

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 IPR2024-00299
U.S. Patent No. 11,554,910

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)

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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> – <i>Bialetti</i> , https://www.bialetti.com/it_en/moka-express.html
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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 to Société Des Produits Nestlé SA, 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. 11,554,910 (“’910”) (“Petition” or “Pet.”).¹

I. Introduction

The Board, without the benefit of a complete record, instituted review on one ground over the combination Yoakim/Jarisch929/Rapparini/Rossi. K-fee addresses the substantive errors, omissions, and shortcomings underlying Petitioner’s ground. 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. Petitioner fails to demonstrate at least that:

- a person having ordinary skill in the art (“POSITA”) would have combined the teachings of Yoakim alone or with Jarisch929/Rapparini/Rossi to arrive at the claims;
- Yoakim discloses or renders obvious “the portion capsule is free of a filter inside of the cavity,” as claimed in all claims;

¹ All emphases added, unless noted.

² Nothing in this Response shall be regarded as a disclaimer of claim scope or as a concession that any of the cited references is prior art.

- Yoakim, Jarisch929, and Rossi teach or render obvious using encoded information from a capsule identifier to activate a pump of a specific coffee machine, as claimed in all claims;
- Yoakim and Rapparini teach or render obvious a plurality of vertically oriented grooves spaced a distance between the flange and the closed bottom, as claimed in all claims;
- Yoakim and Jarisch929 teach or render obvious controlling settings for hot water, as claimed in all claims;
- Jarisch929 teaches or renders obvious an identifier located on the bottom side of the flange and further on the “outside surface of the wall of the base element,” as claimed in claim 1-7;
- Yoakim and Jarisch929 teach or render obvious “the individualization identifier is electrically conductive,” as claimed in claims 2-7;
- Yoakim and Jarisch929 teach or render obvious “the individualization identifier exhibits a concavity and/or a convexity,” as claimed in claims 6-7; and
- Jarisch929 and Rapparini are patents or printed publications, as required under 35 U.S.C. § 311(b).

'910 claims are generally directed to a portion capsule for producing a beverage. Ex.1001, Abstract. The portion capsule is free of a filter inside the cavity

and has an individualization identifier on at least a bottom side of the capsule flange. The individualization identifier encodes information used by a specific coffee machine to perform certain functions, including to activate a pump of the specific coffee machine. *Id.*

The prosecution of the application resulting in '910 was extensive. *See* Ex.1002. PO made substantial efforts to ensure the Examiner considered Petitioner's IPR arguments, including those regarding Yoakim, Jarisch929, and Rossi. Ex.1002, 851-854.

PO then initiated an interview with the Examiner to ensure consideration of the arguments. Ex.1002, 866. The Petition seeks to undermine PO's candor before the Office and the Examiner's decision to issue the claims in view of the references now presented. Petitioner irresponsibly suggests that PO withheld from consideration institution decisions during substantive prosecution. Pet., 15-16; Ex.1001. This suggestion is absurd because those decisions did not yet exist until months after '910 issued on January 17, 2023. No reasonable conclusion can be drawn in favor of Petitioner from the actual facts that occurred.

II. Claim Construction

The Board determined that no claims require express construction. Institution Decision ("ID"), 18-19. 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, 17. PO notes that Mr. Jobin offers no analysis for the level of skill and is thus entitled to no weight. Ex.1003, ¶40; Pet., 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. Moreover, the inventor of ’910 held no engineering degree at the time of his invention, which is a relevant factor that Mr. Jobin was apparently not even aware of. Ex.1003, ¶38; ID, 16; 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, ¶¶42-45.

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

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

Petitioner argues that a POSITA would have combined Yoakim with Jarisch929, Rapparini, and Rossi, thus rendering the claims obvious. Pet., 37-44. 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, ¶¶73-146.

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 (Ex.2025, 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, ¶¶56-57, 73.

1. No Rationale To Combine Embodiments within Yoakim

On pages 45-52, 56, 60-61, and 65-67 of the Petition, Petitioner seeks to combine multiple different and distinct embodiments within Yoakim to cover K-fee's claims. 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.”).

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, 25 (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*; *see generally* Pet. Indeed, some embodiments are laboratory setups that would not be acceptable. The Board’s preliminary determination disregards the fact that Yoakim aggregates various discrete embodiments from a series of continuations-in-part—patent application filings, which, tellingly, show the features of its various embodiments are not supported by prior embodiments or teachings. 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, ¶¶74-75.

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, ¶76.

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. Ex.1004, [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 id.*, [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, ¶¶77-78.

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, ¶¶79-85.

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; *In re Fine*, 837 F.2d 1071, 1075; Ex.2020, ¶86.

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.

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., 45-46, 50, 56, 65-67 (alleging a combination of Yoakim’s embodiments of Figs. 4, 6-7, 23, 26-28, 35, 37-38, 54-61 for independent claims 1 and 8). Ex.2020, ¶¶87-88.

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

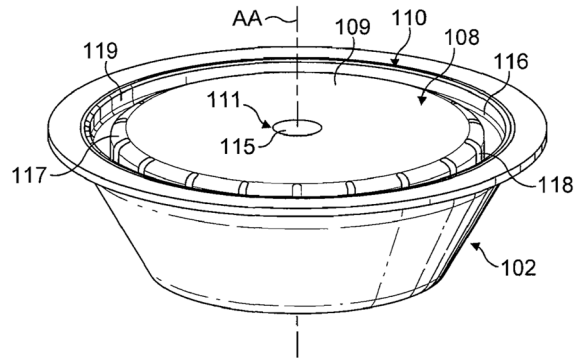
assembly that spans to seal a peripheral rim of the capsule. Additionally, Yoakim teaches a variety of capsules without necessarily showing how they would be adaptable to various different embodiments. The sole extent of Yoakim teaching a sensing device is in the embodiment of Figs. 61 and 62, and from 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, ¶¶89-90.

The ID observes that “the claims of the ’910 patent are directed to a portion capsule, not a brewing system.” ID, 26. But, as explained above, the features of the devices are instructive of the ability to combine features of Yoakim’s capsules. Indeed, Yoakim’s express disclosures of different capsules specific for different devices demonstrates the capsule structure is directly correlated to the device for which it is compatible. For example, not all capsules require puncturing by a mandrel. *Compare* Ex.1004, Fig. 35 *with id.*, Fig. 37. Similarly, not all capsules have an identification means. *See, e.g.*, Ex.1004, Figs. 54, 55. Consequently, the collection of features of the specific capsules and brewing systems are unique to their usage. There is no basis within Yoakim or elsewhere to mash together

disparate features into a single capsule. Doing so requires hindsight. *ATD*, 159 F.3d at 546; *In re Fine*, 837 F.2d at 1075. Moreover, the claims require the portion capsule work with a “specific coffee machine” where the machine has specific features. *See, e.g.*, [1.m]/[1.p]. Ex.2020, ¶95.

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, ¶91.



Ex.1004, Fig. 29.

Moreover, Petitioner has not addressed an even more compelling distinction in that the lab model of Fig. 35 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, ¶92.

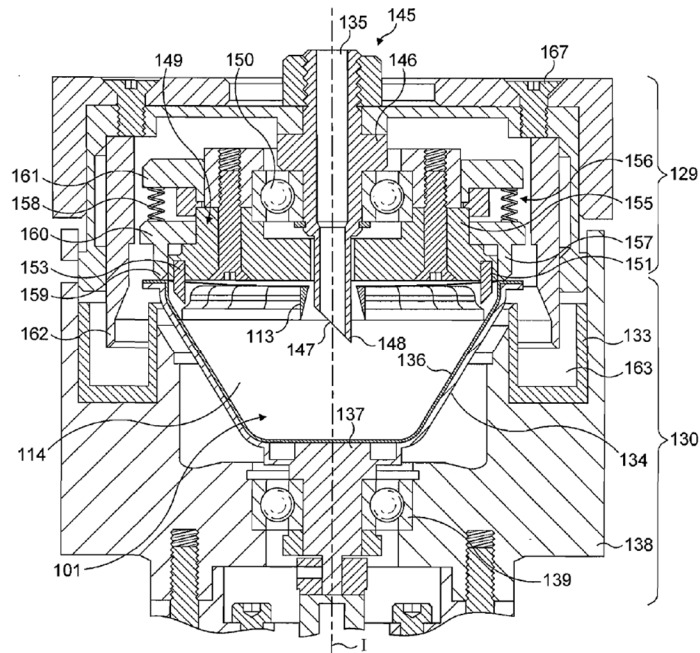


FIG. 35

Ex.1004, Fig. 35.

