

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

POWER OF ATTORNEY PER 37 C.F.R. § 42.10(b)

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Patent Owner Noble Innovations NC L.L.C. hereby appoints the registered practitioners associated with Whitestone Law PLLC Customer Number 191043 to represent it and to transact all business in the Patent Trial and Appeal Board of the United States Patent and Trademark Office in connection with the above-captioned Inter Partes Review of U.S. Patent 8,881,332. Patent Owner hereby designates the following lead and backup counsel

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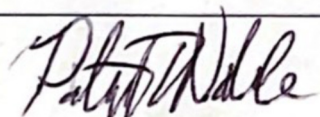
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Executed this 24th day of November, 2023

For Noble Innovations, NC L.L.C.

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/Weir L. King/

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

PATENT OWNER NOBLE INNOVATIONS NC L.L.C.'S PRELIMINARY RESPONSE TO
PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 8,881,332

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I. INTRODUCTION

On July 26, 2023, COLGATE-PALMOLIVE COMPANY (“Petitioner”) submitted a Petition for Inter Partes Review (“Petition”) of U.S. Patent No. 8,881,332 (“the ‘332 patent”), challenging Claims 1, 2 and 5-18. Pursuant to 37 C.F.R. § 42.107, Patent Owner Noble Innovations NC L.L.C. (“Patent Owner”) files this Patent Owner Preliminary Response to the Petition, setting forth reasons the Board should deny institution.

Petitioner fails to establish a reasonable likelihood that the Challenged Claims are unpatentable under 35 U.S.C. 112 or based on the prior art. Patent Owner will specifically address each of Petitioners arguments in the following sections.

II. OVERVIEW OF THE ‘332 PATENT

The ‘332 patent is directed towards a toothbrush designed to receive and holds an oral care capsule in the head of the brush. Oral care capsules are small containers of toothpaste, typically spheres, which contain enough toothpaste for a typical brushing session within them. The capsule shell can be made of gelatin or another material which is non-toxic and easily torn apart by pressure. Oral care capsules are typically placed in the mouth prior to brushing to deliver a measured amount of toothpaste.

Use of oral care capsules is preferable to toothpaste or dentifrice powder for a number of reasons. The amount of toothpaste can be easily managed to prevent both waste and under-use. And mess is eliminated because the capsules do not release the toothpaste until they are already in the brusher’s mouth. Oral care capsules however suffer from needing to be separately inserted in the mouth, typically by the brusher’s hands. This causes a number of issues, namely that this method of use is not effective for children who may treat the oral care capsule like candy; and adult brushers may accidentally hold the oral care capsule too tightly and thus release the toothpaste before it is inserted into the brusher’s mouth. Dirty hands can also be an issue.

The ‘332 patent solves the above issues with oral care capsules by positioning them in the brush head and having them held securely there without fracture, until the brusher starts brushing their teeth. To accomplish this, the oral care capsule is placed in a recess on the front surface of

the brush head and is surrounded by angled retaining elements. The angled retaining elements extend inwards towards the recess and hold the oral care capsule within.

III. THE ONLY NEW MATTER INTRODUCED IN THE ‘332 PATENT RELATES TO A PLURALITY OF TOOTHBRUSH INSERTION APERTURES IN A DISPENSING DEVICE

The ‘332 patent when filed on April 11th, 2008 was a continuation in part of the 11/840,627 parent patent application with filing date of August 17th, 2007. The specifications of the ‘332 patent and the ‘627 application are largely the same with the exception of the ‘332 patents introduction of the new Figure 11 and 5 paragraphs at the end of the patent, 9:2-10:16 which provide for a dispensing device with a plurality of toothbrush insertion apertures.

The only other changes throughout the ‘332 patent consist of a few small grammar and spelling mistakes (e.g. changing “flexture” to “flexure” at 6:32 and “configures” to “configured” at 6:46)

The only other addition to the specification not directed towards the dispensing device is the single sentence, “As shown in FIGS. 1, 4, and 5, ten angled bristles 26A are equally spaced around the perimeter of a circular recess (spanning 360 degrees) defining the capsule receiving Zone 25.” ‘332 patent 5:5-8. This language is not new matter as it simply describes what is clearly illustrated in the Figures. None of the patent claims of the ‘332 patent are directed towards “ten angled bristles.”

