

**3D Diagnostix, Inc.,**  
Petitioner,  
**v.**  
**Watson Guide IP LLC,**  
Patent Owner

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Case No. PGR2024-00040  
U.S. Patent No. 11,806,209

**PETITIONER'S DEMONSTRATIVE EXHIBIT  
FOR ORAL ARGUMENT**

October 29, 2025

# Introduction

# Institution Grounds

Ground 3: Claims 1–3, 7, 10, 14, 16–17 obvious over **Llop126** (Ex. 1006) and **Sichuan** (Ex. 1008/1009)

Ground 5: Claims 1–3, 7, 10, 14, 16–17 obvious over **Llop126** (Ex. 1006) and **Yau** (Ex. 1010)

Ground 7: Claims 5, 6 and 12 obvious over **Llop126** (Ex. 1006), **Sichuan** (Ex. 1008/1009) and **Scherer** (Ex. 1012)

*Grounds 4, 6 and 8 add **Groscurth** (Ex. 1011) to these combinations*

*Institution Decision, Paper 9 at pp. 7-9.*

## Contested Issues

Patent Owner argues only that limitations

**1[d]** and **1[e]** of Claim 1 (and 7 and 17) are not met because prior art does not disclose:

a **“mouthpiece”** that is **“configured and dimensioned to surround at least a portion of the teeth”**

under its proposed constructions.

But even under PO's constructions, the prior art discloses these elements.

*Patent Owner Response, Paper 11 at pp. 29-34, 40-42*  
*Petitioner Reply, Paper 16 at 1*

## Contested Issues

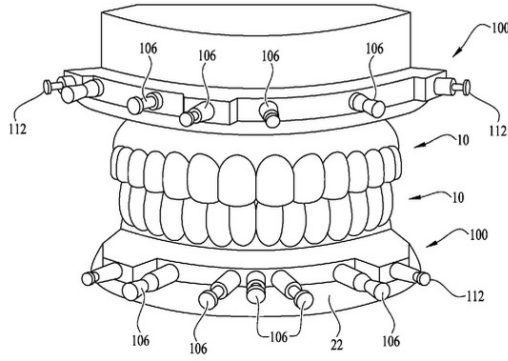
- Motivation to Combine **Llop** with **Sichuan**
- Motivation to Combine **Llop** with **Yau**
- Lack of Secondary Considerations

*Patent Owner Response, Paper 11 at pp. 34-37,  
42-45, 49-65.*

# The '209 Patent

# '209 Patent - Claim 1

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>US011806209B2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (12) <b>United States Patent</b><br><b>Watson</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (10) <b>Patent No.:</b> US 11,806,209 B2<br>(45) <b>Date of Patent:</b> *Nov. 7, 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (54) <b>FIXATION BASE AND GUIDES FOR DENTAL PROSTHESIS INSTALLATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (71) Applicant: Jason Watson, La Canada, CA (US)<br>(72) Inventor: Jason Watson, La Canada, CA (US)<br>(73) Assignee: Watson Guide IP LLC, Pasadena, CA (US)<br>(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 11 days.<br>This patent is subject to a terminal disclaimer.<br>(21) Appl. No.: 17/503,359<br>(22) Filed: Oct. 18, 2021<br>(65) <b>Prior Publication Data</b><br>US 2022/0031431 A1 Feb. 3, 2022<br><b>Related U.S. Application Data</b><br>(63) Continuation of application No. 15/984,309, filed on May 18, 2018, now Pat. No. 11,173,016.<br>(Continued)<br>(51) <b>Int. CL.</b><br>A61C 8/00 (2006.01)<br>A61C 13/225 (2006.01)<br>(Continued)<br>(52) <b>U.S. CL.</b><br>CPC A61C 8/0053 (2013.01); A61C 1/084 (2013.01); A61C 8/0048 (2013.01);<br>(Continued) | (58) <b>Field of Classification Search</b><br>CPC ... A61C 8/0053; A61C 8/0048; A61C 8/0068; A61C 8/0087; A61C 8/0095;<br>(Continued)<br>(56) <b>References Cited</b><br>U.S. PATENT DOCUMENTS<br>5,320,529 A * 6/1994 Pompa ..... A61C 3/02 433/76<br>11,173,016 B2 * 11/2021 Watson ..... A61C 8/0068<br>(Continued)<br><b>OTHER PUBLICATIONS</b><br>Alzoubi et al., Bone Reduction to Facilitate Immediated Implant Placement and Loading Using CAD/CAM Surgical Guides for Patients with Terminal Dentition, <i>Journal of Oral Implantology</i> , Jun. 2016.<br>(Continued)<br><b>Primary Examiner</b> — Ralph A Lewis<br><b>Assistant Examiner</b> — Mirayda A Aponte<br>(74) <i>Attorney, Agent, or Firm</i> — James A. Italia; Italia IP<br>(57) <b>ABSTRACT</b><br>Apparatus and method for installing a multi-tooth dental prosthesis in one session are shown and described. A first tool attaches to the jawbone, and serves as a foundation for subsequently used guides. Existing teeth and dental fixtures are removed, and the bone tissue is removed to accommodate the prosthesis. Subsequently, a drill guide is used to drill implant holes. An abutment guide is then used to place abutments. Copings are then installed. Next, the prosthesis may be installed and cemented to the copings. A resinous filler material may be applied to fill gaps and holes in and between the copings and the prosthesis, and is sanded smooth.<br>17 Claims, 19 Drawing Sheets |



3DDX Exhibit 1001, Page 1 of 27  
PGR2024-00040

1. A method of installing a multi-tooth dental prosthesis in a maxillary or mandibular position in a mouth of a patient, the method comprising:

providing a dental prosthesis for the maxillary or mandibular positioning in the patient's mouth,

utilizing a fixation base to serve as a mounting jig for a plurality of other dental guides comprising a first dental guide and a second dental guide, wherein the fixation base comprises a generally arcuate shape with a front surface that has a plurality of openings through which fasteners can be passed, a rear surface, and a horizontal surface;

utilizing the first dental guide, wherein the first dental guide is a mouthpiece that attaches to the fixation base and configured and dimensioned to surround at least a portion of the teeth of the patient and is used to assure appropriate location to attach the fixation base to the maxillary or mandibular bone tissue of said patient;

installing the fixation base to the maxillary or mandibular bone tissue of said patient;

removing the mouthpiece from the installed fixation base;

removing at least one of natural teeth, dental fixtures, and obstructive mouth tissues from the work site, to expose an underside of the maxillary or mandibular bone tissue;

recontouring the bone tissue;

utilizing the second dental guide, wherein the second dental guide is a drill guide that attaches to the installed fixation base to assure appropriate location and orientation of holes to be drilled for the subsequently installed implants;

drilling the implant holes in the bone tissue using the drill guide attached to the fixation base;

installing implants in the implant holes;

installing the abutments to the implants; and,

installing said dental prosthesis to the abutments.