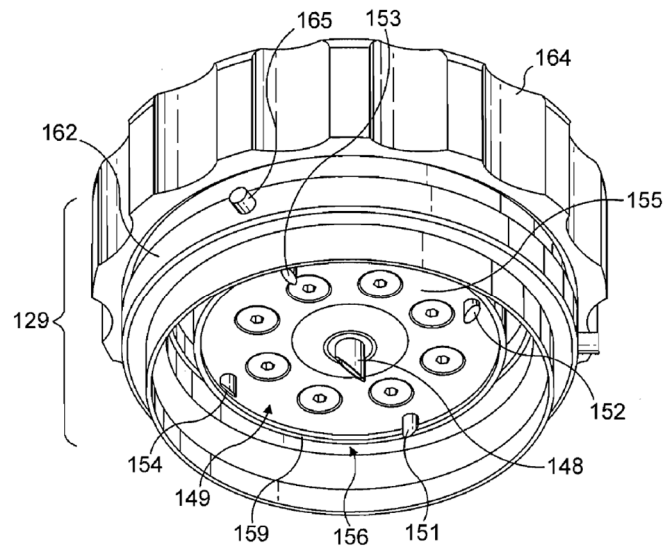
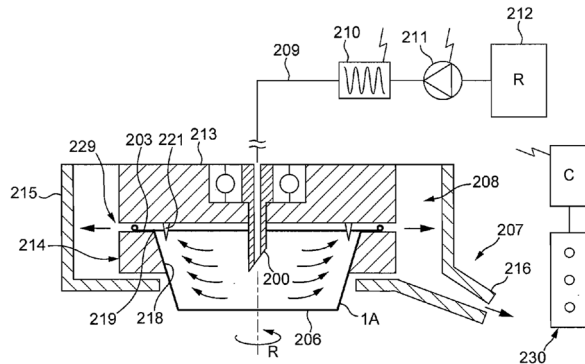


FIG. 36

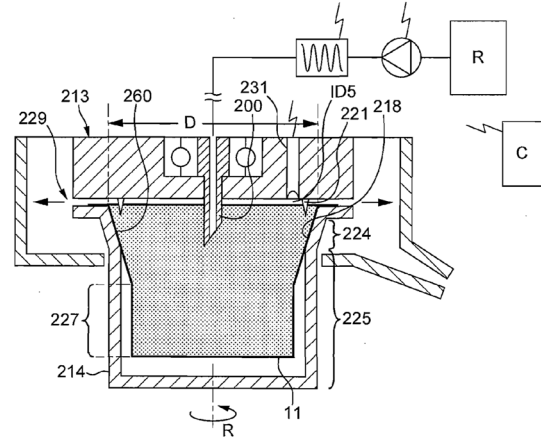
Ex.1004, Fig. 36.

It is the V-shaped surface 159 (depicted in Figures 35 and 36 above) that Petitioner relies upon as teaching the claimed seal arrangement. *See* Pet., 63-66. However, that seal, as used in the water injection subassembly of Fig. 36, dates to February 29, 2008 where it is described in combination with the capsules depicted in Figs. 28-31. *See* Ex.2017, 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, ¶93.

In contrast, the system of Fig. 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, ¶94.



Ex.1004, FIG. 54



Ex.1004, FIG. 62

The difference is of such a nature that Petitioner's affiliate and RPI distinguished over its 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"), Figs. 7-19.

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; Ex.2020, ¶96.

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 heard to argue otherwise here. The Board at Institution disregarded this evidence, arguing that it was directed only to Yoakim's machines. ID, 27. But as explained, the capsules and machines go hand-in-hand and a teaching as to the machines would similarly apply to capsules compatible with such machines. Ex.2020, ¶97.

The Petition's overreaching in combining Yoakim's disparate features is further evident for elements [1.e]-[1.g]/[8.e]-[8.g], where the Petition changes course from relying on Yoakim's non-toothed capsule embodiment (i.e., the one illustrated in, e.g., Figures 27 and 61 (*see* Pet., 45-55, 65-66)) to relying on the laboratory set up compatible toothed capsule embodiment of Yoakim's Figure 23 (Pet., 56). In the ID, the Board preliminarily determined that Petitioner's reliance on Figure 23 is "to indicate Yoakim contemplates that a portion capsule can have drawn structures." ID, 39. But it is not enough to say a modification "could be" done. *PersonalWeb Techs.*, 848 F.3d at 994-95. The Petition never establishes any motivation for such drawn structures on the capsule embodiments of Figures 27 and 61. *See* Pet., 56-59. Yoakim describes the capsule of Figure 27 as "a preferred capsule" (Ex.1004, [0414]) and the capsule of Figure 23 as "another capsule of the invention" (Ex.1004,

[0215]). They are thus taught by Yoakim to be different capsules for different systems serving differing purposes. Ex.2020, ¶98.

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* Pet., 70; 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, ¶¶99.

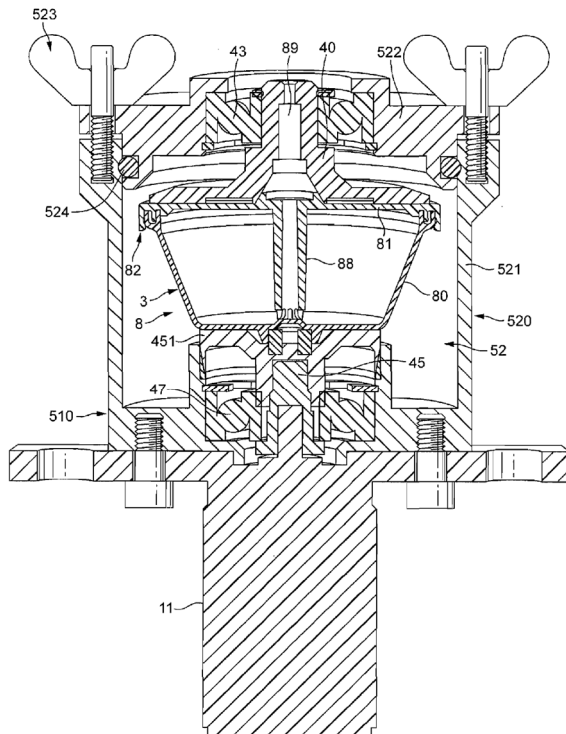


FIG. 8

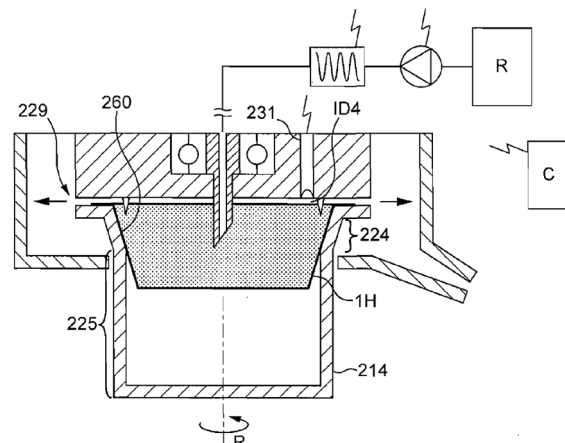


FIG. 61

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; *Abiomed*, IPR2017-01204, Paper 9, 11; Ex.2020, ¶¶100.

2. No Motivation To Combine Yoakim and Jarisch929

The Petition'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., 39, it does not address at all whether there exists a reasonable expectation of success in such combination to include an optically detectable, machine readable, repeat pattern. As explained below, the evidence shows there is not. Ex.2020, ¶¶101-102.

a. Jarisch and Jarisch929 Do Not Enable an Optically Detectable, Machine-Readable Identifier on the Bottom of the Flange

“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 “individualization identifier[] located on the bottom side of the flange” and “includes an optically detectable, machine readable, repeat pattern.” Ex.1001, cls.1,8. 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, machine-readable code because it provides nothing more than the support and general structure of the capsule, reader, and capsule holder.⁴ Ex.2020, ¶109.

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 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

³ Denisart reads 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, ¶109.

⁴ Jarisch suffers from the same defects. Ex.1005, Fig. 3; Ex.2020, ¶109.

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, machine-readable code and Jarsich929 lacked sufficient disclosure to enable a support that could be read/detected. Ex.2020, ¶110.

Jarisch also conceded challenges due to the support being “relatively complex to integrate to the packaging structure forming the capsule itself.” Ex.2021, 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 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, ¶¶111-112.

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 "how to read a code positioned on the bottom of the capsule flange." *See* Pet., 39-40; Ex.2021; Ex.2022. Petitioner does not cite anything else in support of placing the code under the flange. Ex.2020, ¶113.

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., 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 [0017]-[0018], but those passages are silent on any motivation to move the support and instead summarily assert it can be done. Pet., 11-12; Ex.2020, ¶103.

