

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

DECLARATION OF KELLY R KODAMA
IN SUPPORT OF PATENT OWNER'S RESPONSE

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I, Kelly R, Kodama, declare as follows:

I. BACKGROUND AND QUALIFICATIONS

1. My name is Kelly R. Kodama. I am over the age of 18 and otherwise competent to make this declaration.

2. I have been retained by Noble Innovations, the Patent Owner, to provide independent expert analysis in response to a Petition for *inter partes* review of U.S. Patent No. 8,881,332, the '332 Patent. Specifically, I have been asked to consider the validity of claims 1, 2, and 5-18 of the '332 Patent, the "Challenged Claims".

3. I have carefully and thoroughly reviewed, studied and considered the Petition, the exhibits attached thereto, including the prior art and the Declaration of Mr. Fletcher. I understand that this declaration will be submitted in support of the Patent Owner's Response to the Petition for Review.

4. I have personal knowledge of the facts and have formed the opinions set forth in this declaration, and believe them to be true. If called upon to do so, I would testify competently thereto. I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both.

5. I am being compensated for my time at my standard consulting rate of \$350 per hour. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results or nature

of my study, the substance of my opinions, or the outcome of any proceeding involving the Challenged Claims. I have no financial interest in the outcome of this matter or on the pending litigation between Petitioner and Patent Owner.

6. I reserve the right to revise, supplement, and/or amend my opinions stated herein based on new information and on my continuing analysis of the materials already provided. To the extent that additional information becomes available to me subsequent to the date of this declaration, including orders from the Board, I reserve the right to consider that information and revise my opinions as appropriate to the additional information. I further reserve the right to revise my opinions to rebut any positions adopted by Petitioner in expert declarations or other exhibits or filings, including specifically but without limitation any document responding to my analysis.

7. I offer statements and opinions on behalf of Petitioner generally regarding the prior art, anticipation and obviousness considerations, and understanding of a person of ordinary skill in the art (“POSITA”) as it relates to the ’332 Patent. Attached hereto as Appendix A, is a true and correct copy of my Curriculum Vitae describing my background and experience.

8. I have a BS in Product Design Engineering from Stanford University in Stanford, California.

9. I have over 35 years of experience with product design, development, and consulting covering a wide range of industries and products. In addition to conducting engineering, design, and production work, my responsibilities have included assembling and managing teams to develop new consumer, industrial and professional products.

10. I am the Chief Executive Officer and founder at Zoe Design Associates, an award-winning product development consultancy with offices in San Francisco and Taipei. Since 1991, we have worked on a wide range of consumer, medical, and communication products for multinational clientele that include Acer, Cutera, Motorola, Plantronics, Samsung, and Siemens. Much of my responsibility is to manage a diverse team of industrial designers, graphic designers and mechanical, software, and electrical engineers, as well as being intimately involved in all aspects of the design and development of our clients' products.

11. In addition to my work at Zoe Design Associates, I have held various engineering leadership positions at technology and product development companies. In 2013, I took a one year contract as Director of Product Design to help Ploom develop new products and build and manage their engineering team. In 1992, I was an Applications Engineer for Parametric Technology Corporation, where I provided pre- and post-sales technical support for PTC customers. From

1990-1992, I was a senior mechanical engineer at Siemens Ultrasound, Inc., where I designed ultrasound equipment. From 1988 to 1990, I was a staff mechanical engineer at Watkins-Johnson, where I designed military communications electronics and semiconductor processing equipment. At Ploom, Siemens Ultrasound, and Watkins-Johnson I was responsible for a range of mechanical design engineering tasks, including conceptual design, implementation, design for manufacturing (DFM), 2-D and 3-D computer aided design (CAD), and documentation.

12. My experiences cover a broad technology base across a diverse set of industries, including in the areas of audio technology, industrial design, medical devices, consumer products, mechanical engineering, and production support.

13. I also have experience as an innovator and inventor. I am a named inventor on more than thirty-five U.S. patents, on new products and designs. I have also received numerous design awards for my work.

14. I have testified at deposition four times in the last four years. The first deposition was in 2021 regarding U.S. Patent Nos. 10,555,556 and 10,104,911. The second deposition was in 2021 regarding U.S. Patent Nos. 10,143,242, 10,143,824, 10,299,517, 10,485,269, 10,492,541, and 10,588,357. Both depositions were in reference to expert reports written by me at the request of R.J. Reynolds Vapor Company in cases involving disputes with Philip Morris Products

S.A. about electronic cigarette technologies. The third deposition was in 2022 on behalf of Shenzhen Smoore Technology Limited v. Certain Oil-Vaping Cartridges U.S. International Trade Commission Investigation No. 337-TA-1286. The fourth deposition was in 2023 for Puff Corp. v. SHO Products, LLC, on behalf of SHO Products LLC relating to US Patent No. 10,517,334.

15. My current CV and a list of cases within the last four years are attached to this declaration as Exhibits 2002 and 2003.

16. I am a Certified Engineering Provider, Mechanical Level II, Pro/Engineer and Co-founder of the Silicon Valley Pro/Engineer User's Group. I am also a member of the Industrial Designers Society of America (IDSA).

17. Based on my education and experience as described above and as set out in my CV and list of publications, I believe I am qualified to render the opinions provided in this declaration.

18. My opinions in this declaration are based on my judgment, training, education, experience, and expertise in designing and developing consumer/commercial products.

19. As an engineer, with a Product Design degree, my experience goes beyond the visual design process of a designer and includes a deep understanding of the engineering complexity that is involved in designing for the functionality of a product and the production processes that are required to manufacture a product.

20. Unlike a designer, who, according to Mr. Fletcher in paragraph 20 of his declaration: “In regard to feasibility, we work together with engineers to make sure that current materials and manufacturing processes can be implemented to meet both quality and cost requirements.” a product design engineer has the necessary expertise to design and develop a product throughout the manufacturing process.

II. MATERIALS CONSIDERED

21. In forming my opinions and reaching the conclusions described in this Declaration, as shown in the table below, I have reviewed and considered the '332 Patent and its prosecution history, as well as the other materials listed, and any other materials referenced in this Declaration. Each of these materials is a type of document that experts in my field would reasonably rely upon when forming their opinions. The materials I have reviewed and considered include:

Exhibit 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)
1007	Claim Listing
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)
2001	Kelly Kodama Expert Declaration
2002	Kodama CV
2003	Kodama Testimony List
2004	Wisp product of the year award
2005	WISP Launch Announcement
2006	9,808,077 Noble Dispenser Patent
2007	D528,803 Hohlbein
2008	WO 2004/021,914 Hohlbein
2009	7,331,731 Hohlbein
2010	D532,202 Hohlbein
2011	7,478,959 Hohlbein
2012	WISP Photo

22. I have also reviewed and considered the annotated figures included in Mr. Fletcher's Declaration. Mr. Fletcher appears to have made a visual, not functional assessment of the figures from a number of patents. He does not appear to have considered the respective properties of the materials illustrated and often

not specified in the references he considers. He also appears to have made assumptions about angles and positioning from figures that are only illustrative, not detailed drawings.

III. LEGAL PRINCIPLES

23. In expressing my opinions and considering the subject matter of the claims of the '332 Patent, I am relying upon certain basic legal principles of which I have been advised.

24. First, I understand that, for an invention claimed in a patent to be found patentable, it must be, among other things, new and not obvious from what was known before the invention was made.

