

**EXHIBIT B-0**  
**Initial Invalidity Chart for U.S. Patent No. 11,744,686**

As described in the accompany cover pleading, many of the features of the Asserted Patents are known in the prior art, as shown by the attached claim charts, and the table below. Ascentcare reserves the right to rely on references in the table below to supplement or replace the prior art in the attached claim charts. For example, Ascentcare reserves the right to use Hirsch or Isolite instead of Black or AirBug for the claim elements shown below:

| <b>US 11,744,686</b>                                                                                                                                                                                                                                                           | <b>Prior Art</b>                                                                                                                                                                                                                                                                                        |
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| Independent Claim 12. A mouthpiece comprising:                                                                                                                                                                                                                                 | Hirsch '321: FIG. 1, Abstract<br>Isolite Mouthpiece<br>Black: Abstract<br>AirBug Mouthpiece<br>Mr. Thirsty<br>KR101217041: FIG. 1 – applicator 1<br>KR101082826: FIGS. 2 and 3, Abstract<br>KR100654392: FIG. 1, Abstract<br>CN102631180: FIGS. 1-3<br>Johnson: FIG. 2, Abstract<br>Zorovich: Abstract. |
| Limitation 12(a): a main body having a first end opposite a second end, the first end wider than the second end, the main body comprising:                                                                                                                                     | See Claim 19 of Ex. A-0.                                                                                                                                                                                                                                                                                |
| Limitation 12(b): a first wall having a plurality of first edges and extending from the first end to the second end,                                                                                                                                                           | See Claim 19 of Ex. A-0.                                                                                                                                                                                                                                                                                |
| Limitation 12(c): a second wall having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end, | See Claim 19 of Ex. A-0.                                                                                                                                                                                                                                                                                |
| Limitation 12(d): a connecting wall that connects one of the first edges of the first wall to one of the second edges of the second                                                                                                                                            | See Claim 19 of Ex. A-0.                                                                                                                                                                                                                                                                                |

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| wall across the distance between the first wall and the second wall; and                                                                                                                                                                                                                                                                                                                                                                                   |                                             |
| Limitation 12(e): a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall, wherein the bridge structure is not attached to the first wall, and wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs; | See Claim 1 of Ex. C-0.                     |
| Limitation 12(f): a suction connector extending from the first end of the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding protrusion shape of a vacuum adapter; and                                                                                | See Claim 19 of Ex. A-0 and Claim 9 of C-0. |
| Limitation 12(g): a cheek retractor at the second end of the main body.                                                                                                                                                                                                                                                                                                                                                                                    | See Claim 19 of Ex. A-0.                    |
| Claim 13. The mouthpiece of claim 12, wherein the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points.                                                                                                                                                                                          | See Claim 19 of Ex. A-0.                    |
| Claim 14. The mouthpiece of claim 12, wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction.                                                                                                                                                                                                                                                        | See Claim 19 of Ex. A-0.                    |

|                                                                                                                                                                                                                               |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Claim 15. The mouthpiece of claim 12, wherein at least one of the first wall and the second wall includes one or more perforations distributed along one or more of the first edges or along one or more of the second edges. | See Claim 19 of Ex. A-0. |
| Claim 17. The mouthpiece of claim 12, wherein the main body is formed by injection-molding as one piece.                                                                                                                      | See Claim 15 of C-0.     |
| Claim 18. The mouthpiece of claim 17, wherein at least one of the cheek retractor and suction connector is formed by injection-molding and integral with the main body.                                                       | See Claim 15 of C-0.     |
| Claim 20. The mouthpiece of claim 12, further comprising a mouth prop connected to the suction connector.                                                                                                                     | See Claim 1 of C-0.      |

**EXHIBIT B-1 (Park in View of One or More of the Skill of a PHOSITA, Black, AirBug Mouthpiece, Baughan, and/or Johnson))**  
**Initial Invalidity Chart for U.S. Patent No. 11,744,686**

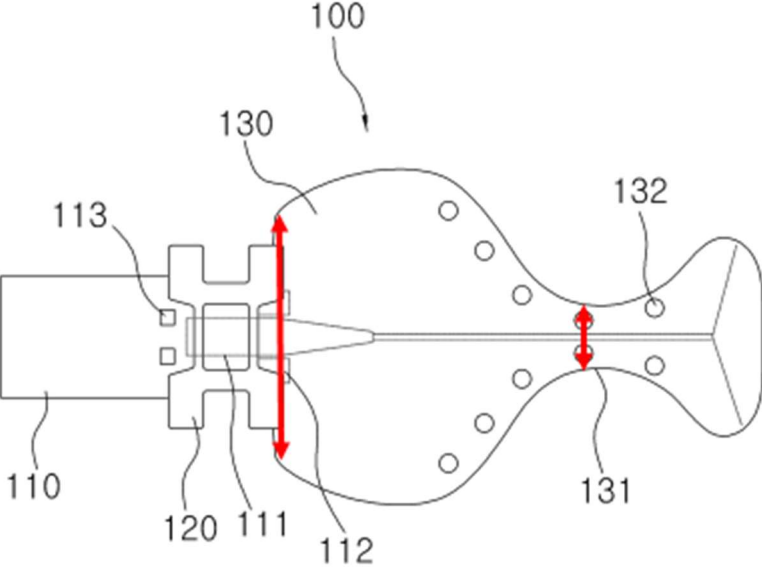
Ascentcare incorporates by reference the cover pleading to its Initial Invalidity Contentions. These Initial Invalidity Contentions, including these claim charts, are not an admission regarding claim scope or the accused products, and, in particular, that the accused products, including any current or past versions of these products, are covered by, or infringe the Asserted Claims, particularly when they are properly construed. Nothing in these contentions should be interpreted as an acquiescence to or assertion of a particular claim construction by the Parties. In addition, these Initial Invalidity Contentions should not be taken as an admission that any of the asserted claims satisfy the requirements of 35 U.S.C. § 112. Where Ascentcare identifies portions of the prior art reference below, those identifications are intended to be exemplary in nature and are based on Ascentcare's investigation to-date. Ascentcare reserves the right to rely on un-cited portions of the reference to establish invalidity of the Asserted Claims.

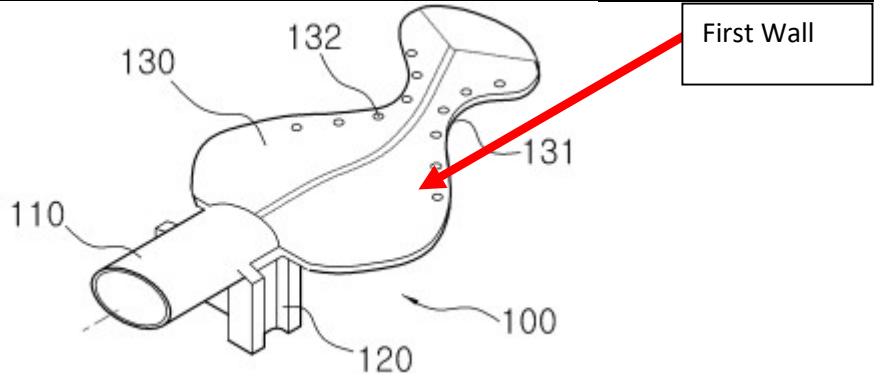
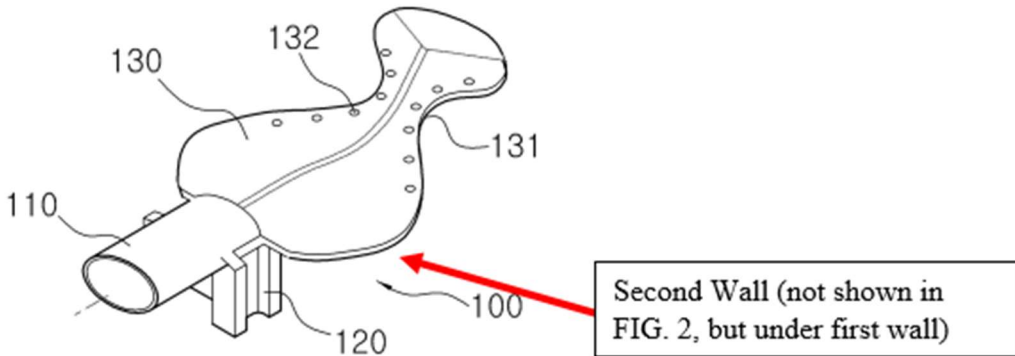
Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, Park, Black, Baughan, and Johnson were patented more than one year prior to the priority date of the '686 Patent, and therefore renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, the AirBug Mouthpiece<sup>1</sup> were on sale or in public use more than one year prior to the priority date of the '686 Patent, and therefore anticipates and/or renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

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<sup>1</sup> It is Ascentcare's understanding that several of the embodying products discussed herein may have multiple embodiments over the years. Discovery is ongoing, and Ascentcare has issued subpoenas seeking the prior art embodiments. To the extent that Ascentcare currently relies on more current embodiments of these mouthpieces, upon information and belief, the differences in those embodiments are minor and do not affect the invalidity analysis. Ascentcare reserves the right to amend these contentions as discovery progresses. It is Ascentcare's understanding, for example that the AirBug Mouthpiece is a product embodying Black, and thus, any of the references to Black likewise support the AirBug Mouthpiece, and vice versa.

| The '686 Patent                                                                                                                | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12[a] A dental mouthpiece comprising:                                                                                          | To the extent the preamble is limiting, each of the references discussed herein is a dental mouthpiece.                                                                                                                                                                                                                                                                                                                                                                                                      |
| 12[b] a main body having a first end opposite a second end, the first end wider than the second end, the main body comprising: | <p>Park discloses a tongue retractor 130, which is a main body. Park, ¶ 26. As shown in FIG. 2 or 3, Park shows that the tongue retractor 130 extends from a first end near an insertion port 110 to an opposite end with a cheek retractor. <i>Id.</i> at ¶¶ 26, 31.</p> <p>As shown in FIG. 3, the tongue retractor 130 of Park has a first end that is wider than the second end. <i>Id.</i>, FIG. 3 (annotated).</p>  |
| 12[c] a first wall having a plurality of first edges and extending from the first end to the second end,                       | The tongue retractor 130 of Park has a first (anterior) wall extending from the insertion port 110 to the cheek retractor near the concave portion 131. <i>ID.</i> , FIG. 2. As shown, the tongue retractor 130 has a plurality of edges. <i>Id.</i>                                                                                                                                                                                                                                                         |

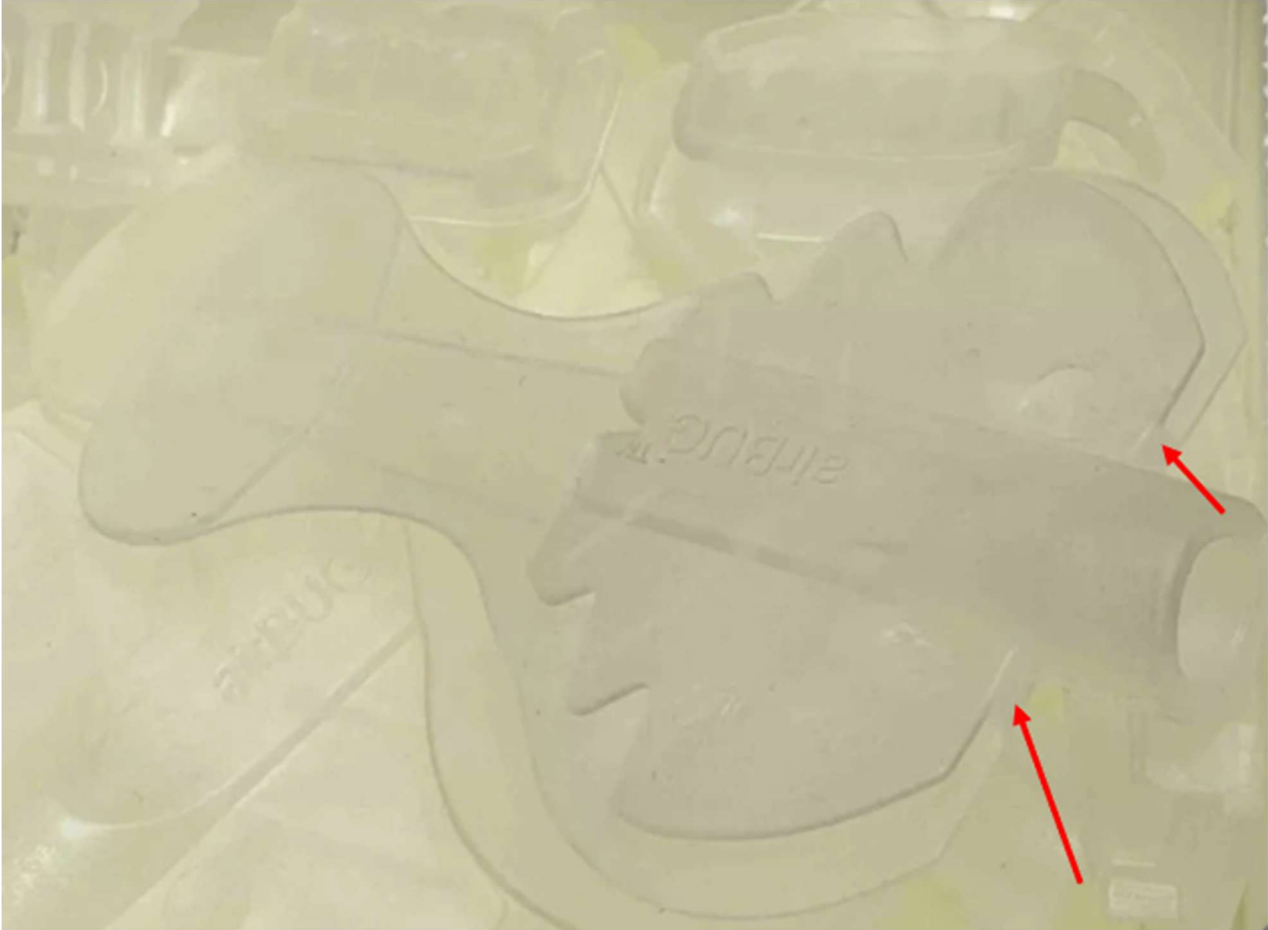
| The '686 Patent                                                                                                                                                                                                                                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>12[d] a second wall having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end,</p> | <p>The tongue retractor 130 of Park has a second (posterior) wall that is exactly the same shape as the first wall. <i>Id.</i>, FIG. 2-3. Thus, as shown in FIG. 3, the tongue retractor 130 of Park extends from the first end to the second end and includes a plurality of edges. <i>Id.</i></p>  <p>The second wall is spaced at a distance to the first wall because Park has an interior chamber and because of the existence of the sidewalls. The tongue retraction portion 130 defines an interior space. <i>Id.</i> ¶ 26. In fact, the tongue retractor 130 is a four-sided body with an anterior wall, a posterior wall, and two sidewalls that together enclose an interior open space where suction occurs. <i>Id.</i>, FIG. 2. The interior space corresponds to the distance between the first and second wall.</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                 | <div data-bbox="569 126 1745 553" data-label="Image"> </div> <p data-bbox="527 558 2003 732">A PHOSITA would recognize Park as an enclosed mouthpiece with sidewalls from FIGs. 1-3 of Park. <i>Id.</i>, ¶¶ 82, 92. FIG. 2 even illustrates the sidewalls extending into the insertion port 110, thereby clearly demonstrating their presence. Park illustrates a continuous sidewall around all edges of the tongue retractor 130, and that continuous edge extends onto the insertion port 110 and the tooth support section 120. <i>Id.</i> Thus, Park illustrates an isolation mouthpiece with sidewalls. <i>Id.</i>, FIG. 2.</p> <p data-bbox="527 776 2003 1029">The specification further supports this conclusion. As shown in FIG. 3, the mouth prop 100 includes two suction ports 112 formed in the hollow insertion port 110 and extending into the tongue retractor 130. <i>Id.</i>, Park teaches that the insertion port 110 is hollow and only <i>one</i> end of the insertion port 110 is open. <i>Id.</i>, ¶ 27-28. Park further teaches that the insertion port 110 has a central interior that includes a post fitting groove 111 and suction ports 112. <i>Id.</i> Because only one end of the insertion port 110 is open, Park teaches that the second end, where the suction ports 112 are formed (see <i>Id.</i>, FIG. 2), is enclosed and extends into an interior space of the tongue retractor 130. <i>Id.</i>, ¶ 26-31. Indeed, Park specifically teaches that the tongue retractor 130 extends from the insertion port 110. <i>Id.</i>, ¶ 26.</p> <p data-bbox="527 1068 2003 1360">The suction ports 112 only extend partially into the tongue retractor 130, and the suction ports 112 do not extend to the through-holes 132 as a dedicated channel. <i>Id.</i>, ¶ 26-31, FIG. 3. Additionally, Park fails to teach that any suction can occur through the sides of the mouth prop 100. Thus, a PHOSITA would understand that Park’s mouth prop 100 has an interior open space that fluidly connects the holes 132 to the suction ports 112. <i>Id.</i>, ¶¶ 30-31, FIG. 2, ¶ 91. If the mouth prop 100 did not include an interior open space formed in the tongue retractor 130, then the holes 132 would serve no purpose, and the suction ports 112 would aspirate nothing. The existence of an interior chamber of the mouth prop is necessary to fluidly connect the suction ports 112 and the holes 132; otherwise Park would be inoperable to perform “suction of foreign substances in the oral cavity.” <i>Id.</i>, ¶ 10.</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                 | <p>Finally, Park depicts the suction ports 112 (and the socket 111) using a line of a lighter shade than the edges of the tongue retractor 130. <i>Id.</i>, FIG. 3. This is likely because the suction ports are only partially visible through clear silicone, but indicating that they extend into an internal chamber of the tongue retractor 130. <i>Id.</i>, ¶ 32. These differences in shading are clearer on a computer screen than a printed copy.</p> <div data-bbox="940 313 1581 789" data-label="Image"> </div> <p>Indeed, a PHOSITA would know that a mouth prop having through holes 132 that do not fluidly connect to the suction ports 112 would allow debris and fluid to pass through the through holes 132 and down a patient's throat, something a PHOSITA would know to avoid. If the suction connector 112 was not fluidly connected to the holes 132 through the tongue retractor 130 of the mouth prop 100, the suction port 112 would serve no purpose or be extremely ineffective, and a patient might choke or experience severe discomfort by the debris, fluid, etc. passing through the holes 132 during a dental procedure.</p> <p>Moreover, a PHOSITA would know that a dentist would position the mouth prop 100 in a patient's mouth such that the concave area 131 would wrap behind teeth on the side of the mouth where a dentist would operate. <i>Id.</i>, ¶ 47, 31. FIG. 6. This is because the whale tail end, opposite the suction connector 112, retracts the patient's cheek near a dental operation. <i>Id.</i>, ¶ 31. If the through-holes 132 were not fluidly connected to the suction ports 112 through the tongue retractor 130, then the suction ports 112 of the mouth prop 100 of Park would be positioned at the furthest possible location in the mouth from the dental operation. A PHOSITA would know that suction should occur as close as possible to the operating area to maximize capture of debris, fluids, and aerosols. <i>Id.</i> The farther away suction is positioned from generated fluid, debris, blood, etc., the less powerful it becomes; meaning the suction would not effectively aspirate unwanted fluids and debris in the mouth. <i>Id.</i> In other words, a PHOSITA would</p> |

| The '686 Patent                                                                                                                                                                                         | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                         | <p>understand that the mouth prop of Park fluidly connects the suction ports 112 to the holes 132 through an inner chamber of the tongue retractor 130 to guide and channel the suction applied through the suction ports. A PHOSITA would understand that the only logical reason a mouth prop configured to expel debris and fluid (ID., ¶ 28, 9) would include through holes 132 is to ensure that suction occurs through the holes 132 via a fluid connection with the suction ports 112, especially considering the holes 132 align with the location where a dental operation occurs. The only way the holes 132 would have an efficient fluid connection with the suction ports 112 is if the mouth prop 100 included an inner chamber through the mouth prop. <i>Id.</i> Thus, Park, at worst, implicitly teaches a four-sided mouth prop formed as a pocket with an inner chamber formed between the four walls. <i>Id.</i></p> <p>Thus, Park teaches a tongue retractor 130 extending from the insertion port 110 to the cheek retractor near the concave portion 131 and having an interior open space formed in the tongue retractor 130 between the suction ports 112 and the holes 132. <i>Id.</i></p> |
| <p>12[e] a connecting wall that connects one of the first edges of the first wall to one of the second edges of the second wall across the distance between the first wall and the second wall; and</p> | <p>The tongue retractor 130 of Park has a sidewall connecting the anterior wall and the posterior wall. <i>Id.</i>, FIG. 2.</p> <div data-bbox="825 748 1709 1122"> </div> <p>Under Solmetex's construction of a "connecting wall" that Solmetex has used for infringement, Black, AirBug, also disclose a connecting wall:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

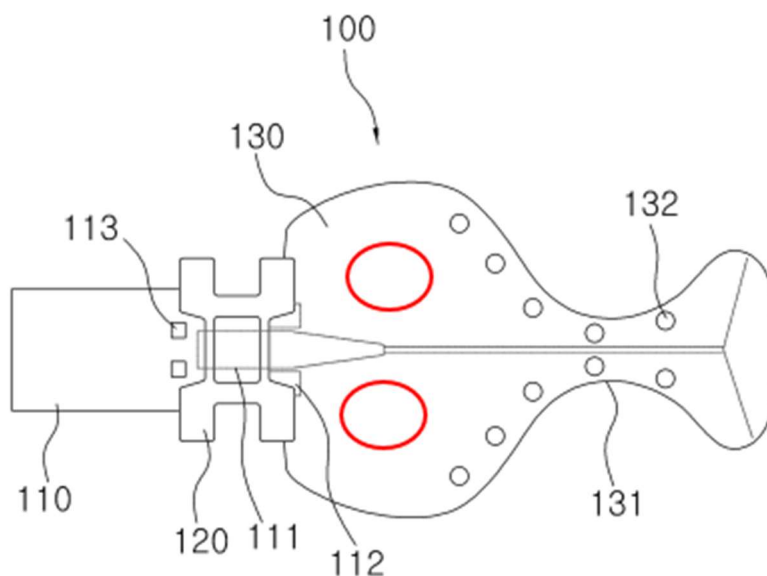
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <div data-bbox="548 164 1121 678"> </div> <div data-bbox="772 683 898 716">FIG. 23A</div> <div data-bbox="1184 326 1734 651"> </div> <div data-bbox="1415 667 1520 699">FIG. 19</div> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p>The photograph shows a dental mold, likely a wax or plaster model of a dental arch. Two red arrows are pointing to specific features on the mold. The arrow on the left points to a small, rectangular, raised feature on the lower arch. The arrow on the right points to a similar, slightly larger, raised feature on the upper arch. The mold is light-colored and has some faint markings, including the word "AIRBUC" visible on the upper arch.</p> |

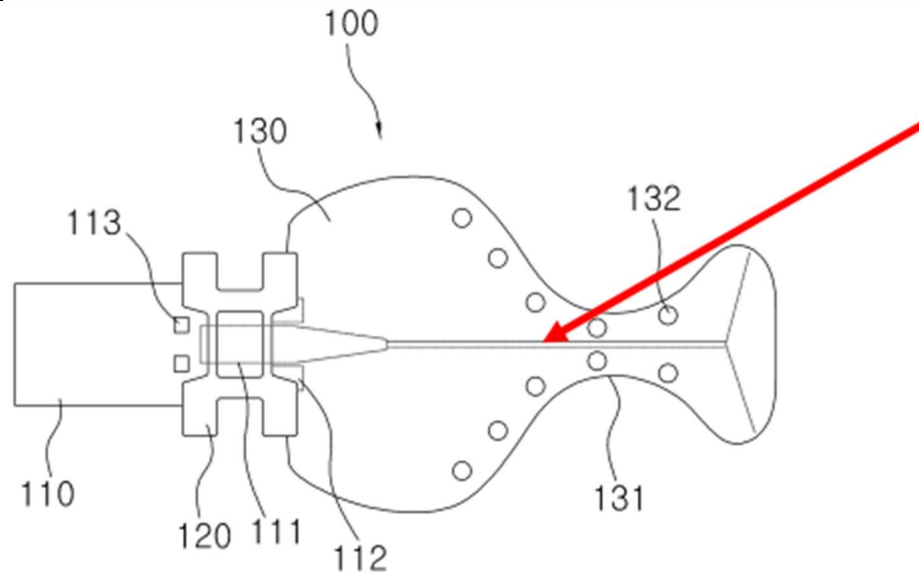
12[f] a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall, wherein the bridge structure is not attached to the first wall,

Park mentions that “common features,” such as anti-collapse structures, are “omitted.” Park, ¶ 22. However, a PHOSITA would understand that when suction is applied through the suction port 112, the first wall and the second wall are likely to collapse under the suction force. Baughan, 3:46-48. This collapsing would occur because Park teaches that the mouth prop comprises a flexible material, such as silicone. Park, ¶32, 34. The sidewalls and the insertion part 111 would help resist this collapsing force, but a PHOSITA would understand that additional anti-collapsing structure would assist at the weakest areas of the tongue retractor 130.

