

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN ROOT TECHNOLOGY CO., LTD.
Petitioner

v.

CHIARO TECHNOLOGY LTD.,
Patent Owner

Case IPR2024-00953
U.S. Patent No. 11,413,380

**PATENT OWNER CHIARO TECHNOLOGY LTD.'S
PRELIMINARY RESPONSE**

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Patent Trial and Appeal Board
United States Patent & Trademark Office
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STATUTES

35 U.S.C. § 314(a)	
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EXHIBIT LIST

Exhibit	Description
2001	International Publication No. WO 2011/035448 A1 to Schlienger et al.
2002	Order on Motion to Continue Pretrial Deadlines and Strike Trial Date, Case No. 2:23-cv-631, Document 124 (W.D. Wash.), filed June 28, 2024.
2003	Chiaro's Answer, Defenses, and Counterclaims to Plaintiff's Amended Complaint, Case No. 2:23-cv-631, Document 69 (W.D. Wash.), filed August 14, 2023
2004	Petition for <i>Inter Partes</i> Review of U.S. Patent No. 11,413,380, IPR2024-01296, Paper 3, filed August 14, 2024
2005	Petitioner's Notice Ranking and Explaining Material Differences Between Petitions for <i>Inter Partes</i> Review of U.S. Patent No. 11,413,380, IPR2024-01296, Paper 2, filed August 14, 2024
2006	Docket for <i>Willow Innovations, Inc. v. Chiaro Technology, Ltd.</i> , Case #: 2-23-cv-00229-JRG (E.D. Texas), as of September 20, 2024

I. INTRODUCTION

The Board should deny the Petition of Shenzhen Root Technology Co., Ltd. (“Petitioner”). The Petition second-guesses the Examiner’s allowance of U.S. Patent No. 11,413,380 (the “’380 patent”) and relies on art previously considered by the Examiner. Alternatively, or in addition, the Board should exercise its discretion to deny institution of the Petition due to co-pending litigation in two parallel district court proceedings.

The applied prior art is the same or substantially the same as that considered by the Examiner during prosecution of the application that resulted in the ’380 patent and is cumulative of the art previously presented and evaluated for the same claim limitations. The Petition relies on four prior-art references: Chang, Weber, Guthrie, and Khalil. Chang, Guthrie, and Khalil were already before the Office during prosecution. Specifically, Khalil was applied by the Examiner during prosecution of the ’380 patent, and Chang and Guthrie were each considered by the Examiner via an IDS filed by the Applicant prior to the examination of the ’380 patent. Chang was also cited by the same Examiner when rejecting claims in the parent application to the ’380 patent. While not explicitly cited, the teachings of Weber were known to the Office through the disclosure of Khalil—the primary reference applied during prosecution. Additionally, Weber is cumulative to the teachings of Khalil. Thus, the same or substantially the same prior art was

presented and considered by the Examiner during prosecution of the application that resulted in the '380 patent.

The Petition also fails to demonstrate that the Office materially erred when considering the prior art. Specifically, the alleged motivations to combine do not provide any reason to create the particular combination proposed by the Petition in order to arrive at the claimed configurations. Instead, the Petition relies on conclusory statements and motivations to combine that are firmly rooted in impermissible hindsight.

The Petition's retreading of the same or substantially the same prior art previously before the Office places the Petition squarely within the Board's discretion to deny institution under 35 U.S.C. § 325(d).

In addition, the *Fintiv* factors collectively weigh in favor of denying institution. The Petitioner here is the same as the Plaintiff and Cross-claim Defendant in one of the district court cases involving the '380 patent. The Petitioner has not requested a stay or indicated such a request is forthcoming. Nor is there evidence that such a stay, even if requested, would be granted. To the contrary, the evidence indicates that the judge intends to have the district court case move ahead as quickly as possible. Regardless, adjudication of the '380 patent will move forward in another concurrent litigation that will finish long before the statutory deadline for a final written decision in this IPR. Petitioner has not

provided any assurances that instituting this Petition would avoid relitigating the same issues in the district court, for example, by providing a *Sotera* stipulation. And, instead of promptly filing the Petition, which challenges all claims of the '380 patent, Petitioner delayed filing for nine months, requiring continued investment into the district court proceedings. Months later, plainly acknowledging the deficiencies of the present Petition, Petitioner filed *yet another* petition, again challenging all claims of the '380 patent. Thus, instituting this Petition would be a waste of the Board's limited resources because Petitioner themselves have acknowledged the defects in the present Petition. *See* EX1017, 7:2-8 (Petitioner indicating they think it best to "just hit the reset button" and dismiss the IPR2024-00953 Petition in favor of an "updated petition").

II. OVERVIEW OF THE TECHNOLOGY

A. The '380 Patent

The '380 patent is entitled "Breast pump system." The '380 patent was filed on March 16, 2021, as U.S. Application No. 17/203,327, with an earliest priority date of June 15, 2017. The '380 patent includes 46 claims, of which claims 1 and 29 are independent.

1. Description of the '380 Patent

The '380 patent discloses "a breast pump system," wherein "one implementation of the system is a wearable, electrically powered breast pump

system for extracting milk from a mother.” EX1001, 1:20-23. The ’380 patent notes that then-existing wearable breast pump systems suffered from several drawbacks.

In some cases, the use of “collapsible bags as milk collection devices,” as in Chang, means that “it can be difficult for the user to extract all of their milk from the bag, due to the small cut opening that is needed and the capillary action between the bonded plastic sheets that form the bag.” EX1001, 2:18-23. Such bags also represent a “recurring cost” to the user and a possibility of the product being unusable if the user “runs out of stock” of the bags. *Id.* at 2:26-28.

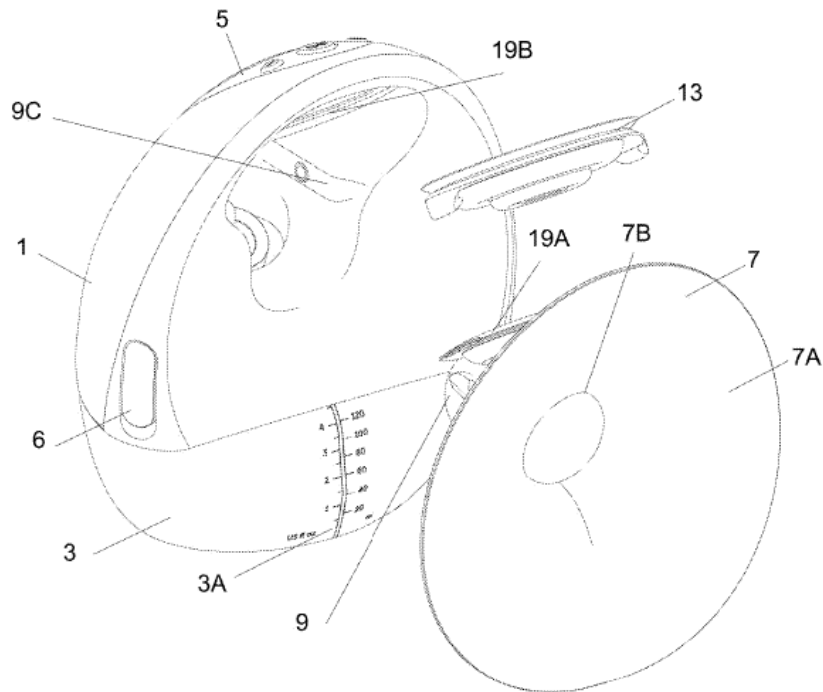
In addition, “a complex and somewhat noisy pumping arrangement is necessary,” in which “the breast shield connects to a tube which is provided with compression units which ‘step’ the expressed milk through the tube to the collection bag” using “a complex sequenced pulsing arrangement.” EX1001, 2:29-36. This “complex and somewhat noisy pumping arrangement” is the exact “pulsing arrangement” used by Chang.

In view of the above deficiencies of known breast pump systems, such as those disclosed by Chang and Khalil, the ’380 patent provides an “improved integrated breast pump system[]” and “a better system to accommodate integrated wearable breast pumps.” EX1001, 2:55-57, 3:51-53.

The improved breast pump system in the '380 patent includes a housing and a breast shield that are coupled together via “a separate, deformable diaphragm.” EX1001, 3:57-62. The housing protects various electrical components, including “one or more pumps and a rechargeable battery.” *Id.* at 5:58-59. The pump that is contained within the housing may be an air pump, such as, for example, one or more piezoelectric air pumps. *Id.* at 7:8-13, 13:42-44, 14:9-11. A “milk collection container 3 is attached to a lower face 1A of the housing 1 and forms an integral part of the housing when connected, such that it can be held comfortably inside a bra.” *Id.* at 6:61-64. The breast shield engages with a user’s breast and “defines a milk-flow path from the inner surface of the breast shield 7A, through the breast shield nipple tunnel 9 and into the milk collection container 3.” *Id.* at 9:27-42.

A barrier is provided between the housing and the breast shield to “provide a seal to isolate the air pump from the milk-flow side of the barrier” and to “transfer[] the pressure from the pump to the milk-collection side of the system.” EX1001, 10:25-27, 10:59-60. In some embodiments, this barrier may be a membrane or a diaphragm. For example, the barrier may be formed by placing a diaphragm within a diaphragm housing having one part (19A) “provided on the outer surface of the breast shield 7” and the other part (19B) “provided in a recessed portion of the housing 1.” *Id.* at 11:18-27. Such a barrier seals the housing from the breast shield so that “milk only flows through the breast shield and then

directly into the milk container” but “does not flow through any parts of the housing at all.” *Id.* at 5:50-55.



EX1001, FIG. 4 (showing the location of diaphragm 13).

With such a configuration, the “housing does not need to be cleaned.”

EX1001, 6:9-13. In addition, the flexibility of the membrane or diaphragm allows it to “transmit [] negative air pressure” that is generated by the pump in the housing from one side of the membrane or diaphragm to the other side, thereby “apply[ing] the pressure cycle to the breast of the user, in order to express milk.” *Id.* at 13:52-65. Moreover, during assembly by the user, the membrane or diaphragm creates a seal “when the breast shield is pushed into the housing,” leading to a “simple and fast assembly and dis-assembly” of the breast pump device. EX1001 at 6:38-44,

11:27-32. In some embodiments, the diaphragm may be a generally “disc shaped membrane” that “provides a larger effective ‘working’ area of the diaphragm ... and hence the membrane may be smaller in diameter.” *Id.* at 11:4-8.

This improved configuration of a membrane or diaphragm provided *exterior to* the housing of the pump is captured in Claim 1, which recites:

1. A breast pump device comprising:
a self-contained, in-bra wearable device comprising:
a pump housing that includes:
a rechargeable battery,
a power charging circuit for controlling charging of the rechargeable battery,
control electronics powered by the rechargeable battery,
a pump powered by the rechargeable battery and configured to generate negative air pressure,
a Universal Serial Bus (USB) charging socket for transferring power to the power charging circuit and the rechargeable battery, and
a recess or cavity that defines a pumping chamber;
a breast shield made up of a breast flange and a nipple tunnel;
a milk container that is configured to be attached to and removed from the pump housing; and
a diaphragm that is configured to prevent milk from reaching the pump, the diaphragm being seated against a diaphragm housing that is fixed to a recessed surface of the pump housing, and the diaphragm being a membrane that deforms in response to changes in air pressure caused by the pump to create negative air pressure in the nipple tunnel.