Ex. 1001, '209 Patent, p. 26, 9:9-45

# “mouthpiece”

| Petitioners’ Construction                                                                                                         | Patent Owner’s Construction                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| No construction necessary, but includes “denture clone / tissue borne guide”<br><br><i>Petitioner’s Reply, Paper 16 at p. 3-5</i> | “a device that is inserted into the mouth and worn over the teeth.”<br><br><i>PO Response, Paper 12 at p. 6</i> |

“surround at least a portion of the patient’s teeth”

| Petitioners’<br>Construction                                                  | Patent Owner’s<br>Construction                                                                                               |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| No construction necessary.<br><br><i>Petitioner’s Reply, Paper 16 at p. 3</i> | “enclose at least some teeth of the<br>patient”<br><br><i>POPR, Paper 6 at p. 13</i><br><i>PO Response, Paper 12 at p. 7</i> |

# “surround at least a portion of the patient’s teeth”

Trials@uspto.gov  
571-272-7822

Paper 9  
Entered: January 28, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND

3D DIAGNOSTIX, INC.  
Petitioner,

v.

WATSON GUIDE IP, LLC  
Patent Owner.

PGR2024-00040  
Patent 11,806,209 B2

Before SHERIDAN K. SNEDDEN, JAMES A.  
LISA L. TSANG, *Administrative Patent Judges*

TARTAL, *Administrative Patent Judge.*

DECISION  
Granting Institution of Post-Grant Review  
35 U.S.C. § 324

Patent Owner’s proposal to construe the limitation to mean “enclose at least some teeth of the patient” (Prelim. Resp. 13) appears to only replace the disputed phrase with parallel language that is no clearer than the claim term itself.

In sum, for purposes of this Decision, we decline to adopt Patent Owner’s proposed construction, we find no express construction necessary, and we apply the ordinary and customary meaning of “surround,” as further discussed below in our analysis of the grounds of unpatentability asserted by Petitioner.

*Institution Decision, Paper 9 at pp. 15-16*

# “surround at least a portion of the patient’s teeth”

## Patent Owner Changes Course in Sur-Reply:

Watson Guide IP, LLC  
Patent No. 11,806,209 – PGR2024-00040

Filed on behalf of Watson Guide IP, LLC  
By: Marc Karish  
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11400 W. Olympic Blvd., Suite 200  
Los Angeles, CA 90064  
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

3D DIAGNOSTIX, INC.,

Petitioner,

v.

WATSON GUIDE IP, LLC

Patent Owner

Case PGR2024-00040  
U.S. Patent No. 11,806,209

PATENT OWNER’S SUR-REPLY TO PETITIONER’S REPLY

teeth of the patient.” The issue is not the substitution of the word “enclose” for the term “surround”, but that at least some teeth are enclosed/surrounded, rather than at least some part of the teeth. As explained in Patent Owner’s Preliminary

- Petitioner flagged this in POPR Reply, and Institution Decision acknowledged

Petitioner further argues that “surround at least a portion of the teeth of the patient” encompasses scenarios in which “at least some teeth are partially surrounded, that all teeth are partially surrounded, or that at least a part of at least one tooth is surrounded.” Prelim. Reply 2. We need not

- PO did not address in POPR Sur-Reply or PO Response

*PO Sur-Reply, Paper 18 at p. 2*  
*Institution Decision, Paper 9 at p. 15*

# “Mouthpiece” — Patent Owner’s Arguments

## Patent Owner:

- Did not argue for construction in POPR
- Provides no reason why construction is needed
- Cites only one definition from one dictionary, non-medical
  - Ignores other dictionaries, definitions

*PO Response, Paper 12 at pp. 6-7  
Ex. 2009 at p. 2*

mouth·piece  (mouth□pēs')

*n.*

1. A part, as of a musical instrument or a telephone, that functions in or near the mouth.

2. *Sports* A rubber or flexible plastic protective device worn over the teeth, as by boxers.

3. *Informal* One, such as a spokesperson, through which views are expressed.

4. *Slang* A lawyer.

1 : something placed at or forming a mouth

1 a piece placed at or forming the mouth, as of a receptacle or tube.

*Reply, Paper 16 at pp. 4-5  
Exs. 1044 and 1045*

# “Mouthpiece” — Intrinsic Evidence

File History shows “mouthpiece” not limited to “over the teeth”

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

A Non-Provisional Patent Application for  
Fixation Base and Guides for Dental Prosthesis

Invented by:

Jason Watson

### REFERENCE TO RELATED APPLICATIONS

This application claims priority to Application Serial Number  
May 18, 2017.

### FIELD OF THE INVENTION

The present invention relates to method and apparatus for  
dental prosthesis in the mouth of a patient.

### BACKGROUND OF THE INVENTION

For some dental patients, a multi-tooth prosthesis must be  
While multi-tooth prostheses have been developed for anchorage  
methods and apparatuses for accomplishing such installations are  
considerable time for completion.

### SUMMARY OF THE INVENTION

The present invention improves on prior art prosthesis in

1

3DDX Exhibit 1014, Page 1 of 239  
PGR2024-00040

4. (Currently Amended) The method of claim 1, further comprising:

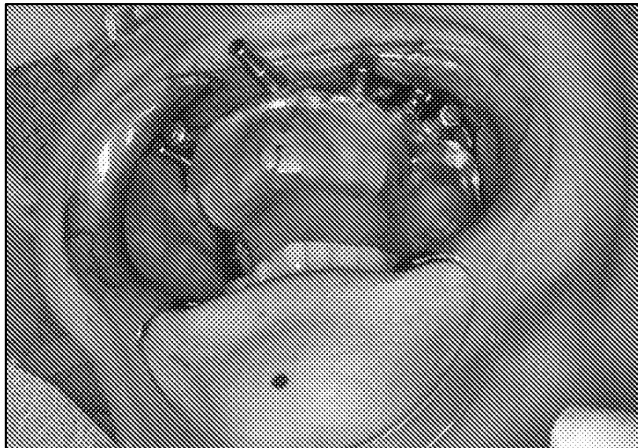
designing and fabricating a mouthpiece from the obtained data of the maxillary or mandibular portion of the mouth of the patient being treated, wherein the mouthpiece complements the fixation base by conforming to some surfaces of the maxillary or mandibular portion of the mouth of the patient being treated and not covered by the fixation base; and

15. (Currently Amended) The apparatus of claim 14, ~~further comprising the first dental guide,~~ wherein the first dental guide is a mouthpiece configured and dimensioned to surround teeth of the patient and to releasably attach to the fixation base and to be removed after the fixation base is affixed to the maxillary or mandibular bone structure of a patient.

