

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 No. IPR2023-00485
U.S. Patent 11,230,430

Before GRACE KARAFFA OBERMANN, JON B. TORNQUIST, and JAMES J.
MAYBERRY, *Administrative Patent Judges*.

PATENT OWNER SUR-REPLY

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LIST OF EXHIBITS

Exhibit	Description
Ex. 2001	Declaration of Laurens “Lars” Howle (“Howle Decl.”)
Ex. 2002	Examiner-Initiated Interview Summary for Appl. No. 17/324,182
Ex. 2003	Examiner-Initiated Interview Summary for Appl. No. 17/108,175
Ex. 2004	<i>K-fee System GmbH v. Nespresso USA, Inc.</i> , Case No. 2:21-cv-3402 GW(AGRx), Dkt. No. 126-1 (Apr. 1, 2022)
Ex. 2005	<i>K-fee System GmbH v. Nespresso USA, Inc.</i> , Case No. 2:21-cv-3402 GW(AGRx), Dkt. No. 211 (June 17, 2022)
Ex. 2006	U.S. Patent No. 11,254,491
Ex. 2007	U.S. Patent No. 10,858,177
Ex. 2008	Excerpts of file history for U.S. Patent No. 10,858,176
Ex. 2009	Excerpts of file history for U.S. Patent No. 10,870,531
Ex. 2010	Excerpts of file history for Appl. No. 17/547,363
Ex. 2011	Applicant-Initiated Interview Summary for Appl. No. 17/963,392
Ex. 2012	File history for U.S. Patent 11,254,491
Ex. 2013	Notice of Allowance for Appl. No. 17/330,572
Ex. 2014	Excerpts from Appl. No. 17/670,629
Ex. 2015	Excerpts from Appl. No. 17/670,765

Exhibit	Description
Ex. 2016	Suggestion for Declaration of Interference, Appl. No. 13/697,297
Ex. 2017	Declaration of Laurens “Lars” Howle in Support of Patent Owner’s Response (“Howle Decl.”)
Ex. 2018	Transcript of deposition of Michael Jobin taken June 22, 2023
Ex. 2019	Transcript of deposition of Michael Jobin taken November 28, 2023
Ex. 2020	NOT USED
Ex. 2021	NOT USED
Ex. 2022	U.S. Patent Appl. Pub. No. 2009/0007792
Ex. 2023	U.S. Patent Appl. Pub. No. 2008/0302252
Ex. 2024	WO Pub. No. WO2008100597A1
Ex. 2025	Bialetti Moka Express (https://www.bialetti.com/it_en/moka-express.html)

All challenged claims are patentable over the instituted grounds. In the face of Patent Owner’s arguments, Petitioner reaches for new arguments and seeks to unjustifiably discredit Patent Owner’s expert. But Petitioner cannot run from the many inescapable admissions of its expert, the conclusory and unsupported arguments in its Petition, and its failure to refute various evidence-based arguments presented in the Patent Owner Response (“POR”).¹

I. There Is No Question Dr. Howle Is A POSITA

Petitioner’s arguments to discredit Dr. Howle are unpersuasive because they ignore relevant facts and are unsupported by law. Dr. Howle is a POSITA and should be given equal, if not more, weight than Petitioner’s expert, Mr. Jobin.

The Board preliminarily adopted Patent Owner’s proposed definition of a POSITA, which provided a POSITA “would have a bachelor’s degree in engineering plus five years of experience in design of mechanical beverage systems, *or similar products*, as well as experience with sensors for recognizing an identifier.” Paper 9 (“Institution Decision”) at 8.

¹ All emphases added, unless noted.

Dr. Howle’s experience exceeds this definition. Notably, Dr. Howle holds a Ph.D. in Mechanical Engineering—Mr. Jobin does not.² Ex.2017, ¶5. For over 30 years, Dr. Howle taught a variety of undergraduate and graduate courses in Mechanical Engineering and Materials Science at Duke University, and he served as the lead instructor for the entire mechanical engineering design sequence. *Id.* at ¶¶5-6, Ex.1067 at 101:13-18. Specific relevant courses Dr. Howle has taught include various mechanical design, heat/mass transfer, and fluid dynamics courses. Ex.2017, ¶6.

Petitioner myopically focuses on Dr. Howle’s experience with “beverage system design” but never challenges Dr. Howle’s academic credentials and experience in the design of “similar products.” *See* Paper 18 (“PR”) at 27-28. It is undisputed that Dr. Howle has experience in mechanical design including design of components used in mechanical beverage systems, and design of ***similar products*** that include heaters, pumps (piston pumps and peristaltic pumps), strain gauges, thermocouples, thermistors, photo emitter/detector circuitry, ultrasonic and inductive proximity sensors, Hall effect transducers, piezoelectric elements, pressure

² Dr. Howle provided unrebutted testimony that “[a]dditional education might substitute for some of the experience.” Ex.2017, ¶31. His educational experiences are, at a minimum, a substitute for design experience.

transducers, ultrasonic and impellor flow meters, acceleration gauges, interferometers, and custom line-of-business software systems. Ex.1067 at 101:3-12³; Ex.2017, ¶¶3-4, 9-10; *see also* Ex.1066 at 34:16-35:9. Dr. Howle also has extensive experience with medical devices, which utilize these components and operate similarly to beverage machines. Ex.1067 at 102:20-104:9. There can be no doubt that medical device experience is relevant because even Mr. Jobin identifies similar experience as relevant in seeking to qualify himself as an expert. *See* Ex.1003, ¶¶8, 12, 23, 27.

