

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 IPR2024-01296
U.S. Patent No. 11,413,380

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

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PATENT OWNER’S EXHIBIT LIST

Exhibit	Description
2001	Momcozy’s Invalidity Contentions, <i>Shenzhen Root Technology Co., Ltd., v. Chiaro Technology Ltd.</i> , Case No. 2:2023-cv-00631-KKE (W.D. Wash.), filed September 5, 2024
2002	<i>Shenzhen Root Tech. Co. v. Chiaro Tech., Ltd.</i> , IPR2024-00953, Paper 2 (PTAB 2024) – Petition for <i>inter partes</i> review
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	<i>Shenzhen Root Tech. Co. v. Chiaro Tech., Ltd.</i> , IPR2024-00953, Paper 8 (PTAB 2024) – Order Denying Petitioner’s Opposed Request for Administrative Dismissal of the Petition
2005	<i>Shenzhen Root Tech. Co. v. Chiaro Tech., Ltd.</i> , IPR2024-00953, EX1017 (PTAB 2024) – Transcript of Proceedings held telephonically on Tuesday, August 6, 2024
2006	Docket for <i>Willow Innovations, Inc. v. Chiaro Technology, Ltd.</i> , Case #: 2-23-cv-00229-JRG (E.D. Texas), as of November 11, 2024
2007	<i>Shenzhen Root Tech. Co. v. Chiaro Tech., Ltd.</i> , IPR2024-00953, EX3001 (PTAB 2024) – Email Correspondence of July 22, 2024
2008	U.S. Patent App. Pub. No. 2004/0087898 to Gotthilf Weniger (“Weniger”)
2009	U.S. Patent No. 8,187,227 to Luzbetak et al. (“Luzbetak”)
2010	U.S. Patent No. 7,641,629 to Yat Keung William Yuen (“Yuen ’629”)

I. INTRODUCTION

Petitioner Shenzhen Root Technology Co., Ltd. (“Petitioner”) was cautioned by a Board panel in earlier IPR2024-00953 that a future panel weighing the merits of any *second* petition against the *same* patent may well decide that the second petition was “a follow-on petition ... and that there was no good reason for [Petitioner] to file a second petition.” EX2005, 28:6-12. The first panel’s concern stemmed from its determination—based on Petitioner’s conduct and the facts in front of it at that time—that “in practical effect, Petitioner seeks a do-over without articulating an adequate reason why one is appropriate or fair to Patent Owner.” EX2004, 3.

Nevertheless, Petitioner moved forward with a second petition filing in an attempt to “hit the reset button” on the first petition in IPR2024-00953 (“the first petition”), EX2005, 7:2-8. Not only does the second petition confirm that it is an attempted “do-over” by new counsel for Petitioner, but it fails to establish a reasonable likelihood of success on the merits.

The Board should deny this Petition because of that failure to establish a reasonable likelihood that it would succeed with respect to at least one challenged claim. Specifically, Petitioner failed to establish a motivation to combine the cited art and failed to establish that a person of ordinary skill in the art (“POSITA”) would have had a reasonable expectation of success in combining the cited art.

Alternatively, or in addition, the Board should exercise its discretion to deny this Petition because it, like the first petition, second-guesses the Examiner's allowance of U.S. Patent No. 11,413,380 ("the '380 patent") by relying on prior art that is the same or substantially the same as the art that was considered by the Examiner.

Further, the *Fintiv* factors weigh in favor of the Board exercising its discretion to deny institution of this Petition, in particular because this is a parallel petition filed without adequate cause, evincing Petitioner's willingness to litigate the validity of this patent in multiple parallel proceedings.

This Petition fails to satisfy Petitioner's burden of showing a reasonable likelihood of success with respect to at least one claim. The Petition's proposed motivations to combine Chang with Fang overlook that the proposed combination would require changing the principle of operation of Chang. The Petition also fails to establish that a POSITA would have had a reasonable expectation that Chang and Fang, which are directed to substantially different types of breast pump systems, would successfully be combined as proposed.

In addition, 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 to challenge independent claims 1 and 29: Chang, Fang, Yuen, and Khalil. Chang and

Khalil were already before the Office during prosecution. Specifically, Khalil was applied by the Examiner and overcome during prosecution of the '380 patent.

Chang was considered by the Examiner via an IDS filed by the Applicant prior to the examination of the '380 patent and cited by the same Examiner when rejecting claims in the parent application to the '380 patent. And Fang and Yuen are cumulative to the prior art that was considered by the Examiner. In particular, the Examiner considered, but ultimately rejected, several pieces of prior art that disclose essentially the same diaphragm as disclosed by Fang. Additionally, the Examiner cited prior art teaching the same features that the Petition relies on in Yuen (power charging circuit and battery). Thus, the same or substantially the same prior art was presented to 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.

The *Fintiv* factors also 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. Petitioner has not provided any assurances that instituting this Petition would avoid relitigating the same issues in the district court, e.g., by providing a *Sotera* stipulation. Petitioner has not requested a stay or indicated such a request is forthcoming, or provided any evidence that such a stay, if requested, would be granted. The only available 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 a separate, concurrent litigation that will finish long before the statutory deadline for a final written decision in this IPR.

Further supporting discretionary denial, this Petition is a parallel petition that, without cause, redundantly challenges all the claims of the '380 patent over essentially the same grounds as the first petition. Petitioner's grounds in this second Petition do not merit the filing of a later filed parallel petition. Instead, Petitioner requests that the Board endorse Petitioner's new counsel's revised litigation strategy by instituting this Petition, filed months after the first petition, simply based on Petitioner's preference. The Board should not expend its limited resources rewarding Petitioner's vexatious conduct.

This Petition should be denied for any one of the reasons discussed above and further explained below. However, here, the individual reasons complement and reinforce each other. For example, Petitioner's failure to establish that the combination of Chang and Fang would have been obvious leaves nothing for the Board to consider under § 325(d). Likewise, Petitioner challenging the validity of the '380 patent in the first filed IPR, combined with Petitioner's failure to provide a *Sotera* stipulation, evinces Petitioner's willingness to re-litigate the same grounds. This reinforces that the Board should deny this Petition under *Fintiv*. And

Petitioner's failure to show that the combination of Chang and Fang would have been obvious and that a POSITA would have had a reasonable expectation of success in combining Chang and Fang means this Petition fails to present any compelling merits under *Fintiv* factor 6. Thus, the Board should deny institution of this Petition.

II. OVERVIEW OF THE TECHNOLOGY

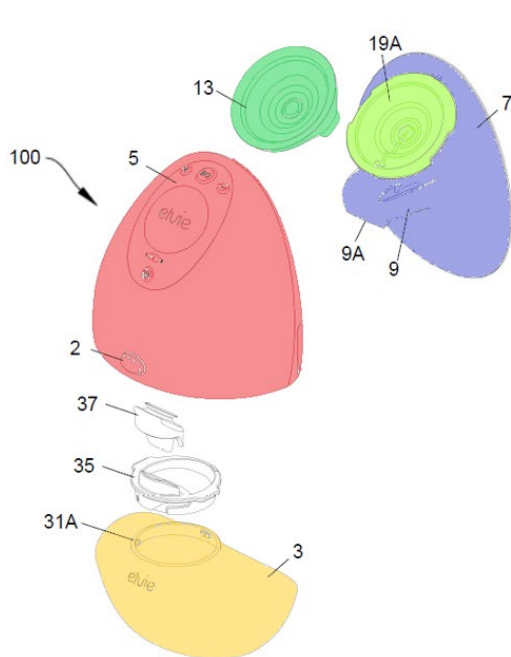
A. The '380 Patent

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.

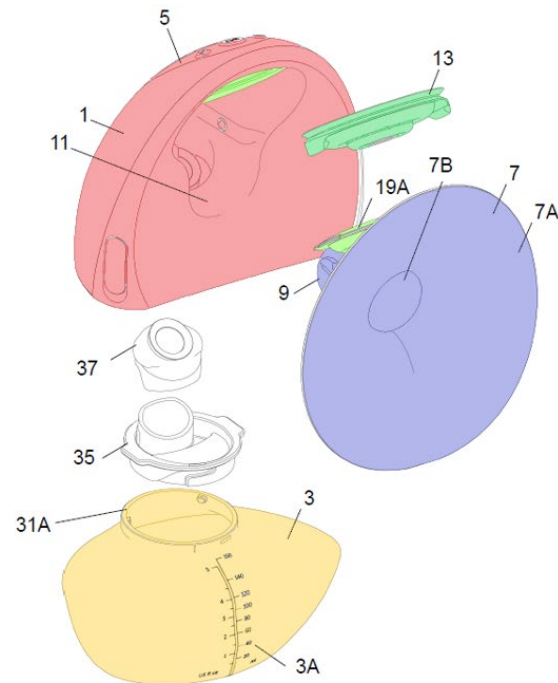
1. Description of the '380 Patent

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 and provides an "improved integrated breast pump system[]" and "a better system to accommodate integrated wearable breast pumps." EX1001, 2:18-23, 2:26-36, 2:55-57, 3:51-53.

As shown in the annotated Figures 5 and 6 below, the improved breast pump system in the '380 patent includes a housing (shown in red), a breast shield (blue), and a milk collection container 3 (yellow), where the housing and breast shield are coupled together via “a separate, deformable diaphragm” (green). EX1001, 3:57-62, 5:58-59, 6:61-64, 7:8-13, 13:42-44, 14:9-11. 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.*, 9:27-42.



EX1001, FIG. 5 (annotated).



EX1001, FIG. 6 (annotated).

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” (shown as light green in annotated Figures 5 and 6). *Id.*, 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.*, 5:50-55.

With such a configuration, the “housing does not need to be cleaned.” EX1001, 6:9-13. In addition, 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. *Id.*, 6:38-44, 11:27-32.

The above, improved configuration of a membrane or diaphragm provided *exterior to* the housing of the pump is captured in independent claims 1 and 29. Claim 1 recites, *inter alia*, “a recess or cavity that defines a pumping chamber” 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 similarly recites “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.” *Id.*, 73:7-31 (Claim 29).

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, 1103-06. 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, 542-615, *esp.* 550-55. 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.*, 550. The Examiner relied on Makower and Yodfat for these elements. *Id.*, 550-52. Except for claims 8 and 13, the remaining dependent claims were rejected over the combination of Khalil, Makower, and Yodfat further in view of additional references. *Id.*, 556-65. The Examiner also applied nonstatutory double patenting rejections. *Id.*, 565-613.

The Examiner found that original claim 13 contained allowable subject matter. EX1002, 614. Notably, allowable 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.*, 1104.

After a response amending independent claims 1 and 47 to incorporate features from allowable claim 13, the Examiner, in a subsequent Final Office Action, allowed claim 47 (which issued as claim 29 of the '380 patent). EX1002, 304-05, 520-25. While Khalil teaches a vacuum pump and a membrane “which forms an air pumping chamber with diaphragm housing members,” the Examiner allowed claim 47 because, “these housing members are not shown to be a part of an *external surface* of the pump housing.” *Id.* (emphasis added).

Claim 1 was eventually allowed after amendment because “Khalil fails to teach ... *a diaphragm housing fixed to a recessed surface of the pump housing*,” as claimed. EX1002, 1055-56 (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”), involving Petitioner, and *Willow Innovations, Inc. v.*

Chiaro Tech., Ltd., 2-23-cv-00229 (E.D. Tex.) (hereinafter, “the *Willow* case”).

Although deadlines in the *Shenzhen Root* case were extended by approximately 2-3 months and the trial date was struck, EX1026, 5:5-6 (citing EX1016, 35-36 (Docket No. 119)), the *Willow* case is proceeding as scheduled. In *Willow*, a *Markman* hearing was held on September 24, 2024, and trial is scheduled for March 2025. EX2006, 0023 (Docket No. 38), 0027-28 (Docket Nos. 74-75), 0030 (Docket. Nos. 0095-99). Thus, validity of the ’380 patent will be adjudicated *well before* the statutory deadline for a final written decision in this second IPR.

B. The Cited Prior Art

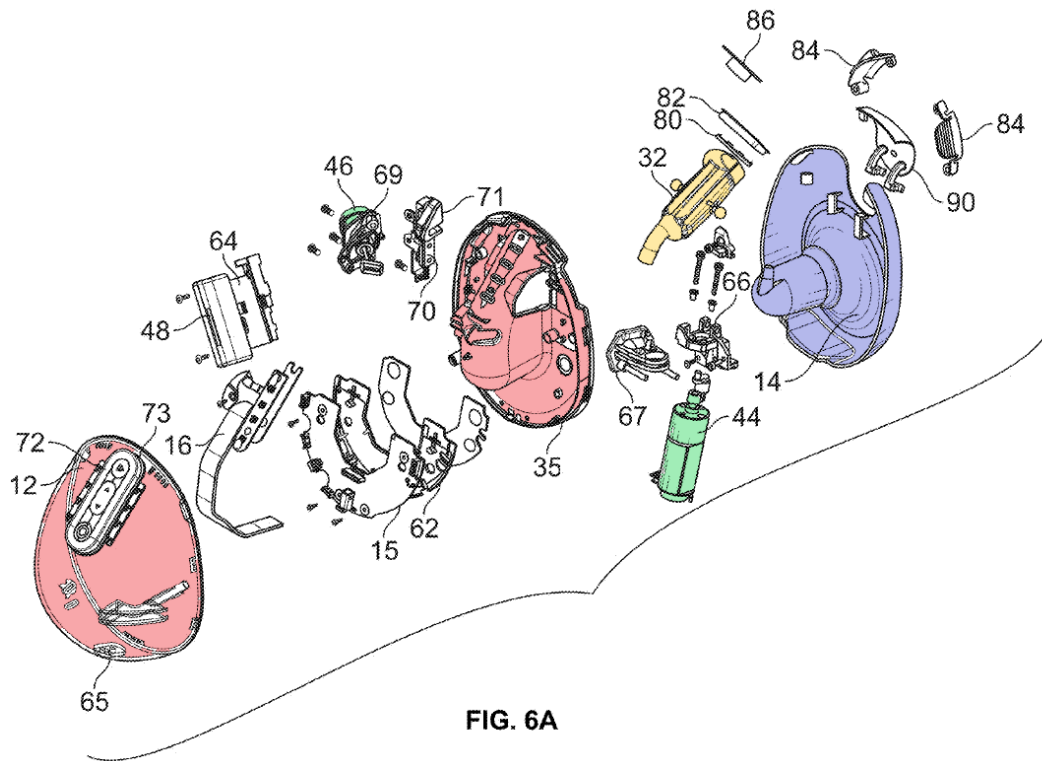
The second Petition asserts four grounds:

Grounds	Claims	Cited Art
1A	1-8, 11, 13-23, 25, 29-35, 37, 39-41, 43	Chang-Fang-Yuen
1B	1-11, 13-23, 25-37, 39-41, 43-46	Chang-Fang-Yuen-Khalil
1C	12, 24, 38, 42	Chang-Fang-Yuen-Khalil-Park
1D	20	Chang-Fang-Yuen-Khalil-Chen

1. Chang

Chang is directed to “portable breast pump systems.” EX1007, ¶[0001]. To achieve this portability, Chang’s compact, integrated 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.*, ¶[0071].