25. I understand the information that is used to evaluate whether an invention is new and not obvious is generally referred to as “prior art” and generally includes patents and printed publications (*e.g.*, books, journal publications, articles on websites, product manuals, etc.). I have been advised that there are two criteria for determining whether prior art is analogous and thus can be considered prior art:

(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the patentee's endeavor, whether the reference still is reasonably pertinent to the particular

problem with which the patentee is involved. I have also been advised that the field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field. I have also been advised that a reference is reasonably pertinent if, even though it may be in a different field from that of the patentee's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to a patentee's attention in considering his problem.

26. I have been advised and understand that, for patents and patent applications filed prior to September 16, 2012, whether a publication is "prior art" is evaluated under 35 U.S.C. § 102 (pre-AIA). I understand that 35 U.S.C. § 102 (pre-AIA) operates under a "first to invent" framework, in which patents or patent application published, and publications published, prior to invention of the claimed subject matter in a patent or patent application are considered prior art under 35 U.S.C. § 102(a). I also understand that patent applications filed before, but published or issued after, invention of the claimed subject matter are considered prior art under § 102(e). I also understand that, under 35 U.S.C. 102(b), patents or printed publications published more than one year prior to the date of *filing* a patent application are considered prior art, regardless of the actual invention date.

27. I understand that there are two ways in which prior art may render a

patent claim unpatentable. First, the prior art can be shown to “anticipate” the claim. Second, the prior art can be shown to have made the claim “obvious” to a person of ordinary skill in the art. My understanding of the “anticipation” and “obviousness” standards is set forth below.

A. Anticipation

28. I understand that a patent claim may be invalidated as anticipated if a single prior art publication or design discloses all features recited within the claims, arranged as they are in the claims, either expressly or inherently.

29. I understand that an “inherent” feature must necessarily be present within the product or process described by the prior art. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. I understand that inherency applies to both product/apparatus and process claims claimed in terms of functions, properties or characteristics.

B. Obviousness

30. I understand that a patent claim is invalid if the differences between the subject matter and the prior art are such that the subject matter as a whole would have been obvious to a POSITA at the time of the alleged invention.

31. I further understand that an obviousness analysis involves a review of the scope and content of the asserted prior art; the differences between the prior art and the claims at issue; the level of ordinary skill in the pertinent art; and objective indicia of nonobviousness (i.e., secondary considerations), such as long felt but unsolved needs, failure of others, praise, commercial success, and skepticism of others in the field.

32. Secondary considerations of unobviousness exist and weigh strongly in favor of patentability. I am aware that the accused product, the Colgate WISP Toothbrush, which Mr. Feltcher asserts is the same as the challenged claims, has achieved commercial success as it was the first product of its kind and is unique in the marketplace. See WISP articles appended hereto as Exhibits 2004 - 2005. I also consider the copycat patent issued to Colgate 8,240,937 (Ex 1013), for the accused toothbrush as indicia of unobviousness.

33. In determining whether the subject matter as a whole would have been obvious at the time that the invention was made to a POSITA, I have been informed of and understand certain principles regarding the combination of elements of the prior art. A combination of familiar elements according to known methods is likely to be obvious when it yields predictable results. Any evidence that one or more of the references would have taught away from the claimed invention at the time of the invention must also be considered.

34. I have been informed and I understand that independently made, simultaneous inventions, made within a comparatively short space of time, are evidence that the claimed apparatus was the product only of ordinary mechanical or engineering skill, while intentional copying by others is an indication of non-obvious invention.

35. I have also been informed that examples of factors that may support a conclusion of obviousness include:

(A) combining old and known elements, with no change in their respective functions, according to known methods to obtain predictable results;

(B) simply substituting one known element for another to obtain predictable results;

(C) using known techniques to improve similar devices (methods, or products) in the same way;

(D) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success—in other words, whether something is “obvious to try”;

(F) using work in one field of endeavor to prompt variations of that work for use in either the same field or a different one based on design incentives

or other market forces if the variations are predictable to one of ordinary skill in the art; and

(G) arriving at a claimed invention as a result of some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings.

I have also been informed that other rationales to support a conclusion of obviousness may be relied upon – for instance, that common sense (where substantiated) may be a reason to combine or modify prior art to achieve the claimed invention.

36. I further have been advised and understand that a person of ordinary skill attempting to solve a problem will not be led only to those elements of prior art designed to solve the same problem. Familiar items may have obvious uses beyond the particular application being described in a reference, that if something can be done once it is obvious to do it multiple times, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. As such, the prior art considered can be directed to any need or problem known in the field of endeavor as of the priority dates of the '332 Patent and can provide a reason for combining the elements of the prior art in the manner claimed. I also understand, that hindsight reasoning should not be used to find an invention obvious.

37. I am also informed that a basis to combine teachings need not be stated expressly in any prior art reference. However, I understand that there must be some evidence showing an articulated reasoning with rational underpinnings to support a motivation to combine teachings and to support the legal conclusion of obviousness.

38. I have been informed that a determination of whether the claims of a patent are anticipated or rendered obvious by prior art is a two-step analysis: (1) determining the meaning and scope of the claims, and (2) comparing the properly construed claims to the prior art.

39. I also understand that, taken too far, the principles upon which obvious can be found, would render all inventions obvious.

40. I have followed the above principles in my analysis below and have found that, in my opinion, the claimed invention was not anticipated and would not have been obvious to one of ordinary skill in the art at the time of the invention.

41. I also find that several secondary considerations indicate novelty and unobviousness, including copying after failing to accomplish the desired result, as evidenced by the Colgate patent and the WISP toothbrush and evidence of the industry recognition and praise for the invention, as evidenced by the success and praise of the Colgate WISP Toothbrush. (Ex 2004 and 2005)

IV. PERSON OF ORDINARY SKILL IN THE ART

42. In addition to the above, I have been advised that claims of a patent are to be reviewed from the point of view of a hypothetical person of ordinary skill in the art (“POSITA”) most closely related to the subject matter of the patent at the time of the invention or at the time of filing of the patent. A POSITA is presumed to have known the relevant art at the time of the invention or filing of the patent.

43. Factors that may be considered when determining the level of ordinary skill in the art include: (1) types of problems encountered in the art; (2) prior art solutions to those problems; (3) rapidity with which innovations are made; (4) sophistication of the technology; (5) educational level of active workers in the field; and (6) the educational level and experience of the inventor at the time of the invention.

44. The ’332 Patent issued on November 11, 2014, from U.S. patent application No. 12/101,446 filed on April 11, 2008. The ’332 Patent is a continuation-in-part of U.S. Patent Application No. 11/840,627 filed on August 17, 2007. Therefore, I understand the asserted effective filing date on the face of the ’332 Patent to be August 17, 2007. The ’332 Patent appears to be entitled to the claimed priority date, because all of the challenged claims are supported by the original disclosure.

45. The references cited by Mr. Fletcher, are considered prior art under § 102(b), with the exception of Sorrentino (Ex. 1013), which is not prior art.

Sorrentino, Ex 1013 was after the priority date, and I agree with the Patent Board Decision that the '332 Patent is entitled the 2007 priority date.