Moreover, Dr. Howle has been named a Fellow of the American Society of Mechanical Engineers, has been selected as finalist and winner of awards for products that he designed, and he owns a licensed professional engineering consulting firm (license number P-0774)—accolades and experience that Mr. Jobin

³ At Dr. Howle's deposition, Petitioner invoked Dr. Howle's experience, Ex.1067 at 31:24-32:1, 32:11-13,100:5-8; therefore, despite Petitioner's numerous objections, there was nothing improper about Patent Owner's redirect examination of Dr. Howle. Petitioner cannot seek Dr. Howle's opinions to utilize them in support of its positions while also seeking to undermine Dr. Howle's ability to offer those opinions. *See e.g., id.* at 28:21-24, 30:1-7, 81:7-9; PR, 5, 7.

does not possess. Ex.2017, ¶¶8, 10. The five-year licensure process to become a professional engineer requires proof of a minimum of four years of experience working under professional engineers and passing an exam. Ex.1067 at 101:19-102:11 (Dr. Howle “became licensed in 2008, but all the experience leading up to that, I had completed by 2000”).

To suggest Dr. Howle’s opinions should not be given appropriate weight, Petitioner cites to trial testimony from two of Dr. Howle’s previous coffee capsule cases. *See* PR.27-28. These trial transcripts *prove* that Dr. Howle is qualified to offer opinions on these issues. Indeed, in both cases, Dr. Howle was qualified as an expert without objection and testified before the factfinder. *See, e.g.*, Ex.1068 at 6:3-12; *see generally* Ex.1069. There is nothing in those transcripts that suggests Dr. Howle lacks the qualifications to provide opinions here or is not a POSITA. Tellingly, it is undisputed that Dr. Howle has been accepted as a credible expert witness in over 20 cases and served as an expert and/or testified at trial in seven cases related to single-serve beverage brewing systems. Ex.2017, ¶13.

Should the Board believe that Dr. Howle somehow does not fall squarely within the Board’s definition of a POSITA, the Board has held that the proper inquiry is whether “the testifying witness possesses sufficient qualifications to be able to testify as to what the hypothetical person of ordinary skill in the art postulated by § 103 would have known and understood at the time of the invention,” and that a

POSITA need not have accumulated specific design experience in the claimed technology by the priority date of the asserted patent. *See, e.g., SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1373 (Fed. Cir. 2010); *see also Bayerische Motoren Werke Aktiengesellschaft v. Paice LLC*, IPR2020-01386, Paper 37 at 73 (PTAB Jan. 31, 2022); *GoPro, Inc. v. Contour, LLC*, IPR2015-01078, Paper 84 at 12 (PTAB Jul. 31, 2019); *Endress + Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd.*, 122 F.3d 1040, 1042 (Fed. Cir. 1997). *Kyocera Senco Industrial Tools Inc. v. International Trade Commission* is not contrary—there the expert lacked the requisite experience at all times. 22 F.4th 1369, 1376 (Fed. Cir. 2022).

Overall, Dr. Howle is a POSITA and there is no reasonable basis for his testimony less weight than Mr. Jobin's.

II. Petitioner's Motivations To Combine Fail

A. Jarisch Is Not Intended to be Combined With Yoakim's Centrifugal Systems

Patent Owner explained there are substantial differences between the system in Jarisch and the systems in Yoakim that undermine the combination Petitioner advocates. POR.25-34. Petitioner argues that the art is directed generally to centrifugal brewing systems. But Jarisch's cursory mention of Denisart does not establish a wholesale ability to modify Yoakim's multiple centrifugal brewing systems with Jarisch's teachings of yet another centrifugal brewing system. Indeed, it is not enough to argue that a POSITA could have modified a reference, but rather

must demonstrate why. *See PersonalWeb Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017).

B. There Is No Motivation To Place A Code On The Bottom Of Yoakim's Flange.

Yoakim would not benefit from Jarisch's code location. POR.26-31. As an initial matter, Petitioner does not dispute the apparent differences between Yoakim and Jarisch. Instead, Petitioner seeks to suggest a problem in Yoakim that beverage residue is "left over in the chamber from prior brewing." PR.22. Petitioner identifies no evidence of such a problem in Yoakim. Petitioner relies now upon the embodiments of Figs. 35 and 38, which relate to Yoakim's single-volume capsule set. PR.23. But Petitioner fails to demonstrate any rationale to combine these embodiments with those in Yoakim Figs. 23, 61, and 62, which were relied upon in the Petition. This lack of explanation dooms Petitioner's arguments. *See Abiomed, Inc. v. Maquet Cardiovascular, LLC*, IPR2017-01204, Paper 9, at 11 (PTAB Oct. 23, 2017); *Intel Corp. v. Tela Innovations, Inc.*, IPR2019-01521, Paper 65 at 25 (PTAB 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]"); *Hewlett Packard Enterprise Co. v. Intellectual Ventures II LLC*, IPR2022-00115, Paper 9 at 15 (PTAB Mar. 29, 2022); *Google LLC v. AGIS Software Dev., LLC*, IPR2018-

01086, Paper 10 at 19 (PTAB Dec. 4, 2018). Moreover, Yoakim's Figs. 35 (annotated below) and 38 do suggest the "problems" Petitioner argues (PR.23) because they have no sensor or barcode, and the capsule has a peripheral collection recess to maintain fluid at the periphery.

