, this issue is well-settled. Not only did the Board find in its institution decision that the prior art disparages the type of movement described in Becker (Inst. Dec., 27-28), the Board made the same finding in a prior proceeding involving the same art and the same parties. EX1008, 11 (“Chishti ’876 sufficiently discourages the practice of ‘round tripping’ enough to teach away from that practice”), 15-16; *see also* EX1002, 246-47, 303-04 (indicating allowability based on Board’s findings).

Nevertheless, despite knowledge of the Board’s prior findings, Petitioner attempts to relitigate an issue that has been thoroughly examined by the Board. *See SynQor, Inc. v. Vicor Corp.*, 988 F.3d 1341, 1351 (Fed. Cir. 2021) (“Factual determinations made by the expert agency entrusted by Congress to make those determinations—and to make them finally—need not be endlessly reexamined.”). What is more, nothing in the record has changed in Petitioner’s favor. The reply largely repeats the same arguments the Board considered and rejected in the institution decision. *See* Reply, 17-22; Inst. Dec., 25-29. Moreover, the evidence underlying Petitioner’s assertions remains the same evidence found deficient at institution. *See* EX1040 (Ground 2 unaddressed); Inst. Dec., 28 (finding petition’s

arguments “insufficiently supported on this record”). In fact, the Board now has additional evidence—Dr. Valley’s testimony—that further supports its initial determination. *See* EX2013, ¶¶72, 128-31. Simply put, Petitioner’s reply provides no basis for the Board to deviate from its prior findings.

Furthermore, Petitioner’s reply arguments can be rejected for additional reasons. For example, Petitioner attempts to downplay the prior art’s disparagement of round-tripping by asserting that Becker’s movement “may sometimes be necessary.” Reply, 18. Petitioner argues “[t]his supports a finding of obviousness,” citing a Federal Circuit decision that Petitioner describes as declining to find a teaching away that involved a process that “would kill patients rather than cure them.” *Id.*, 18-19 (citing *Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006)). However, Petitioner mischaracterizes *Optivus*. In *Optivus*, the court addressed the patent owner’s assertion that a reference’s use of a high-intensity proton beam directed at a beryllium plate to produce neutrons for cancer treatment “would kill patients” if the plate were removed. 469 F.3d at 989. In rejecting the patent owner’s argument, the court noted that the reference lacked any teachings that could be said to discourage a POSITA from modifying its neutron-based treatment to enable proton therapy without killing patients. *Id.*, 989-90 (“Clearly, one of ordinary skill in the art would not simply remove the beryllium plate and direct the high intensity

proton beam at a patient without further calculation or adjustment.”). The opposite exists here—Chishti-876 explicitly teaches the POSITA to avoid the round-tripping movement of Becker.

Petitioner further contends that Chishti-876’s teachings should be ignored because it is “a reference not even relied on in the Petition for this feature” and Chishti-511’s statement that round-tripping is “sometimes necessary” motivates the POSITA to look to Becker despite Chishti-876’s disparagement. Reply, 19. As an initial matter, Petitioner’s argument ignores that the Board has previously addressed Chishti-511’s discussion of round-tripping and found it to be “something different” than the type of round-tripping movement described in the ’456 patent. *See* EX1008, 15-16. In addition, Petitioner’s attempt to exclude Chishti-876’s relevant teachings from the obviousness inquiry has no legal basis. Petitioner relies on Chishti-876 as part of its Ground 2 challenge. Pet., 3. Merely because Petitioner does not rely on Chishti-876 as teaching the particular round-tripping limitations recited does not negate its relevance to whether a POSITA would have been discouraged from following the path proposed by the petition. *See, e.g., Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966) (obviousness assesses “the scope and content of the prior art”); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1552 (Fed. Cir. 1983) (finding nonobviousness where inventor “proceeded contrary to the accepted wisdom of the prior art”).

Petitioner also argues that Becker's teachings are applicable to clear aligner systems because "the prior art teaches using attachments and elastics, just as Becker does, to perform tooth movement." Reply, 20-22. Petitioner's assertions only further confirm the Board's initial determination was correct. In arguing that additional attachments like elastics may be used, Petitioner implicitly admits that using aligners to effect Becker's movement would not be appropriate or even possible, as the institution decision found. Inst. Dec., 29; *see also* EX2013, ¶¶72, 131. Petitioner also oversimplifies how Becker was able to accomplish its movement by suggesting that elastics would be sufficient. As Dr. Valley explained, Becker describes the use of mechanically intricate equipment to perform treatment in addition to elastics. EX2013, ¶131 (citing EX1006, 191). Aside from generally pointing to the possible use of elastics with aligners, Petitioner provides no evidence that such a system would be appropriate or possible to effect Becker's tooth transposition. *See* Reply, 21-22.

Finally, Petitioner's recourse to elastics highlights its overarching tendency to disregard the references' teachings and engage in hindsight. Petitioner ignores Chishti-511's teaching that the use of hardware, such as elastics, is triggered when "impossible movements" are required. EX1004, 8:44-50; *see also* EX2013, ¶¶57-58. In such cases, Chishti-511 **does not** transfer control back to the path definition process to redefine the paths. EX1004, 8:54-58. This teaching undermines the

petition's assertion that the combination would result in an "iterative process" in which the treatment paths are redefined to avoid collisions. *See* Pet., 75-76.

#### **IV. PETITIONER'S CONTINUAL SHIFTS IN THE LEVEL OF SKILL CONFIRMS PETITIONER'S CASE LACKS CREDIBILITY**

The reply arguments regarding the level of ordinary skill further highlight the petition's overall deficiencies with respect to the prior art and the POSITA. As explained in Align's response, the varying levels of ordinary skill advanced by Petitioner across different proceedings and between the petition and Dr. Yadav only serve to confirm that Petitioner's assertions regarding the POSITA's understanding of the prior art lack any credibility. POR, 3-7.

