

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COLGATE-PALMOLIVE COMPANY,
Petitioner,

v.

NOBLE INNOVATIONS NC L.L.C.,
Patent Owner

IPR2023-01254
U.S. Patent No. 8,881,332

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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EXHIBIT LIST

No.	Exhibit Description
1001	U.S. Patent No. 8,881,332
1002	Prosecution File History of U.S. Patent No. 8,881,332 (Application No. 12/101,446)
1003	Prosecution File History of 11/840,627 (Parent Application to U.S. Patent No. 8,881,332)
1004	Prosecution File History of 14/535,442 (Continuation Application of U.S. Patent No. 8,881,332)
1005	Complaint, <i>Noble Innovations NC L.L.C. v. Colgate-Palmolive Company, et al.</i> , Case No. 8:22-cv-03373-PX (D. Md.) (filed December 30, 2022)
1006	Summons and Proof of Service of Complaint on February 22, 2023. <i>Noble Innovations NC L.L.C. v. Colgate-Palmolive Company, et al.</i> , Case No. 8:22-cv-03373-PX (D. Md.)
1007	Claim Listing
1008	Declaration of Timothy P. Fletcher in Support of Petition
1009	U.S. Patent No. 2,262,982 (Wolcott)
1010	U.S. Patent No. 2,307,493 (Davidson)
1011	U.S. Patent No. 1,346,536 (Fitz-Gibbon)
1012	U.S. Patent No. 1,995,374 (Young)
1013	U.S. Patent No. 8,240,937 (Sorrentino)
1014	Joint Stipulation to Extend Time to Answer or Otherwise Respond, <i>Noble Innovations NC L.L.C. v. Colgate-Palmolive Company, et al.</i> , Case No. 8:22-cv-03373-PX (D. Md.) (filed March 10, 2023)
1015	Scheduling Order, <i>Noble Innovations NC L.L.C. v. Colgate-Palmolive Company, et al.</i> , Case No. 8:22-cv-03373-PX (D. Md.) (filed June 20, 2023)
1016	Declaration of Michael C. Wilson in Support of Petitioner Colgate-Palmolive Company's Motion for <i>Pro Hac Vice</i> Admission
1017	Declaration of Jared M. Hoggan in Support of Petitioner Colgate-Palmolive Company's Motion for <i>Pro Hac Vice</i> Admission
1018	Declaration of Kelly R. Kodama from IPR2021-00585
1019	Transcript of Oral Deposition of Kelly R. Kodama
1020	Colgate Internal Invention Disclosure dated February 26, 2007
1021	Declaration of Al Sprosta (Colgate Employee)

1022	Screenshots From Internet Archive Related to www.toothpods.com
1023	Declaration of Keith D. Harden
1024	Declaration of Ken Capece (Colgate Employee)
1025	Screenshot of Electronic Record of Colgate Internal Invention Disclosure

I. INTRODUCTION

The Patent Owner’s Response of Noble Innovations NC L.L.C. (“Noble”) presents virtually identical positions to those which the Board already found unpersuasive and inaccurate in the Institution Decision. As discussed below, Noble applies an unsupported and overly-narrow interpretation of “angled capsule retaining elements,” mischaracterizes the disclosures and teachings of the prior art and Petitioner’s combinations, and fails to establish any secondary considerations of non-obviousness. The Board should find the challenged claims of the ’332 Patent unpatentable.

II. NOBLE CONTINUES TO MISCONSTRUE “ANGLED CAPSULE RETAINING ELEMENTS”

With respect to Grounds 1-4, the principal dispute centers on the scope of the term “angled capsule retaining elements.” As a preliminary matter, neither Noble nor its expert, Kelly Kodama (“Kodama”), present *any* claim construction arguments, and Kodama concedes that all terms are used according to their plain meaning. Ex. 1019, 13:2-14:3, 45:16-19.¹ In the Institution Decision, the Board found it unnecessary to formally construe the term “because there is no dispute that ‘angled capsule retaining elements’ ... *includes angled bristles*.” Inst. Dec., 12 (emphasis in original). The Board then found that *all* four references cited for

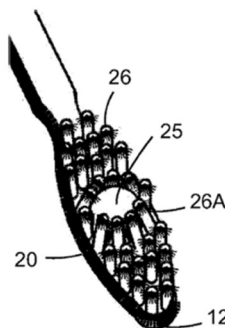
¹ To the extent Noble now seeks any construction other than plain meaning, it has waived that argument by failing to raise it in its Response.

Grounds 1-4—Wolcott, Davidson, Fitz-Gibbon, and Young—disclose angled bristles (*e.g.*, Inst. Dec. at 27-32), calling Noble’s arguments to the contrary “unpersuasive” (Inst. Dec., 27-28, 31).

Noble’s Response fails to acknowledge *any* of these prior findings. At the same time, the linchpin of Noble’s non-obviousness position is that the claims of the ’332 Patent require “intentional” or “purposeful” angling of bristle “tufts” or equivalents, and do not encompass bristles that naturally spread out at an angle. PO Response, 5, 10; Ex. 2001 ¶¶57, 63.

The Board should reject Noble’s attempt to rewrite the claims. The ’332 Patent requires only that the capsule retaining elements be “angled.” The claims do not state that such elements must be “purposefully” angled (whatever that means), that *all* bristles within a tuft used to retain dentifrice must be angled, or that bristles must be inserted at an angle where they attach to the brush.

Noble’s only support for its position appears to be FIG. 1, showing “angled bristles 26A.”