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 damaged. Ex.1004, [0525], [0526].⁵ Petitioner seeks to rely on 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., 22; Ex.2025, 151:8-12. A POSITA would have understood pyramidal plates to be 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

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., 11. Panesar teaches doing this using a barcode on the same side of the "laminate" that is pierced by the machine. Ex.1010, 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. Ex.1010, 19:9-20:21. Yoakim illustrates such separation and as a result the problems raised by Petitioner would not occur. Ex.2020, ¶104; *see* Ex.1010. It is only through impermissible hindsight then that Petitioner seeks to find any such motivation (from Jarisch or Jarisch929) to move the code in Yoakim. *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012) (finding no reason to combine where device already operates effectively and accomplishes the function).

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, ¶104.

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, ¶105.

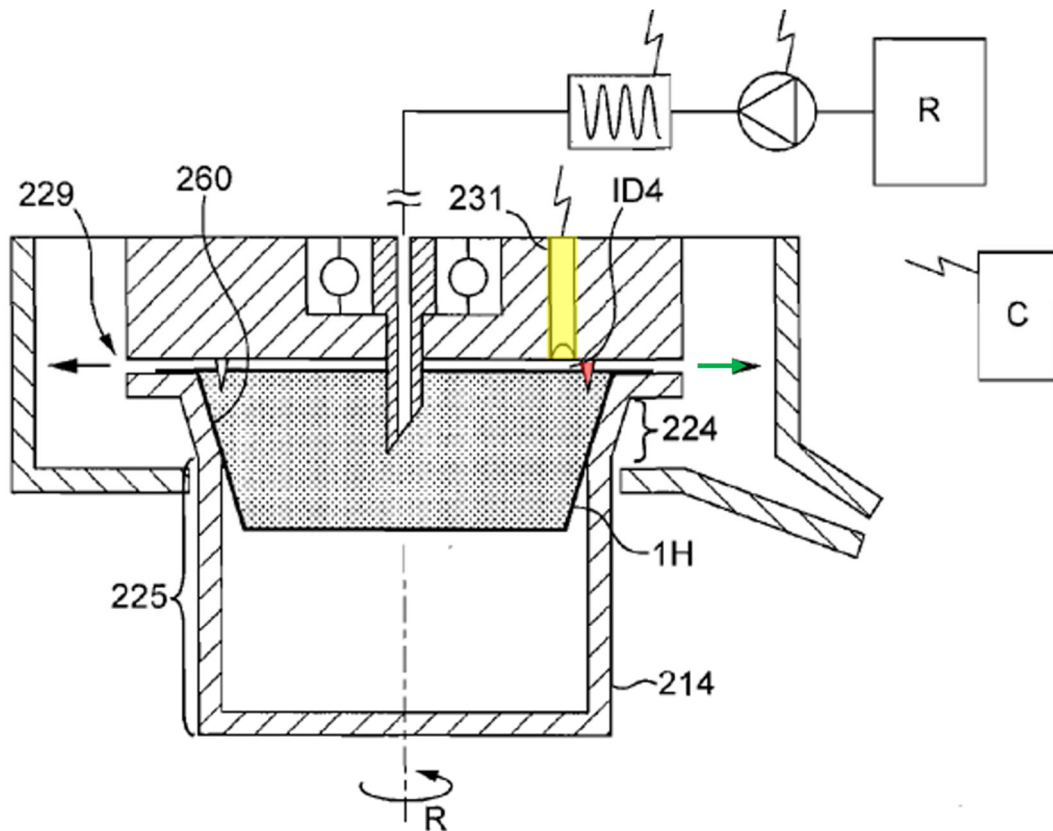


FIG. 61

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. 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 reference already disclosed effective solution); *Trend Micro, Inc. v. Open Text Inc.*, IPR2023-00692, Paper 8, at 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, ¶106.

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.1006, [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, ¶107.

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, ¶108.

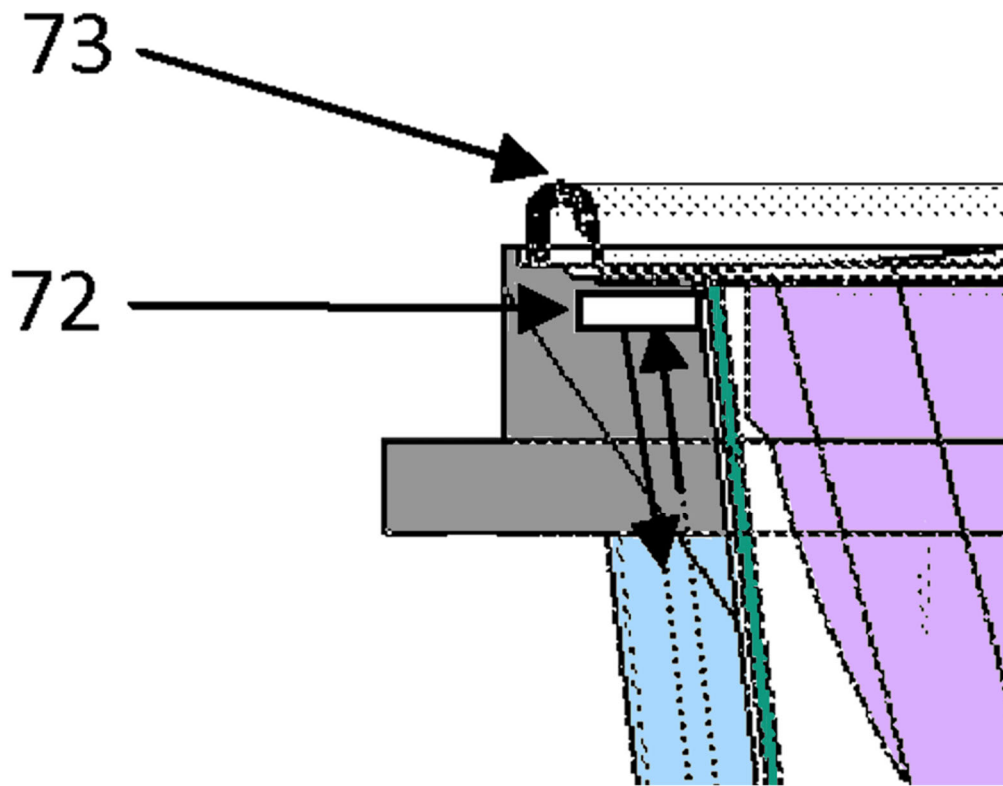
c. Lack of expectation of success in combining Yoakim and Jarisch929.

In the ID, the Board determined that “Patent Owner’s reasonable expectation of success focuses on the wrong inquiry” and found “[t]he claimed invention is not

directed to reading the code.” ID, 31. But the claims require the code be “optically detectable, *machine readable*.” ’910 Patent, cls. 1, 8. The inquiry, thus, requires a “machine readable” code. If the combination fails to yield a code that can be machine read, then it must fail.

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, machine-readable code. 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, ¶118.

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* Ex.1004, [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, ¶119.

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 because 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.” Ex.1004, [0479], *see id.*, [0478], [0484], [0507]. The snug complementary fit is expressly taught to provide an important “safety function.” Ex.1004, [0205]. Moreover, the angle of the widening sidewall is also significant in Yoakim. *See* Ex.1004, [0260]-[0261]. Yoakim thus teaches, and depicts, the capsule side wall advantageously engaging with the capsule holder. Ex.2020, ¶120.

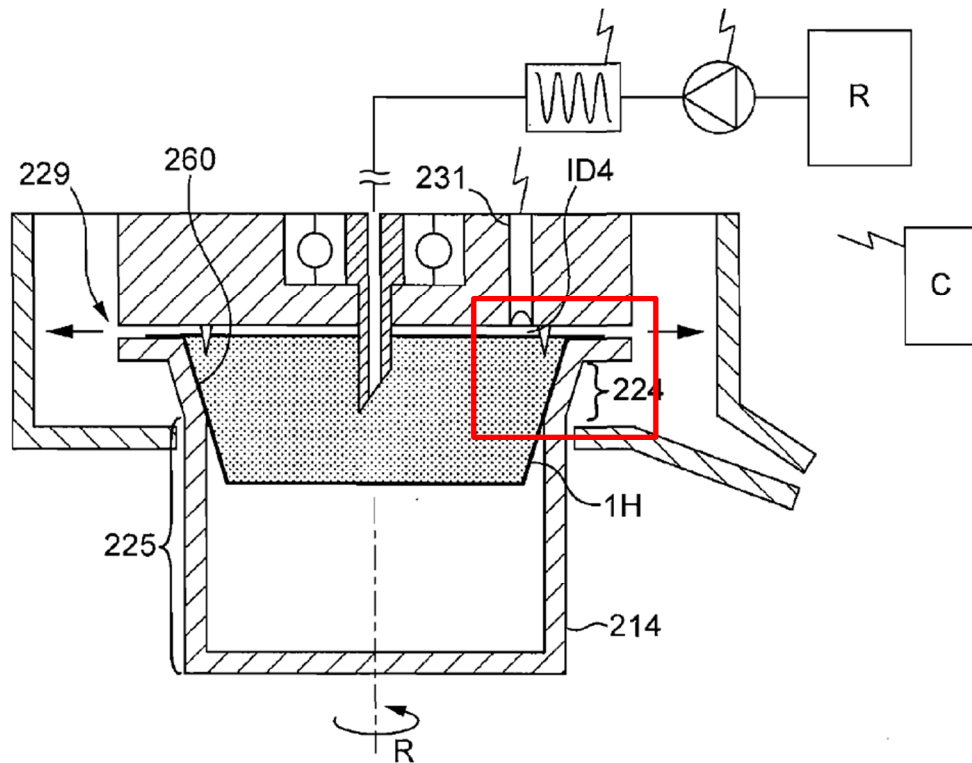


FIG. 61

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, ¶121.

