

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case IPR2024-00257
U.S. Patent No. 11,548,722

PATENT OWNER RESPONSE

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Ex. 2001	EP 08171069 Application (filed Sept. 12, 2008)
Ex. 2002	U.S. Patent No. 9,545,121 (issued Jan. 17, 2017)
Ex. 2003	U.S. Patent No. 9,545,121 (issued Jan. 17, 2017), Response to June 6, 2016 Office Action (dated September 7, 2016)
Ex. 2004	WO 2008/148646A1 (issued Dec. 11, 2008) (“Yoakim I”)
Ex. 2005	U.S. Patent No. 10,800,600 (issued Oct. 13, 2020), File History (“’600 File History”)
Ex. 2006	WO 2008/148601A1 (issued Dec. 11, 2008) (“Yoakim ’601”)
Ex. 2007	Nestlé Nespresso SA, <i>The Nespresso History: From a Simple Idea To a Unique Brand Experience</i> (May 2016), https://nestle-nespresso.com/sites/site.prod.nestle-nespresso.com/files/Nespresso%20-%20History%20Factsheet(1).pdf
Ex. 2008	Nespresso, <i>Nespresso Pixie Instruction Manual</i> , https://www.nespresso.com/shared_res/manuals/pixie/2010/www_Pixie_Z2_NESPRESSO(EN_HE).pdf
Ex. 2009	United States Patent and Trademark Office, <i>CPC – Cooperative Patent Classification A 47J</i> , https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A47J.html#A47J31/44
Ex. 2010	United States Patent and Trademark Office, <i>CPC – Cooperative Patent Classification A 23F</i> , https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A23F.html#A23F5/26
Ex. 2011	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , IPR2023-00485, Transcript of Deposition of Michael J. Jobin (Nov. 28, 2023)
Ex. 2012	U.S. Patent Appl. Pub. No. 2009/0007792 (Pub. Date Jan. 8, 2009)

Exhibit	Description
Ex. 2013	U.S. Patent Appl. Pub. No. 2008/0302252 (Pub. Date Dec. 11, 2008)
Ex. 2014	WO2008100597A1 (issued Aug. 21, 2008)
Ex. 2015	Bialetti, <i>Moka Express</i> – Bialetti, https://www.bialetti.com/it_en/moka-express.html
Ex. 2016	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , IPR2022-01574, Transcript of Deposition of Michael J. Jobin (June 22, 2023)
Ex. 2017	EP 08102147 Application (filed Feb. 29, 2008)
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Ex. 2020	Declaration of Dov Glucksman in Support of the Patent Owner’s Response (October 1, 2024)
Ex. 2021	U.S. Patent No. 10,294,020 (issued Jan. 17, 2017)
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Ex. 2023	Declaration of Alfred Yoakim re Application No. 12/602,542 (June 18, 2014)
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Ex. 2026	Declaration of Arnaud Gerbaulet re Application No. 14/358,361 (February 8, 2016)
Ex. 2027	U.S. Patent No. 9,277,837 (issued March 8, 2016)

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Ex. 2028	U.S. Patent No. 9,271,598 (issued March 1, 2016)
Ex. 2029	U.S. Patent No. 9,668,604 (issued June 6, 2017)
Ex. 2030	U.S. Patent Appl. No. 14/901,912, Response to February 8, 2018 Office Action (dated June 8, 2018)
Ex. 2031	U.S. Patent Appl. No. 16/956,726 to Société Des Produits Nestlé SA, Response to September 9, 2022 Office Action (dated December 8, 2022)
Ex. 2032	WO2010076048 (issued Jul. 8, 2010)
Ex. 2033	Declaration of Ian B. Brooks in Support of the Patent Owner's Response under 37 C.F.R. § 42.120 (Oct. 1, 2024)

Patent Owner K-fee System (“K-fee” or “PO”) submits this Response to the above-captioned Corrected Petition for IPR of U.S. Patent No. 11,548,722 (“’722”) (“Petition” or “Pet.”).¹

I. Introduction

The Board, without the benefit of a complete record, instituted review on two grounds. K-fee addresses the substantive errors, omissions, and shortcomings underlying Petitioner’s grounds. K-fee presents testimony from its expert, Dov Glucksman (Ex.2020).²

Petitioner failed to demonstrate unpatentability of any claim for at least the following reasons. Specifically, the Petition fails to demonstrate that:

- a person having ordinary skill in the art (“POSITA”) would have combined the teachings of Yoakim alone or with Jarisch929/Rossi/Rapparini/Castellani to arrive at the claimed invention;

¹ All emphases added, unless otherwise noted.

² Nothing in this Response shall be regarded as a disclaimer of claim scope and nothing shall be regarded as a concession that any of the cited references are in fact prior art.

- that Yoakim and Rossi disclose or render obvious a “pump controlled to push water into the portion capsule only upon a determination that the read optically detectable identifier agrees with a stored reference,” as claimed in all claims;
- that Jarisch929 discloses or renders obvious an identifier located on the side wall of the base element, as claimed in claims 13 and 16;
- that Yoakim discloses or renders obvious “the portion capsule is free of a filter inside of the cavity,” as claimed in claims 14-16; and
- that Jarisch929 and Rapparini are patents or printed publications, as required under 35 U.S.C. §311(b).

'722 claims are generally directed to a beverage system for producing a beverage comprising a beverage machine and portion capsule. The portion capsule is free of a filter, includes a base element having a cavity in which a beverage raw material is provided, and is closed by a foil lid sealed to the base element. Ex.1001 at Abstract. The beverage machine includes a pump controlled to push water into the portion capsule only upon a determination that the read optically detectable identifier agrees with a stored reference. *Id.*

The prosecution of the application resulting in '722 was extensive. *See* Ex.1002. To ensure the Examiner evaluated the references Petitioner now presents to the Board, PO submitted a Supplemental IDS, which identified the IPR Petition

of related U.S. Patent No. 11,254,491, outlined Petitioner's arguments, and "request[ed] the Examiner review the references and documents in Petitioner's Exhibit List," specifically the grounds relying on the combination of references including Yoakim, Jarisch⁹²⁹, Castellani, and Rossi. Ex.1002, 584-587. In response, the USPTO issued a Notice of Allowability. *Id.*, 583. The Petition seeks to undermine PO's candor before the USPTO and the Examiner's decision to issue the claims in view of the references/combinations now presented by Petitioner. Petitioner's suggestion that PO withheld the IPR decisions for the '491, '430 and '923 Patents from Examiner's consideration during prosecution of '722 application is absurd because the Board entered these decisions *multiple months after* '722 granted on January 10, 2023. Pet., 15; Ex.1001, 1. No reasonable conclusion can be drawn in favor of Petitioner from the actual facts that occurred.

II. Claim Construction

The Board determined no claims require express construction. Institution Decision ("ID"), 17-18. Under *Phillips v. AWH Corp.*, claim terms "are generally given their ordinary and customary meaning." 415 F.3d 1303, 1312 (Fed. Cir. 2005).

III. POSITA

The Board preliminarily adopted Petitioner's definition of a POSITA. ID, 16-17. PO notes that Petitioner and Mr. Jobin offer no analysis for his opinion on the level of skill and is thus entitled to no weight. Ex.1003, ¶¶37-40; Pet., 15-16; 37

C.F.R. §42.65(a). The proper level of ordinary skill is less rigid than Petitioner proposes. Notably, active workers in the field do not require engineering degrees. Ex.2020, ¶45. Moreover, the inventor of '722 held no engineering degree at the time of his invention, which is a relevant factor that Mr. Jobin was apparently not even aware of. ID, 16; Ex.1003, ¶38; Ex.2025, 51:15-22. The inventor also had less than a year of traditional working experience in design of mechanical beverage systems or similar products. A requirement of a degree in engineering and “[f]ive years of experience in design of mechanical beverage systems, or similar products” unnecessarily places too narrow a lens on the level of skill particularly given the fact the inventor and active works in the field often have less experience. The level of skill should be at least 5 years of technical experience, with at least 1 year of experience in designing, testing, and/or evaluating single-serve coffee/ beverage makers, with working knowledge of identifying means such as barcodes, sensors, etc. Ex.2020, ¶¶43-48.

IV. Petitioner Has Not Shown by a Preponderance of the Evidence That Any Claim Is Unpatentable As Obvious

A. Petitioner’s Motivations To Combine Fail (All Claims)

Petitioner argues that a POSITA would have combined Yoakim with Jarisch929, Rossi, Rapparini, and Castellani thus rendering the claims obvious. Pet., 36-43. Not so. Petitioner’s arguments fail to make even a prima facie showing of

motivation to combine the references or a reasonable expectation of success, and rely upon impermissible hindsight to arrive at PO's claims. Ex.2020, ¶¶78-163.

It is well established that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). A claim cannot be found obvious where Petitioner does “not provide a plausible rational as to why the prior art references would have worked together to render the claims [] obvious.” *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1352 (Fed. Cir. 2010).

Moreover, “[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 241 (CCPA 1965). This, however, is exactly what Petitioner's expert has done. Ex.2025, 186:10-19 (admitting “I don't look at a specific embodiment” in conducting his obviousness analysis). Despite Petitioner's expert's admissions that modifying a beverage machine or capsule requires multiple iterations and potentially years of work (*id.*, 29:7-37:5), Petitioner argues here it simply would have been obvious. Petitioner ignores the many factors present in the art itself that contribute to the unpredictability in seeking to achieve the then unproven results achieve by

PO. These factors as admitted in the art here include, e.g., vibration, preferential flow paths, residence time, loss of detected optical signals, capsule shape, and capsule structure. Petitioner also ignores that when its own RPI seeks patents it argues against the very combination(s) Petitioner advocates for here. Ex.2020, ¶¶78-163.

1. No Rationale To Combine Embodiments within Yoakim

Petitioner seeks to combine several different embodiments within Yoakim to cover K-fee's claims. *See, e.g.,* Pet., 44-47, 51-54, 57-58, 71. As explained below, the different embodiments are a mixture of laboratory models and schematic drawings. But there is an absence of any rationale to support such a combination (*see generally* Pet.) or a reasonable expectation of success, and as a result the Petition should fail. *Abiomed*, IPR2017-01204, Paper 9, at 8-11; *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998) (“obviousness can not be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. There must be a teaching or suggestion ... to select particular elements, and to combine them in the way they were combined by the inventor.”); *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

Despite this, in the ID, the Board preliminarily found “the combination of features from different portion capsules is a ‘predictable variation’ that does not ‘require a leap of inventiveness’” and concluded “it appears that Yoakim’s different

figures emphasize specific features of its capsule that may be used in other capsules.” ID, 24 (quoting *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009)). But unlike *Boston Scientific*, where the Federal Circuit held that “[c]ombining **two embodiments** disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness,” Petitioner here seeks to combine **over five separate embodiments** across numerous paragraphs and figures throughout Yoakim that have drastically different features, structures, intended results, and compatibilities. *See id.* Indeed, some embodiments are laboratory setups that would not be acceptable. The Board’s preliminary determination that “it appears that Yoakim’s different figures emphasize specific features of its capsule that may be used in other capsules” disregards the fact that Yoakim aggregates various discrete embodiments from a series of continuations-in-part—patent application filings, which, tellingly, show Yoakim thereby concedes that the features of its various embodiments are not supported by prior embodiments or teachings. ID, 24. Yoakim sought to separately patent embodiments from Figures 1-25, 26-43, and 61/61. Ex.2027, Figures; Ex.2028, Figures; Ex.2029, Figures. Tellingly, Yoakim presents various capsule embodiments without ever presenting or suggesting a capsule having all of the features of PO’s claims. Ex.2020, ¶¶81-83.

Importantly, “[t]he Court in *KSR* did not create a presumption that all experimentation in fields where there is already a background of useful knowledge

is ‘obvious to try,’ without considering the nature of the science or technology.” *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1352 (Fed. Cir. 2008). The Board’s preliminary finding also disregards a POSITA’s understanding that capsule and device design are complementary such that a POSITA would seek to design a capsule for a particular device (and vice versa) and that would lead to the capsule having specific features. *See* Ex.2025, 30:20-33:3. Especially in the Yoakim context of centrifugal brewing devices, a capsule suitable for one device did not assure suitability for all other devices. Furthermore, in the context of the present asserted modification of Jarisch929 and Yoakim, a change to one element has effects across a host of other elements. Ex.2020, ¶84.

One of the Yoakim embodiments Petitioner seeks to rely on is the toothed structure of Figure 23. Yoakim describes the specific toothed structure being received in a device having a “complementary shape.” Ex.1004, [0216] (“FIG. 24”). The only device Yoakim discloses as accepting the Figure 23 capsule is shown in Figures 8 and 9. *Id.*, [0217]. Those devices of Figures 8 and 9, however, are remarkably different from the devices that accept the capsules of Figs. 6, 7, 26, 27, 28, and 61 that Petitioner also relies upon and seeks to combine with Figure 23. Indeed, Yoakim’s Figures 8, 9, and 23 are described as different embodiments from Figures 6, 7, 26, 27, 28, and 61. *Compare* Ex.1004, [0037]-[0038], [0051]-[0052] *with* Ex.1004, [0033]-[0036], [0054]-[0057], [0083]-[0090]. It has also not been

shown how the Figures 23/24 embodiment would work with the system of Figure 61. Petitioner's expert conceded "as for Figure 8, I haven't considered that one in detail." Ex.2025, 183:2-3; Ex.2020, ¶¶85-86.

A POSITA would have understood that Figures 8-9 (and related capsules) illustrate a *laboratory* set up that would not be acceptable and that Yoakim did not intend those teachings to be applied to later described embodiments due to their lack of acceptability. Moreover, Figures 8-9 and the related capsule embodiments show a capsule that is not pierced by a mandrel, does not have an identifier or flange, and does not bear against a seal. These differences (and others) are a consequence of the devices in which the capsules are compatible. This all demonstrates to a POSITA that disclosed features of Yoakim's capsules are not interchangeable in a predictable way. A POSITA thus would not combine features from one capsule and arbitrarily add them into another capsule absent some need or motivation in the device design for doing so and would not have had a reasonable expectation of success in doing so. Ex.2020, ¶¶87-88.

Petitioner's efforts at cobbling together Yoakim's many capsule embodiments are driven by hindsight based on motivation gleaned from PO's claims. As explained, Yoakim's teachings do not suggest any general feature from one capsule may be made in another of Yoakim's capsules, or to combine every feature across the various embodiments into a single capsule. Indeed, when such modification was

contemplated Yoakim expressly says so. Ex.1004, [0216]-[0217]. It is only through studying PO's novel and non-obvious claims that one would arrive at the specific capsule having the features of the challenged claims on this record. This is improper hindsight. *ATD*, 159 F.3d at 546; *Fine*, 837 F.2d at 1075; Ex.2020, ¶¶81-95.

a. Yoakim has a long history of distinct inventions that the Petition fails to address.

Despite all of these disparate teachings and lack of motivation to combine within Yoakim itself, in no place has Petitioner explained why a POSITA would have been motivated to combine the different teachings of those embodiments. Ex.2020, ¶¶81-110.