All material upon which the claims of the ‘332 patent rely is included in the exact same detail as in the ‘627 patent application. Thus petitioners argument that the ‘332 patent is not entitled to the August 17, 2007 date fails. The new material is only directed to the dispenser. The proper priority date for all claims and all claim elements is August 17, 2007. Thus Sorrentino, filed on January 24, 2008 cannot be considered prior art.

IV. ALL CLAIM ELEMENTS FIND SUPPORT IN THE ‘627 APPLICATION FILED AUGUST 17, 2007

Petitioner fails to consider that would be easily be understood by a person of ordinary skill in the art to describe and define elements which petitioner says lack support in the ‘627

patent application. Petitioner takes the position that if language in claims of the '332 patent is not found quoted verbatim in the '627 patent then that language is necessarily new matter. This is not the law.

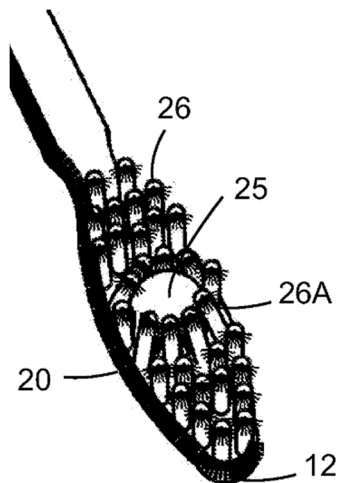
Each element of the claims of the '332 patent cited by petitioner is fully described and shown by the specification and figures of the '627 patent application.

A. “a recess ... arranged to receive at least a portion of an oral care capsule inserted [or insertable] past the vertical bristles”

Petitioner argues that the '627 patent application does not describe “a recess arranged to receive at least a portion of the oral care capsule.” This is clearly erroneous as the '627 application refers to the capsule receiving zone as a recess throughout the specification. See for example paragraph [0029], “The brush head **20** includes a capsule receiving zone **25**, such as may include a recess defined in the brush head **20**.”

B. “angled capsule retaining elements that are elevated above the recess”

“the oral care capsule is retained [...] preferably also from **above** by a **plurality of angled bristles**.” '627 patent app [0036]



C. “angled capsule retaining elements”

Figure 1 of the '627 application, above, was included with the original '627 application. Petitioner contends that this figure does not sufficiently show “angled capsule retaining

elements.”

D. “wherein at least a portion of each angled capsule retaining element ... is arranged to contact the oral care capsule

The ‘627 application describes the oral care capsule being placed within the capsule receiving zone, which comprises spread-apart angled bristles 26A. The application describes that the oral care capsule is pushed past the bristles and that the bristles afterwards contract around the oral care capsule. Fig. 1 of the patent shows that after the oral care capsule has been placed within the capsule receiving zone **25**, the bristles are indeed contracted around the oral care capsule and that the bristles are in contact with the capsule:

“an oral care capsule [...] may be pushed through a the aperture 120 of the bristle spreader, **past the spread-apart angles bristles 26A**, and **into the oral care capsule receiving zone 25** of the brush head 20 of the toothbrush 10. Upon removal of the brush head from the bristle spreader 119, the angled bristles 26A return to their relaxed position to **contract around an oral care capsule** disposed within the capsule receiving zone 25.” (‘627 patent app [0041])