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 in Yoakim performs a safety function, a 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, ¶122. “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).

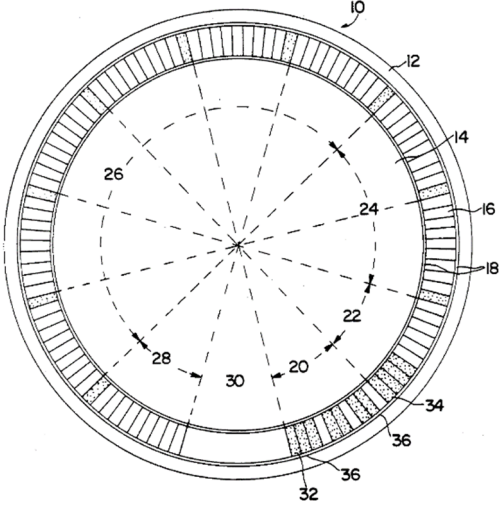
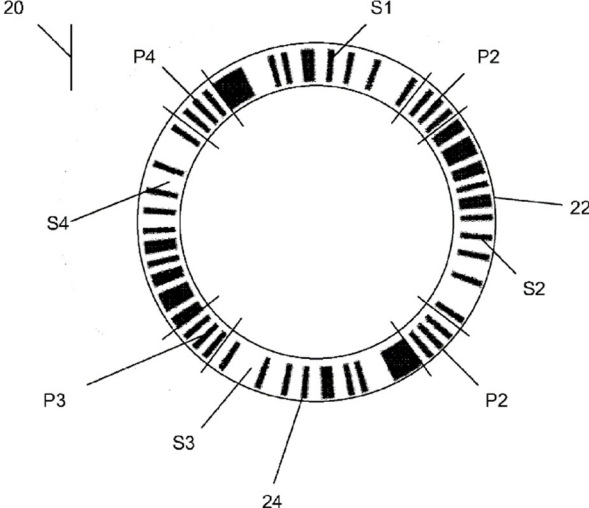
Here, as Petitioner contends, “[t]he Jarisch 929 optical reader configuration is depicted below [in the annotated Figure 5] in order to read the code on the capsule (yellow) with the light path (red) shown from detector (62) to capsule rim (73).” Pet., 39. However, the “sensor/detector (231) [] enabled to identify and read a barcode” as described in Yoakim is positioned to read a code on the *opposite* side of the capsule. Pet., 40; *see also* Ex.1004, [0525], Figs. 61, 62; Ex.2020, ¶123.

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) 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, ¶124.

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*.” Ex.2022, 2. Fisher (Ex.2024) discloses a code like the one Petitioner now argues to combine with Yoakim.

Table 1 –Fisher and Jarisch929

Fisher (Ex.2024 Fig. 1)	Jarisch929 (Ex.1006 Fig. 2)
 FIG. 1	

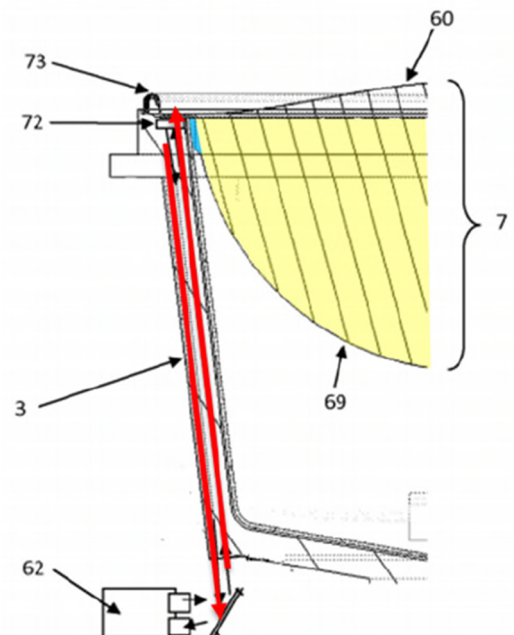
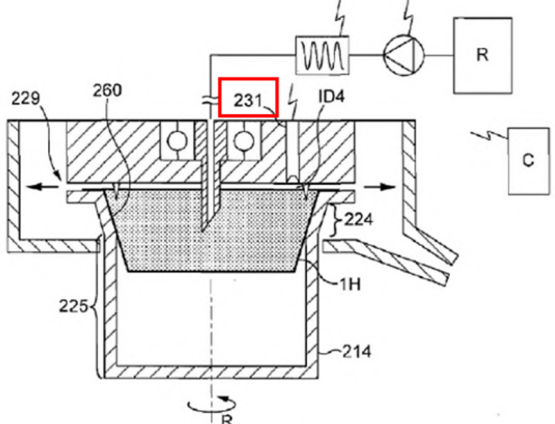
Compare Ex.2024, Fig. 1 (left), Abstract *with* Ex.1006, Fig. 2 (right). Ex.2020, ¶125.

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, ¶126.

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

at [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, ¶¶93-94, 119-121, 127-128.

Table 2 –Sensor Placement

Jarisch929	Yoakim
 Pet., 40 (citing Ex.1006, Fig. 5).	 FIG. 61 Ex.1004, Fig. 61.

Not only would there be no motivation to make such a combination, a POSITA would also not 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 a machine-readable 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, ¶129.

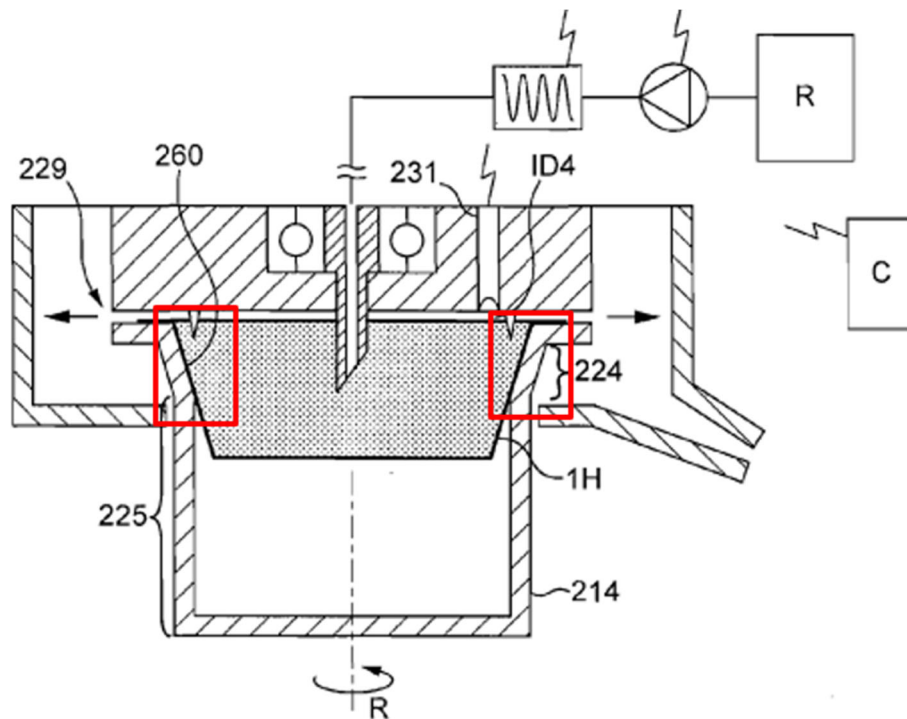


FIG. 61

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. In sum, the

Petition fails to demonstrate that a POSITA would have had a reasonable expectation of success. Ex.2020, ¶¶130-131.