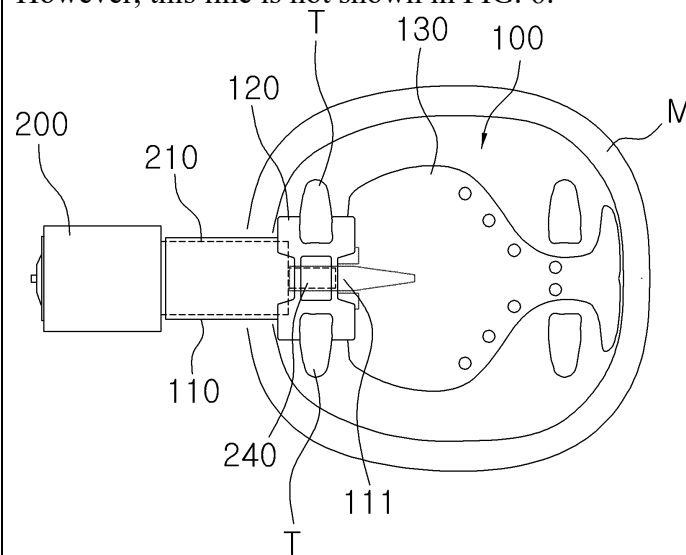
More specifically, an area of the mouth prop furthest from a rigid structure, such as the sidewall, the socket 111, or the insertion part 110 would be most likely to collapse under suction. A PHOSITA would understand that these areas, depicted below, are the most likely areas to collapse under suction due to their location and distance from rigid structure. *Id.*



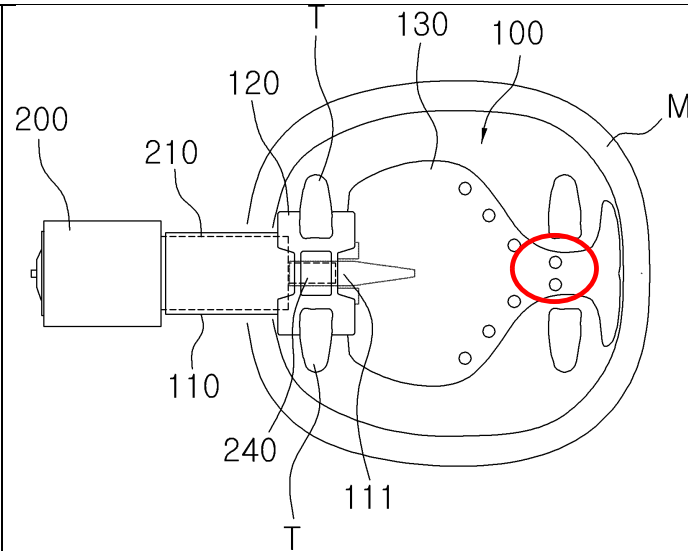
If these areas collapse under suction, suction power would be significantly reduced or blocked entirely. Baughan, 3:46-48. Thus, a PHOSITA would have been motivated to add anti-collapsing structure to prevent collapse. *Id.* Moreover, it is unclear whether the mouth prop 100 includes a spine or other rigid structure running through the middle of the mouth prop 100. FIG. 3 of Park suggest that something is running from the socket 111 toward the cheek retractor end of the mouth prop. Park, FIG. 3.



However, this line is not shown in FIG. 6.



Thus, the line shown in FIG. 3 may not provide any rigidity or anti-collapse features at all and may only assist in guiding light from the light guide 240. Park, ¶ 39. Thus, the weakest part of the mouth prop may actually be the exact center of the mouth prop (see annotated FIG. 6 below).



Regardless, a PHOSITA would know that Park is weak in at least one area and may collapse or restrict fluid communication due to wall collapse caused by suction due to the flexible material comprising the mouth prop 100. Park, ¶ 32. To prevent collapse or restriction, a PHOSITA would have been motivated to add mechanical elements that prevent collapse under suction.

For example, this limitation is taught by Park in view of one or more of Black or AirBug. Black and AirBug teach a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall:

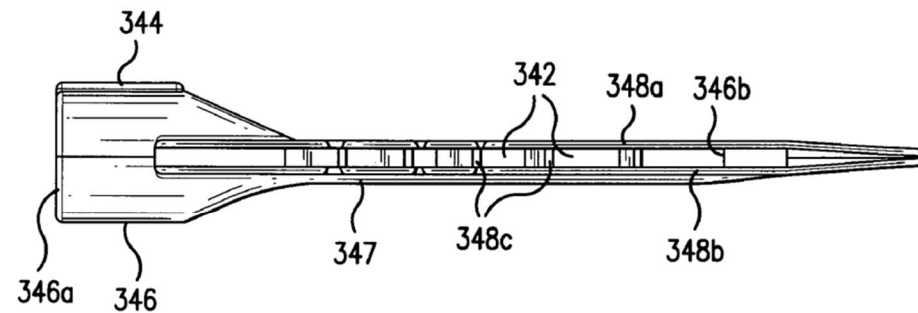
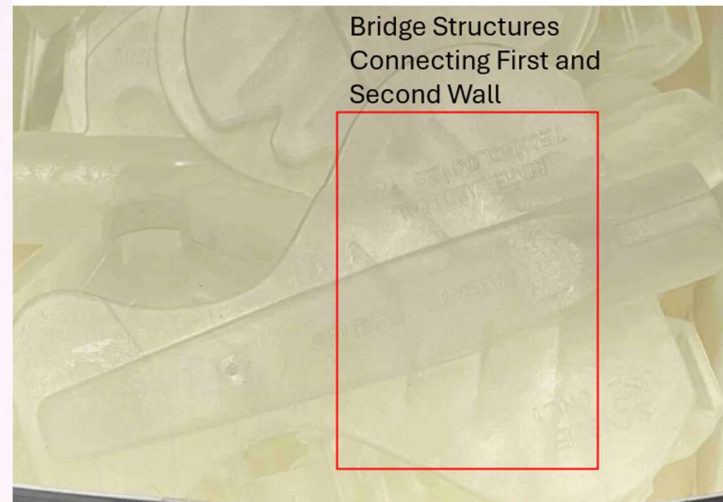
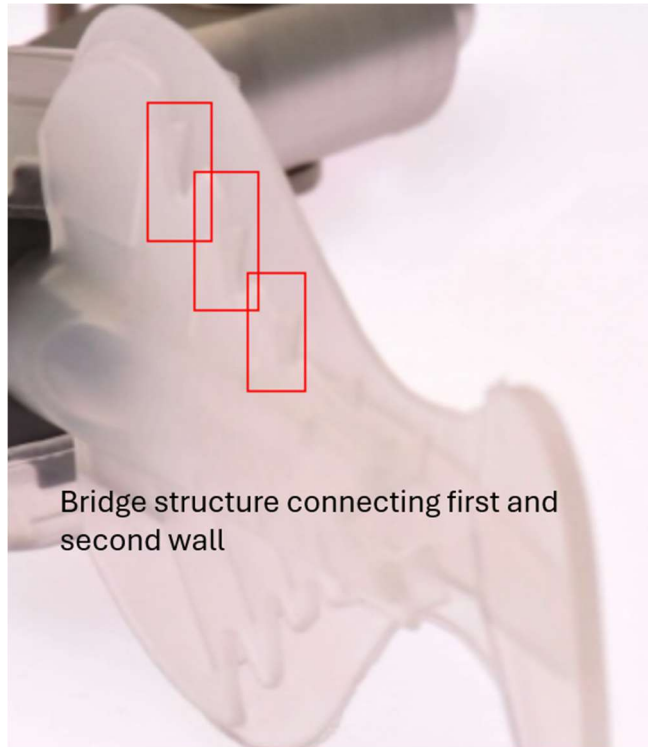


FIG. 23C

To the extent that Solmetex contends that neither Black nor AirBug disclose protrusions that are not connected to the first wall, it would have been obvious for a PHOSITA to modify Black to be able to detach either wall from the bridge structures such that the overall mouthpiece would have been easier to clean.



Further, this limitation is taught by Park in view of one or more of Baughan and Johnson. Additionally, Baughan teaches such a mechanical element that prevents collapse under suction. Baughan, 3:43-48. Specifically, Baughan teaches three projecting discs 17 that prevent collapse under suction when a sleeve is inserted over a tube 15. Baughan, 2:19-25, 2:51-55, 3:43-48. The discs 17 project outward from the tube, span the distance between the tube and the sleeve, and engage the sleeve. *Id.* These rigid structures, spaced apart from each other, prevent the sleeve from collapsing under suction. *Id.* Baughan teaches that the projecting discs 17 are secured to the tube 15 but the discs 17 are not attached to the sleeve 24, as they merely contact the sleeve or the sleeve rests upon the discs. Baughan, 2:19-25, 2:51-61. Thus, Baughan teaches projecting discs connected to and protruding from one structure (the tube 15) but not attached to another structure (the sleeve 24). *Id.*

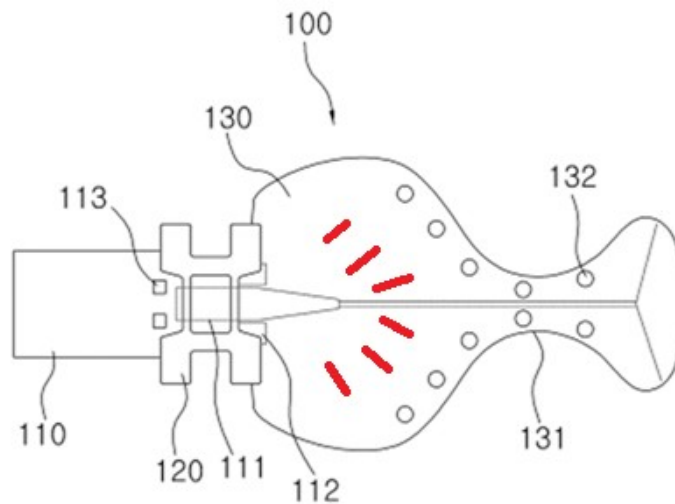
While Baughan teaches outward projecting discs, a PHOSITA using basic common sense, would modify the discs 17 for a tube-shaped embodiment to be projections for a flatter, non-tube embodiment. Johnson, FIG. 3. Indeed, it was well known in the art how to make projections on a flat surface. Johnson, FIG. 3, 4:16-23; ¶¶ 100-101. Johnson further teaches that the projections are molded projections, which means the projections are integral with an interior surface on which they were formed. *Id.* Even so, making something integral is an obvious design choice. MPEP 2144.04(V)(B).

Applying the simple teachings of Baughan and Johnson to Park, it would have been obvious to include a plurality of spaced-apart projections formed on the posterior wall of Park to prevent collapsing of the posterior and anterior walls under suction at weak points of the mouth prop. A PHOSITA would have expected success because these simple mechanical structures ensure separation between two walls that would otherwise collapse under suction. Baughan, 3:43-48; Moreover, Black and AirBug taught this same concept but with an “open” mouthpiece lacking sidewalls. Park opted for sidewalls, but the concept of using perpendicularly projecting structures to prevent collapse of parallel walls under suction was demonstrated by Black, AirBug and by Baughan. Baughan, 3:43-48. Thus, a PHOSITA would have expected success in using spaced-apart projections to prevent walls from collapsing under suction. A PHOSITA would have further known that spaced-apart projections ensure that channels for sucking saliva and foreign substances remain between the spaced-apart projections, lest the purpose of Park’s mouth prop be defeated.; Baughan, 3:36-48. Modifying Park in view of Baughan and Johnson would involve nothing more than applying a known technique (anti-collapse structure) to a known device ready for improvement (the mouth prop 100 of Park) to yield predictable results (preventing collapse at weak parts of the mouth prop 100 under suction), or combining prior art elements (a mouth prop having an interior chamber) according to known methods (using spaced-apart projections to prevent collapse under suction) to yield predictable results (the projections would prevent collapse under suction and still allow for suction channels therebetween).

The spaced-apart projections taught by Baughan could be formed on either the first wall or the second wall. A PHOSITA would know that it makes no difference which wall connects to the projections so long as the projections connect to one of the walls. Baughan, FIG. 3

Further, the MPEP provides that modifying something to be “separable” is a common practice, and are considered routine changes. MPEP § 2144.04V.C. (citing *In reDulberg*, 289 F.2d 522, 523 (CCPA 1961).

Park in view of one or more of Baughan and Johnson would predictably result in multiple projections formed at the weakest point(s) of Park 111. *See* annotated Park, FIG. 3 below; ¶ 102.

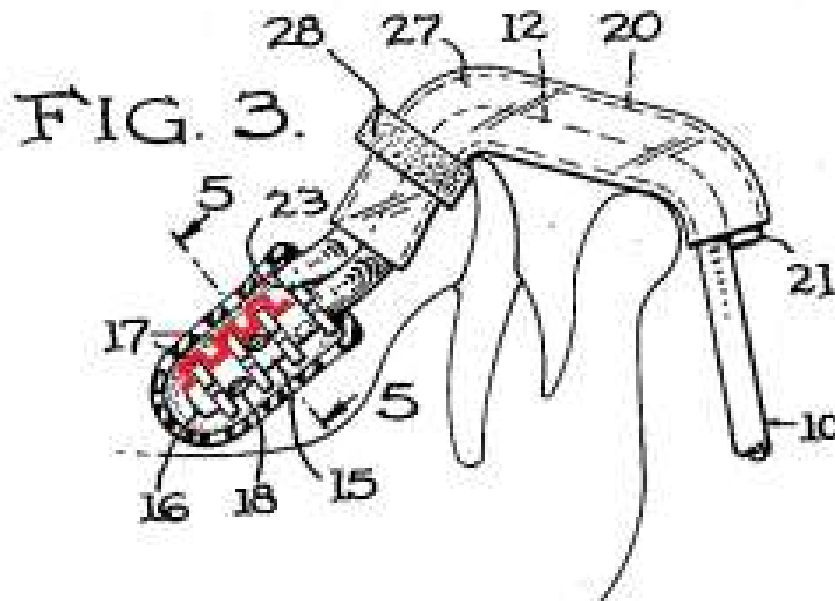


A PHOSITA would know that the projections could be formed at any angle, but angling the projections/troughs toward the holes would create an efficient convergent flow.

To the extent Solmetex argues that the discs of Baughan are not “integral,” it would have been obvious to integrally form projections in view of Park or Johnson. Park teaches a silicone material that comprises the mouth prop 100. Park, ¶ 32. Adding integral projections would have been obvious in view of common knowledge in injection molding. Alternatively, it would have been obvious to add projections integrally in view of Johnson. Johnson teaches a plurality of integrally formed projections formed on an inner surface of a dental apparatus. Johnson, 4:16-23; MPEP 2144.04(V)(B).

12[g] and wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs;

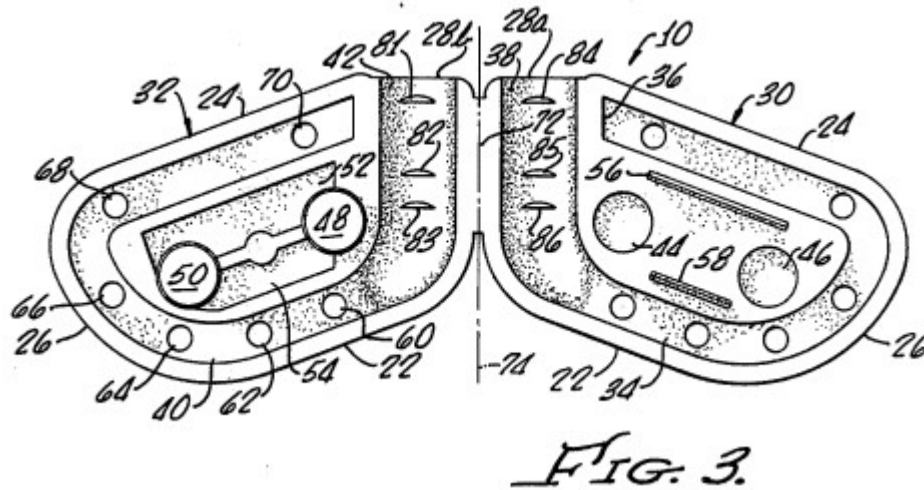
Baughan teaches that the spaced-apart discs result in a square wave shape having crests and troughs. Baughan, FIG. 3 (annotated below).



In fact, each individual disc 17 is formed in a wave shape with notches 19 formed in each disc so that saliva “will always be able to pass through.” Baughan, 3:40-43. In fact, the notches 19 formed in each disc are described in the same way as the bridge structure of the '686 Patent. Baughan, 3:40-43. As shown below, the notches 19 in the disc also form a square wave shape. Baughan, FIG. 5 (annotated).



Johnson teaches integral projections 81-86 formed on a flat surface in a dental apparatus. EX1008, 4:16-23, FIG. 3; EX1003, ¶¶ 61-63. Johnson also teaches the use of injection molding for creation of plastic, dental apparatuses as a single piece. EX1008, 5:20-31, 4:5-16; EX1003, ¶ 61.



Black and AirBug also teach “wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs”

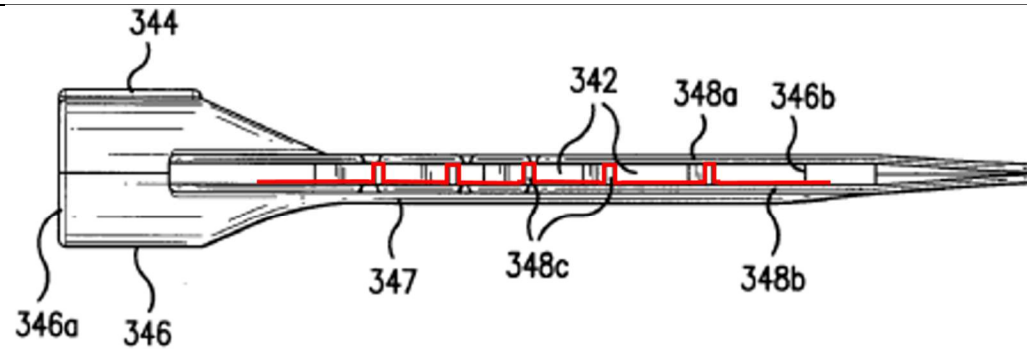
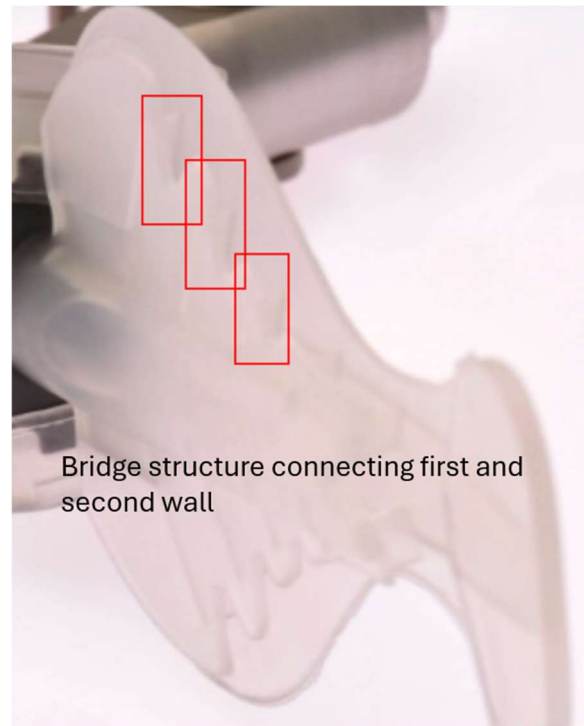


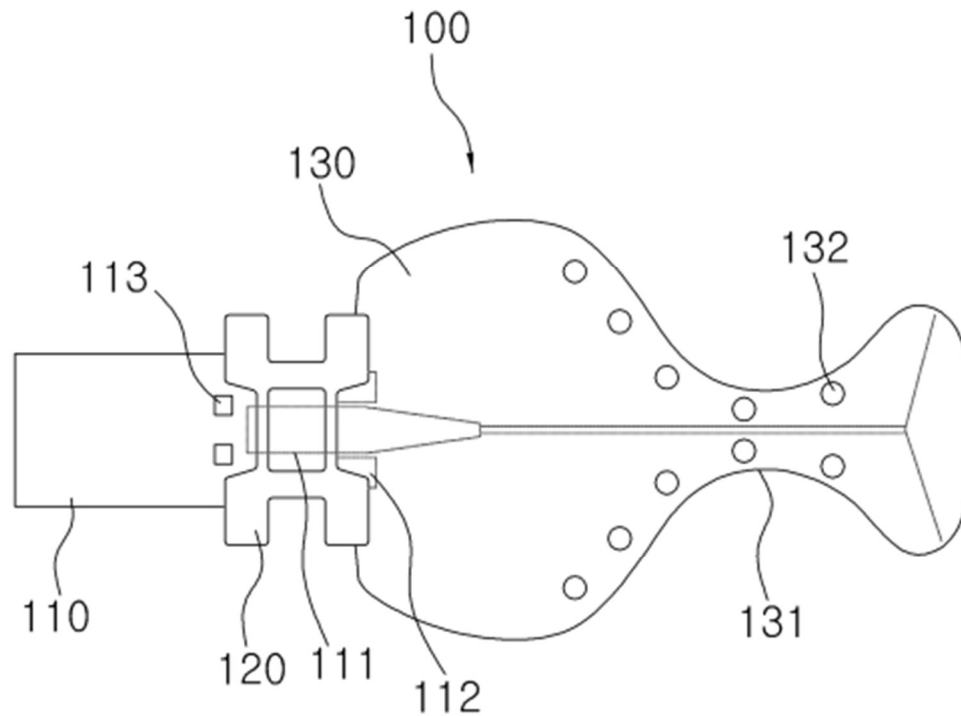
FIG. 23C



Bridge structure connecting first and second wall

As discussed in limitation 12[f], it would have been obvious to include a plurality of spaced-apart projections formed on the posterior wall of Park to prevent collapsing of the posterior and anterior walls under suction at weak points of the mouth prop. A PHOSITA would have expected success because these simple mechanical structures ensure separation between two walls that would otherwise collapse under suction. Baughan, 3:43-48; Moreover, Black and AirBug taught this same concept but with an “open” mouthpiece lacking sidewalls. Park opted for