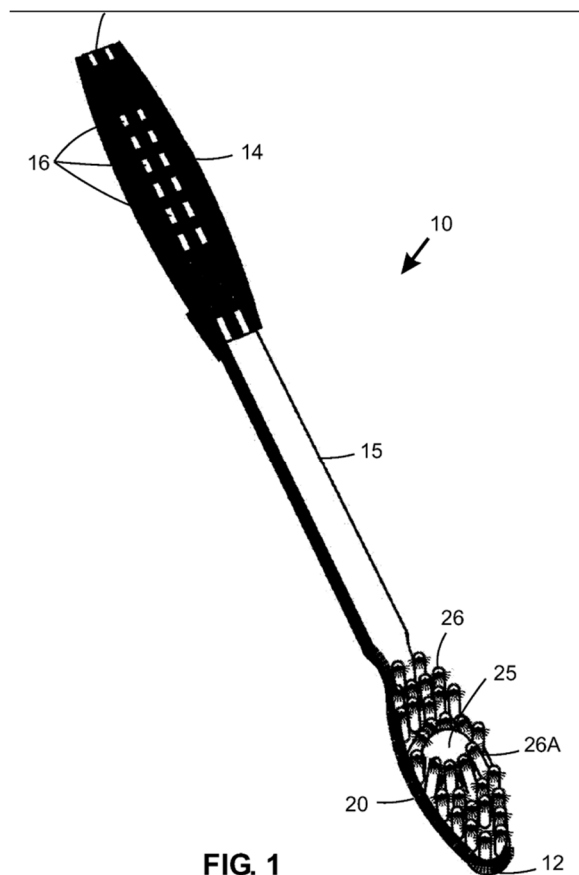


FIG. 1

Petitioner, argues that “The specification does not describe “at least a portion” [of each angled capsule retaining element” contacting the capsule.” Petition p. 15. Petitioner does not explain what issue it takes with the “at least a portion” language except that those specific four words do not appear in the ‘627 specification in that order. The petitioner does not state whether the specification instead shows the whole of each angled bristle contacting the oral care capsule or none of the bristle making contact with the oral care capsule.

The angled bristles 26A, in both the image and the specification, contact the oral care capsule, further, the entirety of each angled bristles 26A does not contact the oral care capsule, only a portion of each bristle is in actual contact with the oral care capsule. Therefore, “at least a portion” of each bristle contacts the oral care capsule as recited in the claim language.