EX1001, 71:9-33 (Claim 1). Independent claim 29 also captures this improved configuration, reciting:

29. A breast pump device that is configured as a self-contained, in-bra wearable device, the breast pump device comprising:
a self-contained, in-bra wearable device comprising:
a housing that includes:

a rechargeable battery,
a power charging circuit for controlling charging of the rechargeable battery,
control electronics powered by the rechargeable battery,
a pump powered by the rechargeable battery and configured to generate negative air pressure, and
a Universal Serial Bus (USB) charging socket for transferring power to the power charging circuit and the rechargeable battery;
a breast shield made up of a breast flange and a nipple tunnel;
a milk container that is configured to be attached to and removed from the housing; and
a membrane that is configured to define a pumping chamber at least in part with an external surface of the housing, the membrane configured to deform in response to changes in air pressure caused by the pump to create negative air pressure in the nipple tunnel.

EX1001, 73:7-31.

2. Prosecution History of the '380 Patent

Applicant filed the application that issued as the '380 patent with 30 claims, including a single independent claim 1. EX1002, 133-36. With the filing of the application, Applicant also submitted an IDS that identified each of Khalil (as Cite No. 16 listing U.S. Publication No. 2013/0023821) and Guthrie (as Cite No. 29 listing U.S. Publication No. 2016/0082166). *Id.* at 192-93. The Examiner considered Khalil and Guthrie as well as the additional cited references, as acknowledged by signing the IDS. *Id.* at 599-611, *esp.* 604-05. The Examiner's search history indicates that the Examiner did indeed retrieve each of Khalil and

Guthrie several times during their search. *See Id.* at 552-96 (e.g., “L2,” “L19,” “L30,” “L53,” “L68,” “L70,” “L80,” “L101,” etc.).

In a first Office Action spanning 74 pages, the Examiner rejected claims 1, 4-7, 11, 12, 14, and 17-20 as obvious under 35 U.S.C. § 103 over Khalil in view of Makower (U.S. Publication No. 2017/0072118) and Yodfat (U.S. Publication No. 2011/0009824). EX1002, 474-547, *esp.* 482-87. Having thoroughly considered Khalil, the Examiner noted that Khalil fails to teach the claimed rechargeable battery, power charging circuit, control electronics and pump powered by the rechargeable battery, and USB charging socket. *Id.* at 482. The Examiner relied on Makower and Yodfat to teach these elements. *Id.* at 482-84. Except for claims 8 and 13, the remaining dependent claims were rejected over the combination of Khalil, Makower, and Yodfat further in view of one or more additional references. *Id.* at 484-97. The Examiner also applied numerous nonstatutory double patenting rejections. *Id.* at 497-547.

Despite the large number of references considered and applied by the Examiner and the number of rejections applied against the claims, the Examiner indicated that original claim 13 contained allowable subject matter. EX1002, 546. Notably, original claim 13 recited that “the diaphragm is a membrane that is seated against a diaphragm holder that is formed as the recess in the rear surface of the

housing, the diaphragm deforming in response to changes in air pressure caused by the air pump to create negative air pressure in the nipple tunnel.” *Id.* at 134.

In response to this lengthy Office Action, Applicant amended claim 1 to include the features of allowable claim 13: “a diaphragm that is configured to prevent milk from reaching the pump” and “being seated against a diaphragm housing that is formed around an edge of the recess or cavity in the pump housing, the diaphragm being a membrane that deforms in response to changes in air pressure caused by the pump to create negative air pressure in the nipple tunnel.” EX1002, 623. Applicant also canceled claims 2, 5, 6, 9, 11, 13, 14, 18, 20-22, and 24-30, and added new claims 31-48, including new independent claims 47 and 48. *Id.* at 623-28. Two weeks later, in response to an interview on September 23, 2021, during which the Examiner stated that the configuration of the diaphragm in relation to the housing “was unique relative to the prior art,” Applicant filed a Supplemental Amendment, amending new claims 47 and 48 and further amending claim 1 to recite that the diaphragm housing is “fixably coupled to the pump housing.” *Id.* at 655, 643, 647-48.

Prior to filing this response to the first Office Action, Applicant filed a supplemental IDS citing five references, including Chang. EX1002, 615 (as U.S. Patent Application Publications Cite No. 3 listing U.S. Publication No.

2018/0333523). The Examiner considered Chang as well as the additional cited references, as acknowledged by signing the IDS. *Id.* at 853-54.

In a much shorter Final Office Action, claim 1 was rejected only under 35 U.S.C. §§ 112(a) and 112(b). Claim 47 (which issued as claim 29 of the '380 patent) was deemed to be allowable because Khalil fails to teach or render obvious the claimed “membrane that forms an air pumping chamber at least in part with an external surface of the pump housing.” EX1002, 779-81. In particular, the Examiner noted that, although Khalil does teach a membrane “which forms an air pumping chamber with diaphragm housing members,” “these housing members are not shown to be a part of an **external surface** of the pump housing.” *Id.* (emphasis added).

Applicant responded to the Final Office Action by amending claim 1 to replace “fixably coupled” with “fixedly coupled,” and by canceling claim 48. EX1002, 865. After an Advisory Action and subsequent RCE, Applicant amended claim 1 to recite that the diaphragm housing is “fixed to a surface of the pump housing, the surface being an exterior surface.” *Id.* at 1029. Claims 49-65 were also added, depending from allowable claim 47. *Id.* at 1034-36.

By way of Examiner’s Amendment, claim 1 was then amended to recite “fixed to a recessed surface of the pump housing,” and claim 1 was allowed. EX1002, 1055-56. In allowing claim 1, the Examiner noted that “Khalil fails to

teach ... **a diaphragm housing fixed to a recessed surface of the pump housing.**” *Id.* at 1056 (emphasis added).

3. Status of Litigations Involving the ’380 Patent

The ’380 patent is currently involved in two on-going suits: *Shenzhen Root Tech. Co., Ltd. v. Chiaro Tech., Ltd.*, 2-23-cv-00631 (W.D. Wash.) (hereinafter, “the *Shenzhen Root* case”), and *Willow Innovations, Inc. v. Chiaro Tech., Ltd.* 2-23-cv-00229 (E.D. Texas) (hereinafter, “the *Willow* case”). While the court recently struck the schedule and moved deadlines in the *Shenzhen Root* case involving Petitioner, EX2002, 5:5-6, the *Willow* case is proceeding as scheduled, with Markman briefing already under way, a Markman hearing scheduled for September 24, 2024, EX2006, 25 (entry below Docket No. 74), and a trial scheduled for March 2025, EX2006, 21 (Docket No. 38). Thus, the ’380 patent will be adjudicated *well before* the statutory deadline for a final written decision in this IPR.

B. The Cited Prior Art

The Petition asserts two grounds relying on U.S. Publication No. 2018/0333523 to Chang et al. (“Chang”); U.S. Publication No. 2012/0277728 to Weber et al. (“Weber”); U.S. Publication No. 2016/0082166 to Guthrie et al. (“Guthrie”); and U.S. Publication No. 2013/0023821 to Khalil et al. (“Khalil”).

Ground 1A proposes combining Chang with Weber and Guthrie. Ground 1B proposes modifying Chang-Weber-Guthrie in view of Khalil.

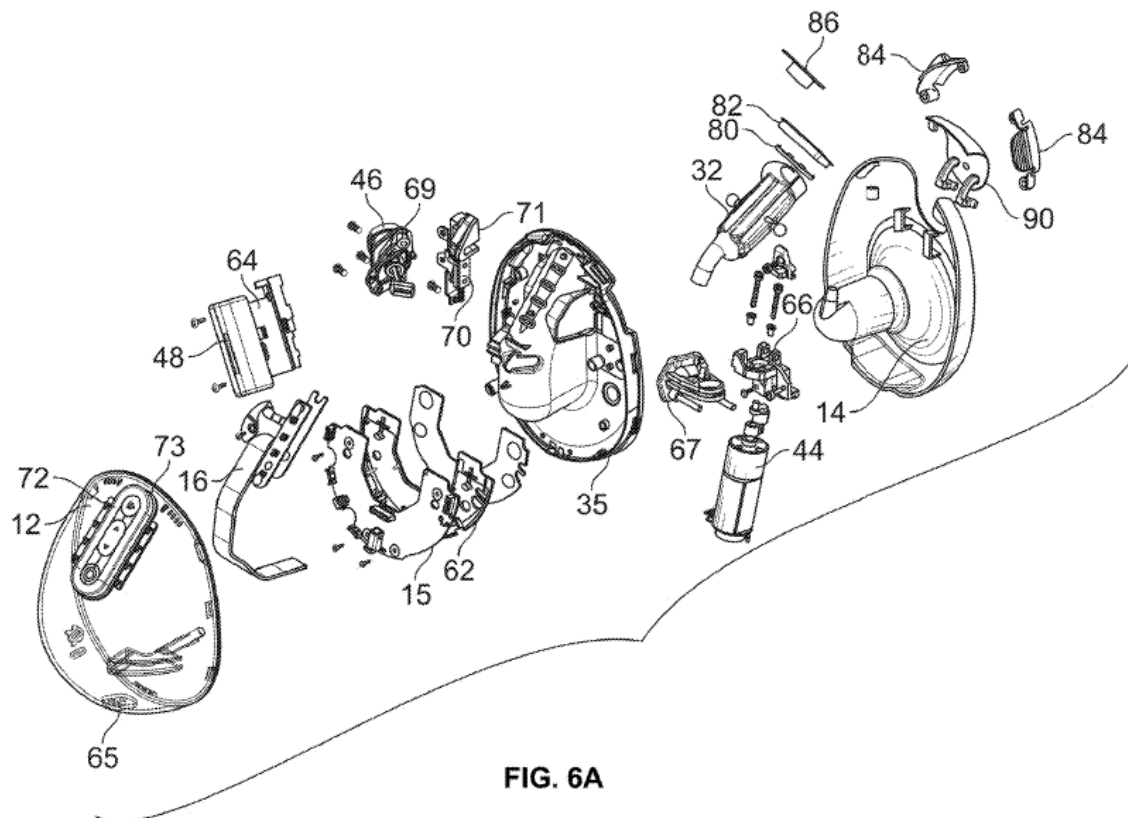
1. Chang

Chang is directed to “portable breast pump systems.” EX1007, ¶[0001]. To achieve this portability, Chang’s system provides a “housing or outer shell 12” that is “shaped and configured to be contoured to the breast of a user and to thus provide a more natural appearance when under the clothing of the user.” *Id.* at ¶[0071]. A flange 14 is provided opposite the housing, where the flange is “contoured to comfortably fit against a wide range of user’s bodies and to provide structure for sealingly engaging with breast tissue.” *Id.*