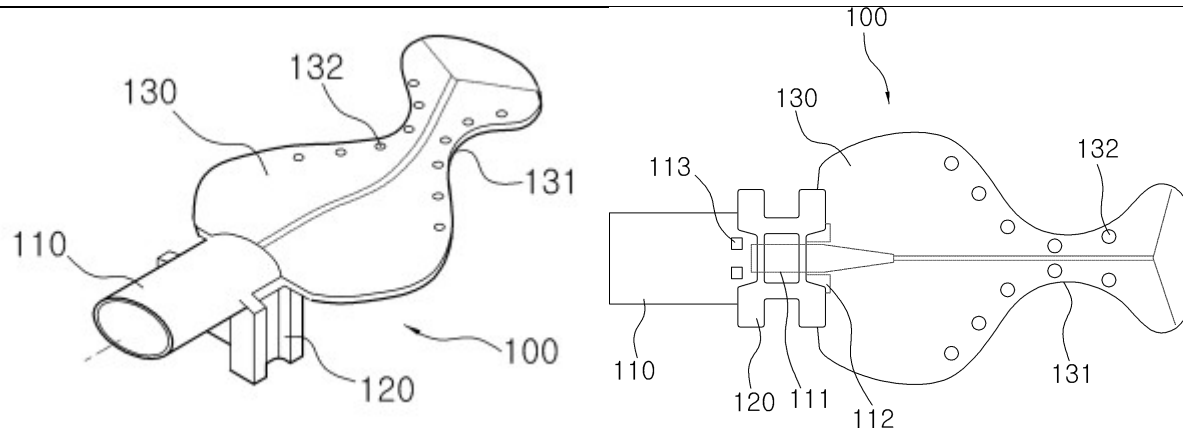
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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                        | <p>sidewalls, but the concept of using perpendicularly projecting structures to prevent collapse of parallel walls under suction was demonstrated by Black, AirBug and by Baughan. Baughan, 3:43-48. Thus, a PHOSITA would have expected success in using spaced-apart projections to prevent walls from collapsing under suction. A PHOSITA would have further known that spaced-apart projections ensure that channels for sucking saliva and foreign substances remain between the spaced-apart projections, lest the purpose of Park's mouth prop be defeated.; Baughan, 3:36-48. Modifying Park in view of Baughan and Johnson would involve nothing more than applying a known technique (anti-collapse structure) to a known device ready for improvement (the mouth prop 100 of Park) to yield predictable results (preventing collapse at weak parts of the mouth prop 100 under suction), or combining prior art elements (a mouth prop having an interior chamber) according to known methods (using spaced-apart projections to prevent collapse under suction) to yield predictable results (the projections would prevent collapse under suction and still allow for suction channels therebetween).</p> |
| <p>12[h] a suction connector extending from the first end of the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding protrusion shape of a vacuum adapter; and</p> | <p>Park teaches an insertion port 110 extending from an end of the tongue retractor opposite the cheek retractor. Park, ¶¶ 26, 31. Park teaches that the insertion port 110 connects to a vacuum source to suction foreign material. Park ¶¶ 26-28, 43. The insertion port 110 suctions through the suction ports 112 that extend into the inner chamber between the anterior wall and the superior wall explained above. <i>Id.</i> Park discloses the insertion port 110 as hollow, thus teaching a suction connector that includes a cavity extending longitudinally from the main body portion and in communication with the interior chamber of the tongue retractor 130. Park ¶¶ 26-28, FIG. 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



Moreover, Park teaches a projection hole (cutout) 113 that receives a locking projection 211 formed on the adapter 200. Park teaches that these corresponding features prevent the mouth prop 100 from easily coming off the adapter 200. *Id.* Park shows that the projection hole (cutout) 113 is formed on the insertion port 110. Park, FIG. 3.

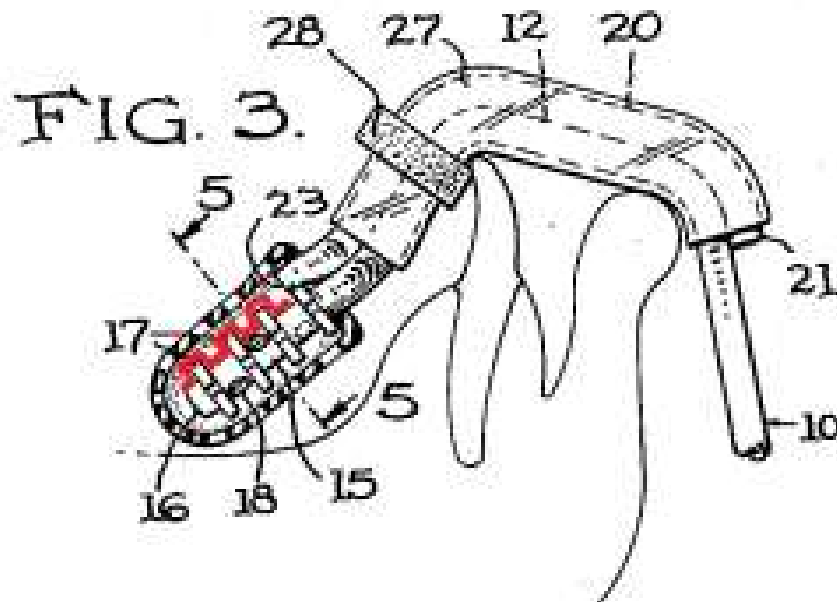
12[i] a cheek retractor at the second end of the main body.

Park teaches that the cheek retractor portion keeps tissue away from an area of work when bent. Park teaches an insertion port 110 extending from an end of the tongue retractor opposite the cheek retractor. Park, ¶¶ 26, 31.



13 The mouthpiece of claim 12, wherein the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points.

Baughan teaches a plurality of spaced contact points at the edges of the discs 17 that keep walls separated under suction. Baughan, 2:19-35, 2:51-62.



In fact, each individual disc 17 is formed in a wave shape with notches 19 formed in each disc so that saliva “will always be able to pass through.” Baughan, 3:40-43. In fact, the notches 19 formed in each disc are described in the same way as the bridge structure of the ’686 Patent. Baughan, 3:40-43. As shown below, the notches 19 in the disc also form a square wave shape. Baughan, FIG. 5 (annotated).



Black and AirBug likewise teach the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points:

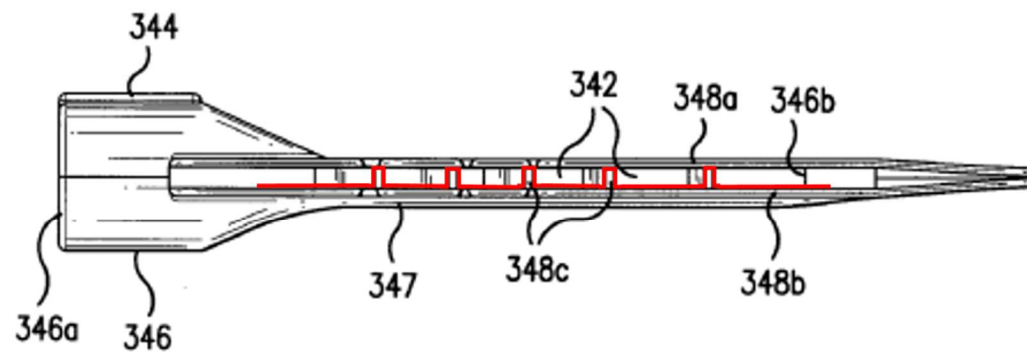
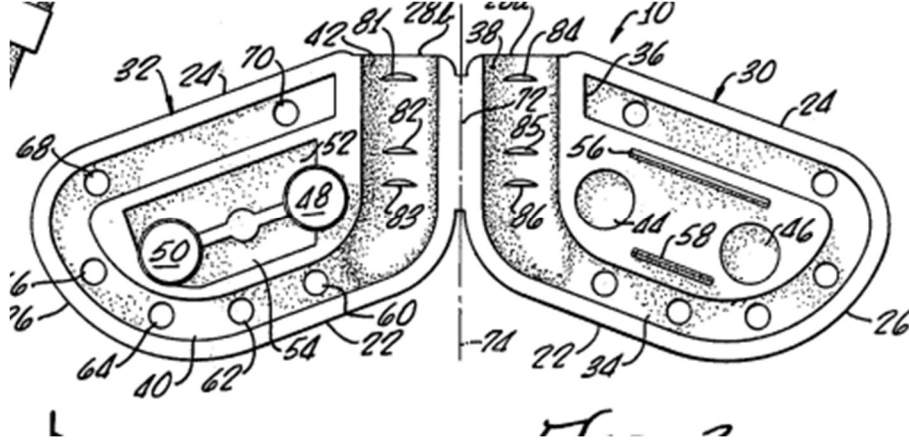


FIG. 23C



As discussed in limitation 12[f], it would have been obvious to include a plurality of spaced-apart projections formed on the posterior wall of Park to prevent collapsing of the posterior and anterior walls under suction at weak points of the mouth prop. A PHOSITA would have expected success because these simple mechanical structures ensure separation between two walls that would otherwise collapse under suction. Baughan, 3:43-48; Moreover, Black and AirBug taught this same concept but with an “open” mouthpiece lacking sidewalls. Park opted for sidewalls, but the concept of using perpendicularly projecting structures to prevent collapse of parallel walls under suction was demonstrated by Black, AirBug and by Baughan. Baughan, 3:43-48. Thus, a PHOSITA would have expected success in using spaced-apart projections to prevent walls from collapsing under suction. A PHOSITA would have further known that spaced-apart projections ensure that channels for sucking saliva and foreign substances remain between the spaced-apart projections, lest the purpose of Park’s mouth prop be defeated.;

|                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                     | <p>Baughan, 3:36-48. Modifying Park in view of Baughan and Johnson would involve nothing more than applying a known technique (anti-collapse structure) to a known device ready for improvement (the mouth prop 100 of Park) to yield predictable results (preventing collapse at weak parts of the mouth prop 100 under suction), or combining prior art elements (a mouth prop having an interior chamber) according to known methods (using spaced-apart projections to prevent collapse under suction) to yield predictable results (the projections would prevent collapse under suction and still allow for suction channels therebetween).</p>                                                                                                                                |
| <p>14 The mouthpiece of claim 12, wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction.</p> | <p>Park further teaches that the mouth prop comprises a flexible material. Park, ¶ 32. A PHOSITA would understand that a flexible material is bendable.</p> <p>Baughan teaches that the discs 17 prevent the sleeve from collapsing onto the tube. Baughan, 2:19-25, 2:51-55, 3:43-48. Thus, Park in view of Baughan and Johnson teaches a mouthpiece having a bridge structure keeps the first wall and second wall separated, thereby preventing collapse or significant narrowing.</p>  <p>Black and AirBug likewise teach “wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction:”</p> |

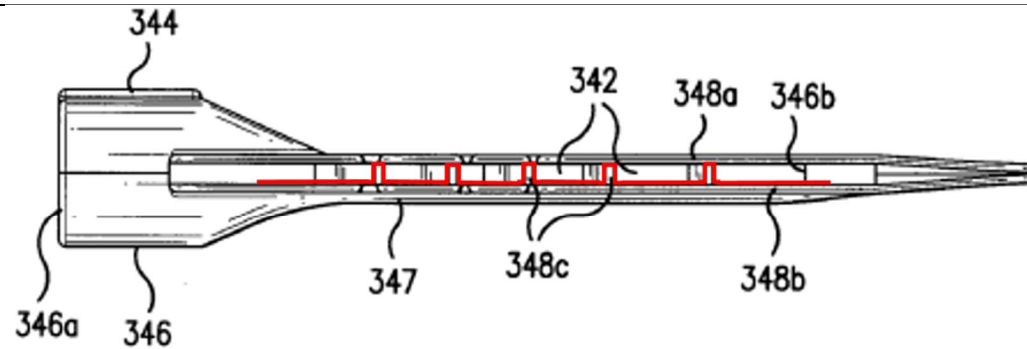
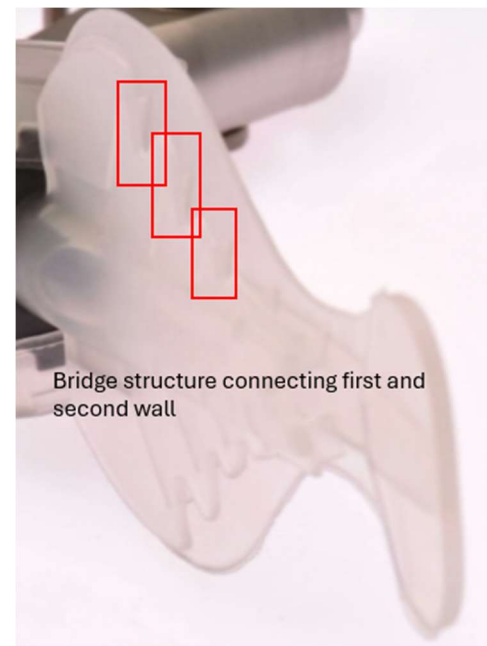
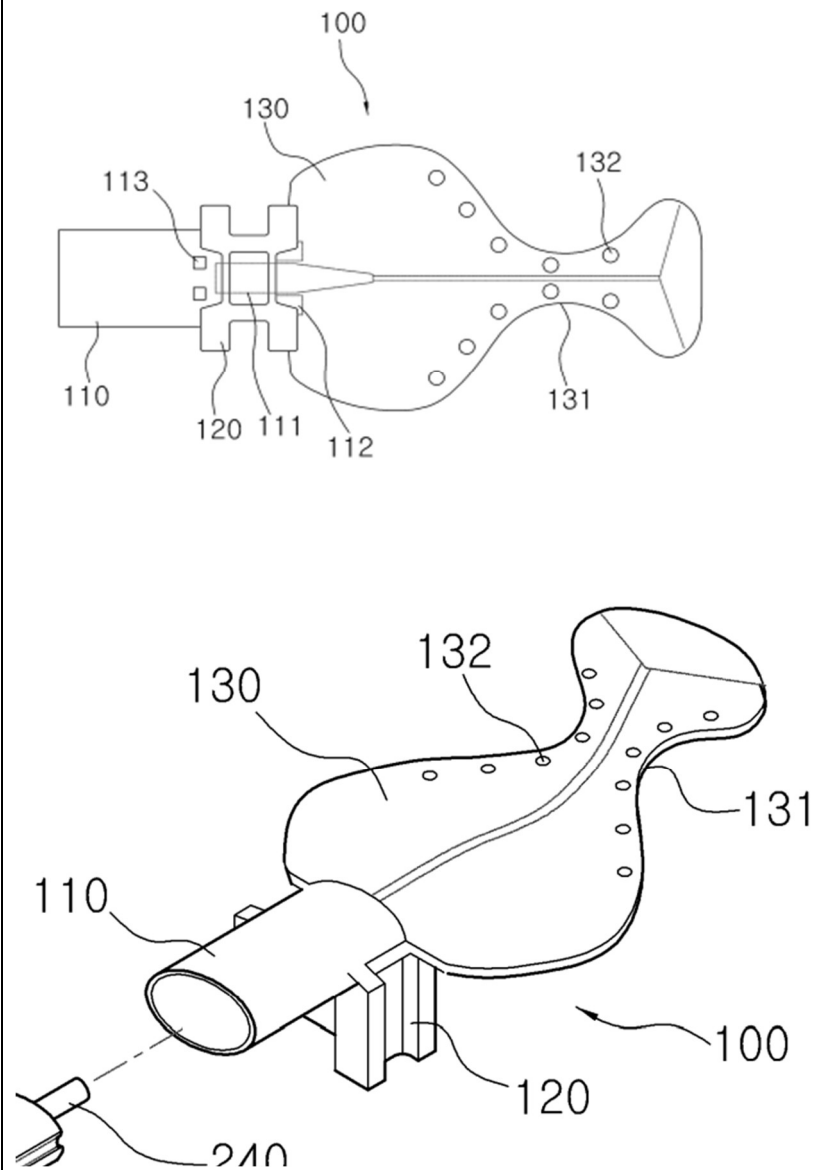


FIG. 23C



As discussed in limitation 12[f], it would have been obvious to include a plurality of spaced-apart projections formed on the posterior wall of Park to prevent collapsing of the posterior and anterior walls under suction at weak points of the mouth prop. A PHOSITA would have expected success because these simple mechanical structures ensure separation between two walls that would otherwise collapse under suction. Baughan, 3:43-48; Moreover, Black and AirBug taught this same concept but with an “open” mouthpiece lacking sidewalls. Park opted for sidewalls, but the concept of using perpendicularly projecting structures to prevent collapse of parallel walls under suction was demonstrated by Black, AirBug and by Baughan. Baughan, 3:43-48. Thus, a PHOSITA would have expected success in using spaced-apart projections to prevent walls from collapsing under suction. A PHOSITA

|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                                                                                                                                                                                                               | <p>would have further known that spaced-apart projections ensure that channels for sucking saliva and foreign substances remain between the spaced-apart projections, lest the purpose of Park's mouth prop be defeated.; Baughan, 3:36-48. Modifying Park in view of Baughan and Johnson would involve nothing more than applying a known technique (anti-collapse structure) to a known device ready for improvement (the mouth prop 100 of Park) to yield predictable results (preventing collapse at weak parts of the mouth prop 100 under suction), or combining prior art elements (a mouth prop having an interior chamber) according to known methods (using spaced-apart projections to prevent collapse under suction) to yield predictable results (the projections would prevent collapse under suction and still allow for suction channels therebetween).</p> |
| <p>15 The mouthpiece of claim 12, wherein at least one of the first wall and the second wall includes one or more perforations distributed along one or more of the first edges or along one or more of the second edges.</p> | <p>Park shows that the holes 132 are placed on both the front wall and the back wall. FIG. 2-3; FIG. 2 illustrates that the holes 132 are formed near the edges of the tongue retractor 130.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



|                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>17 The mouthpiece of claim 12, wherein the main body is formed by injection-molding as one piece.</p>                                                                | <p>Park teaches a mouth prop formed as one piece. Park, ¶ 32. A PHOSITA would know that forming silicone is commonly performed using injection molding. Baughan, Fig. 3. Johnson, 4:16-23, 5:20-22 (teaching that plastic can be formed using injection molding).</p> <p>Black and AirBug Mouthpiece also disclose main bodies that are formed by injection-molding as one piece.</p>                                                                                                                   |
| <p>18 The mouthpiece of claim 17, wherein at least one of the cheek retractor and suction connector is formed by injection-molding and integral with the main body.</p> | <p>Park teaches that the entire mouth prop is formed as one piece, which includes the insertion port 110 and the cheek retractor. Park, ¶¶ 26, 32. A PHOSITA would know that forming silicone is commonly performed using injection molding. Johnson, 4:16-23, 5:20-22 (teaching that plastic can be formed using injection molding).</p> <p>Black and AirBug Mouthpiece also disclose cheek retractor and suction connectors that are formed by injection-molding and integral with the main body.</p> |
| <p>20 The mouthpiece of claim 12, further comprising a mouth prop connected to the suction connector.</p>                                                               | <p>Park teaches a tooth support section 120, which is a mouth prop, formed into one piece with the rest of the mouth prop 100. Park teaches and shows the tooth support section 120 connected to the insertion port 110. Park, ¶ 29, FIG. 2</p>                                                                                                                                                                                                                                                         |

**EXHIBIT B-2 (Black or AirBug in View of One or More of the Skill of a PHOSITA, Park, Baughan, and/or Johnson))**  
**Initial Invalidity Chart for U.S. Patent No. 11,744,686**

Ascentcare incorporates by reference the cover pleading to its Initial Invalidity Contentions. These Initial Invalidity Contentions, including these claim charts, are not an admission regarding claim scope or the accused products, and, in particular, that the accused products, including any current or past versions of these products, are covered by, or infringe the Asserted Claims, particularly when they are properly construed. Nothing in these contentions should be interpreted as an acquiescence to or assertion of a particular claim construction by the Parties. In addition, these Initial Invalidity Contentions should not be taken as an admission that any of the asserted claims satisfy the requirements of 35 U.S.C. § 112. Where Ascentcare identifies portions of the prior art reference below, those identifications are intended to be exemplary in nature and are based on Ascentcare's investigation to-date. Ascentcare reserves the right to rely on un-cited portions of the reference to establish invalidity of the Asserted Claims.