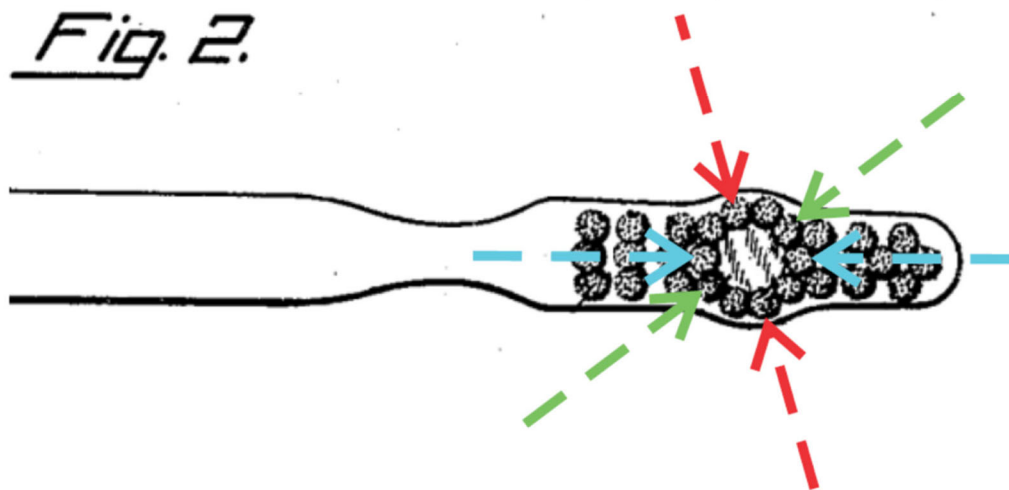
V. THE PRIOR ART FAILS TO DISCLOSE ALL INVENTIVE FEATURES OF THE '332 PATENT

A. Petitioner describes the bristles of Wolcott as “angled” when no such structure is found in Wolcott.

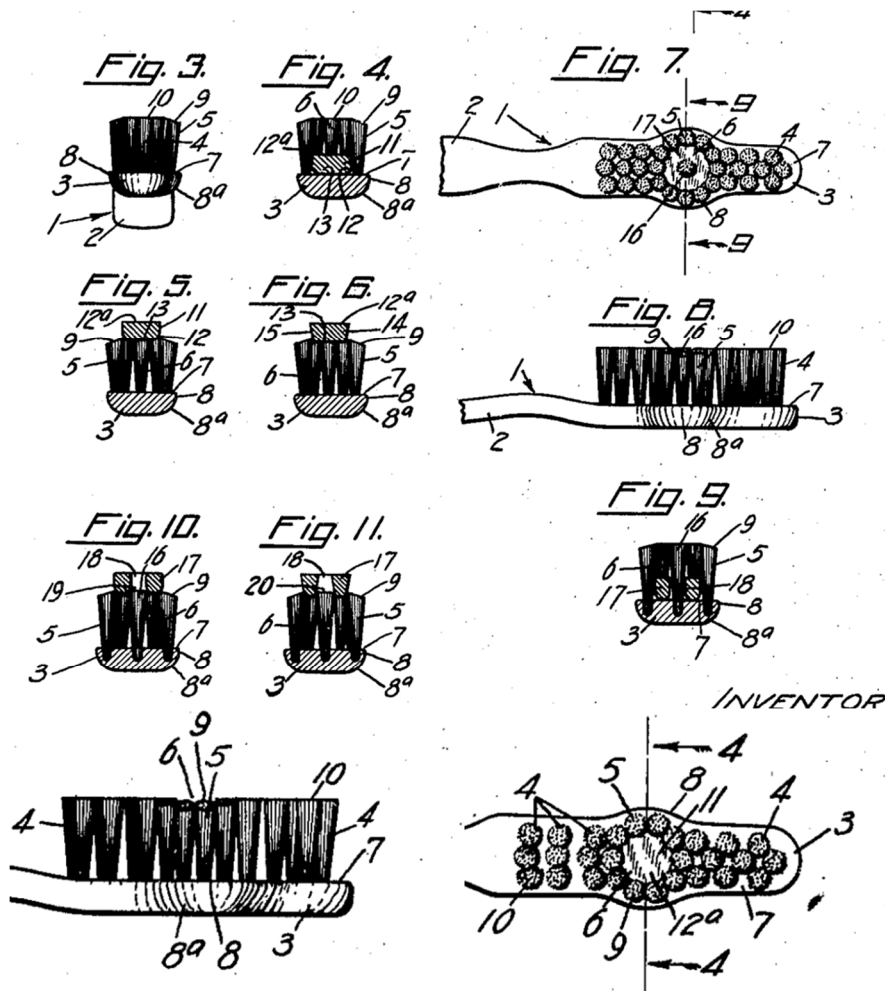
Wolcott is directed towards a toothbrush with a pocket between the bristles to receive a dentrifice pellet. The dentrifice pellet of Wolcott is placed loosely within the pocket of the toothbrush. Wolcott fails to disclose angled bristles or retaining elements as claimed in the '332 patent and '627 application. As shown below, in every figure of the Wolcott patent, the bristles 5 extend straight up from the bristle carrying portion 3. Wolcott discloses cutting the tops of the bristles at an angle such that the *ends* of each bristle make better tooth contact while brushing (shown below highlighted in red). But fails to disclose any angling of the bristles themselves (highlighted in green, blue and red, bristles extending perpendicularly from the bristle carrying portion).

Petitioner points to no specification language and only one figure of Wolcott as showing angled bristles. Yet the cited figure does not show the bristles being angled. The figure instead shows standard bristle clusters extending perpendicular from the tooth brush head. The individual bristles within a cluster spread apart at the distal end. A POSITA would understand the difference between purposefully angling bristle clusters to secure an oral care capsule as taught in the '627 application, and the natural separation of individual bristles in a bristle cluster as they extend from the head of a toothbrush.

The top down perspective of the bristles shown in Fig. 2 of Wolcott shows the lack of angling. Sloping by trimming bristles at the distal end is not angled bristles and provides no retaining function.



Petition P. 38, showing no angling of bristles from a top down perspective.