As shown in annotated Figure 6A of Chang below, between housing 12 (shown in red) and flange 14 (shown in blue), a pump chassis 35 (also shown in red) “snap[s] into engagement with the housing 12” and “supports directly or indirectly all of the pump components.” EX1007, ¶[0080]. Flex-tube 32 and collection and container assembly 60 are provided between chassis 35 and flange 14. *Id.*, ¶[0105], FIG. 6A. Flex-tube 32 includes “a large conduit portion 32L” positioned above a “small conduit portion 32S.” *Id.*, ¶[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.*, ¶[0073].



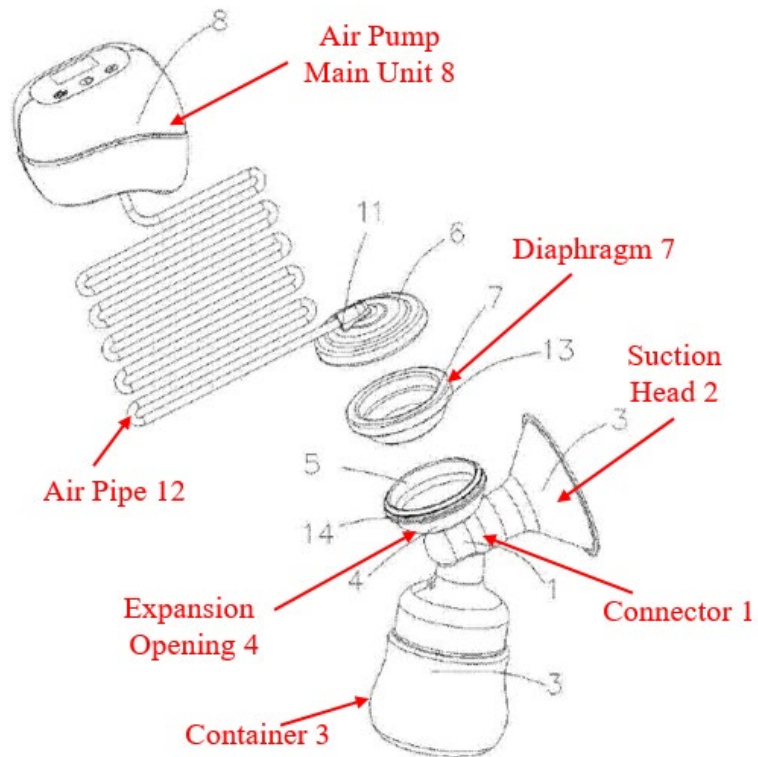
EX1007 (Chang), FIG. 6A (annotated).

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.*, ¶[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.*, ¶[0092]. As milk flows into flex-tube 32, Chang’s system responds by increasing the volume of the flex-tube to maintain a vacuum in a pressure band that simulates latching. *Id.*, ¶¶[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.*, FIG. 7A, ¶¶[0084]-[0086].

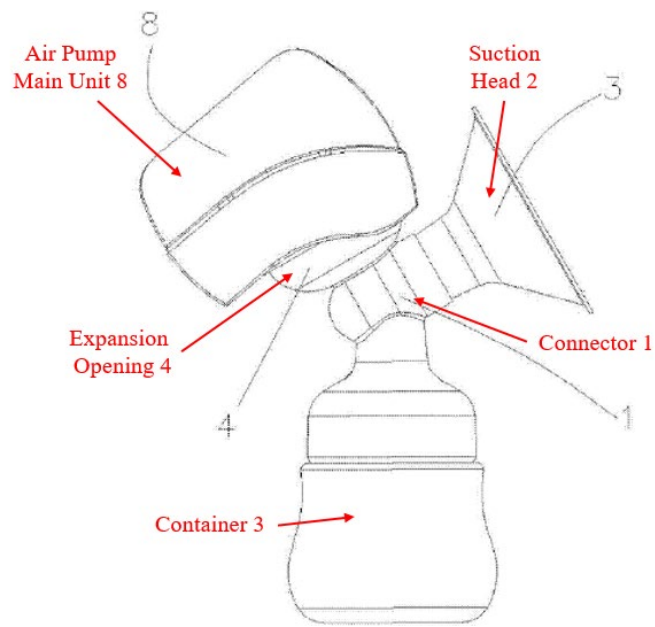
2. Fang

Fang is directed to an “Electric Breast Pump Convenient for both Separate and Combined Configurations.” EX1009, Title. Unlike Chang’s compact in-bra device, Fang is directed to breast pump systems wherein suction is provided from a separate, external main air pump unit 800. In such systems, “[t]here are usually two ways to connect” the air pump main unit to a three-way connector: “us[ing] an air pipe to connect to the three-way connector” or “fix[ing] the air pump main unit directly onto the three-way connector.” *Id.*, ¶[0002]. Fang “provides an electric breast pump convenient for both separate and combined configurations.” *Id.*, ¶[0003].

In Fang’s solution, one end of a three-way connector is connected to an expansion opening having an annular edge. *Id.*, ¶[0004]. Diaphragm 7 is provided in expansion opening 4. *Id.* An “air pump main unit is provided with a circular protruding edge that matches the annular edge.” *Id.* By this configuration, air pump main unit 8 can be connected either directly to expansion opening 4 (see Figure 6 below) or via detachable air pipe 12 (see Figure 5 below). *Id.*, ¶[0024].



EX1009 (Fang), FIG. 5 (annotated).

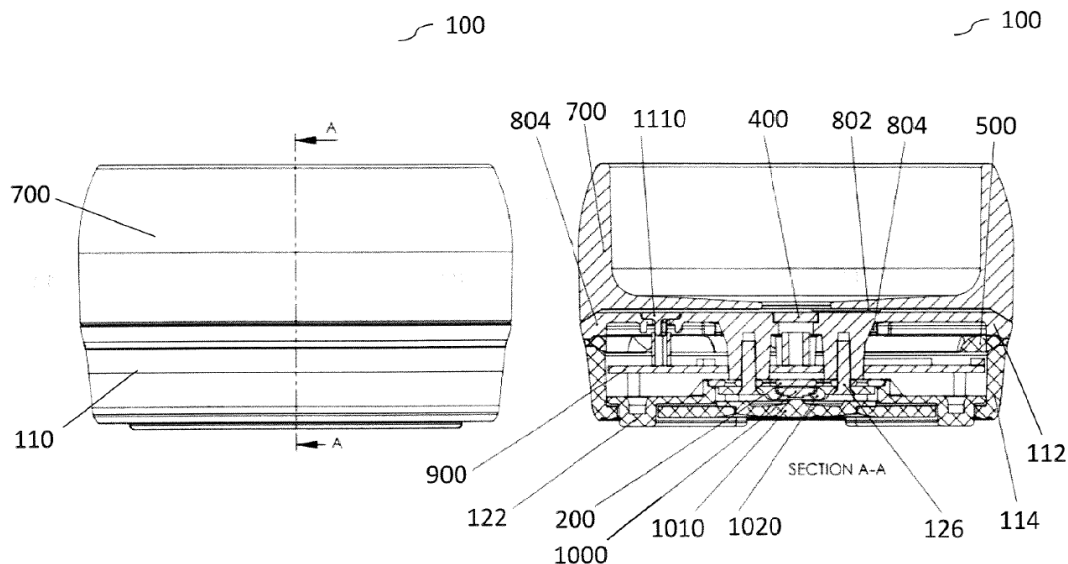


EX1009 (Fang), FIG. 6 (annotated).

3. Yuen

Yuen is directed to “an apparatus for receiving a container having a weighing unit arranged to measure the mass of the container provided thereon.” EX1011, 3:5-8. By measuring the mass at different time intervals, Yuen’s apparatus is able “to provide information relating to the consumption of the content stored in the container.” *Id.*, 3:27-31.

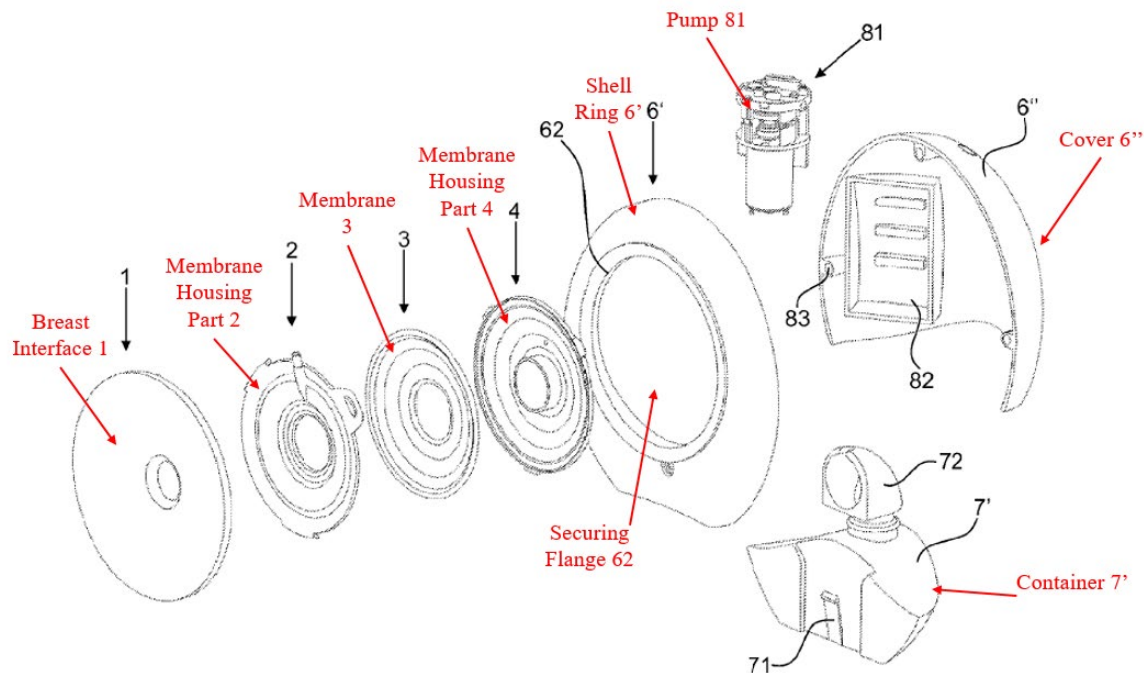
Figures 1A and 1B (below) show that Yuen’s apparatus 100 includes a holder 700 above a weighing device 110. EX1011, 7:22-26, 9:9-13. When the apparatus is placed on a hard surface with a container in holder 700, the processor records the mass of the container. *Id.*, 9:31-10:6. Yuen’s apparatus may include a rechargeable battery 1100 connected to a micro USB charging port 1110. *Id.*, 15:13-20.



EX1011 (Yuen), FIGs. 1A, 1B.

4. Khalil

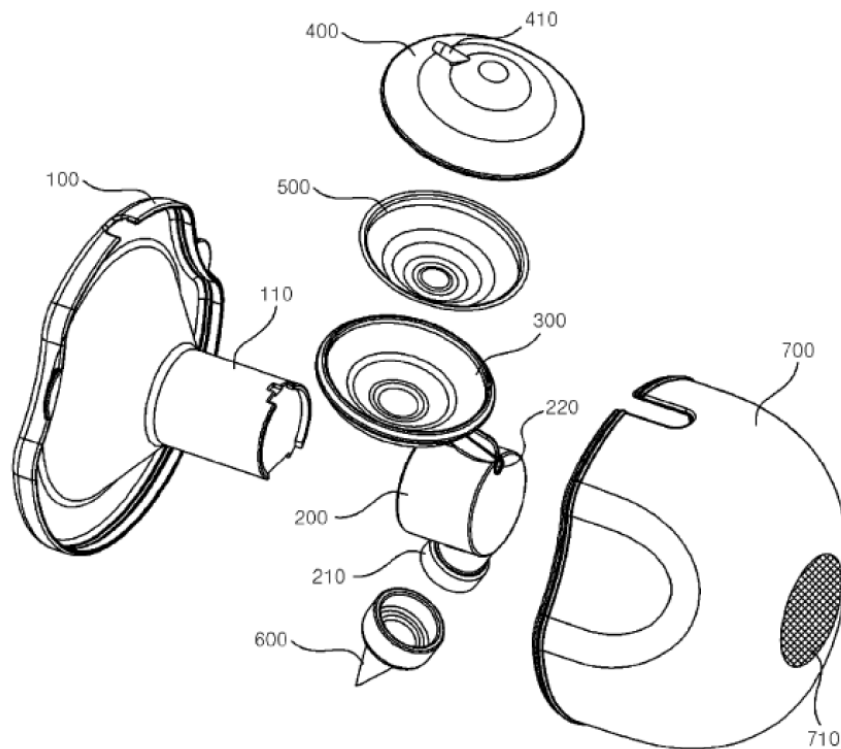
Khalil, which was previously considered during examination, describes a breast pump system having a breastshield unit 9 that includes an annular membrane 3 disposed between a breast interface 1 and a shell 6. EX1010, ¶¶[0053], [0064]. Annotated figure 11 of Khalil (below) shows an integrated breast pump system, similar in form factor to Chang's device, that includes a pump 81 provided inside a housing comprising a cover 6'' and a breast interface 1. *Id.*, ¶¶[0066]-[0069]. A membrane 3, held in place by shell ring 6' and membrane housing parts 2 and 4, is provided within this housing. *Id.* Milk collection container 7' is provided at the bottom of cover 6''. *Id.* However, Khalil fails to teach the recited configurations of claims 1 and 29. EX1002, 781, 1056.



EX1010 (Khalil), FIG. 11 (annotated).