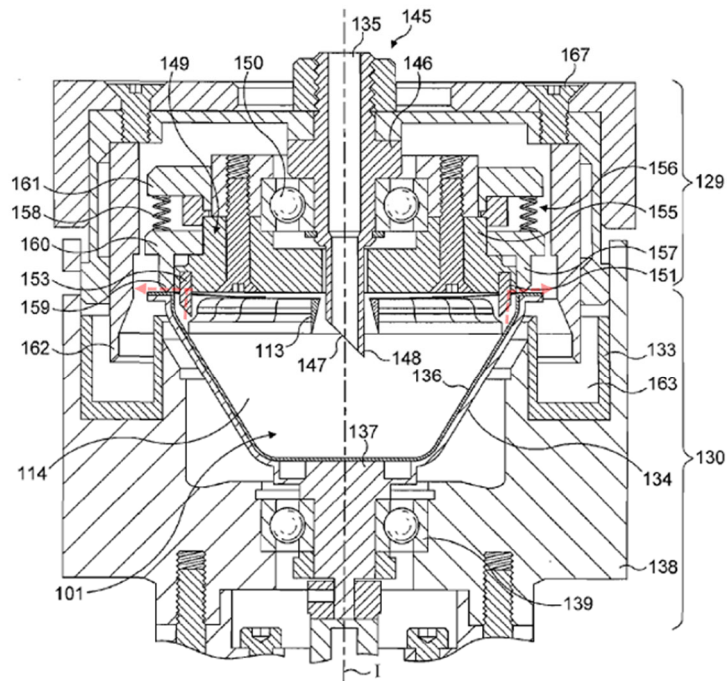
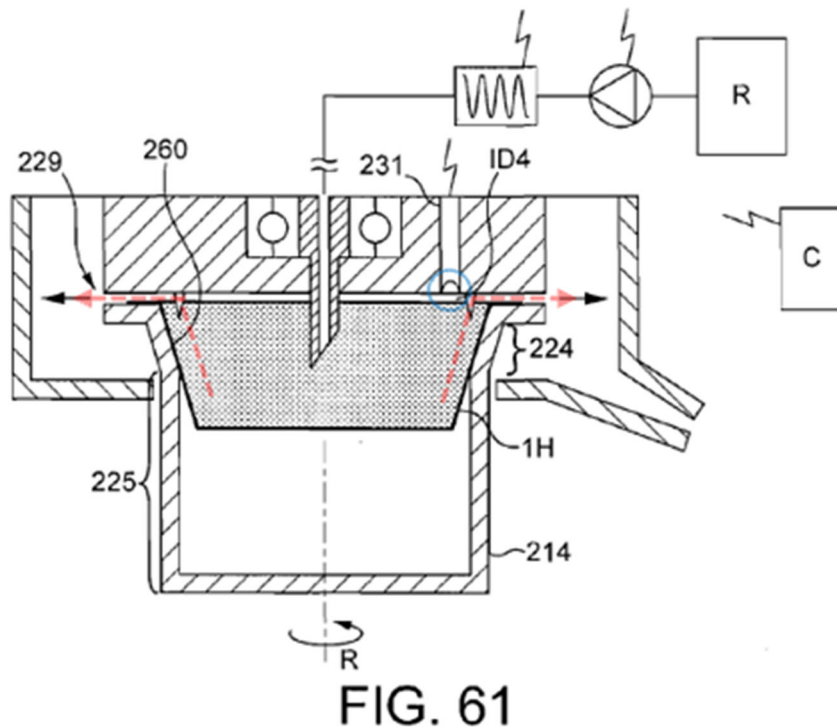


FIG. 35

As for Yoakim's Figure 61, Petitioner has provided no evidence of a liquid flow path contrary to that below (in red). It cannot be disputed that ID4 and sensor 231 are not in the flow path but are located inboard of the flow path.



In the POR, it is shown that substantial reconstruction is required to implement Jarisch's teachings in Yoakim, which is insistent on avoiding unbalance and teaches the snug fit as the means to solve it. POR.29-32; Ex.1004, [0006]. Petitioner argues to use Jarisch's "straight chamber," but this is not a simple plug and play operation. Yoakim speaks to specific requirements for the capsule holder of Figs. 61/62 including that it be capable of receiving a set of multiple volume capsules and that it realizes a "snug fit" to assure that "unbalances" are avoided. Ex. 1004, [0512]. The snug fit provides safety. *Id.*, [0205], [0479], [0484], [0507], [0512]. Petitioner bears the burden to demonstrate unpatentability but has not

explained how this combination would have been motivated to be achieved with any expectation of success.

At best, Jarisch describes a “risk” from beverage residues in Jarisch’s system (and possibly those prior art systems Jarisch explicitly identifies) but is silent as to whether such residues result from prior brewing. Ex.1005, [0022]. In contrast, Yoakim teaches “[t]he capsule of the invention provides many advantages over the ‘open’ centrifugal systems of the prior art, in particular: . . . A *cleaner operation*.” Ex.1004, [0319]-[0325]. This suggests that Yoakim’s capsules adequately address any concern of residue without placing the barcode under the flange. Moreover, Figures 35 and 38 of Yoakim (upon which Petitioner relies) do not have a sensor/barcode and Petitioner presents no evidence that this embodiment would suffer from the alleged “residue” problem. *See id.* at Figs. 35, 38. In sum, there is no evidence to suggest that beverage residues would have been a concern in Yoakim’s system, or even after how many uses such a concern might even arise (if at all). The record is silent on this.