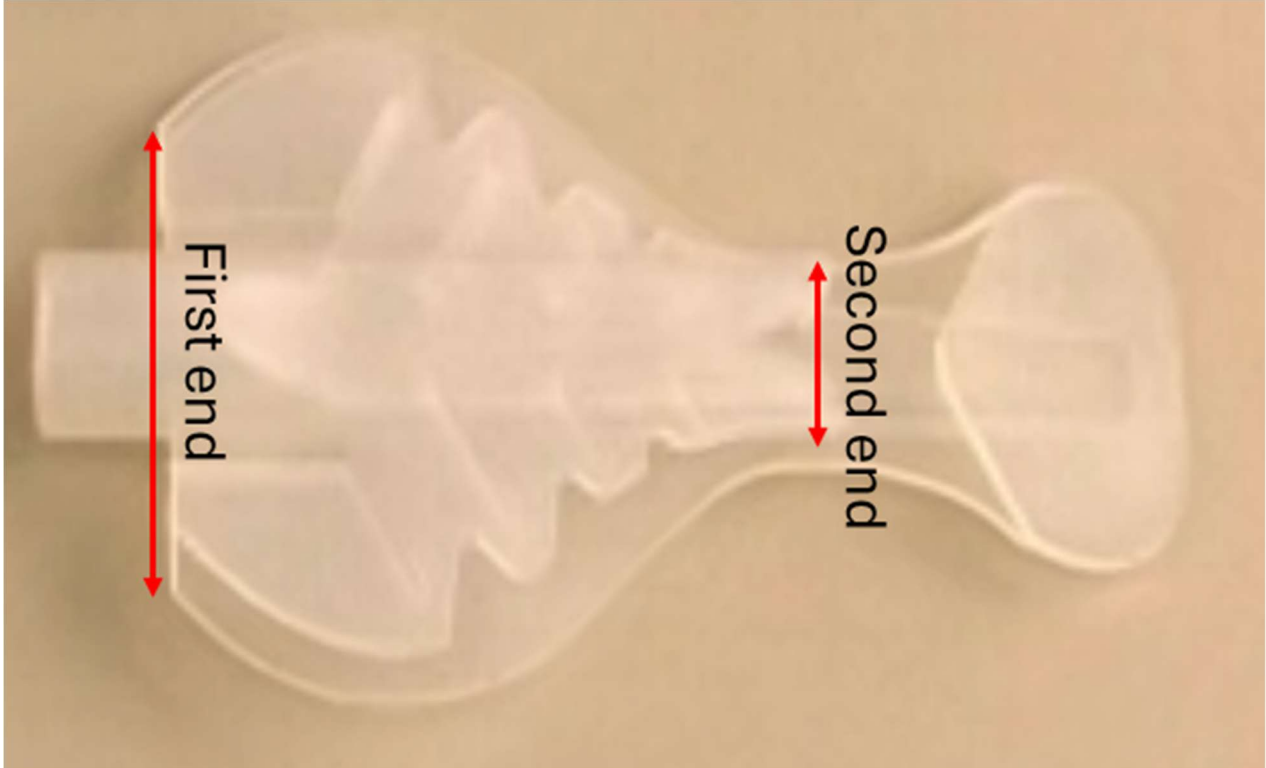
Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, Park, Black, Baughan, and Johnson were patented more than one year prior to the priority date of the '686 Patent, and therefore renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, the AirBug Mouthpiece<sup>2</sup> were on sale or in public use more than one year prior to the priority date of the '686 Patent, and therefore renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

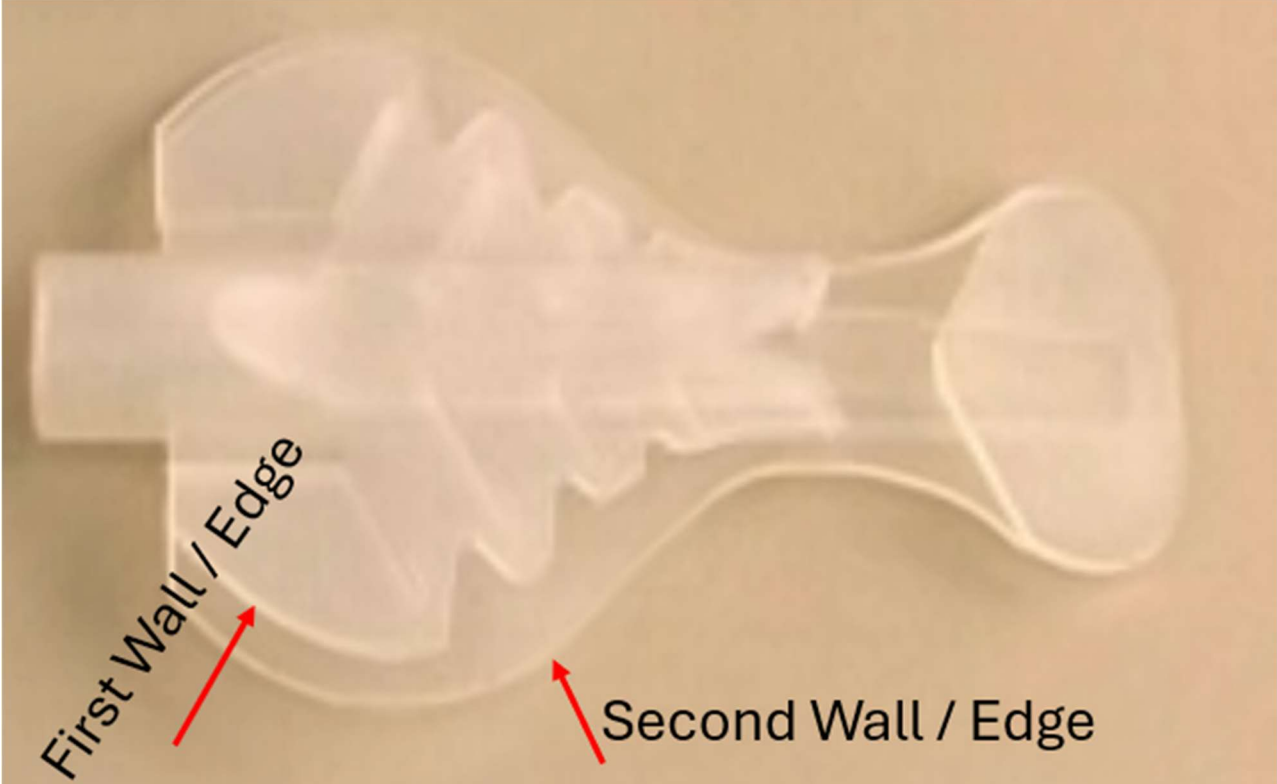
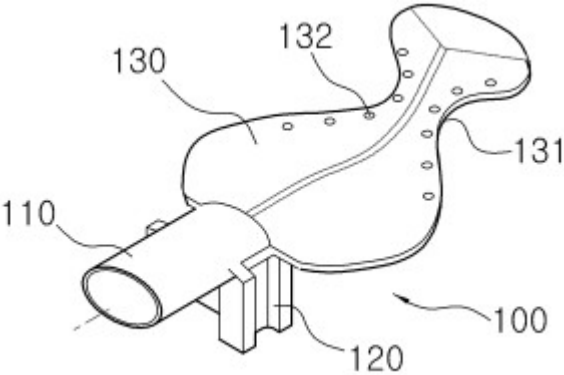
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<sup>2</sup> It is Ascentcare's understanding that several of the embodying products discussed herein may have multiple embodiments over the years. Discovery is ongoing, and Ascentcare has issued subpoenas seeking the prior art embodiments. To the extent that Ascentcare currently relies on more current embodiments of these mouthpieces, upon information and belief, the differences in those embodiments are minor and do not affect the invalidity analysis. Ascentcare reserves the right to amend these contentions as discovery progresses. It is Ascentcare's understanding, for example that the AirBug Mouthpiece is a product embodying Black, and thus, any of the references to Black likewise support the AirBug Mouthpiece, and vice versa.



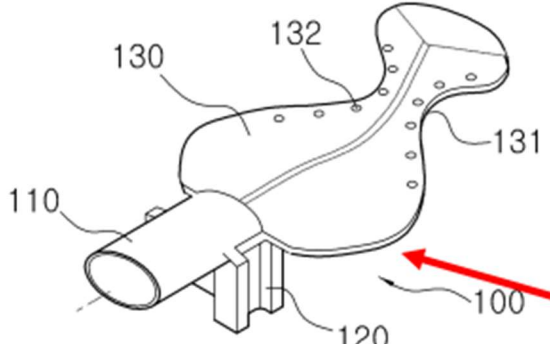
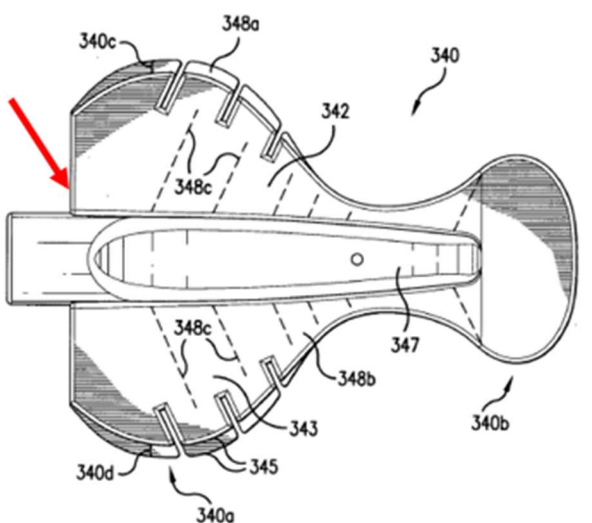
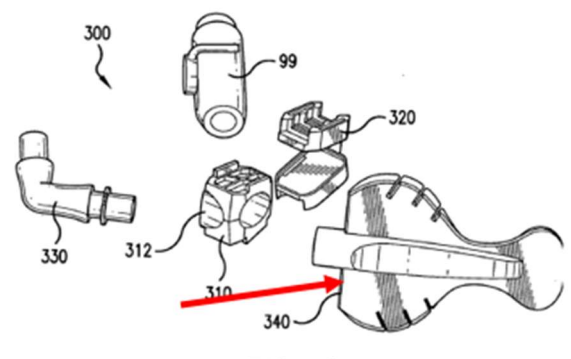
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                  |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p>The image shows a clear, flexible dental appliance, likely a retainer or aligner, with a central, multi-lobed structure. Two red double-headed arrows indicate the 'First end' on the left and the 'Second end' on the right.</p> |

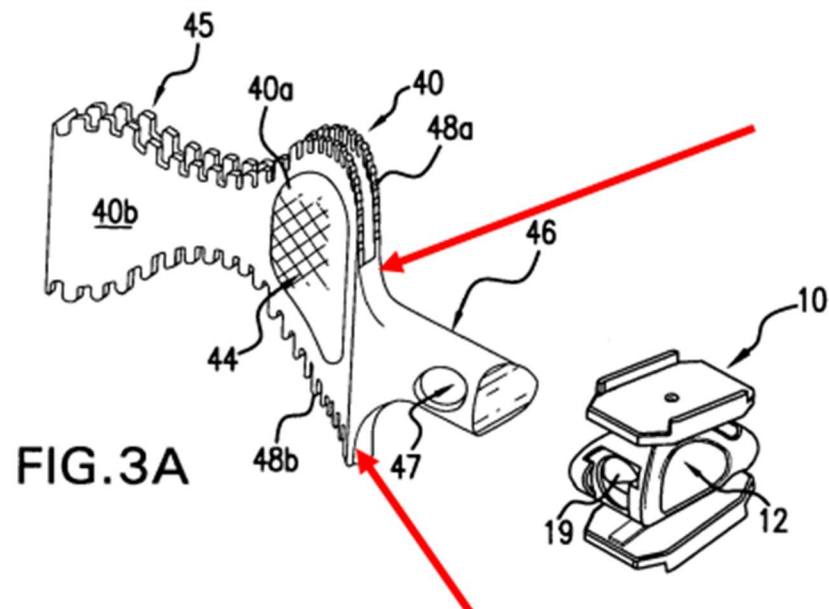
| The '686 Patent                                                                                                 | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>12[c] a first wall having a plurality of first edges and extending from the first end to the second end,</p> | <div data-bbox="932 162 1596 755" data-label="Image"> </div> <p data-bbox="1192 768 1339 800"><b>FIG. 23A</b></p> <p data-bbox="531 846 1997 1024">The main body 340a of Black includes a posterior layer 348a, which is a first wall. <i>Id.</i>, 14:25-30; As shown, the posterior layer 348a has a shape defined by one or more edges along one or more sides. <i>Id.</i>, FIG. 23B. FIG. 23B shows at least three edges: a superior suction connector edge (left side of FIG. 23B above the neck 346), an inferior suction connector edge (left side of FIG. 23B below the neck 346), and a continuous flap edge defining the inferior and superior sides of the first flap. <i>Id.</i>, 14:43-47, 14:64-15:20</p> <p data-bbox="531 1065 1997 1130">Likewise, the AirBug Mouthpiece also includes a first wall having the same plurality of first edges and extending from the first end to the second end:</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p data-bbox="531 959 1990 1027">To the extent that Solmetex disagrees that Black or AirBug Mouthpiece contains “a first wall having a plurality of first edges and extending from the first end to the second end” such a limitation is also disclosed by Park:</p>  |

| The '686 Patent                                                                                                                                                                                                                                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>12[d] a second wall having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end,</p> | <div data-bbox="930 159 1598 755" data-label="Image"> </div> <p data-bbox="1192 768 1339 800"><b>FIG. 23A</b></p> <p data-bbox="531 846 1986 984">The main body 340a of Black includes an anterior layer 348b, which is a second wall. <i>Id.</i>, 14:25-30. As shown, the anterior layer 348b has a shape defined by a plurality of second edges located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end.</p> <p data-bbox="531 1029 1986 1130">AirBug also discloses a second wall having a “having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end:”</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                            |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p data-bbox="529 1128 1902 1198">To the extent that Solmetex disagrees that Black or AirBug Mouthpiece disclose limitation 12[d], Park also discloses such a limitation:</p> |

| The '686 Patent                                                                                                                                                                                         | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                         |  <p data-bbox="1344 397 1774 495">Second Wall (not shown in FIG. 2, but under first wall)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>12[e] a connecting wall that connects one of the first edges of the first wall to one of the second edges of the second wall across the distance between the first wall and the second wall; and</p> | <div data-bbox="546 649 1134 1218">  <p data-bbox="766 1177 913 1218">FIG. 23A</p> </div> <div data-bbox="1176 812 1743 1218">  <p data-bbox="1417 1169 1522 1209">FIG. 19</p> </div> <p data-bbox="529 1250 2003 1323">Black teaches a connecting wall that connects one or more edges of the posterior layer 348a to one or more edges of the anterior layer 348b across a span between to the two layers. Black, Fig. 23A; Fig. 19.</p> |



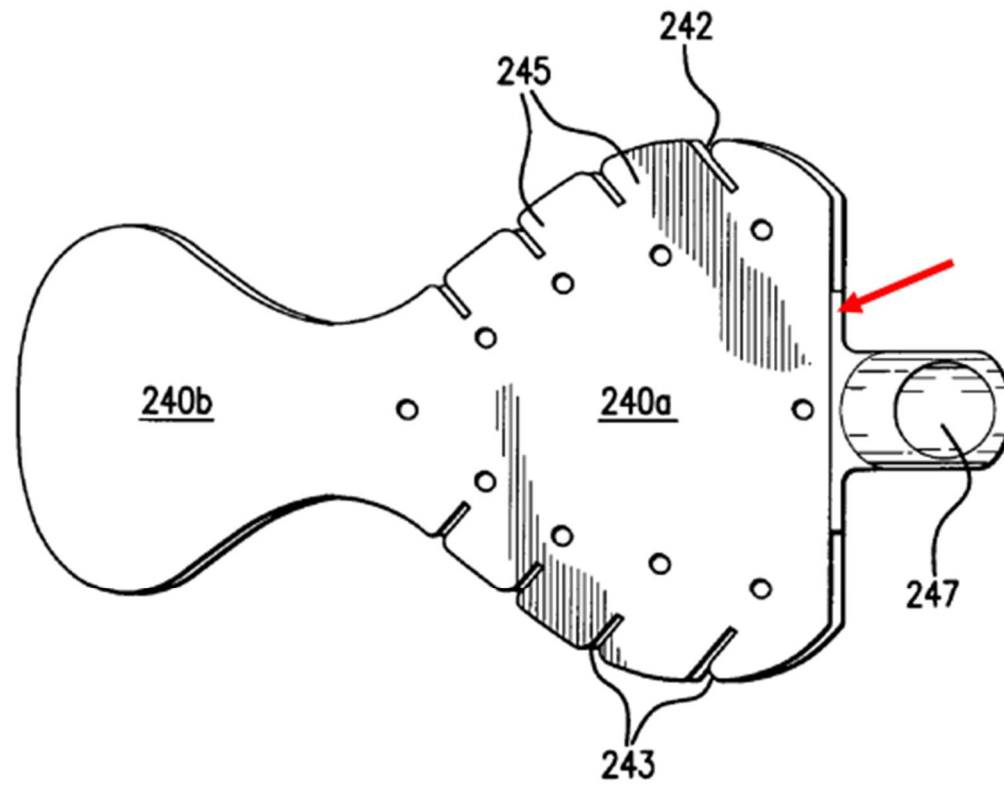
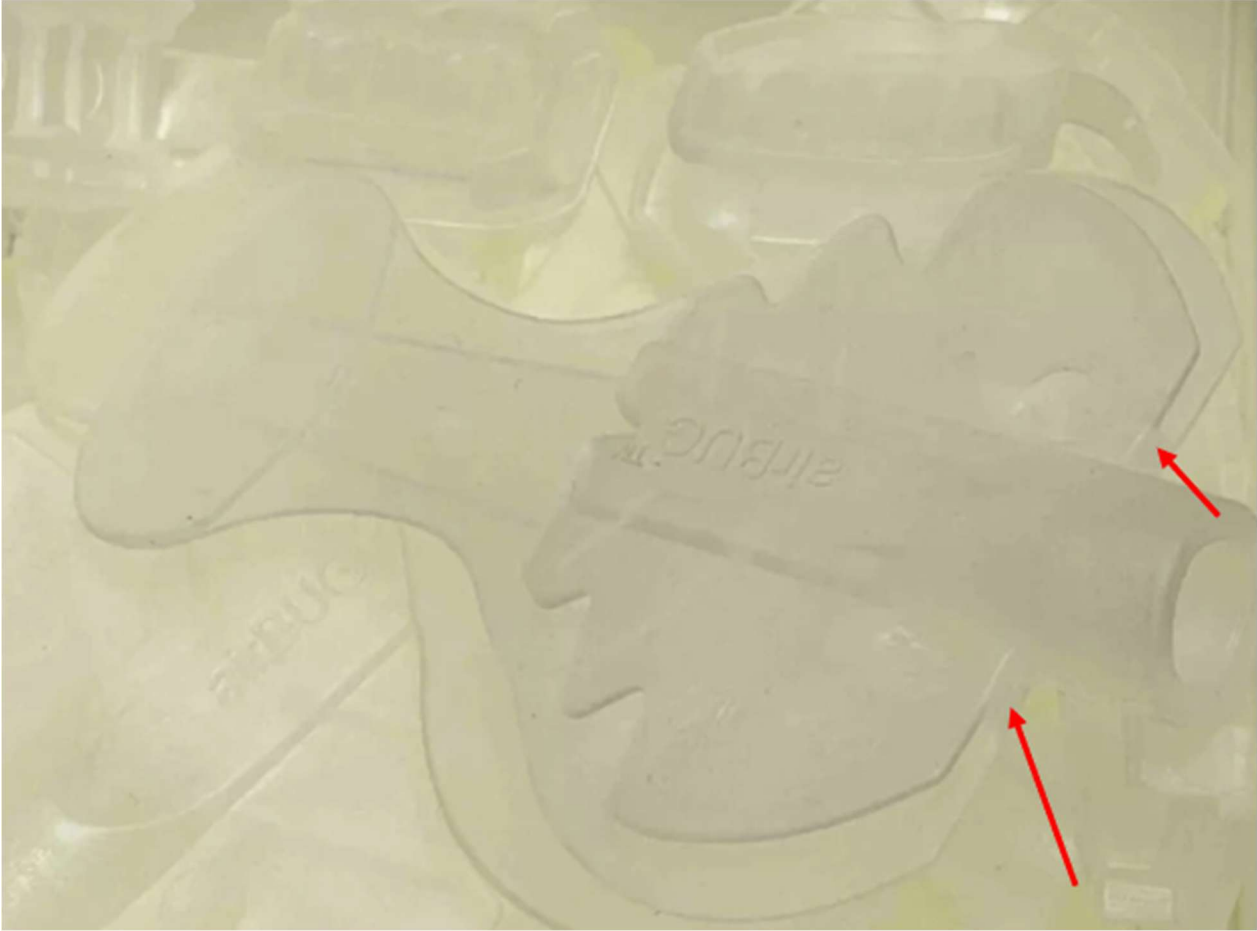
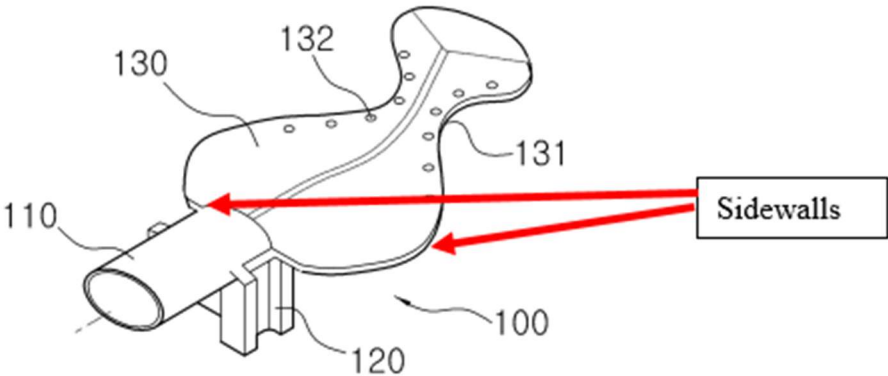
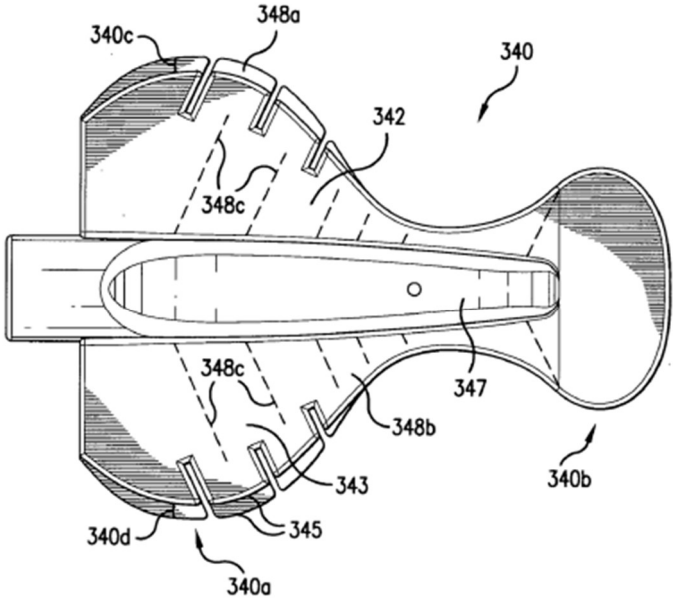


FIG. 4C

T

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                 | <div data-bbox="747 151 1776 581" data-label="Image"> </div> <p data-bbox="1150 609 1369 657" style="text-align: center;"><b>FIG. 24D</b></p> <p data-bbox="531 716 1988 821">To the extent Solmetex attempts to argue that the tongue aspirator 340 fails to disclose a connecting wall, such argument fails, as figures from other “substantially similar” embodiments clearly show a connecting wall. <i>Id.</i>, 11:55-60, 14:2-5.</p> <p data-bbox="531 862 1988 967">As can be seen from multiple embodiments above, Black teaches a connecting wall that connects one or more edges of the posterior layer to one or more edges of the anterior layer across the span between the two layers. All of these embodiments are “substantially similar.” <i>Id.</i>, 16:17-19, 14:2-5, 11:55-60, 6:53-60.</p> <p data-bbox="531 1008 1988 1187">To the extent Solmetex argues that the tongue aspirator 340 lacks the connecting wall that is present in almost every other embodiment of Black, combining features between the embodiments of a single reference “does not require a leap of inventiveness.” <i>Boston</i>, 554 F.3d at 991. Moreover, it would have been obvious to include the connecting wall shown in, for example, FIG. 4C in the embodiment shown in tongue shield aspirator 340 to provide additional structural integrity for the tongue shield aspirator.</p> <p data-bbox="531 1227 1988 1443">Finally, to the extent Solmetex argues that any of the above embodiments do not show a connecting wall formed across an entire “edge,” and only partially extends across an edge, it would have been obvious to widen the connecting wall disclosed by Black as such changes would simply be a change in size/proportion. MPEP 2144.04(IV)(A). This change is particularly true when other embodiments, such as FIG 1 and FIG. 3A show a connecting wall spanning the entire end of the mouthpiece. Black, FIGs. 1, 3A. Moreover, the plain language of claim 19 lacks any recitation of “entire” edges, so any such argument finds no basis in the claim language.</p> |