5. Park

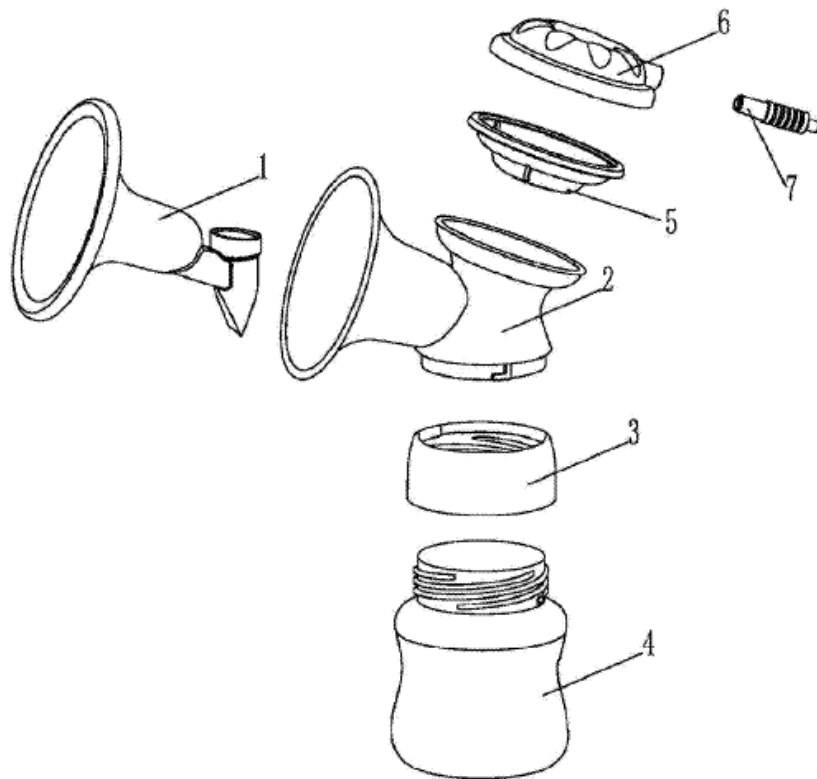
Park is directed towards “a breast pump configured to enable a lactating woman to freely use both hands during milking and to prevent breast milk from flowing backward.” EX1014, ¶[1]. Park’s “hands-free” breast pump is enclosed by “housing” 100 and storing housing 700. *Id.*, ¶[10]. Among other things, this enclosure contains a flow separation membrane 500, as well as a space for storing the collected breast milk. *Id.*, ¶[11]. Unlike the integrated devices of Chang and Khalil, but similar to Fang, suction is applied to Park’s housing via an air tube 420 that connects a separate electric pump 800 to air nozzle 410. *Id.*, ¶[54].



EX1014 (Park), FIG. 3.

6. Chen

Chen is directed to another breast pump system that, like Fang and Park, connects an external “host machine diaphragm pump” to air bag 5 within cover 6 via straight-through joint 7. EX1015, ¶[0029]. As the external diaphragm pump cycles, air bag 5 provides negative air pressure. *Id.* Chen’s tee joint component 1 includes an integrated milk outflow end and a V-shaped one way valve. *Id.*, ¶[0022]. In this way, “the tee joint component is provided with only one negative pressure input interface,” and “the whole tee joint component is made of flexible materials.” *Id.*



EX1015 (Chen), FIG. 3.

III. CLAIM CONSTRUCTION

For purposes of this Preliminary Response, no claim terms require construction to resolve the prior art grounds raised in the Petition. To the extent the Board determines any claim terms require specific construction, any 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., 2.

V. THE BOARD SHOULD DENY THIS PETITION BECAUSE IT FAILS TO ESTABLISH A REASONABLE LIKELIHOOD OF PREVAILING ON AT LEAST ONE OF THE CHALLENGED CLAIMS.

In an IPR, “the burden of proving a proposition of unpatentability” is borne by (and remains at all times with) the petitioner. 35 U.S.C. §§ 314(a), 316(e); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016). “An obviousness determination requires finding that a [POSITA] would have been motivated to combine or modify the teachings in the prior art and would have had a reasonable expectation of success in doing so.” *Regents of the Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016). “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements,” but “must instead articulate specific reasoning, based on

evidence of record, to support the legal conclusion of obviousness.” *Magnum Oil*, 829 F.3d at 1380.

“[O]bviousness can not be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). To this end, the Federal Circuit has repeatedly instructed that the “invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art at the time the invention was made.” *Semisonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996) (quoting *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985). Thus, the Board has held that “the use of hindsight become[s] apparent” when “[o]nly after review of the” patent at issue “does a reason to combine become clear.” *Dropworks, Inc. v. Bio-Rad Laboratories, Inc.*, IPR2021-00212, Paper 7, 14 (PTAB 2021).

This petition asserts four grounds of unpatentability against the Challenged Claims. Pet., 1. As explained below, Petitioner has not satisfied its burden with respect to any of its asserted grounds. Therefore, the Board should deny institution of this Petition.

In particular, independent claim 1 recites a breast pump device that includes “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.” Independent claim 29 similarly recites a breast pump device that includes “a membrane that is configured to define a pumping chamber at least in part with an external surface of the housing.” None of Petitioner’s asserted grounds establish that it would have been obvious to modify Chang in view of Fang to arrive at the claimed configuration of a diaphragm or membrane.

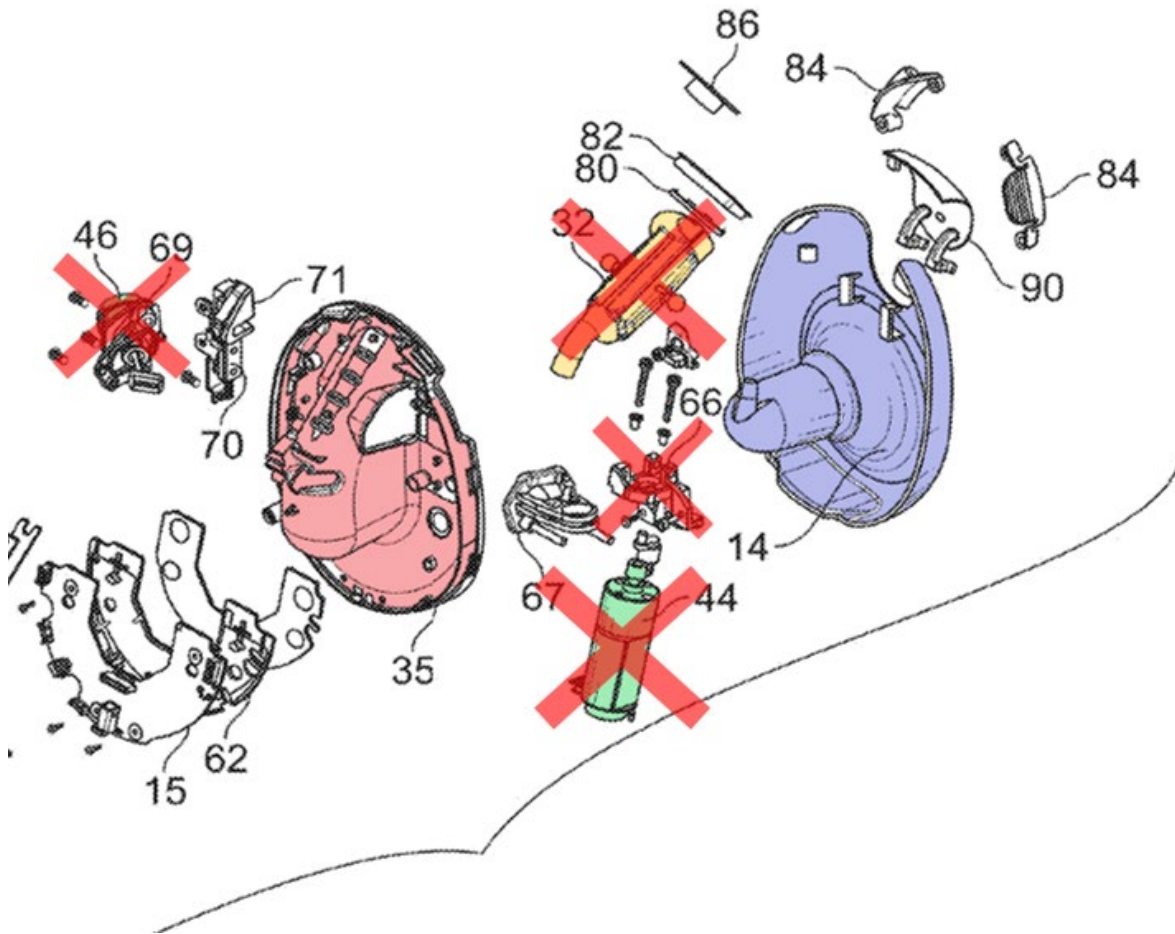
For each ground, Petitioner concedes that primary reference Chang does not disclose the claimed configuration of a diaphragm or membrane. Pet., 37, 38, 63. And, as explained in detail below, Petitioner’s attempts to combine Chang with Fang and the other asserted art rely on hindsight reasoning and only confirm that a POSITA would *not* have been motivated to incorporate the structure of a diaphragm, as purportedly taught by Fang, in the manner described and claimed by the ’380 patent.

A. Grounds 1A-1D: The Petition Fails to Show that a POSITA Would Have Been Motivated to Modify Chang in view of Fang.

It is well established that a proposed combination is not obvious if the proposed modification would change the principle of operation of the prior art invention being modified. *In re Ratti*, 270 F.2d 810, 813 (CCPA 1959). Where a prior art invention’s principle of operation is specific to the structure or

functionality disclosed by the prior-art reference, a change that “fundamentally alters” that specific structure or functionality “is unlikely to motivate a person of ordinary skill to pursue” the proposed combination. *Plas-Pak Industries, Inc. v. Sulzer Mixpac AG*, 2014-1447, 7 (Fed. Cir. 2015). Obviousness may be found where a difference in the resulting operation “does not affect the operability” of the prior-art device. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). Modifying Chang’s flex-tube based pump system in view of Fang’s diaphragm and diaphragm pump, as proposed in the Petition, would completely change the principle of operation of Chang’s device, and therefore such a combination would not be obvious.

First, as Petitioner itself recognizes, a POSITA would not incorporate Fang’s diaphragm alone into Chang’s device. Pet., 19 (“To be clear, a POSITA would have likewise included vacuum pump components to generate a vacuum and drive the diaphragm ...”). This is because Chang’s flex-tube 32 already acts as a barrier that separates liquid milk from the electric motors and is easily cleaned by the tip of a user’s finger. EX1007 (Chang), ¶[0079]. Instead, as shown in the annotated Figure 6A of Chang below, Petitioner’s proposed modification requires replacing nearly all of the active components of Chang’s device with an entirely different pump system. Pet., 19.



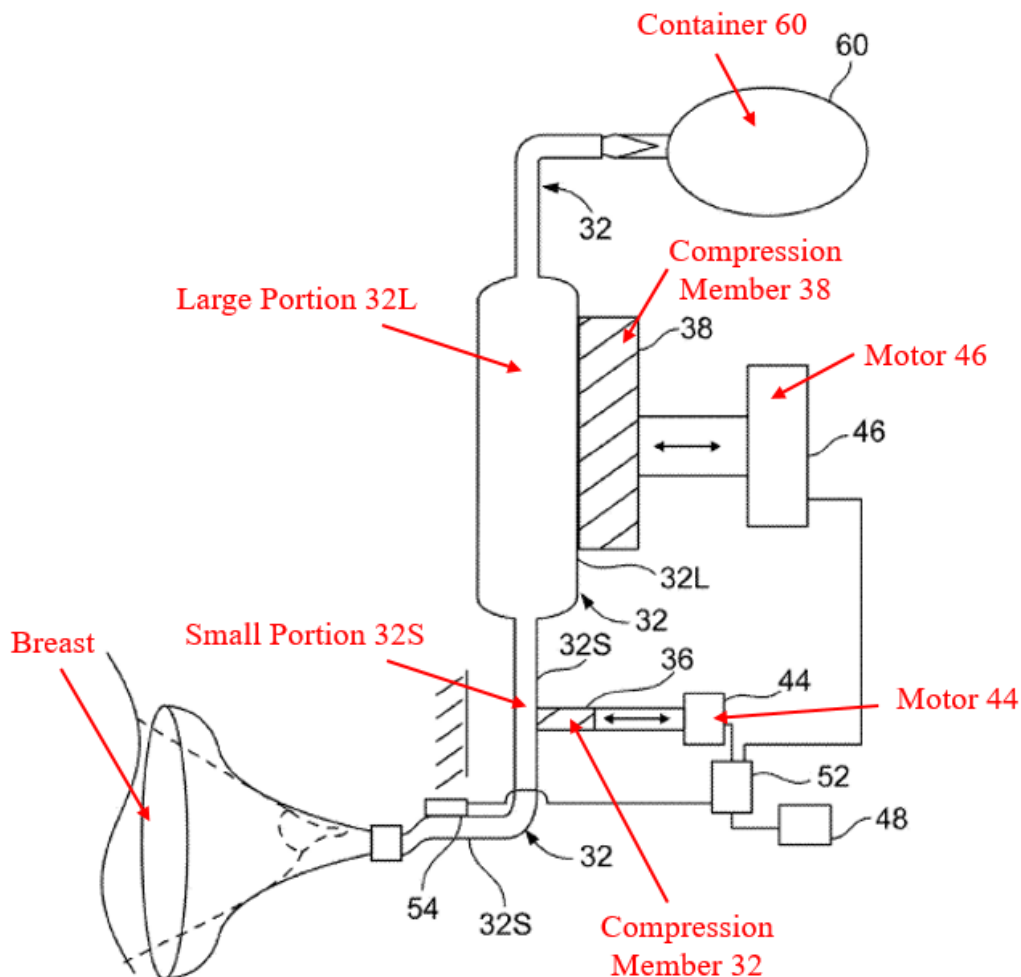
EX1007 (Chang), FIG. 6A (abridged, annotated showing removed components).

In an attempt to justify this complete reworking of Chang’s device, Petitioner contends that the “use of a diaphragm pump in breast pump devices was widely known, including in ‘in-bra’ devices, and a POSITA would have readily implemented such pump components withing [sic] the pump housing.” *Id.* However, Petitioner overlooks that such a modification would change the fundamental principle of operation of Chang’s device.

As shown in Figure 7A below, Chang’s device operates using “a driving mechanism configured to establish a vacuum profile within the conduit by

cyclically compressing and allowing decompression of a portion of the conduit.”

EX1007, ¶¶[0022], [0025]. Chang’s “[f]lex-tube or conduit 32” includes a large portion 32L and a smaller portion 32S, which can each be closed off by one of compression members 36 and 38. *Id.*, ¶¶[0079], [0084]. Chang’s motors 46 and 44 drive the respective compression member to expand and compress flex-tube or conduit 32, to create latching and extracting of milk from the breast up to container 60. *Id.*, ¶¶[0084]-[0086].