46. Based on my review of the '332 Patent and based on my experience, in my opinion, on or before August 17, 2007, or alternatively on or before April 11, 2008, a POSITA relating to the technology of the '332 Patent would have a minimum of a Bachelor's degree in Industrial Design, Mechanical Engineering, or related field and approximately 5 years of professional experience in the field of consumer product design and manufacturing. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

V. OVERVIEW OF THE '332 PATENT

47. Based upon my study of the materials, I understand that the '332 patent is directed towards a toothbrush designed to receive and hold an oral care capsule in the head of the brush. The oral care capsules of the invention 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 and dissolve in the mouth. Oral care capsules are typically placed in the mouth separately from

the toothbrush prior to brushing to deliver a measured amount of toothpaste. The invention combines the capsule with the toothbrush for better hygiene and convenience.

48. 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. 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 causing sanitation issues can also be a problem for the user.

49. 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 damaging or puncturing the capsule, until the brusher starts brushing their teeth. To accomplish this, the oral care capsule is placed into 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

VI. NEW MATTER

50. I understand from the files that the ‘332 patent is one of two patents issued from the original application filed on August 17, 2007. The ‘332 patent claims are directed to the toothbrush invention and the claims of the sister patent, 9,808,077, (Ex 2006) are directed to the dispensing apparatus. The parent patent application with filing date of August 17th, 2007 included all of the disclosure supporting the challenged claims. The continuation in part, filed in 2008 introduced new Figure 11 and 5 paragraphs at the end of the patent, 9:2-10:16 all of which related to and provided for a dispensing device with a plurality of toothbrush insertion apertures. No new subject matter was added related to the toothbrush or the challenged claims.

51. 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)

52. 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.”

53. 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, Petitioner’s 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.

54. I have read the Decision of the Board and agree that the claims of the ‘332 patent are directed to subject matter sufficiently described in the disclosure common to the ‘332 patent and the ‘627 parent application, particularly with respect to Figure 1. Decision, paper 12 at 24.

55. 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”

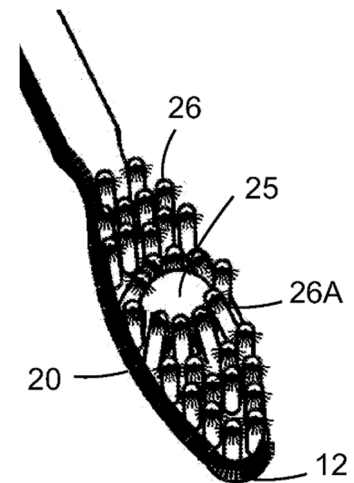
56. The ‘627 application refers to the capsule receiving zone as a recess throughout the specification. See for example paragraph [0029], “The brush head **20** includes a capsule receiving zone **25**, such as may include a recess defined in the brush head **20**.”

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

57. I find that the language “the oral care capsule is retained [...] preferably also from **above by a plurality of angled bristles.**” ‘627 patent app [0036] supports the disclosure. It is important to note that the “angled bristles” does not refer to a tuff of bristles where some of the individual bristles in the tuff fan inward and others fan outward. The ’627 teaches that the tuffs themselves are angled inward. The angled retaining means is the tuffs of bristles or other equivalent structure, that are intentionally angled inward, not some stray bristles in a vertical clump.

C. “angled capsule retaining elements”

58. Figure 1 of the ‘627 application, here, was included with the original ‘627 application, a POSITA would conclude that Figure 1 clearly shows angled capsule retaining elements 26A.



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

59. The ‘627 application describes the oral care capsule being placed within the capsule receiving zone, which comprises 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])

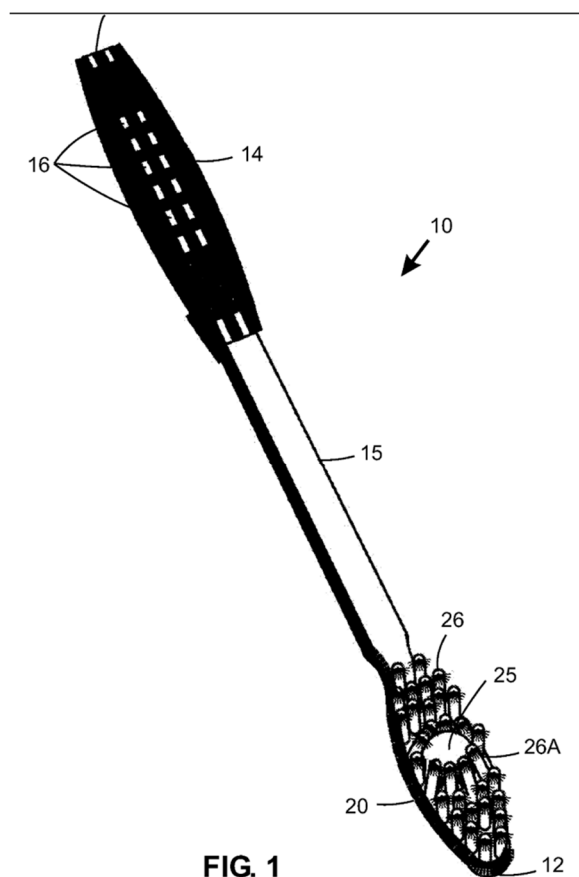


FIG. 1

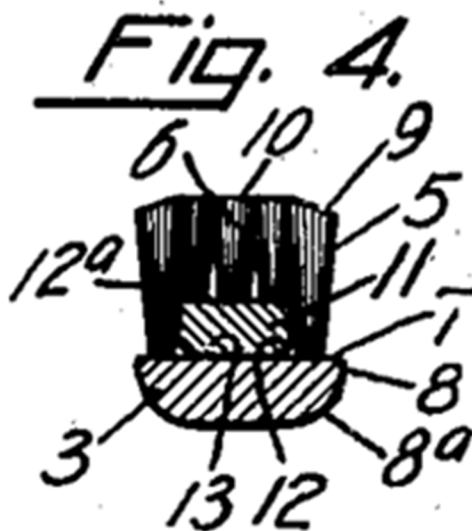
60. Mr. Fletcher asserts that “The specification does not describe “at least a portion” [of each angled capsule retaining element” contacting the capsule.” Petition p. 15. I find that the angled bristles 26A, in both the figures and the specification, contact the oral care capsule, further, the entirety 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, as would be taught to one of ordinary skill reading the specification of the ‘332 patent. Therefore, “at least a portion” of each bristle contacts the oral care capsule as recited in the claim language.

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

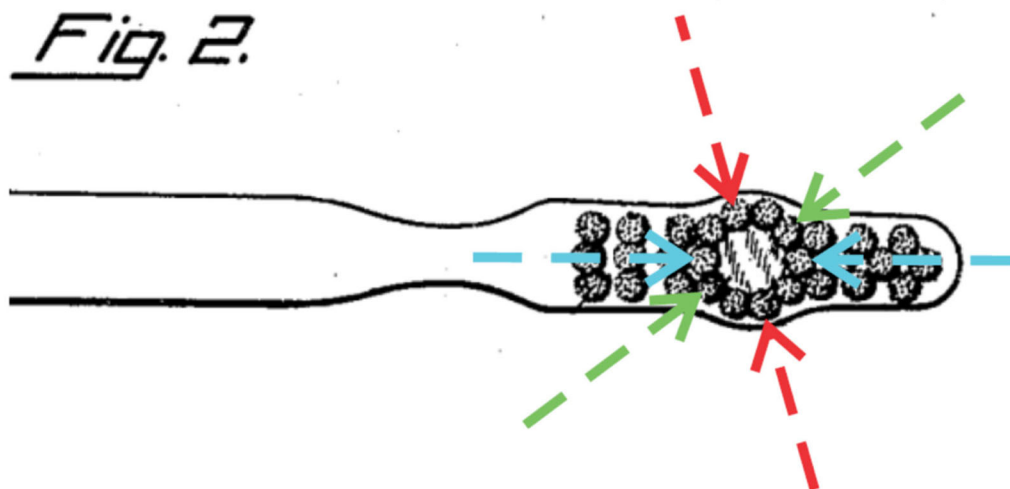
A. Petitioner describes the bristles of Wolcott as “angled” when no such structure is found in Wolcott.