It is black letter law that regardless of whether an obviousness argument “is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference,” Petitioner ***must*** direct the Board to “a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.” *In re Stepan*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017); *Lumenis BE Ltd., v. BTL Healthcare Techs. A.S.*, IPR2021-01280, Paper 8 at 20 (Mar. 9, 2022) (“Petitioner was ***required*** to provide ***some*** explanation of how those teachings fit together to teach or suggest [all of the elements].”).

Petitioner's failure to even *mention* a motivation to combine the various embodiments of Yoakim is a fatal omission that simply cannot be cured. *See Intel Corp. v. Tela Innovations, Inc.*, IPR2019-01521, Paper 65 at 25 (Mar. 9, 2021) (FWD finding claims not unpatentable where Petitioner failed to "explain why a POSITA would have combined the elements disclosed in the separate embodiments described in [the reference]").

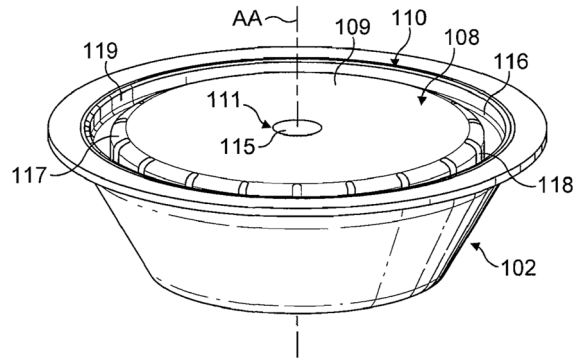
Instead of showing why or how a POSITA would have combined the distinct alternative Yoakim embodiments, Petitioner provides various lengthy strings of citations to Yoakim without identifying that those paragraphs pertain to different embodiments, and without explaining the motivation to combine the alternative embodiments. *See, e.g.*, Pet., 44-46, 51-53, 57 (relying on a combination of Yoakim's embodiments of Figs. 1, 4, 6, 23, 26-27, 61 for independent claim 1). Ex.2020, ¶99.

The Petition completely ignores the various distinct embodiments of Yoakim. There are at least five alternative capsule/device embodiments within Yoakim, each incompatible with the others. Yoakim teaches multiple different valve alternatives some using the lid, some using an engaging wall, and some using an interface assembly that spans to seal a peripheral rim of the capsule. Additionally, Yoakim teaches a variety of capsules without necessarily showing how they would be adaptable to various different embodiments. The sole extent of Yoakim teaching a

sensing device is in the embodiment of Figs. 61 and 62, and from this the Petition without any elaboration or substantiation or analysis, lumps the teachings together through hindsight on the assumption that a POSITA would be motivated to merely grab one isolated element or technique from an assembly/capsule and move it to a much different assembly/capsule. Petitioner uses these elements and techniques as fungible features, when in fact they are unique and distinct to specific embodiments. Ex.2020, ¶¶100-101.

b. The Petition fails to explain how or why a POSITA would combine Yoakim's different embodiments.

The explanation for Petitioner's failure to offer any reasoning for combining Yoakim's different systems/capsules is clear—a POSITA would *not* have combined the very different designs presented in each of the distinct embodiments disclosed in Yoakim. For example, Petitioner has not addressed the teachings that Yoakim Figs. 35 and 38 employ a specific capsule (depicted in Figs. 28-31) for those specific lab setups with a peripheral collecting recess 116. The capsule is loaded into a lab setup capsule holder of a machine having a single size, and that is not configured to receive multiple different volume capsules. *See* Ex.1004, Figs. 33-35, [0062]-[0065]. Despite its reliance on Yoakim's other embodiment depicted in Figs. 61 and 62, Petitioner has not addressed that the capsules of Figs. 61 and 62 do not show any such collecting recess, and the capsule holder is configured to receive capsules in a set of different volumes having distinctly different shapes/designs. Ex.2020, ¶102.



Ex.1004, Fig. 29.

Moreover, Petitioner has not addressed an even more compelling distinction in that the lab model of Fig. 35 (below) employs a specific valve assembly for that type of capsule (Figs. 28-31 type of capsule) which Yoakim depicts and describes as a water injection subassembly 129 shown in Fig. 36 (as having a peripheral collection recess 116) and described in paragraphs [0429] and [0434]-[0440]. This valve system lacks any place for an identification means. Ex.2020, ¶103. Petitioner's reliance on Fig. 35 is not to illustrate "the broader concept of a flow restriction means," as the Board preliminarily determined, but rather to combine multiple discrete embodiments without any explanation as to a POSITA's motivation or expectation of success. *See* ID, 25; Pet., 64; Ex.1003, ¶¶329-330.

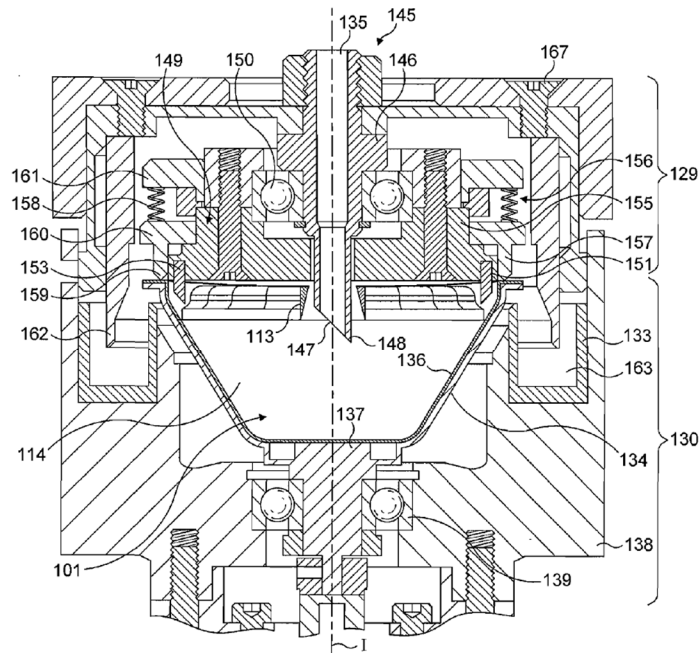


FIG. 35

Ex.1004, Fig. 35.

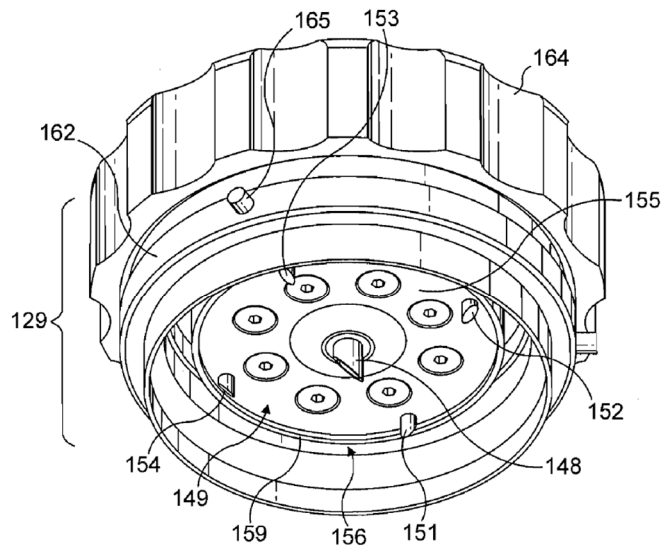
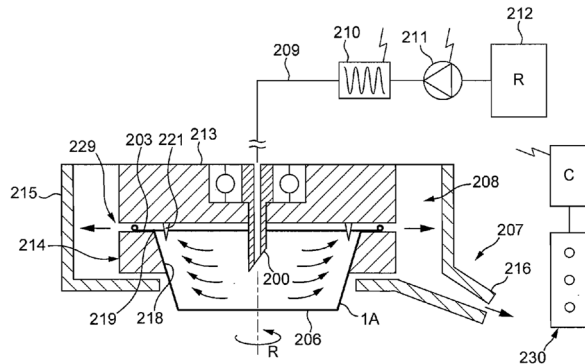


FIG. 36

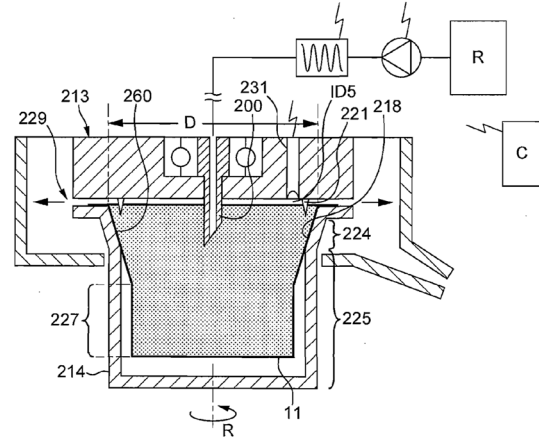
Id., Fig. 36.

It is the V-shaped surface 159 (depicted in Figures 35 and 36) that Petitioner relies upon as teaching the claimed seal arrangement. *See* Pet., 64-70. However, that seal, as used in the water injection subassembly of Fig. 36, dates back to February 29, 2008 where it is described in combination with the capsules depicted in Figs. 28-31. *See* Ex.2017 (EP08102147), Figs. 5-14. The V-shaped element 159, which is an integrated component of the Fig. 36 assembly, is designed to be lifted by the pressure of coffee that escapes from the annular recess (and Petitioner has not explained where there is any real estate to accommodate the sensing device 231 of Fig. 61 or how the sensing device would be positioned to avoid the “unbalance” problem identified in Yoakim paragraphs [0006] and [0507]). Ex.2020, ¶104.

In contrast, the system of Figs. 61 and 62 (below) (as with the system of Figs. 54 (below) and 55) is configured to employ an alternative type of valve assembly and different capsules utilizing identification means. That valve requires that there be a plate-like interface assembly 213 that extends over the capsule flange. The interface itself forms a seal with the capsule rim during initial brewing. Pressure build-up from centrifugation during brewing results in the interface assembly 213 wholly raising to form a radial gap for brewed coffee to escape. This valve has its origin in an application by Petitioner’s affiliate (and real party-in-interest (“RPI”)) dating to or about December 9, 2008. *See* Ex.2001 (EP 08171069); Ex.2002, Cover (30) (citing EP 08171069 for priority), Figs. 4-6; Ex.2020, ¶105.



Ex.1004, Fig. 54



Ex.1004, Fig. 62

The difference is of such a nature that Petitioner's affiliate and RPI distinguished this over its own Yoakim I to obtain U.S. Patent No. 9,545,121. See Ex.2003, 3-6 (distinguishing over differences in valve engagement); Ex.2002, Figs. 4-6 (illustrating similar structure to Yoakim's Figures 32-36 in Figs. 4-6); Ex.2004 ("Yoakim I") at Figs. 7-19; Ex.2020, ¶106.

The secondary reference *Yoakim I* teaches an annular engaging portion 57 that comprises a pressing surface 59 applying a closing force on the peripheral rim 4 of the capsule to be able to restrict the flow of liquid. See *Yoakim I*, page 14, second full paragraph. Increased pressure of liquid on the internal surface of the pressing surface 59 can lift the pressing surface 59 to create a small passage for the liquid. See *Yoakim I*, page 17, first full paragraph. Nevertheless, *Yoakim I* does not even suggest a plate that is pressed to engage the pressing surface portion with the force-setting portion.

Ex.2003, 5; see *id.*, 3.

The valve structure in Yoakim I (Ex.2004) at Fig. 10 is similar to the valve structure at Figure 35 of Yoakim, while the structure of Yoakim's Figs. 54, 55, 61 and 62 exhibit a similar plate structure to that found in the '121 Patent's (Ex.2002)

Figures 5-7 and described in Yoakim at [0506]. Thus, even the patentee of Yoakim would not contend combining these embodiments would have been obvious and Petitioner should not be allowed to argue otherwise here. Ex.2020, ¶107.

Yoakim further teaches that “[t]he device itself that receives the capsule of FIG. 23 comprises a toothed surface of complementary shape.” Ex.1004, [0216], Fig. 24 (illustrating the device that receives the capsule of Fig. 23). Yoakim expressly provides that “the connecting or engaging structure of FIG. 23 can replace the structure of the capsule of FIGS. 8 and 9 or reciprocally.” Ex.1004, [0217]. But Yoakim makes no such statement regarding the interchangeability of the capsule holder of the Figure 61 embodiment. Notably, as explained above, the Figures 8 and 9 embodiments are laboratory set ups that lack the identification means of Figure 61 that the Petition relies upon for other elements, and employs flow restriction without a valve based solely upon water escaping from capsule by a deflectable lip 82. *See* Ex.1004, [0521]; *compare id.*, Fig. 61 (showing identification means above the capsule) *with id.*, Fig. 8 (no identification means depicted); *see also id.*, [0131], [0200], [0202]. Indeed, the brewing systems, including the flow restriction arrangement, of the embodiments of Figures 8 (deflectable lip and no valve) and 61

(valve and no deflectable lip) are notably different, evidencing Yoakim's abandonment of the laboratory setup. Ex.2020, ¶108.

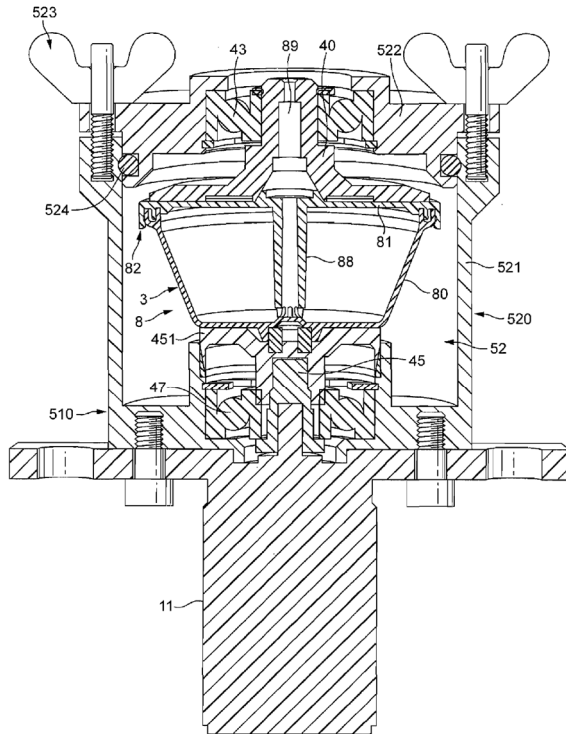


FIG. 8

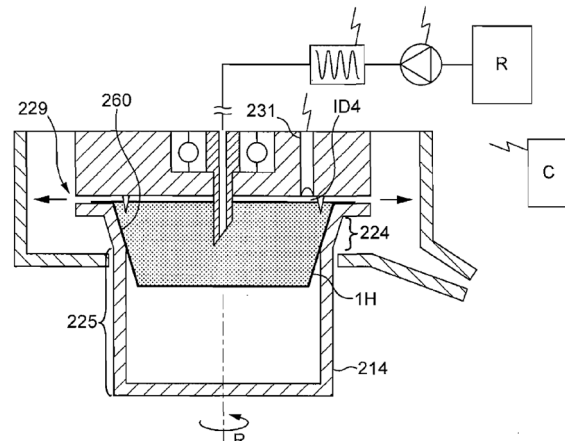


FIG. 61

There is thus no rationale in the Petition or Yoakim for combining the teachings of the laboratory toothed embodiments and the non-toothed embodiments in the manner the Petition suggests. The Petition's failure to provide a rationale to combine the teachings of Yoakim's many different embodiments makes the Petition deficient. See *Amazon.com*, IPR2022-01455, Paper 12, 18; *Intel*, IPR2019-01521, Paper 65, 25; *Hewlett Packard Enterprise*, IPR2022-00115, Paper 9, 15; *Abiomed*, IPR2017-01204, Paper 9, 11; *Google*, IPR2018-01086, Paper 10, 19; Ex.2020, ¶¶81-110.