However, the '332 Patent does not discuss or show *how* bristles are mounted to the brush head, and never references “tufts” (angled or otherwise) at all—the specification only describes “angled bristles.” *See, e.g.*, Ex. 1001, 2:59–61, 4:62–5:1, 10:51–54. In short, there is no claim language or written description support to justify limiting “angled capsule retaining elements” to angled bristle *tufts* or to bristles that are “intentionally” angled inward. The plain meaning of the claims requires only that bristles that retain a capsule be “angled”—nothing more. For the reasons discussed below (and in the Board’s Institution Decision), this plain construction requires a finding that all claims are unpatentable under all grounds.

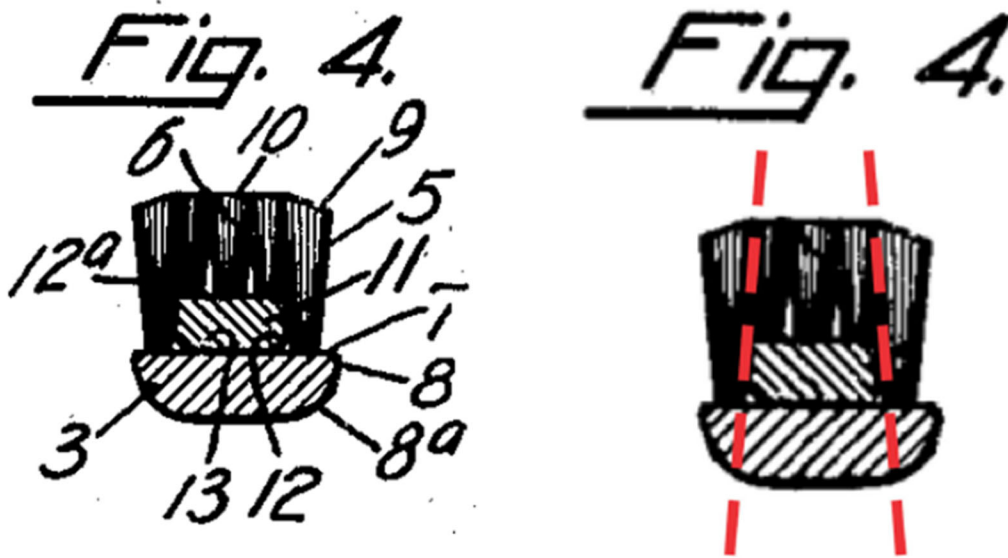
III. INDEPENDENT CLAIMS

As discussed below and in the Petition, Claims 1 and 10 are invalid.

A. Ground 1: Wolcott and Davidson

1. Wolcott

Noble argues Wolcott does not disclose “angled” bristles and accuses Petitioner of creating “the illusion of angled bristles by superimposing an angled line over stray bristles.” PO Response, 8-11. Both unannotated and annotated versions of FIG. 4 of Wolcott (Ex. 1009) are shown below (see Petition, 19, 35-36) (Ex. 1008, ¶¶25-26, 142-43).



Petitioner has in no way created an “illusion” of angled bristles. Some of Wolcott’s bristles are *in fact* angled towards the dentifrice pellet, *as already found by the Board and admitted to by Kodama*. Inst. Dec. at 27-28; Ex. 1019, 24:3-25:3 (“they’re splayed out as shown in Figure 4, yes.”; Yes, they’re ... an angle”).

As discussed above, Noble injects its unsupported limitation requiring “purposeful” or “intentional” angling of entire bristle “tufts,” and argues that the claims do not cover individually angled bristles found in “the natural separation of individual bristles in a bristle cluster.” PO Response, 5, 10. But again, Noble concedes that all terms—including the term “bristles”—have their plain meaning. Ex. 1019 at 13:2-14:13 (acknowledging “bristles” refers to individual strands within a tuft). Moreover, not only did Kodama concede Wolcott’s bristles are angled, he agreed a POSITA would “*expect*” for individual bristles within a clump/tuft to

spread out at an angle (*id.*, 28:21-29:12) and conceded the claims do not state “that the capsule retaining elements be angled at the point that they attach to the brush” (Ex. 1019, 29:24-30:8).

The Board previously dismissed Noble’s arguments on this point, finding they “inaccurately characterize the prior art’s disclosure” and stated “Patent Owner’s distinction between tufts of bristles and bristles appears to be misplaced, as the ’332 patent describes and the claims recite bristles, not tufts.” Inst. Dec., 28, 32.

Noble separately argues the “loosely spreading individual bristles do not perform the function of capsule retention.” PO Response, 5, 10-11; Ex. 2001 ¶¶57, 63-64. This, too, is incorrect. As discussed in the Petition and by Petitioner’s expert, Timothy Fletcher, Wolcott *repeatedly* teaches that the angling/spread of its bristles help retain the pellet:

“...bristles extend clear around the pellet recess 6, in such a manner as thereby *effectually to retain a pellet in said recess.*” Ex. 1009, 2:49-3:1 (emphasis added);

“...when the pellet is inserted in that recess, it is definitely located therein, due to the location and resiliency of the bristles, which latter causes them to *swing back to reduce the size of the mouth of the recess 6* after the insertion of the pellet, and further *due to the engagement of the wider portion 12a of the pellet with the sides of the expanding bristles in the adjacent tufts...*”), *id.*, 3:44-52 (emphasis added);

“As the pellet moves downward into the recess, the surfaces 12 on the pellet spring apart the bristles surrounding the recess, and *these bristles then spring back in such manner as to securely position the pellet* at the bottom of the recess...” *Id.*, 3:61- 67 (emphasis added); and

“...should the brush be accidentally inverted befor [sic] inserting in the mouth, *the pellet will still remain in its recess*, its portion 12a then engaging the wider expanded tuft portions or moving into engagement herewith.” *Id.*, 4:4-9 (emphasis added).