61. Petitioner attempts to create the illusion of angled bristles by superimposing an angled line over stray bristles in a single end-cross-sectional view while ignoring the other perspectives that clearly show Wolcott’s bristle tufts extending straight up where they attach to the toothbrush.

62. Wolcott teaches a toothbrush with missing bristles that provide room to add a dentifrice pellet. The dentifrice pellet of Wolcott is placed loosely in between the remaining bristle tufts. Wolcott fails to disclose angled bristles or any retaining elements to hold a capsule in place, 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 **9** such that the *ends* of each bristle make better tooth contact while brushing. But fails to disclose any angling of the bristles themselves (highlighted in green, blue and red, bristles extending



perpendicularly from the bristle carrying portion). Importantly, the base end of the bristles 5 extend vertically in a straight line from the bristle carrying portion 3. That the bristles 5 may or may not deviate from their initial vertical orientation where they are connected does not make them or the orientation of the tuft of bristles “angled.”



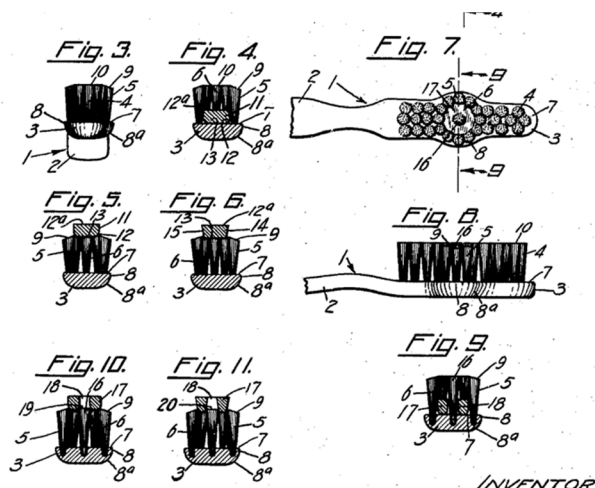
63. Petitioner points to no specification language and only one figure of Wolcott as showing angled bristles. Yet the cited figure does not show the bristles being angled. The figure instead shows standard bristle tufts / clusters extending perpendicularly from the tooth brush head. The individual bristles within a tuft may loosely spread apart at the distal end. A POSITA would understand the difference between purposefully angling bristle tufts 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 loosely spreading

individual bristles do not perform the function of capsule retention provided by the capsule retaining means.

64. The top-down perspective of the bristles shown in Fig. 2 of Wolcott shows the lack of angling where the missing bristles form an empty space.

Trimming bristles at the distal end is not angled bristles and provides no retaining function. Petitioner attempts to create the illusion of angling by superimposing slanted lines over Fig. 4's end-cross-sectional view of Wolcott. However, Fig. 4 cannot be relied on alone because Wolcott's Fig. 2 dispels the angled illusion. In Fig 2., Wolcott's bristles can be seen for what they truly are—a circular array of bristles 5 projecting at a perpendicular angle from the bristle carrying portion 3.

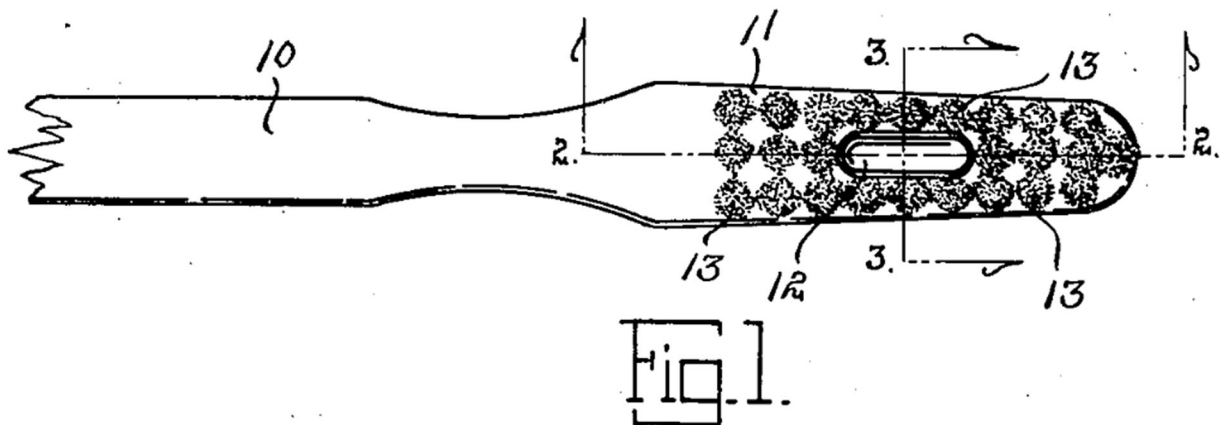
Wolcott's bristles 5 are not angled above a recess, Wolcott simply teaches removing bristles to allow room to place a dentifrice pellet . Without any angling above the disc 11, Wolcott's bristles cannot be configured to retain a dentifrice pellet as Petitioner alleges.



B. Davidson

Davidson does not teach restraining oral care capsules

65. Davidson is directed to a toothbrush containing a well **12** surrounded by bristles **13** for holding dentifrice powder. One 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. Davidson's bristles **13** do not contribute to holding dentifrice powder within the well **12**. The bristles **13** are oriented vertically surrounding the well **12** to **brush teeth**. Moreover, 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

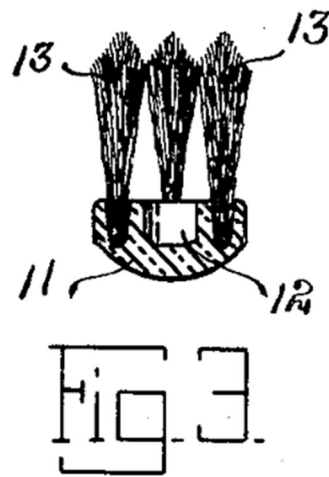
66. Davidson also considers usage of the same brush, “for paste or liquid dentifrices” *Id* 3:7. Davidson further reiterates that the invention is only sufficient for holding the dentifrice when the brush face is pointed upwards, “The liquid is poured downwardly into the tooth brush and the well 2 is 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.

67. Davidson also fails to contemplate usage of the well for dentifrice in the form of an oral care capsule. Instead, 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.