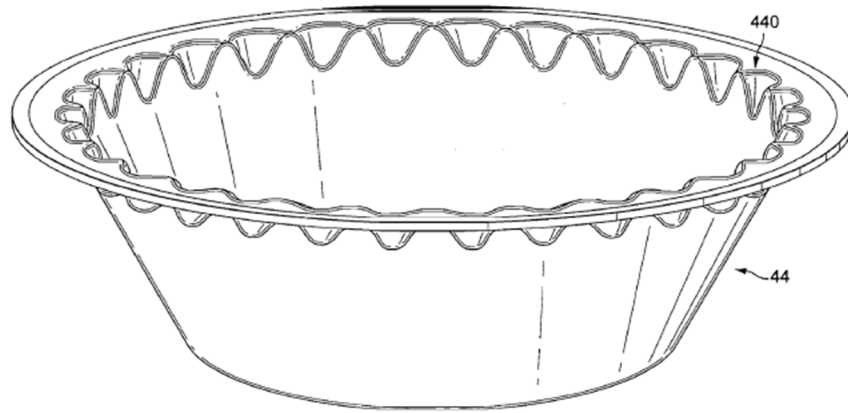


FIG. 24

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, ¶¶132-133. 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

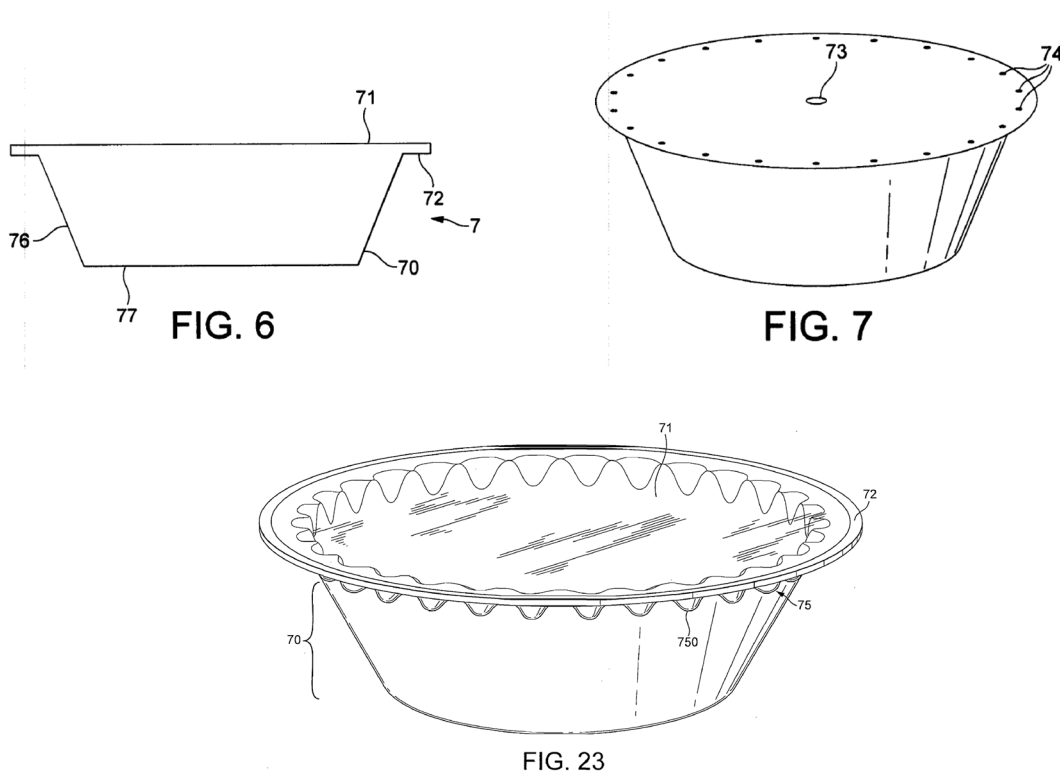
coffee), and other significant differences, a POSITA would not have been motivated to combine the teachings of the two references. Ex.2020, ¶134; *see, e.g., In re Ratti*, 46 C.C.P.A. at 981 (rejecting prior art combination because the combination “would require a substantial reconstruction and redesign of the elements shown [in the prior art] as well as a change in the basic principles under which [the prior art] construction was designed to operate”); *In re Schweickert*, 676 Fed. App’x at 995; *Saiki*, Appeal No. 2000-0373, 2002 WL 32102452 (B.P.A.I. Jan. 17, 2002); *Salerno*, Appeal No. 2011-004947, 2013 WL 5603478 (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, ¶¶135.

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., 37, 89 (listing Petitioner’s RPIs).

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, ¶¶114-116.



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, ¶117.

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., 40. But Yoakim already expressly recognizes a need for a safety function, achieving that need 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, ¶136. 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., 40. But the Petition fails to identify any teaching in Yoakim of *high* pressures that are the concern in Rossi. Indeed, Yoakim contrasts his methods to “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, ¶137.

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, ¶¶138-139.

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; Ex.2020, ¶137.

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, ¶140.

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 water delivery by a pump. *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, ¶¶141-142.

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. Ex.1008, [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. Ex.2020, ¶143.

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 and Jarisch929 are not. *See* Ex.1004, [0027], [0096], [0110], [0129]; Ex.1006, [0049].⁷ Rapparini is silent as to any benefit realized from his invention

⁷ Petitioner incorrectly contends that Rapparini "states its invention can be applied" to metal capsules, as claimed in the '910 Patent. Pet., 43. 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 Rapparini teaches a solution for plastics. Ex.1029 at 13 ("Thermoforming is the

in providing stability to non-permeable containers and thus provides no motivation for applying its ribs to those containers. *See* Ex.1006, [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 ’910 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, ¶144.

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., 44. 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 because doing so would be redundant and superfluous. *Kinetic Concepts, Inc. v.*

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, ¶144.

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, ¶145.

Finally, the claims here require “a barrier sheet to prevent moisture or aroma from escaping out of the portion capsule.” Claim [1.i]/[8.i]. Petitioner contends that Yoakim teaches such layers. Pet., 21. 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, ¶146.

B. Yoakim Fails To Teach or Render Obvious a Capsule Free of a Filter Inside of the Cavity (All Claims)

Claim elements [1.n]/[8.n] each require “the portion capsule is free of a filter inside of the cavity.” According to Petitioner, “Yoakim discloses a capsule that does

not include a filter and expressly confirms that a filter is optional.” Pet., 67; Ex.2020, ¶147.

’910 envisions an embodiment where “a filter element is arranged into the cavity.” Ex.1001, 7:14-17. “In particular the filter element is utilized as a strainer for the extract of a beverage.” Ex.1001, 11:60-61; *see also id.*, 11:37-48. The cavity of the capsule is sealed by a membrane. *Id.*, 11:24-27; Ex.2020, ¶148.

Yoakim expressly teaches his capsules contain a filter inside the cavity for the purpose of filtering the brewed liquid from the solid particles in the capsule. *See, e.g.*, Ex.1004, [0016]–[0017], [0375], [0376], [0338]; *see also* [0333]–[0337]; Ex.2020, ¶¶149-150.⁸

As such, Yoakim teaches capsule enclosure configurations having openings/outlets and/or a porous material (Ex.1004, [0016]), each of which provide a filter according to ’910. Figure 29 of Yoakim (below) “is a perspective view of *the capsule of the invention*” and depicts the openings/outlets (118) configuration.

⁸ *See also* Yoakim’s International Classification. Ex.2009, 4; Ex.2010, 2. Ex.1004, Cover (51).

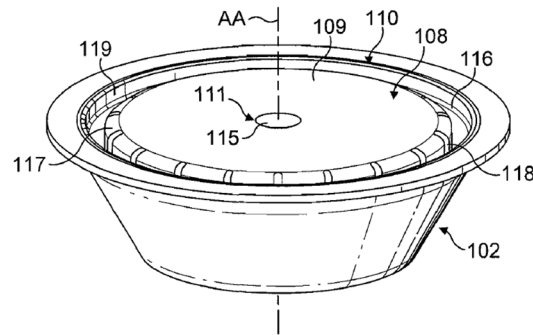


FIG. 29

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

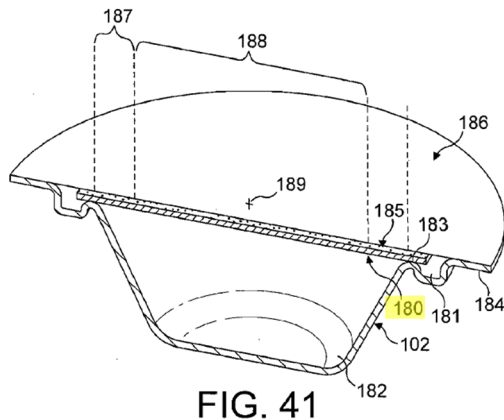


FIG. 41

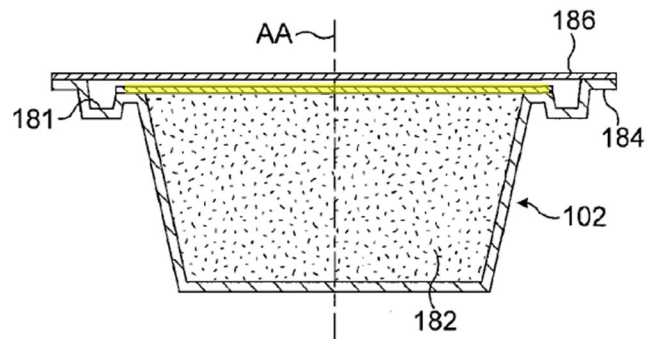


FIG. 42

Thus, Yoakim teaches his capsules have filters. Ex.2020, ¶¶151-153.