EX1007 (Chang), FIG. 7A (annotated).

By the above configuration, Chang's device is able to provide latching that is "more like natural nursing" with "a more 'natural' feel to the user that more closely simulates the feel of a nursing baby." EX1007, ¶¶[0087], [0089]. Chang's mechanism, which is completely different from that of a diaphragm pump, leads to a "reduced motion of the compression members when pumping" that "allows for more quiet action of the pump motor, and a more quiet system overall." *Id.*, ¶[0092]. Moreover, Chang's system "employs the milk expressed as the medium for system hydraulics," allowing for the milk itself to provide the vacuum medium that is "in direct contact with the user's breast." *Id.*

The above function of Chang's device is reflected in Chang's claims that define its invention. For example, although independent claim 1 broadly recites a "wearable system to pump fluid from a breast," the claimed system includes "a conduit in fluid communication with the skin contacting structure." EX1007, Claim 1. The claimed "conduit" is the same as the "conduit or flex-tube 32" that Chang describes as "includ[ing] generally spherically shaped connectors 33 that are sized and shaped to be removably received in recesses 34 formed in a pump chassis 35." *Id.*, ¶[0073]. In addition, independent claim 54 recites the step of "determining a relationship between motor location and volume of milk extracted from a breast by the breast pump." *Id.*, Claim 54. This step is described by Chang as enabling the device with the "conduit or flex-tube 32" to adjust the latch

vacuum during operation. *Id.*, ¶¶[0113]-[0117]. Thus, the above principles of operation are central to the device of Chang both as disclosed and as claimed.

As shown in the annotated Figure 6A of Chang above, Petitioner’s proposed modification requires replacing Chang’s motors, compression members, and conduit or flex-tube with a completely new diaphragm and vacuum pump system. This proposed modification runs afoul of Chang’s disclosure—a system that provides quiet and efficient pumping using the expansion and contraction of a flex-tube—and the invention as set forth by Chang’s claims. Petitioner’s proposed combination “would require a substantial reconstruction and redesign of the elements shown in” Chang “as well as a change in the basic principles under which” Chang “was designed to operate.” *Ratti*, 270 F.2d at 813. These changes go to the heart of the operability of Chang’s “broadly claimed device.” *Mouttet*, 686 F.3d at 1332. Thus, “[s]uch a change in” Chang’s “‘principle of operation’ is unlikely to motivate a [POSITA] to pursue” the proposed combination of Chang with Fang. *See Plas-Pak*, 2014-1447 at 7.

In addition, Petitioner’s reliance on Fang to modify Chang ignores Chang’s fundamental premise of using expressed milk as a hydraulic fluid, Chang, ¶[0092], highlighting Petitioner’s purely hindsight combination of Chang and Fang. And neither Chang nor Fang provides any motivation for Petitioner’s combination. Chang describes a breast pump system that uses a series of actuators to expand and

contract a flexible conduit to create negative pressure using express breast milk as a hydraulic fluid. EX1007 (Chang), ¶¶[0084]-[0086], [0092]. Fang uses a diaphragm pump connected to a diaphragm at the head of a connector to create negative pressure. EX1009 (Fang), ¶[0019]. Neither Petitioner nor Petitioner's Declarant point to any teaching in Chang or Fang to motivate the proposed combination. Pet., 19; EX1003, ¶99. Instead, Petitioner's Declarant merely asserts, without evidence, that "the use of a diaphragm pump in breast pump devices" "was widely known prior to the '380 patent." EX1003, ¶99. However, as discussed below, the only cited prior art having a form factor in any way similar to Chang is Khalil. Petitioner's other cited art has a substantially larger form factor.

In view of the above, Petitioner fails to provide any evidence supporting its bald assertions for modifying Chang in view of Fang. In fact, Petitioner's rationale for combining Chang and Fang only "become[s] clear" "after review of the ['380] patent disclosure." *Dropworks*, Paper 7 at 14. This is because Petitioner is improperly using the '380 patent as a "blueprint" to combine "components selectively culled from the prior art to fit the parameters of the patented invention," making apparent Petitioner's reliance on improper hindsight reasoning. *Sensonics*, 81 F.3d at 1570; *ATD Corp.*, 159 F.3d at 546.

B. Grounds 1A-1D: The Petition Fails to Show that there would have been a Reasonable Expectation of Success in Modifying Chang in view of Fang.

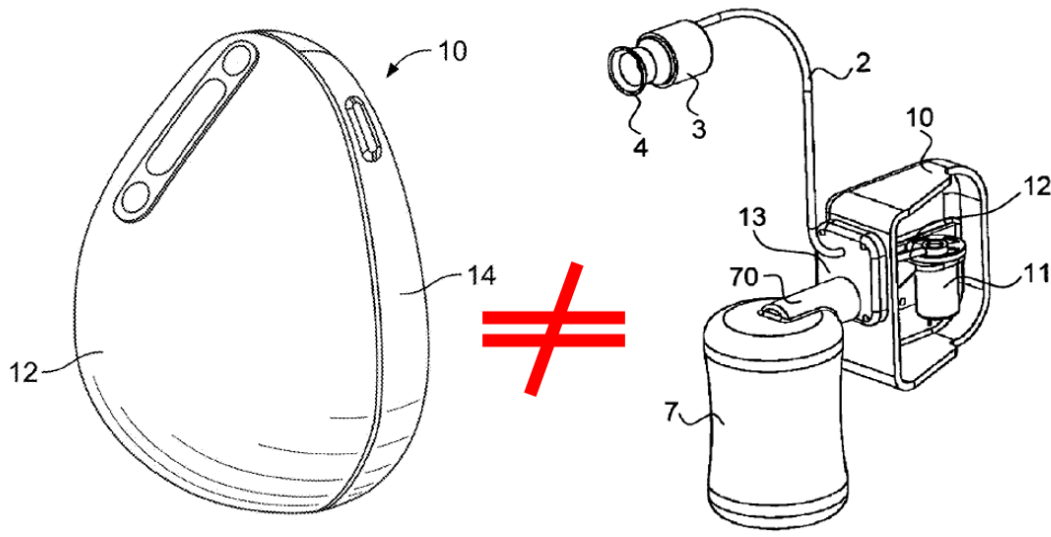
In addition, there would have been no reasonable expectation that Fang's diaphragm and diaphragm pump could have or would have been successfully incorporated into Chang's device. This is because Chang, unlike Fang, teaches a compact device designed to be worn in-bra. Petitioner attempts to satisfy this burden by asserting that diaphragm pumps were widely known in breast pump devices similar to Chang. Pet., 22. However, as shown below, the Petition is unable to cite to any art that is actually "similar" to Chang that also shows a configuration of a diaphragm and diaphragm housing as claimed. In fact, the only cited art that discloses a device having a compact form factor similar to Chang is Khalil—which uses an entirely different membrane configuration. Thus, Petitioner fails to satisfy its burden of showing that a POSITA would have a reasonable expectation of success in combining Chang and Fang as proposed.

Initially, Petitioner argues that a POSITA would have had a reasonable expectation of success in modifying Chang in view of Fang by asserting, "the use of such diaphragm pump components in similar breast pump devices was widely known, including implementing a first diaphragm housing on an external surface of the pump housing and a second diaphragm housing with the breast shield." Pet., 22. Petitioner cites Exhibit 1012 (Weber), Exhibit 1014 (Park), Exhibit 1018

(Tack), Exhibit 1020 (Hu), and Exhibit 1010 (Khalil) as allegedly supporting this proposition. *Id.* But none of the cited art actually supports this proposition.

Petitioner points primarily to Weber (EX1012) as providing a “corroborating example[]” that “the use of such diaphragm pump components in *similar* breast pump devices was widely known, including implementing a first diaphragm housing on an external surface of the pump housing and a second diaphragm housing with the breast shield.” Pet., 22 (emphasis added); EX1003, ¶108. Weber is not a “similar” device to Chang.

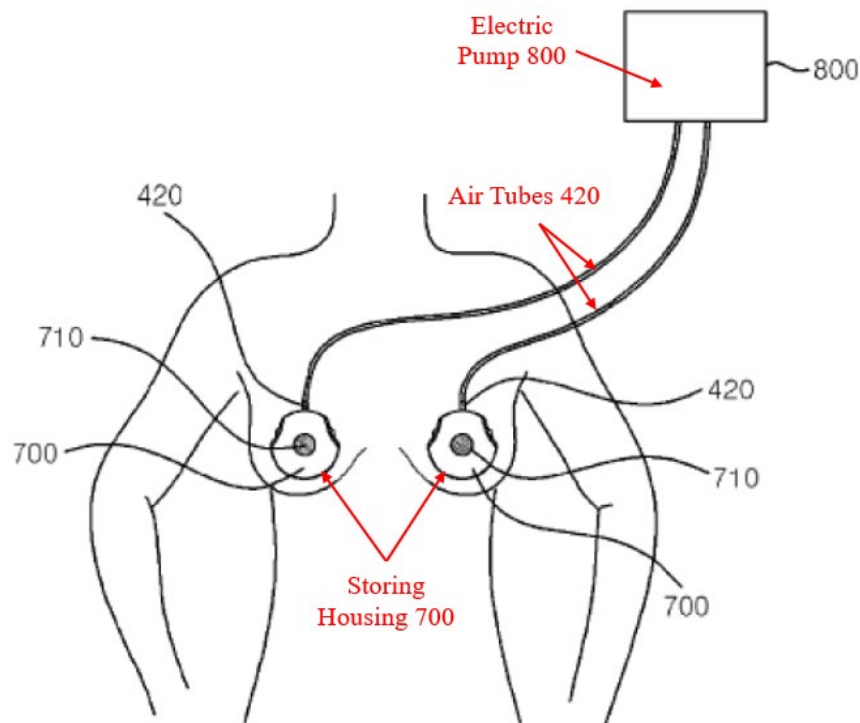
More specifically, Chang’s in-bra device aims to be “a small, portable, self-powered, energy efficient, wearable breast pump system that is easy to use, that mimics natural nursing, and is discrete by not exposing the breast of the user and nearly unnoticeable when worn.” EX1007, ¶[0004]. Thus, Chang’s device “defines a breast profile” that “is contemplated to fit comfortably and conveniently into a bra of a user” and provides a “natural breast shape.” *Id.*, ¶¶[0011], [0071]. Figure 1A of Chang below illustrates this form factor. In contrast, Weber describes that the electric motor 11, connecting rod 12, and diaphragm 14 that define vacuum pump 1 are provided in a housing 10 that is *completely separate* from each of breast shield 4 and milk collecting container 7. EX1012, 11:15-12:5, FIG. 6. Thus, as the below comparison makes clear, even Weber’s most compact form factor is nothing at all like Chang’s in-bra wearable device.



EX1007 (Chang), FIG. 1A.

EX1012 (Weber), FIG. 6.

Petitioner also cites each of Park (EX1014), Tack (EX1018), and Hu (EX1020) as supporting this proposition. Pet., 22. However, like Weber, none of these devices is in any way an in-bra device, and thus is no more “similar” to Chang than is Weber. For example, Park also attaches an external electric pump 800 to storing housing 700 via air tubes 420. EX1014, ¶37, FIG. 6 (below).



EX1014 (Park), FIG. 6 (annotated).

In fact, of the art cited by the Petitioner to support the above proposition, only Khalil actually integrates a diaphragm pump into an in-bra device. But Khalil was discussed extensively during prosecution and overcome. Additionally, to achieve its configuration, Khalil positions membrane 3 *within the outer walls* of the device alongside vacuum pump 81, held in place by securing flange 62. EX1010, ¶¶[0066]-[0067]. Thus, contrary to Petitioner's assertions, Khalil does not support the proposition of "implementing a first diaphragm housing on an external surface of the pump housing and a second diaphragm housing with the breast shield," Pet., 22, but instead implements the diaphragm *within* the pump housing.

This point is reinforced by Petitioner’s proposed combination of Chang-Fang-Yuen with Khalil. This combination relies on Khalil not for teaching the use of a diaphragm but instead only for teaching the use of “a rigid container at a lower portion of the device, and downward flow of milk to the container, so as to achieve known benefits.” Pet., 58-59. In other words, while Petitioner generally cites to Khalil as allegedly teaching a “diaphragm housing on an external surface of the pump housing,” Pet., 22. Petitioner fails to cite to Khalil for any specific teaching of the claimed diaphragm. This is because Khalil in fact does not teach the claimed configuration. *See* EX1002, 304-05, 520-25, 1055-56.

In view of the above, Petitioner fails to sufficiently establish that a POSITA would have had a reasonable expectation of success in modifying Chang in view of Fang as proposed. The Petition cites to what initially appears to be a large number “similar” devices that allegedly implement a diaphragm housing that is similar to the claimed configuration. However, the cited references are not actually “similar” to Chang—the only similarity being that they are in fact breast pumps, albeit of an entirely different form factor from Chang. And finally, Khalil teaches an entirely different technique for implementing a diaphragm that is so far from the claimed configuration that Petitioner does not rely on Khalil at all for actually teaching the claimed configuration. Petitioner’s arguments fail to provide a sufficient

explanation of a reasonable expectation of success. Thus, it would not have been obvious to combine the features of Chang and Fang as proposed.

* * *

For the above reasons, Petitioner fails to meet its burden of showing a reasonable likelihood of prevailing as to independent claims 1 and 29. Claims 2-28 and 30-46 depend at least from one of claims 1 and 29, respectively, and thus Petitioner also fails to meet its burden as to those claims.

VI. 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 Fang and Yuen, and further in view of Khalil. Khalil was applied by the Examiner and overcome during the prosecution of the '380 patent. And, as demonstrated below, Fang and Yuen are each cumulative to the prior art already of record.

Despite relying on the same or substantially the same prior art already presented to the Office, this Petition fails to identify any material error on the part of the Office. The Petition fails to carry its burden of showing that it would have been obvious to a POSITA to modify Chang in view of Fang, let alone further in view of Yuen and Khalil. Instead of identifying any specific error on the part of the Examiner in allowing the '380 patent, Petitioner merely asserts that Fang discloses the features that the Examiner found to be allowable in claims 1 and 29. Pet., 81. 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 2020).

A. The Board Should Deny Institution of this Petition 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). The *Becton, Dickinson* factors should be “read broadly” “to apply to any situation” implicating discretionary denial under § 325(d), and are grouped into the two-part *Advanced Bionics* Framework. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586,

Paper 8 at 16-17 (PTAB 2017) (precedential as to Section III.C.5, first paragraph); *Advanced Bionics*, Paper 6 at 10.