2. No Motivation To Combine Yoakim and Jarisch929

The Petitioner's reasons for combining Yoakim with Jarisch929 are flawed. While Petitioner contends "Jarisch 929 teaches how to position the Yoakim sensor/detector below and *away* from the flow path," Pet., 38, it does not address at all whether there exists a reasonable expectation of success in such combination to provide a detector to read an optically detectable identifier. As explained below, the evidence shows there is not. Ex.2020, ¶¶111-144.

a. Jarisch and Jarisch929 Do Not Enable an Optically Detectable Identifier Located on the Bottom Side Which is Read by a Detector in the Beverage Machine

"To render a claim obvious, the prior art, taken as a whole, must enable a skilled artisan to make and use the claimed invention." *Raytheon Techs. Corp. v. General Elec. Co.*, 993 F.3d 1374, 1380 (Fed. Cir. 2021). "[A] non-enabling reference can play a role in an obviousness analysis," but only where the evidence of record establishes a skilled artisan could have made the claimed invention." *Id.*, 1381. "In the absence of such other supporting evidence to enable a skilled artisan to make the claimed invention, a standalone § 103 reference must enable the portions of its disclosure being relied upon." *Id.* In *Raytheon*, the Federal Circuit held the Board erred in finding prior art enablement where the evidence showed the solution contemplated by the prior art was not achievable (and thus non-enabled) at the time. *Id.*, 1381-82.

Here, the claims require an “optically detectable identifier located on the bottom side” which is read by a detector in the beverage machine. Ex.1001, cl.1. Jarisch929 teaches first a support on the top of a capsule. Ex.1006, Fig. 3, [0069]-[0089]. This embodiment is purportedly further described in Denisart. Ex.1006, [0010], [0047]-[0048]; *see* Ex.1007.³ The support is read without any obstructions between it and the sensor. *See* Ex.1006, Fig. 3; Ex.2025, 138:22-139:17. Jarisch929 then discloses the support “mounted on the bottom side 72 of the rim 73” (Ex.1006, [0090]), by sending the light through a cell (and reflected by a mirror). Ex.1006, [0106]; Ex.2025, 140:6-143:3. Jarisch929’s “bottom side” embodiment, however, fails to enable any optically detectable code because it provides nothing more than the support and general structure of the capsule, reader, and capsule holder.⁴ Ex.2020, ¶¶113-116.

Jarisch929 would not have enabled a POSITA to make and use PO’s invention because as Christian Jarisch and others later admitted in a co-pending application, the “bottom side” embodiment of Jarisch929 did not work. In

³ Denisart reads the identification means while the capsule is stationary. Ex.2031, 10-11; Ex.1007, 8:13-19. Jarisch929 does not explain how Denisart was modified to read a code while rotating the capsule. Ex.2020, ¶¶113n.1.

⁴ Jarisch suffers from the same defects. *See* Ex.1005, Fig. 4. Ex.2020, ¶133n.2.

particular, it had the “disadvantage ... that those reading conditions [in Jarisch929] remain specifically difficult for different reasons, such as because the incoming and outgoing rays of light must traverse the capsule holder when the capsule is held by the capsule holder, causing the loss of a great part of energy....” Ex.2021, 2:18-47. They went on to concede “it is not suitable to compensate the loss of reflectivity by improving the performance of the light emitting and sensing devices of the machine as it would make the beverage preparation machine too expensive.” *Id.* They concluded “there is a need for providing an improved code support which enables to provide a reliable reading in the particular conditions met in a centrifugal beverage machine using capsules for the preparation of the beverage.” *Id.*, 2:66-3:2; *see id.*, 3:7-13. Thus, the support on the capsule of Jarisch929 lacked an optically detectable code and Jarisch929 lacked sufficient disclosure to enable a support that could be read/detected. Ex.2020, ¶114.

Jarisch also conceded challenges due to the support being “relatively complex to integrate to the packaging structure forming the capsule itself.” *Id.*, 3:7-13. For example, it was known when using a deep drawn capsule that imperfections in the aluminum could cause data of a code to be incorrectly read. Ex.2026, ¶5. This led Christian Jarisch and others to later seek to create a functioning support (after PO’s PCT) and abandoning the mirror disclosed in Jarisch929. *See generally* Ex.2021. Mr. Jobin conceded that “[i]t can be years” and “dozens of iterations” when starting

from an unproven approach with a beverage capsule and developing a machine to work with it. Ex.2025, 31:20-32:11. Thus, it would have taken undue experimentation to make and use PO's invention from Jarisch929's teachings. Ex.2020, ¶115.

Moreover, for these same reasons, Petitioner's contention of expectation of success in combining Yoakim and Jarisch929 must fail, because Jarisch929 does not teach or enable "optically detectable identifier located on the bottom side" which is read by a detector in the beverage machine. *See* Pet., 36-43; Ex.2021; Ex.2022. Petitioner does not cite anything else in support of placing the code under the flange. Ex.2020, ¶116.

b. No motivation to place a code on the bottom of Yoakim's flange.

Petitioner suggests that Jarisch929's placing of the code on the bottom of the flange would result in the reading of such code being more reliable, allegedly because it is less prone to damage. Pet., 37-38. As just explained, Christian Jarisch and his co-inventors conceded that reliability was a problem with Jarisch929's teachings that they later sought to partially address. Ex.2021, 3:14-15. Regardless, Jarisch929 does not teach or suggest any rationale for moving the support to the underside of the capsule rim. Petitioner cites Jarisch929 at [0017]-[0018] (Pet., 12-13), but those passages are silent on any motivation to move the support and instead summarily assert it can be done. *See id.*; Ex.2020, ¶¶117-126.

There is no reason to believe that Yoakim’s placement of a “barcode” on the top of the membrane would suffer from readability issues given Yoakim’s device reads the “barcode,” without any obstruction before brewing when a capsule would not be soiled by beverage residues or damaged. Ex.1004, [0525], [0526].⁵ Petitioner seeks to rely on Jarisch929’s teachings of potential damage from a “pyramidal plate,” but makes no showing of any teaching in Yoakim utilizing such a plate. Pet., 37; Ex.2025, 151:8-12. A POSITA would have understood pyramidal plates to be

⁵ To the contrary, Petitioner identifies Panesar as a motivating reference for “the benefits of positioning the barcode away from liquid injection areas to avoid soiling or tearing.” Pet., 12. Panesar teaches doing this using a barcode on the same side of the “laminate” that is pierced by the machine. Ex.1010 at 18:24-19:9, Fig. 10. Panesar teaches that the concerns raised by Petitioner can be addressed through “minimum angular separation” of the barcode from the inlet. *Id.*, 19:9-20:21. Yoakim illustrates such separation and as a result the problems raised by Petitioner would not occur. *See id.* It is only through impermissible hindsight then that Petitioner seeks to find any such motivation (from Jarisch929) to move the code in Yoakim. Ex.2020, ¶119-120; *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012) (finding no reason to combine references where device already operates effectively and accomplishes the same function).

different from what is taught in Yoakim. *See* Ex.1004, Fig. 11 (12b), [0037], [0073]; *see, e.g.,* Ex.2032, Figs.6-9, Fig.17, 26:1-2, 33:8-34:21 (disclosing grid-like perforations in puncture plate (i.e. “pyramid plate”) located on top-side capsule membrane), 36:29-37:17. There is thus no reason to modify Yoakim’s design for the reasons and in the manner suggested by Jarisch929. *In re Schweickert*, 676 Fed. App’x 988, 995 (Fed. Cir. 2017) (reversing Board’s obviousness determination where proposed modification is “unnecessary” to prior art system that “already” performs function of proposed additional feature and “would do little more than add unwanted cost and complexity to the system”). Ex.2020, ¶¶119-121.

Moreover, as illustrated below the barcode (ID4 in the yellow region) is inboard of the tapered outlet perforators 221 (annotated in red) so the centrifugal forces when the capsule is spinning would drive any fluid through the outlets and away (annotated in green) from the barcode—not towards it. Ex.1004, Figs. 61, 62, [0507]. A POSITA would also have understood that Figs. 61 and 62 are not drawn to scale, such that the ID4 would not be immediately adjacent to the piercing member. Ex.2025, 169:4-11. Moreover, given the depth of piercing expected at the water inlet, the support materials for the membrane, and the volume of substance, a POSITA would not expect soiling from the inlet of the capsule due to the membrane forming a seal around the piercing inlet. Ex.1004, [0128], [0449]. Ex.2020, ¶122.

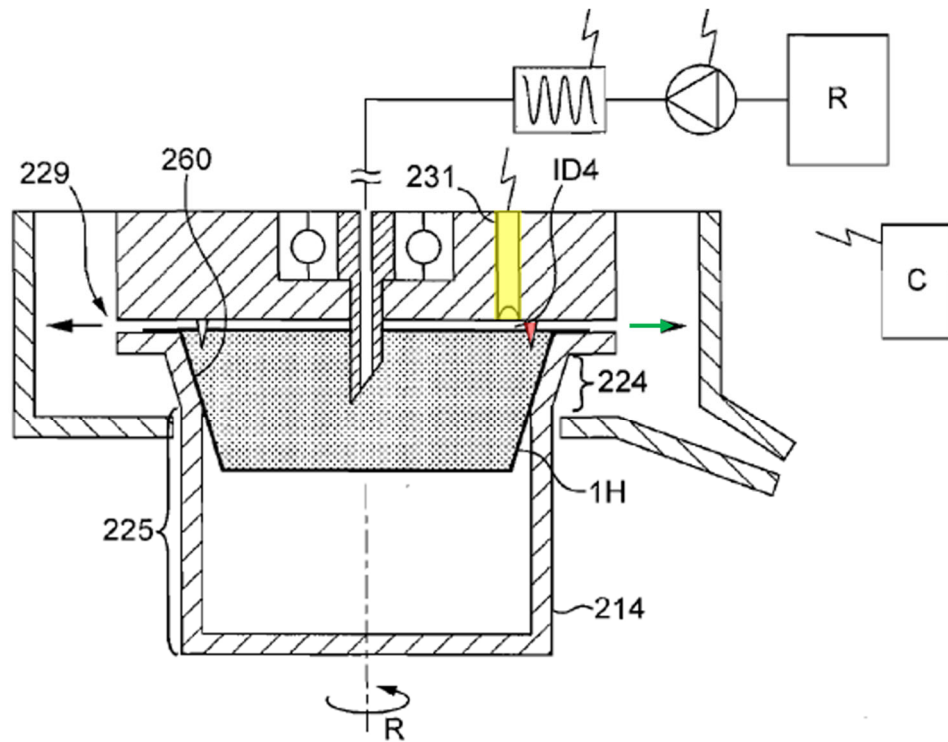


FIG. 61

Thus, the Petition has not shown that Yoakim's sensor 231 or barcode would be soiled and such a modification to Yoakim would be necessary or beneficial. Ex.2020, ¶123. Petitioner's argument to combine the references for this reason should be rejected. *See, e.g., Ex Parte Allen*, 2020 WL 3819948, at *3 (Jul. 1, 2020) (reversing Examiner for failure to provide a sufficient reason based on rational underpinnings to combine the teachings of the references where base reference

already disclosed an effective solution); *Trend Micro, Inc. v. Open Text Inc.*, IPR2023-00692, Paper 8, 24 (Nov. 6, 2023).

Also, Petitioner’s expert contends without support that “the bottom of the flange of the Yoakim capsules provide adequate space for such a code to be repeated around the entire perimeter.” Ex.1003, ¶228. But Yoakim teaches an annular portion that extends only “about 2-5 mm.” Ex.1004, [0414]; Ex.2020, ¶124.

In contrast, Jarisch929 teaches placement of the code at a distance as much as 10 mm from the peripheral edge. Ex.1006, [0018], Fig. 2. Jarisch929 explains that it is “particularly advantageous” to have “a large area for the symbols to be disposed.” Ex.1004, [0017]; *see id.*, [0063]. The Petition thus lacks any basis to conclude that Yoakim’s annular portion provides sufficient space. This is especially true when other features such as the toothed structure of Yoakim’s Figure 23 are also added, the effect of which is to further diminish the 2-5mm margin. It has also not been shown how the addition of teeth as taught by Yoakim’s Figures 23 and 24 would allow light to pass through the capsule holder (Figure 24) without interference or how beverage would flow from the capsule. Ex.2020, ¶125.

To the extent there was any interest in moving the identification means in Yoakim, the skilled artisan would have more readily placed the code on the unobstructed bottom of the capsule rather than the flange. Ex.2020, ¶126.

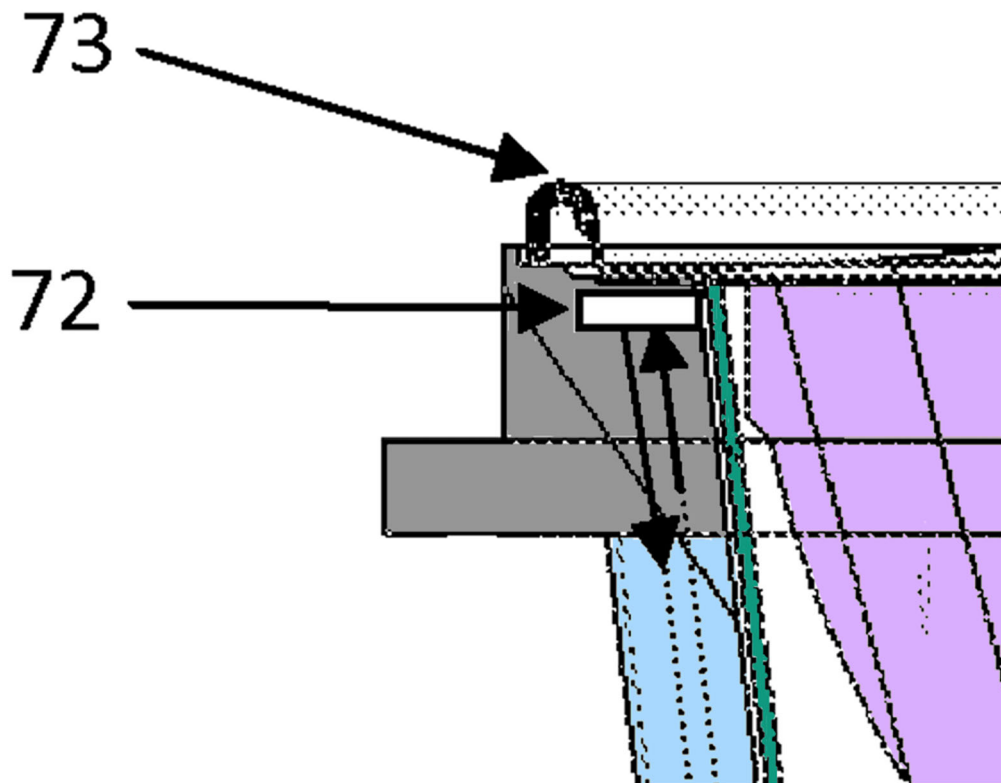
Thus, the lack of motivation to combine the references here is thus significantly undermined by the fact that such combination would be incredibly complex—not some notion against bodily incorporation. Ex.2020, ¶¶117-126, 140; *see* ID, 27-28; *Apple Inc. v. UUSI, LLC*, No. 2021-1035, 2023 WL 3071643 at *4 (Fed. Cir. Apr. 25, 2023) (rejecting appellant’s bodily incorporation argument because combination “would have been so complex that an artisan of ordinary skill would not have been motivated to make that combination or had a reasonable expectation that that combination would be successful”).

c. Lack of expectation of success in Yoakim and Jarisch929.