Petitioner mischaracterizes Dr. Howle’s testimony regarding the location of the piercing elements in Yoakim relative to the barcode. As can be seen in Figure 61, they are not “in the same location that is meant to be read” (PR.23), but instead inset from the piercing location.

Moreover, Petitioner’s arguments of “problems of tearing” are unsupported. There’s nothing to suggest that the membrane in Yoakim would be torn, rendering the barcode reading inoperable. As explained, the reading occurs prior to rotation of the capsule, so tearing is not a concern. *See* POR.27. The passage referred to in Ex.1010 (PR.22) states that piercing would only have a “minimal effect” on the laminate in the region of the barcode 320. There is no evidence that the arrangement of Fig. 10 in Ex.1010 where the barcode is on the lid is problematic.

C. Petitioner Changes Its Arguments For Combining Yoakim And Jarisch To Contend Such Combination Is “Simple.”

Patent Owner identified numerous deficiencies in Petitioner’s efforts to combine the teachings of Yoakim with Jarisch. POR.26-32. In response, Petitioner changes its positions to argue “[t]he combination is simple to a POSITA.” PR.23. Dr. Howle explains various reasons why that is untrue. Ex.2017, ¶¶146-153. Petitioner argues that “K-fee insists that the combination utilize the same, unmodified, physical chamber of Yoakim FIG61.” PR.24. But it was Petitioner and its expert that advocated this specific combination—contending only to modify Yoakim *by the placement of* the optical code and reader from Jarisch. Pet., 47 (“Jarisch also discloses motivations for a POSITA to *combine the brewing and barcode identification system of Yoakim with the code location of Jarisch on the bottom flange of the capsule.*”); Ex.1003, ¶182 (“A person of ordinary skill in the

art would have been motivated *to use the placement of the optical code and reader from Jarisch in the Yoakim barcode reading system.*”); *see also id.* at ¶177 (“A person of ordinary skill in the art would have been motivated to combine the single-serve brewing system, capsule, barcode reading system, and machine control of Yoakim, *with* the code location under the flange disclosed in Jarisch”).

Under the advocated modifications, the differences between Yoakim’s capsule holder and Jarisch’s reader placement present significant obstacles to achieving the proposed combination. POR.26-32. Petitioner should not be heard to argue a different combination or reasoning to combine now. *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1330-31 (Fed. Cir. 2019) (“an IPR petitioner may not raise in reply ‘an entirely new rationale’ for why a claim would have been obvious”). As such, a POSITA would not have had a reasonable expectation of success in moving the sensor to the bottom of Yoakim’s brewing device and the combination of Jarisch and Yoakim would have required a significant redesign of the elements. *See* Ex.2017, ¶¶147-148.

Petitioner’s mantra that the teachings do not need to be bodily incorporated is not an unrestricted license to combine references just because they may be in a similar field. Petitioner neglects the precision needed to operate the Yoakim and Jarisch systems, especially in view of the repeated teachings in Yoakim of rotation speeds upward of 15,000 RPM and near boiling water. Ex.1004, [0509]. Even without bodily

incorporation, there must be a motivation to achieve the combination. On the present facts, Petitioner's arguments fail because they do not provide any rationale for why a POSITA would make the specific modifications alleged, there are many pointers discouraging the combinations sought, and any such combinations would have required a POSITA to make significant reconfigurations. Therefore, a POSITA would *not* have been motivated to combine the teachings of the two references.

Petitioner does not dispute that it has not identified in Yoakim disclosure of a "barcode" under its ordinary meaning. PR.26; POR.33. The Federal Circuit recently held that "a barcode is defined *by its visual appearance* as lined-up bars of varying widths." *K-fee Sys. GmbH v. Nespresso USA, Inc.*, 89 F.4th 915, 924 (Fed. Cir. 2023). Petitioner never addresses this or identifies such a barcode in the art.

Finally, Petitioner seeks to walk away from its affiliate's prior statements discouraging the modification of Yoakim '601 to place a code under the flange of a capsule like the one in Figure 23 of Yoakim. PR.27. Petitioner does not dispute that it argued against motivation to place a code on the bottom of the flange of Figure 23. *See id.* Indeed, it concedes that Yoakim Figure 23 lacks "disclosure of a code under the flange." *Id.* This lack of disclosure combined with arguments during prosecution against a motivation to modify the capsule depicted as Yoakim Figure 23 undermine the combination advocated here.

III. K-fee Meets Its Burden On Priority

The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon “*reasonably* conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.” *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983)); *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991); *Martin v. Johnson*, 454 F.2d 746, 751 (CCPA 1972) (stating “the description need not be in *ipsis verbis* [i.e., “in the same words”] to be sufficient”). This test is satisfied here.

A. The Second German Application Reasonably Conveys Possession Of A Barcode Under The Flange Of Figs. 16-18

It is undisputed that the Second German Application discloses a barcode on the bottom side of the flange of a capsule. *See* Ex.1047 at 33:1-8, 38:21-25 (“it is possible, as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane”), 47:13-15, Fig. 2. A barcode is one example of an identifier and Figure 2 is one example of a capsule with an identifier. *Id.* at 33:1-8. The Second German Application explains that “[w]hat has been said in relation to the identifier applies to all other examples.” *Id.* at 33:1-8.