Between the housing 12 and the flange 14, a pump chassis 35 “snap[s] into engagement with the housing 12” and “supports directly or indirectly all of the pump components.” EX1007, ¶[0080]. On one side of chassis 35 are all of the electronic components for the pump, including a PCB controller mount 62, circuit board 15, rechargeable battery 48, cover jack 65, motors 44, 46, and flex-circuit 16. *Id.* at ¶[0080], FIG. 6A. On the other side, flex-tube 32 and collection and container assembly 60 are provided between chassis 35 and flange 14. *Id.* at ¶[0105], FIG. 6A. Flex-tube 32 includes “a large conduit portion 32L” positioned above a “small conduit portion 32S.” *Id.* at ¶[0079]. Flex-tube 32 also “includes generally spherically shaped connectors 33 that are sized and shaped to be

removably received in recesses 34 formed in [the] pump chassis 35.” *Id.* at

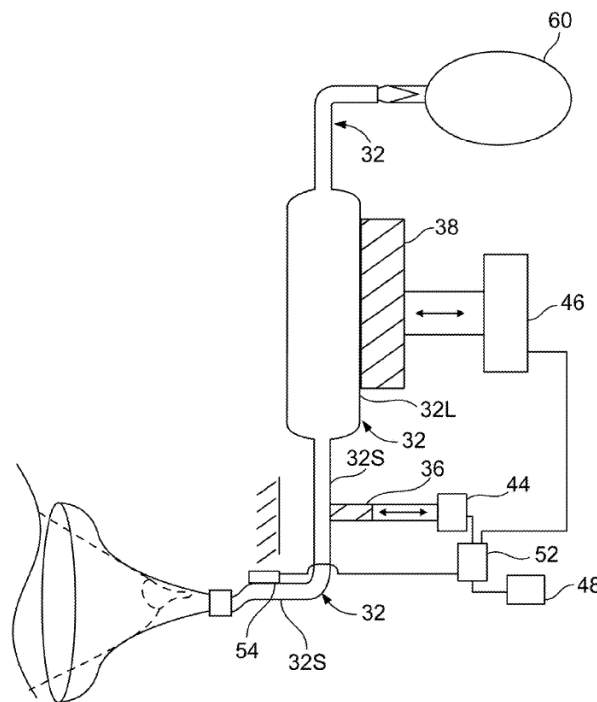
¶[0073]. Thus, Chang’s chassis 35 separates the electronic components from the fluid components.



EX1007, FIG. 6A.

In operation, connectors 33 on flex-tube 32 connect through recesses 34 to paddles on motors 44, 46. EX1007, ¶[0073]. As the motors oscillate, they “pull on the connectors 33,” causing flex-tube 32 to increase or decrease in volume. *Id.* at ¶[0074]. By increasing the volume of the flex-tube, Chang’s system is able to provide vacuum pressure up to -160 mmHg to the user’s nipple. *Id.* at ¶[0092]. As milk flows into flex-tube 32, Chang’s system responds by increasing the volume of

the flex-tube to maintain vacuum in a pressure band that simulates latching. *Id.* at ¶¶[0084]-[0086], [0093]-[0096]. Collected milk can then be pumped from flex-tube 32 by closing 32S and decreasing the volume of 32L, causing milk to flow upwards into container 60. *Id.* at FIG. 7A, ¶¶[0084]-[0086].



EX1007, FIG. 7A.

Figure 7B depicts the pulsing of the motor versus time (as line “M”) and the corresponding vacuum that is achieved (as line “V”). EX1007, ¶[0117], FIG. 7B. This “pulsing” is particularly evident by the “spikes” S in the data of Figure 7B. *See id.* This data is then processed to remove the spikes and arrive at a plot of the volume of milk versus the motor position. *Id.* at ¶[0117], FIG. 7C. Such stepping and pulsing of the motor, as disclosed by Chang, was understood by the inventors

of the '380 patent to be “complex and somewhat noisy,” and thus undesirable.

EX1001, 2:29-36.

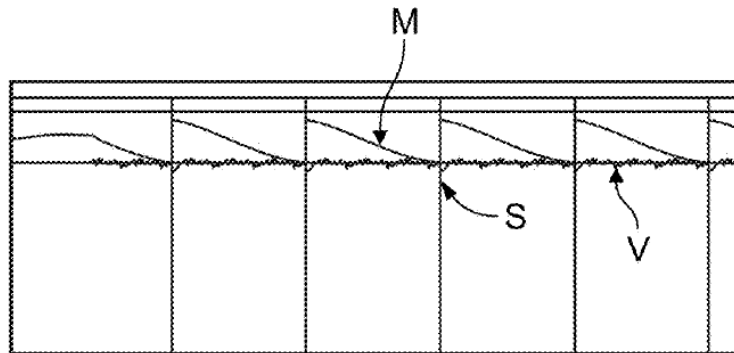


FIG. 7B

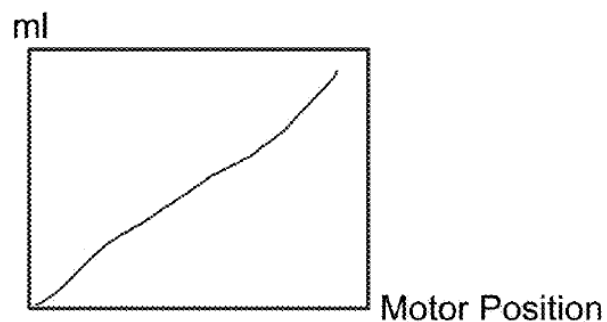


FIG. 7C

EX1007, FIGS. 7B-7C.

2. Weber

Weber describes techniques for incorporating a diaphragm pump into a breast pump device.

According to a first embodiment, an electric motor 11 is provided within a housing 10. EX1008, ¶[0070]. In one sidewall of housing 10, a diaphragm 14 is provided within a recess in housing 10, and a connecting rod 12 connects a

diaphragm 14 to electric motor 11. *Id.* at ¶[0071]. A cover 13, having a corresponding recess 133, is attached to housing 10 over diaphragm 14. *Id.* Cover 13 is connected by first line 2 to a breast-shield 4, and connected by second line 6 to milk-collecting container 7. EX1008, ¶[0067], FIG. 1.

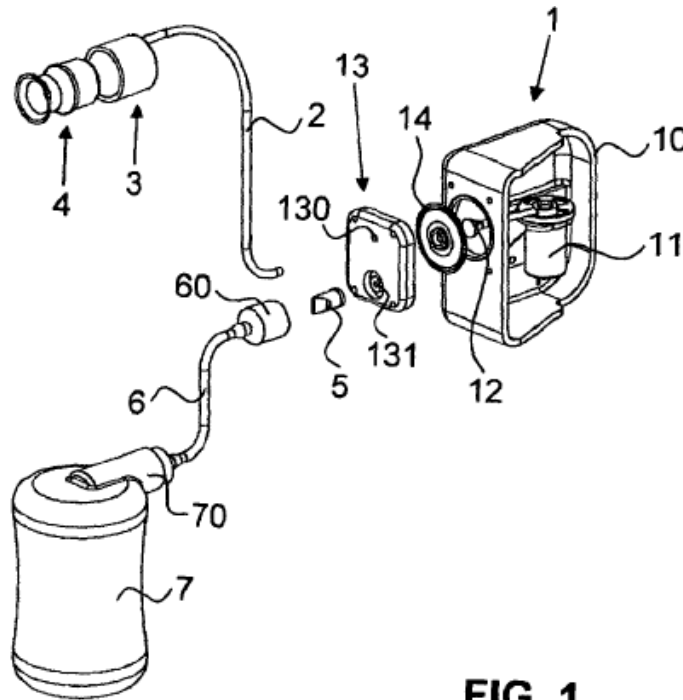


FIG. 1

EX1008, FIG. 1.

In operation, motor 11 drives diaphragm 14 backwards and forwards, “such that a negative pressure is generated in the breast-shield-side or cover-side part of the pump chamber.” EX1008, ¶[0074]. This action creates “a negative pressure in the breast shield 4,” causing “milk [to be] expressed from the mother’s breast and passe[d] ... into the first line 2.” *Id.* at ¶[0076]. This milk then flows into the cover-side part of cover 13, and then into milk collecting container 7. *Id.* Here,

diaphragm 14 “serves as a partition wall between the air in the pump-side part of the pump chamber and the milk in the cover-side part of the pump.” *Id.* at ¶[0077].

Weber’s other disclosed embodiments operate in a similar manner to that of Figure 1. For example, the embodiment in Figure 6 merely replaces second line 6 with a shorter adapter 70.

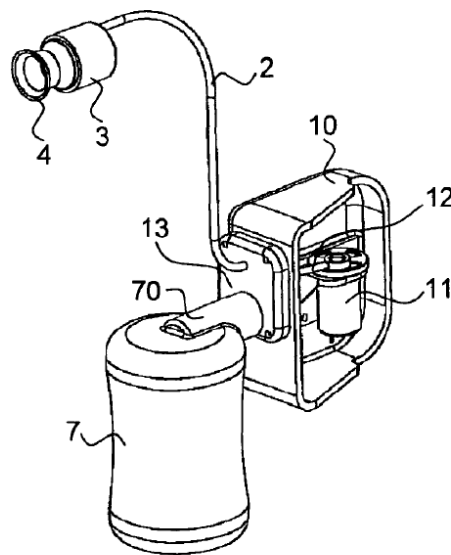


FIG. 6

EX1008, FIG. 6.

3. Guthrie

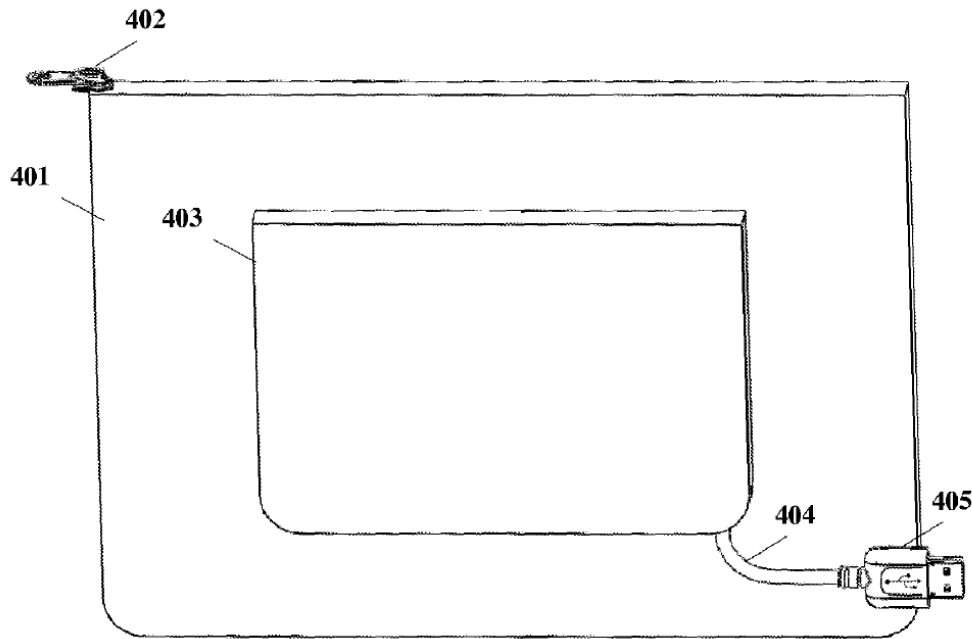
Guthrie describes “a system that provides women a discrete low profile breast pump that may be worn underneath regular clothing which also monitors and tracks a woman’s milk production and supply.” EX1009, ¶[0002]. To this end, Guthrie’s system “comprises at least one sensor to monitor the expression of breast milk.” *Id.* at ¶[0009]. A mobile device “wirelessly receives sensor data from the at least one sensor.” *Id.*

The “smart” aspects of Guthrie’s breast pump system aside, the breast pump system itself is rudimentary. Guthrie describes, in only very general terms, a “milk capture and collection element 101” that includes “a cup portion that substantially matches the curve of a woman’s breast” and “connects via pneumatic tubing 102 to an external vacuum pump 103.” EX1009, ¶¶[0022]-[0024], [0026].