In reply, Petitioner distracts from the issue by arguing that Align "never proposes an alternative" skill level but has elsewhere advanced one consistent with the petition. Reply, 23-24. But Align's point was that Petitioner's failure to adhere to a consistent skill level appeared to be litigation-driven gamesmanship and, by failing to show obviousness under the level of skill it previously advocated for before the Board, Petitioner's case was necessarily deficient. *See* POR, 4-7.

Now, Petitioner attempts to fix this deficiency by raising new evidence that could have been presented in the petition. *See* Reply, 26-29. In particular, Petitioner introduces new testimony from Dr. Yadav who now (1) asserts that the discrepancy between the POSITA definitions set forth in the petition and his first declaration was the result of "a typographical error" and (2) provides new

testimony regarding his alleged qualifications relative to the newly-acknowledged POSITA requirements. *See* EX1040, ¶¶3-8.

With respect to the first point, the assertion that omission of experience using clear aligners was merely “a typographical error” is belied by the evidence. Dr. Yadav was questioned regarding the level of skill during cross-examination and he never raised the prospect of error at that time. *See* EX2015, 19:7-22:19. Instead, only once Petitioner received Align’s response did Petitioner (and Dr. Yadav) assert clerical error. Moreover, Petitioner’s citation to other declarations Dr. Yadav submitted for other proceedings does not support the typographical error allegation. For instance, Dr. Yadav’s declaration in IPR2025-00814 positively asserts that he “had 2-3 years of experience using clear aligners by 2006” and contains additional testimony alleging how and why he qualifies as a POSITA even under Petitioner’s previously proposed higher level of skill. *See* EX1045, ¶25. Dr. Yadav could have submitted this same testimony in this proceeding but did not. Indeed, when asked to confirm the basis for his qualifications during cross-examination, he only identified his “bachelor’s and master’s in dental sciences and treatment of orthodontic patients since 2003” as support. EX2015, 22:12-19.

Furthermore, to the extent Dr. Yadav’s new testimony is even considered, it only highlights his lack of credibility regarding the prior art. For instance, in

attempting to establish experience with clear aligner systems like those described in the applied references, Dr. Yadav argues that “Essix-type clear aligners were regularly used for multi-stage treatments for tooth movement.” EX1040, ¶4. However, the exhibits cited by Dr. Yadav confirm Dr. Valley’s testimony that Essix-type aligners were “understood to be vastly different from the types of clear aligner systems described in the applied references.” EX2013, ¶37; *see, e.g.*, EX1041, 1 (stating Essix appliance was developed “for minor tooth movements”); EX1042, 1 (describing same and further contrasting with Invisalign aligners, which “is a marvel of modern technology”); EX1016, 26 (stating “[t]he Invisalign System is unique in that the clinician must be able to plan the path to optimal results before treatment is initiated so that a series of aligners can be constructed,” while “[t]he Essix System is based on in-course adjustments of what is essentially a single appliance”).

Moreover, Dr. Yadav’s attempt to shore up his qualifications with his assertion that his post-2006 examination of “the historical development of clear aligner technology” has “reinforced [his] understanding of the capabilities and constraints of clear aligners as they existed in 2006” is contradicted by his reading of the prior art. EX1040, ¶8. That is, while Dr. Yadav presents himself as a knowledgeable expert that appreciates the “operation and limitations” of the prior art at the relevant time (*id.*), when it comes to assessing the claims, Dr. Yadav

treats the prior art as limitless for the purposes of establishing obviousness (*e.g.*, by reading more into the reference than what is disclosed and interpreting them as capable of effecting any movement by any means). Dr. Yadav's reply testimony thus further confirms that his prior-art opinions exemplify the type of flawed understanding exhibited by those with lower levels of skill. *See* POR, 6-7.

## **V. CONCLUSION**

For the reasons above, Petitioner fails to satisfy its burden in showing unpatentability of the challenged claims.

Respectfully submitted,

Date: June 23, 2026

/ Michael T. Rosato /  
Michael T. Rosato, Lead Counsel  
Reg. No. 52,182

### **CERTIFICATE OF COMPLIANCE**

Pursuant to §42.24(d), the undersigned certifies that this paper contains no more than 5,600 words, not including the portions of the paper exempted by §42.24(b). According to the word-processing system used to prepare this paper, the paper contains 5,584 words.

Respectfully submitted,

Date: June 23, 2026

/ Michael T. Rosato /  
Michael T. Rosato, Lead Counsel  
Reg. No. 52,182

## **CERTIFICATE OF SERVICE**

I certify that the foregoing Patent Owner's Sur-Reply was served on June 23, 2026, on Petitioner at the following electronic service addresses:

Luke McCammon  
Charles Collins-Chase  
Jency Mathew  
Anthony J. Berlenbach  
Finnegan, Henderson, Farabow, Garrett & Dunner, LLP  
[Luke.McCammon@finnegan.com](mailto:Luke.McCammon@finnegan.com)  
[Charles.Collins-Chase@finnegan.com](mailto:Charles.Collins-Chase@finnegan.com)  
[Jency.Mathew@finnegan.com](mailto:Jency.Mathew@finnegan.com)  
[Anthony.Berlenbach@finnegan.com](mailto:Anthony.Berlenbach@finnegan.com)  
[ClearCorrect-IPR-Attorneys@finnegan.com](mailto:ClearCorrect-IPR-Attorneys@finnegan.com)

Date: June 23, 2026

/ Michael T. Rosato /  
Michael T. Rosato, Lead Counsel  
Reg. No. 52,182