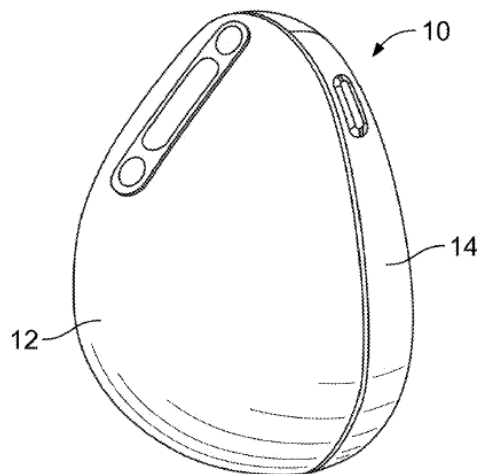
The first part of the *Advanced Bionics* framework relates to whether the art or arguments presented in the Petition are the same or substantially the same as those previously presented to the Office. *Advanced Bionics*, Paper 6 at 10. The second part of the *Advanced Bionics* framework relates to “whether 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.*, 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.*, 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*.

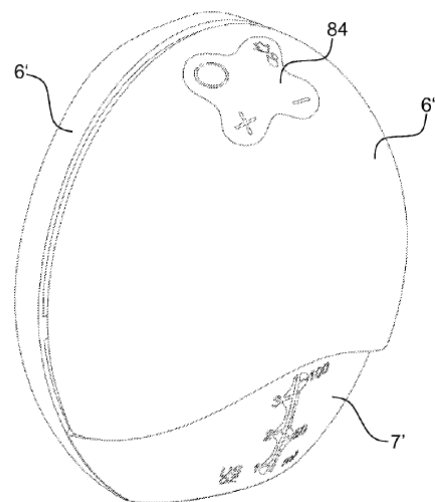
The Petition’s proposed combinations of Chang-Fang-Yuen and Chang-Fang-Yuen-Khalil satisfy part one of the *Advanced Bionics* framework. Chang and Khalil were previously before the Examiner, and the Examiner considered those references. EX1002, 599-611, 853-54. Petitioner attempts to combine these previously considered references with Fang and Yuen, which purportedly have not

been before the Office. However, as explained in detail below, Fang and Yuen are each cumulative of the art that was considered by the Examiner during prosecution of the application that became the '380 patent.

The art cited in the Petition is identical to, or substantially similar to, art already considered by the Examiner. *See Becton*, Paper 8 at 17-18. To the extent that 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 having a similar form factor to that of, for example, Figures 9-11 of Khalil in that at least both are in-bra wearable devices (unlike Fang, Park, and Chen).



EX1007 (Chang), FIG. 1A.



EX1010 (Khalil), FIG. 9.

However, unlike Khalil, which at least relies in some way on a diaphragm, Chang's mechanism relies on a flex-tube that is actuated by electric motors. EX1007, ¶¶[0073]-[0074]; *see also* Section II.B.1 *supra*. 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 Fang's diaphragm. The relied-upon teachings in Fang, which are discussed above, are cumulative to other diaphragms in the art that the Examiner considered. Likewise, the relied-upon teachings in Yuen of a rechargeable battery, power charging circuit, and USB port, are cumulative of art that the Examiner considered and applied, and which was overcome, during the prosecution of the application that became the '380 patent. And of course, Khalil was relied upon by the Examiner in rejecting the originally filed claims. EX1002, 482.

1. Chang and Khalil were each previously considered by the Office.

“Previously presented art includes art made of record by the Examiner, and art provided to the Office by the applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent.” *Advanced Bionics*, Paper 6 at 7-8. Although the application of art by an Examiner during

prosecution confirms that art was considered by the Examiner, this is not a requirement. Other indicators that an Examiner considered a piece of prior art include that the Examiner applied the art in a co-pending application, or that the Examiner indicated that the art had been considered in a signed List of References Cited by Applicant and Considered by Examiner. *See, e.g., Miltenyi Biomedicine GmbH v. The Trustees of the U. of Pennsylvania*, IPR2022-00853, Paper 11 (PTAB Oct. 11, 2022); *SolarEdge Techs. Ltd. v. SMA Solar Tech. AG*, IPR2020-00021, Paper 8 (PTAB April 10, 2020); *Trend Micro Inc. v. CUPP Computing AS*, IPR2021-00813, Paper 7 (PTAB Oct. 25, 2021); *Roku, Inc. v. Universal Electronics, Inc.*, IPR2019-01619, Paper 11 (PTAB Apr. 2, 2020). As shown below, Chang and Khalil were fully considered by the Examiner during prosecution of the '380 patent.

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

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*, Paper 8 at 10 (explaining that “because Frezzolini was identified on an IDS which was initialed by the Examiner, Frezzolini was [] considered during [] prosecution”); *Roku*, Paper 11 at 11 (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. EX1005, 2177. Specifically, in an Office Action dated January 26, 2022, the *same Examiner* applied Chang as a secondary reference to teach modifying Khalil. *Compare* EX1005, 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 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, Paper 11 at 43-47 (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.

b. Khalil was considered and relied upon by the Office, and overcome during the 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. The Examiner rejected nearly all of the originally filed claims over Khalil in combination with various secondary references. However, the Examiner indicated that original claim 13 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,” as claimed. EX1002, 546. The features of claim 13 were 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.

2. Fang and Yuen are each substantially the same as the art previously considered by the Office.

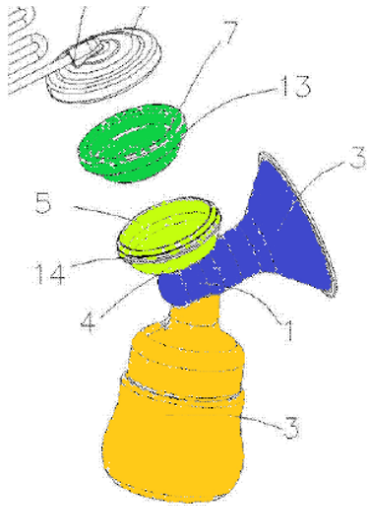
Precedent does not require the exact same art to have been considered in prosecution. The Federal Circuit has instructed that “[a] reference is cumulative when it ‘teaches no more than what a reasonable examiner would consider to be taught by the prior art already before the PTO.’” *Regeneron Pharms., 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.

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. *See Gardner Denver, Inc. v. UTEX Industries, Inc.*, IPR2020-00333, Paper 12 at 8-14 (PTAB Aug. 5, 2020). Similarly, in *Roku*, the Board found a new reference’s disclosure to be cumulative to a previously considered reference’s similar

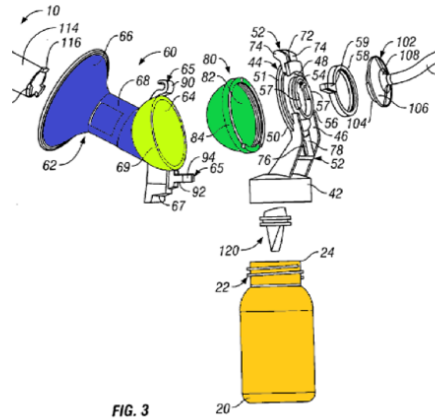
disclosure. *Roku*, Paper 11 at 16-17. In contrast, the Board declines to exercise discretion to deny institution under 35 U.S.C. § 325(d) only where the new prior art teaches a “different structure[] that serve[s a] different purpose[]” and “is thus solving a problem that is closer to that of the” patent being reviewed than is the art of record. *Oticon Medical AB v. Cochlear Limited*, IPR2019-00975, Paper 15 at 15 (PTAB 2019).

a. Fang is substantially the same as prior art that was previously considered by the Office.

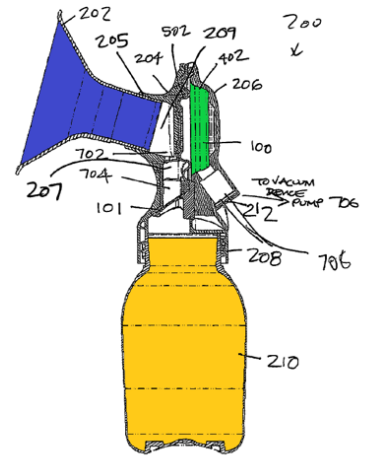
Fang is substantially the same as prior art that was previously presented to the Office. As discussed above, Fang discloses options for connecting a three-way connector to an external vacuum pump either directly or via an air pipe. EX1009, ¶¶[0004], [0024]; Section II.B.2 *supra*. As shown below, the arrangement of Fang’s diaphragm 7 in relation to a breast shield and milk container is cumulative to each of Weniger and Luzbetak, each of which was considered by the Examiner. In particular, like Fang, Weniger (Exhibit 2008) and Luzbetak (Exhibit 2009) each disclose positioning a diaphragm at the end of an air line connected to an external vacuum pump.



EX1009 (Fang), FIG. 5
(abridged, annotated).

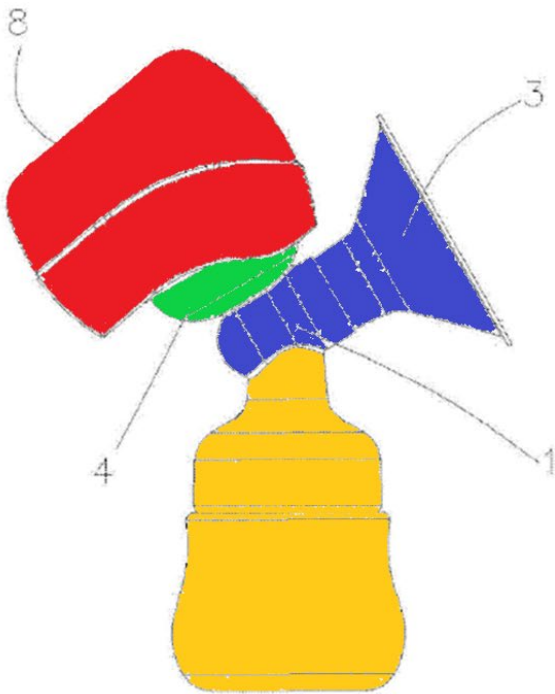


EX2008 (Weniger), FIG. 3
(abridged, annotated).

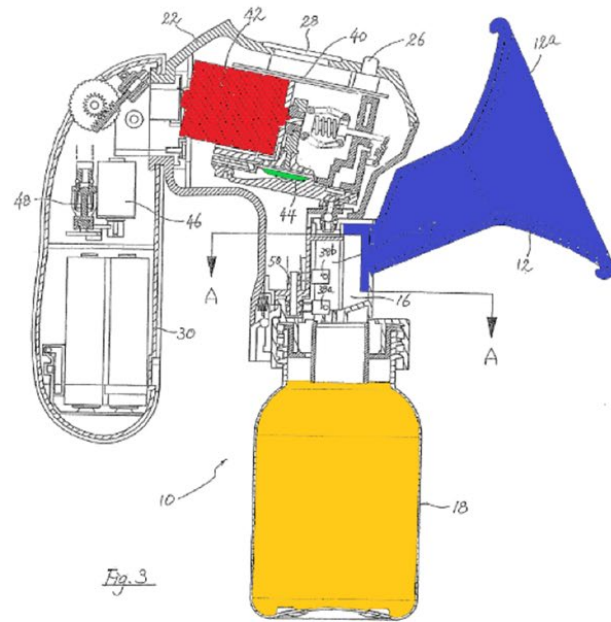


EX2009 (Luzbetak),
FIG. 7B (annotated).

In addition, Fang's other embodiment, which teaches removing the air line so that the external pump is directly connected to the diaphragm, is cumulative to Yuen '629 (Exhibit 2010), which was considered by the Examiner, and to Khalil, which was applied by the Examiner and overcome during prosecution of the '380 patent. As shown below, Yuen '629, like Fang, shows a diaphragm in direct connection with an electric pump motor. And Khalil, which the Examiner determined is more relevant to the patentability of the '380 patent than any of the other cited art, shows a compact breast pump system having a pump directly connected to a membrane.



EX1009 (Fang),
FIG. 6 (annotated).

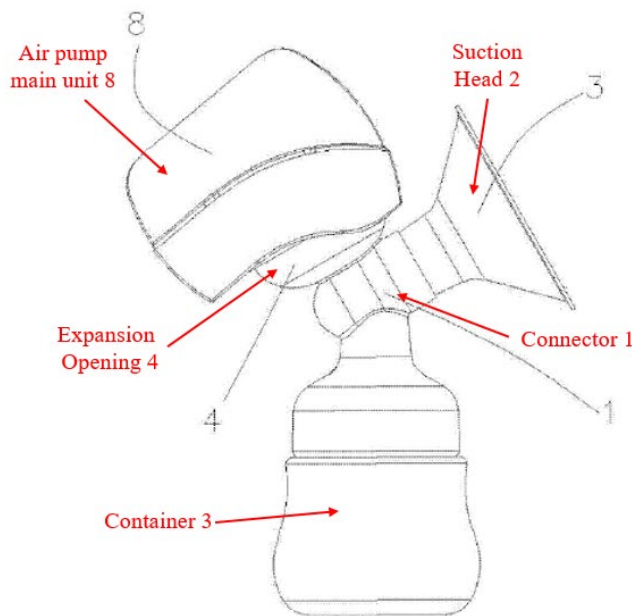


EX2010 (Yuen '629),
FIG. 3 (annotated).

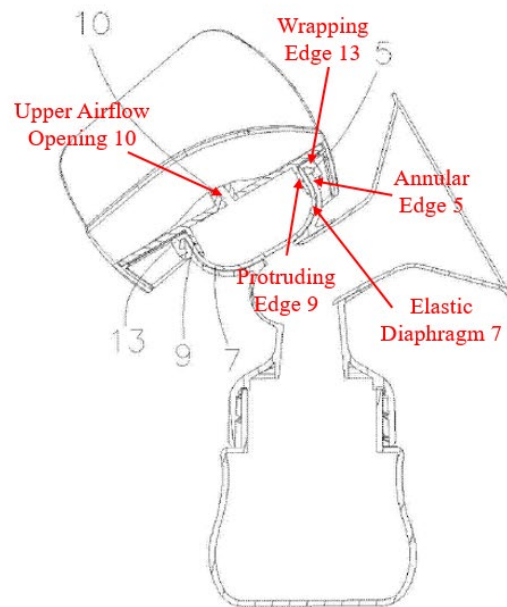
Thus, Fang does not present a “different structure that serves a different purpose” and in fact is cumulative to other prior art that was considered by the Examiner during prosecution of the '380 patent.

