

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

**DECLARATION OF DOV GLUCKSMAN IN SUPPORT OF
PATENT OWNER'S RESPONSE**

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DECLARATION OF DOV GLUCKSMAN

I, Dov Glucksman, hereby declare under penalty of perjury that the following statements are made based on my personal knowledge and are true and correct.

I. Introduction and Qualifications

1. I have been retained by McDermott Will & Emery LLP on behalf of K-Fee System GmbH (“K-fee”) to provide an analysis of U.S. Patent No. 11,554,910 and certain issues raised in IPR2024-00299.

2. I am being compensated at my standard hourly rate of \$320.00 per hour for my time. My compensation is not in any way contingent on my performance, the result of this proceeding, or any of the issues involved therein. I am also being reimbursed for expenses incurred as a result of activities performed as an expert.

3. I hold a B.S. with a double major in Mechanical and in Nuclear Engineering, and a M.S. in Aeronautical Engineering from Technion - Israel Institute of Technology. I also attended MBA program at Babson College.

4. From November 1963 to October 1966, I managed the aerodynamic research for Torin Corporation, a manufacturer of air-moving products, such as blowers and fans.

5. From 1967 to 1969, I worked as a Senior Development Engineer at Thermo – Electron Corporation, designing and testing gas fired appliances.

6. In 1969, I founded Flowtron Inc. where I designed, marketed, and manufactured many environmental appliances under the Flowtron brand, including space heaters, air purifiers and bug-killers.

7. I am Founder and President of Appliance Development Corporation (“ADC”). My expertise is in the development and production of household electric appliances, including single-serve coffee machines. Since founding ADC in 1974, my team and I have developed over 100 products for our clients, have authored and filed over 120 patents, and worked with scores of large and small companies throughout North America, Europe, and the Far East, primarily in the fields of environmental, kitchen, and personal care appliances. Notable clients of ADC include Mr. Coffee, Kitchen-Aid, Cuisinart, Starbucks, Dunkin Brands, Bun-O-Matic, WIK, and Braun.

8. From 1979 to 1981, I served as the Director of Engineering for Boston Manufacturing Company, manufacturer of hair care products and space heaters.

9. I have been designing electrical appliances for our clients since 1974, successfully applying my expertise in user interaction, manufacturing techniques with my educational background in heat transfer and fluid flow to design develop and take into production a multitude of household electric appliances, and related

products including diverse cooking appliances (such as coffee makers, grills, air fryers), environmental appliances (such as air heaters, air filters, humidifiers), and personal-care appliances (such as hair grooming, skin treatment products).

10. I have designed and developed approximately 50 hot beverage brewing appliances for home use, primarily for my clients in the United States. My design and development experience with hot beverage appliances dates back to the mid-1970s.

11. Coffee making appliances are unique home appliances because, as I was engaged in designing and developing coffee makers, I became familiar with *both* the technical aspects of the equipment *and* the coffee itself. In the past 50 years, I have learned about varietals of coffee beans, coffee bean roasting and the effect roasting has on the flavor/character of brewed coffee, coffee bean grinding and the effect that the size of the coffee bean granules has on the degree of coffee extraction as well as the percentages of various organic oils that are extracted, and the effect of brewing time and temperature on the quality of brewed coffee. I also gained substantial knowledge about technical elements of coffee makers, such as the types of filters used in the coffee-making process and what types of plastic materials can safely come in contact with coffee beverage material/grounds. Lastly, my considerable experience in this field has taught me about consumer

preferences based on various geographic locations and how to tailor design/development of coffee machines to those consumer bases.

12. My early experience developing coffee makers was primarily focused on carafe-type coffee makers where coffee was prepared in relatively large volumes at a time (up to 1800 ml) and where the liquid coffee was brewed into a carafe which was usually kept warm and consumed by pouring the liquid coffee into consumer's cups. One of my earliest patents, US Pat. No. 5,168,794 (issued December 8, 1992), was based on solving a long-needed problem with carafe-type coffee brewers where typically it took over 12 minutes of contact between hot water and ground coffee resulting in over extraction and unfavorable taste. I came up with an appliance that was able to limit the time of contact to the ideally prescribed time of 5-7 minutes and resulted in a much better tasting coffee.

13. I have experience developing and adapting beverage system apparatuses to the tastes of consumers in various geographic markets. For example, as coffee tastes in the United States shifted to flavored coffee in the mid-1990s, I developed a coffee brewing apparatus for dispensing selectively flavored beverage compositions into a receptacle, covered by US Pat. No. 5,676,041 (issued October 14, 1997).

14. My design and development experience with beverage machines includes the development of beverage machines designed to brew a single cup of

coffee or espresso. I also have experience designing and developing beverage machines capable of brewing an entire carafe of coffee. I have been involved with developing electrical appliances for about 50 years and have many years of experience designing and developing single-serve beverage making appliances, including single-serve coffee making appliances. My experience also encompasses designing and developing capsules for use in single serve beverage/coffee machines, including the design of capsule filling equipment.

15. My first exposure to pod based single-serve coffee makers took place at a coffee show in Europe, where I saw for the first time a single-serve coffee maker made by Philips and branded “Café Senseo.” I recognized then the commercial value of single-serve coffee making and started working in my lab on different options for such technology. Soon after having introduced their single serve coffee maker in Europe, Philips introduced Café Senseo in the US and were followed a few years later by single-serve coffee makers offered by American marketing companies such as Black & Decker, and Salton. All these entries into the market were based on what is known as soft pods, consisting of a circular pouch made of nonwoven filtering material and containing ground coffee. Pods, made of permeable filter material cause the ground coffee inside to oxidize rapidly and to lose their freshness, being an inherent issue associated with pods. They have to be kept in packets that are made of film that is impervious to oxygen, adding to

the cost and the inconvenience of brewing single serve coffee. Being aware of that issue I started looking into options for single-serve coffee makers and coffee portion options that would not be affected by oxidation. On or around 2005, I finalized the design of a single-serve coffee brewing system which included a single-serve capsule made of thermoplastic material which would act as an oxygen barrier alongside the capsules I developed a low-cost and a compact brewer designed to receive these capsules. I filed and was granted US patents covering the capsule and the brewer. *See* US Pat. No. 8,322,271 (issued December 12, 2012); US Pat. No. 9,247,846 (issued February 2, 2016).

16. The original single-serve brewer was meant to be refilled with water before each single-serve portion was brewed, which limited the broader use of the apparatus to a single dweller, or a hotel room. I subsequently developed and patented a capsule-based single-serve coffee brewer which could brew a number of single-serve cups. US Pat. No. 9,192,260 (issued November 25, 2015).

17. During the years it took me to develop the capsule and the single-serve system I worked with many manufacturing entities throughout the world who specialized in production of coffee making equipment. I also interacted with companies that specialized in capsule-filling equipment (among them ICA, which was founded by Gino Rapparini in 1963). In fact, I helped design and supervise the production of two different capsule filling pieces of equipment.

During my work with single-serve capsules I was very well aware of the value in content recognition as means of controlling the brewing of coffee, and the value of identifying whether a capsule can be used in a particular appliance. I am listed as an inventor on US Pat. No. 11,565,930 covering a capsule based drink maker where the identifying code may be read by the apparatus or by a smart phone using an app that connects to the appliance by blue tooth and controls the operation of the appliance resulting in preparation of the drink from ingredients in the capsule.

18. There are many unique aspects of single-serve coffee machines that differentiate them from coffee machines generally, which I learned and implemented throughout my many years of experience designing and developing single-serve coffee machines. For example, the ideal brewing time for drip coffee makers is approximately *5-10 minutes*, whereas the typical brewing time for single-serve coffee makers is approximately *60 seconds*. Therefore, while developing and designing single-serve coffee systems, I learned how to develop my palate and achieve an acceptable final brewed product while significantly cutting brewing time. Moreover, I found it useful to develop a robust understanding of the types of and features of single-serve portion capsules available on the market and how they are optimized for use in complementary coffee machines (e.g. determining how/when water is delivered into the portion capsule, ensuring even distribution of water into the coffee grounds/material inside

the portion capsule, avoiding splashing/contamination when the coffee is dispensed from the single-serve coffee machine) in order to create unique and proprietary matches between the coffee machines and the portion capsules that I designed/developed. I also learned about and took into consideration the optimal sealing and filling methods for single-serve portion capsules to ensure, among other things, freshness of the coffee grounds/material inside the single-serve portion capsule.