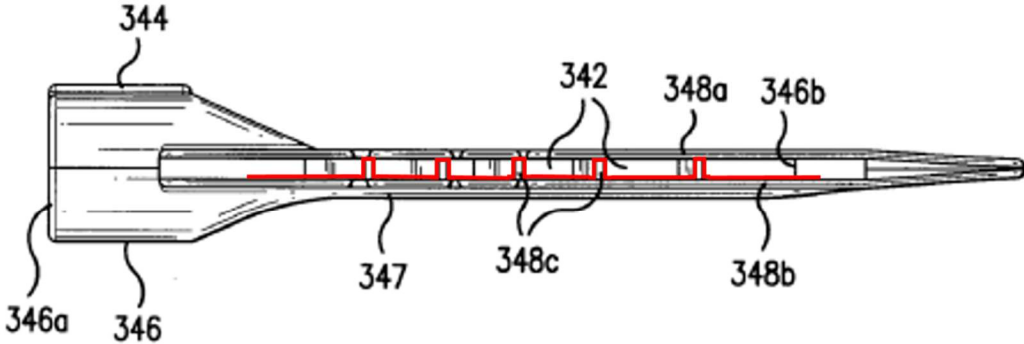
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>Likewise, under Solmetex's construction of the "connecting wall," the AirBug Mouthpiece also discloses a connecting wall that connects the one or more edges of the first wall to one or more corresponding edges of the second wall across a span between the first wall and the second wall:</p>  <p>To the extent that Solmetex disagrees that Black and AirBug disclose a connecting wall, Park also discloses such a connecting wall:</p> <p>The main body 130 of Park has a sidewall connecting the anterior wall and the posterior wall. Park, FIG. 2.</p> |

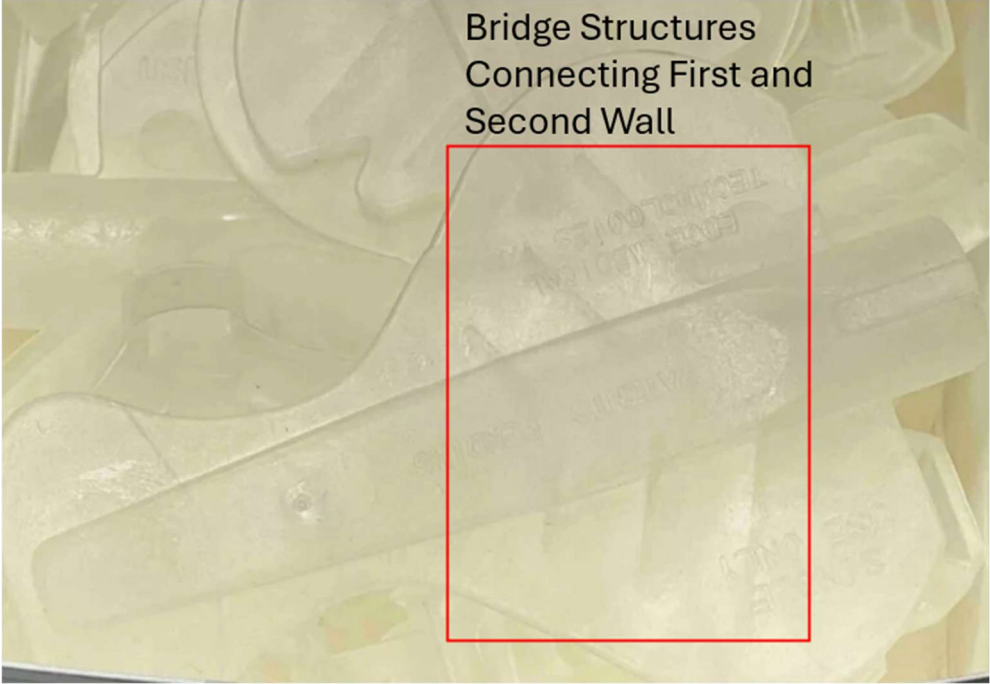
| The '686 Patent                                                                                                                                                                                                                                                                                      | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                         |
| <p>12[f] a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall, wherein the bridge structure is not attached to the first wall,</p> |  <p style="text-align: center;"><b>FIG. 23A</b></p> <p>Black teaches transverse walls 348c spaced apart from each other to form channels 342 therebetween. <i>Id.</i>, 14:21-47. Black explains that these transverse walls form conduits for debris and fluid, “thereby allowing for simultaneous</p> |

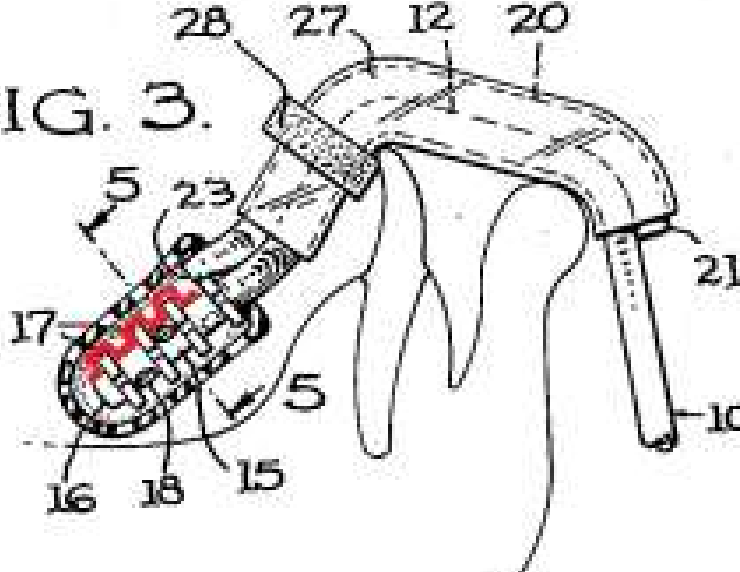
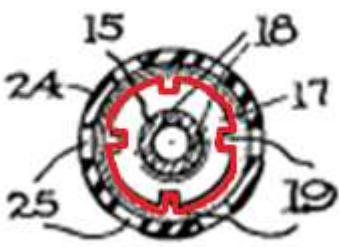
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                 | <p>aspiration of debris and fluid from top (palate of mouth) to bottom (floor of mouth), and through the passageway, during dental procedures.” <i>Id.</i>, 14:38-47. The transverse walls 348c are a bridge structure, as claimed. Indeed, the Examiner also found that Black taught the claimed bridge structure. <i>Id.</i></p> <p>More specifically, the transverse walls extend from an interior surface of the posterior flap 348a and extend up to the anterior flap 348b as a plurality of protrusions (Transverse walls shown dashed). <i>Id.</i>, 14:21-47; These transverse walls 348a extend from an interior surface of the anterior flap 348b and are integral to the anterior flap 348b. <i>Id.</i>, 14:25-30.</p> <div data-bbox="751 427 1768 768"> </div> <p style="text-align: center;"><b>FIG.23C</b></p> <p>The transverse walls 348c extend toward the posterior layer 348a from the interior surface of the anterior flap 348b and connect to the posterior flap 348a. <i>Id.</i>, 14:21-63. The transverse walls 348c form crests in a wave shape and the channels 342 form troughs in a wave shape. Annotated FIG. 23C shown below illustrates the square wave shape formed by the presence of absence of the transverse walls.</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <div data-bbox="869 133 1759 620" data-label="Image"> </div> <p data-bbox="798 560 997 609"><b>FIG.3B</b></p> <p data-bbox="531 620 1253 652">FIG. 3B also illustrates the wave shape from a top-view.</p> <p data-bbox="531 690 2003 1019">Elements 42 and 43 illustrate the channels, or troughs, and element 48c illustrates the crests. While FIG. 3B is directed to a different embodiment than the embodiment shown in FIGs. 23A-C, Black explains that “the tongue shield aspirator 340 includes features that are similar to those described above with the tongue shield aspirators 40, 240 shown in FIGs. 3, 4.” <i>Id.</i>, 11:55-60, 14:2-5. Moreover, the embodiment of FIG. 23 also includes transverse walls and channels. <i>Id.</i>, 14:21-47. Thus, FIG. 3B further informs the structure of the tongue shield aspirator 340. Nevertheless, to the extent obviousness is required here, combining features between the embodiments within the same reference “does not require a leap of inventiveness.” <i>Boston</i>, 554 F.3d at 991. While this feature seemingly was found to be the point of novelty, Ascentcare notes that during prosecution of the parent application, the same Examiner found that limitation 19(e) was taught by Black.</p> <p data-bbox="531 1058 1295 1091">Likewise, AirBug also discloses the same bridge structures:</p> |

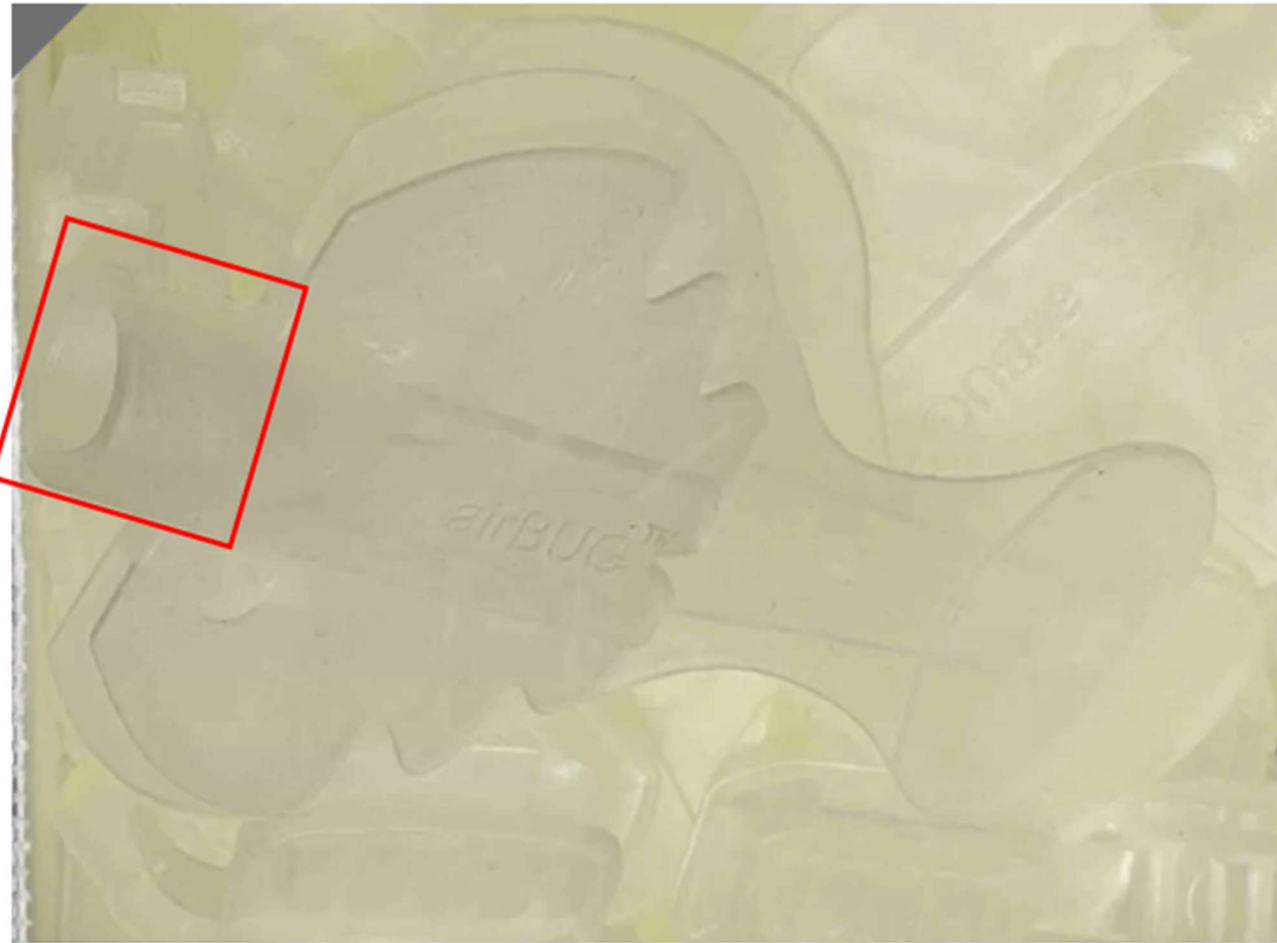
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                 | <div data-bbox="533 139 1457 782" data-label="Image"> <p>Bridge Structures Connecting First and Second Wall</p> </div> <p data-bbox="533 824 1995 928">To the extent that Solmetex contends that the bridge structures of Black and AirBug Mouthpiece are connected to both walls, it would have been obvious for a PHOSITA to modify Black or AirBug to be able to detach either wall from the bridge structures such that the overall mouthpiece would have been easier to clean.</p> <p data-bbox="533 971 1654 1003">Additionally, the disconnected bridge structures are also taught by Baughan or Johnson:</p> <p data-bbox="533 1045 1995 1334">Baughan teaches such a mechanical element that prevents collapse under suction. Baughan, 3:43-48. Specifically, Baughan teaches three projecting discs 17 that prevent collapse under suction when a sleeve is inserted over a tube 15. Baughan, 2:19-25, 2:51-55, 3:43-48. The discs 17 project outward from the tube, span the distance between the tube and the sleeve, and engage the sleeve. <i>Id.</i> These rigid structures, spaced apart from each other, prevent the sleeve from collapsing under suction. <i>Id.</i> Baughan teaches that the projecting discs 17 are secured to the tube 15 but the discs 17 are not attached to the sleeve 24, as they merely contact the sleeve or the sleeve rests upon the discs. Baughan, 2:19-25, 2:51-61. Thus, Baughan teaches projecting discs connected to and protruding from one structure (the tube 15) but not attached to another structure (the sleeve 24). <i>Id.</i></p> <p data-bbox="533 1377 1995 1438">Further, the MPEP provides that modifying something to be “separable” is a common practice, and are considered routine changes. MPEP § 2144.04V.C. (citing <i>In reDulberg</i>, 289 F.2d 522, 523 (CCPA 1961)).</p> |

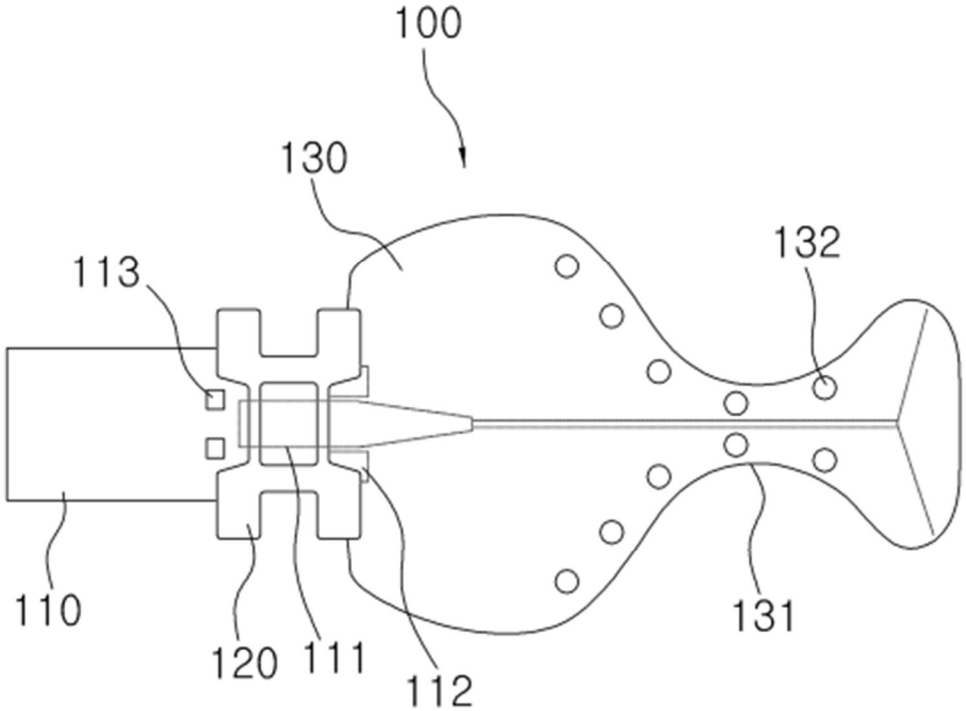
| The '686 Patent                                                                                                                                               | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                               | <p>While Baughan teaches outward projecting discs, a PHOSITA using basic common sense, would modify the discs 17 for a tube-shaped embodiment to be projections for a flatter, non-tube embodiment. Johnson, FIG. 3. Indeed, it was well known in the art how to make projections on a flat surface. Johnson, FIG. 3, 4:16-23; ¶¶ 100-101. Johnson further teaches that the projections are molded projections, which means the projections are integral with an interior surface on which they were formed. <i>Id.</i> Even so, making something integral is an obvious design choice. MPEP 2144.04(V)(B).</p> <p>The spaced-apart projections taught by Baughan could be formed on either the first wall or the second wall. A PHOSITA would know that it makes no difference which wall connects to the projections so long as the projections connect to one of the walls. Baughan, FIG. 3</p> |
| <p>12[g] and wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs;</p> | <p>Black and AirBug also teach “wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs”</p>  <p style="text-align: center;"><b>FIG. 23C</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

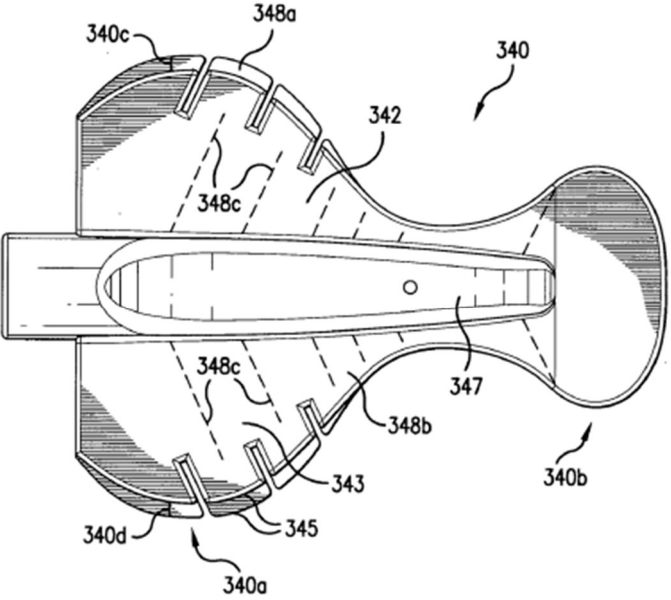
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                 | <div data-bbox="768 136 1751 815">  <p data-bbox="1228 142 1577 272">Bridge Structures<br/>Connecting First and<br/>Second Wall</p> </div> <p data-bbox="531 889 1990 959">To the extent that Solmetex disagrees, Baughan teaches that the spaced-apart discs result in a square wave shape having crests and troughs. Baughan, FIG. 3 (annotated below.</p> |

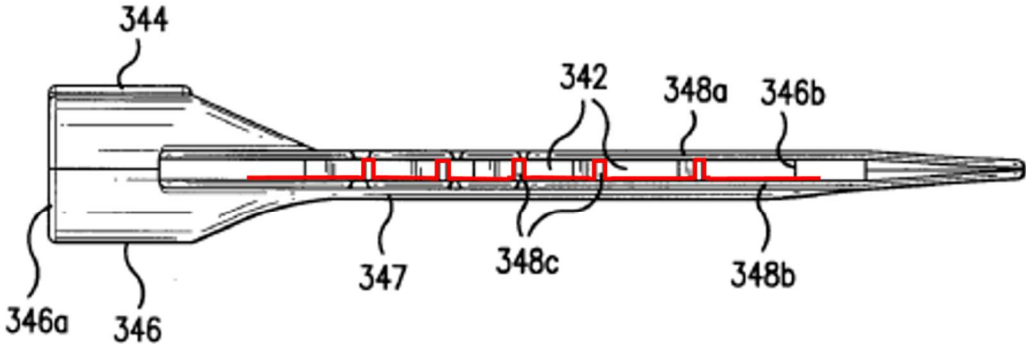
| The '686 Patent                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           | <p data-bbox="546 227 840 292">FIG. 3.</p>  <p data-bbox="529 747 1999 893">In fact, each individual disc 17 is formed in a wave shape with notches 19 formed in each disc so that saliva “will always be able to pass through.” Baughan, 3:40-43. In fact, the notches 19 formed in each disc are described in the same way as the bridge structure of the '686 Patent. Baughan, 3:40-43. As shown below, the notches 19 in the disc also form a square wave shape. Baughan, FIG. 5 (annotated).</p> <p data-bbox="588 925 903 990">FIG. 5.</p>  |
| 12[h] a suction connector extending from the first end of | Both Black and AirBug disclose “a suction connector extending from the first end of the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| The '686 Patent                                                                                                                                                                                                                                                                                              | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding protrusion shape of a vacuum adapter; and</p> | <p>second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding protrusion shape of a vacuum adapter:”</p> <div data-bbox="829 267 1690 868"> <p>FIG. 3A</p> </div> <p>Black, Fig. 3A (47).</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                 |  <p data-bbox="529 1088 1990 1339">To the extent that Solmetex disagrees, Park teaches an insertion port 110 extending from an end of the tongue retractor opposite the cheek retractor. Park, ¶¶ 26, 31. Park teaches that the insertion port 110 connects to a vacuum source to suction foreign material. Park ¶¶ 26-28, 43. The insertion port 110 suctions through the suction ports 112 that extend into the inner chamber between the anterior wall and the superior wall explained above. <i>Id.</i> Park discloses the insertion port 110 as hollow, thus teaching a suction connector that includes a cavity extending longitudinally from the main body portion and in communication with the interior chamber of the tongue retractor 130. Park ¶¶ 26-28, FIG. 2.</p> |

| The '686 Patent                                             | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                                                             |  <p>Moreover, Park teaches a projection hole (cutout) 113 that receives a locking projection 211 formed on the adapter 200. Park teaches that these corresponding features prevent the mouth prop 100 from easily coming off the adapter 200. <i>Id.</i> Park shows that the projection hole (cutout) 113 is formed on the insertion port 110. Park, FIG. 3.</p> |
| 12[i] a cheek retractor at the second end of the main body. | Black and AirBug both teach a cheek retractor at the second end of the main body.                                                                                                                                                                                                                                                                                                                                                                  |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                      |
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|                 |  <p data-bbox="1192 769 1339 802"><b>FIG. 23A</b></p>  |

| The '686 Patent                                                                                                                                                                                                                                                   | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>13 The mouthpiece of claim 12, wherein the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points.</p> | <p>Black and AirBug likewise teach the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points:</p>  <p style="text-align: center;"><b>FIG. 23C</b></p> <p style="text-align: center;">Bridge structure connecting first and second wall</p> <p>To the extent that Solmetex disagrees, Baughan teaches a plurality of spaced contact points at the edges of the discs 17 that keep walls separated under suction. Baughan, 2:19-35, 2:51-62. While Baughan teaches outward projecting discs, a PHOSITA using basic common sense, would modify the discs 17 for a tube-shaped embodiment to be projections for a flatter, non-tube embodiment. Johnson, FIG. 3. Indeed, it was well known in the art how to make</p> |

| The '686 Patent                                                                                                                                                                              | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                              |
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|                                                                                                                                                                                              | projections on a flat surface. Johnson, FIG. 3, 4:16-23; ¶¶ 100-101. Johnson further teaches that the projections are molded projections, which means the projections are integral with an interior surface on which they were formed.<br><i>Id</i> |
| 14 The mouthpiece of claim 12, wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction. | Black and AirBug likewise teach “wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction.” Black, ¶ 8.                                         |