Critically, Petitioner fails to identify *any* teaching in Yoakim of a capsule free of a filter. Specifically, [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. Indeed, Yoakim explains “depending on the size of the outlets,” it may be necessary to provide additional filtering to ensure the solid particles are retained in the capsule. Ex.1004, [0171]. Smaller outlets would not need such additional filtering, whereas larger outlets likely would in order to separate (filter) brewed liquid from the solid particles. Ex.1004, [0210]; Ex.2020, ¶154.⁹

⁹ 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).

In fact, Mr. Jobin previously testified “[a]ccording to 0171 [of Yoakim] and my general understanding in Yoakim, it depends on the size of the holes and that one can add a filter to -- to change the characteristics of the -- of the filtering function.” Ex.2011, 59:17-22. 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 [0171] teaches the capsule has a filter. Ex.2020, ¶155.

Petitioner also cites [0343] but admits this paragraph discloses the use of filters within Yoakim’s capsule. Pet., 67. Petitioner wrongly argues that this filter is somehow “optional,” but identifies no such statement in [0343] because there is none. The other paragraphs Petitioner cites provide express teachings of a filter in Yoakim’s capsule. *See* Ex.1004, [0255], [0300], [0461]. Regardless, Yoakim teaches every embodiment advantageously features either outlet openings or porous materials or both. *See* Ex.1004, [0016]; [0376]. Importantly, none is contrary to Yoakim’s descriptions of the capsule of the invention. Ex.1004, [0333]-[0334]. In the ID, the Board identified Yoakim’s [0300] as an example of capsules that do not have filter inside the cavity. ID, 44. This is incorrect. As the Board acknowledged,

[0300] discloses “outlets at the side wall.” Thus, even if the “filter” in [0300] is deemed optional, the outlets at the side wall also serve as a filter in the cavity because they separate the liquid beverage from the solids. *See, e.g.*, Ex.1004, Fig. 45. The same is true for [0461], which is illustrated in Figure 45 (showing outlets 704, 706 in the capsule cavity) that allow liquid to exit while retaining solid material. Ex.1004, [0461]. Moreover, Mr. Jobin has not evaluated the Figure 45 embodiment. Ex.2025, 188:9-13; Ex.2020, ¶¶156-157.

Yoakim [0271] 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. The Board should therefore not consider [0271]. *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).

Nonetheless, a POSITA would not conclude from this disclosure that the capsule cavity is free of a filter, as claimed. 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.*, Ex.1004, Figs. 16, 17, 26-28; Ex.2020, ¶158.

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. Ex.1004, [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 is 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. 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. Pet., 67. 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.*, Ex.1004, Figs. 4, 35; Ex.2020, ¶¶159-161.

Petitioner further cites figures 6-7 and 54-60 of Yoakim to argue that Yoakim discloses embodiments using capsules that do not have a filter (Pet., 67), but Petitioner's reliance here is also misplaced. First, Figures 6 and 7 fail to show inside

the cavity of the capsule and thus cannot demonstrate or even suggest that any of Yoakim's capsules are free of a filter. *See* Ex.1004, Figs. 6, 7, [0035], [0036]. Indeed, they are similar to the capsules of Figures 35, 41, and 42 discussed above that Yoakim teaches include a filter in the cavity. Moreover, Yoakim illustrates the combination of a lid with openings and a pierced membrane in the same capsules. *See, e.g.*, Figs. 28, 29, 35; Ex.2020, ¶162.

Petitioner relies on the embodiments of Figure 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. This alone makes the Petition deficient on this point. *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 because they are provided to illustrate "the centrifugal device into which is inserted the capsule of Fig. 51" and various capsule shapes. Ex.1004, [0083]-[0089]. Figure 54 depicts one of many different capsule shapes for Yoakim's brewing system, but its primary purpose is to teach aspects of the brewing system—not the capsule. Ex.2020, ¶163.

Each of Figures 54-60 depict a "schematic" view of a capsule, which does not contain every detail of the capsule. *See* Ex.2011, 50:24-56:1. The primary focus of Figure 54 is to underscore the different capsule sets and the arrangement of the interface assembly for forming the valve. For example, Figure 54 reflects a

“schematic side view of a capsule of small volume” (i.e., a simplified view) and not a cross-sectional view like figures 41 and 42. *See* Ex.1004, [0080], [0083]; *see also id.*, Fig. 1, [0030]. Indeed, it does not depict any of the detailed features of the capsule, such as the food substance and lid. Figures 55-60 depict different sized capsules and shapes, without more detail. Tellingly, Mr. Jobin does not have an opinion on the internals of these capsules. Ex.2025, 189:23-190:5. Moreover, any suggestion by Petitioner that the figures teach a capsule free of a filter is inconsistent with the disclosures of Yoakim that consistently and repeatedly describe a capsule having a filter element in the cavity. Ex.2020, ¶164.

Petitioner also argues “[i]t would also have been an obvious design choice to a POSITA to not use a filter in a centrifuge based brewing system in order to simplify the capsule design.” Pet., 67. But neither Petitioner nor its expert offers any evidence in support of this claim. Nor do they identify any teaching in Yoakim that would motivate the successful removal of Yoakim’s filter elements. Ex.2020, ¶165. “Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference.” *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000).

Petitioner’s reliance on “design choice” is also 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). Here, removal of Yoakim’s filter would result in a different function and unexpected results. Indeed, as evidenced by the multitude of citations to Yoakim above, Yoakim’s use of a filtering element is important to his goal of “better ... controlling quality of the final brewed beverage or food liquid product.” Ex.1004, [0010]; *see also id.*, [0011], [0012], [0210]. Yoakim teaches the benefits of the outlet openings to “form a restriction in the flow of the centrifuged liquid in the enclosure.” Ex.1004, [0418]. Yoakim explains further “it can be **advantageous** to provide smaller openings than for lungo or ‘Americano’ coffee extract.” *Id.* Removal of the openings would thus be contrary to Yoakim’s express teachings, including the ability to brew various types of coffee, and negatively affect performance. Ex.2020, ¶165.

Finally, 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). The same result applies here.¹⁰

¹⁰ To the extent that Petitioner seeks to rely on other paragraphs and/or teachings of Yoakim not in the Petition in reply, such reliance is improper and should not be

C. The Art Fails To Teach or Render Obvious Using Encoded Information To Activate a Pump of the Specific Coffee Machine (All Claims)

Claim elements [1.r]/[8.r] both require “the individualization identifier” “encodes information *used* by the specific coffee machine *to activate a pump* of the specific coffee machine.” According to Petitioner, this element is taught by Yoakim, Jarisch929, and Rossi. Pet., 70-73. Not so. Ex.2020, ¶¶166-178.

Starting with Yoakim, Petitioner contends “[t]he encoded information [such as barcode or RFID] is used to activate a pump.” Pet., 70-71. But Yoakim lacks any express or inherent teaching that information in his identification means is used to activate a pump. At best, the only disclosure of Yoakim is that the encoded information is associated to control means, which controls parameters such as when to stop filling water to achieve a desired volume. *See* Ex.1004, [0477] (“The identification means are associated to control means placed in the centrifugal brewing device which *controls the adjustment of the said parameters, by controlling* the rotational motor driving the capsule holder or/and *the pump*”).

credited by the Board. *See, e.g., Ariosa Diagnostics*, 805 F.3d at 1367-68 (upholding the Board’s decision to decline to consider previously unidentified portions of a prior-art reference for the first time on reply); *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1330-31 (Fed. Cir. 2019).

supplying liquid in the capsule.”), [0521] (“an identification means ID1, ID2, ID3 (FIGS. 54 and 55) or ID4, ID5 (FIGS. 61 and 62) associable to each capsule *to ensure control of the brewing parameters*, in particular, *the flow rate and the volume of injected liquid in the capsule*, as a function of the volume of the capsule and/or the product characteristics of the capsule (granulometry, roasting, etc.) and/or the beverage to be delivered”), [0522], [0523], [0025], [0028], [0192], [0218]. For example, as reflected in [0477], Yoakim uses the information from the identification means to “identify[] each capsule and adjust[] brewing parameters,” including “the volume of liquid fed in the capsule.” None of that teaches or suggests the information encoded in the identification means is *used* to activate a pump—adjusting settings is not activation of a pump.¹¹ Yoakim is silent as to whether the control means uses information from the identification means to activate a pump. As Mr. Jobin confirmed, “[Yoakim is] not getting into the detail of the software” and he “ha[sn’t] cited in particular the how of control means because it’s not central to my analysis.” Ex.2025, 175:6-18; Ex.2020, ¶¶167-168.