- i. **Fang's arrangement of a diaphragm between a pump source and a breast shield and milk container are cumulative to art already considered by the Examiner during the prosecution of the '380 patent.**

Petitioner asserts that Fang's "'elastic diaphragm' and the diaphragm housing it is seated in are connectable directly with features on an exterior surface of the pump housing." Pet., 16. For this assertion, Petitioner relies on Figures 6 and 7 of Fang, which show an elastic diaphragm 7 provided within expansion opening 4 between air pump main unit 8 and connector 1. This configuration has already been before the Examiner multiple times.



Fang, FIG. 6 (annotated).



Fang, FIG. 7 (annotated).

For example, the Examiner considered U.S. Patent App. Pub. No. 2004/0087898 to Gotthilf Weniger ("Weniger"). EX1001, (56); EX1002, 658

(citing Weniger in the IDS filed on October 14, 2021), 787 (a signed List of References Cited by Applicant and Considered by Examiner indicating that Weniger had been considered by the Examiner). Weniger teaches a much earlier breast pump assembly that includes a hemispherical membrane 80 (shown in green) positioned within a vacuum chamber 64 (light green) to “isolate” “the vacuum source” “from the expressed milk” that flows from breastshield 60 (blue) to container 20 (yellow). EX2008, FIGs. 3-4, ¶¶[0022]-[0023]. Like in at least one of Fang’s embodiments, a “hose 109 connects the adapter 102 to the vacuum source in order to supply vacuum or negative pressure to the membrane 80.” *Id.*, ¶[0038].

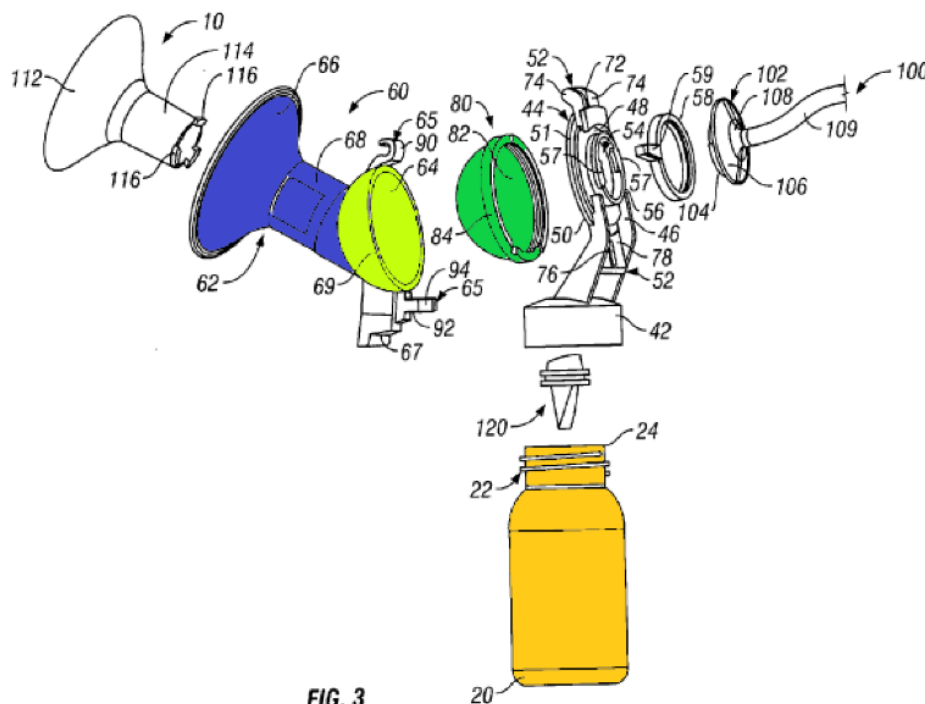
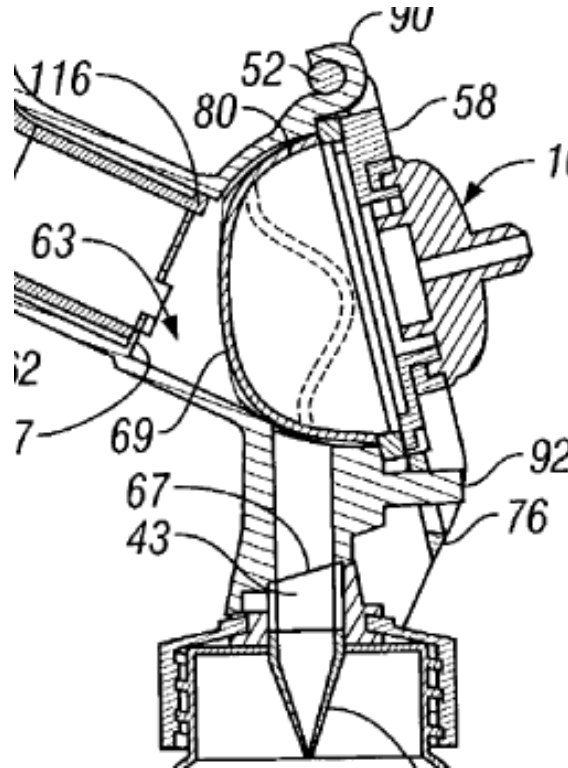


FIG. 3
EX2008 (Weniger), FIG. 3 (annotated).

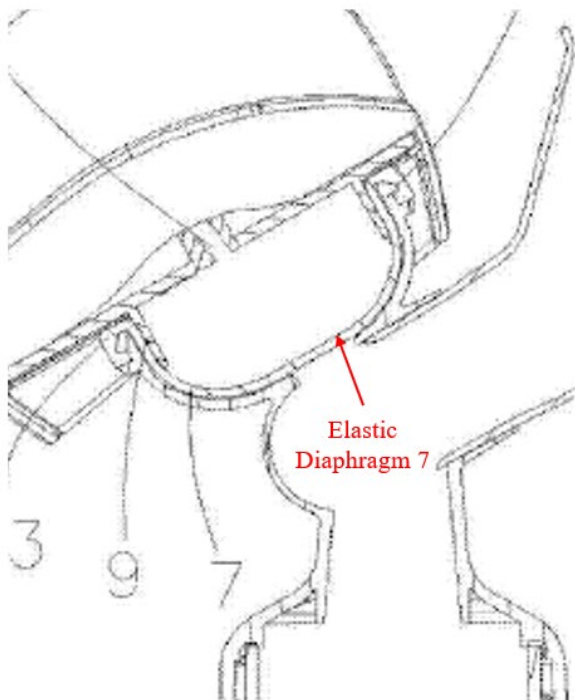
Figure 4 of Weniger shows the deformation of hemispherical membrane 80 within vacuum chamber 64 in response to the vacuum from the vacuum source.

EX2008, ¶[0041].

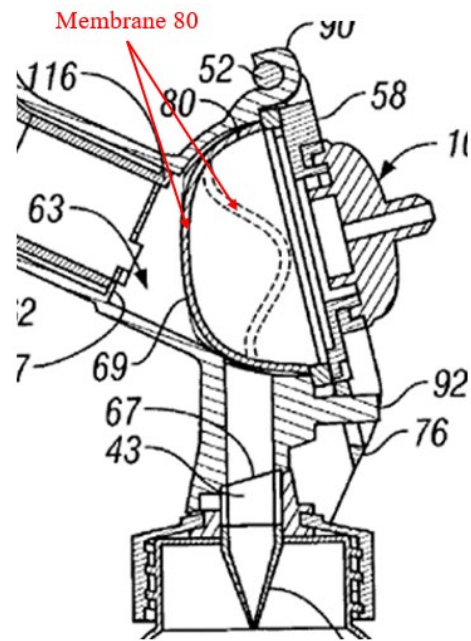


EX2008 (Weniger), FIG. 4 (abridged).

As shown in the below comparison, the placement of Weniger's hemispherical membrane 80 within the vacuum path is nearly identical to the configuration taught by Fang.



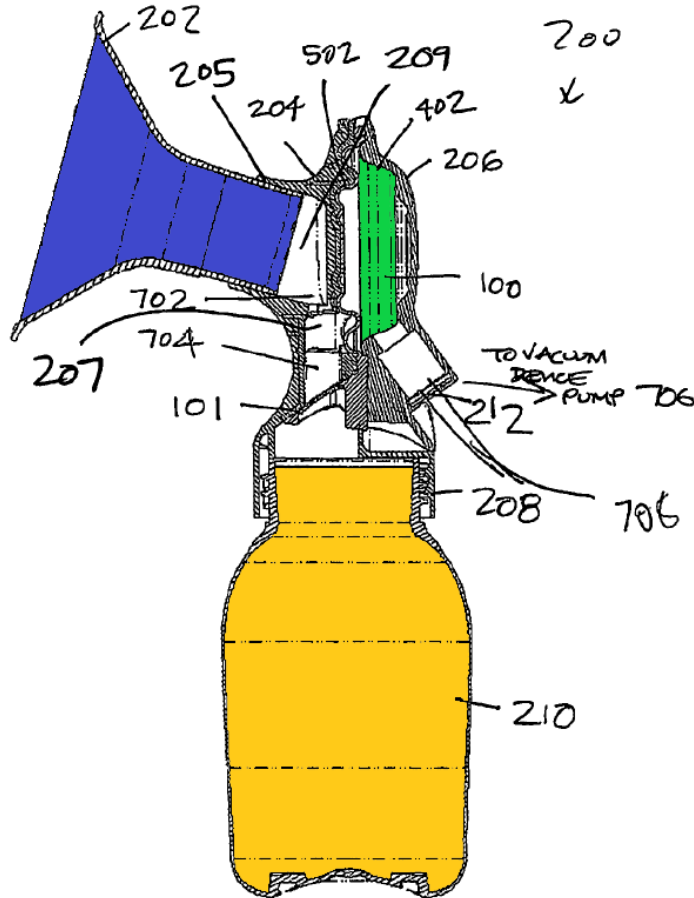
EX1009 (Fang), FIG. 7
(abridged, annotated).



EX2008 (Weniger), FIG. 4
(abridged, annotated).

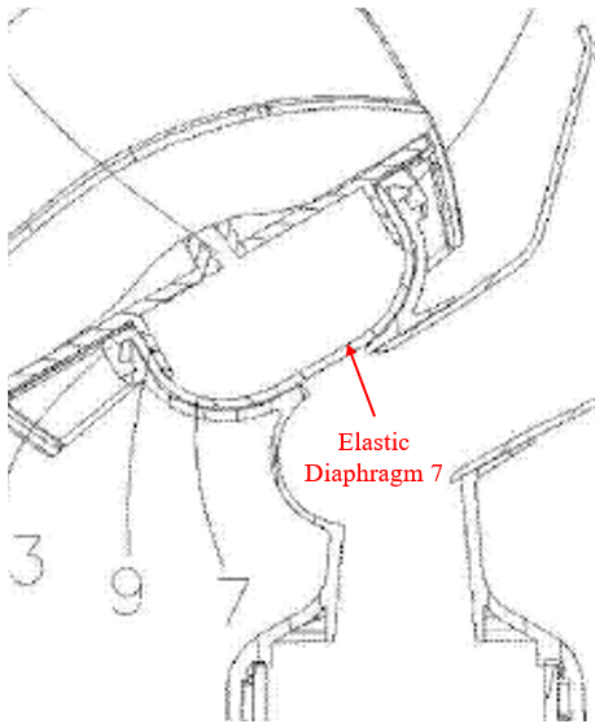
In addition, the Examiner also considered U.S. Patent No. 8,187,227 to Luzbetak et al. (“Luzbetak”). EX1001, (51); EX1002, 189 (citing Luzbetak in the IDS filed on March 16, 2021), 601 (a signed List of References Cited by Applicant and Considered by Examiner indicating that Luzbetak had been considered by the Examiner). Luzbetak is directed to a “breastpump assembly including an improved barrier” that is similar to that of Fang. EX2009, 1:6-10. Luzbetak positions a barrier 100 (shown in green below) within a housing 204, 206, so that barrier 100 is provided between a vacuum pump device 706, and breastshield 202 (blue) and bottle 210 (yellow). Much like Fang’s diaphragm, Luzbetak’s barrier 100

barrier.” *Id.*, 2:44-47.

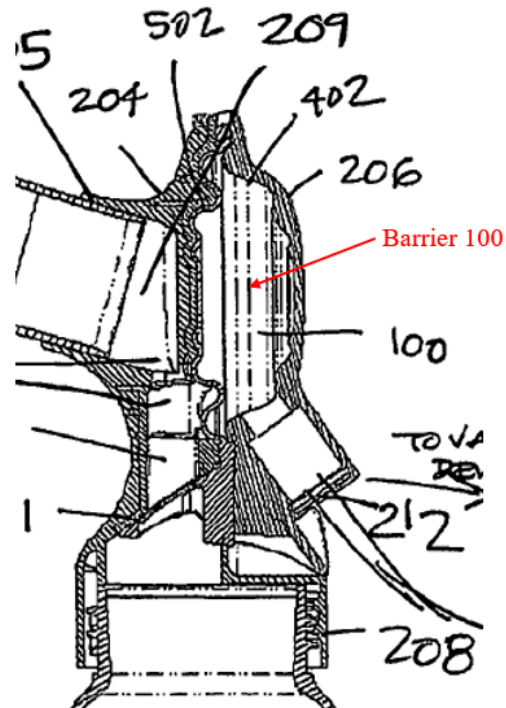


EX2009 (Luzbetak), FIG. 7B (annotated).

considered by the Examiner during the prosecution of the '380 patent.



EX1009 (Fang), FIG. 7
(abridged, annotated).