See Petition, 19-20, 26, 41-43; Ex. 1008, ¶¶64, 72-73, 84-85, 116-117, 155-157, 162-164. Indeed, despite the positions in the PO Response, Kodama acknowledged Wolcott teaches that its angled bristles retain the pellet. Ex. 1019, 35:13-36:7 (“Q ... would you agree that Wolcott discloses that the angled bristles help retain the pellet when the brush is inverted? A. Yes.”).

Critically, when Wolcott is viewed in accordance with the proper and full scope of “angled capsule retaining elements,” Wolcott discloses all elements of the challenged claims except for the claimed “recess.” As discussed below, Davidson clearly renders such recess obvious.

2. Combination of Wolcott and Davidson

In opposing the combination of Ground 1, Noble argues that Davidson does not teach “restraining [sic] oral care capsules,” and that “[o]ne of skill in the art

would not look to a well that can be filled with loose powder to provide a retention system for a solid sphere of gel toothpaste.” PO Response, 12-13.

First, Noble misconstrues the combination. *Wolcott* demonstrates that oral care capsules were known in the art and that angled bristles may be used to retain a capsule on a toothbrush. Ground 1 relies on Davidson for its disclosure that a well or recess in a toothbrush head provides improved dentifrice retaining characteristics.² Petition, 26–28, 31–35; Ex. 1008, ¶¶117–122, 132–140. As to *that* teaching, Davidson expressly teaches that its well works for any type of dentifrice: “[b]y the well 12 being closed at all points except its top, it will have a tendency to hold the dentifrice, ***regardless of the type of the dentifrice***, by suction.” *Id.*, 3:20-24 (emphasis added). *See also* Petition, 21, 26-27, Ex. 1008, ¶¶74-75, 118-120. Kodama agreed that there is no “engineering challenge in modifying the size and shape of the well in Davidson so it could accommodate a spherical capsule.” Ex. 1019, 40:1-5. Indeed, Kodama conceded wells that hold spherical objects are commonplace, such as in an egg carton, Chinese checkers, etc. Ex. 1019, 40:21-41:17.

Moreover, while Noble and Kodama claim that adding Davidson’s well to Wolcott’s toothbrush would not provide any benefit, these conclusory statements ignore Davidson’s express disclosure that the well enclosure “will have a tendency

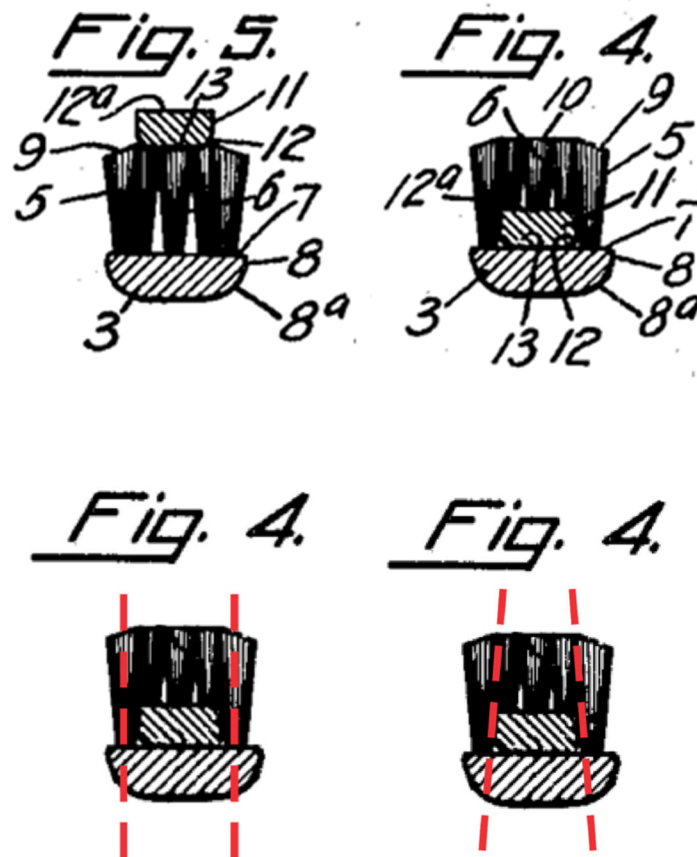
² Kodama testified that a “recess” and “well” are synonymous. Ex. 1019, 38:16-22.

to hold the dentifrice, regardless of the type....” Ex. 1010, 3:20-24. Neither Noble nor Kodama addresses Mr. Fletcher’s opinion (and the Board’s finding) that both Wolcott and Davidson are focused on dentifrice retention, and that Davidson’s well would “increase the ability of Wolcott’s toothbrush to retain a pellet,” “reducing movement of the pellet within the recess and decreasing chances of the pellet falling out.” Petition, 27; Ex. 1008, ¶121.

Noble claims that Davidson “does not consider usage of the bristles to hold the dentifrice in place” and that Davidson “fails to disclose angled bristles.” While false, these points also are not relevant here. *Davidson* is not cited for bristles that retain a capsule; the primary reference, *Wolcott*, is cited for this feature. The combination modifies Wolcott’s toothbrush to include Davidson’s well. *See* Petition, 26-28 (citing Ex. 1008, ¶¶116–122). The Institution Decision already rejected Noble’s arguments as flawed, stating, “we are not persuaded by the argument that Davidson’s dentifrice is a liquid or paste, rather than a capsule, because Petitioner does not cite Davidson or combine it with Wolcott for its teachings of a capsule” and “[s]imilarly, Patent Owner’s argument that Davidson’s bristles are not angled is also not persuasive. Petitioner does not rely on Davidson for this teaching.” Inst. Dec., 28.