B. Davidson

1. Davidson does not teach restraining oral care capsules

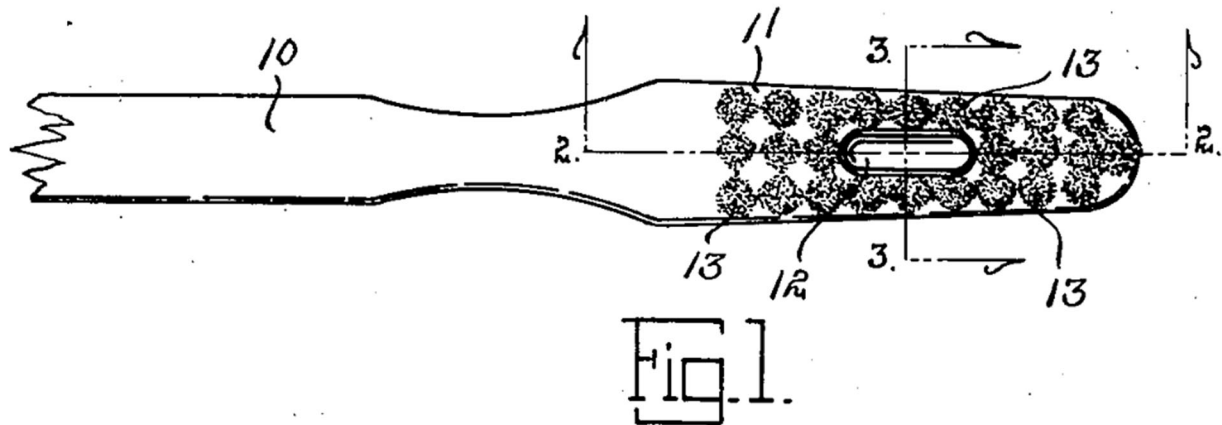
Davidson is directed to a toothbrush containing a well 12 surrounded by bristles 13 for holding dentifrice powder. Davidson's toothbrush is designed only to hold dentifrice when it is in the upright position:

"Obviously during the pouring of the dentifrice into this provided space, **the tooth brush is held so that the bristles extend upwardly** as shown in Fig. 2. The surrounding bristles as well as the well 2 Will successfully hold this ample amount of powder dentifrice until the brush is within the mouth of the user."
Davidson 2:20-28

Davidson also considers usage of the same brush, "for paste or liquid dentifrices" *Id* 3:7.

Davidson further reiterates that the invention is only sufficient for holding the dentifrice when the brush face is pointed upwards, "The liquid is poured downwardly into the tooth brush and the

well 2 is filled with this liquid” *Id* 3:15-18. Davidson does not consider usage of the bristles of the brush to hold the dentifrice in place, rather, Davidson asserts that the well only is able to hold dentifrice by way of suction.



Petitioner asserts that Davidson contemplates usage of the well for dentifrice in the form of an oral care capsule. However, Davidson lists four specific types of dentifrice and suggests that its inventive system is suitable for those four, “Although I have described my brush as particularly adaptable for powder or granular dentifrices, it is obvious that it is ideally constructed for paste or liquid dentifrices.” *Id* 3:4-7. Davidson considers liquids paste and powder. This is in sharp contrast to an oral care capsule which is a solid, individual object. It would not be obvious to a POSITA to apply a technique for holding a liquid or granular material to hold a much larger, solid object.

2. Davidson fails to disclose angled bristles

Davidson discloses, “these bristles that surround the well 2 extend at right angles from the head” Davidson 2:3-5. Because the well is designed to hold dentifrice powder rather than a dentifrice capsule, Davidson does not disclose angled bristles which hold the capsule in place. Rather Davidson discloses the creation of a well which uses only "right angled" bristles.

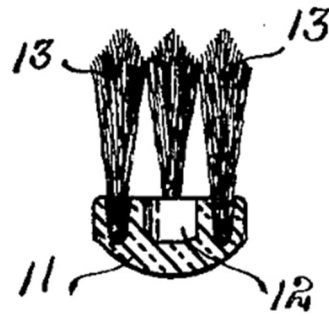


Fig. 3

C. Fitz-Gibbon

Similarly to Davidson, Fitz-Gibbon is directed towards a brush for holding dentifrice powder. As shown below, a pocket is formed in the head of the brush. The brusher may insert dentifrice into the pocket by way of the opening 7 in the back of the toothbrush head. The pocket in Fitz-Gibbon is irregularly shaped and not designed to hold an oral care capsule. The bristles do not form angled retaining elements. Fitz-Gibbon considers only using the pocket to contain dentifrice powder, as Fitz-Gibbon describes the brusher providing varying amounts of dentifrice within the pocket, “by depositing a small amount of the dentifrice in the filler opening the bristles and the brush head can be rendered sterile” Fitz-Gibbon 2:95-99. The brusher providing varying amounts of dentifrice is not possible when using oral care capsules instead of dentifrice powder. Because the amount can be varied, in many instances none of the dentifrice will even contact the bristles and cannot be said to be retained by them.