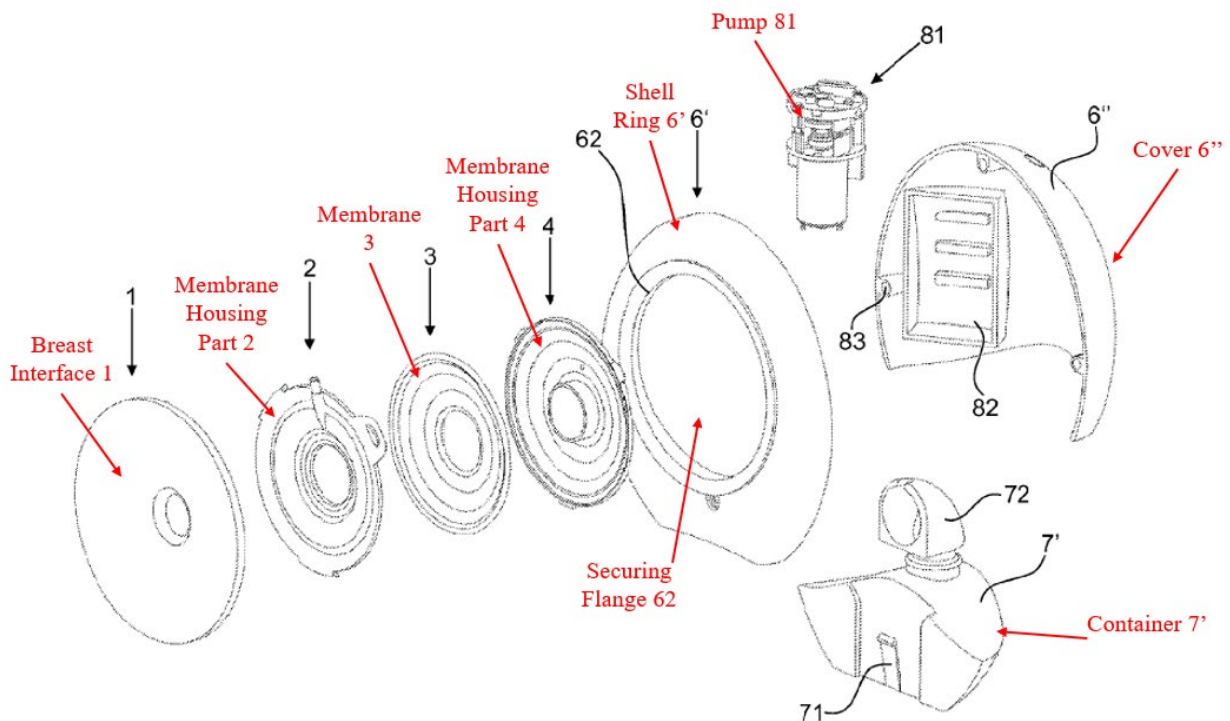
EX2009 (Luzbetak), FIG. 7B
(abridged, annotated).

- ii. **Fang's directly connecting the pump housing to the breastshield via the diaphragm is also cumulative to art already considered by the Examiner during the prosecution of the '380 patent.**

Fang's connecting of expansion opening 4 directly to air pump main unit 8 was also taught by the prior art that was considered by the Examiner during prosecution of the '380 patent.

For example, Petitioner's own prior art Khalil (EX1010) teaches directly connecting a pump housing to a diaphragm housing. As shown below, Figure 11 of Khalil shows that membrane 3 (a diaphragm) is provided within membrane housing parts 2 and 4 (a diaphragm housing) that are held in securing flange 62 in

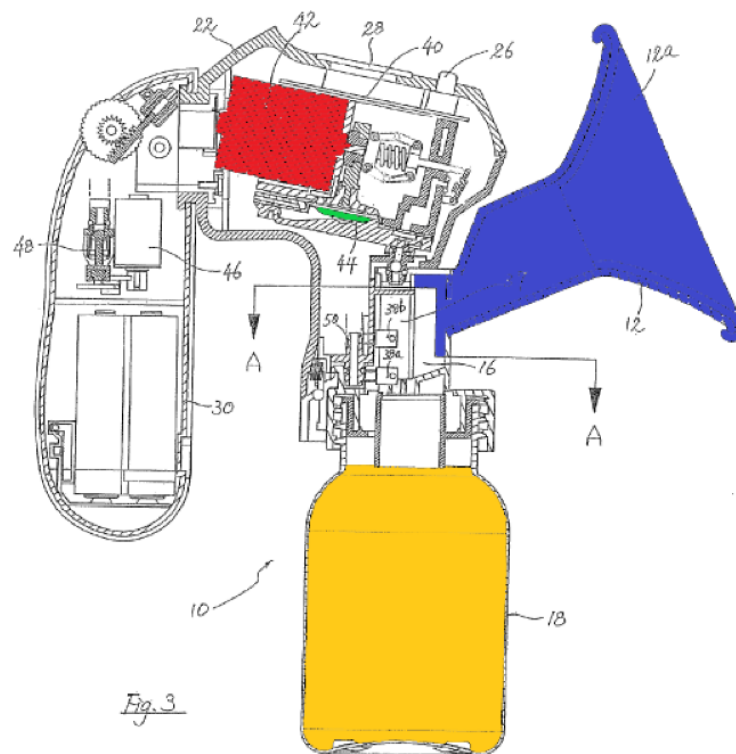
shell ring 6'. Of course, the Examiner heavily considered and applied Khalil in rejecting the claims that became the '380 patent, and Patent Owner distinguished over the teachings of Khalil, which the Examiner indicated does not teach the configurations recited by independent claims 1 and 29.



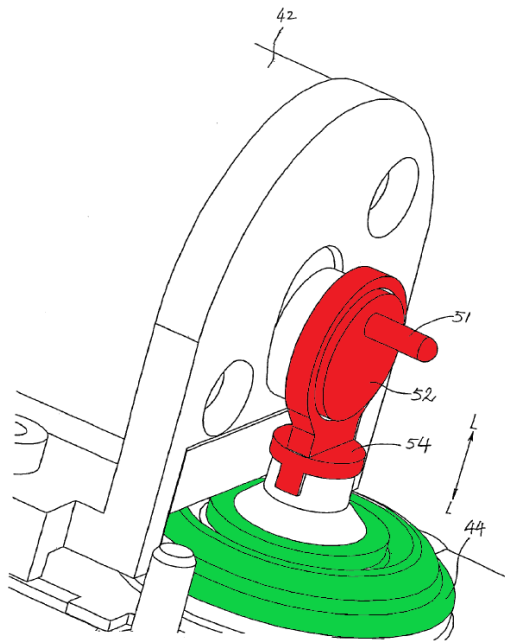
EX1010 (Khalil), FIG. 11 (annotated).

The Examiner also considered U.S. Patent No. 7,641,629 to Yat Keung William Yuen (“Yuen ’629”). EX1001, (51); EX1002, 888 (citing Yuen in the IDS filed along with an RCE on May 20, 2022), 1067 (a signed List of References Cited by Applicant and Considered by Examiner indicating that Yuen ’629 had been considered by the Examiner). Yuen ’629 shows a configuration that is essentially the same as the one taught by Fang. In more detail, Figure 3 of Yuen

'629 shows a breast pump system having a hood 12 (a breast shield, shown in blue) connected to a bottle 18 (yellow) via a connector 16. In addition, a head portion 22, which includes a pump motor 42 (red), is connected to connector 16. Diaphragm 44 (green) is positioned between the head portion 22 and the connector 16. Figure 9 of Yuen '629 shows that membrane 44 is held in place while yoke 54, forming part of pump motor 42, causes membrane 44 to expand and contract. EX2010 (Yuen '629), 3:50-56.



EX2010 (Yuen '629), FIG. 3 (annotated).



EX2010 (Yuen '629), FIG. 9 (annotated).

The teachings of Fang thus overlap with the teachings of Yuen '629. In particular, Fang and Yuen '629 each teach a configuration for attaching a pump directly to the top of a breast shield and milk container with a diaphragm separating the pump from the milk.

Importantly, Petitioner's analysis with respect to Fang overlooks a clear distinction between claims 1 and 29 of the '380 patent and the disclosure of Fang that was apparently appreciated by the Examiner. In particular, Fang and Yuen '629 each fail to teach or suggest in any way a "self-contained, in-bra wearable device," as claimed. Fang and Yuen '629 are each directed towards larger, wearable or "hands-free" breast pump systems. Thus, neither Yuen '629 nor Fang teach an in-bra wearable device, let alone teach how the diaphragm disclosed could

be or would be incorporated into an in-bra wearable device. Accordingly, Fang is “no more relevant” to the patentability of the ’380 patent than Yuen ’629, which was already considered by the Examiner during prosecution of the ’380 patent. *Gardner Denver*, Paper 12 at 8-14.

Because Fang “teaches no more than what a reasonable examiner would consider to be taught by” Yuen ’629, Khalil, Luzbetak, and Weniger, Fang is “cumulative” to the prior art already considered by the Examiner. *Regeneron Pharms.*, 864 F.3d at 1350.

b. The relied-upon teachings in Yuen are cumulative to the prior art already before the Office.

While Fang is allegedly presented to “highlight[] the examiner’s mistaken belief regarding the state of the art when the ’380 patent was allowed,” (it does not, as shown above), Paper 2, 2-3, Petitioner makes no such representations regarding Yuen. In fact, to the extent Petitioner relies on Yuen, it is only as purportedly “teach[ing] the conventional option in which the battery is recharged ‘by a power supply through a charging port 1110 e.g. a micro USB port located on the upper housing 112.’” Pet., 23. In other words, Petitioner presents Yuen only to teach a power charging circuit and a USB charging socket. *Id.*, 24. Teachings of these individual electronic components were already before the Examiner in various forms. For example, the Examiner considered at least U.S. Publication No.

2017/0072118 to Makower et al. and U.S. Publication No. 2011/0009824 to Yodfat with respect to such features. EX1002, 550-51. Thus, the allegedly new art of Yuen is relied on merely for teachings that are cumulative to the art already considered by the Examiner during prosecution of the '380 patent, and therefore is “substantially the same” prior art that has already been before the Office.

Regeneron Pharms., 864 F.3d at 1350; *Roku*, Paper 11 at 17.

3. The Petition’s proposed combinations, based on the same or substantially the same art, provide nothing new for the Board to consider.

As explained above, the prior art set forth in the Petition relies on two references (Chang and Khalil) that were considered and either applied (Khalil) or rejected (Chang) by the Examiner. The Petition attempts to supplement this previously considered art with art that is allegedly new (Fang and Yuen). However, as shown above, the teachings of Fang and Yuen are each cumulative to the art already considered by the Examiner during prosecution of the application that became the '380 patent. The Petition’s proposed combinations fail 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 the prior art in a way that would produce the claimed configurations.

More specifically, the Petition asserts a “POSITA would have been motivated to implement Chang’s breast pump device using a pump system that utilizes a diaphragm to transmit negative pressure, as suggested by Fang.” Pet. 17. However, the art considered by the Examiner is replete with examples of devices that use a diaphragm to transmit negative pressure. *See, e.g.*, Exhibit 1010 (Khalil), Exhibit 2008 (Weniger), Exhibit 2009 (Luzbetak), and Exhibit 2010 (Yuen ’269). In addition, Petitioner fails to articulate any particular benefits that would result from replacing Chang’s flex-tube with a diaphragm pump, instead providing only superficial motivations such as “facilitat[ing] ... cleaning and maintenance” and “more rapid assembly and disassembly,” which fail to account for the substantial differences between such diaphragm pumps and the structure already taught by Chang. Pet., 17-21. The Petition then reverts to even more generic motivations for the combination, asserting that diaphragm pumps are a “suitable option to generate negative pressure within a breast pump” and are “the application of a known technique ... to a known device ... ready for improvement.” *Id.*, 21-22. However, as explained in Sections VII.A and VII.B *infra*, all of these generic motivations fail because the combination of Chang and Fang would not have been obvious.

Given the Petition’s reliance on the same or substantively the same prior art and failure to sufficiently explain why a POSITA would combine Chang and Fang, 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—such second-guessing should be rejected. *Id.*

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

To show material error under part two of the *Advanced Bionics* framework, 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. Material error is not found, for example, where “reasonable minds can disagree regarding the purported treatment of the art or arguments.” *Id.*

The Petition fails to sufficiently identify any error material to the patentability of the challenged claims, instead incorrectly insisting that Fang and the other asserted art “highlight[] pertinent disclosures that disclose the very features that formed the Examiner’s stated reasons for allowance.” Pet., 81. To the

extent the Petition addresses part 2 of the *Advanced Bionics* framework, it merely reiterates that “[t]his petition presents pertinent teachings from the references in unexamined manners never contemplated in any office action or response.” *Id.* 82. The Petition does not support these assertions by providing any 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. *Advanced Bionics*, Paper 6 at 22.

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

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 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 2020) (the “*Fintiv* factors”). Because each of the six *Fintiv* factors favors denial of this Petition, the *Fintiv* factors as a whole weigh in favor of denying this Petition.

A. A Full Analysis of the *Fintiv* Factors Shows This Petition Should be Denied under 35 U.S.C. § 314(a).

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 *supra*, 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, 24 (Docket No. 1). On August 14, 2023, Patent Owner served its Answer to the Petitioner's Complaint, including allegations (particularized in claim charts) that Petitioner has infringed and continues to infringe one or more claims of the '380 patent. EX2003, 48:14-19 (¶154). Despite having this detailed information, Petitioner delayed filing its first petition until May 31, 2024, choosing to file the first petition a mere ten days before Patent Owner's infringement contentions were due, and then filed this redundant second Petition on August 14, 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 discovery well underway. A *Markman* hearing was held on September 24, 2024, and jury selection is scheduled to begin March 17, 2025. EX2006, 23-24 (Docket Nos. 37-39, 42, and 46), 27 (Docket Nos. 74-75), 30 (Docket. Nos. 95-99), 32 (Docket Nos. 107, 109-113). As shown below,

the *Fintiv* factors weigh in favor of the Board exercising its discretion to deny institution of this 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.

Regarding the first *Fintiv* factor, the Petition states, “[n]o motion to stay has been filed,” and, solely on this basis, concludes that “[t]his factor is neutral or favors institution.” Pet., 79. However, Petitioner’s analysis omits that Petitioner has not *requested* a stay in this case *despite* filing two petitions for IPR against the ’380 patent. In fact, Petitioner has presented no evidence nor represented in any way that it may seek a stay, let alone evidence that the Court would grant such a stay.

In fact, the only evidence in this case indicates that Judge Evanson would be unwilling to grant a stay in the *Shenzhen Root* case. For example, in postponing the trial dates in the *Shenzhen Root* case, Judge Evanson based her decision on the Petitioner’s alleged “willingness to move the case forward efficiently” as justification for postponing the filing dates. EX1026, 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. Rather, trial is scheduled for March and is expected to proceed on the current schedule.

A stay has not been granted in either of the parallel district court cases, and Petitioner has made no representations that such a stay would even be requested in the *Shenzhen Root* case. For these reasons, *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.

Regarding the second *Fintiv* factor, Petitioner asserts that the District Court “essentially reset the schedule in June 2024.” Pet., 80. This is incorrect, as the District Court’s modified schedule merely moved dates by approximately 2-3 months. Given the District Court’s original scheduled trial date of September 2, 2025, EX1016, 29-30 (Docket No. 62) (“Jury Trial is set for 9/2/2025 at 01:30 PM”), it appears likely the trial date in the *Shenzhen Root* case will be set for December 2025. This date would be well before the February 2026 statutory deadline for a final written decision in this case. Thus, this factor favors denying the Petition with regard solely to the *Shenzhen Root* case.