Finally, Noble is incorrect that “[n]o reference teaches insertion past the vertical bristles into the capsule receiving zone.” PO Response, 19. Wolcott provides

both angled bristles and vertical bristles, and the dentifrice pellet is front-loaded past the vertical bristles and “downward into the recess.” *See* Ex. 1009, 3:61- 67, FIG. 4; Petition, 29-37; Ex. 1008, ¶¶127-147.



Kodama likewise agreed that Wolcott’s tufts include both angled and vertical bristles. Ex. 1019, 24:3-25:3, 72:1-25.

B. Ground 2: Wolcott, Davidson, and Fitz-Gibbon

Even if the Board adopted Noble’s narrow interpretation of “angled capsule retaining elements,” Fitz-Gibbon demonstrates that, as far back as 1920, purposefully or intentionally titling/angling entire bristle tufts over an “opening” to

create a top portion of a “pocket for holding the dentifrice” was known. Ex. 1011, 1:18-23, 1:79-87; Petition, 21-22; Ex. 1008, ¶¶76-77, 87-89. Noble again ignores the Petitioner’s combination, asserting that “[t]he pocket in Fitz-Gibbon is irregularly shaped and not designed to hold an oral care capsule,” “Fitz-Gibbon considers only using the pocket to contain dentifrice powder,” and “the powder must be placed from the backside into ‘the opening 7.’” PO Response, 15-16. Petitioner relies on *Wolcott—not Fitz-Gibbon*—for teaching a circular pocket, capsule, and front-loading of a capsule. Ex. 1009, 1:26-35, 2:38-45; Petition, 26-27, 49-51; Ex. 1008, ¶¶115–122, 199-207. Ground 2 thus provides the toothbrush of Wolcott, modified to include Davidson’s well and Fitz-Gibbon’s angled tufts. Petition, 49-51; Ex. 1008, ¶¶199-207. Both modifications are taught as ways to improve dentifrice retention.

Noble mistakenly claims Fitz-Gibbon “teaches away” from the ’332 Patent because Fitz-Gibbon “teaches depositing a dentifrice from the back of the brush head,” which is “completely opposed to the ’332 patent” and “ensures that nothing is inserted past the vertical bristles.” PO Response, 19-20. Once again, Noble ignores that Petitioner’s combination does *not* utilize the hole in the back of Fitz-Gibbon’s toothbrush—it simply adds Fitz-Gibbon’s tilted bristle tufts. Furthermore, teaching away requires that the prior art expressly discourage the proposed modification or teach that it would cause the primary reference to be rendered unsatisfactory for its intended purpose. *See In re Urbanski*, 809 F.3d 1237, 1240-41 (Fed. Cir. 2016).

Here, because Fitz-Gibbon does not discuss front-loading dentifrice one way or the other, it cannot teach away from Ground 2's combination.

In a similar vein, Noble suggests that any combination involving Wolcott, Davidson, and Fitz-Gibbon *must* include “a hole which encompasses most of the toothbrush head” that “would eliminate the channel of Davidson and ... dump the powder out of the back of the brush.” PO Response, 20. Noble’s position contradicts well-established tenets of obviousness. “[T]he fact that it would take some creativity to carry out the combination does not defeat a finding of obviousness.” *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1343 (Fed. Cir. 2020). “The rationale of *KSR* does not support ... that a person of ordinary skill can only perform combinations of a puzzle element A with a perfectly fitting puzzle element B.” *ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1219 (Fed. Cir. 2016). “It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 698 F.3d 1322, 1332 (Fed. Cir. 2012). “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references,” but, “[r]ather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d

1284, 1294 (Fed. Cir. 2015) (quoting *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Noble never explains why a POSITA would conclude that adopting Fitz-Gibbon’s idea of angled bristle tufts must also require adopting its hole to allow rear loading of dentifrice.

As already found by the Board, Fitz-Gibbon is “directed to very similar subject matter as Wolcott and Davidson, i.e., a toothbrush with a region for holding a dentifrice defined by an opening in bristles” and “Petitioner cites Fitz-Gibbon for teaching that toothbrush bristles, particularly when defining a region for holding dentifrice, may be angled inwardly to so hold the dentifrice, which we find to be a reasonable position on the present record.” Inst. Dec., 28-29. On this critical point, Kodama agrees Fitz-Gibbon’s angled tufts help retain dentifrice and it takes “no great engineering mind to understand that if bristles are put at an angle, it could help hold an object beneath it in place.” Ex. 1019, 52:12-53:16.