Guthrie recognizes that “[b]ecause the milk capture and collection element 101 is designed to maintain a low profile and fit discretely under a woman’s clothes, a woman may not be able to easily interact with the milk capture and collection element 101.” EX1009, ¶[0029]. Thus, the bulk of Guthrie’s disclosure is directed towards the integration of sensors into milk capture and collection element 101 so that a user may interact with milk capture and collection element 101 via a user interface on a mobile device 104. For example, Figures 2A-2C provide alternatives where the mobile device may interact only with an external pump connected by pneumatic tube 202 (Figure 2A), may interact with a smart sensor 204 within the milk capture and collection element (Figure 2B), or may interact with an integral smart sensor and internal pump 207 (Figure 2C). *Id.* at ¶¶[0033]-[0035].

Guthrie also describes a separate “storage element of the smart breast pump system” that is “implemented as a carrying case 401” such as “a purse, a clutch, [or] a bag.” EX1009, ¶[0039]. An “additional compartment 403” “store[s]

electrical components of the smart breast pump system,” including a “charging cable 404” that “includes a USB-A style adapter 405.” *Id.* at ¶[0040].



EX1009, FIG. 4.

4. Khalil

As acknowledged in the background of the '380 patent, Khalil describes a breast pump system having a breastshield unit 9, including an annular membrane 3 (or one or more membrane parts 3', 3'', 3''') disposed between a breast interface 1 and a shell 6. EX1001, 2:43-57, 10:63-11:8; EX1010, ¶¶[0053], [0064]. However, as noted by the Examiner, “Khalil fails to teach ... a diaphragm housing fixed to a recessed surface of the pump housing” or a membrane that defines a pumping

chamber “at least in part with an external surface of the pump housing.” EX1002, 781, 1056.

III. CLAIM CONSTRUCTION

For purposes of this Preliminary Response, Patent Owner does not believe that any claim terms need construction to resolve the prior art grounds raised in the Petition. To the extent the Board determines any claim terms require specific construction, Patent Owner submits that such terms should be accorded their plain and ordinary meaning in light of the specification.

IV. PERSON OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response, Patent Owner does not dispute the Petition’s definition of a POSITA. Pet., 8.

V. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER 35 U.S.C. § 325(d).

The Board should exercise its discretion under 35 U.S.C. § 325(d) to deny institution. The Petition relies upon references and subject matter already considered, and applied or rejected, or otherwise cumulative to references considered by the Examiner during the prosecution of the application that resulted in the ’380 patent. The Petition relies primarily on Chang, which was considered by the Examiner during prosecution of the ’380 patent and *applied by the same Examiner during the prosecution of the parent application* during the pendency of

the '380 patent. The Petition then proposes modifying Chang in view of Weber, Guthrie, and Khalil. Khalil was applied by the Examiner during the prosecution of the '380 patent, and Khalil and Guthrie were both considered by the Examiner. And, as demonstrated below, Weber is merely cumulative of the teachings of Khalil, which is more relevant to the '380 patent.

Despite relying on the same or substantially the same prior art already presented to the Office, the Petition fails to identify any material error on the part of the Office. The Petition fails to even carry its burden of showing *how* one of ordinary skill in the art would have combined Chang, Weber, and Guthrie to arrive at the configurations recited by independent claims 1 and 29. Instead, the Petition relies on conclusory statements and canned obviousness rationales to assert that a POSITA *could* combine Chang, Weber, and Guthrie to arrive at the claimed configurations, without every discussing the actual modifications to Chang that *would* arrive at the claimed configurations. Pet., 23 (arguing Chang's system could be used with other pump types, including Weber's diaphragm pump), 24 (arguing that integrating pump components is a "matter of design choice for the designer"), 26 (arguing that Weber is an example of a breast pump with a rigid milk collection container). The reason for this lack of articulated reasoning is apparent: although a POSITA *may* make some modifications to Chang based on the teachings of Weber and Guthrie, such modifications would not arrive at the configurations set forth in

independent claims 1 and 29, as appreciated by the Examiner during the prosecution of the '380 patent. Absent any showing by the Petition of material error on the part of the Office, the Board should “defer to previous Office evaluations” and deny institution of this petition. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 9 (PTAB Feb. 13, 2020) (precedential as to AIA § 325(d) – setting forth two-art framework).

A. The Board should deny institution based on the two-part *Advanced Bionics* framework.

The Board may “reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d); *see also* 37 C.F.R. § 42.4(a) (the Board determines whether to institute trial on behalf of the Director). In determining whether to deny institution of a petition under § 325(d), the Board evaluates several non-exclusive factors, including:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 16-17 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph). These six factors “should be read broadly” “to apply to any situation” implicating discretionary denial under § 325(d). *Advanced Bionics*, Paper 6 at 10.

The *Becton* factors are grouped into the two-part *Advanced Bionics* Framework:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and
- (2) if either condition of the first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Id. Factors (a), (b), and (d) relate to the first part of the *Advanced Bionics* framework (i.e., whether the art or arguments presented in the Petition are the same or substantially the same as those previously presented to the Office). *Id.* Factors

(c), (e), and (f) relate to the second part (i.e., “whether the petitioner has demonstrated a material error by the Office” in its prior consideration of the prior art or arguments). *Id.* “If a condition in the first part of the framework is satisfied and the petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute *inter partes* review.” *Id.* at 8-9. Notably, “[i]f reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability.” *Id.* at 9. “[T]his framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Id.*

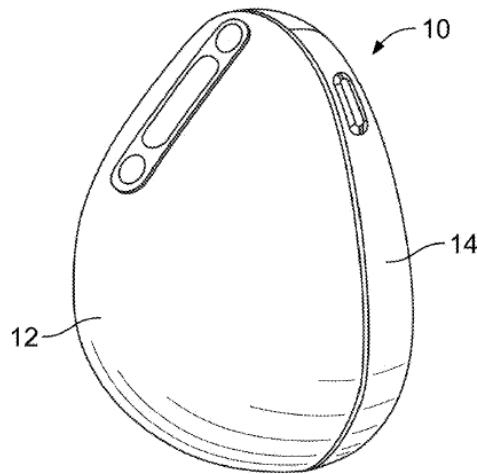
B. The proposed grounds satisfy part one of *Advanced Bionics*.

The Petition’s proposed combination of Chang, Weber, and Guthrie satisfies part one of the *Advanced Bionics* framework. Chang and Guthrie were previously before the Examiner, and the Examiner considered those references. EX1002, 599-611, 853-54. Petitioner attempts to combine these previously-considered references with Weber, which purportedly has not been before the Office. However, as explained in detail below, Weber was also known to the Examiner through the disclosure of Khalil. The Petition doubles down on this approach of relying on previously considered art by proposing to add Khalil to the combination of Chang, Weber, and Guthrie. Khalil was cited and applied by the Examiner during the

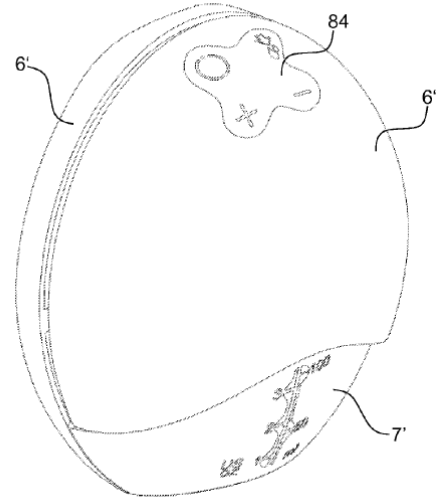
prosecution of the '380 patent, and the Examiner identified specific features in the claims of the '380 patent that are not taught or suggested by Khalil.

To determine whether a petition asserts substantially similar art, the Board looks to *Becton* factors (a), (b), and (d). *Becton* factor (a) considers “the similarities and material differences between the asserted art and the prior art involved during examination,” factor (b) considers “the cumulative nature of the asserted art and the prior art evaluated during examination,” and factor (d) considers “the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art.” *Becton*, Paper 8 at 17-18.

The art cited in the Petition is identical to, or substantially similar to, art already considered by the Examiner. To the extent that the Petitioner’s arguments appear at all novel compared to the Examiner’s rejection over Khalil, this is because Petitioner has chosen a primary reference in Chang that is less similar to the features of the '380 patent than Khalil. Chang discloses a breast pump system that is similar in structure to that of, for example, Figures 9-11 of Khalil in that at least both are in-bra wearable devices.



EX1007, FIG. 1A.



EX1010, FIG. 9.

However, unlike Khalil, which at least discloses an annular diaphragm, Chang's mechanism relies on a flex-tube that is actuated by electric motors. EX1007, ¶¶[0073]-[0074]. The Examiner appreciated this fact and rejected the application claims over Khalil, despite using Chang against the parent application.

In an effort to find *some* teaching in the prior art of a diaphragm, the Petition proposes modifying Chang to include Weber's diaphragm. The relied-upon teachings in Weber, however, are already disclosed in the background of Khalil, as shown below in detail. And Khalil, in incorporating a diaphragm into a compact breast pump by using an annular diaphragm disposed within a pump housing, shows that a POSITA would *not* have combined Chang and Weber to arrive at the claimed features. EX1010 (Khalil), ¶¶[0012], [0018]-[0021], [0023], [0070].

The Petition's remaining references, Guthrie and Khalil, were both considered by the Examiner during prosecution. EX1002, 192-93. The Examiner also retrieved Guthrie and Khalil by publication number multiple times during his searches. EX1002, 552-96. And finally, Khalil was relied upon by the Examiner in rejecting the originally filed claims. EX1002, 482.