Davidson fails to disclose angled bristles

68. Davidson additionally fails to disclose angled retaining means cannot remedy the deficiencies in Wolcott discussed above. 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 could hold a capsule in place. Rather Davidson discloses the creation of a well which uses only "right angled" bristles, which are represented in figures and the specification as almost identical to the bristles shown in Wolcott

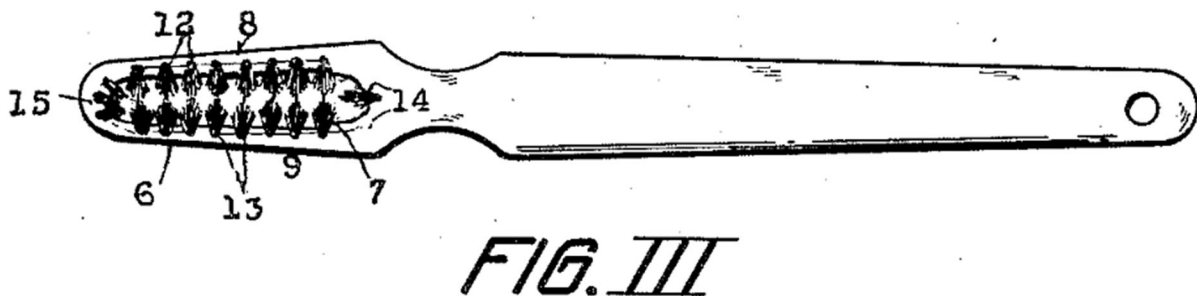


C. Fitz-Gibbon

69. My evaluation of Fitz-Gibbon reveals that similar 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 with an opening 7 in the back of the brush to fill with powder. The brusher may insert dentifrice into the back of the brush by way of the opening 7 in the back of the toothbrush head.



70. 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. Even when contacted, powder will flow through and between the bristles and not be retained.



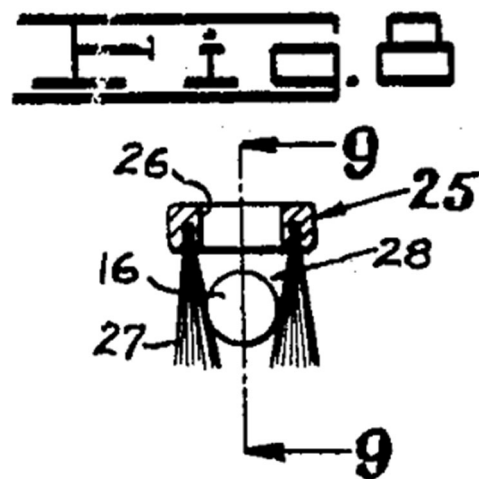
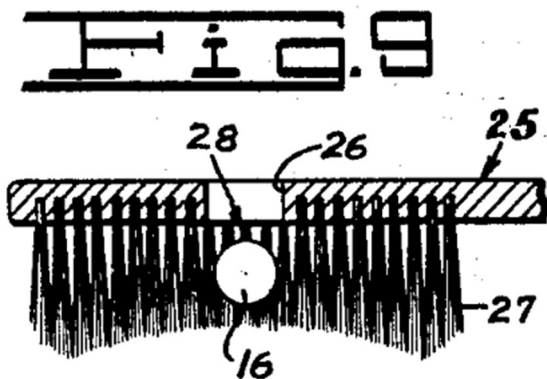
71. The Fitz-Gibbon bristles are not designed to allow a dentifrice pellet “inserted past the vertical bristles” as recited in claim 1 of the ‘332 patent. To insert dentifrice powder in Fitz-Gibbon the powder must be placed from the backside, into the “the opening 7 [which] permits of the deposition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

D. Young

72. Young is directed to a toothbrush with a space where some bristles and the back of the toothbrush head is missing to allow some dentifrice to be inserted. The space can be formed by omitting bristles. Like Fitz-Gibbon a fill hole cut through the back of the toothbrush head is required. The challenged claims teach the opposite of Fitz-Gibbon and Young, by inserting a capsule from the front of a brush which also eliminates the need to cut a hole in the back of the brush. Young and Fitz-Gibbon teach away from the inventive solution of the challenged claims. Young discloses a toothbrush that is contrary to the claims of the ’332 patent and actually teaches away from the claimed features of receiving an oral

care capsule inserted past the angled bristles. A POSITA would not look to the teaching of inserting a dentifrice in the *back* of a toothbrush and any reliance on Young is improper hindsight attempting to reconstruct the '332 invention with the benefit of the teaching of the '332 patent.

73. Young also 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.

VIII. (GROUND 1)

WOLCOTT AND DAVIDSON DO NOT TEACH ALL CLAIM ELEMENTS

74. Wolcott and Davison fail to teach all the claim elements of the '332 patent. Neither reference teaches surrounding a pocket with angled bristles to provide pellet-retaining characteristics to the device. Neither Davidson nor Wolcott teach angled capsule retaining elements that are angled above the recess and configured to retain an oral care capsule .

75. A POSITA would not combine Davidson's well **12**, which allows for powder to be contained in a tooth brush only while held level and horizontal, with the Wolcott missing bristles **11** because doing so would fail to achieve or even improve the oral capsule retaining ability. Merely adding a recess in the head of the toothbrush fails to achieve the retention capabilities of the angled capsule elements angled above the recess as claimed in the '332 patent. Simply lowering the recess in Wolcott down into the head of the toothbrush would not improve pellet-retention because the bristles in Wolcott, like those in Davidson, are oriented in a straight vertical manner and are not angled above the recess so as to retain the pellet.

76. Even if Davidson's well 12 was added to Wolcott's missing bristles toothbrush, 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.

IX. (GROUND 2)

THE COMBINATION OF WOLCOTT, DAVIDSON AND FITZ-GIBBON

77. Fitz-Gibbon cannot remedy the deficiencies in Wolcott and Davidson as alleged in Ground 2 because Fitz-Gibbon teaches away from inserting an oral capsule past vertical bristles.

78. Fitz-Gibbon teaches inserting a dentifrice from the back of the brush through a hole which encompasses most of the toothbrush head. The hole in the head of the brush would eliminate the channel of Davidson and the bottom of the missing bristle portion of Wolcott and dump the powder out of the back of the brush. Fitz-Gibbon teaches a hole for insertion of dentifrice through the back of the toothbrush head. Neither Davidson nor Wolcott would be combined with Fitz-Gibbon by one of ordinary skill in the art. The closed angle of the nearly horizontal bristles is completely opposed to the ’332 patent and ensures that nothing is inserted past the bristles. The hole in the back of the toothbrush ensures that no capsule will remain in place and cannot be held by the bristles, because any capsule inserted through the hole will be pushed back out by any retaining elements.

79. The proposed combination of Wolcott, Davidson, and Fitz-Gibbon of Ground 2 fails to render the '332 claims unpatentable.

X. (GROUND 3)

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

80. Petitioner argues that a combination of Davidson and Young teach all elements of the patent. This fails for a number of reasons.

81. Young teaches two embodiments. In the first, some of the bristles are shortened so that a dentifrice can be placed in the space between the longer bristles resting on top of the shorter bristles with no overhanging angled bristles. There is no teaching of any angled or overhanging retaining members or bristles. The dentifrice is only balanced there on top of the shorter bristles, as a normal tooth paste would be balanced on top of a typical toothbrush. The longer bristles do not retain the dentifrice, then only prevent it from rolling away.

82. The other Fitz-Gibbon embodiment teaches inserting a dentifrice from the back or end of the brush head. This is completely opposed to the '332 patent and ensures that nothing is inserted past the vertical bristles. In both embodiments there are no angled retaining members taught. Young does not teach or provide the missing angled retaining elements missing from Davidson.