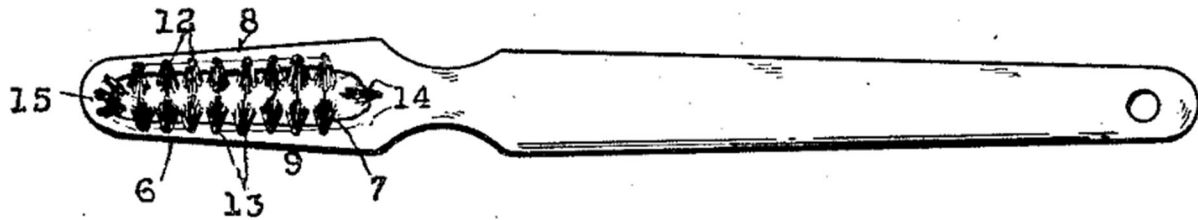
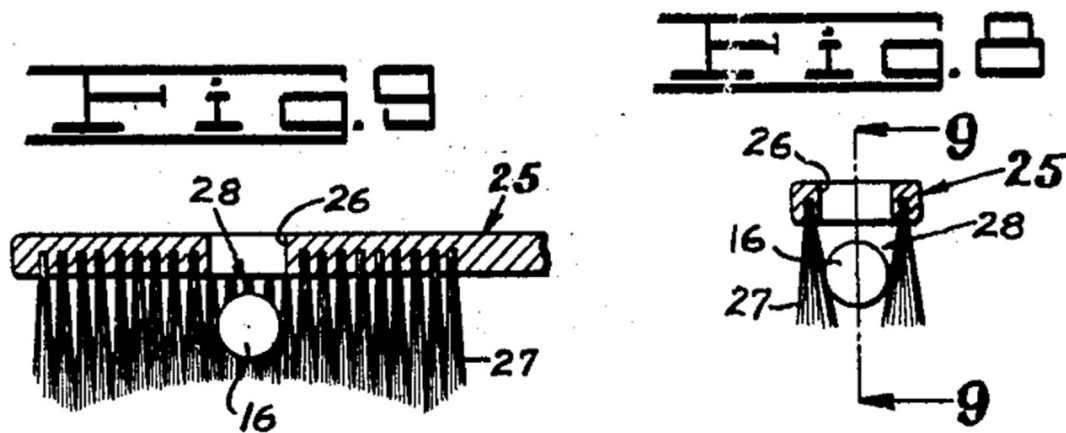


FIG. III

The Fitz-Gibbon bristles are not designed to allow a dentifrice pellet “inserted past the vertical bristles” as recited in claim 1 of the ‘332 patent. To insert dentifrice powder in Fitz-Gibbon the powder must be place in the “the opening 7 [which] permits of the deposition of the dentifrice in said chamber or pocket through the back of the brush head.” Thus Fitz-Gibbon does not consider angled bristles for holding dentifrice in place (not oral care capsules nor even dentifrice powder), rather the bristles form a pocket, accessible only from the back of the brush head, within which the dentifrice resides. Fitz-Gibbon fails to disclose the bristles contacting any portion of the dentifrice powder during the retention.

D. Young

Young is directed to a toothbrush with a pocket for holding dentifrice. The pocket can be formed by omitting bristles in an area around the pocket. The pocket also requires a fill hole cut through the back of the toothbrush head. The dentifrice, inserted from the back will be held in the pocket. Young however fails to disclose bristles being angled to receive and hold the dentifrice. Young explicitly discloses “Said tufts being disposed in **parallel**, longitudinal and transverse rows” Young 2:43-45. Figure 8, cited by petitioner as showing angled bristles only shows bristles naturally fanning out from being in direct contact with each other. This directly contrasts the angled capsule retaining elements of the ‘332 patent. The claimed elements are angled to retain, while the bristle clusters of Young merely fan out from their natural spreading.



VI. WOLCOTT AND DAVIDSON DO NOT TEACH ALL CLAIM ELEMENTS

Neither Wolcott nor Davidson disclose “angled capsule retaining elements” as recited in claim 1 or “angled bristles” as recited in Claim 2 of the ‘332 patent. No reference teaches insertion past the vertical bristles into the capsule receiving zone. A combination of both cannot make up for their shared lack of disclosure.

VII. THE COMBINATION OF DAVIDSON AND YOUNG FAILS TO TEACH ANGLED CAPSULE RETAINING ELEMENTS

Petitioner argues that a combination of Davidson and Young teach all elements of the patent. This fails for a number of reasons. Firstly, there is no motivation to combine Davidson and Young where Davidson teaches methods to hold dentifrice paste or powder, while Young teach methods to hold a dentifrice capsule. Further, neither Davidson, nor Young teach usage of angled capsule retaining elements or angled bristles, nor pushing the capsule past the retaining elements and into the retaining zone, Claim 9.