The claims require “a detector [in the beverage machine] to read the optically detectable identifier.” Ex.1001, cl.1. Thus, the inquiry requires the beverage machine’s detector to read the code. If the combination fails to yield a code that can be read by the beverage machine, then it must fail. Ex.2020, ¶¶127-140.

A POSITA would have understood that the combination would have unnecessarily complicated Yoakim’s device and would further have failed to yield an “optically detectable identifier located on the bottom side” which is read by a detector in the beverage machine. It has already been shown that Jarisch929’s embodiment for placing a code under the flange did not work. Ex.2021, 2:18-3:13. There are additional reasons why there’s no expectation of success. Ex.2020, ¶¶127-140.

First, there is the issue of vibrations when rotating the capsule. Yoakim recognized a propensity for “unbalance” that would produce undesired vibrations. *See* Ex.1004, [0006], [0479], [0482], [0484], [0507]. Yoakim sought to address this with a requirement for a “snug” fit between the capsule and the capsule holder. *See id.*, [0479], [0484], [0507]. In contrast, Jarisch929’s capsule does not engage with the interior of cell 3, which is taught to supposedly enable reading the code on the underside of the flange. As can be seen in Figure 5 of Jarisch929 (zoomed in below), there is a deliberate gap between the capsule (purple) and the cell (green).



Jarisch later acknowledged that vibrations were a problem in the system of Jarisch929: “the light rays may incur significant angular deviations due to particular mechanical constraints born by the rotating assembly of the machine and possibly coming from different origins (e.g., *vibrations*, wearing, unbalanced mass distribution, etc.).” Ex.2021, 2:39-43; Ex.2020, ¶128.

The Petition fails to address why such a “snug” fit disclosed in Yoakim would be abandoned in favor of the cell configuration in Jarisch929, absent hindsight. It would not have been. For example, Yoakim teaches that the capsule holder “*advantageously* has an interior surface or structure for engaging the capsule with the interior surface or structure configured to offer resistance to torque during rotation or for frictionally engaging or receiving a complimentary surface or structure of the capsule to enable the driving means to rotate the capsule.” Ex.1004, [0024]; *see also id.*, [0094], [0205], [0216], [0507], [0512], [0517], Figs. 54, 55, 61, 62, 65. Yoakim explains that as a result of this complimentary surface, “the risk of producing vibrations during centrifugation is reduced because all the capsules of the set are snugly fitted in the device with limited possible relative movement between each capsule and the device during rotation, i.e., capsule holder.” *Id.*, [0479], *see also id.*, [0478], [0484], [0507]. The snug complementary fit is expressly taught to provide an important “safety function.” *Id.*, [0205]. Moreover, the angle of the widening sidewall is also significant in Yoakim. *See id.*, [0260]-

[0261]. Yoakim thus teaches, and depicts, the capsule side wall advantageously engaging with the capsule holder. Ex.2020, ¶129.

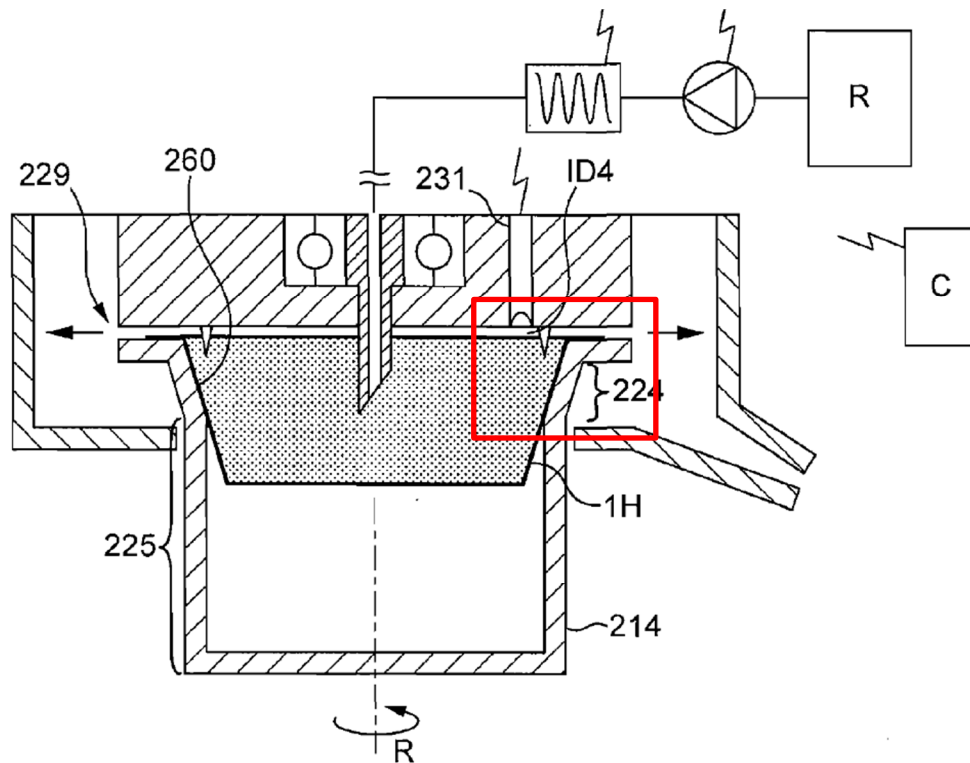


FIG. 61

Jarisch929 teaches that “the capsule of the invention” is designed for use in the system of “WO2010/026053” (Denisart, Ex.1007). Ex.1006, [0047], [0048]. In contrast, Yoakim describes various other systems with capsules designed for those systems and makes no mention of Denisart or its system at all. Ex.1004, [0002], Figs. 1-65. Denisart is silent as to any “unbalance” or vibration problems. Ex.1007. The Petition simply does not address what the effect would be due to the presence of this gap, particularly as to the “unbalance” problem identified in paragraphs [0006] and

[0507] of Yoakim, or the fact that Jarisch929's cell teaches a side wall angle shown by Yoakim to provide "poor results" (Ex.1004, [0261]); Ex.2020, ¶130.

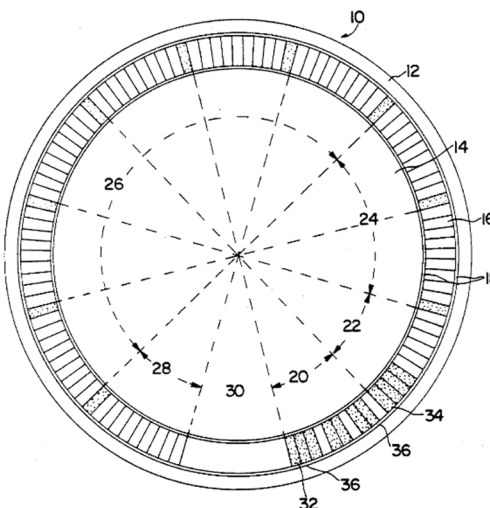
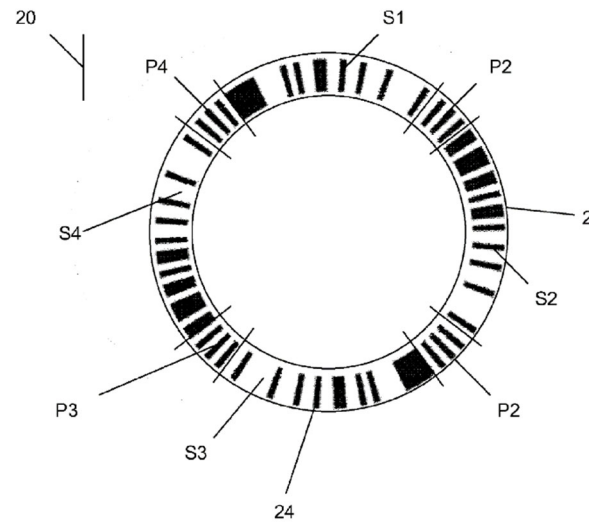
Given all the differences between Yoakim and Jarisch929, it is hard to see why a POSITA would have modified Yoakim in view of Jarisch929. Especially since the snug fit performs a safety function, the POSITA would have been discouraged from modifying Yoakim in view of the Jarisch929 embodiment, which has a gap and incompatible capsules. Indeed, Petitioner has not demonstrated how (or why) Yoakim and Jarisch929 could be combined without a substantial reconstruction and redesign of elements within the skill level of a POSITA. Ex.2020, ¶131. "An obviousness determination requires finding that a person of ordinary skill in the art 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 University of California v. Broad Institute, Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018).

Here, as Petitioner contends, "[t]he Jarisch 929 optical reader configuration is depicted below [in the annotated Figure 5] in order to read the code on the capsule (yellow) with the light path (red) shown from detector (62) to capsule rim (73)." Pet., 38. However, the "sensor/detector (231) [] enabled to identify and read a barcode" as described in Yoakim is positioned to read a code on the ***opposite*** side of the capsule. Pet., 51; *see also* Ex.1004, [0525], Figs.61, 62; Ex.2020, ¶132.

Moreover, Jarisch929 tries to distinguish itself from prior art systems by asserting that it has a configuration to read a code sequentially as the code is rotated relative to the detector. Ex.1006, [0016], Figs. 3, 5. In contrast, Petitioner points to the embodiment of Figs. 61 and 62 of Yoakim in which a non-repeating barcode (among other means) seemingly is read while it is in a fixed position relative to the sensing device 231. It is beyond dispute that Yoakim also fails to disclose a code that has symbols that are sequentially read while the capsule is rotated, and that the equipment needed to read the code of Yoakim would differ dramatically from that used to read the Jarisch929 support. Ex.2020, ¶133.

Tellingly, one of the inventors of Jarisch929 submitted a declaration to the Office holding the Office to (and not disputing) its finding that Yoakim “fails to disclose symbols that are sequentially readable while the capsule is driven in rotation along an axis of rotation.” Ex.2022, 2; *see also* Ex.2031, 10-11 (Petitioner’s RPI arguing Denisart not configured to read a code while capsule is rotated). In that same declaration, he explained that “I and my co-inventors [including Jarisch]” determined that “one of skill in this art would not have combined the beverage preparation capsule of *Yoakim* to have features of the gaming chip of *Fisher*.” *Id.*, 2. Fisher (Ex.2024) discloses a code like the one Petitioner now argues to combine with Yoakim. Ex.2020, ¶134.

Table 1 – Comparison of Fisher and Jarisch929

Fisher (Ex.2024 at Fig. 1)	Jarisch929 (Ex.1006 at Fig, 2)
 <p>FIG. 1</p>	

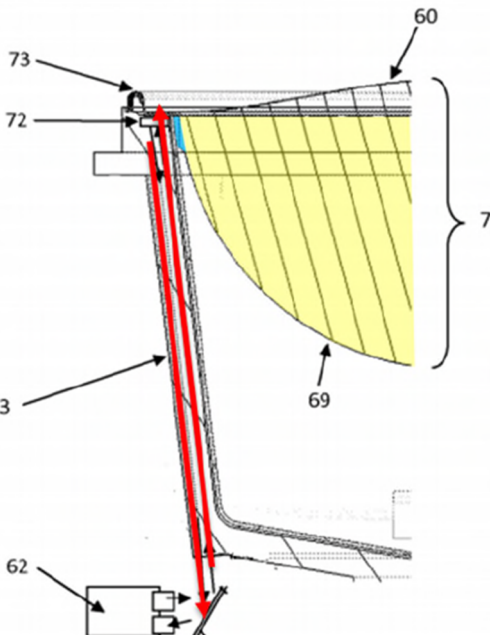
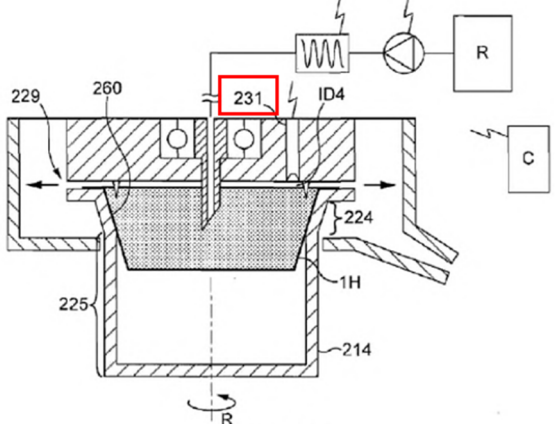
Compare Ex.2024, Fig. 1 (left), Abstract with Ex.1006, Fig. 2 (right).

Despite these diverging approaches and the Jarisch929 inventors’ prior sworn testimony to the contrary, Petitioner argues the opposite (because it suits its purposes) here that a POSITA would have somehow been motivated to make such a combination. But again, Petitioner has not explained how or why a POSITA would modify Yoakim with Jarisch929, which would require (among other things) a complete reconfiguration of the multiple combined embodiments of Yoakim. Ex.2020, ¶135.

Recall that a POSITA would have been discouraged from combining Jarisch929 and Yoakim because of the potential “unbalance” described by Yoakim

at paragraph [0507] that requires the snug fit. However, assuming *arguendo*, a POSITA would have moved the system shown in Jarisch929 into Figs. 61 and 62 in Yoakim, a POSITA would not have then sought to combine the annular V-shaped valve structure of Yoakim Figs. 35 and 36, because there would have been no further need for the annular V-shaped valve arrangement. *In re Schweickert*, 676 Fed. App'x at 995 (reversing Board's obviousness determination where proposed modification is "unnecessary" to prior art system that "already" performs function of proposed additional feature and "would do little more than add unwanted cost and complexity to the system"). Petitioner has not reconciled any of these teachings and its proposed combination is nothing more than hindsight analysis. Ex.2020, ¶¶136-137.

Table 2 –Sensor Placement

Jarisch929	Yoakim
 <p>Pet., 39 (citing Ex.1006, Fig. 5).</p>	 <p>FIG. 61 Ex.1004, Fig. 61.</p>

Not only would there be no motivation to make such a combination, a POSITA would have had a reasonable expectation of success in moving the sensor to the bottom of Yoakim's brewing device. For example, unlike the cell 3 in Jarisch929 which has a straight chamber made of transparent material between the code and the sensor and *still failed to yield an optically detectable code* (see Ex.2021, 2:18-47), Yoakim's capsule holder 214 (above right) is comprised of a wall structure having a lower portion 225 and first portion 224, which are connected by a bend (or flare) in the structure. Ex.1004, Fig. 61 (below), [0512]; Ex.2020, ¶138.