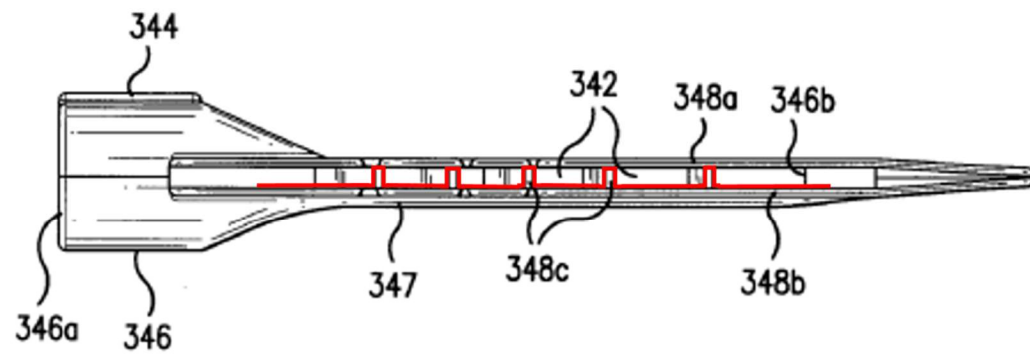
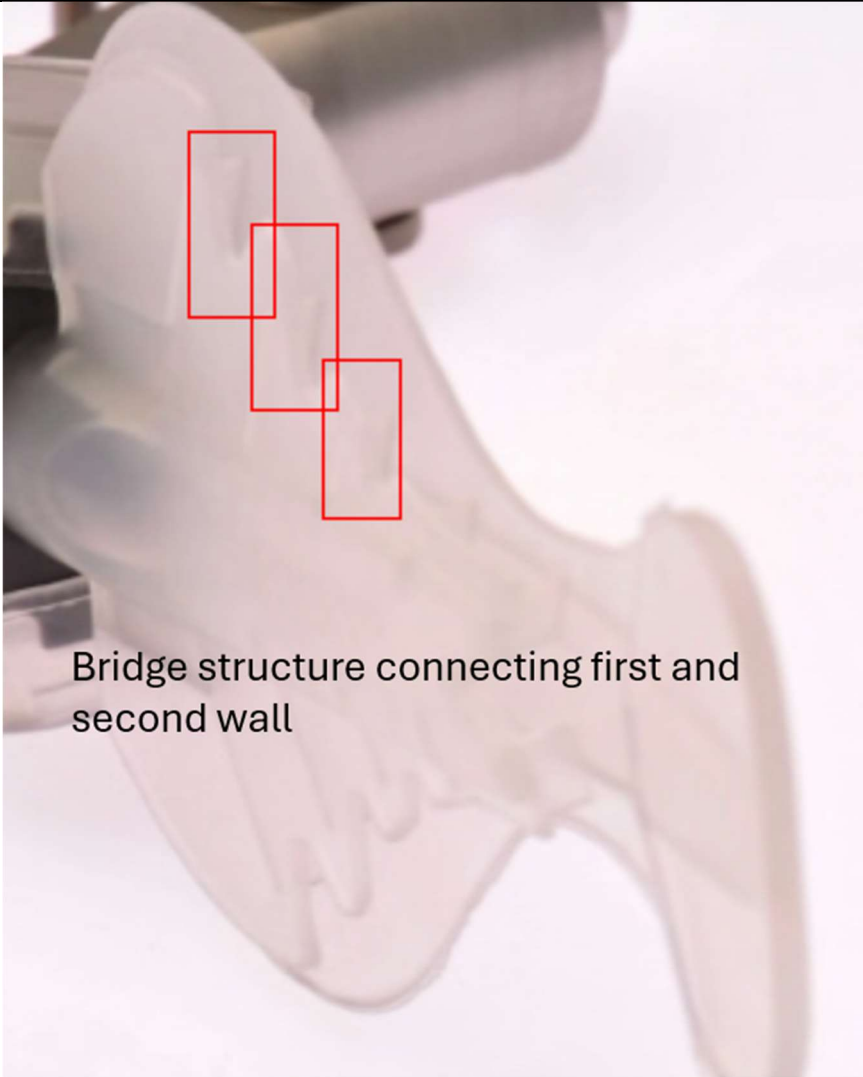
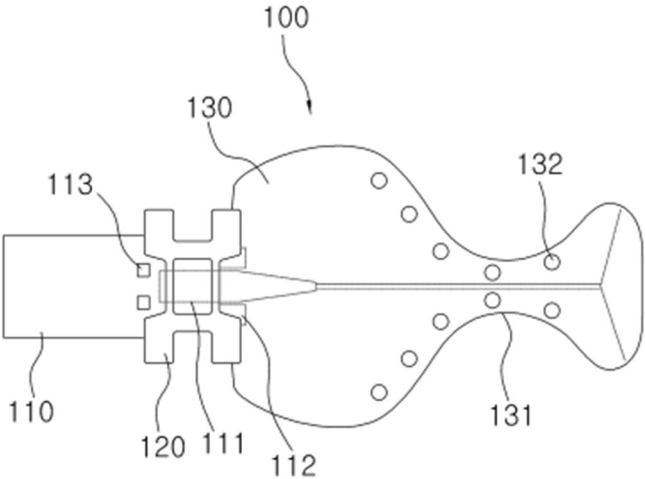


FIG. 23C

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                    |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p data-bbox="898 776 1566 863">Bridge structure connecting first and second wall</p> |

| The '686 Patent                                                                                                                                                                                                               | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p>15 The mouthpiece of claim 12, wherein at least one of the first wall and the second wall includes one or more perforations distributed along one or more of the first edges or along one or more of the second edges.</p> | <div data-bbox="877 175 1675 690" data-label="Image"> </div> <p data-bbox="1157 706 1304 738"><b>FIG. 23B</b></p> <p data-bbox="527 833 2003 1011">The main body 340a of Black includes a posterior layer 348a, which is a first wall. <i>Id.</i>, 14:25-30; As shown, the posterior layer 348a has a shape defined by one or more edges along one or more sides. <i>Id.</i>, FIG. 23B. FIG. 23B shows at least three edges: a superior suction connector edge (left side of FIG. 23B above the neck 346), an inferior suction connector edge (left side of FIG. 23B below the neck 346), and a continuous flap edge defining the inferior and superior sides of the first flap. <i>Id.</i>, 14:43-47, 14:64-15:20</p> <p data-bbox="527 1052 2003 1122">The posterior layer 348a includes two perforations in communication with the interior space of the pocket shown in FIG. 23B.</p> <p data-bbox="527 1162 2003 1260">Likewise, the AirBug Mouthpiece also includes a first wall that includes one or more perforations in communication with the interior space of the pocket, the first wall having a shape defined by one or more edges along one or more sides:</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                              |
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|                 | <div data-bbox="743 136 1776 857" data-label="Image"> </div> <p data-bbox="531 930 1995 1003">To the extent that Solmetex disagrees that Black and the AirBug Mouthpiece disclose perforations those, those perforations are disclosed by Park:</p> |

| The '686 Patent                                                                                                                                                         | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>17 The mouthpiece of claim 12, wherein the main body is formed by injection-molding as one piece.</p>                                                                | <p>Park teaches a mouth prop formed as one piece. Park, ¶ 32. A PHOSITA would know that forming silicone is commonly performed using injection molding. Johnson, 4:16-23, 5:20-22 (teaching that plastic can be formed using injection molding).</p> <p>Black and AirBug Mouthpiece also disclose main bodies that are formed by injection-molding as one piece.</p>                                                                                                                                    |
| <p>18 The mouthpiece of claim 17, wherein at least one of the cheek retractor and suction connector is formed by injection-molding and integral with the main body.</p> | <p>Park teaches that the entire mouth prop is formed as one piece, which includes the insertion port 110 and the cheek retractor. Park, ¶¶ 26, 32. A PHOSITA would know that forming silicone is commonly performed using injection molding. Johnson, 4:16-23, 5:20-22 (teaching that plastic can be formed using injection molding).</p> <p>Black and AirBug Mouthpiece also disclose cheek retractor and suction connectors that are formed by injection-molding and integral with the main body.</p> |

| The '686 Patent                                                                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p>20 The mouthpiece of claim 12, further comprising a mouth prop connected to the suction connector.</p> | <div data-bbox="667 180 1222 516"> </div> <p data-bbox="909 532 999 561">FIG. 18</p> <div data-bbox="1297 164 1843 505"> </div> <p data-bbox="1528 524 1619 553">FIG. 19</p> <p data-bbox="531 570 1997 678">Black teaches a hollow neck 346 that connects the channels of the tongue shield aspirator to an evacuation tube that connects to an HVE valve (vacuum source). Black, 15:21-51; 16:1-3. The hollow neck 346 is formed at the first end of the tongue shield aspirator 340.</p> <p data-bbox="531 716 1997 786">Likewise, AirBug Mouthpiece discloses a suction connector portion connected to a first end of the main body portion, the suction connector configured to connect a vacuum source to the interior space of the pocket:</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                 | <div data-bbox="619 142 1900 1079" data-label="Image"> <p>The image shows a dental mouth prop device, labeled 'AIRBUG™'. A red rectangular box highlights a specific section of the device, which is identified in the text as the tooth support section 120. The device appears to be made of a light-colored, possibly plastic or rubber, material and has a complex, curved shape designed to fit in a mouth. The background is a plain, light-colored surface.</p> </div> <p data-bbox="529 1117 1999 1226">Park teaches a tooth support section 120, which is a mouth prop, formed into one piece with the rest of the mouth prop 100. Park teaches and shows the tooth support section 120 connected to the insertion port 110. Park, ¶ 29, FIG. 2</p> |

**EXHIBIT B-3 (Hirsch or Isolite Mouthpiece in View of One or More of the Skill of a PHOSITA, Black, AirBug Mouthpiece)  
Initial Invalidity Chart for U.S. Patent No. 11,744,686**

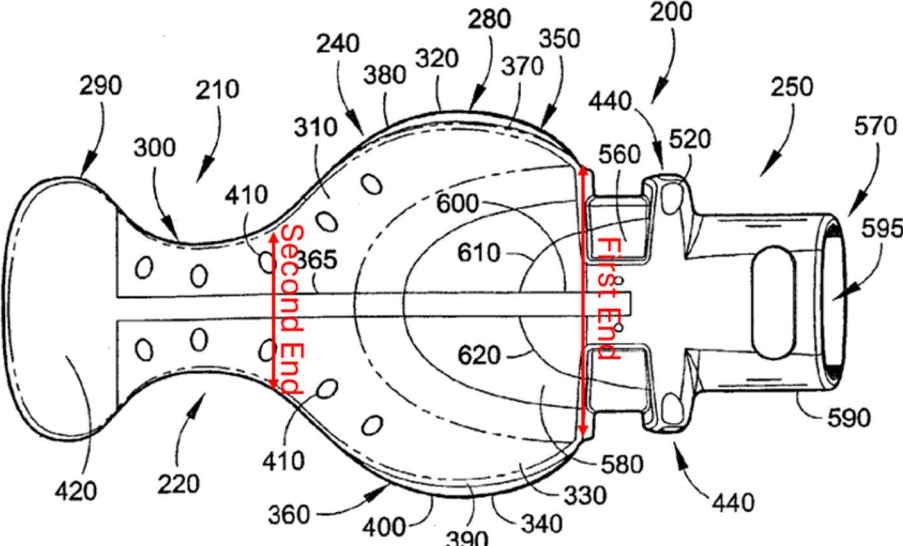
Ascentcare incorporates by reference the cover pleading to its Initial Invalidity Contentions. These Initial Invalidity Contentions, including these claim charts, are not an admission regarding claim scope or the accused products, and, in particular, that the accused products, including any current or past versions of these products, are covered by, or infringe the Asserted Claims, particularly when they are properly construed. Nothing in these contentions should be interpreted as an acquiescence to or assertion of a particular claim construction by the Parties. In addition, these Initial Invalidity Contentions should not be taken as an admission that any of the asserted claims satisfy the requirements of 35 U.S.C. § 112. Where Ascentcare identifies portions of the prior art reference below, those identifications are intended to be exemplary in nature and are based on Ascentcare's investigation to-date. Ascentcare reserves the right to rely on un-cited portions of the reference to establish invalidity of the Asserted Claims.

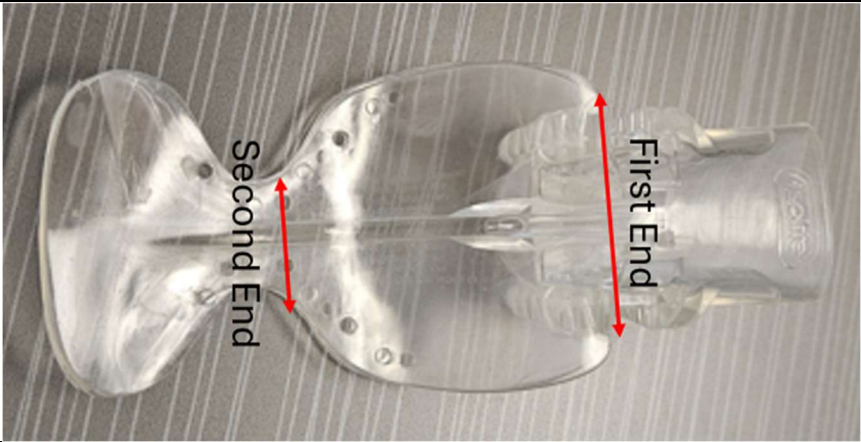
Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, Hirsch and Black were patented or printed in a publication more than one year prior to the priority date of the '686 Patent, and therefore renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

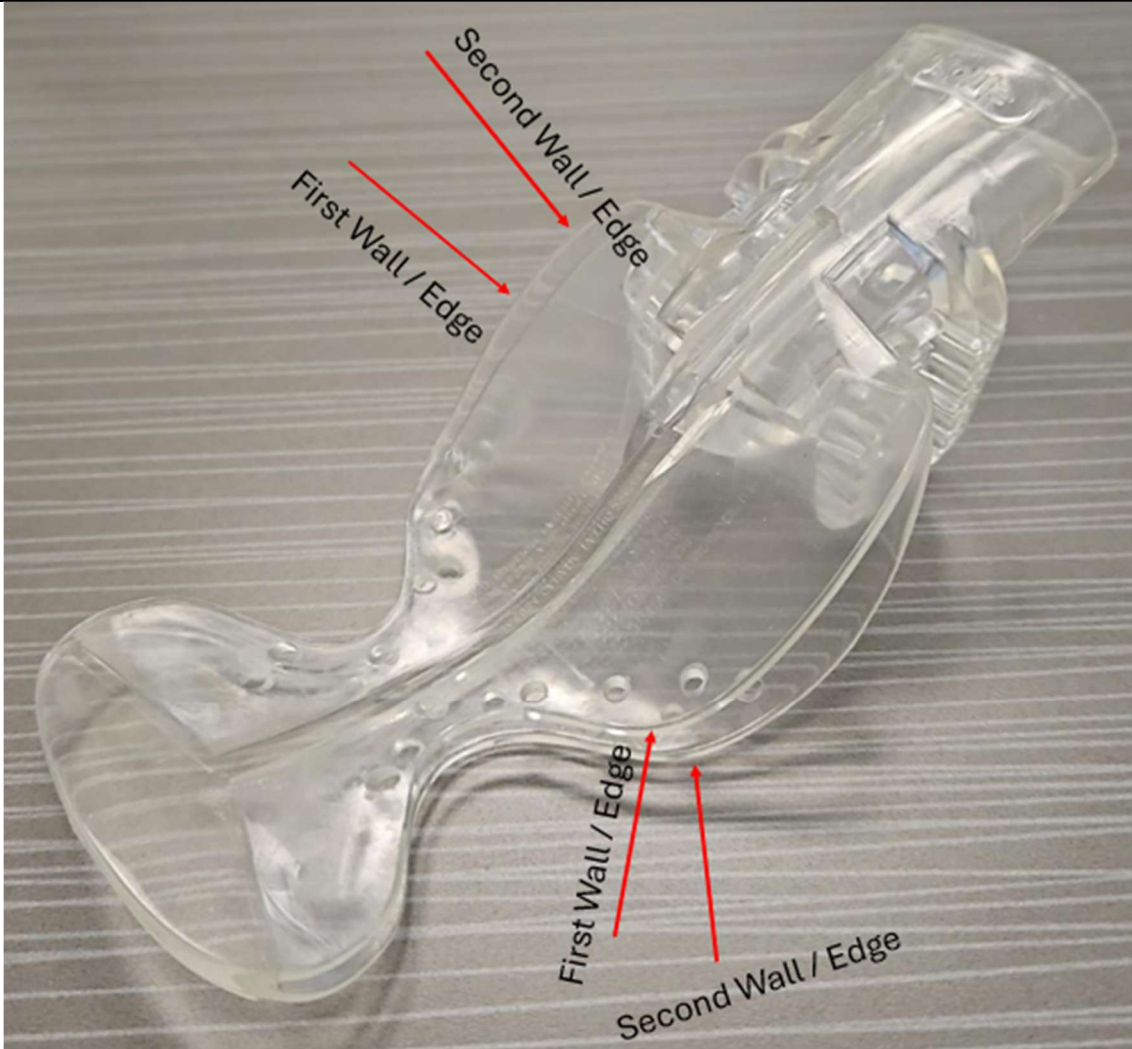
Pursuant to pre-AIA 35 U.S.C. § 103 and as described in the cover pleading and shown below, the AirBug Mouthpiece and Isolite Mouthpiece<sup>3</sup> were on sale or in public use more than one year prior to the priority date of the '686 Patent, and therefore anticipates and/or renders obvious, either alone or in combination with the other prior art, the knowledge of one of ordinary skill in the art, or one or more of the references identified in the cover pleading and/or one or more of the references from the other claim charts attached as exhibits to these contentions, U.S. Patent No. 11,744,686.

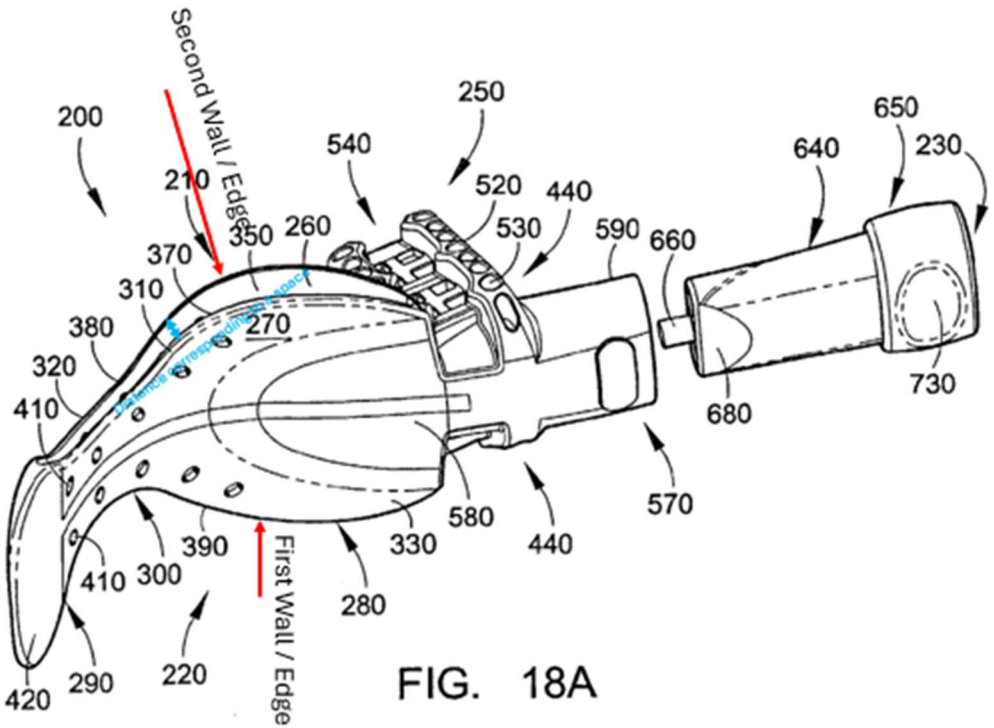
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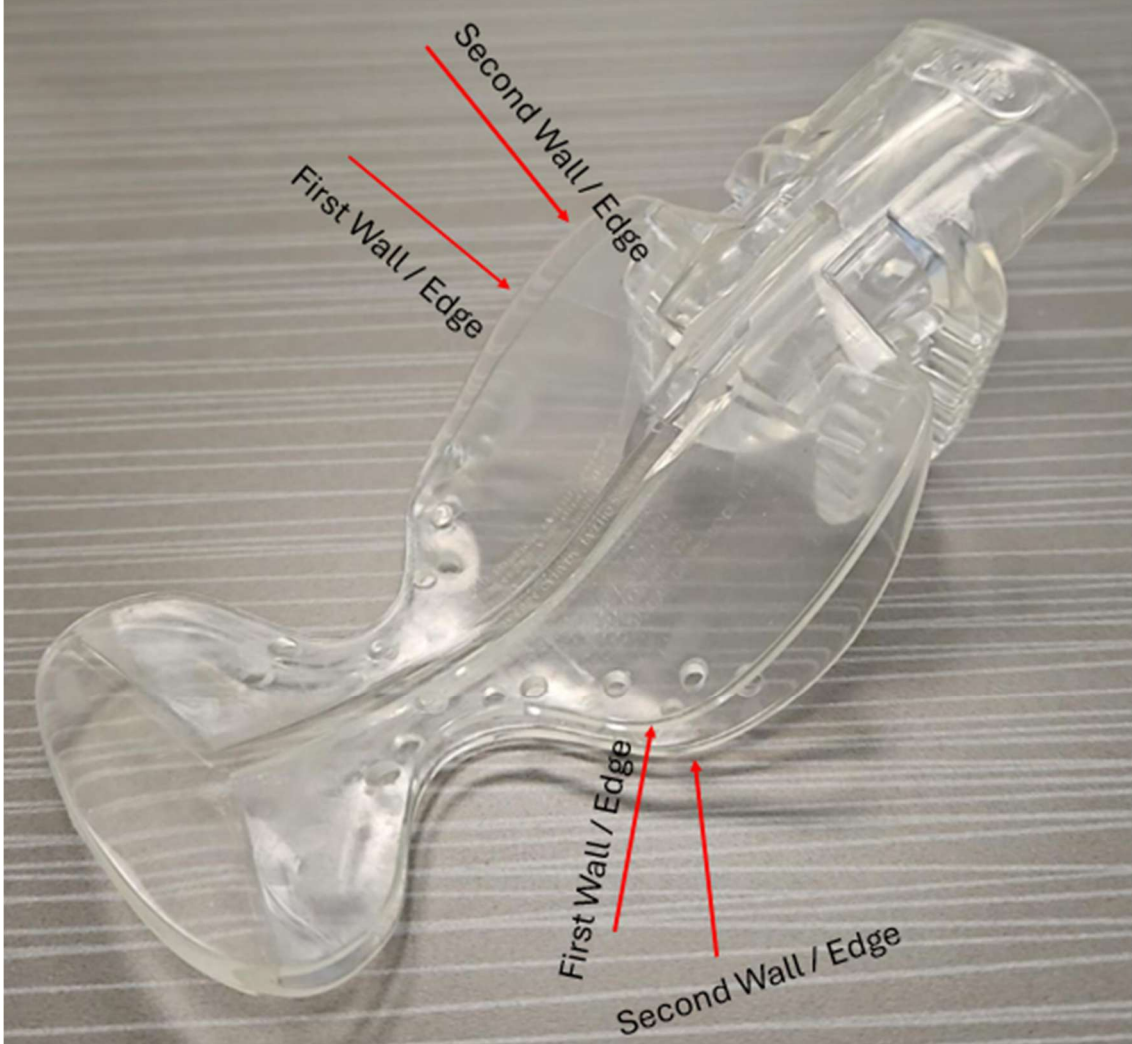
<sup>3</sup> It is Ascentcare's understanding that several of the embodying products discussed herein may have multiple embodiments over the years. Discovery is ongoing, and Ascentcare has issued subpoenas seeking the prior art embodiments. To the extent that Ascentcare currently relies on more current embodiments of these mouthpieces, upon information and belief, the differences in those embodiments are minor and do not affect the invalidity analysis. Ascentcare reserves the right to amend these contentions as discovery progresses. It is Ascentcare's understanding, for example that the AirBug Mouthpiece is a product embodying Black, and thus, any of the references to Black likewise support the AirBug Mouthpiece, and vice versa. Likewise, the same analysis applies to the Isolite Mouthpiece and Hirsch.