*Petitioner Reply, Paper 16 at 4  
'016 Patent Application, Ex. 1014 at p. 59, 61-62*

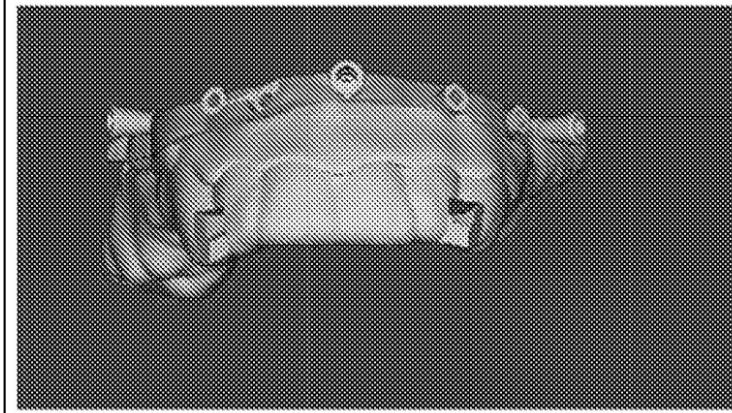
# “Mouthpiece” — Intrinsic Evidence

'377 provisional app. discloses at least two mouthpieces:



Tooth Borne Guide

FIG 2b.



Tissue Borne Guide / Denture Clone

**“This invention uses the patients existing teeth (partially edentulous) or denture teeth for a (fully edentulous) to set the fixation base.”**

**PO's construction reads out fully edentulous embodiment**

Provisional App. 62/508,377

incorporated by reference in '209 Patent

DEMONSTRATIVE EXHIBIT — NOT EVIDENCE

*Petitioner Reply, Paper 16 at 2  
'377 Provisional App., Ex. 1005 at pp. 6, 7, 22*

3DDX v. WATSON, PGR2024-00040  
Exhibit 1051, Page 14 of 35

# “Mouthpiece” — Intrinsic Evidence

PO relied on ‘377 provisional Denture Clone as support

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

A Non-Provisional Patent Application for:

Fixation Base and Guides for Dental Prosthesis Installation

Invented by:

Jason Watson

### REFERENCE TO RELATED APPLICATION

This application claims priority to Application Serial Number 62/508,377, filed May 18, 2017.

### FIELD OF THE INVENTION

The present invention relates to method and apparatus for installing a prefabricated dental prosthesis in the mouth of a patient.

### BACKGROUND OF THE INVENTION

For some dental patients, a multi-tooth prosthesis must be installed in a jaw. While multi-tooth prostheses have been developed for anchorage via implants, existing methods and apparatuses for accomplishing such installations are complex, and require considerable time for completion.

### SUMMARY OF THE INVENTION

The present invention improves on prior art prosthesis installation

1

3DDX Exhibit 1014, Page 1 of 239  
PGR2024-00040

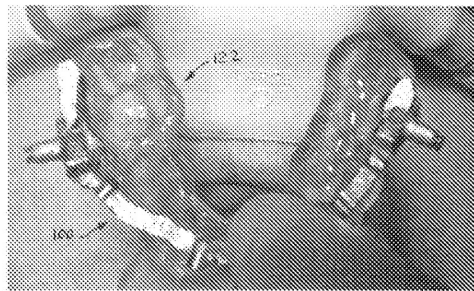
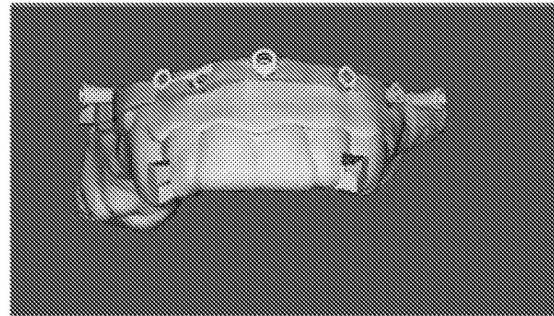


FIG 4

#### What is shown:

The fixation base of Fig. 1, shown attached to a mouthpiece.

FIG 2b.



#### Where it is shown in PA:

The fixation base attached to a mouthpiece. See also Figs 2a-2d in the PA.

Fig. 4 of the current utility patent is a view showing the first dental guide attached to the fixation base. This is shown in Figs. 2a and 2b of the Parent Application.

*‘016 Patent File History, Ex. 1014 at p. 175, 166  
Responsive to PO Sur-Reply, Paper 18 at pp. 5*

# “Mouthpiece” — Intrinsic Evidence

## Distinguishing *FMC Corp.*, *DDR Holdings*, and *Finjan*

- A POSA looking at the file history would understand the '209 patent to include edentulous mouthpieces:
  - Applicant relied on the '377 provisional applications' edentulous mouthpiece as support for the '016 patent
  - Applicant purposefully chose to re-introduce the '377 provisional for the '209 patent, incorporating it by reference

US 11,173,016 B2  
This application claims priority to Application Ser. No. 62/508,377, filed May 18, 2017.

US 11,806,209 B2  
This is a continuation application of application Ser. No. 15/984,309, which has a filing date of May 18, 2018 and claims priority to Application Ser. No. 62/508,377, filed May 18, 2017, the contents of both applications are incorporated herein by this reference.

- In any event, nothing in '209 disclosure limits “mouthpiece” to be “over the teeth”

*PO Sur-Reply, Paper 18 at pp. 1, 3-4*  
*'016 Patent File History, Ex. 1014 at p. 175, 166*  
*'016 Patent, Ex. 1048, 1:6-7; '209 Patent, Ex. 1001, 1:7-11*

# “mouthpiece” — Extrinsic Evidence

“Mouthpiece” has no special meaning

- “I am not aware of a definition of ‘mouthpiece’ unique to the dental field.”