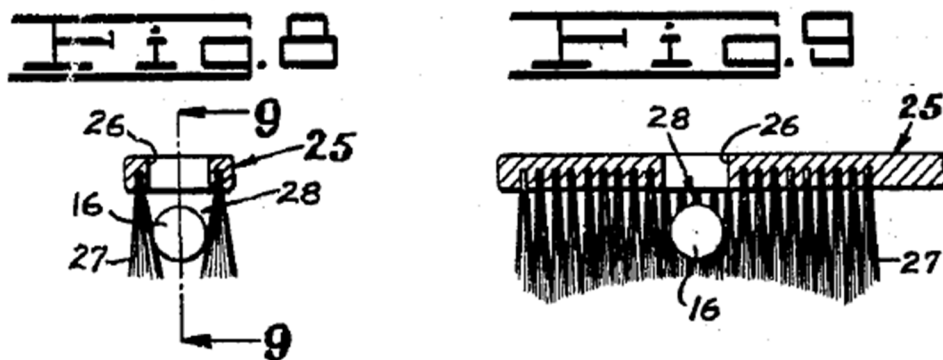
C. Ground 3: Young and Davidson

As with Grounds 1 and 2, Noble asserts Young and Davidson do not disclose angled bristles to retain a capsule. Noble’s position lacks merit for the same reasons discussed above in sections III.A-B. Young discloses both angled bristles and a pellet “retained by the bristles.” Ex. 1012, FIGS. 8, 10; 2:21-34; Petition, 22-24, 69-71; Ex. 1008, ¶¶65-66, 78-80, 86, 266-271.



The Board agreed, stating “[w]e find no error in this understanding of Young.” Inst. Dec. at 32. Indeed, in contradiction to his sworn declaration, Kodama agreed that Young has angled bristles that retain a capsule. Ex. 1019, 58:9-59:19.

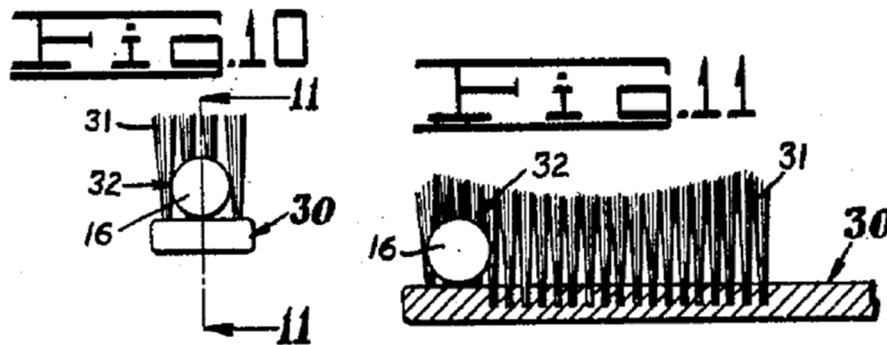
Noble also asserts there would be no motivation to combine Young and Davidson because Young does not provide for front-loading a capsule, focusing on one embodiment in Young that allows for inserting a capsule through a hole in the brush head, as depicted in FIGS. 8-9:



Based on this example, Noble argues Young is “completely opposed to the ’332 patent and ensures that nothing is inserted past the vertical bristles,” and that there

would be no motivation to combine Young and Davidson because Young's hole would allow for powder to fall out. PO Response, 21-23.

Employing the same flawed approach used for other grounds, Noble ignores that Petitioner's primary combination uses a different embodiment shown in FIGS. 10-11 of Young, which discloses *front-loading* a capsule onto the brush head with the surrounding bristles 31 "forming a pocket 32 in which the pellet 16 will be retained in place by the resiliency of the bristles" (Ex. 1012, 2:30-34).



This combination includes "moving pocket 32 to a center of the brush head, and to include a well in the center of the brush head, as taught in Davidson, to allow for more effective retaining of the pellet." Petition, 61-62; Ex. 1008, ¶248.³

Mirroring its arguments against Davidson for Grounds 1-2, Noble argues Davidson is directed to "holding dentifrice powder, paste, or liquid" and not "a solid

³ The Petition identified an *alternative* modification to Young that entails "replacing the hole 26 with a well as taught by Davidson," consistent with the other two front-loading embodiments in Young. Petition, 62; Ex. 1008, ¶249.

dentifrice capsule.” PO Response, 22. However, Young already discloses that solid dentifrice capsules were known; Grounds 3 and 4 cite Davidson for its dentifrice well. *See* Petition, 22-24, 58-62; Ex. 1008, ¶¶65-67, 241-250.

Noble again incorrectly maintains that Young and Davidson cannot be combined because Young “teaches away” from the ’332 Patent claims, arguing “the combination of Young and Davidson is unworkable because the combination would have insertion from the back and a recess in the front.” PO Response, 23. However, as explained *supra*, section III.B., the mere fact that Young presents an alternative method for loading dentifrice does not meet the standard for teaching away, and Noble’s suggestion that combining references requires bodily incorporation of all elements is not supported by case law. In any event, rather than *discouraging* use of brushes without a hole, multiple embodiments in Young include no hole and utilize a front-loaded capsule. *See* Ex. 1012, FIGS 1-2, 10-11.

D. Ground 4: Young, Davidson, and Fitz-Gibbon

Similar to Ground 2, Noble asserts Fitz-Gibbon discusses dentifrice powder whereas Young discusses pellets. PO Response, 25-26. Those arguments fail for the same reasons articulated above. *See supra*, sections III.B-C.

IV. DEPENDENT CLAIMS

With regard to the dependent claims, Noble merely relies upon its flawed arguments regarding the independent claims. *See* PO response, 29-31, 33-36. The

Board previously indicated that “the dependent claims more narrowly define aspects of the claimed toothbrush; Petitioner accounts for the added elements as taught in or suggested by the asserted prior art.” Inst. Dec., 25 (citing Petition at 41–49, 56–58). Noble fails to provide any rebuttal to the Petition or the Institution Decision. Therefore, for the reasons described in the Petition and in this Reply, the dependent claims are also invalid.

V. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

Noble asserts that Colgate’s Wisp product, which is similar to the invention described in Sorrentino (Ex. 1013) and has been accused by Noble as infringing the ’332 Patent (*see* Ex. 1005), supports a finding of non-obviousness based on secondary considerations. Noble appears to present the following secondary considerations theories: (1) commercial success; (2) copying; (3) long-felt need and failure of others; and (4) industry praise. PO Response, 36-39.

Secondary considerations cannot save the claims. First, because Petitioner has presented a *prima facie* case of obviousness, Noble has the burden to present competent and probative evidence of any secondary considerations. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018) (“[A] patentee bears the burden of production with respect to evidence of secondary considerations.”); *id.* at 1374–75 (“The weak evidence of secondary considerations [of long-felt but unresolved need and copying] presented here simply cannot overcome the strong

showing of obviousness.”); *Enova Tech. Corp. v. Seagate Tech. (US) Holdings Inc.*, 706 F. App’x 987, 994 (Fed. Cir. 2017) (“‘[T]he patentee has the burden of going forward with’ evidence tending to rebut a challenger’s obviousness case.”); *id.* at 994–96 (concluding secondary considerations of commercial success, industry praise, and copying and licensing by others did not support non-obviousness). Noble fails to do so.

Second, secondary considerations are “relevant only in a close case where all other proof leaves the question in doubt.” *Dow Chem. Co. v. Halliburton Oil Well Cementing Co.*, 324 U.S. 320, 339 (1945). Secondary considerations cannot make nonobvious “well known skills and practices,” *Jungersen v. Ostby & Barton Co.*, 335 U.S. 560, 566-67 (1949), or “the predictable use of prior art elements,” *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1344 (Fed. Cir. 2013). Here, because overwhelming evidence demonstrates the ’332 Patent merely combines well known features and predictably uses prior art elements, Noble’s purported secondary considerations are irrelevant.

Finally, to accord weight to secondary considerations in an obviousness analysis, “the evidence of secondary considerations must have a ‘nexus’ to the claims, *i.e.*, there must be ‘a legally and factually sufficient connection’ between the evidence and the patented invention.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). Noble fails to prove any such nexus exists.

A. Noble Fails to Prove Its Secondary Considerations

1. Commercial Success

Noble asserts that Colgate’s Wisp is “highly successful” and achieved “commercial acceptance.” PO Response, 36, 39. However, Noble’s proffered evidence merely shows Colgate released and marketed the Wisp (*see* Ex. 2005); Noble presents no proof the Wisp is or was commercially successful. Although Kodama’s declaration asserts the Wisp is successful, he has no qualifications to offer that opinion, and conceded he has seen no evidence of revenue, profitability, or market share. Ex. 1019, 80:24-82:17. Moreover, Petitioner maintains that the ‘332 claims do not cover Colgate’s Wisp since it lacks at least the recited angled capsule retaining elements (i.e., angled bristles); hence, there is no nexus. Noble has not met its burden to prove commercial success.

2. Copying

Noble accuses Colgate of copying “the retaining elements,” alleging Sorrentino was filed and the Wisp launched “only after Noble filed in August of 2007 and only after Noble published their invention on the internet at www.toothpods.com.” PO Response, 39. But Noble presents no actual *evidence* of copying—Noble merely *assumes* copying occurred based on an incomplete and misleading timeline.

First, it is well-established that not every product accused of falling within the scope of a patent is evidence of copying, “[o]therwise every infringement suit would automatically confirm the nonobviousness of the patent.” *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004). Thus, the mere existence of the accused Wisp is not probative of copying.

Second, and more importantly, a more complete and accurate recitation of the parties’ development timelines shows that Colgate copied nothing from Noble. With this Reply, Petitioner is submitting evidence proving that Colgate conceived and adopted the curved prongs for the Wisp before any alleged knowledge of or publication by Noble. Exhibit 1020 is an internal Colgate invention disclosure by the inventors of Sorrentino describing a “single use, disposable tooth cleaner and breath freshener,” dated February 26, 2007, that included “discreet prongs”:



Previous full, rigid retaining ring (with bead in place, and cross section without bead)



New, four discrete prong design (with bead in place, and cross section without bead)

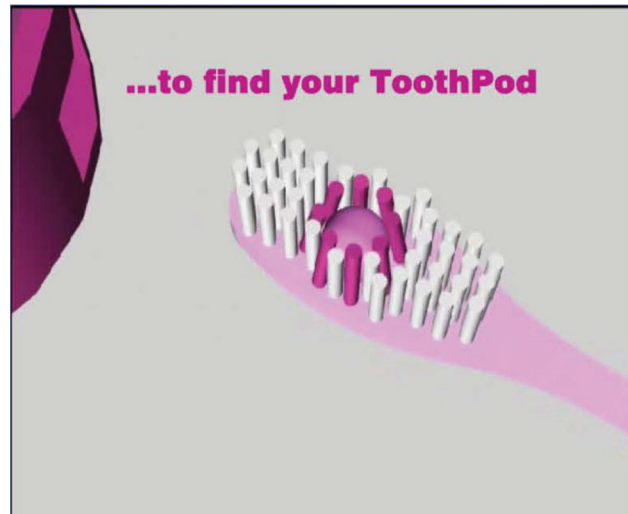
Ex. 1020 and Ex. 1025; *see* Ex. 1021 and 1024 (Declarations from Al Sprosta and Ken Capece confirming the date of the internal Colgate invention disclosure).