19. I am the first named inventor on Ex. 1015, which is titled “Infusible Material Capsule For Brewing A Beverage” and published January 8, 2009, from an application filed July 2, 2007. Ex. 1015, codes (54), (43), (22). Ex. 1015 is directed to “[a] sealed capsule for use in apparatus including a capsule receiving station and a water delivery system for brewing a hot beverage in which a hot liquid under pressure infuses a material.” Ex. 1015 at Abstract.

20. I have also developed many proprietary and patent-protected coffee apparatuses and capsules, including (but not limited to) automated equipment for filling capsules with infusible beverage material such as ground coffee, espresso makers, infusion beverage apparatuses for purposes of making cold brew and dual function beverage systems which provide the user with an option of brewing single-serve cups or full carafes.

21. Cold brewed coffee has a unique taste, it is derived from the fact that most of the bitter organic acids (oils) are not easily soluble in cold water. Cold Brew became popular in the US in and around 2015 where cold brew was being offered for sale as a liquid coffee, or where glass containers were being offered to be used as brewing containers for the home; where it took some 24 hours to cold infuse coffee. I studied ways to accelerate the process and was successful in achieving a satisfactory result of cold brewing in an appliance taking between 5 - 15 minutes. These efforts resulted in patent filings. US Pat. No. 2021/0219766 (published July 22, 2021); US Pat. No. 9,433,316 (issued September 6, 2016).

22. In addition, I have years of experience with sensors for recognizing identifiers, including RFID interrogation devices or other machine readable indicia readers (such as those used to read and recognize alphanumeric text, barcodes, security inks, etc.). I utilized such sensors and identifiers to develop a smartphone-based beverage system, which I patented. US Pat. No. 11,565,930 (issued January 11, 2023).

23. My experiences have also informed my understanding of single-serve beverages, which are primarily coffee. Coffee in its liquid form is a drink consisting of multitude of organic acids (oils) that are extracted from roasted and ground coffee beans. The specific flavor of the liquid coffee is derived from whatever combination and percentages of these organic acids are present in the

liquid coffee. The combination and percentages are a result of the type of bean being used and the geographic location where the beans came from. Not just the country, such as Brazil, Ethiopia, Columbia or Hawaii, but also the altitude and the type of soil, and rainfall specific to where the coffee trees were located. Also influencing the flavor of the liquid coffee is the way the beans were roasted, and even the fineness of the grind. I note that the density of the grids is lower than water, which impacts residence time. Lastly, and equally important is the way that liquid coffee was brewed (infused). Which includes, amongst others: the ratio between coffee and water, the purity of the water, the temperature of the water during infusion, the contact time between water and ground coffee, the type of filtration of the liquid coffee before being deposited in the cup or carafe, the pressure at which the coffee was brewed and more. Finally, coffee taste is also a matter of country, coffee-culture and drinking-habits, for example: North Americans prefer a different style of coffee than do central European, French drink their coffee differently from Germans, Italians mostly drink Espresso. People in the middle east and North Africa prefer boiled coffee, and so on and forth.

24. I have served as an expert witness in five cases, have testified at trial on one occasion, and have been deposed at least once. My expertise in these cases directly related to electrical appliances, I served as an expert and/or testified at trial in multiple U.S. cases, including *Advantage Partners v. Salton Inc.*, 2:01-cv-

05769-TJH-JWJ (C.D. Cal); *Salton Inc. v. Philips Domestic Appliances and Personal Care B.V.*, No. 03 C 5660 (N.D. Ill.); and *Haan Corp. v. De'Longhi Appliances S.R.L. et. al*, No. 11-CV-01460 (D.D.C.).

25. My knowledge, experience, and training meet or exceed the level of a person of ordinary skill in the art (POSITA) for the technical subjects at issue in this litigation. I have also, over the years, trained, supervised, collaborated, learned from, and observed technical people, throughout the world, whom I would consider typical POSITAs as defined in my testimony below. I am recognized by people in the industry as one of the leading experts on coffee-making equipment in this country.

26. Additional information regarding my education and technical experience is included in my Curriculum Vitae, which is attached to this Report as Appendix A.

II. Materials Considered

27. All of the opinions contained in this Declaration are based on the documents I reviewed, my knowledge, and professional judgment. In forming the opinions expressed in this Declaration; while drawing on my experience, I reviewed the Petition, the Institution Decision, and the following documents:

Exhibit	Description
Ex. 1001	U.S. Patent No. 11,554,910

Exhibit	Description
Ex. 1002	Prosecution History of U.S. Patent No. 11,554,910
Ex. 1003	Declaration of Michael Jobin
Ex. 1004	U.S. Patent Pub. US2010/0239734A1
Ex. 1005	U.S. Patent Pub. US2013/0064937A1
Ex. 1006	U.S. Patent Pub. US2013/0064929A1
Ex. 1007	PCT Pub. WO2010/026053A1
Ex. 1008	U.S. Patent Pub. US2012/0269933A1
Ex. 1009	U.S. Patent Pub. 2008/0105131
Ex. 1010	PCT Pub. WO2005/079638A1
Ex. 1011	U.S. Patent Pub. 2006/0233921
Ex. 1012	National Coffee Association
Ex. 1013	U.S. Patent Pub. 2002/0078831
Ex. 1014	U.S. Patent No. 726,793
Ex. 1015	U.S. Patent Pub. 2009/0007793
Ex. 1016	U.S. Patent No. 3,387,553
Ex. 1017	U.S. Patent No. 3,631,793
Ex. 1018	U.S. Patent No. 4,136,202
Ex. 1019	U.S. Patent No. 6,142,063
Ex. 1020	U.S. Patent No. 4,389,925

Exhibit	Description
Ex. 1021	U.S. Patent No. 6,655,260
Ex. 1022	U.S. Patent Pub. 2006/0230941
Ex. 1023	U.S. Patent Pub. 2009/0249961
Ex. 1024	U.S. Patent Pub. 2004/0089158
Ex. 1025	PCT Pub. WO 2010/034663
Ex. 1026	ASM Handbook, Volume 14B: Metalworking: Sheet Forming, S.L. Semiatin, editor.
Ex. 1027	https://www.italcoat.com/wp-content/uploads/2022/08/ITC-Coffee-Capusles.pdf
Ex. 1028	EU Patent App. EP2145759A1
Ex. 1029	Penix J.A. (1991) Thermoforming of Plastic Film and Sheet. In: Berins M.L. (eds) SPI Plastics Engineering Handbook of the Society of the Plastics Industry, Inc.
Ex. 1030	U.S. Patent No. 3,437,253
Ex. 1031	U.S. Patent No. 5,261,558
Ex. 1032	U.S. Patent No. 5,243,164
Ex. 1033	U.S. Patent No. 6,645,537
Ex. 1034	EU Patent App. EP1849718A1
Ex. 1035	PCT Pub. WO2010/041179A2
Ex. 1036	EU Patent App. EP0455337B1
Ex. 1037	U.S. Patent Pub. 2002/0048621A1

Exhibit	Description
Ex. 1038	U.S. Patent Pub. 2007/0203587A1
Ex. 1039	U.S. Patent Pub. 2005/0150391A1
Ex. 1040	PCT Pub. WO2005/044067A1
Ex. 1041	PCT Pub. WO2010/099806A1
Ex. 1042	US Patent Pub. 2009/0205747
Ex. 1043	U.S. Patent Pub. 2010/0078480A1
Ex. 1044	U.S. Patent Pub. 2013/0099597
Ex. 1045	Official English translation of German application No. 102011010534.4
Ex. 1046	Official English translation German application No. 102010031988.0
Ex. 1047	Official English translation German application No. 102010044251.8
Ex. 1048	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , Case No. 2:22-cv-09295; Dkt. 13.
Ex. 1049	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , Case No. 2:22-cv-09295 – Infringement Contentions (August 20, 2023)
Ex. 1050	Excerpt from Prosecution History of U.S. Appl. No. 13/744,623
Ex. 1051	https://nestle-nespresso.com/our_products/product
Ex. 1052	<i>K-Fee System GmbH v. Nespresso USA, Inc. et al.</i> , Case No. 2:21-cv-3402; Dkt. 111.
Ex. 1053	Excerpt from Prosecution History of U.S. Appl. No. 16/438,818
Ex. 1054	<i>K-Fee System GmbH v. Nespresso USA, Inc. et al.</i> , Case No. 2:21-cv-3402; Dkt. 211.