1. The Examiner was aware of Chang during prosecution of the '380 patent and chose not to rely on Chang.

As an initial matter, Chang was considered by the Examiner early in the prosecution of the '380 patent. EX1002, 615, 853. The first Office Action issued on June 11, 2021. EX1002, 474. Chang was cited in an IDS filed on September 5, 2021. EX1002, 615. Notably, Chang was one of only five references supplied in the IDS filed on September 5, 2021. *Id.* Along with the subsequent Final Office Action dated November 23, 2021, the Examiner provided a signed List of References Cited by Applicant and Considered by Examiner, indicating that Chang had been considered. EX1002, 776, 853. This indication alone is enough to show that the Examiner considered Chang. *See, e.g., Solaredge Techs. Ltd. v. SMA Solar Tech. AG*, IPR2020-00021, Paper 8 at 10 (PTAB Apr. 10, 2020) (explaining that “because Frezzolini was identified on an IDS which was initialed by the Examiner, Frezzolini was [] considered during [] prosecution”); *Roku, Inc. v. Universal Electronics, Inc.*, IPR2019-01619, Paper 11 at 11 (PTAB Apr. 2, 2020) (explaining

that “Herz was previously presented to the Office” in an IDS). For these reasons alone, Chang was previously presented to the Office.

However, the record further indicates that the Examiner was keenly aware of Chang and chose not to apply Chang to the claims of the ’380 patent. In particular, the Examiner retrieved Chang by publication number multiple times during his searches. EX1002, 790-852 (“L140,” “L141,” “L148,” “L177,” etc.) In addition, in U.S. Application No. 17/181,057, the co-pending application that is the direct parent of the ’380 patent, the Examiner did in fact rely on Chang as a prior art reference. EX1003, 2177. Specifically, in an Office Action dated January 26, 2022, the *same Examiner* applied Chang as a secondary reference to teach modifying Khalil. *Compare* EX1003, 2164, 2177, *with* EX1002, 776. The January 26 Office Action in the parent application issued before the filing of an RCE in the ’380 patent on May 20, 2022, and well before the Examiner’s Notice of Allowance dated June 24, 2022. EX1002, 883-84, 1051-58. Thus, “it is highly unlikely that the Examiner was unaware of [Chang] during the prosecution of the” ’380 patent. *Miltenyi Biomedicine GmbH v. The Trustees of the U. of Pennsylvania*, IPR2022-00853, Paper 11 at 43-47 (PTAB Oct. 11, 2022) (explaining that the same examiner examining a parent application and a child application and relying on a reference in the parent application shows that the Examiner was aware of the reference even if not cited in the child application).

In view of the above, Chang was provided to the Examiner during prosecution of the '380 patent. The Examiner retrieved and considered Chang. The Examiner even relied on Chang in a rejection in the co-pending parent application well before the allowance of the '380 patent. However, the Examiner chose *not* to rely on Chang during the prosecution of the '380 patent. Accordingly, Chang was known to, and rejected by, the Office during the prosecution of the '380 patent.

2. Guthrie was considered by the Examiner during the prosecution of the '380 patent.

Similar to Chang, Guthrie was considered by the Examiner but was not applied during the prosecution of the '380 patent. The Examiner's actions throughout prosecution show that the Examiner substantively considered the art submitted in Applicant's IDS disclosures, including Guthrie, because the Examiner affirmatively included these references in various office actions and additional portions of the record.

First, the Examiner's substantive rejections of the claims relied upon Khalil, Makower, Guthrie '745, Thompson, Guthrie '743, Makower '794, Takeuchi, and Mendoza, all of which were disclosed in an IDS along with Guthrie. *Compare* EX1002, 481-97, *with* EX1002, 187-95. Thus, the Examiner reviewed the references in the IDS, including the Guthrie reference applied in the Petition, and chose to apply other references (including other references belonging to Guthrie).

The Examiner's search strategy confirms this understanding. The Examiner's search strategy included numerous searches based on the Guthrie publication number. *See, e.g.*, EX1002, 552-97 ("L2," "L30," "L53," "L68," "L70," etc.). This search suggests that the Examiner evaluated Guthrie and found the disclosure was not relevant to the claims of the '380 patent. This is unsurprising considering the generality with which Guthrie describes breast pump systems. Rather, Guthrie's focus is on the incorporation of smart sensors into existing breast pump devices, which is outside of the scope of the claims of the '380 patent. The most reasonable inference is that the Examiner considered Guthrie and did not find the reference to add any new, material information to the patentability analysis. *Advanced Bionics*, Paper 6 at 9 ("If reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability. At bottom, this framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown").

3. Weber is substantially the same as prior art previously presented to the Office.

Precedent does not require the exact same art to have been considered in prosecution. The Federal Circuit has instructed that "[a] reference is cumulative when it 'teaches no more than what a reasonable examiner would consider to be

taught by the prior art already before the PTO.’” *Regeneron Pharms., Inc. v. Merus N.V.*, 864 F.3d 1343, 1350 (Fed. Cir. 2017). In such cases, the PTAB has held that such a reference constitutes “substantially the same art” under the *Advanced Bionics* framework. *Roku*, Paper 11 at 17.

Here, the relevant teachings of Weber were previously before the Board through the disclosure and discussion of Khalil, as explained below. In addition, the teachings of Weber provide nothing more than what is already taught by Khalil. For example, the Petition cites Weber for teaching a pump, a recess, or cavity of claim 1, a diaphragm or membrane, and a milk container. Pet., 37, 38-39, 41-43, 44-47, 47-49. However, each of these elements allegedly taught by Weber was already taught by Khalil and distinguished over by the claims of the ’380 patent.

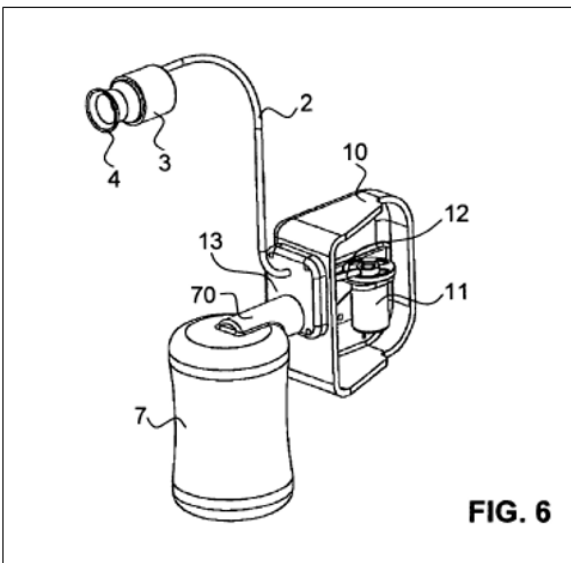
a. Weber’s diaphragm pump was presented to the Office through the Examiner’s consideration of Khalil.

Initially, Khalil discusses as prior art International Publication No. 2011/035448 A1 to Schlienger et al.

[0012] WO 2011/035448 discloses a breastpump for expressing human breastmilk, in which a vacuum line is used at the same time as a milk line and in which a membrane of a diaphragm vacuum pump serves as media separator.

EX1010, ¶[0012].

Figures 7-9 of Schlienger are *identical* to Figures 1, 2, and 6 of Weber, respectively, and Figures 1-6 of Schlienger are *identical* to Figures 7a-11 of Weber. *Compare* EX2001, FIGs. 1-9, with EX1008, FIGs. 1, 2, 6-11.



Weber, FIG. 6

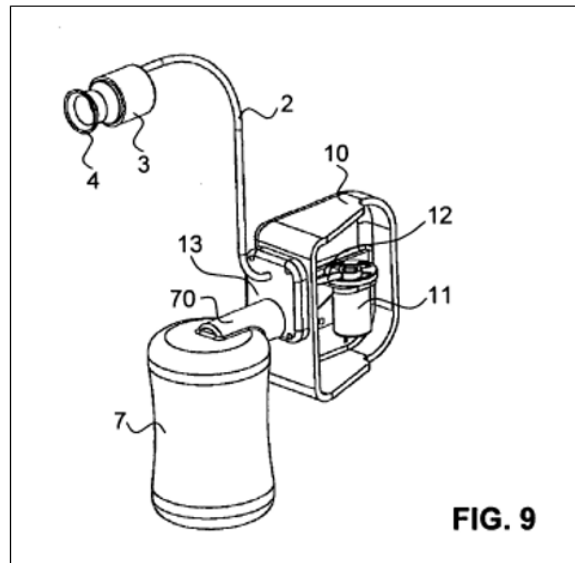


FIG. 9 of WO 2011-035448, as
cited and discussed by Khalil

EX1008, FIG. 6; EX2001, FIG. 9.

In addition, Schlienger claims priority, via PCT/CH2010/000226, to U.S. Provisional Application No. 61/244,636, filed on September 22, 2009, the very same U.S. provisional application to which Weber also claims benefit of priority. EX2001, (30); EX1008, (60). That is, Weber is in the same family of patents as Schlienger, which is discussed in the background of Khalil. Given the Examiner's familiarity with the art and Khalil, the Examiner would have been well aware of this disclosure.

b. Any portion of Weber’s disclosure that was not considered by the Examiner during the prosecution of the ’380 patent is cumulative to the teachings of Khalil.

Regardless of how closely the Examiner considered Weber or similar disclosures during prosecution of the ’380 patent, any relevant teachings from Weber were already disclosed in Khalil. In particular, Khalil describes Schlienger (which maps to Weber) as “disclos[ing] a breastpump for expressing human breastmilk, in which a vacuum line is used at the same time as a milk line and in which a membrane of a diaphragm vacuum pump serves as media separator.” EX1010, ¶[0012].

Khalil builds upon the teachings of Schlienger (and thus Weber) by disclosing “an improved device for expressing human breastmilk” that includes “a membrane for generating an underpressure in the underpressure chamber.” EX1010, ¶¶[0013]-[0014]. Khalil’s membrane “at least partially surrounds the receiving part” that receives the user’s nipple. *Id.* at ¶[0015]. Owing to this “special arrangement of the membrane,” Khalil is able to realize a breastshield unit that “can be made extremely small and compact.” *Id.* at ¶[0018]. Like the diaphragm of Schlienger (and thus Weber), Khalil’s membrane also ensures separation between an air or pump side and the milk. *Id.* at ¶[0019].