83. The proposed combination of Davidson, and Young of Ground 3 fails to render the '332 claims unpatentable.

84. There is no motivation to combine Davidson and Young where Davidson teaches methods to hold dentifrice paste or powder in a channel in the brush and Young teaches a hole in the head of the brush which would eliminate the channel of Davidson and dump the powder out of the back of the brush. Young teaches a hole for insertion of a dentifrice capsule through the back of the toothbrush head. Davidson and Young would not be combined by one of ordinary skill in the art.

85. 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, as recited in challenged Claim 9, from the front of the brush.

86. Young would destroy Davidson by putting a hole in Davidson's pocket and Davidson would destroy Young by plugging the hole, thus preventing the insertion of a pellet.

87. Davidson teaches 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.

88. Forming a well for a flowing substance like powder, paste, or liquid is an entirely different design objective from retaining a single, physical object and then having it be inserted and retained properly. 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.

89. Moreover, Young teaches away from the claims of the '332 patent because it instructs a user to insert a dentifrice in the back of the toothbrush which means it never goes past the bristles and any backward retention force exerted by any bristles would simply push the pellet back out of the rear opening.

90. Even if a POSITA overcame the teaching away of Young, the combination of Davidson and Young fails to disclose the '332 patent. For example, the proposed combination of Davidson and Young would not allow for an oral care capsule to be inserted past the vertical bristles because Young teaches insertion from the back, which means the dentifrice cannot pass the vertical bristles at all.

91. The combination of Young and Davidson is unworkable because the combination would have insertion from the back and a recess in the front. Effectively, there would be a hole in the toothbrush head and no matter which

direction the dentifrice is inserted, it would fall out. Likely the reason the proposed combination of Young and Davidson is unworkable is because it is purely based on improper hindsight. Mr. Fletcher, using the disclosure and teachings of the '332 patent, has sought out prior art that no POSITA would consider combining. The result is a proposed combination toothbrush that fails to retain any dentifrice no matter the orientation or direction in which the dentifrice is inserted. This is the reason that hindsight reconstruction is not a proper analysis of obviousness.

A. Neither Davidson nor Young teach angled bristles

92. 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 recites that “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.

93. 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.

XI. (GROUND 4)

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

94. Neither Davidson, nor Young disclose angled bristles or angled capsule retaining elements of any kind. Fitz-Gibbon fails to 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

95. Fitz-Gibbon teaches a hole 7 in the back of a toothbrush, so that a dry dentifrice powder can be inserted below converging bristles. 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.

96. 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 inserting a dentifrice pellet from the back of the toothbrush head, or placing a pellet on top of

shortened bristles to avoid roll off. Forming a chamber or pocket for a flowing substance like powder, paste, or liquid is an entirely different design objective from retaining a single, physical object and then having it be inserted and retained properly. A POSITA would not consider applying the teachings of Fitz-Gibbon, which does not provide for the dentifrice being inserted or released through the gap between the bristles, to Young or Davidson. Any pellet, inserted behind the bristles of Fitz-Gibbon would not be released. Fitz-Gibbons only works with powder.

XII. NONE OF PETITIONER'S SIX GROUNDS RENDER THE '332 PATENT OBVIOUS.

97. Young also teaches away from the '332 patent. Young discloses a toothbrush with a hole on the back side of the toothbrush for inserting dentifrice. Inserting a dentifrice from the back side of the toothbrush head is the opposite of the '332 patent and ensures that no oral care capsule can be inserted past the vertical bristles. Young fails to remedy the deficiencies in Davidson and Fitz-Gibbon and in fact makes the deficiencies even worse. Accordingly, Petitioner's Grounds 3 and 4 fail to render claim 1 of the '332 patent obvious.

98. As discussed above and acknowledge by the Board, Sorrentino is not prior art. Dkt. #12 at 12. Therefore, Sorrentino cannot be relied on to cure any of the deficiencies noted above, particularly with respect to Fitz-Gibbon. For this reason, Petitioner's Grounds 5 and 6 fail to render claim 1 of the '332 patent obvious.

Claim 1

99. No combination of Wolcott, Davidson, Fitz-Gibbon, or Young disclose each and every feature of claim 1 of the '332 Patent. Specifically, none of Petitioner's asserted art from Grounds 1-6, alone or in combination, disclose the feature of **"a capsule receiving zone sized to receive an oral care capsule, the capsule receiving zone including a recess defined in the front surface and arranged to receive at least a portion of an oral care capsule inserted past the vertical bristles; and at least one pair of angled capsule retaining elements that are elevated above the recess and configured to retain an oral care capsule in the capsule receiving zone,"** as recited in independent claim 1.

100. As discussed above, Wolcott fails to disclose angled capsule elements elevated above a recess. Likewise, Davidson fails to disclose angled capsule elements elevated above a recess. Therefore, the combination of Wolcott and Davidson alleged in Ground 1 fails to disclose at least the feature of angled capsule elements elevated above a recess. Since the proposed combination of Wolcott and Davidson fails to disclose angled capsule elements elevated above a recess, the combination of Wolcott and Davidson cannot teach or suggest a recess defined in the front surface of the capsule receiving zone to receiving at least a portion of an of an oral care capsule inserted past the vertical bristles. Put simply, given that there are no angled bristles above the receiving zone in the proposed combination of Wolcott and Davidson, an oral capsule cannot be inserted into the recess in the receiving zone after passing such bristles.

101. Fitz-Gibbon cannot remedy the deficiencies in Wolcott and Davidson as alleged in Ground 2 because Fitz-Gibbon teaches away from inserting an oral capsule past vertical bristles. Instead, Fitz-Gibbon teaches depositing a dentifrice from the back of the brush head. This is completely opposed to the '332 patent and ensures that nothing is inserted past the vertical bristles. Thus, the proposed

combination of Wolcott, Davidson, and Fitz-Gibbon of Ground 2 fails to render the '332 claims unpatentable.

102. Young also teaches away from the '332 patent. Young discloses a toothbrush with a hole on the back side of the toothbrush for inserting dentifrice. Inserting a dentifrice from the back side of the toothbrush head is the opposite of the '332 patent and ensures that no oral care capsule can be inserted past the vertical bristles. Young fails to remedy the deficiencies in Davidson and Fitz-Gibbon and in fact makes the deficiencies even worse. Accordingly, Petitioner's Grounds 3 and 4 fail to render claim 1 of the '332 patent obvious.

103. As discussed above and acknowledge by the Board, Sorrentino is not prior art. Dkt. #12 at 12. Therefore, Sorrentino cannot be relied on to cure any of the deficiencies noted above, particularly with respect to Fitz-Gibbon. For this reason, Petitioner's Grounds 5 and 6 fail to render claim 1 of the '332 patent obvious.

Claim 2

104. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “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, and the brush head includes a flexural portion adapted to permit at least some bristles of the multiple pairs of angled bristles to be spread apart so as to enable an oral care capsule to be loaded into the capsule receiving zone” as recited in claim 2.

Claim 5

105. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “wherein each capsule retaining element of the at least one pair of angled capsule

retaining elements comprises a retaining element canted away from vertical in a direction toward a center of the capsule receiving zone” as recited in claim 5.

Claim 6

106. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “wherein the at least one pair of angled capsule retaining elements comprises angled bristles canted away from vertical in a direction toward a center of the capsule receiving zone” as recited in claim 6.