Exhibit	Description
Ex. 1055	Food Packaging and Shelf Life: A Practical Guide (2009), Chapter 11 – “Packaging and the Shelf Life of Coffee”
Ex. 1056	Illy, Andrea, and Rinantonio Viani, eds. <i>Espresso coffee: the science of quality</i> . Academic Press, 2005.
Ex. 1057	United States District Courts – National Judicial Caseload Profile (Central District of California), <i>available at</i> https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_dist_profile0630.2020.pdf
Ex. 1058	Docket Navigator Time to Trial (Judge George H. Wu; Central District of California), <i>available at</i> https://search.docketnavigator.com/patent/binder/0/0?profileType=time_to_trial&profileId=0
Ex. 1059	<i>Lateral</i> , Concise Oxford English Dictionary (11 th ed. Revised 2008).
Ex. 1060	<i>Lateral</i> , Merriam-Webster’s Collegiate Dictionary (11 th ed. 2004).
Ex. 1061	<i>Lateral</i> , Random House Webster’s unabridged dictionary (2d. 2001).
Ex. 1062	Excerpt from Appl. No. 16/680,441: Jul. 13, 2020 Office Action Rejection
Ex. 1063	Excerpt from Appl. No. 16/860,441: Oct. 13, 2020 Response to Office Action
Ex. 1064	Excerpt from Appl. No. 16/538,752: Nov. 8, 2019 Office Action Rejection
Ex. 1065	Excerpt from Appl. No. 16/538,752: Jan. 23, 2020 Response to Office Action
Ex. 1066	Excerpt from Appl. No. 16/538,752: Jul. 27, 2020 Response to Office Action

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

Exhibit	Description
Ex. 2013	U.S. Patent Appl. Pub. No. 2008/0302252 (Pub. Date Dec. 11, 2008)
Ex. 2014	WO2008100597A1 (issued Aug. 21, 2008)
Ex. 2015	Bialetti, <i>Moka Express – Bialetti</i> , https://www.bialetti.com/it_en/moka-express.html
Ex. 2016	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , IPR2022-01574, Transcript of Deposition of Michael J. Jobin (June 22, 2023)
Ex. 2017	EP 08102147 Application (filed Feb. 29, 2008)
Ex. 2018	<i>Nespresso USA, Inc. v. K-fee System GmbH</i> , IPR2022-01574, Paper No. 28, Record of Oral Hearing (PTAB Jan 12, 2024)
Ex. 2019	Declaration of Ian B. Brooks in Support of the Patent Owner’s Preliminary Response under 37 C.F.R. § 42.107 (Mar. 28, 2024)
Ex. 2021	U.S. Patent No. 10,294,020 (issued Jan. 17, 2017)
Ex. 2022	Declaration of Arnaud Gerbaulet re Application No. 14/358,404 (February 25, 2016)
Ex. 2023	Declaration of Alfred Yoakim re Application No. 12/602,542 (June 18, 2014)
Ex. 2024	U.S. Patent No. 5,103,081 (issued Apr. 7, 1992)
Ex. 2025	Transcript of Deposition of Michael J. Jobin (September 19, 2024)
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)
Ex. 2028	U.S. Patent No. 9,271,598 (issued March 1, 2016)

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

28. My opinions are additionally guided by my appreciation of how a POSITA would have understood the claims of the '910 Patent and its earlier-filed applications at the time of the invention, which I have been asked to assume is at least as early as July 22, 2011.

III. Understanding of Governing Law

29. I offer no opinion on the law itself because I am not an attorney and do not have formal legal training. Counsel has provided the following understanding of law to me, and I subsequently applied this understanding in my analysis.

30. Counsel has informed me and I understand that a POSITA is a hypothetical person who is presumed to be aware of all pertinent prior art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

31. Counsel has informed me and I understand that a patent is entitled to the filing date of its earlier-filed applications so long as the earlier-filed applications provide written description support by disclosing the claimed invention to a POSITA, with all of the POSITA's knowledge and creativity.

A. Priority

32. Counsel has informed me and I understand that a patent is entitled to the filing date of its earlier-filed applications so long as the earlier-filed applications provide written description support by disclosing the claimed invention to a POSITA, with all of the POSITA's knowledge and creativity.

B. Anticipation

33. Counsel has informed me and I understand that a patent claim is invalid as anticipated under 35 U.S.C. § 102 if each and every element of a claim, as properly construed, is found either explicitly or inherently in a single prior art reference. Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes the claimed elements, it anticipates.

34. Counsel has informed me and I understand that a claim is invalid under 35 U.S.C. § 102(a) if the claimed invention was known or used by others in the U.S., or was patented or published anywhere, before the Applicant's invention, which I have been asked to assume is at least as early as July 22, 2011.

35. Counsel has informed me and I understand that a claim is invalid under 35 U.S.C. § 102(b) if the invention was patented or published anywhere, or was in public use, on sale, or offered for sale in this country, more than one year prior to the filing date of the patent application (critical date).

36. Counsel has informed me and I understand that a claim is invalid under 35 U.S.C. § 102(e) if an invention described by that claim was described in a U.S. patent granted on an application for a patent by another that was filed in the U.S. before the date of invention for such a claim.

C. Obviousness

37. Counsel has informed me and I understand that a patent claim is invalid as “obvious” under 35 U.S.C. § 103 in light of one or more prior art references if it would have been obvious to a person of ordinary skill in the art at the time of the alleged invention (“POSITA”), taking into account (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any so called “secondary considerations” of non-obviousness, which include “long felt need” for the claimed invention, commercial success attributable to the claimed invention, unexpected results of the claimed invention, skepticism of others, failure by others to achieve the claimed invention, and “copying” of the claimed invention by others.

38. Counsel has informed me and I understand that a claim can be obvious in light of a single prior art reference or multiple prior art references. To be obvious in light of a single prior art reference or multiple prior art references, there must be a reason that would have prompted a POSITA to modify the single prior art reference, or combine two or more references, in a manner that provides the elements of the claimed invention. This reason may come from a teaching, suggestion, or motivation to combine, the reference(s) themselves, the knowledge or “common sense” of a POSITA, or from the nature of the problem to be solved. The reason that would have prompted a POSITA to modify the single prior art reference, or combine two or more references may be explicit or implicit from the prior art as a whole. I have been informed that, under the law, the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. I also understand it is improper to rely on hindsight in making the obviousness determination.

39. I have further been informed that in order for a prior art reference to render a claim obvious, the prior art reference, taken as a whole, must enable a skilled artisan to make and use the claimed invention. I further understand that in general, a prior art reference asserted under § 103 does not necessarily have to enable its own disclosure, i.e., be “self-enabling,” to be relevant to the obviousness inquiry. I have been informed that a reference that does not provide an enabling

disclosure for a particular claim limitation may nonetheless furnish the motivation to combine, and be combined with, another reference in which that limitation is enabled. But even though a non-enabling reference can play a role in an obviousness analysis, the evidence of record must still establish that a skilled artisan could have made the claimed invention. In the absence of 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. I have been informed that in this context the reference must necessarily enable the relied-upon portion of its own disclosure—the same standard applied to anticipatory references.

D. Claim Construction

40. Counsel has informed me and I understand that claim construction is a matter that will be decided by the Board presiding over this IPR. I understand that the relevant inquiry in claim construction is the question of how a person of ordinary skill in the art would have understood the claim terms at the time of the earliest priority date, in light of the patent specification, the prosecution history, and any other relevant intrinsic and extrinsic evidence.

41. For the purposes of this Declaration, Counsel has informed me and I understand that Petitioner has not proposed formally construing any term of the

'910 Patent, and therefore, the claim terms should be given their plain and ordinary meaning as would be understood by a person of ordinary skill in the art.