*Pet. Reply, Paper 16 at pp. 3-5*  
*Erickson Decl., Ex. 1003, ¶ 148*



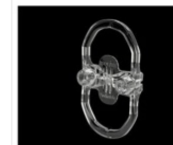
**Search: mouthpiece**



**Assess Mouthpiece For Peak Flow Meter 100/Bx**  
**1204087** | Mada Medical Products Inc — 711



**Aspirator Mouthpiece MP For Operative Ea**  
**1008112** | Steri-Dent Corp / C-pac — OMP



**Isolite Anterior Mouthpiece Disposable Mouthpieces Clear 10/Pk**  
**1473284** | Zyris Inc — CAM0401



**Mouthpieces 1 Pair/Package**  
**6429443** | DCI International — 2437



**Isolite Posterior Mouthpiece Medium 10/Pk**  
**8010180** | Zyris Inc — CIL0701

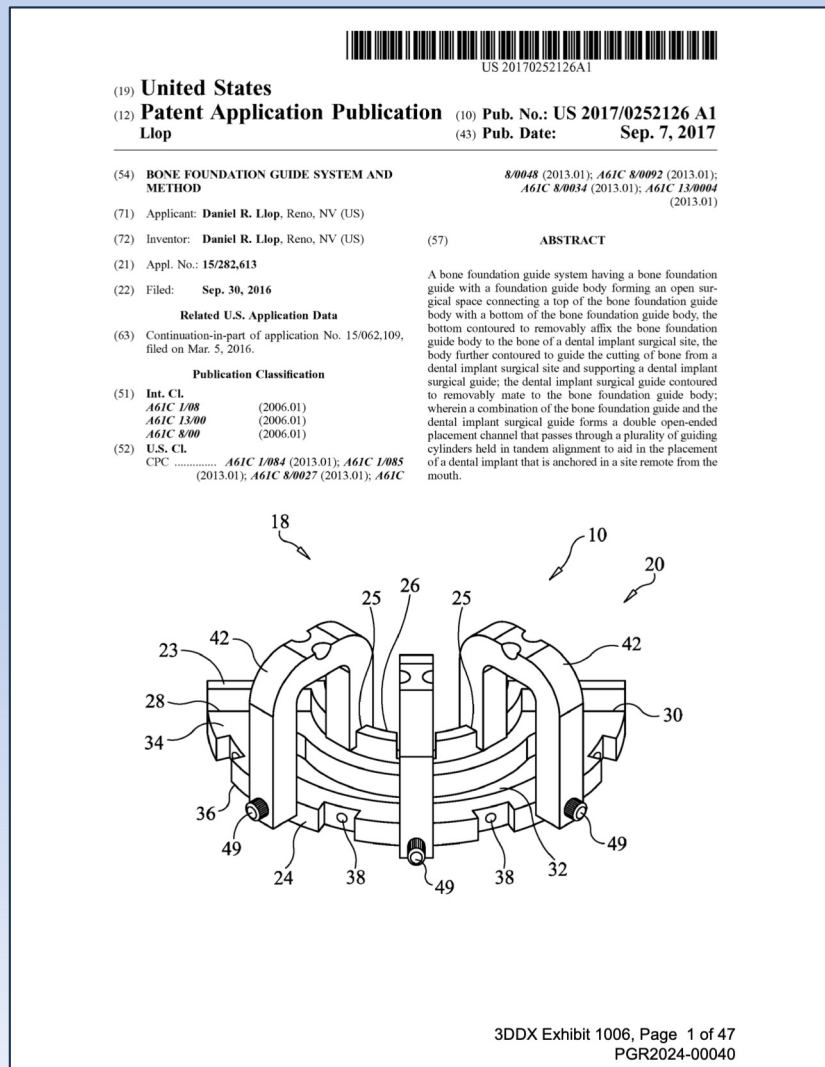
*Pet. Reply, Paper 16 at pp. 3-5*  
*Ex. 1038*

- Dr. Elo: “I don’t see any that are consistent with my definition.”

*Pet. Reply, Paper 16 at p. 5*  
*Elo Dep. Tr., Ex. 1047 at 35:2-13*

**Ground 3:  
The Challenged Claims are Obvious—  
Llop126 + Sichuan**

# Ground 3: Undisputed that Llop Discloses 14/16 Elements



Petition, Paper 1 at pp. 50-64  
PO Response, Paper 12 at pp. 28-38  
Ex. 1006, Llop126

1[pre]

1[a]

1[b]

1[c]

1[d]

1[e]

1[f]

1[g]

1[h]

1[i]

1[j]

1[k]

1[l]

1[m]

1[n]

1[o]

1. A method of installing a multi-tooth dental prosthesis in a maxillary or mandibular position in a mouth of a patient, the method comprising:

providing a dental prosthesis for the maxillary or mandibular positioning in the patient's mouth,

utilizing a fixation base to serve as a mounting jig for a plurality of other dental guides comprising a first dental guide and a second dental guide, wherein the fixation base comprises a generally arcuate shape with a front surface that has a plurality of openings through which fasteners can be passed, a rear surface, and a horizontal surface;

utilizing the first dental guide, wherein the first dental guide is a mouthpiece that attaches to the fixation base and configured and dimensioned to surround at least a portion of the teeth of the patient and is used to assure appropriate location to attach the fixation base to the maxillary or mandibular bone tissue of said patient;

installing the fixation base to the maxillary or mandibular bone tissue of said patient;

removing the mouthpiece from the installed fixation base;

removing at least one of natural teeth, dental fixtures, and obstructive mouth tissues from the work site, to expose an underside of the maxillary or mandibular bone tissue;

recontouring the bone tissue;

utilizing the second dental guide, wherein the second dental guide is a drill guide that attaches to the installed fixation base to assure appropriate location and orientation of holes to be drilled for the subsequently installed implants;

drilling the implant holes in the bone tissue using the drill guide attached to the fixation base;

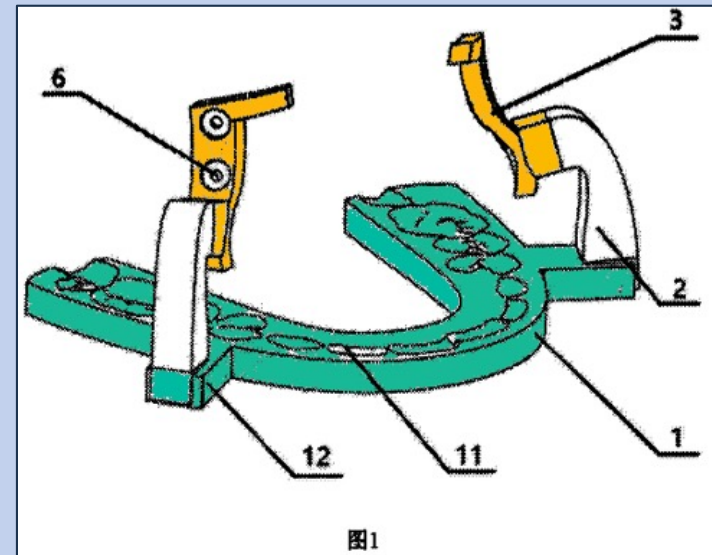
installing implants in the implant holes;

installing the abutments to the implants; and

installing said dental prosthesis to the abutments.