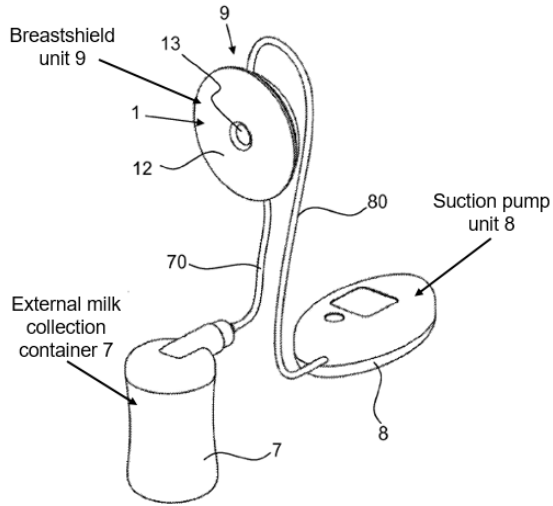


FIG. 1

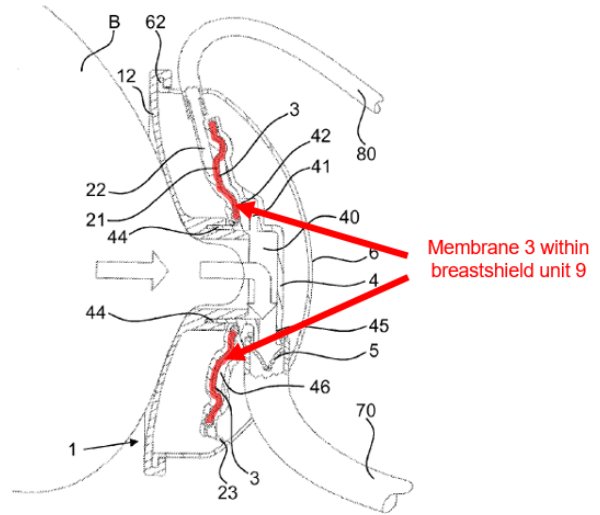


FIG. 5

EX1010, FIGs. 1, 5 (annotated).

In addition, the attaching of a milk container to a pump unit, as shown in Figure 6 of Weber, was already taught by Khalil. EX1010, FIGs. 9-11 (see below).

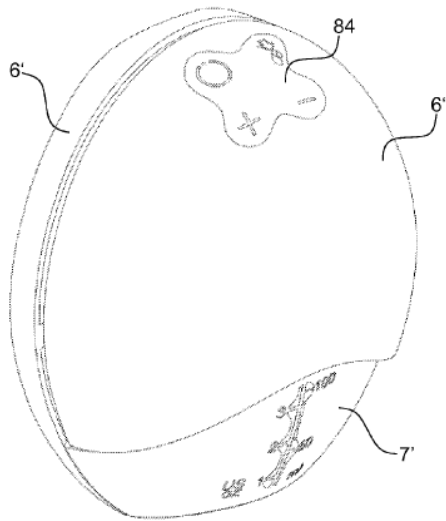


FIG. 9

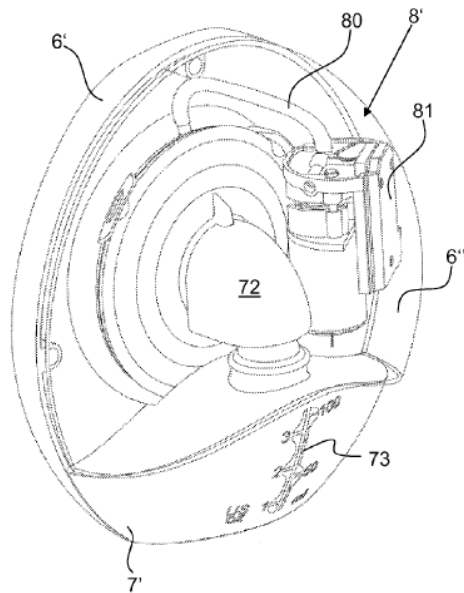


FIG. 10

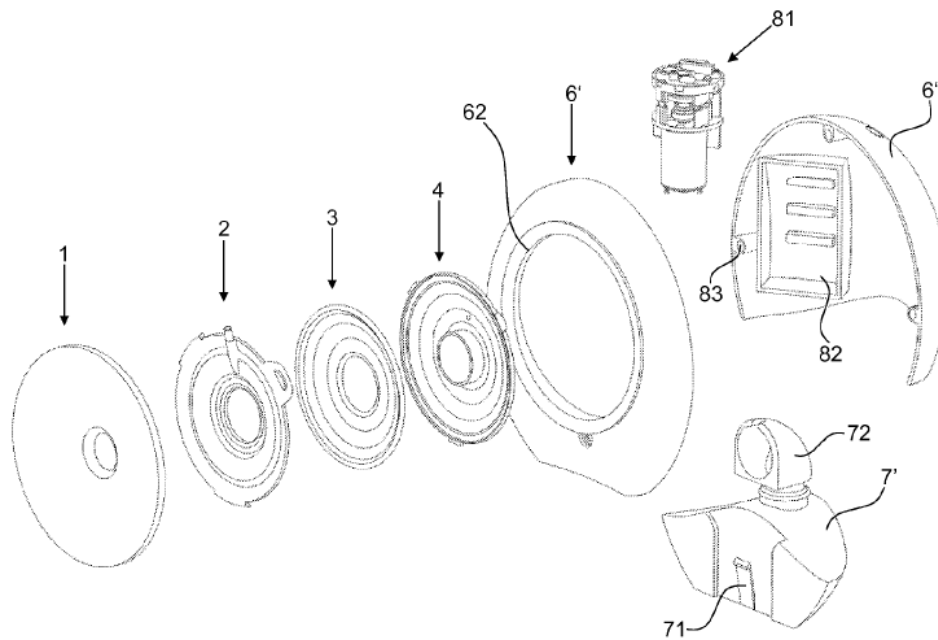


FIG. 11

EX1010, FIGs. 9-11.

Thus, all of the teachings of Weber were already considered by the Examiner through the teachings of Khalil. There are no teachings in Weber that are not also present in Khalil. EX1010, ¶[0019]; EX1008, ¶[0016].

The Board has repeatedly denied institution under 35 U.S.C. § 325(d) where a previously uncited piece of prior art merely teaches features already found in the prior art of record. For example, the Board has found that “the information disclosed in [a new reference] was already presented to the Office” in the disclosures of other cited art, and that two newly presented references “are no more relevant than, and cumulative to, references that were presented during prosecution.” *Gardner Denver, Inc. v. UTEX Industries, Inc.*, IPR2020-00333,

Paper 12 at 8-14 (PTAB Aug. 5, 2020). Similarly, in *Roku*, the Board found that a disclosure of “distinguish[ing] a mouse input signal from a gesture signal based on timing” was cumulative to a previously-considered reference’s disclosure of “distinguish[ing] a movement position signal from a menu selection signal” by maintaining contact “over a *predetermined time*.” *Roku*, Paper 11 at 16-17. In contrast, the Board declines to exercise discretion to deny institution under 35 U.S.C. § 325(d) only where the new prior art teaches a “different structure[] that serve[s] a different purpose[]” and “is thus solving a problem that is closer to that of the” patent being reviewed. *Oticon Medical AB v. Cochlear Limited*, IPR2019-00975, Paper 15 at 15 (PTAB Oct. 19, 2019).

Like *Gardner Denver* and *Roku*, Petitioner’s reliance on Weber is merely cumulative of the teachings of the more relevant Khalil. Each of the features allegedly taught by Weber (pump, recess or cavity, milk container, and diaphragm or membrane) is already taught by Khalil. And unlike *Oticon Medical*, Weber does not teach a different structure or solve a different problem than that of Khalil. In fact, Khalil explicitly described the Schlienger (and thus Weber) disclosure.

Accordingly, Weber is merely cumulative to the teachings of Khalil and does not provide a new structure or solve a new problem that is not addressed by Khalil.

4. Khalil was considered and relied upon by the Office during prosecution of the '380 patent.

Khalil was thoroughly considered by the Examiner during the prosecution of the '380 patent. In the only substantive rejections of the claims, the Examiner applied Khalil as the primary reference. EX1002, 481-97. While the Examiner rejected nearly all of the originally filed claims over Khalil in combination with various secondary references, the Examiner indicated that original claim 13 was distinguished over Khalil because Khalil does not teach “the diaphragm is a membrane that is seated against a diaphragm holder that is formed as the recess in the rear surface of the housing, the diaphragm deforming in response to changes in air pressure caused by the air pump to create negative air pressure in the nipple tunnel.” EX1002, 546. Claim 13 would be incorporated, in slightly different manners, into each of independent claim 1 and independent claim 29, and the Examiner allowed each of these claims for precisely these features. EX1002, 781, 1056. Thus, Khalil was previously presented to the Office, thoroughly considered and applied by the Examiner, and overcome.

5. The Petition’s proposed combination, based on the same or substantially the same art, provides nothing new for the Board to consider.

As explained above, the prior art set forth in the Petition relies on three references that were considered and either applied (in the case of Khalil) or

rejected (in the cases of Chang and Guthrie) by the Examiner. And Weber, the only purportedly new piece of prior art, is a less integrated teaching of the principles set forth in Khalil. The Petition’s proposed combinations—based on generic motivations and lacking detail as to the actual implementation of the resulting device—fails to articulate any new facts for the Board to consider.

Establishing obviousness requires not merely selecting a list of features from the prior art but establishing a specific motivation to “combine it in a way that would produce the invention at issue.” *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 381 F.3d 1371, 1378 (Fed. Cir. 2004). The Petition fails to provide a motivation to combine Chang, Weber, and Guthrie in a way that would produce the claimed configurations.

For example, the Petition asserts it would be obvious to modify Chang to use the diaphragm pump taught by Weber as “an example of a pump of known design that would work with Chang’s breast pump.” Pet., 23. However, the Petition fails to articulate *how* incorporating Weber’s diaphragm pump into a wearable device would arrive at the claimed configuration of the diaphragm or membrane that is *exterior to* the pump housing. EX1002, 781, 1056. And although the Petition details various reasons why Chang *could* be modified to use Weber’s diaphragm pump, the Petition fails to articulate a specific motivation for why Chang and

Weber *would* be combined in a way that meets the features of the claimed diaphragm or membrane.

The Petition takes the same approach with the other proposed modifications of Chang's device. For example, the Petition asserts it would be obvious to modify Chang to include each of the milk containers of Weber and Guthrie, but fails to articulate *how* a POSITA would be motivated to modify Chang to arrive at the claimed milk container. Pet., 25-26, 29. The Petition repeats this error with respect to its discussion of each of the claimed power charging circuit, rechargeable battery, and USB charging socket.

Given the Petition's reliance on the same or substantively the same prior art and generic motivations that fail to explain how a POSITA would combine the prior art to get to the claimed structure, the Petition does nothing more than improperly invite the Board to second-guess the Examiner's analysis. *Advanced Bionics*, Paper 6 at 9 (stating that such second-guessing fails to "reflect[] a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown"). As shown below, the Petition fails to show any material error on the part of the Office, meaning such second-guessing should be rejected. *Id.*

C. The Petition fails to establish material error under part two of *Advanced Bionics*.

The Petition fails to sufficiently identify any error material to the patentability of the challenged claims, instead acknowledging that Chang and Khalil have been applied by the Examiner and merely asserting that Patent Owner distinguished over Chang and Khalil “for reasons different from how those references are cited and applied herein to any claim limitations of the ’380 patent.” Pet., 90. The Petition does not provide facts or evidence beyond what the Examiner considered during prosecution. The Petition’s reliance on the same or substantially the same prior art without sufficient explanation of the Examiner’s material error does not warrant reconsideration.