| The '686 Patent                                                                                                                | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12[a] A dental mouthpiece comprising:                                                                                          | To the extent the preamble is limiting, each of the references discussed herein is a dental mouthpiece.                                                                                                                                                    |
| 12[b] a main body having a first end opposite a second end, the first end wider than the second end, the main body comprising: | <p>Both Hirsch and the Isolite Mouthpiece disclose “a main body having a first end opposite a second end, the first end wider than the second end:”</p>  <p>FIG. 19A</p> |

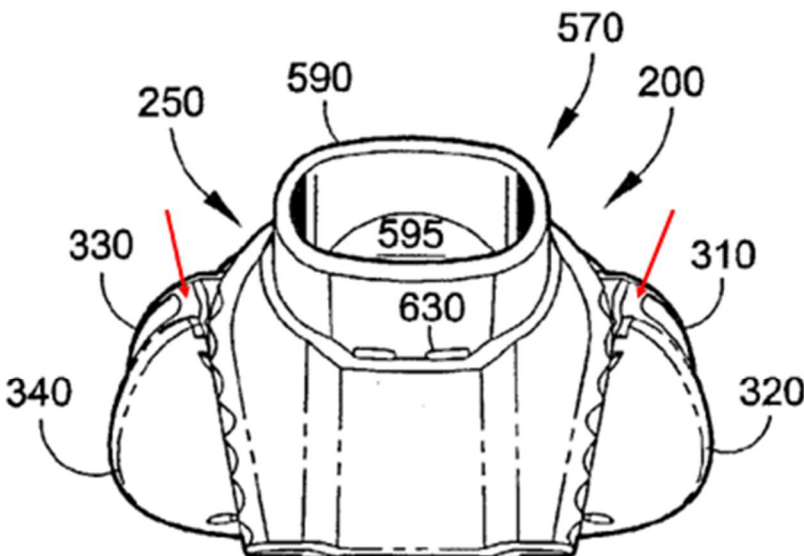
| The '686 Patent                                                                                                 | Exemplary Disclosures in the Prior Art                                                                                                                 |                                                                                    |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                                                                                                                 |                                                                                                                                                        |  |
| <p>12[c] a first wall having a plurality of first edges and extending from the first end to the second end,</p> | <p>Both Hirsch and Isolite Mouthpiece disclose “a first wall having a plurality of first edges and extending from the first end to the second end”</p> |                                                                                    |

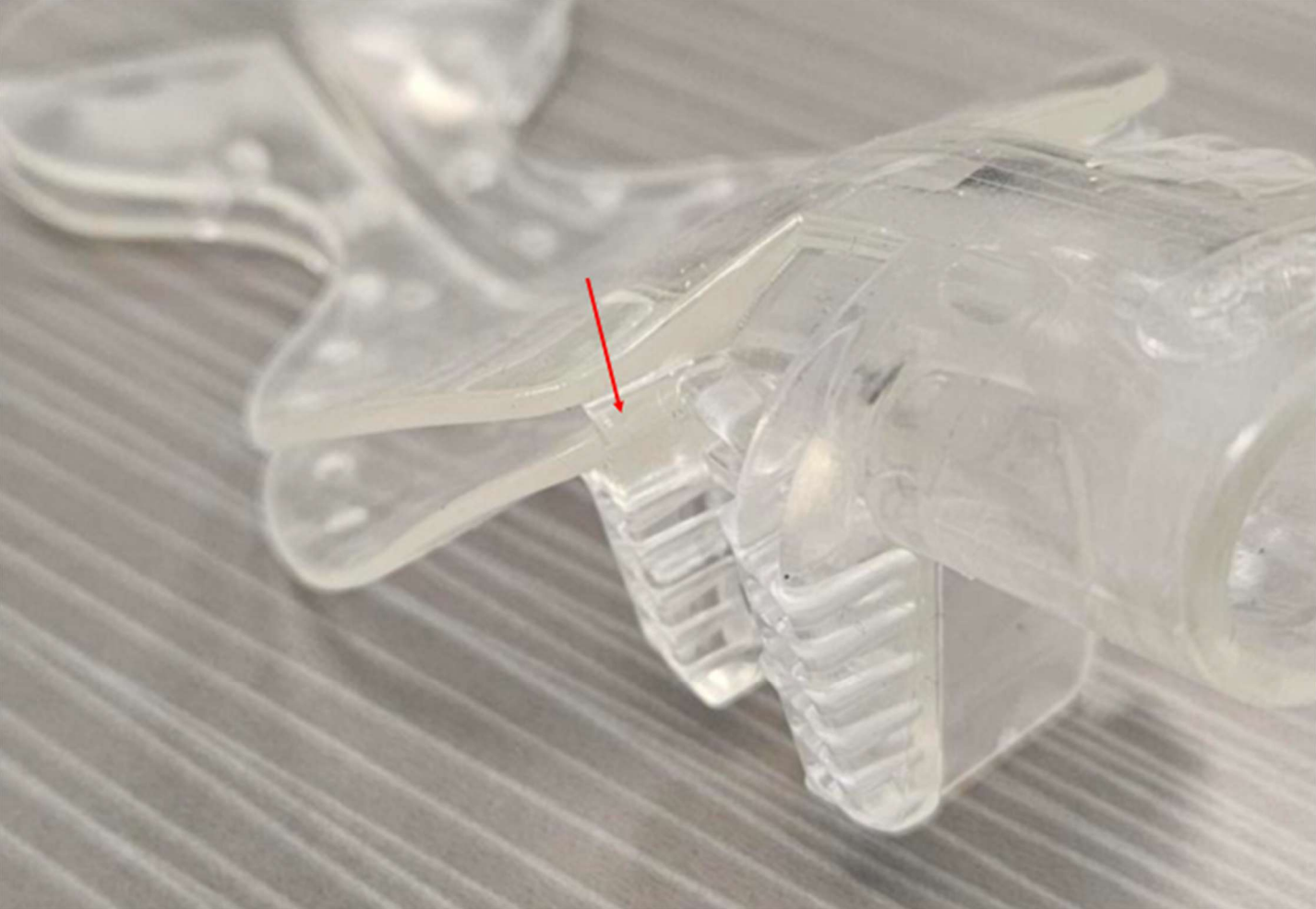
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p>The image shows a clear, curved dental appliance, likely a mouthguard or retainer, resting on a dark, textured surface. Red arrows point to specific edges of the appliance, which are labeled with text. The top edge is labeled 'Second Wall / Edge', and the bottom edge is labeled 'First Wall / Edge'. The appliance has a complex shape with multiple curves and a central opening. The background is a dark, textured surface.</p> |

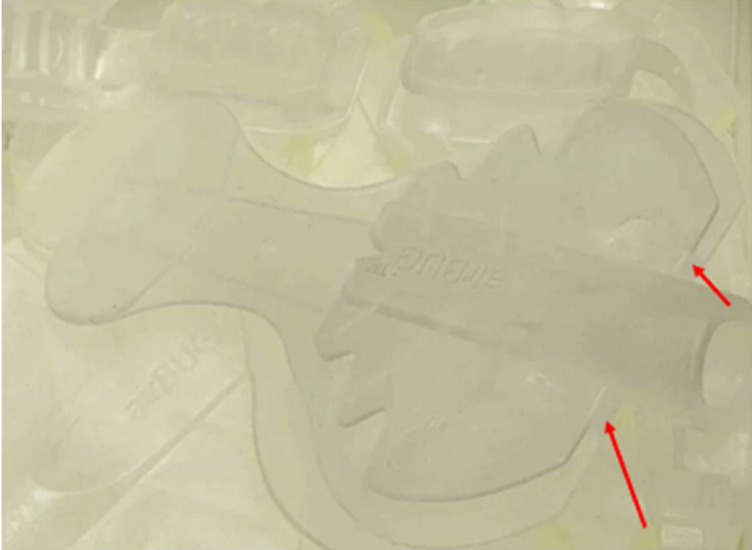
| The '686 Patent                                                                                                                                                                                                                                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                           |  <p data-bbox="1008 820 1218 868">FIG. 18A</p>                                                                                                                                                                                  |
| <p>12[d] a second wall having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end,</p> | <p>Both Hirsch and Isolite Mouthpiece disclose “a second wall having a plurality of second edges and located at a distance from the first wall, the distance corresponding to a space between the first wall and the second wall, wherein the second wall also extends from the first end to the second end:”</p> |

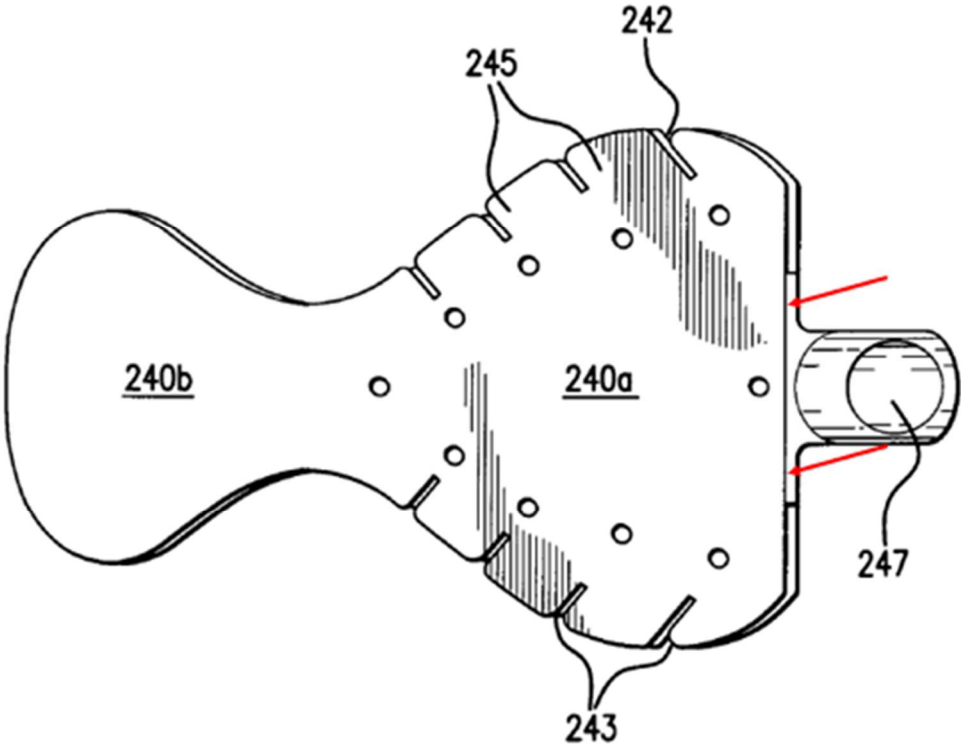
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p>The image shows a clear plastic dental device, possibly a mouthpiece or a component of a dental appliance. It has a complex, curved shape with several small holes or indentations along its edges. Red arrows point to specific parts of the device, labeled 'First Wall / Edge' and 'Second Wall / Edge'. The labels are written in a stylized font and are oriented diagonally. The device is set against a dark, textured background.</p> |

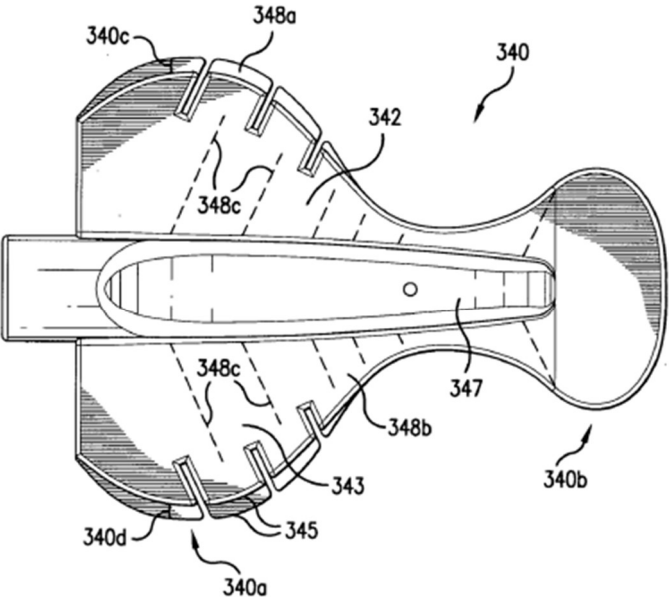
| The '686 Patent                                                                                                                                                                                         | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                         | <p style="text-align: center;"><b>FIG. 18A</b></p>                                                                                                                                                                                                                                              |
| <p>12[e] a connecting wall that connects one of the first edges of the first wall to one of the second edges of the second wall across the distance between the first wall and the second wall; and</p> | <p>Under Solmetex’s construction of “connecting wall,” both Hirsch and Isolite Mouthpiece disclose “a connecting wall that connects one of the first edges of the first wall to one of the second edges of the second wall across the distance between the first wall and the second wall;”</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                           |
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|                 |  <p data-bbox="1113 812 1428 876">FIG. 19D</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                 |
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|                 |  <p data-bbox="531 1157 1999 1224">To the extent that Solmetex disagrees that this is a connecting wall, Black and AirBug both also disclose a connecting wall:</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                 |  <p>The image shows a close-up of a dental mold, likely a wax or plaster model of a tooth. Two red arrows are pointing to specific features on the mold. The arrow on the left points to a small, rectangular, raised feature on the side of the tooth. The arrow on the right points to a small, rectangular, raised feature on the top of the tooth. The mold is light-colored and has a textured surface.</p> |

| The '686 Patent                                                                                                                                                                                                                                                                                      | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                |
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|                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                     |
| <p>12[f] a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall, wherein the bridge structure is not attached to the first wall,</p> | <p>Hirsch and Isolite Mouthpiece do not disclose “a bridge structure that includes a plurality of protrusions integral with and protruding from an interior surface of the second wall, the bridge structure extending through the interior space towards the first wall, wherein the bridge structure is not attached to the first wall.”</p> <p>However, as discussed above, limitation 12[f] is disclosed by Black and AirBug:</p> |

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  <p data-bbox="1192 771 1339 803"><b>FIG. 23A</b></p> <p data-bbox="529 812 1999 990">Black teaches transverse walls 348c spaced apart from each other to form channels 342 therebetween. <i>Id.</i>, 14:21-47. Black explains that these transverse walls form conduits for debris and fluid, “thereby allowing for simultaneous aspiration of debris and fluid from top (palate of mouth) to bottom (floor of mouth), and through the passageway, during dental procedures.” <i>Id.</i>, 14:38-47. The transverse walls 348c are a bridge structure, as claimed. Indeed, the Examiner also found that Black taught the claimed bridge structure. <i>Id.</i></p> <p data-bbox="529 1031 1999 1162">More specifically, the transverse walls extend from an interior surface of the posterior flap 348a and extend up to the anterior flap 348b as a plurality of protrusions (Transverse walls shown dashed). <i>Id.</i>, 14:21-47; These transverse walls 348a extend from an interior surface of the anterior flap 348b and are integral to the anterior flap 348b. <i>Id.</i>, 14:25-30.</p> |

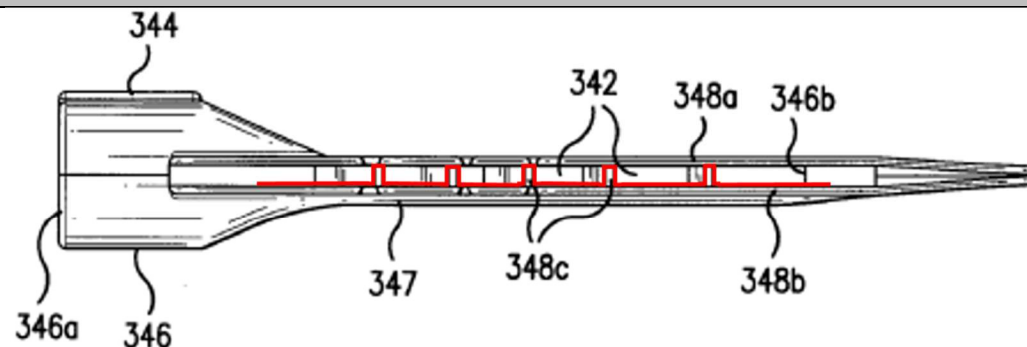


FIG. 23C

The transverse walls 348c extend toward the posterior layer 348a from the interior surface of the anterior flap 348b and connect to the posterior flap 348a. *Id.*, 14:21-63. The transverse walls 348c form crests in a wave shape and the channels 342 form troughs in a wave shape. Annotated FIG. 23C shown below illustrates the square wave shape formed by the presence or absence of the transverse walls.

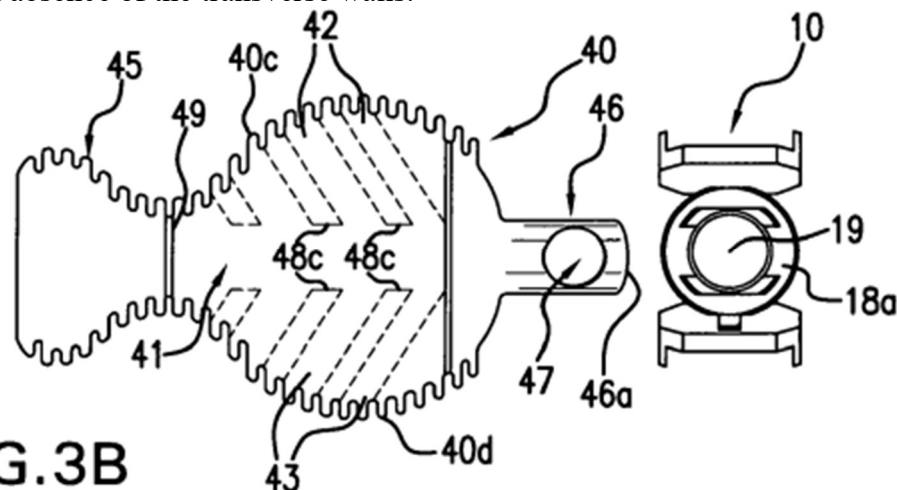
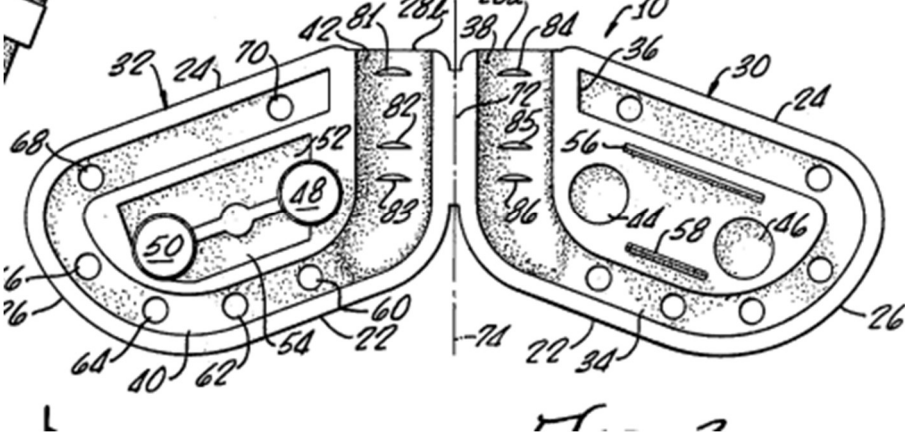
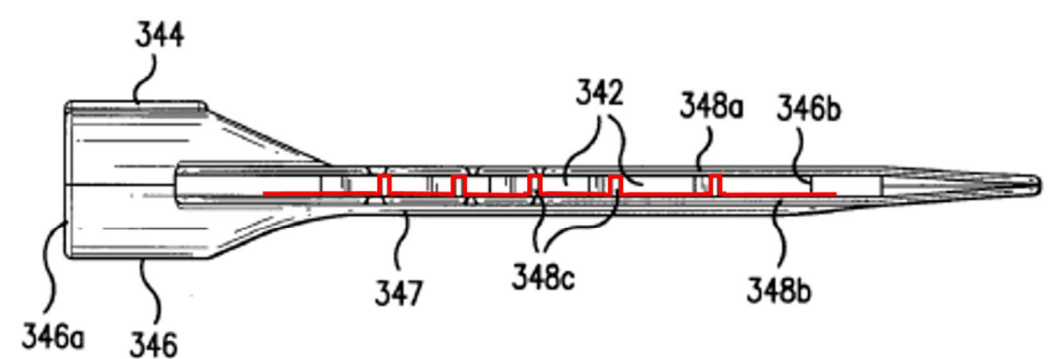