# Ground 3: Sichuan Discloses Elements 1[d] and 1[e]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                              |                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------|
| [19] State Intellectual Property Office of the People's Republic of China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                              | [51] Int. Cl.                                |
| [12] Application for Invention Patent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                              | A61B 90/10 (2006.01)<br>A61B 17/56 (2006.01) |
| [10] Publication No.: CN 105686886 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                              |                                              |
| [43] Date of Publication: June 22, 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                              |                                              |
| [21] Application Number: 201610012516.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | [74] Patent Agency: Chengdu Gaoyuan Intellectual Property Agency (General Partnership) 51222 |                                              |
| [22] Date of Application: January 8, 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Agent: XIA Yi-Ping                                                                           |                                              |
| [71] Applicant: Sichuan University<br>24, Yihuan Road South Sector 1<br>Wuhou District<br>Chengdu City 610065<br>Sichuan Province                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                              |                                              |
| [72] Inventor(s): HU Zhi-Ai; ZOU Shu-Juan;<br>ZHU Song-Song; RONG Xin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                              |                                              |
| [54] Name of Invention: Subapical Osteotomy Positioning Guide Plate and Manufacturing Method thereof                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                              |                                              |
| [57] Abstract:<br><br>Disclosed is a subapical osteotomy positioning guide plate and a manufacturing method thereof. The subapical osteotomy positioning guide plate belongs to the field of auxiliary medical devices and comprises a positioning biteplate (1), connector rods (2) and maxillary osteotomy line guide plates (3), wherein the positioning biteplate (1) is provided with initial tooth prints (11), the positioning biteplate (1) and the maxillary osteotomy line guide plates (3) are connected by means of the connector rods (2), the maxillary osteotomy line guide plates (3) are each provided with two screw holes (6), the maxillary osteotomy line guide plates (3) are each provided with a non-circular insertion slot b (31), and one end of each connector rod (2) is adapted to the insertion slot b (31). The present invention fills the gap of lacking a device for guiding osteotomy positioning during subapical osteotomy, and the present invention can be used to provide assistance in surgeries to prevent the occurrences of the most common complications associated with current subapical osteotomy. |                                                                                              |                                              |



Sichuan discloses a biteplate (7):

- attached to a guide plates (3) via connector rods (2)
- configured and dimensioned to surround at least a portion of the patient's teeth (tooth prints 11)
- removed after guide plates are affixed to patient's jawbone

Petition, Paper 1 at pp. 28-29, 53-60  
Ex. 1009, Sichuan

## Ground 3: Llop and Sichuan – Motivation to Combine



*Airbus S.A.S. v. Firepass Corp.,*

941 F.3d 1374, 1379 (Fed. Cir. 2019)

*(internal citation and quotation marks omitted, emphasis added)*

“Two separate tests define the scope of analogous prior art:

- (1) whether the art is from the same field of endeavor, regardless of the problem addressed and,
- (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is **reasonably pertinent to the particular problem** with which the inventor is involved.”

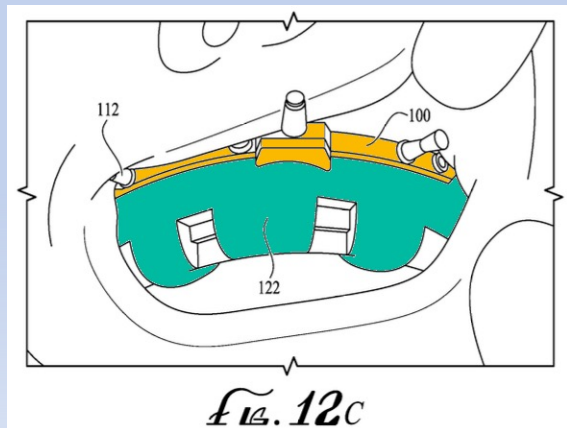
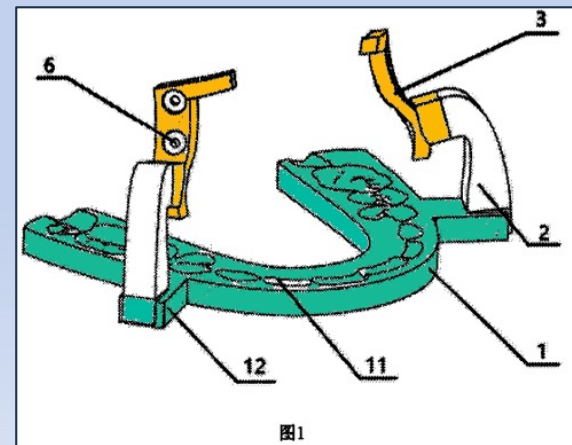
*Pet. Reply, Paper 16 at p. 8*

## Ground 3: Llop and Sichuan – Motivation to Combine

### Sichuan addresses the same problem as the '209 patent:

allowing for a precise mounting of a guide (fixation base) onto a patient's jawbone structure, such that it can be used as a reference in dental surgery

*Reply, Paper 16 at pp. 8-9*



“The purpose of first dental guide 122 is to assist in locating fixation base 100 with sufficient precision...[for] precisely locating the subsequently used dental guides...”

*Reply, Paper 16 at pp. 8-9  
'209 Patent, Ex. 1001, 5:7-17*

“The present invention fills the gap of lacking an auxiliary device for positioning the bone blocks to be resected during subapical osteotomy.”

*Reply, Paper 16 at pp. 8-9  
Sichuan, Ex. 1009 [0048]*

## Ground 3: Llop and Sichuan – Motivation to Combine

Dr. Elo agrees that the '209 Patent and Sichuan are directed to the same problem:

16 Q. So would -- would you say that the -- the  
17 209 patent helped solve the problem that -- to allow for  
18 the precision installation of a fixation base guide onto  
19 a patient's bone?  
20 A. I -- I believe it was a -- a fairly big  
21 game changer, and -- and I'll -- I'll -- I guess I could  
2 And so, having an ability to seat your  
3 fixation base reproducibly, predictably, it -- it -- it  
4 was a big -- it was a big deal.