Figures 16-18 disclose an exemplary identifier “element 2.4.2.” POR.59 n.9. The disclosure with respect to Figures 16-18 specifically states alternative detection

means can be employed with that embodiment. In particular, the application discloses the “*peripheral region 2.4* has, in its outer region, a form-fitting and/or friction-fitting means and/or a detection means 2.4.2.” Ex.1047, 41:22-25. A “barcode” is one such detection means provided on the peripheral region. Ex.2017, ¶73; Ex.1047 at 38:21-24 (“the barcode to be provided on that side of the peripheral region”), 38:26-27 (“The barcode is read by a detector 13 The barcode constitutes the identifier according to the invention.”). Element 2.4.2 is not limited to the toothed ring, as the Second German Application reasonably conveys that the toothed ring is only exemplary. Ex.1047 at 41:25-27 (“In the present case, this means 2.4.2 . . . is a toothed ring 2.4.2.”); Ex.2017, ¶72. The Second German Application thus reasonably conveys Figures 16-18 can have a barcode on the bottom of the flange where element 2.4.2 is depicted.

Petitioner’s only retort is that element 2.4.2 is on the “outer region” or “outer circumference.” PR.2. But, as Dr. Howle explains, a POSITA would understand that (based on the figures and their descriptions) 2.4.2 is on the bottom of the flange. Ex.2017, ¶¶72-75; *see* Ex.1047, Fig. 17. Dr. Howle’s testimony on this is unrebutted.

B. The Embodiments In The Second German Application Are Linked

The statement “[w]hat has been said in relation to *the* identifier applies to all other examples” also reasonably conveys linking embodiments. Ex.1047 at 38:8-9. This statement is in its own paragraph, separated from the remainder of the text in

the second German application, thereby indicating that it is intended to apply generally. Moreover, there is a clear antecedent basis for “*the* identifier.” *See* MPEP § 2173.05(e) (“Inherent components of elements recited have antecedent basis in the recitation of the components themselves.”). As Dr. Howle explains, this antecedent basis links the general references to an identifier across various embodiments of the second German application. *See* Ex.2017, ¶¶55-61.

Petitioner incorrectly argues that element 2.4.2 is not a “common” identifier. As explained previously, element 2.4.2 is on the bottom of the flange. While 2.4.2 *can be* a toothed ring, as depicted in Figures 16 and 17(a)-(c), a POSITA would have understood that other “detection means”, such as the barcode disclosed with respect to Figures 1 and 2 could be located on the bottom of the flange. Ex.2017, ¶¶92-97; Ex.2018, 186:10-20; Ex.1047, 33:1-7. As noted above, the toothed ring is an exemplary identifier. Ex.1047, 41:25-31 (“In the present case, this means 2.4.2 . . . is a toothed ring 2.4.2.”); Ex.2017, ¶72. The second German application’s specific intention and guidance to combine the teachings regarding the identifier with all other examples, reasonably conveys that the inventor had possession of a barcode on the bottom side of the flange in Figures 16-18 at the time of the second German application’s filing. *See* Ex.2017, ¶¶94-101.

Dr. Howle’s testimony that the second German application discloses only a single brewing chamber is un rebutted. *See* Ex.2017, ¶55. The knowledge of a

POSITA is relevant to assessing the linking of embodiments. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1350 (Fed. Cir. 2013). Petitioner’s arguments that there is no “common brewing chamber” are unpersuasive and disregard the knowledge of POSITA.

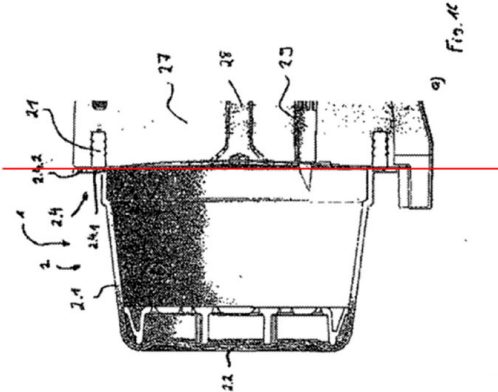
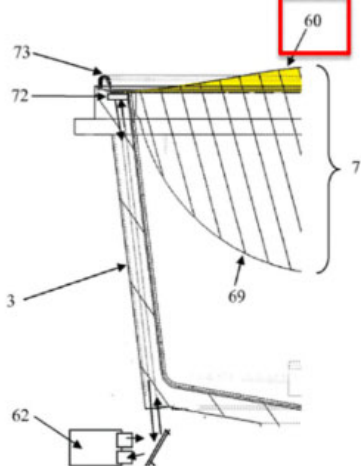
Despite two annotations to the brewing chamber, the annotations do not reasonably convey materially different brewing chambers. Petitioner fails to identify anything that undermines the fact that the second German application reasonably conveys possession of a single brewing chamber that a POSITA would understand allows substitution of identifiers in the more detailed Figures 16-18 embodiments. Petitioner’s arguments regarding the “specific coffee machine” (PR.5) do not suggest that the coffee machine does not share a common brewing chamber. As the application makes clear, “the invention” is described through all of the figures 1-18. Ex.1047, 35:23-26.

C. “Annular Convexity” Of The Single-Serve Capsule Is Present In The Second German Application

The second German application discloses a cover that is bowed outwardly, which reasonably conveys the disclosure of the claimed “annular convexity. *See* Ex.1047, Fig. 16; POR.50, 54-56. Petitioner’s reasoning for why the second German application does not disclose a bowed cover highlights its plainly contradictory readings of similar disclosures to suit its own purposes. When Petitioner’s expert

analyzes Jarisch, he opines that a bowed cover is depicted clearly; but, upon analyzing the second German application, the same bowed cover is purportedly indiscernible. *See* PR.8-9. Petitioner cannot have it both ways.