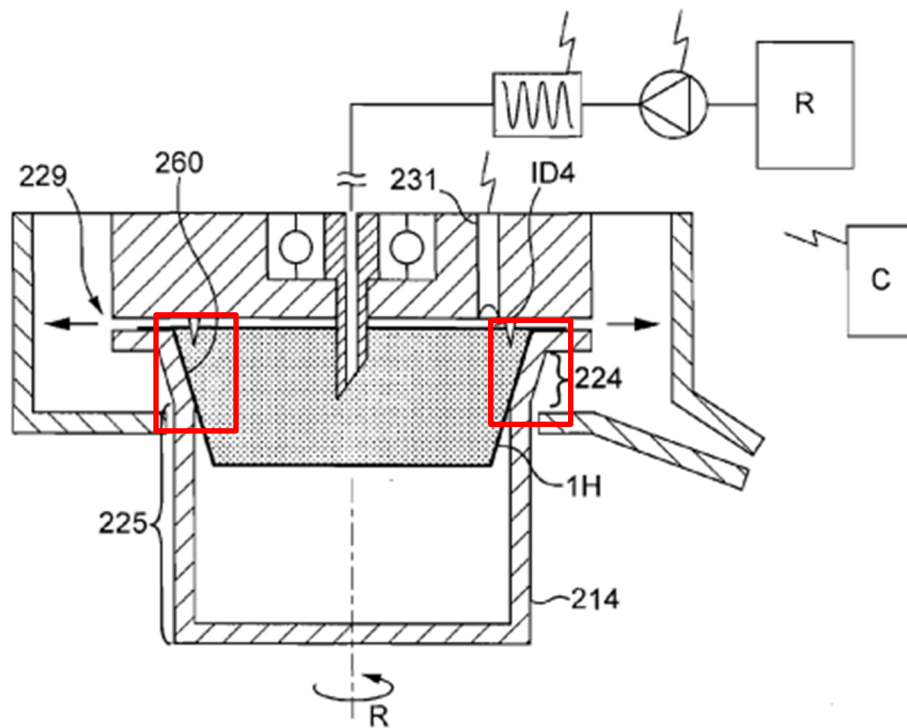


FIG. 61

Resolving this problem would have been particularly challenging given the fact that the barcode of Yoakim would be read while the capsule holder is rotated.

The use of Jarisch929's transparent material would also have contributed to impairment to the light available for detection. *See* Ex.2021, 2:18-47. This effect is even further exacerbated when trying to envision the required light transmission through a capsule holder like Yoakim Fig. 24. The only path to the code on the flange is through the wave-like structure of the hollow teeth 440.

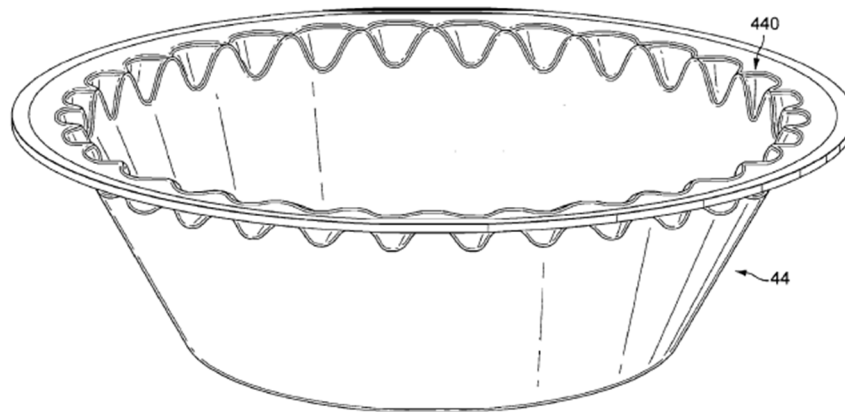


FIG. 24

In sum, the Petition fails to demonstrate that a POSITA would have had a reasonable expectation of success. Ex.2020, ¶138.

Here, the complicated optics assembly required in a brewing environment required more than a conclusory assessment that the POSITA could have combined Jarisch929 and Yoakim. *See* Ex.2021, 2:18-47; Ex.2020, ¶139. The analysis requires an explanation of how such combination would have been made with success. But the Petition lacks any such rationale or supporting facts, and the evidence here (Ex.2021) shows there was no expectation of success. *Teva Pharm. USA, Inc. v. Corcept Therapeutics, Inc.*, 18 F.4th 1377, 1381 (Fed. Cir. 2021) (holding findings of no expectation of success dispositive).

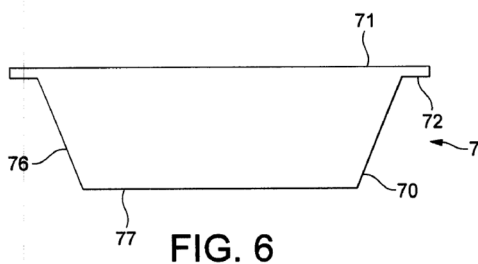
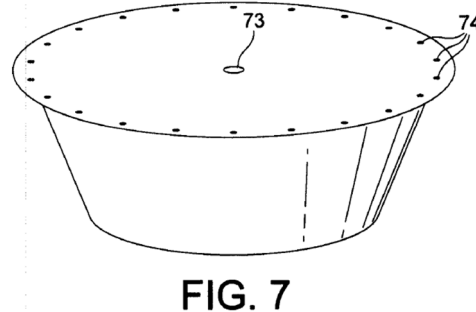
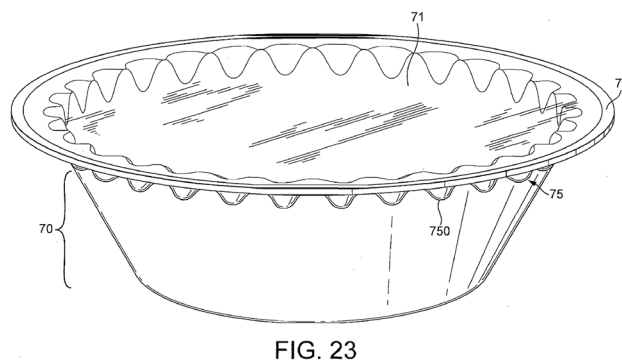
Because the combination of Jarisch929 and Yoakim would have required a significant redesign of the elements, including the unnecessary moving of the location of the sensor or detector (ostensibly directly into a flow path of the brewed coffee), and other significant differences, a POSITA would not have been motivated to combine the teachings of the two references. *See, e.g., In re Ratti*, 46 C.C.P.A. at 981. *Ex parte Saiki*, Appeal No. 2000-0373, 2002 WL 32102452, at *3 (B.P.A.I. Jan. 17, 2002); *Ex parte Salerno*, Appeal No. 2011-004947, 2013 WL 5603478, at *2 (B.P.A.I. Sept. 23, 2013).

Petitioner's mantra that the teachings do not need to be bodily incorporated is not an unrestricted license to combine multiple embodiments within a reference and then combine those embodiments with two, three or more references just because they may be in a similar field. As explained above, even without bodily incorporation there must be a motivation to achieve the combination and reasonable expectation of success. On the present facts, there is neither as even Jarisch929 fails to support success in the combination. Ex.2021, 2:18-47; Ex.2020, ¶140.

d. Petitioner's RPI argued against such a modification.

Yoakim and Jarisch929 have a common owner, Societe des Produits Nestle S.A. (formerly Nestec SA), an affiliate (and RPI) of Petitioner, and a common inventor. Pet., 36, 89 (listing Petitioner's RPIs). Ex.2020, ¶¶141-144.

During prosecution of Jarisch (Ex.1005), a priority application to Yoakim (“Yoakim ’601”) (Ex.2006), was cited against Jarisch. In attempting to overcome the rejection, Petitioner’s affiliate (and RPI) disparaged the combinability of Yoakim ’601 stating that “the skilled artisan would not have combined these cited references [including Yoakim ’601] to arrive at a capsule comprising a code arranged on a bottom of the flange-like rim.” Ex.2005, 6. Yoakim ’601 includes the same laboratory setup images Petitioner relies on here to support the opposite conclusion, i.e., placing the code on the bottom of the flange. *See, e.g.*, Ex.2006, Figs. 6-7, 23 (below); Ex.2020, ¶¶142-143.



See also Ex.2005, 8-9.

In brief, because Yoakim is a continuation-in-part of the Yoakim '601 reference, and Figure 23 of Yoakim '601 is identical to Figure 23 of Yoakim, Petitioner's prior arguments that Yoakim was not combinable undermine Petitioner's arguments now to the contrary. Ex.2020, ¶144.

3. No Motivation To Combine Yoakim/Jarisch929 with Rossi

The Petition argues combination with Rossi would have been obvious for the benefit of providing safety “for ensuring that an appropriate capsule is used.” Pet., 39. But Yoakim already expressly recognizes a need for a safety function, achieving that need specifically by the complementary shape of the capsule holder. Ex.1004, [0205]. Petitioner thus again argues for another unnecessary and redundant feature to be added to Yoakim. Ex.2020, ¶¶145-150. This too should be rejected. *In re Schweickert*, 676 Fed. App'x at 995.

Petitioner also suggests that the safety features of Rossi would be necessary in Yoakim due to Yoakim's teaching of pressure. Pet., 39-40. But the Petition fails to identify any teaching in Yoakim of **high** pressures that are the concern in Rossi. Indeed, Yoakim differentiates its methods from “known methods using brewing water pressurized by a pump.” Ex.1004, [0124]; *see also id.*, [0009] (“the effect of centrifugal forces to brew coffee or other food substances **presents many**

advantages compared to normal type brewing methods using high pressure pumps.”), [0010].⁶ Ex.2020, ¶146.

In contrast, Yoakim teaches “[t]he method of *the invention* comprises an operation wherein hot water is introduced into the capsule at *substantially no pressure*,” or alternatively, “using a *low pressure* pump.” Ex.1004, [0132], [0133], [0186], [0209], [0413] (“Water can be introduced at relatively low pressure or a pressure close to gravity.”), [0428]. So, in contrast to the high pressures taught in Rossi, it has not been indicated if or how Yoakim presents the same safety concerns—thus there would be no motivation to use Rossi’s teachings to improve safety as Petitioner suggests. Ex.2020, ¶¶147-148.

Yoakim’s teachings relating to “espresso” are directed to the size of the beverage—not the method for making the beverage or any pump pressure. *See, e.g.*, Ex.1004, [0471], [0476], [0526] (“in particular coffees, of different volumes (e.g., ristretto, espresso, lungo, americano, etc.)”). A POSITA would have understood from Yoakim’s disclosure that Yoakim’s device lacks the necessary pressure to brew a traditional espresso beverage. Cursory mentions of “espresso” do not

⁶ For frame of reference and showing such contrast, in 2011 Petitioner offered the Pixie espresso making machine and marketed it as having 19 bar pressure. Ex.2007, 3; Ex.2008, 13 (describing specification “Pmax 19 bar”); Ex.2020, ¶146.

overcome the necessary conclusion from Yoakim as a whole—Yoakim is a low-pressure system and not the type that Rossi’s teachings seek to improve. Yoakim thus teaches away from high-pressure pump systems in favor of centrifugal, low or no water delivery pressure, systems. Ex.2020, ¶149.

Furthermore, there should not be a safety problem in Yoakim because Yoakim already teaches using a complementary snug fit which is applicable to all embodiments. *See* Ex.1004, [0205], [0479], [0484], [0507]. Nevertheless, to the extent that there remains another safety problem, they would be due to the high pressures resulting from centrifugation at well beyond 10,000 rpm, not hot water delivery by a pump through an unauthorized capsule. *See* Ex.1004, [0442]. Petitioner has not explained why a POSITA would not have looked to address that safety problem by controlling valve operation, motor centrifugation speed, or both, as these are what gives rise to any high pressures in Yoakim. Absent hindsight, there is no basis to conclude that any safety problem would motivate looking to Rossi’s teachings. Ex.2020, ¶150.

4. No Motivation To Combine Yoakim/Jarisch929 With Rapparini

Rapparini describes a manufacturing process for containers by means of thermoforming starting from a flat strip of permeable, filtering and thermoformable material, wherein the body of the container comprises longitudinal stiffening ribs. Ex.1008, Abstract, [0010], [0023]. The ribs are provided for stability in packaging

and/or filling at high production rates. *Id.*, [0003], [0007]. A POSITA reading the application would have understood that while Rapparini describes the use and application of the container in moka pots, suspending it by a wire, and including a suspension tab, no figure or description is offered for use in centrifugal espresso machines, such as Yoakim and Jarisch929. *See generally id.* Indeed, a POSITA would have understood from the figures of Rapparini that no specific embodiment for any espresso machine is depicted. A POSITA would recognize that Rapparini's container is not suitable for use in a centrifugal espresso machine due to its body's permeability, which would result in spillage in such machines. *See* Ex.2020, ¶¶151-157.

Accordingly, a POSITA would not have looked to Rapparini's permeable containers to modify Yoakim's sealed capsules. Indeed, Rapparini on its face is directed to "the field of filtering and permeable containers" (Ex.1008, [0001]), which Yoakim, Jarisch929, and Castellani are not. *See* Ex.1004, [0027], [0096], [0110], [0129]; Ex.1006, [0049]; Ex.1009, [0007].⁷ Rapparini is silent as to any

⁷ Petitioner incorrectly contends that Rapparini "states its invention can be applied" to metal capsules, as claimed in the '722 Patent. Pet., 42. Not so. This too is based solely on hindsight. A POSITA would have understood from Rapparini's disclosure of "thermoforming" (Ex.1008, [0010], [0026]) a permeable capsule that

benefit realized from his invention in providing stability to non-permeable containers and thus provides no motivation for applying its ribs to those containers. *See id.*, [0007] (“the present invention guarantees stability of the structure of filtering and permeable containers”). Moreover, Yoakim lacks any suggestion that packaging and/or filling at high production rates would have been a problem. It is only with hindsight of ’722 that one would seek to modify Yoakim’s sealed capsules to add the ribs of Rapparini’s permeable containers to achieve the claims. The different applications and the fact that Yoakim’s capsule bodies are not permeable would lead a POSITA away from Rapparini. Ex.2020, ¶¶152-153, 157.

Petitioner argues that “Yoakim already contemplates a capsule using a textured body... as Yoakim explains that they can be used to engage the capsule in the centrifugal brewing system.” Pet., 43. But this does not provide a motivation for looking to permeable filters for modifying Yoakim’s capsules and again relies entirely on impermissible hindsight, since Yoakim teaches capsules without “a textured body” already engage the capsule in the brewing system. Ex.1004, [0479]. There is thus no motivation to modify the capsules for that purpose alone in Yoakim

Rapparini teaches a solution for plastics. Ex.1029, 13 (“Thermoforming is the process of heating a plastic material”); Ex.1026, 11. Rapparini in no way teaches or suggests ribs on a deep drawn capsule made of metal, as claimed. Ex.2020, ¶153.

because doing so would be redundant and superfluous. *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012) (finding no reason to combine features from reference where device already operates effectively and accomplishes the same function); *ATD*, 159 F.3d at 546. Notably, Yoakim himself tested using permeable capsules in centrifugal brewing devices and concluded the results were “poor.” Ex.2023, 2-5, 13-14; Ex.2020, ¶154.

Petitioner also has not explained how it is feasible to combine Rapparini with Yoakim and Jarisch929 and have ample space for a code as taught by Jarisch929. The ribs and grooves of Rapparini’s Figs. 6 and 6bis intersect with and form part of the flange (annotated in red below).