*Reply, Paper 16 at pp. 8-9  
Elo Dep. Tr., Ex. 1047, 46:16-48:4, 58:16-63:16*

Q. Okay. And then, if we go down to the next  
ere -- in paragraph 5, it -- it says, "The present  
on" -- it -- it says, "it's intended to fill the  
gap or lacking a device guiding osteotomy positioning  
10 during subapical osteotomy"; do you see that?  
11 A. Yes.  
12 Q. And -- and that was achieved in Sichuan by  
13 using the biteplate to allow for the precise positioning  
14 of the guide plates that are installed on a patient's  
15 jawbone; is that right?  
16 A. That's right.

## Ground 3: Llop and Sichuan – Motivation to Combine

- PO does not argue POSA would be unaware of subapical osteotomy
  - “apical” and “osteotomy” are commonly known in implant dentistry

*Reply, Paper 16 at pp. 9*

*Banks Dep. Tr., Ex. 1046 at 28:15-29:14*

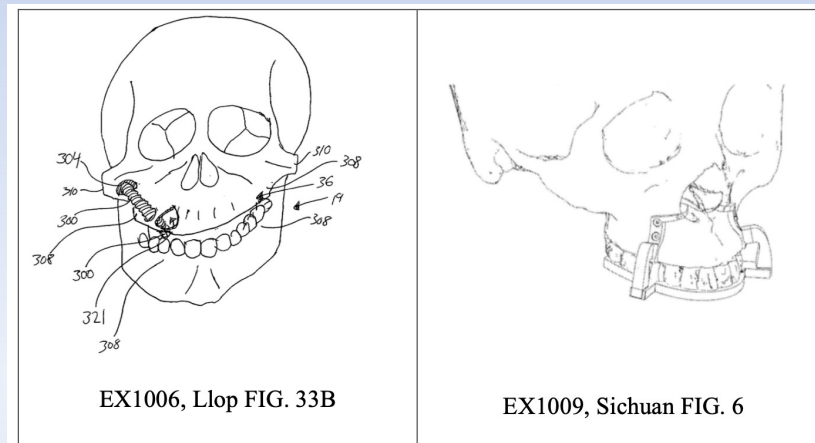
- Involve similar areas of a patient’s skull, e.g., “pterygoid”

*Reply, Paper 16 at pp. 9*

*Elo Dep. Tr., Ex. 1047 at 57:12-58:15*

*Llop, Ex. 1006 at ¶¶ [0015], [0019], [0112]*

- Llop and Sichuan relate to skull operations



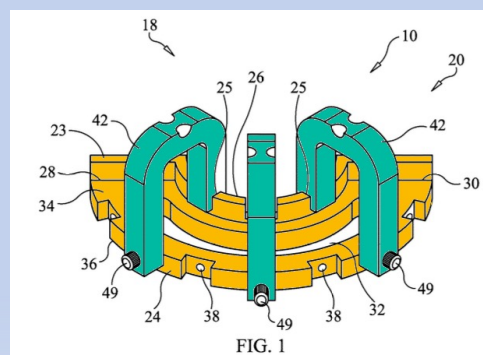
*Reply, Paper 16 at pp. 9-10*

*Ex. 1006, Fig. 33B; Ex. 1009, Fig. 6*

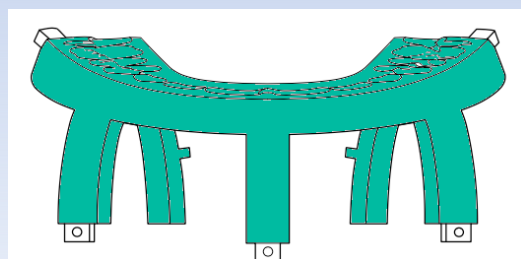
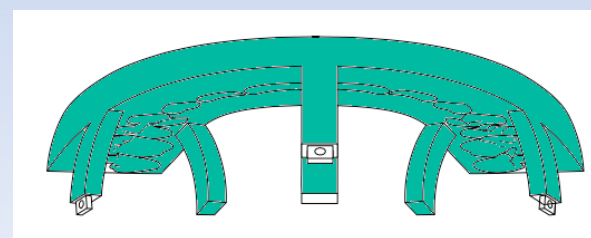
## Ground 3: Llop and Sichuan – Motivation to Combine

Combining Llop struts with Sichuan biteplate was suitable option to address known problem.

*Reply, Paper 16 at pp. 10-11  
Intel Corp. v. PACT XPP Schweiz AG,  
61 F.4th 1373, 1381 (Fed. Cir. 2023)*



Llop, unmodified



Llop, modified to use Sichuan's biteplate

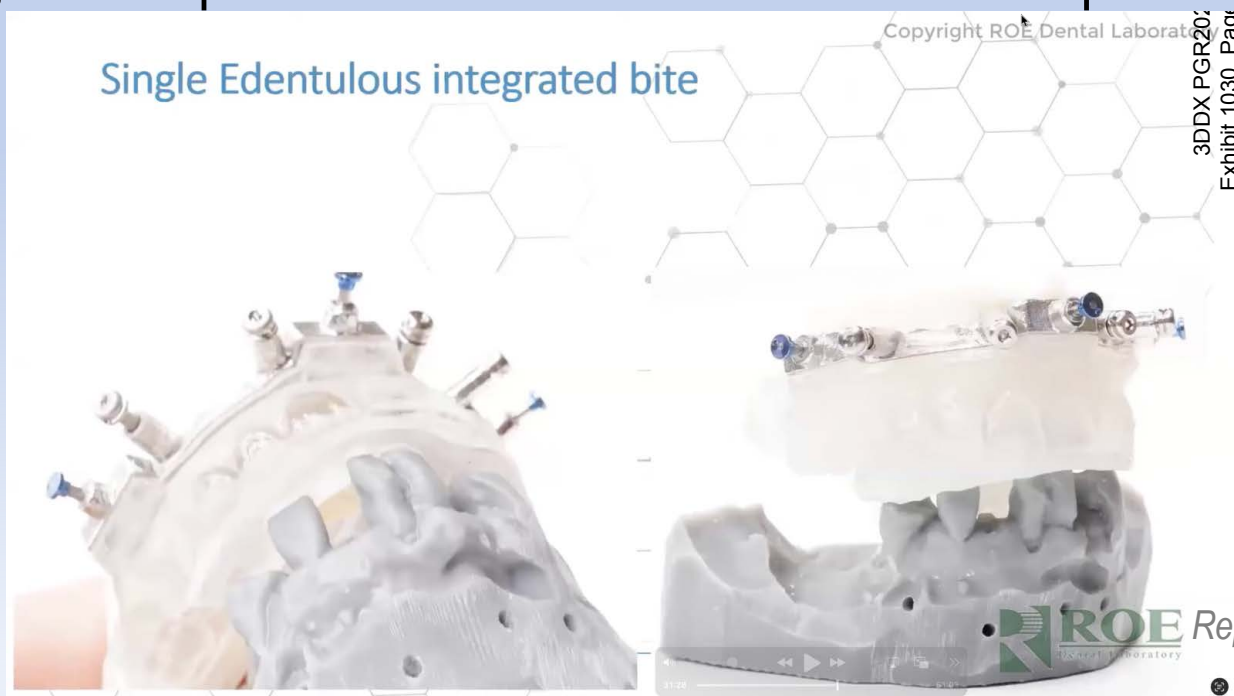
*Petition, Paper 1 at pp. 25-26, 46-49  
Pet. Reply, Paper 16, at pp. 10-11*