The table below compares Fig. 16 of the second German application, which displays the bowed cover, to Fig. 4 of Jarisch, which Mr. Jobin cites. Mr. Jobin testified “Figure 5 forms the basis of my understanding that the foil or membrane in this capsule is – is depicted here, and the – the foil or membrane or cover in this instance is bowed outwardly in a central region.” Ex. 2018 at 97:7-98:16.

Ex.1047 at Fig. 16 (second German application)	Ex.1005 at FIG. 4 (cited by Mr. Jobin)
	

Both experts agree that an intact sealed portion capsule, like the one depicted in the second German application would have an outwardly-bowed cover due to the pressure from gases inside. Ex.2017, ¶90. A POSITA would have understood that upon the cover being pierced by the mandrel, the once-convex cover would be

flattened as the volume of air inside the capsule decreases. *Id.* Figure 16 shows this de-pressurization in action, but that does not mean that the bowed nature of the cover is completely eliminated. *See id.* As such, Petitioner's arguments to the contrary must fail.

* * *

In summary, the second German application reasonably conveys to a POSITA that the inventor possessed the claimed features, even if it is necessary to combine features described in relation to different embodiments. The embodiments are linked at least by:

(a) the quote on page 38:8-9 of that application: “what has been said in relation to the identifier applies to all the other examples” (Ex.1047, 38:8-9; POR.41);

(b) the description of Fig. 16: “Figure 16 shows a portion capsule with a toothed ring in *the brewing chamber*” (Ex.1047, 36:30-31) given that “the brewing chamber” was described previously across other embodiments (*e.g., id.* at 32:1-4, 33:22-30, 34:13-25; POR.63-64));

(c) the quote on page 35:23-26 of that application: “[t]he *invention* will be explained hereinbelow with reference to figures 1-18” (Ex.1047, 35:23-26);

(d) claim 17, as filed, called for a peripheral sealing surface making implicit the generic contemplated use with a machine that had a seal, such as the one shown in Fig. 16(a) and (b) (Ex.1047, 48:7-9);

(e) generic linking claim 1, which contemplated combinations of different embodiments, based upon the small number of multiple dependent claims and the nature of the technology (Petitioner's affiliate relied upon dependent claims as support in its Interference (*see, e.g.*, Ex.2016, 38; POR.40-42, 66); and

(f) that there was nothing that taught that features of the embodiment in Figs. 16(a) and (b) were unique to themselves and could not be used with other embodiments. POR.39-40.

IV. The Claims Are Not Obvious Over Yoakim/Jarisch/Rossi

A. Yoakim Fails To Disclose A Capsule Free Of A Filter Inside of the Cavity

There is no dispute that Yoakim expressly teaches that his capsules contain a filter for purposes of filtering brewed liquid from solid particles in the capsule. Petitioner contends that the filter is optional or not in the cavity. Tellingly, Petitioner remains unable to identify any passage in Yoakim to support its position.

Petitioner's arguments for an optional filter are unpersuasive. First, Petitioner argues that "express negative statements are not required." PR.9-10. Petitioner's argument fails because the Petition points to nothing to suggest that the filter is optional. Rather, the Petition refers to a *second* filter as well as embodiments that fail to show the inside of the capsule at all. Pet., 62. That cannot satisfy Petitioner's burden. Moreover, Petitioner's reliance on the '430 Patent's disclosure is misplaced. Yoakim's disclosure is unlike the '430 Patent's written description, which makes

clear that a filter is optional “if necessary.” *See, e.g.*, Ex.1001 at 10:15-17 (“It is provided that the base element contains the raw material and, *if necessary*, build-in elements like a filter as illustrated here.”); POR.10-14.

Petitioner argues that Yoakim’s “*additional* filtering layer” is somehow “not ‘in addition’ to another filter in the cavity.” PR.11. But this argument is contradicted by Yoakim’s paragraph [0171], which teaches a filter made of “a series of slits” *and* “[a]n additional filtering layer” used with those slits. Petitioner contends those slits “do not necessarily filter anything.” But it is absurd to suggest that the slits do not filter any solid particles where Yoakim expressly contradicts this position by stating that “the brewed liquid can pass through the slits whereas the solid particles are retained in the capsule” ([0171]). *See also* Ex.1004, [0210].⁴ Even if the slits do not filter, Dr. Howle explains that Yoakim teaches in cases where the slits are larger the additional filter would be used. Ex.2017, ¶109. Mr. Jobin agrees. Ex.2019, 59:17-22.

Petitioner is also wrong that the premade slits are not in the cavity. PR.11. The ’430 Patent claims describe the scope of the cavity: “a cover is fastened to the top side of the flange to close the cavity.” Ex.1001, cls. 1, 7. In Yoakim, the premade

⁴ To the extent Petitioner seeks a construction of “filter” contrary to its ordinary meaning, this is a new argument and should be rejected.

slits are beneath the top side of the flange and thus are in the cavity. *See, e.g.*, Ex.1004, Fig. 29 (below).