IV. The Level of Ordinary Skill in the Art and Perspective Applied in this Declaration

42. I have reviewed the qualifications that Petitioner contends a person having ordinary skill in the art ("POSITA") in the present proceeding would have. I note that the Board, in its Decision Granting Institution of Inter Partes Review of the '910 Patent, preliminarily adopted Petitioner's definition of the level of ordinary skill, which requires a POSITA to have a bachelor's degree in engineering plus five years of experience in design of mechanical beverage systems, or similar products, and experience with sensors for recognizing an identifier. Paper 9 (Institution Decision) at 16-18.

43. I have also reviewed the qualifications that Patent Owner contends a POSITA in the present proceeding would have, and I agree with Patent Owner that the proper level of ordinary skill is less rigid than Petitioner proposes and the Board preliminarily adopted. For example, a requirement of "[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. Notably, I understand that the inventor of the '910 Patent, Marc Kruger, held no engineering

degree at the time of his invention and had less than a year of traditional working experience in design of mechanical beverage systems or similar products. Ex. 2025 at 19:18-20, 24:5-7.

44. Moreover, active workers in the field need not have a strict number of years of experience. From my own experience, the two most accomplished developers of single-serve coffee makers in my company had no engineering degrees. Furthermore, during my years of involvement in the development of beverage systems I met and worked with developers of beverage systems and coffee makers throughout the world and observed that not only did their professional background and experiences vary, but also the common denominator amongst all these developers was a passion for coffee, and the ability to discern the quality of one brewed product from the other through tasting, smelling, and viewing the appearance of the coffee.

45. As Patent Owner proposes, a person of ordinary skill in the art would more appropriately have 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..

46. Nevertheless, my opinions below regarding the understanding of a POSITA in this proceeding would not change based on the level of ordinary skill

offered by Petitioner or Patent Owner and would apply equally under both proposed levels of ordinary skill.

47. I would have qualified as a person of at least ordinary skill in the art as of July 22, 2011, and I have a sufficient level of knowledge, experience, and education to provide an expert opinion in the field of the challenged claims of the '910 Patent. I base my opinion on having been involved with developing electrical appliances for about 50 years, having had many years' experiences in developing single-serve beverage making appliances.

V. Overview of the '910 Patent

48. The '910 Patent claims are generally directed to a portion capsule for producing a beverage. Ex. 1001 at 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.

VI. Overview of the Prior Art

A. Yoakim (U.S. Patent Pub. No. 2010/0239734)

49. Yoakim is titled "Method for Preparing a Beverage or Food Liquid and System Using Brewing Centrifugal Force" and published September 23, 2010, from an application filed May 7, 2010. Ex. 1004, codes (54), (43), (22).

50. Yoakim generally relates to a capsule-based system and method for preparing a liquid food or beverage through centrifugation. Ex. 1004 at Abstract. Specifically, Yoakim describes a method of brewing or extraction that uses centrifugal forces generated by rotating a capsule so that “the centrifugal rotation of the capsule urges the liquid to flow through the ingredient(s) in a radial or centrifugal flow path to prepare the liquid food.” Ex. 1004 at [0020].

51. The device described in Yoakim can introduce water into the capsule after the capsule is pierced “at substantially no pressure” such as by “a hot water feed mechanism using a principle of aspiration or vaporization;” a “low-pressure pump such as a peristaltic pump or a diaphragm pump and the like;” or some other “water feed means for introducing water in the capsule.” Ex. 1004 at [0132], [0133], [0149]; *see also* Ex. 1004 at [0180] (“A fluid transport means such as a low pressure pump 6 can be provided in the water circuit to transport water from the reservoir to the module . . . Water can be fed into the module 4 at low or substantially no pressure.”); [0428] (“Water can be fed in the beverage preparation module 124 at low pressure or even at gravity pressure.”). The device described in Yoakim also contains a “control unit” that can be programmed to vary the centrifugal rotation speeds used to drive the capsule in rotation. Ex. 1004 at [0153].

52. Yoakim teaches a capsule with 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.” Ex. 1004 at [0171]; *see also* Ex. 1004 at [0271]
(“Preferably, the capsule comprises an internal filter portion placed at the periphery of the enclosure. The internal filter portion can be an internal perforated lid and/or a portion of porous material.”), [0375] (“Preferably, the outlet openings of the enclosure of the capsule have an average diameter or width which is Smaller than the average size of the particles forming the food Substance.”), [0376] (“Therefore, the openings can have a filtering function per se.”); *see also* Figs. 28, 29, 39. It further teaches that “[a]n additional filtering layer can be used to filter liquid depending on the size of the outlets” and “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 at [0171]. The figures in Yoakim further teach a filter inside the capsule – for example, Figures 41 and 42 include a porous wall 180, which is a filter and depicted within the cavity of the capsule. Ex. 1004 at [0451] (“According to FIGS. 41 and 42, the capsule in the system of the invention may also comprise an enclosure which is formed of a dished body 102 and a porous wall 180. The dished body comprises a main cavity 182 for storing the food substance and a peripheral recess 181 for receiving the liquid extract that traverses the porous wall 180 during the centrifugation process.”), [0452] (“The porous wall 180 can have openings (i.e., pores) along its whole surface...”).

53. Yoakim describes that compared to “known methods using brewing

water pressurized by a pump,” “surprising improved brewing results are obtained” because “water flow is more uniformly distributed by centrifuge effect and it creates less or no preferential flow paths in the coffee bed as compared to traditional methods using a positive pressure obtained by a pressure pump.” Ex. 1004 at [0124]; *see also* Ex. 1004 at [0443] (“Consequently, the water distribution is also more uniform compared to known methods using a pressure pump to provide a water piston through the coffee in the capsule.”); *see also* Ex. 1004 at [0132], [0180] (stating that without the use or activation of a pump, “hot water is introduced into the capsule at substantially no pressure. Water can be brought by a hot water feed mechanism using a principle of aspiration or vaporization”). Moreover, Yoakim describes that “flow rates [] are influenced by two key parameters: the rotational speed of the capsule in the device and the back-pressure exerted on the centrifuged liquid.” Ex. 1004 at [0521]. “The back-pressure can be varied by varying the closing force of a flow restriction valve placed downstream of the enclosure of the capsule and/or by varying the cross-section of the restriction outlets.” Ex. 1004 at [0521]; *see also* Ex. 1004 at [0523] [0136]; [0429]; [0501].

54. Yoakim teaches indentations on the “outer surface” of the capsule—specifically, Yoakim teaches the enclosure has “a widening side wall located between top and bottom walls, and an outer surface or structure for engaging

external rotational driving means of a centrifugal device with the outer surface or structure configured to offer resistance....” Ex. 1004 at [0016].

55. Yoakim teaches centrifugal brewing methods improve over known methods using brewing water pressurized by a pump. Specifically, Yoakim teaches “water flow is more uniformly distributed by centrifuge effect and it creates less or no preferential flow paths in the coffee bed as compared to traditional methods using a positive pressure obtained by a pressure pump.” Ex. 1004 at [0124], [0209], [0443]. A POSITA would have understood that less or no preferential flow paths is a factor considered by Yoakim in presenting his teachings, and results from non-uniform pressure in the flow of the liquid.

56. Yoakim teaches residence time is another factor. Ex. 1004 at [0018], [0023], [0027], [0188], [0191], [0309], [0442], [0523]. Residence time refers to the time where the liquid is in contact with the ingredient in the capsule. Allowing a proper residence time ensures a suitable beverage.

57. Yoakim teaches the angle of the widening sidewall is a critical factor in his capsules. Ex. 1004 at [0260], [0261]. Of note, Yoakim teaches “an angle of about 60 degrees has shown remarkable results whereas an angle of 85 degrees has shown poor results (i.e., coffee does not come out of the capsule).” Ex. 1004 at [0261].

58. Yoakim further describes an identification means and control means

for operating the device according to predetermined brewing parameters. Ex. 1004 at [0485]-[0488]. The identification means comprises “capsule recognition means” which can be recognized by sensing means connected to the control means. Ex. 1004 at [0025] (“identification means comprising capsule recognition means which are recognized by sensing means connected to the control means of the device to control the preparation parameters accordingly.”), [0487], [0495]. As an example, the recognition means can be differentiable by an “identifiable shape,” or a visual code. Ex. 1004 at [0496]; [0525] (“The recognition means can be any mechanical, topical, magnetic or radio-frequency recognition means capable of delivering information to the brewing device, via a sensing device 231, as to which type of capsule is inserted in the device. For example, the recognition means is a barcode, a colour code, a RFID tag, a magnetically sensitive element, or a mechanical key or shape.”); [0192] (“A recognition system uses a code on the capsule and recognized by the device, such as . . . shapes and combinations thereof.”).