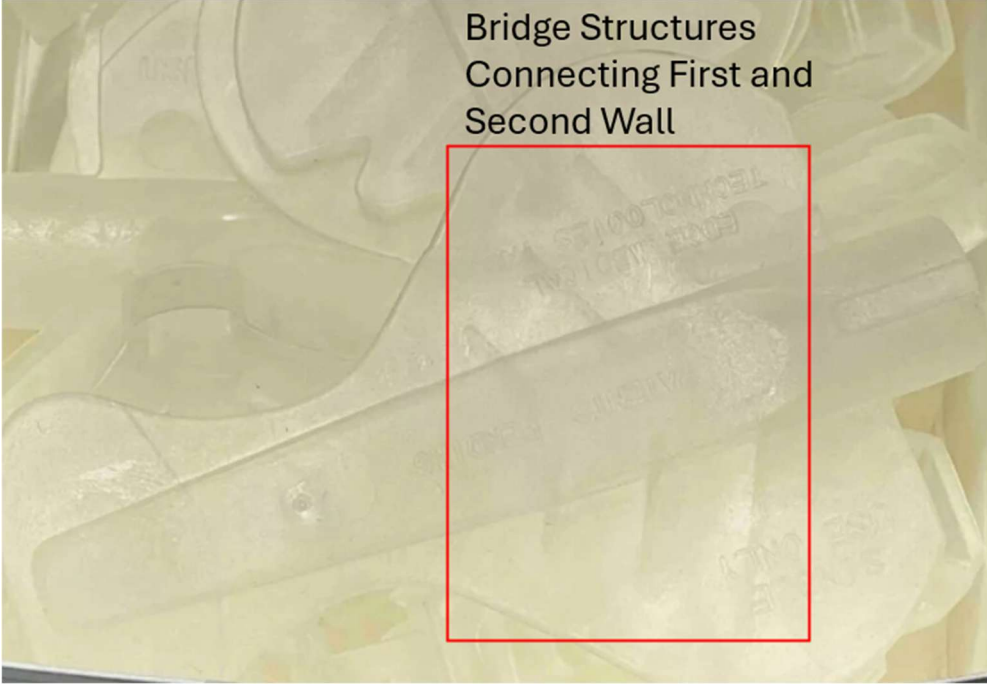
FIG. 3B

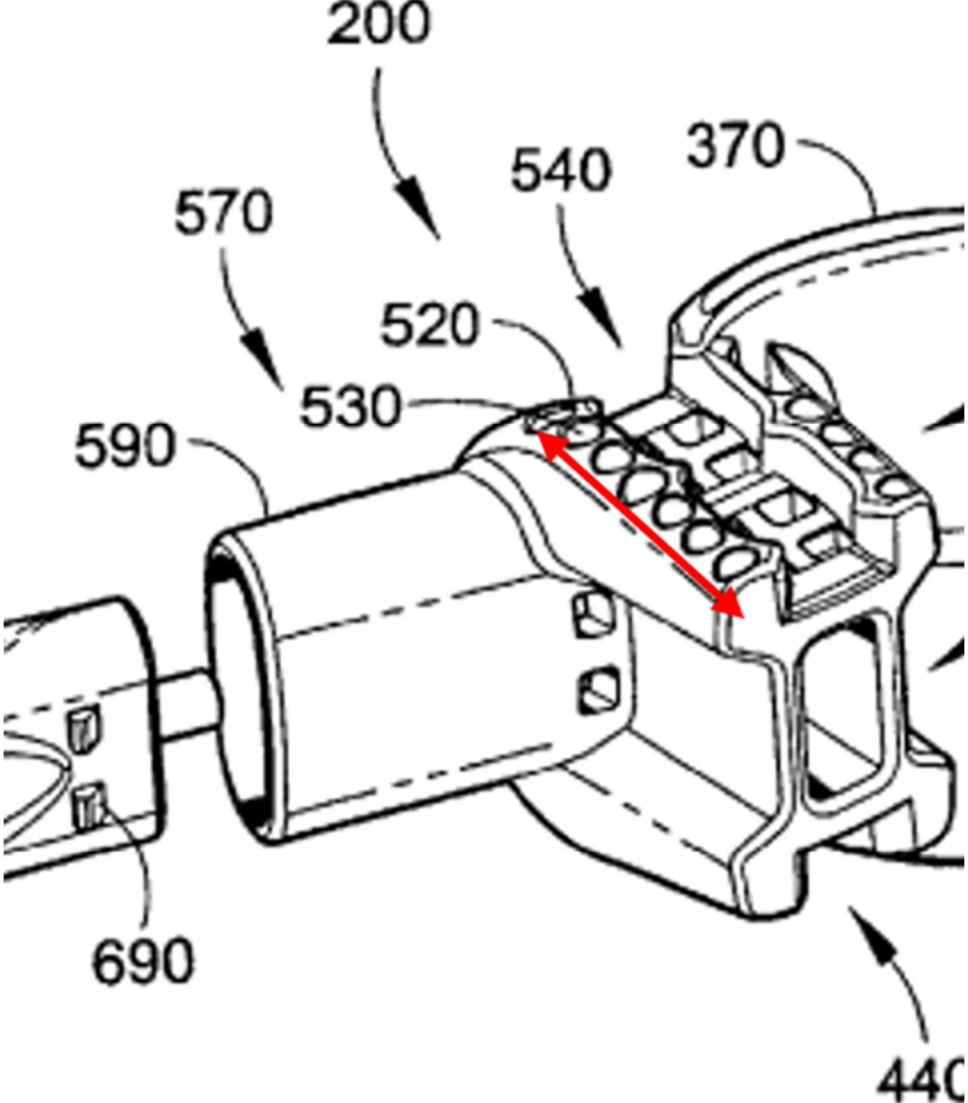
FIG. 3B also illustrates the wave shape from a top-view.

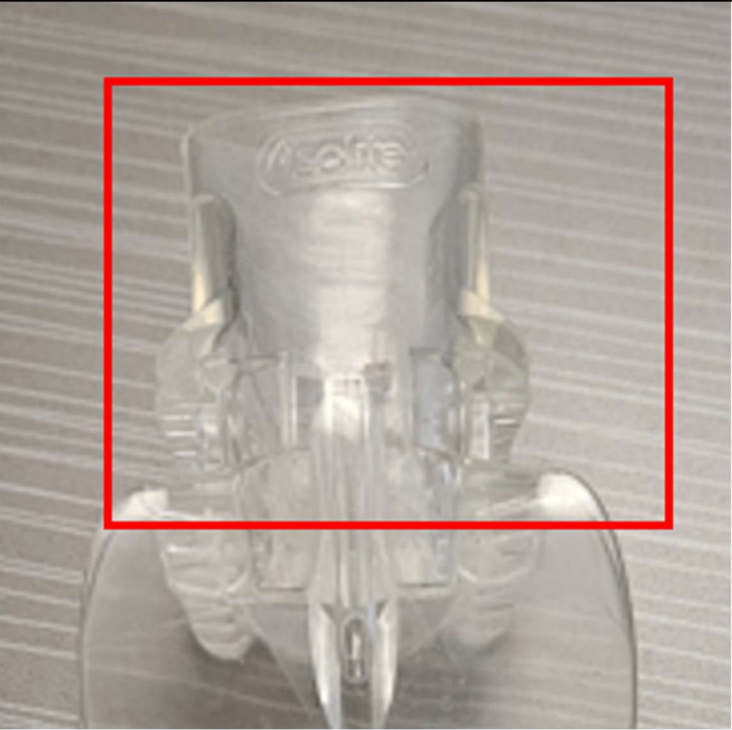
Elements 42 and 43 illustrate the channels, or troughs, and element 48c illustrates the crests. While FIG. 3B is directed to a different embodiment than the embodiment shown in FIGs. 23A-C, Black explains that “the tongue shield aspirator 340 includes features that are similar to those described above with the tongue shield aspirators 40, 240 shown in FIGs. 3, 4.” *Id.*, 11:55-60, 14:2-5. Moreover, the embodiment of FIG. 23 also includes transverse walls and channels. *Id.*, 14:21-47. Thus, FIG. 3B further informs the structure of the tongue shield aspirator 340.

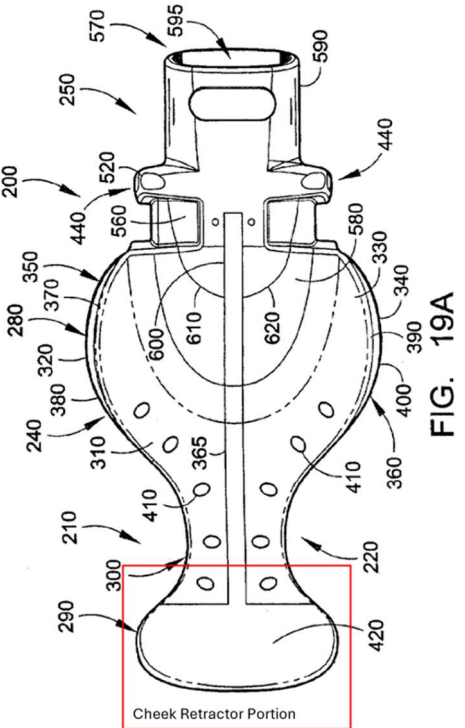
| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>Nevertheless, to the extent obviousness is required here, combining features between the embodiments within the same reference “does not require a leap of inventiveness.” <i>Boston</i>, 554 F.3d at 991. While this feature seemingly was found to be the point of novelty, Ascentcare notes that during prosecution of the parent application, the same Examiner found that limitation 19(e) was taught by Black.</p> <p>Likewise, AirBug also discloses the same bridge structures:</p> <div data-bbox="531 391 1459 1037" data-label="Image"> </div> <p>To the extent that Solmetex contends that the bridge structures of Black and AirBug Mouthpiece are connected to both walls, it would have been obvious for a PHOSITA to modify Black or AirBug to be able to detach either wall from the bridge structures such that the overall mouthpiece would have been easier to clean. Separable bridge structures are also well-known in the art. Johnson (6:3-15).</p> |

| The '686 Patent                                                                                                                                                                           | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                           |
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|                                                                                                                                                                                           |  <p data-bbox="529 600 2003 673">Further, the MPEP provides that modifying something to be “separable” is a common practice, and are considered routine changes. MPEP § 2144.04V.C. (citing <i>In reDulberg</i>, 289 F.2d 522, 523 (CCPA 1961)).</p>           |
| <p data-bbox="100 753 520 966">12[g] and wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs;</p> | <p data-bbox="529 753 2003 820">Black and AirBug also teach “wherein the plurality of protrusions of the bridge structure protrude in a wave shape comprising one or more crests and one or more troughs”</p>  <p data-bbox="1134 1218 1365 1266">FIG.23C</p> |

| The '686 Patent                                                                                                                                                                                                                                                                                                                                            | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                                                                                                                                                                                                                                                                                                                                                            | <div data-bbox="768 136 1749 815">  <p data-bbox="1226 144 1577 272">Bridge Structures<br/>Connecting First and<br/>Second Wall</p> </div> <p data-bbox="531 854 1917 924">As discussed above, a PHOSITA would have been motivated to modify Hirsch or Isolite in view of Black or AirBug's bridge structure to provide an anti-collapse mechanism to improve suction.</p> |
| <p data-bbox="107 1040 506 1430">12[h] a suction connector extending from the first end of the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding</p> | <p data-bbox="531 1040 1990 1182">Hirsch and Isolite Mouthpiece both teach a “suction connector extending from the first end of the main body, wherein an evacuation conduit of the suction connector is in communication with the space between the first wall and the second wall, and wherein the suction connector includes a cutout shape configured to interlock with a corresponding protrusion shape of a vacuum adapter;”</p>                       |

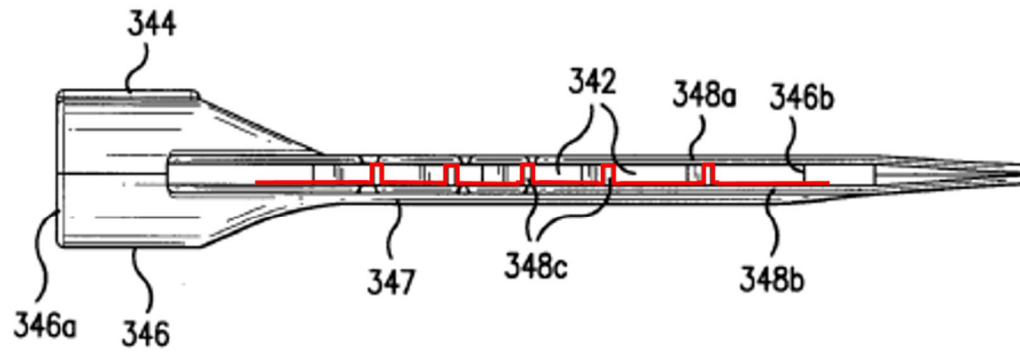
| The '686 Patent                                  | Exemplary Disclosures in the Prior Art                                                              |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <p>protrusion shape of a vacuum adapter; and</p> |  <p>FIG. 18B</p> |

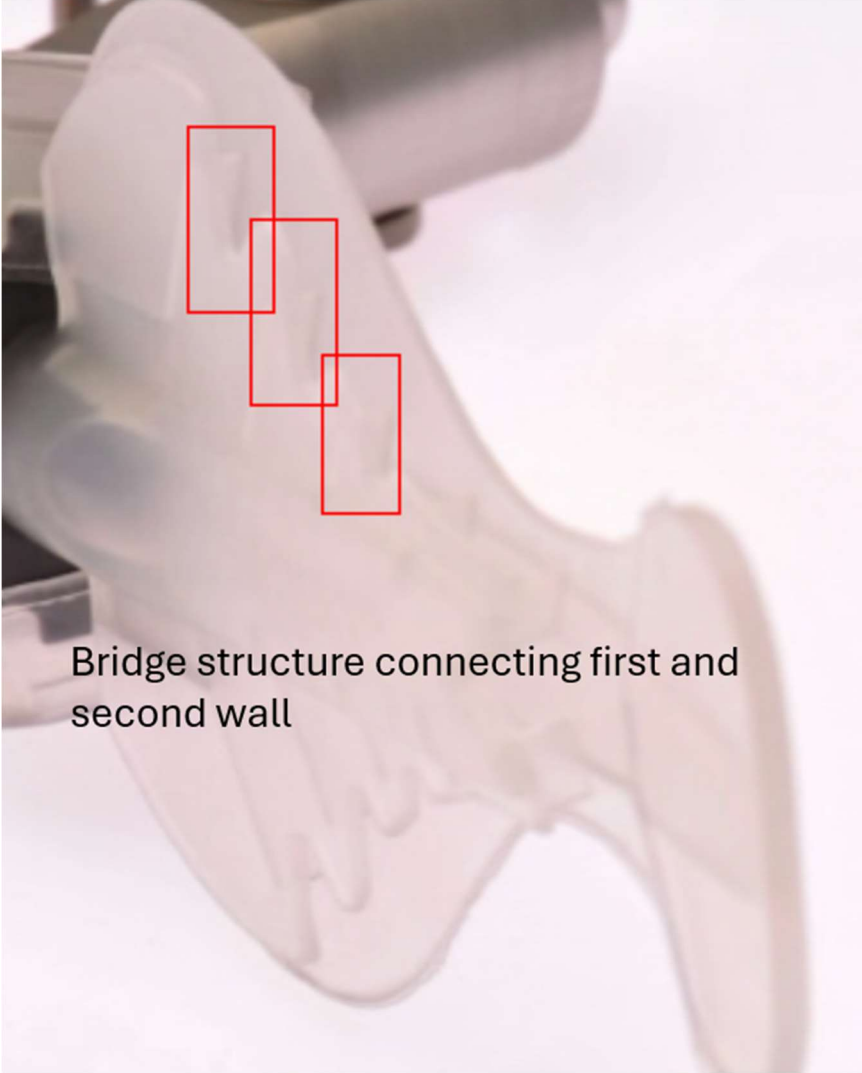
| The '686 Patent                                             | Exemplary Disclosures in the Prior Art                                                   |
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|                                                             |        |
| 12[i] a cheek retractor at the second end of the main body. | Hirsch and Isolite Mouthpiece each disclose a cheek retract at the end of the main body. |

| The '686 Patent                                                                                                                                                                                                                | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                |  <p>FIG. 19A</p> <p>Cheek Retractor Portion</p>                                                                                                                                                                                                                                                                                                                                                                                      |  <p>Cheek Retractor Portion</p> |
| <p>13 The mouthpiece of claim 12, wherein the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to</p> | <p>Black and AirBug each disclose “the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points.”</p> <p>Black and AirBug likewise teach the plurality of protrusions of the bridge structure comprise a plurality of contact points corresponding to the crests of the wave shape, and wherein the troughs correspond to spaces between the contact points:</p> |                                                                                                                     |

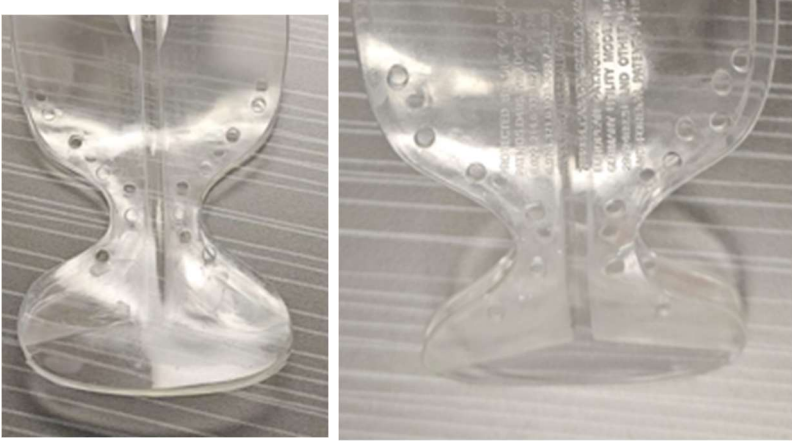
| The '686 Patent                                                                                                       | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>spaces between the contact points.</p>                                                                             | <div data-bbox="751 133 1768 474" data-label="Image"> </div> <div data-bbox="1150 490 1369 539" data-label="Caption"> <p>FIG. 23C</p> </div> <div data-bbox="1037 555 1478 1107" data-label="Image"> <p>Bridge structure connecting first and second wall</p> </div> <p>As discussed above, a PHOSITA would have been motivated to modify Hirsch or Isolite in view of Black or AirBug's bridge structure to provide an anti-collapse mechanism to improve suction.</p> |
| <p>14 The mouthpiece of claim 12, wherein the first wall and the second wall are bendable, and wherein the bridge</p> | <p>Black and AirBug likewise teach “wherein the first wall and the second wall are bendable, and wherein the bridge structure keeps the first wall separated from the second wall during suction.” Black, ¶ 8.</p>                                                                                                                                                                                                                                                      |

structure keeps the first wall separated from the second wall during suction.



| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <div data-bbox="531 139 1388 1206">  <p data-bbox="598 776 1266 863">Bridge structure connecting first and second wall</p> </div> <p data-bbox="531 1247 1917 1318">As discussed above, a PHOSITA would have been motivated to modify Hirsch or Isolite in view of Black or AirBug's bridge structure to provide an anti-collapse mechanism to improve suction.</p> |

| The '686 Patent                                                                                                                                                                                                               | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>15 The mouthpiece of claim 12, wherein at least one of the first wall and the second wall includes one or more perforations distributed along one or more of the first edges or along one or more of the second edges.</p> | <p>Both Hirsch and Isolite disclose perforations along the edges of the first and second wall.</p> <div data-bbox="556 284 934 950"> </div> <p style="text-align: center;">FIG. 19E</p> <div data-bbox="1039 316 1491 982"> </div> <p style="text-align: center;">FIG. 19A</p> <p>Isolite Mouthpiece discloses the same:</p> |

| The '686 Patent                                                                                                                                                  | Exemplary Disclosures in the Prior Art                                                                                              |
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|                                                                                                                                                                  |                                                   |
| 17 The mouthpiece of claim 12, wherein the main body is formed by injection-molding as one piece.                                                                | Both Hirsch and Isolite include main bodies formed by injection-molding as one piece. Hirsch, Abstract.                             |
| 18 The mouthpiece of claim 17, wherein at least one of the cheek retractor and suction connector is formed by injection-molding and integral with the main body. | Both Hirsch and Isolite include cheek retractors and suction connectors formed by injection-molding as one piece. Hirsch, Abstract. |
| 20 The mouthpiece of claim 12, further comprising a mouth prop connected to the suction connector.                                                               | Both Hirsch and Isolite include a mouth prop connected to the suction connector:                                                    |

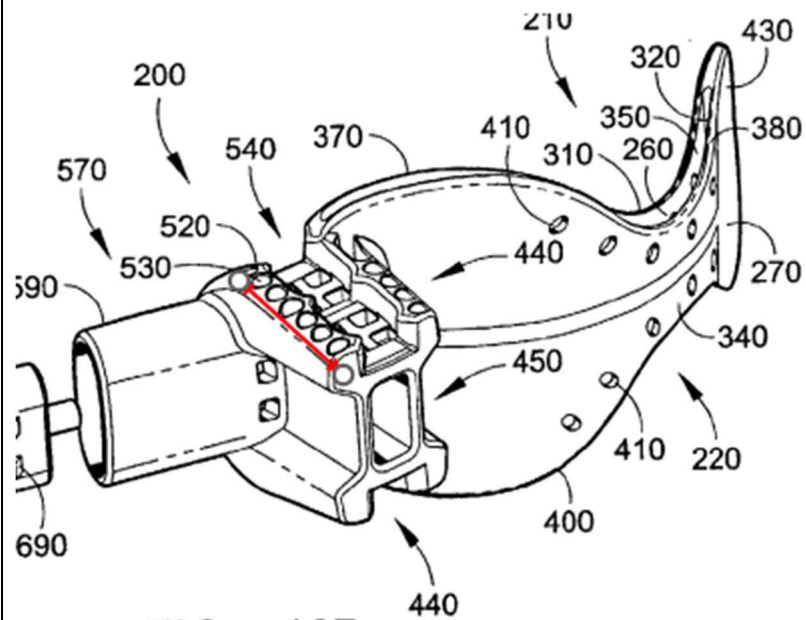
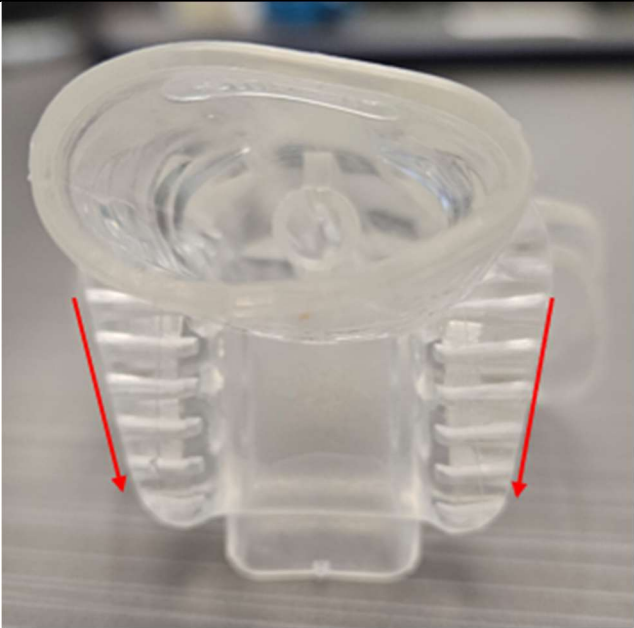


FIG. 18B

| The '686 Patent | Exemplary Disclosures in the Prior Art                                                                                                                                                                                                                                                                                                                |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |  A photograph of a clear plastic dental mold, likely a bite block or similar device. The mold has a central rectangular opening and two side walls with horizontal ridges. Two red arrows point to the side walls, indicating a specific feature or design element. |