However, the validity of the '380 patent is also at issue in the concurrent *Willow* case. Unlike the *Shenzhen Root* case, the *Willow* case is proceeding on

schedule. In particular, discovery in the *Willow* case is nearly complete. EX2006, 23-24 (Docket Nos. 37, 39, 42, and 46), 32 (Docket Nos. 107, 109-113). A Markman hearing was held on September 24, 2024. EX2006, 27 (Docket Nos. 74-75), 30 (Docket. Nos. 95-99). And jury selection is scheduled to begin on March 17, 2024. EX2006, 23 (Docket No. 38). Thus, the validity of the '380 patent will be adjudicated in the *Willow* case well before the statutory deadline for a final written decision in this IPR, which similarly weighs in favor of denial. *See TCO AS v. NCS Multistage Inc.*, PGR2020-00077, Paper 16 at 11-12 (PTAB Feb. 18, 2021) (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, factor 2 also 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.

Regarding *Fintiv* factor 3, Petitioner asserts that "Petitioner diligently filed this petition, less than ten weeks after receiving the initial infringement contentions and then learning ... of highly pertinent art." Pet., 80. However, Petitioner has been aware of the detail of Patent Owner's infringement allegations relating to the '380 patent since at least August 14, 2023. EX2003, ¶154. After waiting nearly nine months, and despite being aware that Patent Owner's contentions were due in

a *mere ten days* on June 10, 2024, Petitioner decided to submit a first petition challenging all claims of the '380 patent on May 31, 2024. EX1016, 29-30, (Docket No. 62) (“Statement of asserted claims and preliminary infringement contentions due 6/10/2024”). Petitioner has still provided no explanation for this delay.

Then, nearly two months after filing the first petition, Petitioner “sent an email to the Board requesting ‘administrative dismissal (prior to institution) of the Petition’” so that Petitioner could file this Petition. EX2004, 2; EX2005, 7:9-15, 10:16-11:4, etc. However, the Board recognized the Petitioner’s transparent attempt to “seek[] a do-over without articulating an adequate reason why one is appropriate or fair,” and thus denied the Petitioner’s request. EX2004, 3.

Factor 3 strongly favors denial because, by the Board’s February 26, 2025 deadline for issuing an institution decision, the district court litigation will have been ongoing for nearly two years. The Petitioner delayed filing a petition, then filed a first petition in spite of upcoming deadlines that could simplify the grounds for the IPR. And after filing the Petition, Petitioner continued to delay and expend Patent Owner’s and the Board’s resources with unjustified requests for an “extraordinary remedy.” EX2005, 13:19-21. Yet Petitioner now incredulously requests that this Petition be instituted because, due to Petitioner’s efforts,

“[n]either part [*sic*] has invested in *Markman* briefing, and discovery remains in its infancy.” Pet., 80. Petitioner should not be rewarded for these efforts.

And, if that were not enough to show that this factor weighs decisively in favor of denying institution, 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, as discussed above. The investment in the *Willow* case is undeniably considerable, as a *Markman* hearing has been held, discovery is well underway, and trial is scheduled to begin early next year. EX2006, 0023-24 (Docket Nos. 37-39, 42, and 46), 0027 (Docket Nos. 74-75), 0030 (Docket. Nos. 95-99), 0032 (Docket Nos. 107, 109-113). Thus, this factor weighs strongly 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 4 favors denial because the asserted grounds in this Petition are cumulative of the grounds set forth in the district court case and Petitioner has failed to provide a *Sotera* stipulation to avoid re-litigating these issues.

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. As explained below, this Petition fails to include “materially different grounds”

from “those presented in the district court case.” Thus, this factor also favors denial of institution.

This Petition presents grounds of unpatentability based on Chang in combination with Fang, Yuen, Khalil, Chen, and Park. Pet., 1-2. These grounds are cumulative of the grounds that Petitioner asserts against the ’380 patent in the District Court litigation. In particular, among a slew of other contentions, Petitioner argues that the ’380 patent is invalid as being unpatentable over “*Chang*, alone or in view of Willow, Myers ’386, *Park*, *Khalil*, Weber, Kurihara, Guthrie ’166, Makower, Hu, Jian, *Fang*, Alvarez, Phillips, Tack, *Yuen*, *Chen* ’135, Schlensog, and/or Miller.” EX2001, 20:1-2 (“’380 Patent, B-1”) (emphasis added to identify common asserted references).

In addition to raising the same grounds in multiple concurrent proceedings, 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. While a lack of such a stipulation does not necessarily weigh against a petitioner, this Petitioner’s willingness to litigate the same patent in multiple parallel proceedings and based on substantially the same grounds should weigh in favor of denying institution of this Petition. In this case, filing a *Sotera* stipulation would provide Petitioner with an option to easily quash *Fintiv* arguments.

However, the Petitioner here prefers instead to engage in superficial analysis of the

Fintiv factors that merely concludes, without evidence, that “[r]esolution by the Board is expected in advance of a decision in the District Court, which mitigates against duplication of effort and serves efficiency and integrity goals.” Pet., 81.

5. 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); *Fintiv*, Paper 15 at 15 (PTAB May 13, 2020); *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 12-13 (PTAB June 16, 2020).

6. Factor 6 very strongly favors denial due to other considerations, including the filing of parallel petitions 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, and

considerations implicated by 35 U.S.C. § 325(d).” *Fintiv*, Paper 11 at 14, 16.

Factor 6 strongly favors denial due to the Petitioner’s parallel petitions without a showing of cause, as explained below, and the strong implication of 35 U.S.C. § 325(d), as explained in Section VI *supra*.

B. The Board Should Deny This Petition Because Petitioner Fails to Show Good, or Any, Cause for This Parallel Petition.

The Board’s Consolidated Trial Practice Guide (“TPG”) defines “parallel petitions” as “[t]wo or more petitions filed against the same patent at or about the same time (e.g., before the first preliminary response by the patent owner).” TPG, 59. Regarding such parallel petitions, the Board “recognizes that there may be circumstances in which more than one petition may be necessary,” but also appreciates that parallel petitions “may place a substantial and unnecessary burden on the Board and the patent owner.” *Id.* For this reason, the TPG instructs that “multiple petitions by a petitioner are *not necessary* in the vast majority of cases.” *Id.* (emphasis added). Even further, the USPTO has proposed that parallel petitions should not be instituted without “a showing of good cause as to why more than one petition is necessary.” 89 Fed. Reg., No. 77, 28693, 28704 (proposed amendments to 37 C.F.R. §42.108). Petitioner fails to show “good cause,” or indeed any circumstances, as to why more than one petition is *necessary* to challenge the ’380 patent.

1. The Petitioner’s reasons for these parallel petitions do not constitute any cause that is recognized by the Board as necessitating multiple petitions.

The Board recognizes limited instances in which “more than one petition may be necessary.” TPG, 59. For example, the TPG instructs that multiple parallel petitions may be necessary “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.” *Id.* Multiple petitions could also be necessary when “alternative claim constructions” “require different prior art references on mutually exclusive grounds.” 89 Fed. Reg., 28704. None of these circumstances are present in this case.

There is no dispute about priority date. The Petitioner qualifies each reference relied upon in this Petition and in the first petition as prior art as of the earliest possible filing date of the ’380 patent on June 15, 2017. Pet., 1-2; EX2002, 2.

There are also no alternative claim constructions offered by the Petitioner. In fact, both petitions use exactly the same claim construction for the only term that Petitioner proposes construing – a “self-contained, in-bra wearable device.” *Compare* Pet., 3 *with* EX2002, 9. Other than this term, both petitions assert that all terms “should receive their plain and ordinary meaning[s].” *Compare* Pet., 3 *with* EX2002, 9.

The Petitioner alleges that the parallel petitions are “reasonable in view of the volume of claims, including 43 asserted claims.” Paper 2, 4. However, the present case does not meet the Board’s standard for parallel petitions based on claim volume.

In particular, the Board has indicated that multiple petitions may be necessary when “there are many asserted independent claims and the claims themselves are long.” *Peloton Interactive, Inc. v. NEC Corp.*, IPR2023-01241, Paper 17 at 16-17 (PTAB 2024). In *Peloton*, there was a large number of “long and complex” asserted claims, and merely listing the claims themselves in a single petition would require “almost 41% of the word count limit.” *Id.* For this reason, Peloton “divid[ed] the arguments between two petitions” despite “overlapping prior art grounds.” *Id.* The Board agreed with Peloton, finding that “good cause ha[d] been shown as to why two petitions are necessary for Peloton to properly address each claim limitation in the ’427 patent.” *Id.* In this case, Petitioner does not cite any precedent that actually supports its position and *Peloton* is very different from the facts here.

First, unlike in *Peloton*, Petitioner here is able to challenge *every claim* in *each petition*. In fact, in this Petition, Petitioner even manages to find room to provide at least *two separate grounds* for challenging most of the claims. Pet., 1 (challenging claims 1-8, 11, 13-23, 25, 29-35, 37, 39-41, and 43 over Chang, Fang,

and Yuen, and challenging claims 1-11, 13-23, 25-37, 39-41, and 43-46 over Chang, Fang, Yuen, and Khalil). This is due to similarities not only between independent claims 1 and 29, but also in many of the dependent claims, similarities that the Petitioner takes advantage of in each Petition. Pet., 38 (disposing of claim 29 in one page by referring to the discussion of claim 1), 38-56, 62-71, and 74-76 (discussing claim 2 together with claim 30, claim 3 with claim 31, claim 4 with claim 32, claim 6 with claim 33, claim 7 with claim 34, 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 25 with claim 43, claim 26 with claim 44, claim 27 with claim 45, and claim 28 with claim 46); EX2002, 47-49 (disposing of independent claim 29 in less than two pages, including lengthy headers), 49-89 (similar grouping of the dependent claims as in this Petition). Accordingly, the “volume of claims” in the ’380 patent does not necessitate Petitioner filing multiple petitions as it did in *Peloton*. Rather, Petitioner uses what at first appears to be a large number of asserted claims as a basis for improperly filing its “do-over” petition. EX2004, 3.

Second, in *Peloton*, the *claims* and corresponding discussion were divided between the petitions, despite a high degree of overlap in the arguments and cited prior art. *Peloton*, Paper 17 at 16-17. By contrast, in this case, each petition fully challenges *all claims* of the ’380 patent. These petitions differ instead by the prior

art that is asserted and the arguments and discussion relating thereto. Thus, instead of a good faith effort to address all of the claims in one set of prior art, as in *Peloton*, the multiple petitions here are a transparent attempt to set forth multiple theories of invalidity.

2. The recent discovery of another prior art reference is not grounds for filing a second petition.

As shown above, the actual circumstances that the Board has recognized as “necessitating” parallel petitions are absent in this case. And Petitioner’s only other asserted motivation for filing this second Petition—the purported recent discovery of Fang—is not grounds for filing multiple petitions.

In particular, the Petition asserts that “Petitioner only recently uncovered the pertinent Fang publication,” which Petitioner alleges “highlights the examiner’s mistaken reasoning for allowing the ’380 patent,” and thus “Petitioner acted with extreme diligence” to “rapidly file[] this parallel petition to highlight to the Board this new and more meaningful prior art.” Paper 2, 4. However, Fang does not show, let alone highlight, a diaphragm configuration that is similar to the claimed configuration. And, whether or not Petitioner acted diligently in preparing this Petition, Petitioner is asking the Board and Patent Owner to expend precious resources to correct its own oversight in filing the first petition despite its continued refusal to correct that oversight in the proper manner.

First, Petitioner provides no reason why Fang was unavailable or unknown at the filing of the first petition. To this point, Petitioner merely states that “Petitioner only recently uncovered the pertinent Fang publication.” Paper 2, 4. However, if Petitioner was still searching and waiting for Patent Owner’s infringement contentions, it should not have filed the first petition.

Second, even taking at face value Petitioner’s assertion that Fang was only recently discovered while working on Patent Owner’s infringement contents, Petitioner is still asking the Board to endorse its questionable litigation tactics. As noted above, at the time of filing the first petition, Petitioner was aware that Patent Owner’s infringement contentions were due *in only ten days*. EX1016, 29 (Docket. No. 62) (“Statement of asserted claims and preliminary infringement contentions due 6/10/2024”). Despite this knowledge, Petitioner filed the first petition on May 31, 2024. Then, Petitioner misrepresented its purpose in seeking “Administrative Dismissal” of the first petition, claiming that it only sought to “discuss the District Court’s June 28 Order” in the *Shenzhen Root* case. EX2007, 0002. This ruse was quickly dispelled by Petitioner’s subsequent admission to the Board that it would be “switching out” a “secondary reference” in the follow-on petition for one that they had “only recently learn[ed] about.” EX2005, 15:19-16:1. Further, Petitioner still has yet to take the proper corrective action to correct its defective first petition. *Id.*, 38:18-22, 39:6-15 (pointing out that the Petitioner could have filed motion to

have the first petition dismissed). Instead, Petitioner prefers to expend the Board's and Patent Owner's resources by litigating the '380 patent even on grounds Petitioner itself has indicated should be abandoned. Paper 2, 2 (ranking this Petition "as a higher priority" than the first petition).

In view of the above, Petitioner's actions have repeatedly shown a disregard for the Board's resources. The Petitioner (1) delayed the filing of the first petition for nearly nine months, (2) filed the first petition a mere ten days before Patent Owner's infringement contentions were due, (3) misled Patent Owner and the Board about the reason for seeking dismissal of the first petition, and (4), despite the Board seeing through its tactic, filed a second petition a week later stating that Petitioner was attempting "a good faith effort to reduce any potential burden upon the Board (e.g., by eliminating the need for two institution decisions)." Paper 2, 2. Petitioner now requests that the Board endorse its new counsel's revised litigation strategy simply because "Petitioner ranks the parallel petition (IPR2024-01296) as a higher priority." *Id.* The Board should not reward Petitioner's gamesmanship by instituting this Petition.

VIII. CONCLUSION

This Petition should not be instituted because it fails to establish a reasonable likelihood of prevailing with respect to at least one claim. In addition, this Petition should be discretionarily denied under 35 U.S.C. § 325(d) based on *Advanced Bionics* and under 35 U.S.C. § 314(a) based on *Fintiv* and for being a parallel petition without cause. For any of these reasons alone, but even more so in combination, this 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 13,891 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**
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2001-2010 were served in their entirety electronically via e-mail on November
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