Claim 7

107. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “wherein the at least one pair of angled capsule retaining elements is arranged between the plurality of vertical bristles and a center of the capsule receiving zone” as recited in claim 7.

Claim 8

108. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “an oral care capsule retained by the at least one pair of capsule retaining elements in the capsule receiving zone” as recited in claim 8.

Claim 9

109. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 1 of the '332 patent obvious from, none of the asserted art discloses “inserting at least a portion of the oral care capsule in a direction past the vertical bristles into the recess, and retaining the oral care capsule in the capsule receiving zone using the at least one pair of angled capsule retaining elements” as recited in claim 9.

Claim 10

110. No combination of Wolcott, Davidson, Fitz-Gibbon, or Young disclose each and every feature of claim 10 of the '332 Patent. Specifically, none of Petitioner's asserted art from Grounds 1-6, alone or in combination, disclose the feature of "a capsule receiving zone including a recess defined in the front surface and arranged to receive at least a portion of an oral care capsule insertable past the bristles into the recess; and

at least three angled capsule retaining elements that are elevated above the recess, are configured to retain an oral care capsule in the capsule receiving zone, and are canted away from vertical in a direction toward a center of the capsule receiving zone, wherein each angled capsule retaining element of the at least three angled capsule retaining elements is arranged proximate to a perimeter of the capsule receiving zone at a position at least 108 degrees apart from at least one other angled capsule retaining element of the at least three angled capsule retaining elements relative to a center of the capsule receiving zone" as recited in independent claim 10.

111. As discussed above, Wolcott fails to disclose angled capsule elements elevated above a recess. Likewise, Davidson fails to disclose angled capsule elements elevated above a recess. Therefore, the combination of Wolcott and Davidson alleged in Ground 1 fails to disclose at least the feature of angled capsule elements elevated above a recess. Since the proposed combination of Wolcott and Davidson fails to disclose angled capsule elements elevated above a recess, the combination of Wolcott and Davidson cannot teach or suggest a recess defined in the front surface of the capsule receiving zone to receiving at least a portion of an of an oral care capsule inserted past the vertical bristles. Put simply, given that there are no angled bristles above the receiving zone in the proposed combination of Wolcott and Davidson, an oral capsule cannot be inserted into the recess in the

receiving zone after passing such bristles.

112. Fitz-Gibbon cannot remedy the deficiencies in Wolcott and Davidson as alleged in Ground 2 because Fitz-Gibbon teaches away from inserting an oral capsule past vertical bristles. Instead, Fitz-Gibbon teaches depositing a dentifrice from the side of the brush head. This is completely opposed to the '332 patent and ensures that nothing is inserted past the vertical bristles. Thus, the proposed combination of Wolcott, Davidson, and Fitz-Gibbon of Ground 2 fails to render claim 10 of the '332 patent unpatentable.

113. Young also teaches away from the '332 patent. Young discloses a toothbrush with a hole on the back side of the toothbrush for inserting dentifrice. Inserting a dentifrice from the back side of the toothbrush head is the opposite of the '332 patent and ensures that no oral care capsule can be inserted past the vertical bristles. Young fails to remedy the deficiencies in Davidson and Fitz-Gibbon and in fact makes the deficiencies even worse. Accordingly, Petitioner's Grounds 3 and 4 fail to render claim 10 of the '332 patent obvious.

114. As discussed above and acknowledge by the Board, Sorrentino is not prior art. Dkt. #12 at 12. Therefore, Sorrentino cannot be relied on to cure any of the deficiencies noted above, particularly with respect to Fitz-Gibbon. For this reason, Petitioner's Grounds 5 and 6 fail to render claim 10 of the '332 patent obvious.

Claim 11

115. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses "wherein the at least three angled capsule retaining elements are arranged between the plurality of bristles and a center of the capsule receiving zone" as recited in claim 11.

Claim 12

116. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “wherein the at least three angled capsule retaining elements comprise at least three angled bristles” as recited in claim 12.

Claim 13

117. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “an oral care capsule retained by the at least three capsule retaining elements in the capsule receiving zone” as recited in claim 13.

Claim 14

118. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “inserting at least a portion of the oral care capsule in a direction past the bristles into the recess, and retaining the oral care capsule in the capsule receiving zone using the at least three angled capsule retaining elements” as recited in claim 14.

Claim 15

119. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “wherein the at least one pair of angled capsule retaining elements comprises multiple pairs of angled capsule retaining elements” as recited in claim 15.

Claim 16

120. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “wherein at least a portion of each angled capsule retaining element of the at least one pair of angled capsule retaining elements is arranged to overlap a portion of

the recess of the capsule receiving zone” as recited in claim 16.

Claim 17

121. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “wherein at least a portion of each angled capsule retaining element of the at least three angled capsule retaining elements is arranged to overlap a portion of the recess of the capsule receiving zone” as recited in claim 17.

Claim 18

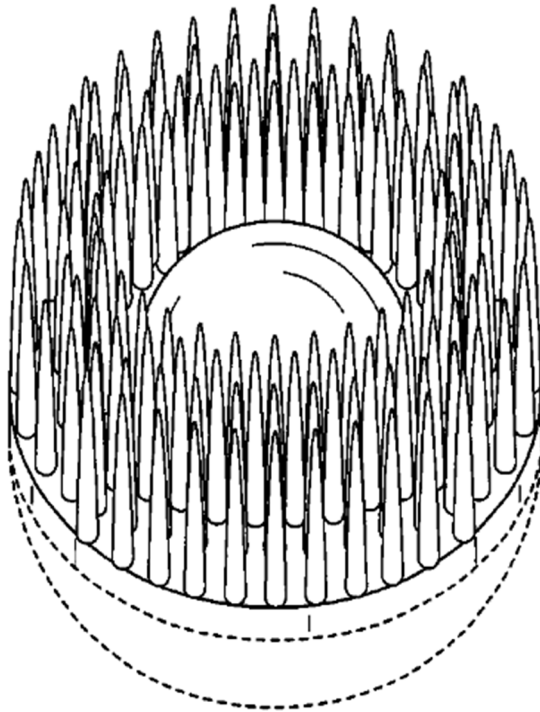
122. In addition to the reasons which Grounds 1-4 and 6 fail to render claim 10 of the '332 patent obvious from, none of the asserted art discloses “wherein each angled capsule retaining element of the at least three angled capsule retaining elements is arranged proximate to a perimeter of the capsule receiving zone at a position at least 144 degrees apart from at least one other angled capsule retaining element of the at least three angled capsule retaining elements relative to a center of the capsule receiving zone” as recited in claim 18.

XIII. SECONDARY CONSIDERATIONS

123. Petitioner cites Sorento EX 1013, asserting that Sorento provided a toothbrush with “a head or carrier 80” and “a series of retaining members 81” to hold “an oral care dispenser, such as a bead of packed dentifrice or capsule ... in place prior to use” within a “cavity” or “basin” 100. Ex. 1013, 11:35-40. Sorento EX 1013 is Colgate’s patent on the highly successful accused WISP toothbrush.