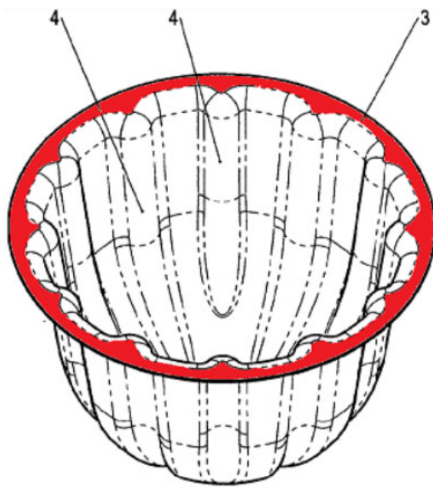


FIG. 6

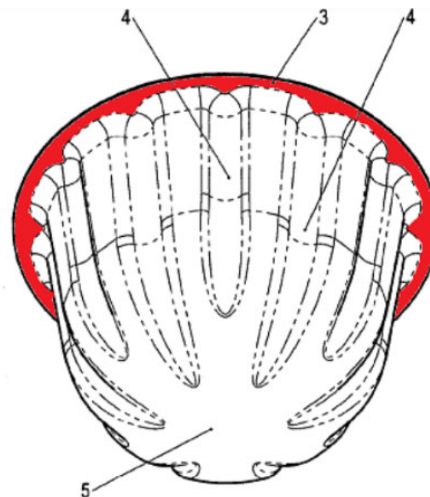


FIG. 6 bis

The grooves being part of the flange necessarily means less surface to carry a code. Moreover, there is a problem of combining the capsule of Yoakim Fig.23 with the

code of Jarisch929 since the flange of Fig.23 is not suitable for the code of Jarisch929 due to its small size; the Petition is deficient in rationalizing the at least four-way combination of Yoakim Fig.23, Yoakim Fig.61, Jarisch929 Fig.5, and Rapparini. This combination is based purely on hindsight. Ex.2020, ¶155.

Finally, the claims here require “a barrier layer,” Ex.1001, cl. 7, 21, and a “barrier layer to prevent moisture or aroma from escaping out of the portion capsule.” Ex.1001, cl. 7. Petitioner contends that Yoakim teaches such layers. Pet., 61, 74. But Petitioner does not explain why a POSITA would have looked to teachings of a permeable capsules when seeking to modify capsules designed to prevent moisture or aroma from escaping out of the portion capsule. They would not. Ex.2030, 9 (Petitioner’s RPI arguing “a person having ordinary skill in the art would find no motivation or reasonable expectation of success in modifying a filtering, permeable container to include oxygen barrier or gas barrier layers...”). Ex.2020, ¶156.

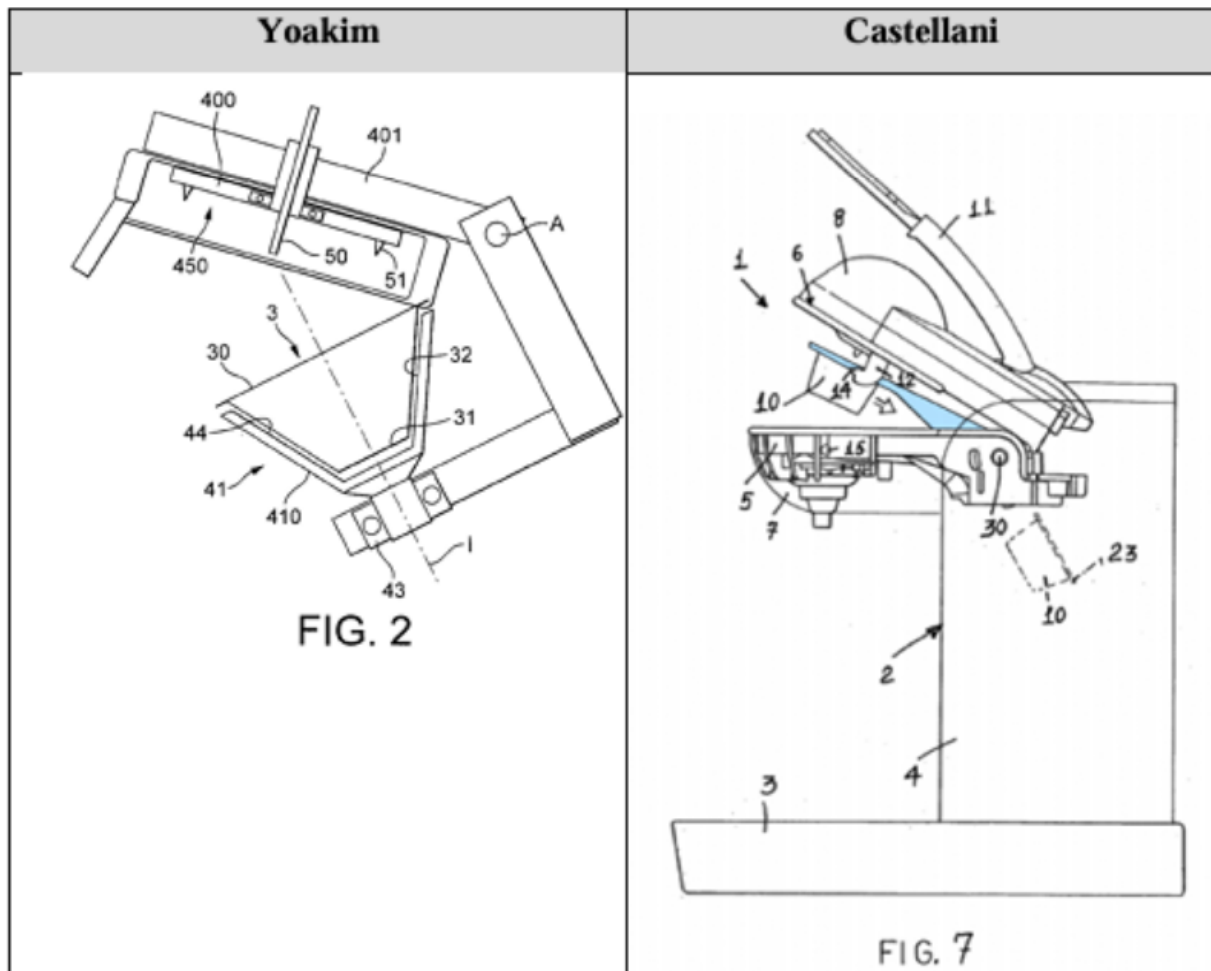
5. No Motivation To Combine Yoakim/Jarisch929 With Castellani (Ground 2)

Castellani describes a delivery head for non-centrifugal espresso coffee machines “in which the single-use or disposable capsule loading and unloading operations can be performed in a very easy and safe manner, from a user standpoint.” Ex.1009, Abstract, [0010]; Ex.2025, 56:1-20, 57:4-8. A POSITA reading the application would have understood that while Castellani describes an

ejection system for the “single-use or disposable capsule” by way of sliding onto the “fork element 21” and “annular portion 22” (i.e. the alleged “holding arms” as required by claims 2 and 3 of the ’722 patent) and into a collecting vessel, Castellani’s fork element is not suitable for use in combination with Yoakim and Jarisch929 due to obstruction of the code on the bottom of the flange and resulting interference with reading the code on the bottom of the flange. Ex.1009, [0054], Figs. 2, 7, 11. Accordingly, a POSITA would not have looked to Castellani’s teachings of a conventional espresso coffee machine capsule ejection system via fork element and collecting vessel to further modify the combination of centrifugal brewing machines in Yoakim and Jarisch. Ex.2020, ¶¶158-163.

Petitioner argues a POSITA would have been motivated “to utilize the ejection forks disclosed by Castellani to properly position and secure the capsule in the Yoakim and Jarisch929 system (in order to facilitate controlled centrifuge extraction and barcode reading).” Pet., 74. But Petitioner’s reasoning ignores that placement of ejection forks and annular portion between the capsule and the cell as taught by Jarisch929 would prevent reading a code under the capsule flange. Indeed, Castellani provides *no teaching* of a code on the bottom that is read by a sensor/detector or how the portion capsule is detected for suitability/safety/brewing parameters. *See generally* Ex.1009; Ex.2020, ¶159.

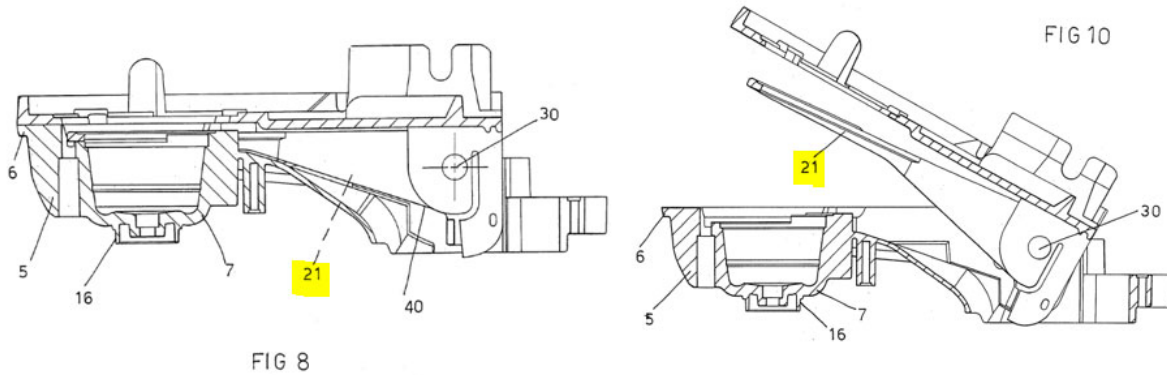
Second, Petitioner's only support for the cited references containing "structurally similar" systems is that "Yoakim and Castellani systems utilize top-mounting capsule insertion into a brewing head as shown below:"



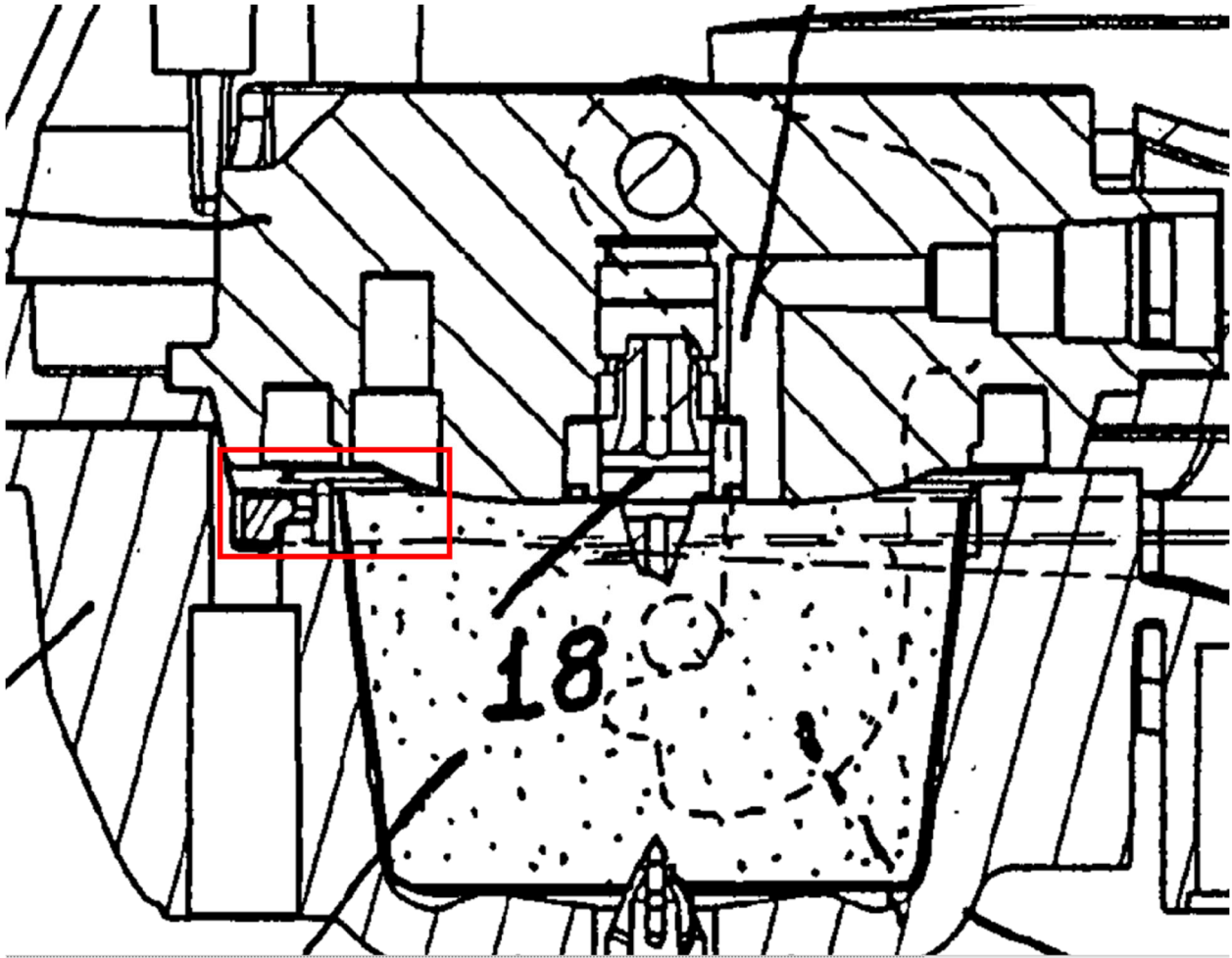
Pet., 75-77. However, Petitioner's annotation in blue (allegedly illustrating Castellani's "fork element 21") shows Castellani's holding arms covering the "perimetrical edge portion 23" (i.e. flange) of the portion capsule in the Castellani reference. Ex.1009, Fig. 7, [0053] ("the fork element 21 will rise said capsule 10, by its annular portion 22, which engages at the bottom thereof the bearing

perimetrical edge portion 23 of the capsule 10”). Assuming *arguendo* that a POSITA would be motivated to move the position of Yoakim’s code in view of Jarisch929 to the bottom side, the fork element and annular portion disclosed in Castellani would obstruct the code and further prevent any capsule recognition for subsequent beverage brewing. Specifically, when Castellani’s beverage machine is shown in a closed “rest position” with a single-serve capsule inside, the “fork element 21” (annotated in yellow below by PO) covers the flange of the portion capsule, thereby hindering the passage of light and recognition of a code on the bottom side, which Petitioner deems is required when combining Yoakim and Jarisch929. Ex.1009, Figs. 8-10, [0022]-[0024]. And even if the code was not completely obstructed by the fork element, it would exacerbate the existing “loss of a great part of energy” admitted to have made Jarisch929’s teachings of a code under the flange unsuitable. *See* Ex.2021, 2:18-47. A POSITA would have been discouraged in placing the sensor in the path between the capsule holder and the

waste container because doing so would result in soiling from used capsules moving between the holder and the waste container. Ex.2020, ¶160-161.



The fork element would also add friction to the rotation of the capsule within the brewing device, thereby preventing proper centrifugal operation. As taught by Fig. 1 of Castellani (depicting a dotted line for the fork element in a cross-sectional view), the top of the fork element remains in contact with the capsule rim after the lid is closed. Ex.2020, ¶162.