B. Jarisch 929 (U.S. Patent Pub. No. 2013/0064929)

59. Jarisch 929 is titled “Support And Capsule For preparing A Beverage By Centrifugation, System And Method For Preparing A Beverage By Centrifugation” and published March 14, 2013 from an application filed May 12, 2011. Ex. 1006, codes (22), (43), (54).

60. Jarisch 929 generally relates to a “coding support” to be used as part of a single-serve beverage capsule. Ex. 1006 at [0001]. Specifically, the support “comprises a section on which at least one sequence of symbols is represented so as that each symbol is sequentially readable” when being rotated about a central axis of rotation. Ex. 1006 at [0016]. The support may contain information about the capsule, including “parameters for preparing a beverage with the capsule,” and “information related to the manufacturing of the capsule.” *See, e.g.*, Ex. 1006 at [0020]-[0024].

61. The extraction system described in Jarisch 929 operates via centrifugation by rotating the beverage capsule to extract the beverage, and the symbols may be read at a different rotational speed. Ex. 1006 at [0039].

62. Jarisch 929 does not teach in detail how the support on the bottom of the rim would have been read. As I explain below, there is insufficient disclosure within Jarisch 929 of a working system that could have been used to read an optical code placed on the bottom side of the rim in a centrifugal cell.

C. Rossi (WO 2010/099806)

63. Rossi is titled “System of Edible-Product Making Machine and Load Element and Process for Control of Machine” and published September 10, 2010. Ex. 1041 at codes (54), (43).

64. A POSITA would understand that Rossi is a non-centrifugal system directed to methods of preventing incompatible load elements (e.g., capsules) from being used in an edible-product making machine. Rossi relates to a process and system for controlling the operation of an edible-product making machine that uses single-use capsules and specifically comprises steps regarding recognition of the identifying element on the capsule and ensuring the capsule is not reusable after being recognized. *E.g.*, Ex. 1041 at cl. 1. The process described in Rossi consists of a first step of recognizing an identifying element and a validation element on the capsule; a second step of validating and destructing the validation element; and a third step of activating a cycle of production only after recognizing the identifying element and the now-destructed validation element. Ex. 1041 at 6. The destruction of a validation element is described to “help to prevent the use of an already-used single load element,” and the identification element “preferably contains information about the contents of the load element.” Ex. 1041 at 7-8.

65. Specifically, the first step may consist of “unlocking the machine when both the identification element and the unvalidated validation element are recognized.” Ex. 1041 at 9. The second step of validation of the validation element may consist of “mechanical destruction of the validation element,” which ensures that the validation element cannot be re-recognized. In the third activation step, the machine “activates a cycle of edible-product production” after it recognizes on the

capsule the same identifying element and the destructed validation element. Ex. 1041 at 8-10. “The use of an activation step of automatically activating the cycle of edible-product production only when the same identifying element is recognized in combination with the destructed validation element ensures that the operating condition actually used are the correct conditions as selected by the machine in the first recognition step” so as to “help to prevent the user from making the mistake of inserting into the machine a different load element to the one that was first recognized, for which the operating conditions are set.” Ex. 1041 at 8.

66. Because Rossi is directed to preventing incompatible capsules from being used in an edible-product making machine, it provides very little in the way of detail about capsules or the machines themselves.

D. Rapparini (U.S. Patent Pub. No. 2012/0269933)

67. Rapparini is titled “Filtering and Permeable Container for Substances Suitable for the Preparation of Beverages” and published October 25, 2012, from an application filed October 19, 2010. Ex. 1008 at (22), (43), (54). The named inventor, Gino Rapparini, is the founder of ICA. ICA is one of the largest automated food packaging companies in the world.

68. Rapparini is directed to a filtering and permeable container for substances suitable for the preparation of beverages, the container being made 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 wherein the length of the ribs is variable along the surface of the body. The container can be adapted to contain water-soluble products or coffee, tea, herbal tea, or similar substances adapted to obtain hot or cold beverages. Ex. 1008 at Abstract.

69. The ribs are provided to overcome problems and drawbacks in filling and packaging these permeable containers at high rates. Ex. 1008 at [0007].

70. Rapparini does not teach non-permeable containers. Rapparini does describe placing its permeable containers into a hermetically sealed capsule. Ex. 1008 at [0063], Figs. 14-15. A POSITA would have understood that even in such embodiments the permeability of the container was a required feature in order for the container to serve its intended purpose. A POSITA would have understood that in the impermeable capsule embodiment the beverage would have been made by puncturing the top and bottom of the capsule and the permeable container would act as a filter. I also note that the capsule of this embodiment does not have ribs, which suggests to a POSITA that Rapparini was not concerned with strengthening non-permeable capsules.

VII. Summary of Opinions

71. Based on my review of the Petition, the Institution Decision, and the Materials Considered listed herewith, specifically including Mr. Jobin's

Declaration (Ex. 1003) and the references relied on for the Petitioner's invalidity ground, my opinion is that claims 1-18 are not unpatentable over the singular ground asserted by Petitioner:

- Ground 1: Claims 1-18 allegedly would have been obvious over Yoakim in view of Jarisch 929, Rapparini, and Rossi.

72. A POSITA would not have been motivated to combine the teachings of Yoakim alone or with Jarisch 929/Rapparini/Rossi to arrive at the claimed invention. Moreover, the claims of the '910 Patent have not been shown to be unpatentable because:

- Petitioner fails to demonstrate that Yoakim discloses or renders obvious “the portion capsule is free of a filter inside of the cavity,” as claimed in all claims;
- Petitioner fails to demonstrate that Yoakim, Jarisch 929, 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;
- Petitioner fails to demonstrate that 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;

- Petitioner fails to demonstrate that Jarisch 929 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;
- Petitioner fails to demonstrate that Yoakim and Jarisch 929 teach or render obvious “the individualization identifier is electrically conductive,” as claimed in claims 2-7;
- Petitioner fails to demonstrate that Yoakim and Jarisch 929 teach or render obvious “the individualization identifier exhibits a concavity and/or a convexity,” as claimed in claims 6-7; and
- Petitioner fails to demonstrate that Yoakim discloses or renders obvious “the portion capsule is free of a filter inside of the cavity,” as claimed in all claims.

VIII. The '910 Patent Is Not Unpatentable As Obvious

73. In my opinion, there is little to no evidence that a POSITA would have arrived at the claimed inventions merely through the teachings of Yoakim, Jarisch 929, Rapparini and Rossi (Ground 1) presented in the Petition. Petitioner ignores the many factors present in the art itself that contribute to the unpredictability in seeking to achieve the innovative results achieved by Patent

Owner. 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.

A. A Person Of Ordinary Skill In The Art Would Not Have Been Motivated to Combine Embodiments Within Yoakim

74. Petitioner relies upon Yoakim as a base reference and seeks to combine the teachings of multiple embodiments within Yoakim. Specifically, Petitioner argues that a POSITA would have combined multiple different and distinct embodiments within Yoakim, thus rendering the invention of the '910 Patent obvious. Pet. at 45-52, 56, 60-61, 65-67. As explained below, the different embodiments include a mixture of laboratory models and schematic drawings.

75. I note that the Institution Decision contends “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.” Institution Decision at 25. This is incorrect. Petitioner here seeks to combine *over five separate embodiments* across numerous paragraphs throughout Yoakim that have drastically different features, structures, and compatibilities. The Board’s preliminary determination incorrectly disregards the fact that Yoakim aggregates various discrete embodiments that a POSITA would

have understood were not intended to be combined. In fact, some embodiments are laboratory setups that would not be acceptable for a final functional product.

Tellingly, Yoakim presents various capsule embodiments without ever presenting or suggesting a capsule having all of the features of Patent Owner's claims, and does not suggest a reason to combine the features of all Yoakim's capsules into a single capsule. Yoakim further sought to separately patent embodiments from Figures 1-25, 26-43, and 61/61, which suggests to a POSITA that they are discrete embodiments. Ex. 2027 at Figures; Ex. 2028 at Figures; Ex. 2029 at Figures.