Moreover, pump activation using information in the identification means is not inherent from Yoakim’s teachings. For example, Schifferle (Ex.1039) teaches a

¹¹ The claims separately require “information used ... to control the beverage-making process.” Claim [1.s]/[8.s].

coffee maker where “[a]s soon as the brewing chamber 5 is closed, the pump 2 is operated.” Ex.1039, [0021]. A POSITA would have understood Yoakim’s system could operate in this way, i.e., operating the pump without information encoded in the identification means. Ex.2020, ¶169. Indeed, a signal (such as high or low)—independent of encoded information—is all that is necessary to activate the pump. This is consistent with Mr. Jobin’s own experiences. *See* Ex.1003, ¶58 (“Consumers typically ... *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; Ex.1019, 3:64-4:5 (“The routine 100 includes a test 102 that determines if the brewing process should begin. This test checks the state of the start brewing signal on the line 52 (FIG. 1).”); Ex.2020, ¶170.

The Petition next relies upon Jarisch929, but does not identify any express teachings relating to activation of the pump using encoded information. Pet., 71. This is not surprising given Jarisch929’s limited teachings of a pump and lack of express disclosure of how it works, is controlled, or is activated. *See* Ex.1006, [0048]. Jarisch929 points to a different centrifugal system (Denisart) as to which there has been no indication of controlling a pump based upon information encoded in any capsule identification. Despite this fact, the Petition then argues with circular rationale (if any rationale) that this element would have somehow been obvious in

view of Jarisch929. Pet., 71-72. The Petition fails to identify any teaching in the art of such obviousness and relies solely on impermissible hindsight. Ex.2020, ¶171.

Finally, the Petition relies on Rossi. Pet., 72-73. But Rossi too falls short of teaching the use of encoded information by the specific coffee machine to activate a pump. Specifically, the Petition contends that “Rossi *discloses* using the encoded information *to activate a pump* because Rossi is designed so that the beverage production process only activates after identification and validation elements are properly recognized.” Pet., 73. But Rossi does not disclose a pump at all. And a pump is not inherent in Rossi’s teachings. 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.2016, 50:12-25. There are also many subsystems in Rossi to control. Ex.2020, ¶¶172-173.

Given Rossi’s lack of disclosure of a pump, it is not surprising Rossi does not teach the claimed activation of the pump. At best, Rossi teaches a process where once an identifying element and a validation element have been confirmed, an edible-product making machine *automatically* activates a cycle of production of edible product. Ex.1041, Abstract. Rossi, however, does not teach or suggest that information encoded in either of the identifying element or the validation element is *used* to activate a pump. Indeed, even assuming Rossi has a pump (despite the lack

of any such disclosure), there is nothing in Rossi that demonstrates that activation of such pump results from the information in either element. A POSITA would have understood that the delivery of water could be achieved without use of the information in the identifying element and validation element. For example, once the elements are confirmed the water could be provided automatically without use of the information in the elements, such as through activation of a signal. Ex.2020, ¶174.

None of Rossi's process steps demonstrate use of the encoded information to activate brewing. For example, the first step may consist of "unlocking the machine when both the identification element and the unvalidated validation element are recognized." Ex.1041, 9, 6, cl. 1; Ex.2020, ¶¶64-65, 175.

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. Ex.1041, 9. This step also does not teach the use of information from the validation element to activate a pump. Ex.2020, ¶176.

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. But this also does not demonstrate the use of information from the identifying or validation element to activate a pump or even the cycle itself. Ex.1041, 8. And even in combination with Yoakim and

Jarisch929, as explained above, edible-product production would not mean that a pump is activated from information in the barcode or RFID. Ex.2020, ¶177.

That “the activation means 10, connected to the barcode reader 7 through the control unit 9, automatically activate[s] a cycle of production of the edible product” does not suggest the use of information from the identifying or validation element to activate a pump. Ex.1041, 13; *see also id.*, 11, 12. A POSITA would have understood that the activation means could activate a cycle of production without using any information from the reader—for example, through activation of a signal that is triggered upon reading the elements. Thus, Rossi’s teachings fail to overcome the apparent shortcomings of Yoakim and Jarisch929. Ex.2020, ¶178.

D. The Art Fails To Teach or Render Obvious a Plurality of Vertically Oriented Grooves Between the Flange and the Closed Bottom as Claimed (All Claims)

Claim elements [1.f]/[8.f] require the portion capsule to have a plurality of vertically oriented grooves ... spaced a distance between the flange and the closed bottom.” The Petition relies on the teachings of Rapparini for these claim elements

(Pet., 57). But the ribs of Rapparini's Figs. 6 and 6bis intersect with and are not spaced from the flange (annotated in red below). Ex.2020, ¶¶179-180.

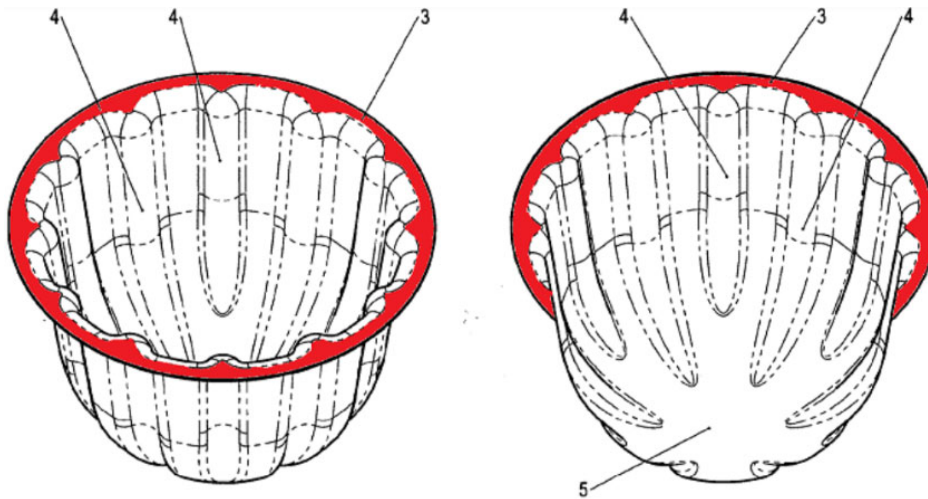
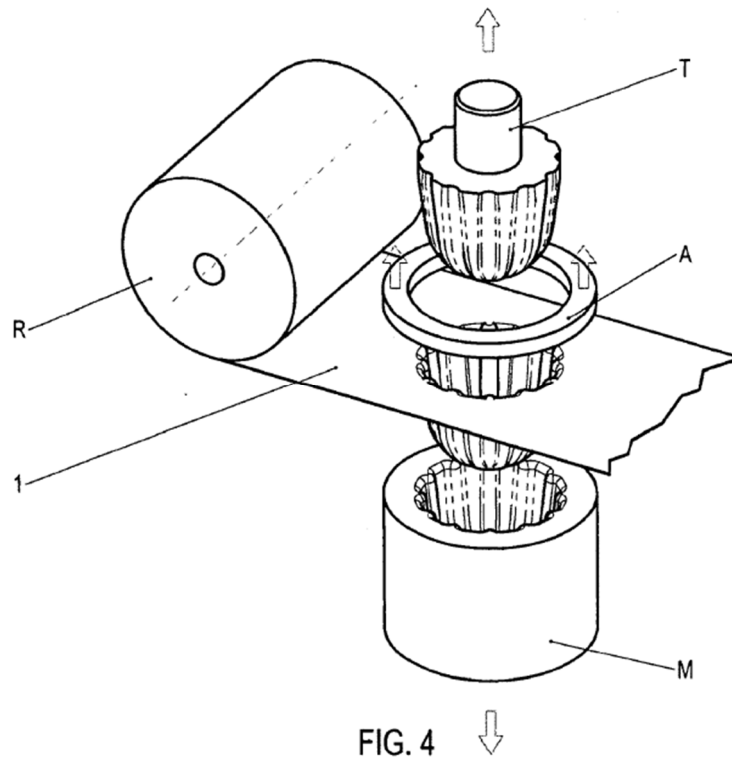


FIG. 6

FIG. 6 bis

Compare Ex.1008, Figs. 6, 6bis *with* Ex.1001, Figs.19-21; *see also* Ex.1008, cl.16 (“a plurality of varied length ribs having a depth extending from the annular rim”). This is a consequence of the process for making the capsule to achieve the ribs,

which as depicted in Figure 4 of the Rapparini, uses a die where the ribs extend to the top surface of the thermoformed material. Ex.2020, ¶¶181-182.



While Petitioner seeks to argue a contrary result from Rapparini at [0011], a POSITA would have understood that this disclosure distinguishes between the long ribs that extend “at least partially in the bottom region of the container” with the “short ribs” that do not. Both rib lengths extend into the flange and are thus not spaced a distance between the flange and the closed bottom, as required by PO’s claims. Ex.2020, ¶¶181-182.