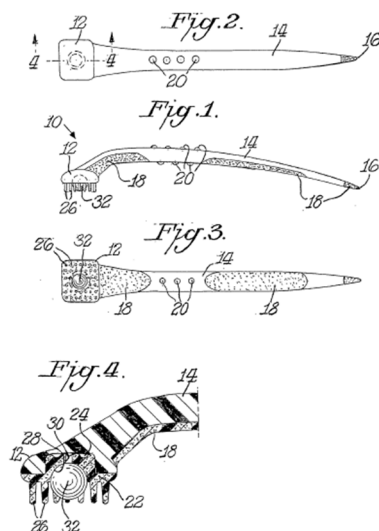
124. Mr. Fletcher, in his declaration, at 361 asserts that “Sorento alone meets all claim elements described below.”

125. Sorento EX1013, has a long history. Sorento was originally filed as a provisional application 60/408,321 on September 5, 2002. Refiled as a continuation on June 6, 2005, Ser. No. 29/231,487, which issued on September 26, 2006 as Design Patent 528,803 (EX 2007) Design patent 528,803 has no retaining members, just vertical bristles.



126. I understand from counsel for Patent Owner that this 2002 design was never commercialized by Colgate.

127. International application PCT/US03/27455, filed Sep. 4, 2003, which claims priority to U.S. Patent Application 60/408,321, filed Sep. 5, 2002, was published as WO 2004/021914 on March 18, 2004 (EX 2008), again without any retaining elements and only four figures:



128. Colgate apparently continued to modify its design, without success and without any retaining elements. Filing a continuation-in-part Ser. No. 10/843,135, filed May 11, 2004 now U.S. Pat. No. 7,331,731, (Ex 2009) adding ten figures to the 2002 disclosure, but no retaining elements. In my experience, continued design work is typical but no commercial product is launched until it proves properly functional.

129. Next came Ser. No. 29/213,754, filed Sep. 23, 2004, now U.S. Pat. No. D532,202 (Ex 2010) having the same disclosure as D528,803 (EX 2007)

130. Next came Ser. No. 29/231,483, filed Jun. 6, 2005, now U.S. Pat. No. D532,607 EX 2-xx), Colgate continued to modify its design, without success and again without any retaining elements. Filing a continuation-in-part on December 21, 2005 U.S. application Ser. No. 11/314,716, filed Dec. 21, 2005, now U.S. Pat. No. 7,478,959 (EX2011), adding features but still no retaining elements:

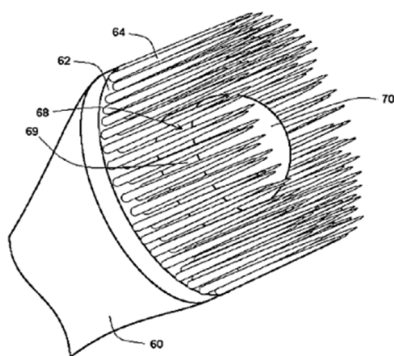


FIG. 15

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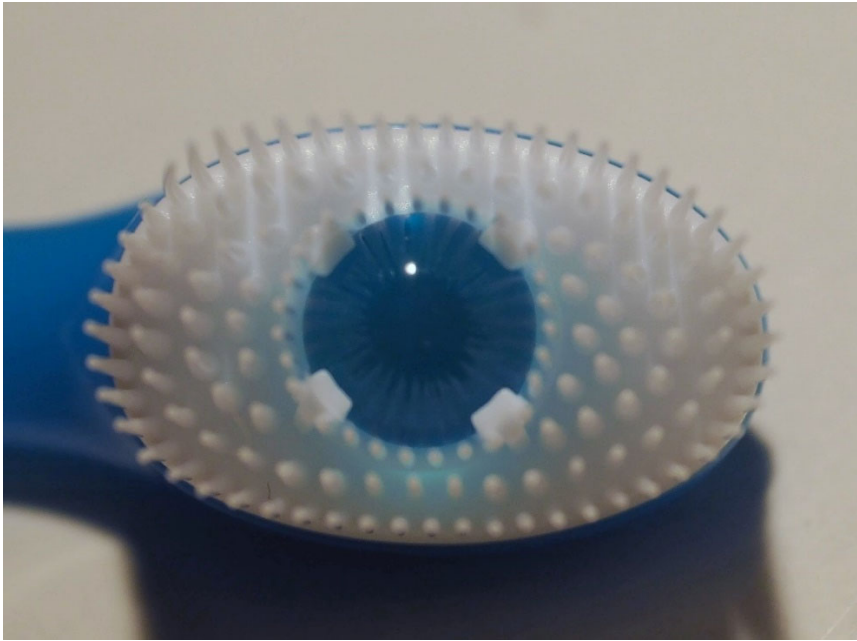
131. Petitioner Colgate has made no assertion that any of these filings anticipate or render obvious any of the challenged claims. To my understanding, there is no argument that Colgate did not possess the invention before 2008.

132. Colgate struggled from 2002 till 2008 to solve the problem. This evidences a long felt and unsatisfied need.

133. The 2002 through January 2008 versions of Sorento did not have any retaining members. Sorento refined and refiled and only after Patent Owner filed in August of 2007, only then did Petitioner add the retaining elements to its design and subsequently launch a successful product, the WISP toothbrush.

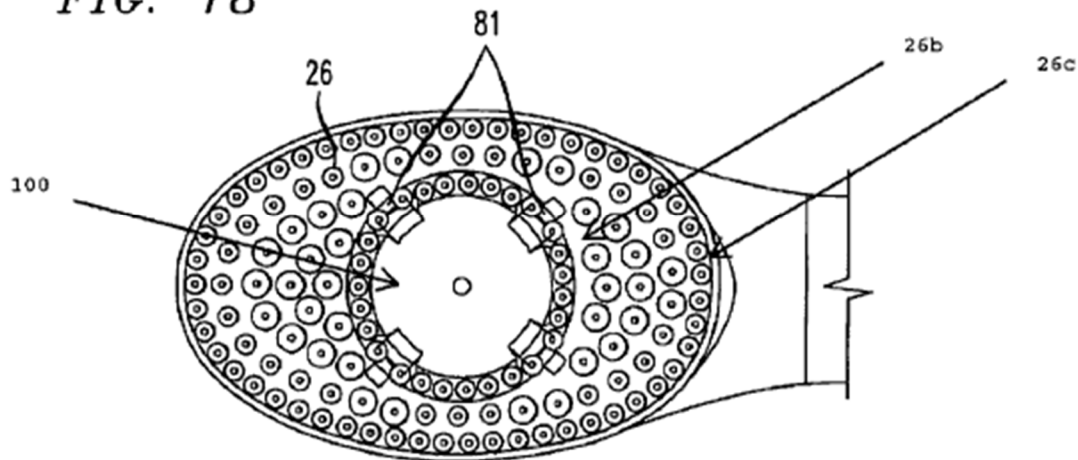


134. It is my understanding that the WISP is a successful product, practicing the challenged claims and demonstrating long felt need and commercial acceptance of the solution.



WISP (EX 2012)

FIG. 18



SORENTO (EX 1013) Figure 18

135. According to Petitioner Colgate, the WISP Toothbrush was launched on April 6, 2009. (EX2005). Colgate has referred to the subject matter of the challenged claims as “this breakthrough innovation.” (EX2005) Mr. Fletcher, in his declaration, at 361 asserts that “Sorento alone meets all claim elements described below.” Wisp received a product of the year award in 2009. (Ex 2004)

136. I find that secondary considerations support my opinion that the challenged claims are patentable.

XIV. CONCLUSION

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code.

Executed this 6th day of May, 2024.

A handwritten signature in black ink, appearing to read "Kelly Kodum". The signature is written in a cursive, flowing style.