76. Petitioner's argument 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 to having specific features. *See* Ex. 2025 at 30:20-33:3. Most single-serve coffee makers use a unique single-serve portion container (such as a cartridge, satchel, pod, capsule, etc.). 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 modifications here, a change to one element has effects across a host of other elements. For these reasons, I agree with Mr. Jobin that designing an unproven capsule or beverage machine requires dozens of iterations and prototypes, and may not ultimately yield expected results. *See* Ex. 2025 at 30:20-33:3, 33:24-35:23.

77. For example, one of the features Petitioner seeks to rely on in Yoakim is the toothed structure of Figure 23. Yoakim describes the capsule having the toothed structure is received in a device having “complementary shape.” Ex. 1004 at [0216].

78. The only device Yoakim discloses as accepting the Figure 23 capsule is shown in Figures 8 and 9. Ex. 1004 at [0217]. Those devices, 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 at [0037]-[0038], [0051]-[0052] *with* Ex. 1004 at [0033]-[0036], [0054]-[0057], [0083]-[0090]. Nevertheless, there is no explanation as to how Yoakim’s Figures 8 and 9 accommodate the toothed structure of Figure 23. *See id.*, at Figs. 8-9, 23. It has also not been shown how the Figures 23/24 embodiment would work with the system of Figure 61.

79. A POSITA would have understood that Figures 8-9 (and related capsules) illustrate a laboratory setup (*not* a consumer-usable device) that would not be acceptable for a functional product and that Yoakim did not intend those teachings to be applied to later described embodiments due to their lack of acceptability. Ex. 1004 at Figs. 8-9 (shown below).

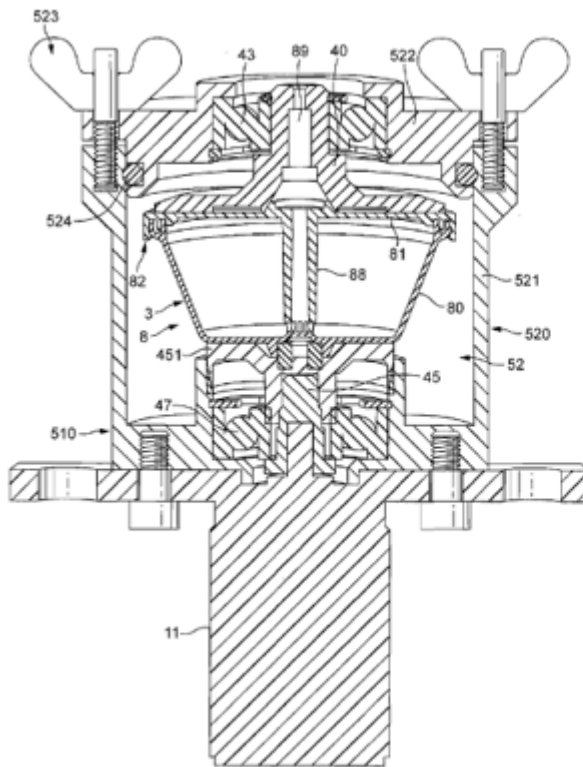


FIG. 8

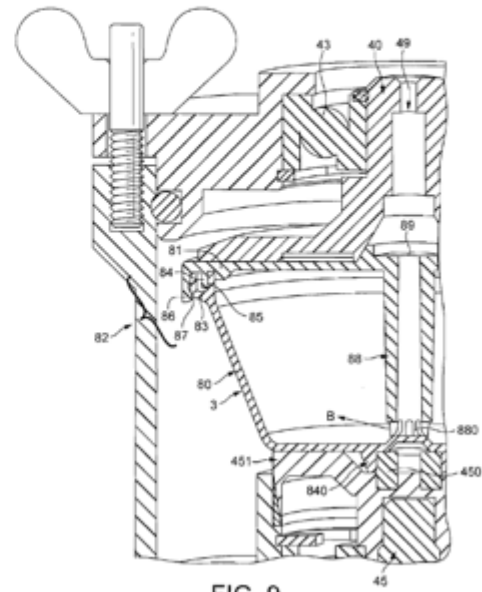
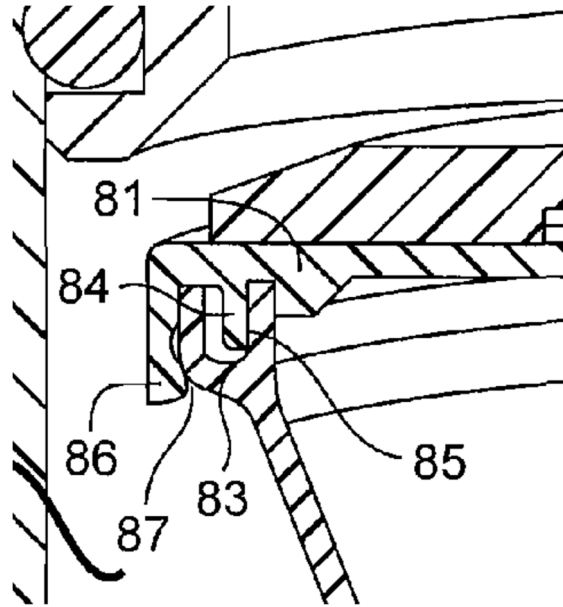


FIG. 9

80. Additionally, Figures 8-9 show a capsule that is not pierced by a mandrel, does not have an identifier or flange, and does not bear against a seal. Ex. 1004 at Figs. 8, 9. These differences 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 and 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. There are other aspects of Yoakim that would discourage a POSITA from cherry picking capsule features from the various embodiments. For example, the description of the

laboratory set up of Figures 8-9 describes a capsule consisting of a base and a lid where the two are joined together by a series of interlocking ribs near the outer edge of the capsule. Ex. 1004 at [0200]-[0202].



81. A POSITA viewing enlarged portion of Figure 9 will find it inconceivable that any liquid could pass through that tortuous pass because there is no gap shown between circular ribs 84 and 85.

82. It would appear that the inventor realizes that the circular ribs shown will not permit any flow through and is therefore adding in [0202] radial slits (not shown) which addition is explained that the slits “result in generating a thicker and more stable crema.” Having suggested the slits and their benefit the inventor back tracks by stating that: “It can be noted that this lip [86 where the slits would be placed] could be omitted in the context of a simpler structure of the capsule.”

83. The inventor proceeds to explain the operation of brewing coffee in [0209], which a POSITA will find difficult to accept, as elaborated here below. The inventor proceeds to explain the process as follows: “With ground coffee powder, the liquid that reaches the internal sidewall of the capsule is so a liquid coffee extract. This liquid extract is then forced to flow upwards along the side of the capsule up to the sealing means 82. The sealing means 82 are thus submitted to an opening force by the liquid under the centrifuge effect. This results in the lip that tends to bend outwardly to create a passage between the surface 85 and the inner surface of the groove. Similarly, the second lip is also forced to bend or alternatively may allow a certain leakage,”. A POSITA viewing the details of seal 82 will doubt that radially applied pressure would create a gap between circular rib 85 and circular rib 84. In fact, it is more likely that the radially applied force will push circular ribs 85 and 84 together. Furthermore, circular ribs 86 and 87 are also shown as being line to line, meaning that they would further block any flow of water that might seep through should an unlikely gap between circular ribs 84 and 85 be present.

84. In [0210] which provides detailed explanation to the embodiments shown in FIGS. 16 to 19 the inventor illustrates another embodiment of the capsule according to the invention. “This capsule has a cup shaped body 80 comprising the same gripping means 840 at its outer surface for enabling the capsule to be driven

in rotation in the device. The capsule also comprises a lid 81 shown in FIGS. 18 and 19. Contrary to the capsule of the preceding mode, the lid 80 and body 81 are attached by permanent connecting means such as ultrasonic welding. The brewed liquid that is centrifuged is allowed to pass through a series of slits 810 provided on the upwardly protruding edge 880 of the body. “The slits are sized so to act as a filter for retaining the solid particles such as the ground coffee particles but let the liquid leave the capsule. The lid is connected with the edge 880 fitting into a radial groove 840 of the lid 81 (FIG. 19). FIG. 17 also shows small indents 830 serving as energy directors that can melt during the ultrasonic welding. In the present mode, the capsule does not comprise a deflecting sealing lip but it simply has slits 810 for enabling the brewed liquid to traverse the capsule. The capsule of this mode can be used in a device as illustrated in FIGS. 8 and 9. A POSITA reading [0210] will conclude that the inventor realized the unlikelihood of the previous embodiment to actually perform as he stated and is therefore offering the new embodiment, where the lid and body of the capsule are ultrasonically welded but where slits 810 will create openings through which centrifugally-driven liquid can pass through. A POSITA will also recognize that this new embodiment is not pressure tight and will let oxygen in to cause the ground coffee to become stale.