Moreover, Petitioner has not explained how it is feasible to maintain that feature as taught by Rapparini and have ample space for a code as taught by

Jarisch929. The grooves being part of the flange necessarily means less surface to carry a code. There is further a problem of combining the teachings of the capsule of Yoakim Fig. 23 with the code of Jarisch929 since here too any grooves extend to the flange where the code of Jarisch929 would go; the Petition is deficient in rationalizing the at least four-way combination of Yoakim Fig. 23, Yoakim Fig. 61, Jarisch929 Fig. 5, and Rapparini. Ex.2020, ¶¶183-184.

There is no motivation in Rapparini or elsewhere to suggest modification of Rapparini to have grooves that do not extend all the way into the flange. This contention is based purely on hindsight. Ex.2020, ¶185.

The claims further require the grooves “cover 20% to 80% of the wall between the flange and the closed bottom.” [1.g]/[8.g]. Claim 4 requires “the vertically-oriented grooves cover 40% to 60% of the wall between the flange and the closed bottom.” Petitioner and its expert point to Rapparini’s Figure 6bis and contend in a conclusory manner that Rapparini discloses such grooves. But Petitioner identifies no statement in Rapparini for such a coverage range, offers no calculations in support of this range, and arbitrarily annotates Figure 6bis. Indeed, Petitioner’s expert conceded he did not perform any calculation here and contended “it’s disclosed because it’s obvious.” Ex.2025, 121:6-23, 123:12-25, 124:15-125:7, 127:17-128:21. Petitioner thus cannot prevail on Figure 6bis alone. *See Mahle Behr Charleston Inc. v. Frank Amidio Catalano*, IPR2023-00861, Paper 18, at 3 (May 24, 2024) (“patent

drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue”). Ex.2020, ¶186.

Petitioner further argues that it would have been obvious to cover the precise claimed ranges of the wall. But again offers only the generic conclusion (indeed, the same one for both a wider range of 20-80% (Pet., 59) and the narrower range of 40-60% (Pet., 77-78)), 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”). Petitioner offers no evidence that reducing the ribs on Rapparini would somehow “increase structural stability” such that a POSITA would have been motivated to achieve PO’s claims. Rather, Petitioner’s expert contends “it’s very easy for short to long to be included within the range of 20 to 80 percent of 100 percent.” Ex.2025, 128:10-21; Ex.2020, ¶187.

E. The Petition Fails To Make a Prima Facie Showing of Settings for Hot Water (All Claims)

Claim elements [1.s]/[8.s] require “setting a quantity of *hot water*, pressure of the *hot water*, and/or a temperature of the *hot water*.” The Petition contends that

Yoakim and Jarisch929 use encoded information to control water quantity, pressure or temperature, but makes no contention or showing of such settings controlling “hot water,” as claimed. Pet., 71. Petitioner thus fails to demonstrate unpatentability on elements [1.s]/[8.s]. 37 C.F.R. 42.104(b); 35 U.S.C. §312(a)(3).

F. Jarisch929 Fails To Teach or Render Obvious the Individualization Identifier Is Provided On the Outside Surface of the Wall (Claims 1-7)

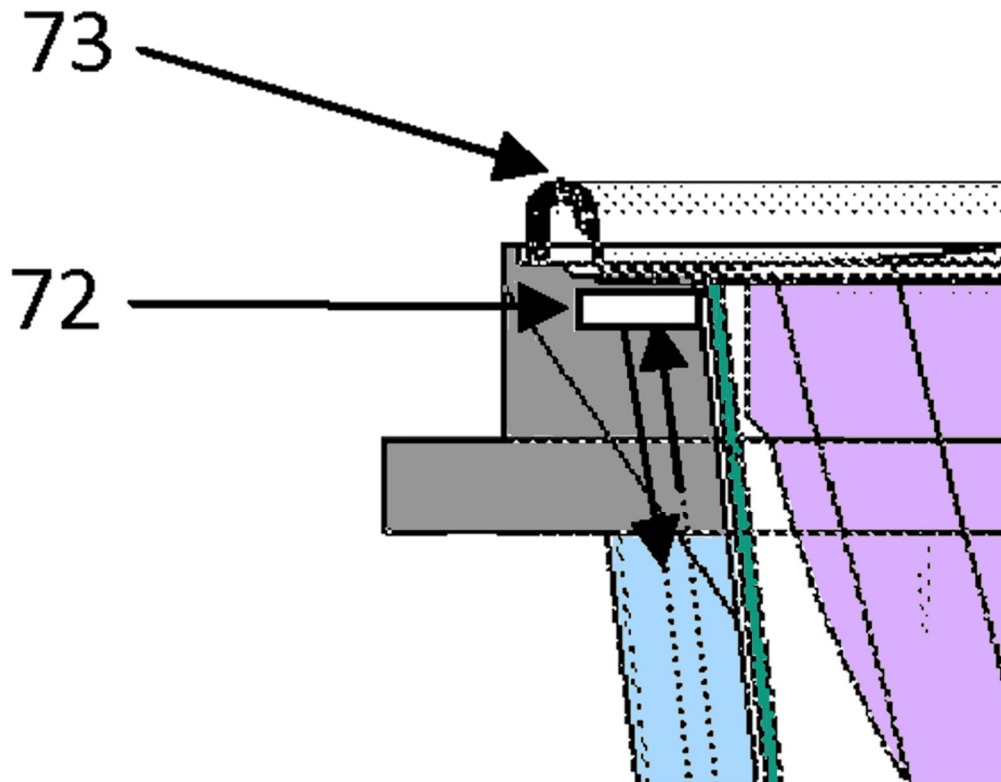
Claim element [1.t] requires the identifier “is further provided on the outside surface of the wall of the base element.” Petitioner’s citations to Jarisch929 are conclusory. Pet., 74. A POSITA would have understood that Jarisch929 teaches only that the support is on the *lid* or *rim* of the capsule. Ex.2020, ¶188.

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.,* Ex.1006, [0072], [0090]-[0094], Fig. 2; Ex.2020, ¶¶189-190.

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*, 694 F.3d at 1327-28; *TQ Delta*, 942 F.3d at 1358-59. 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. Ex.1006, [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, ¶¶191-192.



G. The Art Fails To Teach or Render Obvious the Individualization Identifier Is Electrically Conductive (Claims 2-7)

Claims 2-7 require “the individualization identifier is electrically conductive.”

The Petition fails to identify any teaching or suggestion of such an identifier. Petitioner contends that Yoakim’s capsule is aluminum but identifies no teaching that the aluminum there is an “individualization identifier,” as claimed. Pet., 74-75. Petitioner then identifies Jarisch929’s teaching of “printed and/or embossed” (Ex.1006, [0027]) symbols having “magnetic field, induced magnetic field, resistivity, [or] capacity.” Pet., 75. But Petitioner makes no showing that such

symbols disclose, expressly or inherently, having electrical conductivity. A POSITA would have understood that these characteristics in [0027] apply to insulators. Moreover, Petitioner fails to identify any teaching to suggest for the obviousness of an individualization identifier that is electrically conductive. Ex.2020, ¶¶193-194. “[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

H. Jarisch929 Fails To Teach or Render Obvious an Identifier Exhibiting a Concavity and/or Convexity (Claims 6-7)

Claim 6 requires “the individualization identifier exhibits a concavity and/or a convexity.” Petitioner and its expert offer the conclusion that “Jarisch 929 discloses and/or renders obvious an identifier that exhibits a convexity or concavity” (Pet., 78) without any evidence in support. Tellingly, neither Petitioner nor its expert explains how Jarisch929 discloses a support having either convexity or concavity. *TQ Delta*, 942 F.3d at 1358-59. As explained above, Jarisch929 teaches placing a support on a flat surface and lacks teaching placement of the support on anything other than the rim or lid. And even if Petitioner were correct that Jarisch929 somehow teaches “locating the code on both the bottom of the flange and the capsule body wall” (Pet., 78) that teaching does not equal a convexity or concavity. Ex.2020, ¶¶195-199. Petitioner further argues that it would have been obvious to achieve this claim. But offers only the generic conclusion of design choice, which is based

entirely on hindsight from PO's claims and insufficient to carry Petitioner's burden.

Kartri Sales, IPR2016-01327, Paper 10, 17.

V. At Least Jarisch929, Rapparini Are Not Patents or Printed Publications (All claims)

Petitioner's ground is 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 accessible until after July 22, 2011—the undisputed PCT priority date. *See* Ex.1006, Cover; Ex.1008, Cover; Pet., 25 n.3. "[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); *see In re Wertheim*, 646 F.2d 527, 532 (CCPA 1981) (application "was not ... a patent or printed publication").

IPR petitioners have "the burden to prove [a reference] is a printed publication." *Acceleration Bay*, 908 F.3d at 772. 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 to challenge ’910.

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 13,973 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

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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

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