A. Davidson is directed towards retention through suction of dentifrice powder, paste, or liquid, not a solid dentifrice capsule.

Davidson is concerned with forming a pocket to hold dentifrice powder, paste, or liquid. Davidson provides methods for inserting each type of dentifrice into the well. However, Davidson makes no mention of using the well for holding dentifrice capsules or any solid object. Davidson’s method would of course not work for holding a solid object such as a dentifrice

capsule. Retention of the dentifrice in Davidson is not accomplished by direct holding force by the bristles themselves, but rather “a tendency to hold the dentifrice, regardless of the type of the dentifrice, by suction.” Davidson 3:21-24. Suction which works to hold dentifrice powder, liquid, or paste is insufficient to hold dentifrice that comes in a solid form such as a capsule. A POSITA would not consider using the techniques of Davidson which are unsuitable for holding a solid dentifrice pellet, to Young which is concerned only with retention of a solid dentifrice pellet.

B. Davidson nor Young teach angled bristles

Claim 1 of the ‘332 patent recites, “at least one pair of angled capsule retaining elements” Claim 2 provides a specific embodiment of the angled capsule retaining elements providing for “wherein the at least one pair of angled capsule retaining elements comprises multiple pairs of angled bristles canted away from vertical in a direction toward a center of the capsule receiving zone,” Neither Davidson nor Young teach angled bristles nor angled capsule retaining elements. Davidson specifically calls for “bristles that surround the well 2 extend **at right angles from the head**” Davidson 2:3-5 and Young calls for “Said tufts being disposed in **parallel**, longitudinal and transverse rows” Young 2:43-45.

Petitioner does not acknowledge the functional the difference between holding an object between parallel bristles and maintaining the object therein while the bristles flex outwardly, and retaining an object between bristles which are angled inwards to hold the object and maintaining the object there by the bristles not easily flexing outwards.

As “angled capsule retaining elements” are recited in both dependent claims, the combination of Davidson and Young fails to teach all elements of any claim of the ‘332 patent.

VIII. THE COMBINATION OF YOUNG, DAVIDSON, AND FITZ-GIBBON FAILS TO DISCLOSE ALL ELEMENTS OF THE ‘332 PATENT.

Neither Davidson, nor Young disclose angled bristles or angled capsule retaining elements of any kind. Fitz-Gibbon discloses angled bristles, but does not disclose angled bristles

which would function to retain an oral care capsule after allowing it to be inserted past vertical bristles.

A. There is no motivation to combine Fitz-Gibbon, which exclusively concerns dry dentifrice powder, to Young, which concerns dentifrice pellets

Fitz-Gibbon is directed towards angled bristles which make a holding chamber or pocket which holds dry dentifrice. Fitz-Gibbon does not consider use with any other types of dentifrice and in fact explicitly directs towards use only for dentifrice powder, “This feature is found exceedingly valuable in the treatment of pyorrhea, in which the use of a dry dentifrice is recommended.” Fitz-Gibbon 2:84-87.

A POSITA would have no motivation to combine Fitz-Gibbon, which is directed towards dentifrice powder; or Davidson, which is directed to dentifrice powder, paste, or liquid; with Young, which is directed towards dentifrice pellets. Forming a chamber or pocket for a flowing substance is an entirely different objective from retaining a single, physical object and then having it be inserted and released with force. A POSITA would not consider the teachings of Fitz-Gibbon, which does not provide for the dentifrice being inserted or released through the gap between the bristles, to Young which retains the dentifrice pellet, inserted from behind until it is released during brushing.

IX. CONCLUSION

For the foregoing reasons patent owner respectfully requests the board deny institution of the petition in its entirety.

Dated: November 24, 2023

Respectfully submitted,

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CERTIFICATION OF WORD NUMBER

Counsel for Patent Owner hereby certifies that this PATENT OWNER'S RESPONSE TO PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 8,881,332 contains 3,061 words as calculated using the word count function of Microsoft Word, not including material excluded under 37 C.F.R. 42.24(a)(1).

Dated: November 24, 2023

/Weir L. King/