85. A POSITA reading Yoakim’s description of the embodiments would see these contradictory statements and not consider Yoakim a reliable source of

teachings and would not anticipate a reasonable expectation of success in combining the various features of the capsules.

86. Petitioner's efforts at cobbling together Yoakim's many discrete capsule embodiments are driven by hindsight based on motivation gleaned from Patent Owner's claims – a POSITA would not be motivated to combine these elements within Yoakim without having reviewed the claims of the '910 Patent first. 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. When such modification was contemplated Yoakim expressly says so. *See, e.g.*, Ex. 1004 at [0216]-[0217]. It is only through hindsight from studying Patent Owner's novel and non-obvious claims that one would arrive at the specific capsule having the features of the challenged claims on this record. I understand that this is improper.

1. Petitioner Fails To Explain How Or Why A POSITA Would Combine Yoakim's Distinct Embodiments/Inventions

87. On its face, Yoakim identifies numerous priority and continuation-in-part applications spanning from June 2007 to May 2010. Ex. 1004 at 1. A POSITA would have understood that the Yoakim publication aggregates (but does not combine) the various discrete embodiments from among numerous priority and continuation-in-part applications and groups them based upon, *inter alia*, the

nature of the valve arrangement for brewing, the nature of whether the capsules are part of a system of different volume capsules, whether the system employs a sensing device for selectively controlling the machine based on the different volume of capsules in the set, and the nature of the intended beverage.

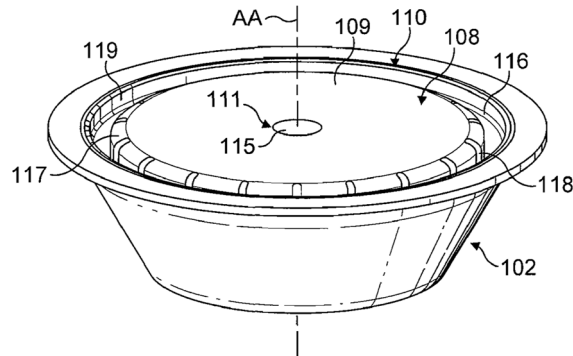
88. Without hindsight a POSITA would have no motivation, in Yoakim or otherwise, for combining the different embodiments of Yoakim in the way Petitioner seeks. In fact, instead of showing why or how a POSITA would have combined the distinct alternative embodiments within Yoakim, Petitioner provides various lengthy strings of citations to Yoakim without identifying that those paragraphs pertain to different embodiments, and without explaining the if, why, or how the alternative embodiments could be combined. *See, e.g.*, Pet. at 45-46, 50, 56, 65-67 (relying on 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).

89. The Petition ignores the various distinct embodiments of Yoakim. There are at least five alternative capsule/device embodiments within Yoakim, each incompatible with the others. For example, Yoakim Fig. 4 does not have a valve. In contrast, other embodiments of Yoakim teach 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. *See Ex. 1004.*

90. 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 have been motivated to merely grab one isolated element or technique from an assembly/capsule and move it to a much different assembly/capsule. These elements and techniques are unique and distinct to specific embodiments.

91. Petitioner also has not addressed the teachings that Yoakim Figs. 35 and 38 employ a specific capsule (depicted in Figs. 28-31) for those specific devices with a peripheral collecting recess 116 surrounding the tubular inlet portion 113, and positioned inwardly and below the peripheral rim 104, to receive coffee that exits the outlet openings 118. The capsule is loaded into a capsule holder of a machine, which appears to be another lab model where the capsule is placed in a capsule holder, and that is not configured to receive multiple different volume capsules. *See* Ex. 1004 at Figs. 8-9, 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. 1004 at Fig. 29.

92. Also, Petitioner has not addressed an even more compelling distinction in that the lab setup 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.

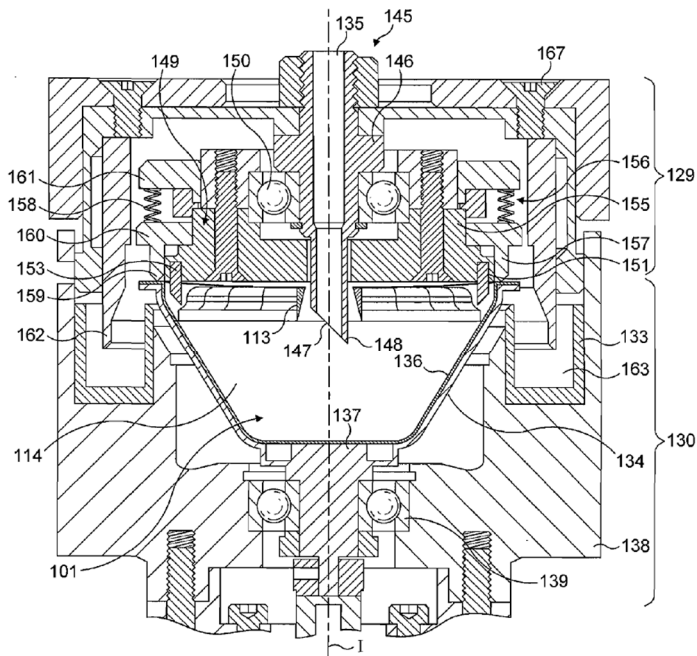


FIG. 35

Ex. 1004 at Fig. 35.

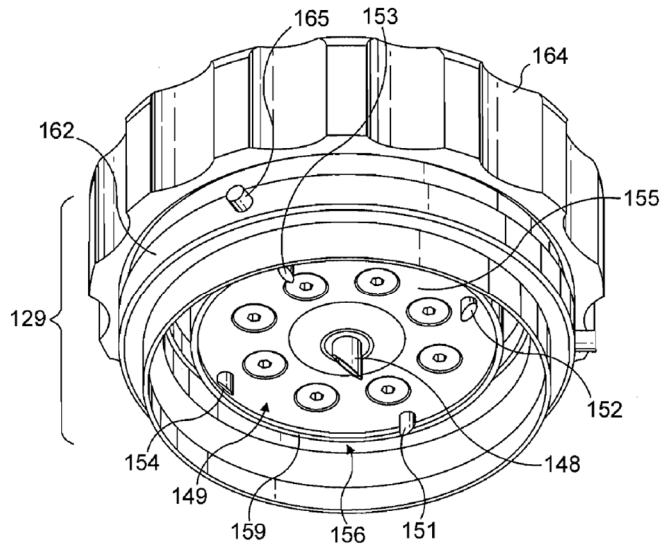
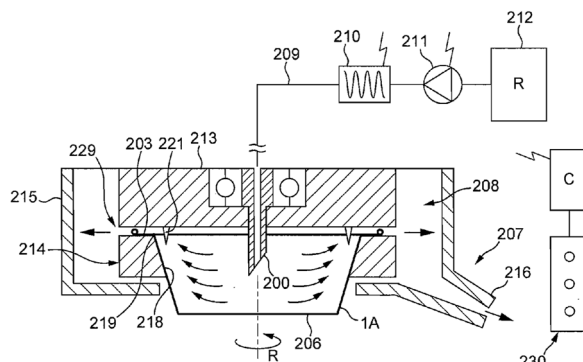


FIG. 36

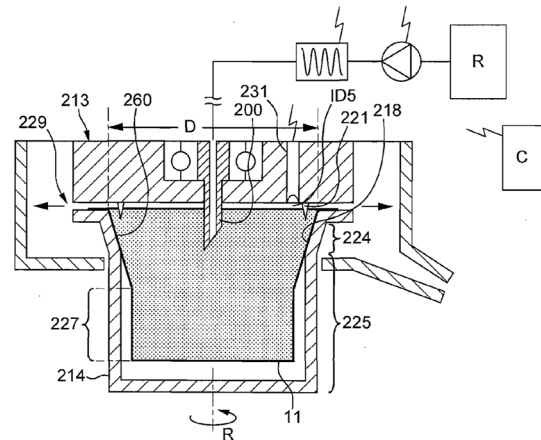
Ex. 1004 at Fig. 36.