To show material error, the Board generally looks to *Becton* factors (c), (e), and (f). This analysis “reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Advanced Bionics*, Paper 6 at 9. Those factors consider (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (e) whether Petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments. *Id.* at 9, n.10; *Becton*, Paper 8 at 17-18. Material error is

not found, for example, where “reasonable minds can disagree regarding the purported treatment of the art or arguments.” *Becton*, Paper 8 at 9.

The Petition has not identified material error. In fact, the Petition does not describe any error on the part of the Office whatsoever. And, so far as any material error is implicitly alleged, the Petition appears to allege the Examiner erred by failing to apply the combination of Chang, Weber, and Guthrie. But Weber does not add any new structure beyond what is found in Khalil, and Khalil *was* applied in the Examiner’s obviousness rejection. In addition, the Petition concedes that Chang and Khalil have both been applied in rejections by the Examiner in related applications. Pet., 90. And, while citing Khalil as evidence that diaphragm pumps such as Weber’s were well known in the art, EX1005, ¶30, the Petition does not explain why Weber’s diaphragm pump now “presents new evidence or facts that warrant reconsideration” of the ’380 patent. *Roku*, Paper 11 at 19. Moreover, as discussed above, the Petition’s generic motivations to combine, without articulating a specific motivation to combine Chang, Weber, and Guthrie in a way that “would produce the invention at issue,” does not provide new evidence or facts sufficient to warrant reconsideration of the prior art and second-guessing of the Examiner’s analysis. *Cardiac Pacemakers*, 381 F.3d at 1378.

VI. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER 35 U.S.C. § 314(a).

A. The Board should deny institution under 35 U.S.C. § 314(a) based on the *Fintiv* factors.

Institution of *inter partes* review may be denied where facts and circumstances show institution “would be an inefficient use of Board resources.” *NHK Spring Co., Ltd. v. Intrix-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018); 35 U.S.C. § 314(a).

In considering whether to deny institution under 35 U.S.C. § 314(a), the Board evaluates six factors that seek to “balance considerations such as system efficiency, fairness, and patent quality.” *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5-6 (PTAB Mar. 20, 2020) (the “*Fintiv* factors”). The Petition fails to address the *Fintiv* factors and instead merely concludes that “*Fintiv* will not apply here.” Pet., 89.

B. Fully considering the *Fintiv* factors shows the board should exercise discretion under 35 U.S.C. §314(a) to deny institution.

The Board should exercise its discretion under 35 U.S.C. § 314(a) to deny institution of the Petition. Institution of *inter partes* review may be denied where facts and circumstances show institution “would be an inefficient use of Board resources.” *NHK Spring*, Paper 8 at 20. In determining whether to exercise its

discretion to deny institution of a petition in light of parallel district court

litigation, the Board applies the following factors set out in *Apple*:

- 1) whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
- 2) proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
- 3) investment in the parallel proceeding by the court and the parties;
- 4) overlap between issues raised in the petition and in the parallel proceeding;
- 5) whether the petitioner and the defendant in the parallel proceeding are the same party; and
- 6) other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv, Paper 11 at 6. "These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding." *Id.* In evaluating these factors, the Board also may consider "events in other proceedings related to the same patent, either at the Office, in district courts, or the ITC," including the status and investment in other concurrent litigations. TPG, 58.

The Board should exercise its discretion under § 314(a) and *Fintiv* to deny institution of the Petition. As noted above in Section II.A.3, the '380 patent is involved in two concurrent, on-going lawsuits. The *Shenzhen Root* case has been in

progress since Petitioner's complaint was filed on April 28, 2023. EX1016, 18 (Docket No. 1). On August 14, 2023, Patent Owner served its Answer to the Petitioner's Complaint, including allegations that Petition has infringed and continues to infringe one or more claims of the '380 patent. EX2003, ¶154. Petitioner delayed filing this Petition until May 31, 2024. In addition, the *Willow* case has been in progress since Petitioner's complaint was filed on May 24, 2023. Unlike the *Shenzhen Root* case, the *Willow* case has moved at an expedited pace, with claim construction briefing already underway, a *Markman* hearing scheduled for September 24, 2024, and jury selection scheduled to begin March 17, 2025. EX2006, 21, 25, 26 (Docket Nos. 38, 74-75, 77). As shown below, the *Fintiv* factors collectively weigh in favor of the Board exercising its discretion to deny institution of the Petition under 35 U.S.C. § 314(a).

1. Factor 1 favors denial because there is no evidence that a stay will be granted, or even requested, in the parallel district court litigation.

The first *Fintiv* factor asks “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv*, Paper 11 at 6. *Fintiv* also articulated this factor as evaluating “whether a stay exists or is likely to be granted if a proceeding is instituted.” *Id.* In both articulations, the latter half of this factor requires a panel to review any proffered evidence, particularly case-specific evidence, and predict whether a stay *is likely* to be granted if a proceeding

is instituted. The stay factor does not require a panel to engage in speculation, but rather in an evidence-based assessment of the facts for a given case.

Regarding the parallel *Shenzhen Root* case, the case has not been stayed, and the Petitioner presents no evidence that any stay may be granted by the Court or even sought by the Petitioner. As of the filing of this Preliminary Response, Petitioner has not requested a stay in that litigation. Nor has Petitioner represented in any way that it intends to request a stay. In fact, the Petition merely states that “Petitioner plans to file a motion to amend the schedule” with the district court. Pet., 89.

On June 28, 2024, Judge Evanson in the *Shenzhen Root* case issued an Order continuing the current deadlines and striking the trial date in the district court case. EX2002, 5:5-6. However, the postponing of filing dates by the district court does not indicate the district court is willing to stay this case. In fact, Judge Evanson points to the Petitioner’s alleged “willingness to move the case forward efficiently” as justification for postponing the filing dates. *Id.* at 3:24-4:3, 4:20-22. Thus, if anything, Judge Evanson’s June 28 Order indicates a desire to have the case proceed “efficiently.” Therefore, a stay is unlikely to be granted even if requested by Petitioner.

Similarly, no stay has been requested, nor is there any evidence that a stay would be requested, in the parallel *Willow* case.

Because a stay has neither been requested nor granted in either of the parallel district court cases and the evidence indicates that a stay is unlikely, *Fintiv* factor 1 weighs in favor of denial.

2. Factor 2 favors denial because the '380 patent will be adjudicated in district court before a final written decision in this IPR.

Under factor 2, where “the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor” of denying institution. *Fintiv*, Paper 11 at 9. In contrast, where the trial date is “significantly after the projected statutory deadline,” this factor is at best neutral. *Id.*

In the parallel *Shenzhen Root* case, the district court’s modified trial schedule does not provide a trial date for this case. Thus, as of now, this factor is neutral concerning the *Shenzhen Root* case. However, based on the court’s modification of the other scheduled dates by 2-3 months, it appears likely the trial date may be set for December 2025. Such a trial date would occur around the same time as the statutory deadline for a final written decision in this case, which would be December 20, 2025.

However, the validity of the '380 patent is also at issue in the concurrent *Willow* case. Unlike the *Shenzhen Root* case, where the trial schedule was recently struck, the *Willow* case is proceeding on schedule. In particular, jury selection is scheduled to begin on March 17, 2024. EX2006, 21-22 (Docket No. 38). Thus, trial

in the *Willow* case will conclude, and the validity of the '380 patent will be adjudicated, well before the statutory deadline for a final written decision in this IPR. Accordingly, the schedule in the *Willow* case weighs in favor of denial. *See TCO AS v. NCS Multistage Inc.*, PGR2020-00077, Paper 16 at 11-12 (PTAB Feb. 18, 2020) (determining that a co-pending litigation that will resolve the patentability of the patent at issue weighs in favor of denying institution).

For the above reasons, this factor favors denying institution of this IPR under § 325(d).

3. Factor 3 strongly favors denial due to investment by all parties in the co-pending litigation and Petitioner's continued delays in this Petition.

Factor 3 considers “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision.” *Fintiv*, Paper 11 at 9. Here, the Board also looks to the timing of the petition. *Fintiv*, Paper 11 at 11.

Petitioner was aware of Patent Owner's infringement contentions relating to the '380 patent at least by August 14, 2023. EX2003, ¶154. Despite this, and as discussed below in more detail with regard to Factor 6, Petitioner delayed more than nine months, until May 31, 2024, to file this Petition. Petitioner has provided no explanation for this delay.

The Board has instructed that it may be “reasonable for a petitioner to wait to file its petition until it learns which claims are being asserted against it in the parallel proceeding,” *Fintiv*, Paper 11 at 11. However, that is not the case here. If Petitioner wanted to wait until learning which claims in particular were being asserted, Petitioner was aware that Patent Owner’s infringement contentions were due, at the time of the filing of the Petition, on June 10, 2024. EX1016, 23, (Docket No. 62) (“Statement of asserted claims and preliminary infringement contentions due 6/10/2024”). Instead of waiting a *mere ten days* to receive Patent Owner’s updated infringement contentions, Petitioner proceeded to file this Petition challenging all claims of the ’380 patent. Thus, Petitioner, without any explanation, waited nine months to file the Petition, forcing both sides to invest significantly in the district court proceeding.

However, Petitioner’s delay was not ended merely by filing the Petition. On July 22, 2024, nearly two months after filing the Petition, Petitioner requested that the Board exercise “administrative dismissal” of the Petition so that Petitioner could file a new petition discussing. EX3001, 2. During a subsequent conference call with the Board, Petitioner’s Counsel repeatedly indicated that another petition (either a follow-on petition or a second petition) would be filed. EX1017, 7:9-15, 10:16-11:4, etc. Petitioner further acknowledged that “there is nothing substantive that happened at the district court” that would cause them to have different

arguments. *Id.*, 8:11-22. Instead, Petitioner essentially sought leave to update their arguments allegedly based on Patent Owner’s supplemental infringement contentions. *Id.*, 12:18-13:13. However, as stated above, at the time of the filing of the Petition, Petitioner was aware of and repeatedly ignored due dates to receive Patent Owner’s infringement contentions well before the Petitioner’s statutory deadline for filing a Petition on August 14, 2024. Recognizing this as a transparent attempt at “seek[ing] a do-over without articulating an adequate reason why one is appropriate or fair,” the Board denied the Petitioner’s request. Paper 8, 3.

For the above reasons alone, factor 3 strongly favors denial because, by the Board’s December 20, 2024 deadline for issuing an institution decision, the district court litigation will have been ongoing for over a year and a half. The Petitioner has, without explanation, delayed filing this Petition, in spite of being aware of upcoming deadlines that could simplify the grounds for the IPR. In addition, even after filing the Petition, Petitioner has continued to delay and waste Patent Owner’s and the Board’s resources with unjustified requests for an “extraordinary remedy.” EX1017, 13:19-21.