## Ground 3: Llop and Sichuan – Motivation to Combine

- Using Llop+Sichuan improves visibility and manipulation

*Petition, Paper 1 at pp. 44-45*  
*Erickson Decl., Ex. 1003 ¶ 125*

- Llop+Sichuan is similar to PO's own product:
  - Negative impression of lower teeth holds mouthpiece in place



*Replay, Paper 16, at pp. 11-12*  
*Ex. 1030, p. 6*  
*Banks Dep Tr., Ex. 1046, 103:21-106:4*

**Ground 5:  
The Challenged Claims are Obvious—  
Llop126 + Yau**

# Ground 5: Yau Discloses Elements 1[d] and 1[e]

US 20170265963A1

(19) **United States**  
(12) **Patent Application Publication** (10) **Pub. No.: US 2017/0265963 A1**  
YAU et al. (43) **Pub. Date: Sep. 21, 2017**

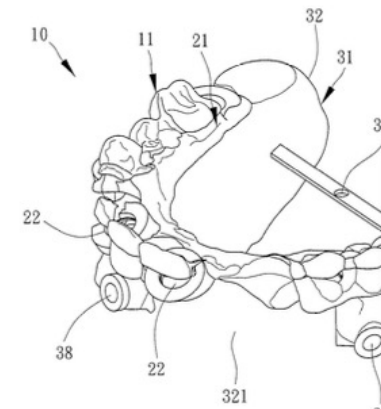
(54) **DENTAL IMPLANT SURGICAL GUIDE** (52) **U.S. CL**  
(71) Applicant: **NATIONAL CHUNG CHENG UNIVERSITY, MIN-HSIUNG (TW)** CPC **A61C 1/084** (2013.01); **A61C 8/0092** (2013.01); **A61C 1/085** (2013.01)

(72) Inventors: **Hong-Tzong YAU, MIN-HSIUNG (TW); Yen-Kun LIN, NEW TAIPEI CITY (TW)** (57) **ABSTRACT**

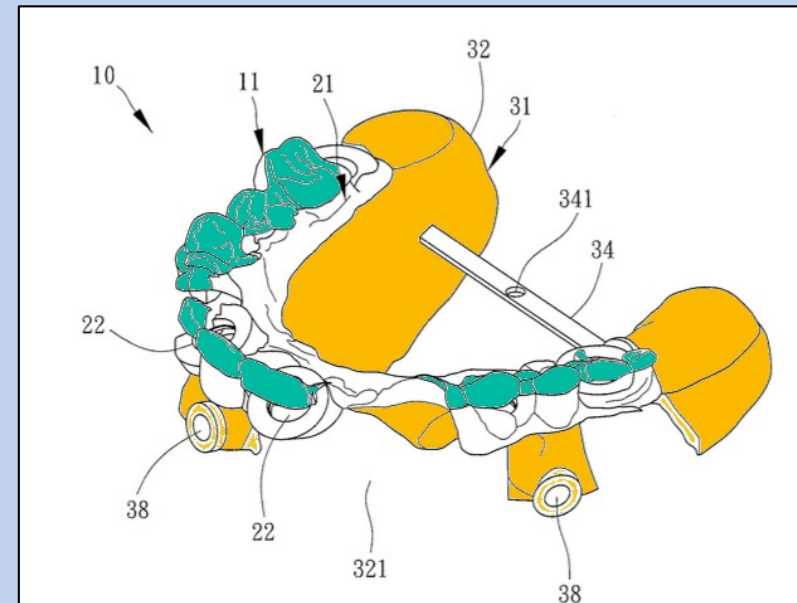
(21) Appl. No.: **15/176,828**  
(22) Filed: **Jun. 8, 2016**  
(30) **Foreign Application Priority Data**  
Mar. 18, 2016 (TW) **105108469**

**Publication Classification**  
(51) **Int. CL**  
**A61C 1/08** (2006.01)  
**A61C 8/00** (2006.01)

A dental implant surgical guide includes an upper guide member including a tooth mold and a plurality of first mating connector components, an intermediate guide member including a guide portion, a plurality of first connection portions and a plurality of second mating connector components, and a lower guide member including a body having a downward-facing recess, a plurality of second connection portions located on the top side of the body, a support bar having two opposite ends thereof respectively connected to the body at two predetermined locations and a mounting portion formed on the body.



3DDX Exhibit 1010, Page 1 of 8  
PGR2024-00040



Yau discloses a guide member (11) with tooth mold:

- attached to a guide members (21, 31)
- configured and dimensioned to surround at least a portion of the patient's teeth ("tight engagement")

*Petition, Paper 1 at pp. 30-32, 78-89  
Yau, Ex. 1010*

# Lack of Secondary Considerations

# Patent Owner Is Not Entitled to a Presumption of Nexus



*Quanergy Systems, Inc. v. Velodyne Lidar USA, Inc.,*  
24 F.4th 1406, 1417 (Fed. Cir. 2022)  
*(internal citation and quotation marks omitted, emphases added)*

“We presume a nexus when the patentee shows that the asserted objective evidence is **tied to a specific product** and that product embodies the claimed features, and is **coextensive** with them. The coextensive requirement... requires the patentee to demonstrate that **the product is essentially the claimed invention**.

As part of the presumption analysis, the fact finder must consider the unclaimed features of the stated products to determine their level of significance and their impact on the correspondence between the claim and the products.

[A] ‘**critical**’ **unclaimed feature** that is claimed by a **different patent** and that materially impacts the product's functionality, indicate[s] that the claim is not coextensive with the product.”

*Pet. Reply, Paper 16 at p. 8*

# Patent Owner Is Not Entitled to a Presumption of Nexus

Patent Owner has not shown its products are “coextensive” with the ’209 patent claims.