Almost six months after Colgate's Patent Department received and recorded the Sorrentino invention disclosure, Noble filed its earliest application (the '627 Application – abandoned/unpublished) on August 17, 2007. Ex. 1003, 1-6, 44. Moreover, on April 11, 2008, Noble filed the '446 application leading to the '332 Patent, but that application did not *publish* until February 19, 2009 (2009/0044356)

(Ex. 1001, Cover (65)), more than a year *after* Colgate filed for the Sorrentino patent on January 24, 2008, and two years after Colgate’s internal invention disclosure.

Noble suggests without proof that Colgate copied Noble’s idea from www.toothpods.com, but offers no evidence of the date of publication for that website or Colgate’s knowledge of the website. Petitioner attempted to find this site on the Internet Archive, but the earliest available date for toothpods.com was listed as April 21, 2009 (*see* Ex. 1022 and Ex. 1023)—well after both Colgate’s internal invention disclosure and the filing of Sorrentino.

In addition to the fact Colgate adopted its curved prong design before any purported disclosure of Noble’s toothpods design, *the content of Noble’s pre-Wisp disclosures directly contradict Noble’s theory of copying*. Colgate released the Wisp in 2009. *See* Ex. 2005. At all times before October 5, 2012, Noble’s patent applications included only “angled *bristles*,” *not* the attempted broader and more generic term “angled capsule retaining elements.” The toothbrush depicted on toothpods.com likewise had angled bristles:



Ex. 1022, 2. Thus, if Colgate had copied Noble, the Wisp would have had “angled bristles,” *not* curved discreet prongs. Ex. 1003, 16-31; Ex. 1002, 347-365.

Not only does the evidence disprove Noble’s theory that Colgate copied Noble, it in fact strongly suggests the opposite—that Noble re-wrote its claims in 2012 to try to read on Colgate’s Wisp. Noble did not amend its proposed claims to recite “angled capsule retaining elements” until *October 5, 2012*—three years after Colgate launched the Wisp and after Sorrentino issued on August 14, 2012. Ex. 2005; Ex. 1002, 223-236; Ex. 1013. Notably, Sorrentino describes and claims “retaining members” to hold an oral capsule. *E.g.*, Ex. 1013, FIG 17, 11:35-50, 12:51-13:1, claim 1.

In sum, no evidence supports Noble’s copying allegation.

3. Long-Felt Need and Failure of Others

Without explaining what the supposed long-felt need is, Noble points out that certain Colgate patent applications prior to Sorrentino did not disclose prongs to

retain a capsule. PO Response, 36-39. Because Colgate later added prongs, Noble assumes Colgate experienced “failures” with prior efforts and the prongs met a long-felt need. *Id.* Noble’s stance is both legally and factually incorrect.

A long-felt need must be proven—it cannot be presumed. *In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006). Proving a long-felt need requires showing: (1) an “articulated identified problem and evidence of efforts to solve the problem,” *Tex. Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993); (2) the need was “unresolved,” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1056 (Fed. Cir. 2016) (en banc); and (3) the claimed features—without any unclaimed features—filled the need, *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988). Additionally, “[a]bsent a showing of a long-felt need or the failure of others, the mere passage of time without the claimed invention is not evidence of nonobviousness.” *Iron Grip*, 392 F.3d at 1322. Noble fails to make the requisite showing.

Noble’s evidence merely shows a series of alternative Colgate applications on designs to hold a capsule, but the applications express no problems with the claimed designs or industry desire for other, better, capsule “retaining elements,” much less the angled bristles of the ’332 Patent.

Second, to the extent there ever was any need in the industry to retain a capsule on a toothbrush, the prior art solved this problem over 80 years ago, as both Wolcott

and Young (like the '332 Patent) taught using angled bristles to retain a capsule. *See* Ex. 1008, ¶¶61-62, 83-86. Moreover, the cited Colgate patents *prior* to Sorrentino successfully retained a capsule in the brush head. For example, the parent application to Sorrentino (App. No. 11/314,716, filed in 2005) describes use of a cushioned socket 28 “sized and shaped to receive and retain the gel capsule 32.” Ex. 2011, 5:57-64. Even Kodama agreed there is no evidence the socket did not work for capsule retention. Ex. 1019, 86:8-88:10.

Finally, the evidence shows Colgate did not add the curved prongs to better *retain* a capsule—rather, such prongs were added to raise the height of the capsule “to expose more surface area of the bead ... to the user's saliva to improve the ‘mouth-feel’ and expedite the dissolving of the bead.” Ex. 1013, 11:40-45; Ex. 1020, 1-2. Noble presents no evidence of any long-felt need or that the '332 patent satisfied such need.

4. Praise

Noble and Kodama cite a press release from Colgate (Ex. 2005) calling the Wisp “a breakthrough innovation.” PO Response, 39. Even assuming Colgate’s own marketing publication counts as “industry” praise, the article does not mention the prongs or capsule retaining features of the Wisp. Instead, it discusses several features and benefits *not* claimed in the '332 Patent, including that the Wisp is a “single-use mini-toothbrush,” “is conveniently packaged in a portable case for on-the-go

cleaning and breath freshening,” and has “no need for water or rinsing,” as admitted to by Kodama. Ex. 2005, 1; Ex. 1019, 83:6-84:15, 84:16-85:10.⁴ Because Exhibit 2005 provides no evidence whatsoever that the *claimed features* in the ’332 Patent received any industry praise, it supplies no objective indicia of non-obviousness.

B. Noble Does Not Establish a “Nexus”

Even if Noble had competent proof of any secondary consideration, Noble makes no effort to show that any secondary consideration relates to the claimed invention in the ’332 Patent. If anything, the evidence shows that the Wisp was marketed and sold based on features having nothing to do with the ’332 Patent. The Wisp included numerous other benefits and features not disclosed or claimed in the ’332 Patent, such as a toothpick at one end, a small/portable size, and that it is single-use and disposable.