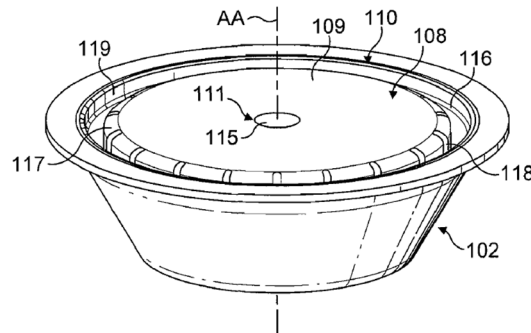


FIG. 29

As explained in the POR, Yoakim’s Figure 54 lacks any detail of the cavity’s contents. POR.13-14. Indeed, it does not even depict a food substance. *See* Ex.1004, Fig. 54. Nonetheless, Petitioner argues that it somehow shows no filter in the cavity. The absence of detail in Figure 54 does not demonstrate by a preponderance of the evidence the lack of a filter in the cavity. Moreover, [0503] does not provide any clarity on this because it discusses only the walls and the membrane—it does not teach anything about the contents within the cavity.

In a footnote, Petitioner relies for the first time upon Figure 16 as somehow supportive of its position. It is not. This is a new argument and should be rejected. Moreover, “Petitioner fails to provide a sufficient rationale to combine the teachings of [Yoakim’s] different embodiments.” *Abiomed*, IPR2017-01204, Paper 9, at 11 (denying institution where Petition failed to provide rationale to combine the teachings of the reference’s different embodiments). According to Petitioner, “there

is no single capsule embodiment in Yoakim” so it cannot merely argue that Figure 16 somehow informs the distinct embodiment disclosed in is telling of something about Figure 54, especially at this late stage and without the benefit of expert testimony. Tellingly, Figure 16 is unlike the multi-volume capsule set within which Figure 54 falls. Regardless, Figure 16 illustrates slits, which as explained above are found within the cavity.

Finally, Petitioner presents another new argument that “Yoakim discloses many different ways to brew a beverage without a filter in the cavity.” PR.12. But Yoakim’s passing reference to filtering outside the capsule cavity does not evidence disclosure of a lack of filter within capsule cavity. As Dr. Howle credibly explains, Yoakim repeatedly teaches embodiments where his capsules use filters. Ex.2017, ¶¶111-112. Such filters ensure that solid materials do not contaminate the machine. Ex.1004, [0325].

B. Yoakim and Rossi Fail To Disclose Or Render Obvious The Claimed Control of A Pump

The claims require a pump controlled to supply water into the single-serve capsule only upon (1) detection of a barcode or identifier, and (2) determination by the beverage machine the single-serve capsule is operable for use (or the detected barcode agrees with a stored reference). Neither Yoakim nor Rossi discloses these limitations. Ex.2017, ¶¶116-17.

Petitioner argues that Yoakim discloses pump control based on a detected identifier. PR.14. Petitioner has failed to establish how this is the same as supplying water only upon a determination that the read barcode agrees with a stored reference or that the single-serve capsule is operable for use with the beverage machine. Ex.1004, cls. 1, 7. Yoakim lacks the claimed features, because it presents no teaching of tying the supply of water to the identification means. POR.17. It is only through hindsight that such a conclusion could be made. If anything, Yoakim uses capsule shape to determine operability with the beverage machine. Ex.1004, [0205] (“a safety function for ensuring that only capsules adapted to the system can be used and brewed successfully”). Ex.2017, ¶118. Petitioner does not directly address this. The only arguable link between Yoakim pump control and the delivery of water is a discussion of delivering an amount of water based upon a drink type. But, at most, this is a teaching of terminating the delivery of water based on a reading.

Petitioner contends that “[b]ackground art confirms that pump control was known.” PR.18. Petitioner conveniently omits Schifferle (Ex.1039), which teaches a coffee maker where “[a]s soon as the brewing chamber 5 is closed, the pump 2 is operated.” Ex.1039, [0021]. Yoakim’s system could activate the pump in this way. Thus, it is not the case that Yoakim necessarily uses the identification means to activate a pump. Petitioner’s persistence in urging pump control from Yoakim is improper hindsight and is not supportable, especially in view of the teachings in

Yoakim contemplating no pump at all. *See, e.g.*, Ex.1004, [0132] (water can be fed using aspiration or vaporization), [0427] (explaining tap water can be used).

Petitioner argues obviousness to modify Yoakim's system with Rossi. PR.15. But Rossi's teachings are not directed to pump control. Indeed, Rossi does not even disclose a pump, and none of Rossi's three mandatory steps is directed to pump control. POR.20-22. Petitioner attempts to extrapolate from "machine activation" to "pump control" but there's no suggestion in Yoakim or Rossi for such a jump. Petitioner argues that in "a high-pressure, single-serve capsule system, a pump would be inherent, implied, and at a minimum obvious." PR.18. But that is directly contradicted by Patent Owner's evidence, which demonstrates the ability to deliver water at high pressure without a pump. Ex.2022, Abstract, [0073], Fig. 10; Ex.2023, Abstract, [0009], [0010], [0033], [0067], Fig. 2A; Ex.2024, Abstract, Figs. 1, 2; Ex.2025, 1; POR.20. Petitioner leans on hindsight bias and fails to address why a POSITA would have selected using an identifier to activate the pump in Yoakim, rather than using Rossi's teachings to control any of the numerous controllable features in Yoakim (i.e., controlling a restriction valve, a heater, flow rate, rotational speed, etc.). Ex.1004, [0521]; Ex.2017, ¶¶118-119; POR.17-18.

Moreover, 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], [0428] (“a pressure of between 0 and 2 bar above atmospheric pressure”). There is no reasonable basis, absent hindsight, to conclude that a POSITA would have looked to Rossi’s teachings relating to high-pressure to modify Yoakim. POR.17-18.