In addition, as discussed above, the validity of the ’380 patent will be adjudicated by a district court well before the statutory deadline for a final written decision in this IPR. The investment in the *Willow* case is undeniably considerable, as a *Markman* hearing is scheduled for September 24, 2024, and trial is scheduled

to begin early next year. EX2006, 21-22, 25-26 (Docket Nos. 38, 74-75, 77). Thus, this factor also weighs in favor of denying institution. *TCO*, Paper 16 at 11-13 (determining that Patent Owner’s investment in co-pending litigation over the same patent amounts to investment in the parallel proceeding).

4. Factor 5 strongly favors denial because the Petitioner is also the Plaintiff and Cross-claim Defendant in the *Shenzhen Root* district court litigation.

Factor 5 strongly favors denial because Petitioner in this IPR — Shenzhen Root Technology Co., Ltd. — is a party to the *Shenzhen Root* case. There is no dispute here and the Board’s binding authority holds that when the petitioner and the defendant in the parallel proceeding are the same party, *Fintiv* factor 5 weighs in favor of denying institution. *NHK Spring*, Paper 8 at 20; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (“Petitioner and Patent Owner acknowledge the parties are the same in the [IPR] and in the parallel proceeding. ... Thus, this factor supports denying institution.”); *Fintiv*, IPR2020-00019, Paper 15 at 15 (PTAB May 13, 2020) (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial”); *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 12-13 (PTAB June 16, 2020) (“Although it is far from an unusual circumstance that a petitioner in

[IPR] and a defendant in a parallel district court proceeding are the same ... this factor weighs in favor of discretionary denial”).

5. Factor 6 very strongly favors denial due to other considerations, including the filing of a parallel petition by the Petitioner.

Factor 6 is a catchall, considering “other circumstances that impact the Board’s exercise of discretion, including the merits” and “factors unrelated to parallel proceedings that bear on discretion to deny institution includ[ing] the filing of serial petitions, parallel petitions challenging the same patent.” *Fintiv*, Paper 11 at 14, 16. Director Vidal’s *Interim Guidance for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation*, dated June 21, 2022 (hereinafter, “Director’s Guidance”), discusses some of these considerations, such as the inclusion of a *Sotera* stipulation not to pursue the challenged grounds in the district court litigation. Directors Guidance, 7-8. As explained below, factor 6 very strongly favors denial.

At the outset, Director Vidal’s binding Guidance provides all Petitioner’s with the opportunity to quash discretionary denial under § 314(a). Specifically, Director Vidal has instructed that “[w]hen a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition,” a so-called *Sotera* stipulation, the Board “will not discretionarily deny institution of an IPR or PGR in

view of parallel district court litigation.” Director’s Guidance, 7. Petitioner has not provided, or indicated a willingness to provide, a *Sotera* stipulation or to agree to any other stipulation regarding the grounds raised in the Petition.

In many cases, a lack of stipulation may not necessarily weigh against a Petitioner. However, where a petitioner’s actions indicate a clear intent to continue litigating the same patent in multiple parallel proceedings, this should weigh in favor of denying institution. *Fintiv* acknowledges as much, instructing that the weighing of factor 6 includes other considerations, such as “the filing of ... parallel petitions challenging the same patent.” *Fintiv*, Paper 11 at 16. In this regard, the Board’s own Consolidated Trial Practice Guide instructs away from the practice of filing parallel petitions, explaining that “one petition should be sufficient to challenge the claims of a patent in most situations.” TPG, 59. This is because parallel petitions “place a substantial and unnecessary burden on the Board and the patent owner” and “are not necessary in the vast majority of cases.” *Id.* Flouting this clear guidance, the Petitioner filed a second petition, again challenging the ’380 patent, evidencing a *clear intent* to challenge the ’380 patent over and over again. *See generally* EX2004 (a follow-on petition by same Petitioner again challenging all claims of the ’380 patent over Chang in combination with Khalil and other secondary references).

Petitioner also repeatedly misrepresented the contents of this follow-on petition, initially merely representing that the follow-on petition would “discuss the District Court’s June 28 order.” EX3001, 2. During a subsequent conference call with the Board, however, Petitioner began indicating that there would be substantive changes to the grounds, despite the fact that “nothing substantive that happened at the district court” should lead to such changes. EX1017, 6:13-20, 8:11-10:5. Now, the filing of the petition in IPR2024-01296 makes it clear that Petitioner in fact planned to change the entire basis for challenging the ’380 patent, replacing the combination of Chang, Weber, and Guthrie with two new combinations based on Chang, Fang, Yuen, and Khalil. EX2004, 12, 56. No mention of these new references or the desire to provide new substantive grounds is provided in any of the Petitioner’s earlier communications with the Board and the Patent Owner, despite Petitioner being aware of Fang prior to and during the conference call with the Board, which occurred only a week before the filing of the follow-on petition. EX2005, 4 (explaining that Petitioner was aware of Fang for “at least a few weeks” before the filing of IPR2024-01296).

Moreover, Petitioner attempts to justify the filing of the later parallel petition by asserting that Fang was “only recently uncovered” during “work on the invalidity contentions” and thus Petitioner purportedly “rapidly filed” the parallel petition. EX2005, 4. Petitioner asserts that such a filing, without receiving Patent

Owner's Preliminary Response to the Petition in the present proceeding therefore "dispel[s] any 'roadmap' concerns." *Id.*

However, "roadmapping" is not one of the concerns listed by the Board in considering *parallel* petitions. TPG, 59. Similarly, the "recent uncovering" of new art is also conspicuously absent from the Board's concerns regarding parallel petitions. *Id.* Instead, in the case of parallel petitions, the Board considers the "substantial and unnecessary burden on the Board and the patent owner" as well as "fairness, timing, and efficiency concerns." *Id.* In this case, the presence of parallel petitions places an unnecessary burden on the Board and the Patent Owner and strongly implicates fairness and efficiency concerns. As explained above, Petitioner repeatedly misrepresented the substance of the planned follow-on petition. And even more problematically, Petitioner's parallel petitions rely on the same primary reference and make substantially the same arguments about modifying Chang to include a diaphragm, pressing the Board to waste precious resources rehashing substantially the same art and arguments multiple times.

And while the Board acknowledges limited circumstances where parallel petitions may be necessary "including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art references," none of these circumstances are present in this case. TPG, 59.

For example, the Board has instructed that “two petitions” may be necessary to address a large volume of asserted claims, including “many asserted independent claims” that are “long and complex, and have material differences.” *Peloton Interactive, Inc. v. NEC Corp.*, IPR2023-01241, Paper 17 at 16-17 (PTAB Feb. 7, 2024). The Petitioner here pleads similar grounds, asserting that “multiple petitions are reasonable in view of the volume of claims.” EX2005, 3-4. Despite this assertion, *each petition* in this case and in IPR2024-01296 finds the space to challenge *every claim* of the 46 claims in the ’380 patent. The Petition in the present IPR merely points to the discussion of the elements of claim 1 in discussing the elements of claim 29, and grouping together similar dependent claims together for discussion. Pet., 47-49 (disposing of independent claim 29 in less than two pages, including lengthy headers), 49-89 (grouping together claim 2 with claim 30, claim 3 with claim 31, claim 4 with claim 32, claim 6 with claim 33, claim 8 with claim 35, claim 10 with claim 36, claim 11 with claim 37, claim 12 with claim 38, claim 13 with claim 39, claim 14 with claim 40, claim 23 with claim 41, claim 24 with claim 42, claim 24 with claim 43, claim 26 with claim 44, claim 27 with claim 45, and claim 28 with claim 46). Likewise, the petition in IPR2024-01296 finds the space to again challenge every claim, many on at least two different grounds (Chang-Fang-Yuen and Chang-Fang-Yuen-Khalil). EX2004, i-ii.

Accordingly, the “volume of claims” clearly does not require the Petitioner in these cases to file multiple petitions.

Petitioner’s only other proffered justification for filing the second petition, that many of the claims “were newly asserted on August 1, 2024—well after the first petition,” also fails. EX2005, 4. In particular, as noted above, Petitioner was well aware that Patent Owner’s infringement contentions were due before the statutory bar for filing an IPR. At the time of filing of the first petition on May 31, 2024, Petitioner was aware that Patent Owner’s preliminary infringement contentions were due on June 10, 2024, less than two weeks later. EX1016, 23 (Docket No. 62, setting a due date for preliminary infringement contentions on 6/10/2024). Rather than waiting a mere two weeks for these infringement contentions for insight as to which products were infringing the ’380 patent and which art might be most applicable to Patent Owner’s understanding of the claims, Petitioner proceeded with filing the Petition in the present IPR. After the filing of the first petition, at Petitioner’s own request, the district court struck the schedule, extending the due date for preliminary infringement contentions to August 1, 2024. EX2002, 3:5-7, 5:5-6. And although supplemental infringement contentions were filed to address newly launched infringing products from Shenzhen Root, it is worth noting that even the later due date for these supplemental infringement contentions were before Petitioner’s statutory deadline for filing an IPR. However,

Petitioner made the deliberate choice to challenge all claims of the '380 patent in the present IPR, forgoing whatever insight may be gained from receiving Patent Owner's infringement contentions. And Petitioner's second petition, which again challenges all claims of the '380 patent despite the fact that not all claims of the '380 patent have been asserted, "seeks a do-over without articulating an adequate reason why one is appropriate or fair to Patent Owner." IPR2024-00953, Paper 8 at 3.

In view of the above, factor 6 should weigh *very strongly* in favor of denying institution of this Petition. After all, Petitioner themselves have indicated a preference to challenge the '380 patent in a different proceeding. EX1017, 7:16-8:6; EX2005, 2-3.

6. Factor 4 is neutral.

Regarding factor 4, only "if the petition includes materially different grounds, arguments, and/or evidence than those presented in the district court case" does this factor weigh in favor of instituting a petition. *Fintiv*, Paper 11 at 12-13. In this case, the grounds that will be presented by the Petitioner in the district court case are unknown. Nonetheless, Petitioner's failure to submit a *Sotera* or other stipulation and the filing of parallel petitions evince an intent to litigate the same patent multiple times over. Thus, this factor is at best neutral.

In view of the above, the Board should deny institution under 35 U.S.C. § 314(a). The *Fintiv* factors strongly favor exercising discretion in view of the parallel district court case and concurrent co-pending litigation. The Petitioner's delay tactics, gamesmanship, and desire to litigate the same or similar grounds in multiple proceedings should not be rewarded here by granting institution of this Petition.

VII. CONCLUSION

The Petition should be discretionarily denied under 35 U.S.C. § 325(d) under *Advanced Bionics* and under 35 U.S.C. § 314(a) under *Fintiv*. For either of these reasons alone, but even more so in combination, the Petition should be denied in its entirety.

Respectfully submitted,
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CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Patent Owner Preliminary Response complies with the type-volume limitation of 14,000 words, comprising 12,345 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Patent Owner Preliminary Response complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman font.

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

The undersigned hereby certifies that the foregoing **PATENT OWNER**
CHIARO TECHNOLOGIES' PRELIMINARY RESPONSE and EXHIBITS
2001-2006 were served in their entirety electronically via e-mail on September
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