This would result in friction, in the rotation which a POSITA would seek to avoid.
Ex.2025, 44:11-20 (explaining you'd want a little bit of clearance).

It is only with hindsight of '722 that one would seek to modify Yoakim in view of Jarisch929 for the position of the barcode on the bottom side and then further modify the combination to add Castellani's fork element to achieve the claims. The fact that Castellani's fork element covers the bottom side of the flange would lead a POSITA away from this combination and the added friction would

undermine any reasonable expectation of success. Ex.2020, ¶163; *see ATD*, 159 F.3d at 546.

B. Yoakim and Rossi Fail to Teach Or Render Obvious a “pump controlled to push water into the portion capsule only upon a determination that the read optically detectable identifier agrees with a stored reference” (All Claims)

Claim element [1.g] requires “a pump controlled to push water into the portion capsule only upon a determination that the read optically detectable identifier agrees with a stored reference.” According to Petitioner, this element is taught by Yoakim and Rossi. This is incorrect. Ex.2020, ¶¶164-177.

Starting with Yoakim, Petitioner contends that Yoakim discloses a pump controlled to push water into the portion capsule and that the pump is controlled based on detection of the identifier by the sensor/detector. Pet., 54. But Yoakim lacks any teaching for a pump that is controlled to push water into the portion capsule “*only upon*” the identification of a stored reference. At best, the only inherent disclosure of Yoakim might be controlling when the pump stops filling water. This is apparent from the citations relied upon by Petitioner. *See* Pet., 54 (citing Ex.1004, [0180], [0477]). Overall, there is no link (explicit or inherent) in Yoakim between the reading of the identification means and the initiation of the flow of water only upon such reading. *See* Ex.1004, [0025] (“control means capable of operating the device in centrifugation for any of the different capsules.”), [0218] (“a water by-pass

conduit 500 is provided in addition to the main water conduit 50 for adding a volume of water in the collecting assembly.”). Ex.2020, ¶165.

In fact, Yoakim actively teaches *away* from “a pump controlled to push water into the portion capsule **only upon** a determination” that the identifier agrees with a stored reference. Yoakim teaches alternatives to a pump for pushing water into the portion capsule, including by means of “a hot water feed mechanism,” “via a water plug connection,” or by being “poured into” the capsule. Ex.2014, [0132], [0427], [0209]. Yoakim further provides that the control means can adjust the brewing conditions, therefore acting independently from the identification means, and directly contradicting the required “only upon” limitation of [1.g]. Ex.1004, [0192]. Moreover, Yoakim’s teaching that “[a] volume of water may be added **before, during or after** the centrifugal brewing operation in the capsule” demonstrates the supply of water to the portion capsule does not occur **only upon** a determination that the read identification means agrees with a stored reference but is instead triggered by something else, such as the control means acting independently of the identification means. Ex.1004, [0218], [0192]; Ex.2020, ¶166.

Tellingly, Yoakim teaches activation of the pump through “rotational momentum”—not as a result of reading an optically detectable identifier that agrees with a stored reference. Ex.1004, [0022] (“liquid introducing means is operatively associated with a pump and injection tube connected to a reservoir for injection of

the liquid into the capsule *under the effect of rotational momentum*”), [0212] (“an injection of water by aspiration under the effect of the rotational momentum”), [0522]. Rotational momentum is one of “two key parameters”—the other being “back pressure”—in “delivering different flow rates” in the “system of the invention.” *Id.*, [0521]. Thus, Yoakim teaches motor activation, which causes rotational momentum, which causes pump activation—not by a determination that the read optically detectable identifier agrees with a stored reference as the ’722 patent requires. Ex.2020, ¶167.

Petitioner’s argument that “[i]t would have been obvious to a POSITA reading Yoakim to only utilize the pump to push water into the capsule *after* the optically detectable identifier is successfully compared to a stored reference” is contrary to Yoakim’s teachings of a “pre-wetting” step to ensure that the water has sufficient time to infiltrate the beverage material. Pet., 54; *see* Ex.1004, [0209], [0441], [0530]. Yoakim teaches a “prewetting of the capsule [that]...is carried out for a few seconds” and then “centrifugation at about 8000 rpm.” Ex.1004, [0530]. Regarding this pre-wetting step, Yoakim teaches that “[w]hen the device is in the closed position...water can be injected at a low pressure.... *Then* the control unit starts the motor and the capsule is so driven in rotation at high speed to perform the centrifugal brewing operation. *Id.*, [0209]. A POSITA would have understood this pre-wetting step occurs before reading the identification means and improves the beverage

strength by increasing the “residence time of the liquid in the capsule.” *Id.*, [0309], [0442]. Indeed, Yoakim highlights the advantage of allowing “several seconds that water fills in the capsule *before* starting the centrifugal operation by rotating the capsule.” *Id.*, [0441]. As such, a POSITA would have understood from Yoakim’s teachings of pre-wetting that Yoakim presents/exemplifies a step-by-step process wherein a low-pressure pre-wetting injection via pump occurs *prior to* reading the identification means and the centrifugal brewing operation which depends on various operational parameters.⁸ Ex.2020, ¶168.

Pump activation only upon detection/reading of the identifier by the sensor/detector and a determination by the beverage machine that the portion capsule is suitable for use with the beverage machine is not inherent from Yoakim’s teachings. Petitioner’s arguments are a consequence of hindsight from K-fee’s inventions. The Petition does not explain why a pump—as opposed to a valve, centrifugal, motor, heater, or any of the other controllable features in Yoakim—would be controlled only after/upon detection of the identifier. Tellingly, Schifferle

⁸ When asked whether he was familiar with Yoakim’s disclosure of a “pre-wetting” step and when in Yoakim’s brewing process pre-wetting occurs, Petitioner’s expert could not recall his testimony regarding pre-wetting or explain Yoakim’s teachings of pre-wetting. Ex.2025, 172:6-174:24; *See* Ex.2020, ¶168.

(Ex.1039) teaches a coffee maker where “[a]s soon as the brewing chamber 5 is closed, the pump 2 is operated.” Ex.1039, [0021]; Pet., 9 (referencing Schifferle). Yoakim’s system could activate the pump in this way. Thus, it is not the case that Yoakim necessarily uses the identification means to activate a pump. Ex.2020, ¶169.

Yoakim teaches a selection means that similarly might activate the pump. This is consistent with Mr. Jobin’s own experiences. *See* Ex.1003, ¶58 (“Consumers typically place the single-serve capsule into a brewing chamber of the machine, close the chamber to seal it, and ***press a button or switch to initiate the extraction process, which causes the machine to mix heated water with coffee grounds inside the capsule to brew coffee.***”), 63 (“Beaulieu [Ex.1019] explains that the controller waits for the user to press the brew button”); Ex.1019, 3:64-4:5. Petitioner’s argument that it would have been obvious to a POSITA reading Yoakim to control the pump to push water into the portion capsule “***only upon***” the identification of a stored reference is a consequence of hindsight from K-fee’s inventions and directly contradicted by Yoakim’s teachings, as well as Schifferle and Denisart. Pet., 54-55; Ex.2020, ¶170.

The Petition next relies on Rossi. Pet., 55-56. Petitioner contends that Rossi discloses only activating a beverage production cycle if an identifier agrees with a stored reference. *Id.* Notably, Petitioner does not allege that Rossi discloses a pump, or even that Rossi discloses control of a pump to push water into a capsule based

only upon a determination that the identifier agrees with a reference. This is because Rossi does not disclose a pump at all, and a pump is not inherent in Rossi's teachings. *See* Ex.2025, 131:16-135:3 (admitting that Rossi does not (1) mention a pump, (2) describe how the water is supplied into the capsule, or (3) disclose any elements that supply water into the capsule). Indeed, there are many ways to supply water under pressure without a pump. *See, e.g.,* Ex.2012, Abstract, [0073], Fig. 10; Ex.2013, Abstract, [0009], [0010], [0033], [0067], Fig. 2A; Ex.2014, Abstract, Figs. 1, 2; Ex.2015, 1; Ex.2020, ¶171.

In fact, Mr. Jobin readily admits during his work on coffee machines design, he worked on a machine that did not use a pump to move fluid from the reservoir to the brew basket. Ex.2016, 50:12-25. While Rossi describes "the load element is generally pierced to allow water to pass through it," and "[t]he contents of the load element are brewed or dissolved in the water in order to make the edible product," nowhere does it use the word "pump" or even teach pushing water. *See* Ex.1041, 3. Even Yoakim teaches a pump is not necessary to supply water into a capsule, because other means such as vaporization and gravity are sufficient. *See* Ex.1004, [0132]; (explaining water can be fed using aspiration or vaporization), [0427] (explaining tap water can be used). Given Rossi's lack of disclosure of a pump, it is not surprising Rossi does not teach the claimed pump controlled to push water into

the portion capsule only upon a determination that the identifier agrees with a stored reference. Ex.2020, ¶172.

Closer analysis of Rossi reveals that it teaches a process that is both unlike the one claimed and is incompatible with the combined teachings of Yoakim/Jarisch929. Rossi has a three-step safety validation process. Two steps must occur before the activation takes place. These steps are not optional. Without any compelling rationale, Petitioner has selectively omitted consideration of the second step and the effect that a destroyed identifier would have upon the claimed combination. Ex.2020, ¶173. This is improper selective picking and choosing. *See In re Wesslau*, 353 F.2d 238, 241 (CCPA 1965); *see also In re Mercier*, 515 F.2d 1161, 1165-66 (CCPA 1975). Rossi's third activating step requires, as mandatory, that the first and second steps be performed, namely the reading of the code and destruction of the validation element. *See* Ex.1041, 10 (activation of a cycle requires that identifying element "must be recognized in combination with the validation element as validated.").

Given that there are three required steps envisioned by Rossi, it was incumbent upon the Petition to explain why the mandatory second validation step could be omitted. Alternatively, if the step was not omitted, it was necessary for the Petition to show how or why Yoakim (and/or Jarisch929) would have been modified to include the mandatory second validation step of Rossi. In fact, inclusion of any

such step of destruction of any of the capsule features before starting the brewing process as Rossi requires would seem to be contrary to the principle of operation of Yoakim (and Jarisch929). The Petition is also silent as to any teaching in Yoakim and Jarisch929 that would include any destruction of any validation element of the capsule after reading of the code takes place and before activating the machine in order to realize the step 2 validation. Ex.2020, ¶174. “It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.” *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448 (Fed. Cir. 1986) (quoting *In re Wesslau*, 353 F.2d 238, 241 (CCPA 1965)).

Next, the Rossi teachings extend only to permitting operation of a machine once the three steps are performed. Specifically, the first step may consist of “unlocking the machine when both the identification element and the unvalidated validation element are recognized.” Ex.1041, 9. This step is silent as to any pump control. *See also id.*, 6 (“allowing said edible-product making machine to take further steps only if it also recognizes on said load element a validation element to be validated”), cl. 1. The second, mandatory step of validating the validation element may consist of “mechanical destruction of the validation element,” which ensures

the validation element cannot be re-recognized. *See id.*, 9. This step also does not teach the use or control of a pump to push water into the capsule. Ex.2020, ¶175.

In the third activation step, the machine “activates a cycle of edible-production production” after it recognizes on the capsule the same identifying element and the validated validation element. Ex.1041, 9-10. “The use of an activation step of automatically activating the cycle of edible-product production only when the same identifying element is recognized in combination with the validated validation element ensures that the operating condition actually used are the correct conditions as selected by the machine in the first recognition step” so as to “help[] to prevent the user from making the mistake of inserting into the machine a different load element to the one that was first recognized, for which the operating conditions are set.” *Id.*, 8. This step is silent as to any pump control. It is apparent that none of the three steps teach activating or controlling a pump to push water into the portion capsule. And even in combination with Yoakim/Jarisch929, as explained above, “edible-product production” would not necessarily mean that there is control of the pump to push water into a portion capsule only upon detection of an identifier. The Petition ignores all of the numerous and many controllable features that Yoakim/Jarisch929 disclose, including (for example), the activation, de-activation, and regulating of centrifugation and valving, the activation, de-activation, and regulating of a heater, and/or the flow meter. Ex.2020, ¶176.

Rossi's teachings fail to overcome the apparent shortcomings of Yoakim and Jarisch. Petitioner's ground fails on this basis alone.

C. Jarisch929 Fails To Teach Or Render Obvious The Identifier Is Located On The Side Wall of the Base Element (Claims 13, 16)

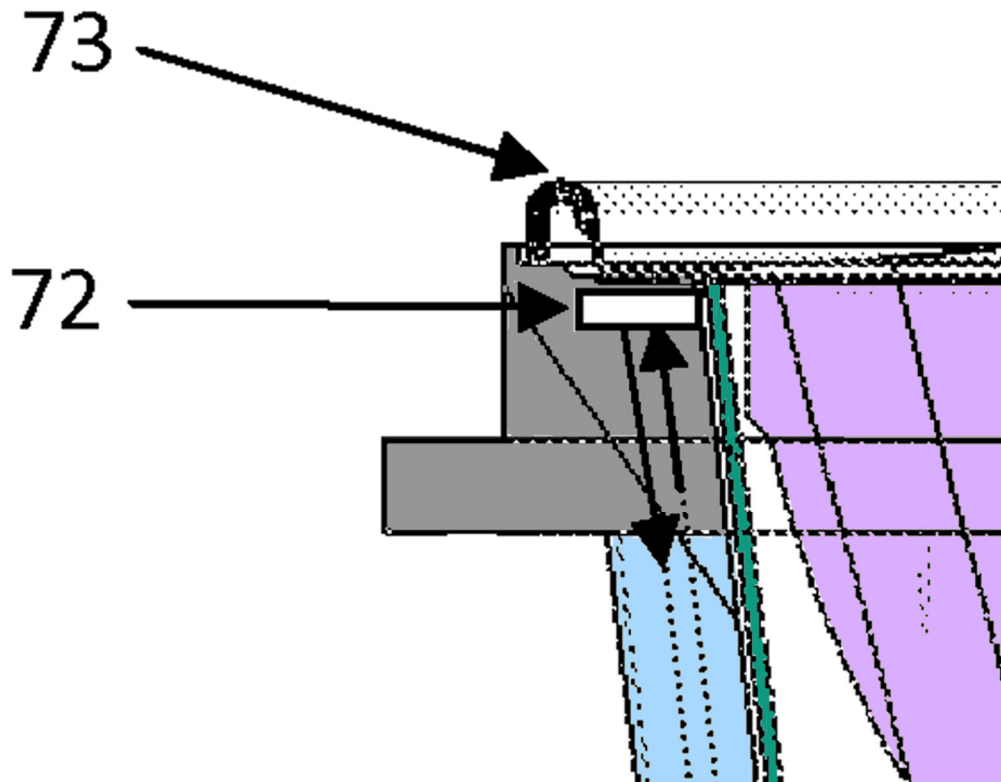
Claim 13 depends from claim 1, and requires “a printed optically detectable identifier located on the bottom side [of the circumferential flange]” where “the optically detectable identifier is located on a *side wall* of the base element.” Ex.1001, cls.1, 13; Pet., 70-71. A POSITA would have understood that Jarisch929 teaches only that the support is on the *lid* or *rim* of the capsule—not a side wall. *See* Ex.2020, ¶¶178-182.