Petitioner attempts to overcome these shortcomings by arguing against “bodily incorporation,” but that does not give license to ignore demonstrating a motivation to combine the teachings to arrive at Patent Owner’s claims. *See PersonalWeb Techs.*, 848 F.3d at 994. Similarly, Petitioner’s argument that these claims are “comprising” claims misses the point. Petitioner fails to demonstrate that a POSITA would have been motivated to modify Yoakim, which cursorily mentions a barcode, with Rossi’s mandated multi-step code solution. POR.18-19.

C. Yoakim Fails To Disclose Or Render Obvious A Side Wall Including Indentations

Petitioner accuses K-fee of “misconstruing” Yoakim, but it is undisputed that Yoakim expressly teaches the toothed structure is on the “outer surface.” POR.23. Petitioner does not identify any teaching in Yoakim to the contrary. PR.19-20. Petitioner’s expert offers the conclusion that the toothed structure is on the sidewall (Ex.1003, ¶277), but that testimony does not reconcile Yoakim’s express teachings that the toothed structure is on the “outer surface.” POR.23.

Moreover, Petitioner is wrong that there is “no impact” from the placement of the barcode on the bottom of the flange. PR.21. Yoakim Fig. 23 shows scalloped edges intersecting with the flange, thereby reducing space for any code.

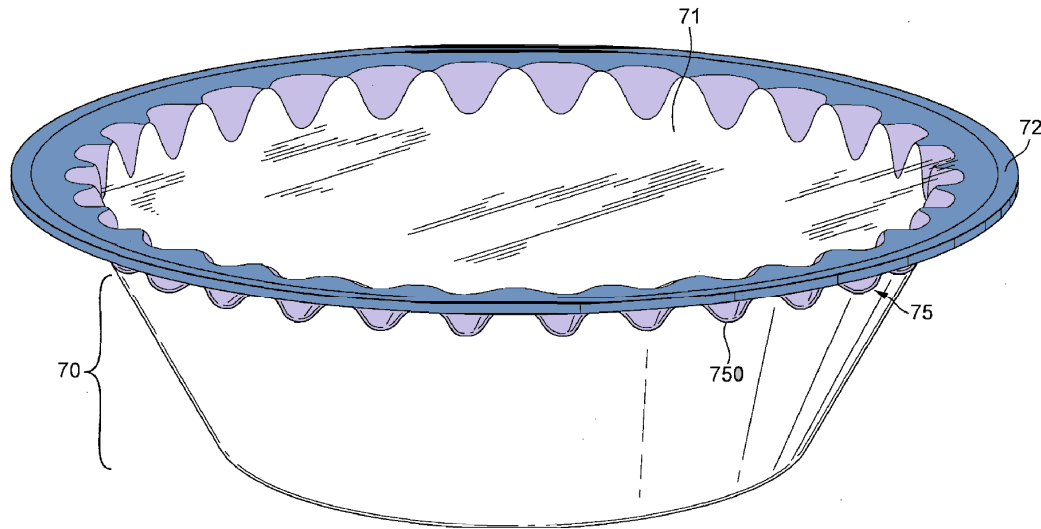


FIG. 23

Yoakim’s [0414] teaches that the rim has only 2-5 mm of annular portion. Petitioner does not refute that the curvature of the scallops and the necessary snug fit mating surface in the capsule holder would require an additional modification to Jarisch’s “straight chamber” to include complementary scallops. PR.24-25. In light of the shortcomings of the Petition and Yoakim, Petitioner falls back on obviousness. *Id.* at 20-21. Petitioner contends that indentations facilitate engagement of the capsule. But Yoakim already teaches a solution for such engagement, which is ensuring the capsules are “snugly fit.” Ex.1004, [0479], [0484], [0507], Fig. 61. As such, Petitioner does not present any motivation to modify Yoakim to achieve the claims.

POR.24. Petitioner's modification would have been unnecessary to Yoakim and thus do not support obviousness. *Pro-Dex, Inc. v. Intelligent Automation Design LLC*, IPR2023-00218, Paper 8 at 24-26 (PTAB Jul. 19, 2023); *Trend Micro, Inc. v. Open Text Inc.*, IPR2023-00692, Paper 8 at 24 (PTAB Nov. 6, 2023).

V. Conclusion

The Board should rule in K-fee's favor.

Date: April 10, 2024

Respectfully submitted,

/Michael P. Chu/

Michael P. Chu, Lead Counsel

Registration No. 37,112

Attorneys/Agents for Patent Owner

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 5,546 words, which is less than the 5,600 allowed under 37 C.F.R. § 42.24(c)(4).

Date: April 10, 2024

Respectfully submitted,

/Michael P. Chu/

Michael P. Chu, Lead Counsel

Registration No. 37,112

Attorneys/Agents for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.8 and 42.6(e), the undersigned hereby certifies that the foregoing Patent Owner's Sur-Reply and its respective exhibits was served on counsel of record for the Petitioner by filing this document through PTAB P-TACTS and by sending this document via electronic mail to the following addresses:

B. Clayton McCraw (Reg. No. 68,258)
MAYER BROWN LLP
1221 Avenue of the Americas
New York, NY 10020-1001
Telephone: (212) 5606-2649
CMcCraw@mayerbrown.com

Amanda S. Bonner (Reg. No. 65,224)
MAYER BROWN LLP
71 S. Wacker Drive
Chicago, IL 60606
Telephone: 312-701-8645
Facsimile: 312-701-7711
asbonner@mayerbrown.com

Date: April 10, 2024

Respectfully submitted,

/Michael P. Chu/

Michael P. Chu, Lead Counsel

Registration No. 37,112

Attorneys/Agents for Patent Owner