*Quanergy Sys., Inc. v. Velodyne Lidar USA, Inc.*,  
24 F.4th 1406, 1417 (Fed. Cir. 2022)

- No claim mapping or product analysis from expert
- PO identifies a family of products, including unpatented
  - Edentulous pin guides
  - Sequential, not attached guides

*Pet. Reply, Paper 16 at pp. 16-18*

*Exs. 1046 at 13:16-16:3, 67:6-69:11, 69:17-71:2*

*Exs. 1050 at ¶¶ 17-21; Exs. 1024-1030*

- The Pin Guide is the first step of the CHROME GuidedSMILE surgical process. It sets the stage of the whole surgery and ensures that the surgery starts accurately.
- It's only purpose is to deliver the Fixation Base and maintain its position while the fixation pins are set
- Dentate Pin Guides seat on the teeth, are verified via occlusal windows and ensure the surgery starts in the correct position
- With edentulous patients, the pin guide will seat exactly like the denture and verifies the bite and ultimate tooth position

## GuidedSMILE Family of Products

CHROME GuidedSMILE Standard | GuidedSMILE Natural | GuidedSMILE LITE™ |  
CombiGuide™ Surgical Guide | CombiGuide™ LITE

*Ex. 1028*



*Ex. 1024*



*Ex. 1030 at p. 6*



*Ex. 1029*

*Ex. 1025 at p. 2*

DEMONSTRATIVE EXHIBIT — NOT EVIDENCE

# Patent Owner Is Not Entitled to a Presumption of Nexus

- Does not account for critical features, claimed by other patents
  - Fixation base only in front of the bone
    - Identified as a “key difference,” avoiding undesirable prior art features
  - Metal drill guide, fixation base
    - Expressly disclaimed in '209 Patent
    - “multiple advantages...over plastic”

*Pet. Reply, Paper 16 at pp. 19-21*

*Petition, Paper 1 at 18-19*

*Ex. 1046 at 13:12-15, 44:15-17, 59:2-19, 65:3-10, 96:14-97:5*

This is **not desirable and is an issue that Applicant's invention avoids**. As shown in FIG. 8 of the current patent application, **Applicant's claimed fixation base only sits on the outside of the jaw.**

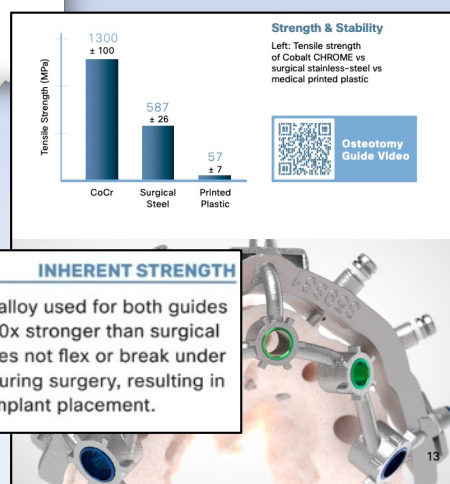
Based on this **key difference**, none of claims 13, 14, 17 or 19 are anticipated by Llop '255 and this basis of rejection is respectfully requested to be withdrawn.

*'016 Patent File History, Ex. 1014 at p. 65-67*

1. A method of installing a multi-tooth dental prosthesis in a maxillary or mandibular position in a mouth of a patient, the method comprising:

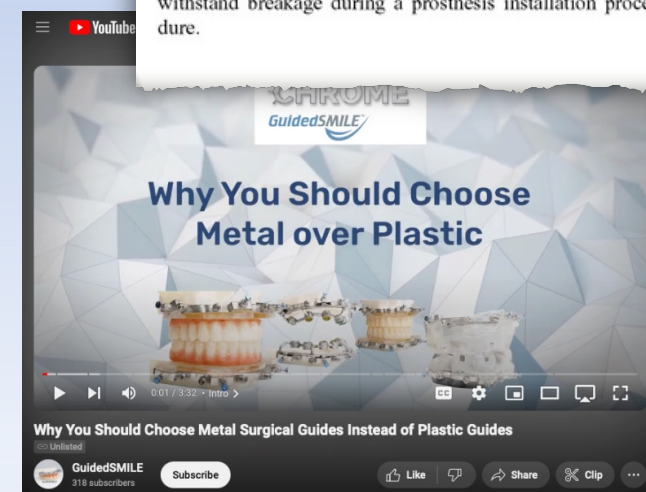
used in the prosthesis installation, wherein the fixation base is configured and dimensioned to fit only in front of the maxillary or mandibular bone structure of said patient and itself does not include any portion which would otherwise extend in back of the maxillary or mandibular bone structure of said patient;

*'016 Patent, Ex. 1048, 8:63-9:15*



*Ex. 1017 at pp. 15, 18*

13. The apparatus of claim 7, wherein the **fixation base is made from a metal, metallic alloy, composite, polymer, or any other material that is sufficiently strong enough to withstand breakage during a prosthesis installation procedure.**



*Ex. 1020*

# Patent Owner Has Not Established a Nexus

- No evidence of long felt need—just self-serving anecdote
  - Successful product already existed before patent *Pet. Reply, Paper 16 at pp. 21-22*  
*Ex. 1046, 18:8-20:1, 26:5-20; Ex. 2006 ¶ 5*
- Single sales chart is over-inclusive, not compared to earlier products
- Evidence that marketing effort significantly increased *Pet. Reply, Paper 16 at p. 22-23*  
*Ex. 1046, 40:2-22, 71:9-14; 72:9-75:21*  
*Exs. 1031, 1032*
- Skewed and unreliable “industry praise” evidence
  - Trade magazine advertisements, not “awards” *Pet. Reply, Paper 16 at pp. 23-24*  
*Exs. 1033 at p. 2; 1036 at p. 2; 1034*  
*Ex. 1046, 80:2-14 82:12-83:3, 87:10-90:15*
- No evidence of actual copying
  - Significant differences between PO and Petitioner’s products *Pet. Reply, Paper 16 at pp. 24-25*  
*Ex. 1046, 97:7-99:7*

# Conclusion

# Conclusion

**“mouthpiece”** is not limited to “over the teeth,” and *includes denture clones*

**“surround...the patient’s teeth”** *does not need construction*

*Reply to POPR, Paper 7 at pp. 1-3*

*Pet. Reply, Paper 16 at pp. 1-6*

**Llop126 + Sichuan, and Llop126 + Yau** disclose a mouthpiece that attaches to a fixation base and is configured and dimensioned to surround at least a portion of a patient’s teeth

*Petition, Paper 1 at pp. 50-74 and 84-89*

A POSA would have been **motivated to combine** Llop126 with Sichuan/Yau

*Petition, Paper 1 at pp. 44-50 and 78-84*

There are **no secondary indicia** of nonobviousness

*Pet. Reply, Paper 16 at pp. 16-25*