Petitioner appears to suggest that the disclosure that the support can be part of or on “the body of the capsule” somehow suggests placing the support on an area other than the lid or rim—wrong. Jarisch929 makes clear that the rim is part of the body. Ex.1006, [0049]-[0050] (“the body part such as on the flange-like rim”); Ex.2025, 147:19-148:13 (“it’s calling out a separate flange-like rim to identify it as a feature of the capsule and perhaps of the capsule body”). Thus, those disclosures Petitioner places significant weight on refer only to placing the support on the rim part of the body. Tellingly, Jarisch929’s placement of the support solely on the lid or rim is confirmed by every taught example. *See, e.g.,* Ex.1006, Figs. 2-8, [0069], [0089]-[0090]. Accordingly, a POSITA would not have understood Jarisch929 to teach or suggest this claim element. It is further evident that this element is not taught

by Jarisch929 because in all examples, it teaches placing the support on a flat surface, which would not have a support on the outside wall, which is rounded. *See, e.g., id.*, [0072], [0090]-[0094], Fig. 2; Ex.2020, ¶179.

Petitioner further argues that it would have been obvious to achieve this claim element. But Petitioner offers only the generic conclusion, which is based entirely on hindsight from PO's claims. *See ATD*, 159 F.3d at 546; *ActiveVideo Networks, Inc. v. Verizon Communications, Inc.*, 694 F.3d 1312, 1327-28 (Fed. Cir. 2012) (finding expert testimony insufficient where "testimony is generic and bears no relation to any specific combination of prior art elements"); *TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1358-59 (Fed. Cir. 2019) ("Conclusory expert testimony does not qualify as substantial evidence"). Jarisch929 lacks any teaching of reading a code on any surface other than the lid or rim (*see* Ex.1006, Figs. 3-8), and thus Petitioner's conclusory argument regarding increasing chances of the code being read is misplaced. Indeed, Jarisch929 teaches a solution "to ensure reliable reading" by repeating the code. *Id.*, [0068]. And as is evidenced from Figure 5 of Jarisch929,

there is no suggestion that the sensor light beam could even reach an outside surface other than the rim. Ex.2020, ¶¶180-182.



D. Yoakim Fails To Teach or Render Obvious a Capsule Free of a Filter (Claims 14-16)

Claims 14-16 each require “the portion capsule is free of a filter.” Ex.1001, cls. 14, 16. Contrary to Petitioner’s argument, Yoakim expressly teaches capsules containing a filter for the purpose of filtering the brewed liquid from the solid particles in the capsule. Pet., 71; *see, e.g.*, Ex.1004, [0016] [0375], [0376], [0338],

see also [0333]-[0337].⁹ Yoakim teaches capsule enclosure configurations having openings/outlets and/or a porous material (*id.*, [0016]), each of which provide a filter according to the '722 Patent. Figure 29 of Yoakim (below) “is a perspective view of ***the capsule of the invention***” and depicts the openings/outlets (118) configuration.

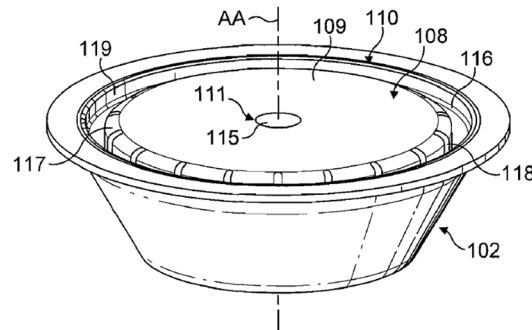
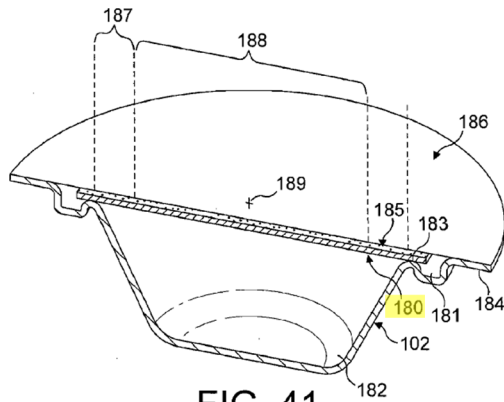
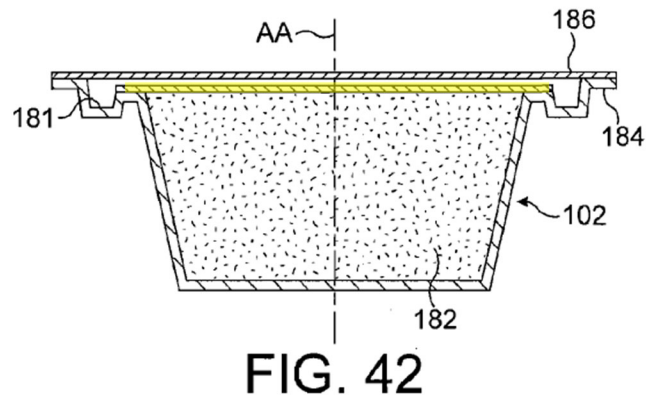


FIG. 29

Yoakim states “[s]lots may be appropriate as they can allow release of liquid at a suitable flow rate while restraining the passage of solid particles.” *Id.*, [0335]. Alternatively, Figures 41 and 42 (below), which are “the ***capsule in the system of the invention***” depict a porous wall 180 (i.e. filter), within the cavity. Ex.1004, [0451], [0452], Figs. 41, 42; Ex.2011, 14:13-15:22.

⁹ Yoakim is within International Classification “A47J 31/44,” entitled “Parts or details {or accessories} of beverage-making apparatus (***filters or strainers*** A47J 31/06),” Ex.2009, 4, and International Classification “A23F 5/26,” entitled “Extraction of water-soluble constituents {(A23F 5/246 takes precedence)}” Ex.2010, 2. *See* Ex.1004, Cover (51). *See* Ex.2020, ¶184.



Thus, Yoakim teaches his capsules have filters. Ex.2020, ¶183-185.

Petitioner fails to identify *any* teaching in Yoakim of a capsule free of a filter. Notably, [0171] teaches a filter made of “a series of slits” where “the brewed liquid can pass through the slits whereas the solid particles are retained in the capsule.” Yoakim teaches sizing these slits “to also filter the brewed liquid and maintain solid particles of the substance in the capsule.” Ex.1004, [0131]. Paragraph [0171] further teaches “[a]n *additional* filtering layer can be used to filter liquid depending on the size of the outlets.” This “additional filtering layer” is additive to the slits already described in the same paragraph. Ex.1004, [0171]. Smaller outlets would not need such additional filtering, whereas larger outlets likely would separate (filter) brewed

liquid from the solid particles. Ex.1004, [0210]; Ex.2011, 59:17-22.¹⁰ Ex.2020, ¶¶186-187.

As a practical matter, larger outlets **without** an additional filtering layer would result in particles of beverage material in the final beverage product—which would negatively impact the drinking experience and would be contrary to Yoakim’s stated purpose of “better...controlling quality of the final brewed beverage or food liquid product.” Ex.1004, [0010]; *see also id.*, [0011], [0012], [0210]. Thus, Yoakim at [0171] teaches the capsule has a filter. Ex.2020, ¶188.

Petitioner also cites [0343] but admits this paragraph discloses the use of filters within Yoakim’s capsule. Pet., 71. Petitioner wrongly argues that this filter is somehow “optional.” The other paragraphs Petitioner cites provide express

¹⁰ Mr. Jobin’s claim that Yoakim “explicitly discloses embodiments including portion capsules where the cavity does not have a filter” (Ex.1003, ¶346) is unsupported by his citations and rebutted by Yoakim itself for all the reasons explained herein. As such, Mr. Jobin’s testimony is insufficient to demonstrate unpatentability. *Cf. Intel Corp. v. Institute of Microelectronics, Chinese Academy of Sciences*, IPR2018-01574, Paper 23, 11-13 (Jun. 19, 2020) (denying request for rehearing on decision declining to institute review where prior art reference rebutted expert’s opinion).

teachings of a filter in Yoakim’s capsule. *See* Ex.1004, [0255], [0288], [0300]. Regardless, Yoakim teaches every embodiment advantageously features either outlet openings or porous materials or both. *See id.*, [0016]; [0376]. Importantly, none is contrary to Yoakim’s descriptions of the capsule of the invention. *Id.*, [0333]-[0334]; Ex.2020, ¶189.

Yoakim [0271]’s discloses “[i]n another mode, the filter could be part of the device or be formed by the puncturable membrane and piercing members.” The Petition did not rely upon this disclosure of Yoakim and does not contend that a filter that is “part of the device” teaches this claim limitation. Therefore, the Board should not consider [0271].¹¹ Nonetheless, a POSITA would not conclude from this disclosure that the capsule cavity is free of a filter, as claimed. Ex.2020, ¶190.

¹¹ To the extent that Petitioner seeks to rely on other paragraphs and/or teachings of Yoakim not identified in the Petition in reply, such reliance is improper and should not be credited by the Board. *See Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367-68 (Fed. Cir. 2015) (upholding the Board’s decision to decline to consider previously unidentified portions of a prior-art reference for the first time on reply).

First, the embodiments preceding and following [0271] depict openings in the capsule within the cavity for filtering the liquids from the solids. *See, e.g., id.*, Figs. 16, 17, 26-28; Ex.2020, ¶191.

Second, Yoakim never describes or illustrates an embodiment where the device has a filter and thus does not enable such a centrifugal device. *Raytheon Techs.*, 993 F.3d at 1380. A POSITA would have understood that a filter solely in the device would result in beverage material solids exiting the capsule and dirtying the device, negatively impacting the device's performance and the ability to achieve "[a] cleaner operation" (Ex.1004, [0325], [0318]-[0319]). This is the very disadvantage in the prior art that Yoakim seeks to overcome. *Id.*, [0004], [0012], [0014]. Yoakim itself thus elsewhere teaches away from having a filter solely in the device. It is only with hindsight of PO's claims that one would even suggest a capsule in Yoakim absolutely free of any filter in the cavity. Additionally, there is no suggestion in Yoakim what to do with solids retained by a system where the filter is solely in the device. Unlike a capsule filter, which is discarded with the capsule, a device filter would require removing/cleaning a dirty device after each use. Ex.2020, ¶192.

Third, the Petition does not explain how a filter in the device would be understood or achieved in Yoakim, relying instead solely on Yoakim's capsule embodiments. *See Pet.*, 71; Ex.2020, ¶193.

Fourth, to the extent that Petitioner or the Board relies upon the “puncturable membrane and piercing members” in [0271], the piercing means would be inside the capsule cavity at the time of brewing and thus be a filter within the capsule cavity. *See, e.g., id.*, Figs. 4, 35. Petitioner’s reliance on Yoakim Figs. 6-7, 54-60 is also misplaced. Yoakim Figs. 6-7 fail to show inside the capsule cavity. Ex.1004, Figs. 6-7, [0035]-[0036]. Moreover, Yoakim illustrates the combination of a lid with openings and a pierced membrane in the same capsules. *See*, Figs. 28-29, 35; Ex.2020, ¶194.

Petitioner relies on the embodiments of Yoakim Figs. 54-60 without providing any rationale to combine the teachings of those different embodiments with the Yoakim embodiments Petitioner relies upon elsewhere in the Petition. *See Abiomed*, IPR2017-01204, Paper 9, 8-11. Even setting aside that deficiency, Figures 54-60 do not demonstrate Yoakim’s capsule cavity is free of a filter. Ex.1004, [0083]-[0089]. Figure 54 depicts one of many different capsule shapes for Yoakim’s brewing system in a “schematic” view, but its primary purpose is to teach aspects of the brewing system—not the capsule. Ex.1004, Fig. 54; Ex.2020, ¶195. Mr. Jobin does not have an opinion on the internals of these capsules. Ex.2025, 189:23-190:5.

Also, Petitioner’s reliance on “design choice” without expert or evidentiary support, Pet., 71, is misplaced. “Design choice may serve as a basis for obviousness where alternative elements or configurations in the prior art *perform the same*

function as the claimed aspects *with no unexpected results.*” *Ex Parte Elliott*, Appeal 2018-009212, 2020 WL 5231583, at *3 (Aug. 28, 2020). The Board has repeatedly found that such conclusory “design choice” contentions are insufficient to support a finding of obviousness. *See Kartri Sales Co., Inc. v. Zahner Design Group, Ltd.*, IPR2016-01327, Paper 10, 17 (Jan. 3, 2017); *Zepp Labs, Inc. v. Blast Motion, Inc.*, IPR2016-00672, Paper 8, 13 (Aug. 29, 2016); *Qualcomm Inc. v. ParkerVision*, IPR2015-01819, Paper 8, 15 (Mar. 8, 2016). Here, removal of Yoakim’s filter would result in a different function and unexpected results. Ex.1004, [0010]; *see also id.*, [0011], [0012], [0210], [0418]. Petitioner does not identify any teaching in Yoakim that would motivate the successful removal of Yoakim’s filter elements. Ex.2020, ¶¶183-198; *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000).

V. Petitioner’s Grounds Must Fail Because at Least Jarisch929 and Rapparini Are Not Patents or Printed Publications (All claims)

Petitioner’s grounds are based on §102(e) references. But a patent can be challenged in an IPR “only on the basis of prior art consisting of patents or printed publications,” 35 U.S.C. § 311(b)—which limits available prior art, as a matter of law, to only references that are themselves “a prior art patent or prior art printed publication.” *Qualcomm Inc. v. Apple Inc.*, 24 F.4th 1367, 1375 (Fed. Cir. 2022). Jarisch929 and Rapparini are not patents—they are applications. They are also not printed publications because they were not publicly accessibly until after July 22, 2011—the undisputed PCT priority date. *See* Ex.1006, Cover (43); Ex.1008, Cover

(43). “[P]ublic accessibility” is “the touchstone in determining whether a reference constitutes a ‘printed publication.’” *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 772 (Fed. Cir. 2018). A “mere application for patent” is neither a “printed publication” nor a “patent.” *Brown v. Guild*, 90 U.S. 181, 224 (1874) (citing Act of July 4, 1836, ch. 357, §7, 5 Stat. 117, 119-20); see *In re Wertheim*, 646 F.2d 527, 532 (CCPA 1981) (application “was not ... a patent or printed publication”).

An IPR “petitioner . . . ha[s] the burden to prove [a reference] is a printed publication.” *Id.* To do so, the petitioner must show that the reference was, before the critical date, “made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.” *Id.* Jarisch929 and Rapparini were not publicly accessible before July 22, 2011. Petitioner has not attempted to prove otherwise. Accordingly, they cannot serve as a basis for challenging ’722.

Date: October 1, 2024

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24, the undersigned hereby certifies that the word count for the foregoing Patent Owner Response totals 13,793 words, which is less than the 14,000 allowed under 37 C.F.R. § 42.24(a)(1)(i), (b)(2).

Date: October 1, 2024

Respectfully submitted,

/Douglas Carsten/

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Registration No. 43,534

Attorneys/Agents for Patent Owner

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. § 42.6, that on October 1, 2024, a complete copy of the foregoing document and exhibits were served upon the following by ELECTRONIC MAIL:

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