⁴ Although not discussed or cited in the Response, Noble also filed Exhibit 2004 (“The ‘Product of the Year’ Awards”). Like Exhibit 2005, this article does not mention the Wisp’s prongs; it touts the Wisp being “tiny” and portable, features not in the ’332 Patent.



Ex. 1005, 52.

A single use/disposable toothbrush is in direct contradiction to the '332 Patent's stated purpose of making teeth-brushing more accessible to children by providing a reusable/refillable toothbrush that receives dispensed capsules. Ex. 1001, 1:21-2:61; *see also* Petition, 4-7 and Ex. 1008, ¶¶46-48.

Moreover, despite mentioning various secondary considerations in his declaration, Kodama was not familiar with the term “nexus,” could not describe which secondary considerations were relevant to the Wisp, and performed no nexus analysis. Ex. 1019, 79:14-82:24; Ex. 2001, ¶¶123-36. For all these reasons, Noble's secondary considerations arguments do not impact or rebut the clear evidence of obviousness.

VI. WRITTEN DESCRIPTION SUPPORT

Because Grounds 1-4 render the '332 Patent unpatentable, the Board need not reach Grounds 5-6. Nevertheless, if necessary, the Board should find that various

claim elements of the '332 Patent lack written description support in the '627 Application, and that Noble is not entitled to its claimed priority date, making Sorrentino prior art. *Noble does not contest that Sorrentino renders all challenged claims obvious*. Thus, the Board should hold all claims unpatentable under Grounds 5-6.

As discussed in the Petition, Noble has failed to show that several claim elements added by amendment have adequate support in the parent application (the "'627 Application"). Petition, 11-18. Noble argues the claims need not have verbatim support (PO Response, 4), but "[t]he critical inquiry is whether the applicant has provided a description that 'in a definite way identifies the claimed invention' in sufficient detail that a person of ordinary skill would understand that the inventor was in possession of it at the time of filing." *Alcon Rsch. Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1190-91 (Fed. Cir. 2014); Petition, 12. Noble fails to demonstrate support for the full scope of the claims.

For example, Noble amended its claims *and* specification to newly claim "diametrically opposed" retaining elements and retaining elements at 108/144 degrees apart. Ex. 1002, 166-183; *See* Petition, 14-15. The specification amendment added "ten angled bristles 26A are equally spaced around the perimeter of a circular recess (spanning 360 degrees) defining the capsule receiving zone." Ex. 1002, 170. Nothing in the original application suggests possession of specific bristle spacing or

arranging bristles in ordered pairs. Kodama likewise found no supporting disclosure. Ex. 1019, 64:4-66:10.

Similarly, while Noble argues that FIG. 1 and paragraph [0041] (miscited—actually paragraph [0042]) demonstrate the bristles “contact” the capsule (PO Response, 6-7), the word “contact” is never used. Paragraph [0042] merely states the bristles “contract *around* [not contact] an oral care capsule.” Ex. 1003, 25. Moreover, FIG. 1 does not even show the capsule: Reference 25 in FIG. 1 is the receiving zone, and paragraph [0029] specifies the capsule is “not shown.” *Id.*, 22. The recited “contact” is therefore assumed—not supported “in a definite way.” *Alcon*, 745 F.3d at 1190-91; *see* Petition, 15; Ex. 1008, ¶105; *see also* Ex. 1019, 67:1-68:13 (“A I’m not sure if it uses that exact word”; “Q Could you have a smaller capsule below angled bristles,” “A ... it’s possible.”).

Finally, because the specification only discloses “angled bristles,” unless Petitioner’s means-plus-function interpretation is adopted for “angled capsule retaining elements,” the amended claims capture much broader subject matter than what the inventors conceived or originally disclosed. Kodama agrees that “angled capsule retaining elements” is not found in the ’627 Application, but only “angled bristles.” Ex. 1019, 19:20-20:7, 77:2-12. Without such written description support, a claim of priority cannot be maintained. *See* Petition, 16-18 (citing *Tronzo v.*

Biomet, Inc., 156 F.3d 1154 (Fed. Cir. 1998); *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir. 1998)).

VII. CONCLUSION

The Institution Decision correctly found that all prior art references for Grounds 1-4 disclose angled bristles that retain an oral care capsule and that the Petition correctly “mapped the limitations of the claims to the disclosures of Wolcott [Young], Davidson, and Fitz-Gibbon.” Inst. Dec. at 27-32, 26, 31. The Board also agreed with the Petitioner’s “position that the asserted prior art would have been combined with a reasonable expectation of success.” Inst. Dec. at 31. Neither Noble’s Response nor Kodama’s declaration provide any persuasive reason to alter these findings. The Board should issue a Final Written Decision finding Claims 1, 2, and 5-18 of the ’332 Patent unpatentable.

Dated: July 29, 2024

Respectfully submitted,

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(d)

The undersigned certifies that the word count of the foregoing PETITIONER’S REPLY TO PATENT OWNER’S RESPONSE, excluding the table of contents, table of authorities, exhibit list, certificate of service, certificate of word count, and any appendix of exhibits, is 5,573.

Dated: July 29, 2024

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Lead Counsel for Petitioner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned hereby certifies that a copy of the foregoing PETITIONER’S REPLY TO PATENT OWNER’S RESPONSE was served on July 29, 2024 by electronic mail on the following counsel for Patent Owner:

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