93. Depicted in the lab models of Figures 35 and 36 above, the V-shaped surface/circular rib 159, which forms the lower edge of circular body 157 that Petitioner relies upon as teaching the claimed seal arrangement (*see* Pet. at 63-66) is actually used in the water injection subassembly of Figure 36 and dates to February 29, 2008 where it is described in combination with the capsules depicted in Figs. 28-31. *See* Ex. 2017 at Figs. 5-14. The disc-shaped engaging wall 155 is fixed vertically in place during brewing with a bottom surface that is juxtaposed inwardly with the peripheral rim 104. This “inwardly” arrangement of the disc-shaped engaging wall 155 is necessary to allow the coffee to escape from above the collecting recess in order to apply pressure to the V-shaped surface/circular rib 159. *See* Ex. 1004 at [0435]-[0436]. During brewing, the only movement of an element within the water injection subassembly is the raising of the V-shaped surface/circular rib 159 for allowing coffee to escape. The V-shaped surface/circular rib 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]).

94. In contrast, the system of Figures 61 and 62 (below) (as with the system of Figures 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. Because it is suspended from a spring axially above it, the entire interface assembly 213 is vertically translatable during brewing. In this manner, 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 at Cover (30) (citing EP 08171069 for priority), Figs. 4-6.



Ex. 1004 at FIG. 54



Ex. 1004 at FIG. 62

95. The Institution Decision observes that “the claims of the ’910 patent are directed to a portion capsule, not a brewing system.” Institution Decision at 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 at Fig. 35 *with* Ex. 1004 at Fig. 37. Similarly, not all capsules have a ID. *See, e.g.*, Ex. 1004 at 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. 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].

96. The difference is of such a nature that Petitioner’s affiliate and RPI distinguished Yoakim I to obtain U.S. Patent No. 9,545,121. *See* Exs. 2003 at 3-6 (distinguishing over differences in valve engagement); 2002 at Figs. 4-6 (illustrating similar structure to Yoakim’s Figures 32-36 in Figs. 4-6); 2004 (“Yoakim I”) at Figs. 7-19. Specifically, as shown from the excerpts below, in prosecuting the pending application that resulted in U.S. Patent No. 9,545,121,

Petitioner's affiliate and RPI distinguished "Yoakim I" based, in part, on the valve configuration, contending it would not have been obvious to achieve the pending claims because Yoakim I "does not even suggest a plate" structure as found in, e.g., Ex. 1004 Figures 54 and 62 above.

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 at 5; *see also* Ex. 2003 at 3.

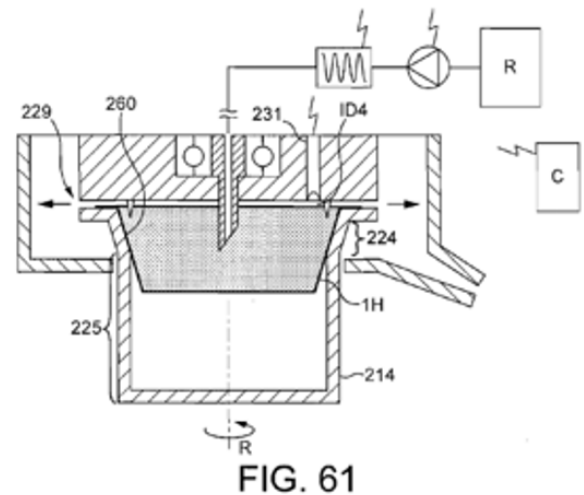
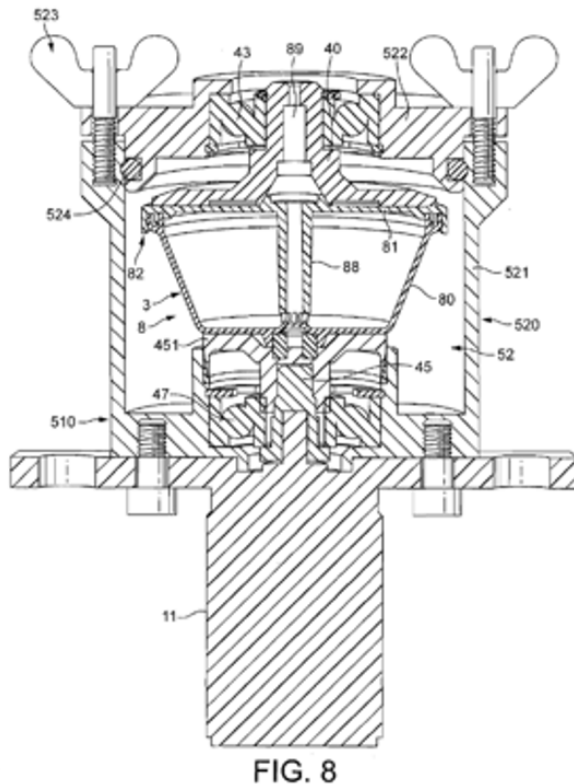
97. The valve structure in Yoakim I (Ex. 2004) at Fig. 10 is similar to the valve structure at Figure 35 of Yoakim, while the structure of Yoakim's Figs. 54, 55, 61 and 62 exhibit a similar plate structure to that found in the '121 Patent's (Ex. 2002) Figures 5-7 and described in Yoakim at [0506]. Thus, 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. Moreover, a POSITA would understand that capsules and machine are complementary to each other and therefore any teaching as to the machines would be applicable to the capsules compatible with and complementary to those machines.

98. 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. at 45-55, 65-66)) to relying on the laboratory set up compatible toothed capsule embodiment of Yoakim’s Figure 23 (Pet. at 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 the Petition never establishes any motivation for such drawn structures on the capsule embodiments of Figures 27 and 61. *See* Pet. at 56-59. Yoakim describes the capsule of Figure 27 as “a preferred capsule” (Ex. 1004 at [0414]) and the capsule of Figure 23 as “another capsule of the invention” (*id.*, [0215]). They are thus taught by Yoakim to be different capsules for different systems serving differing purposes.

99. Yoakim further teaches that “[t]he device itself that receives the capsule of FIG. 23 comprises a toothed surface of complementary shape.” *Id.*, [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.” *Id.*, [0217]. But Yoakim makes no such statement regarding the interchangeability of the capsule holder of the Figure 61 embodiment. Notably, 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. *See id.*, [0521]; *compare* Figure 61 (showing identification means above the capsule) *with* Figure 8 (no identification means depicted); Pet. at 70. Indeed, the brewing systems, including the valves, of the embodiments of Figures 8 and 61 are notably different, evidencing Yoakim's abandonment of the laboratory set up. A POSITA would find no rationale in the Petition or in Yoakim for combining the teachings in the manner the Petition suggests. Moreover, a POSITA seeking to develop an innovative brewing system would understand Yoakim Figures 8 and 9 are laboratory setups and would not consider these teachings in combination with other discrete embodiments in Yoakim, but also in combination with other references. This is because a POSITA would understand that a laboratory setup is

merely experimental, not proven to work, and would require extension efforts to replicate.



100. In summary, the Petition fails to present any explanation as to how or why a POSITA would have blended the divergent teachings of Yoakim's distinct embodiments that utilize different features that were tailored for specific capsules (e.g., for laboratory setup *not* for a consumer-usable device), valve arrangements, and were predicated upon whether the capsules are part of a set of different volume capsules, and whether the system employs a sensing device for selectively controlling the machine based on the different volume of capsules in the set, and the nature of the intended beverage.

B. A POSITA Would Not Have Been Motivated to Combine Yoakim and Jarisch 929

101. The Petition’s reasons for combining Yoakim with Jarisch 929 are flawed. While Petitioner contends “Jarisch 929 teaches how to position the Yoakim sensor/detector below and *away* from the flow path,” Pet. at 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.

102. A POSITA would not be motivated to combine Yoakim and Jarisch 929 because the combination lacks motivation to place a code on the bottom of Yoakim’s flange, Jarisch 929 does not enable an optically detectable, machine-readable identifier on the bottom of the flange, Petitioner’s RPI argued against such a modification, and there was no reasonable expectation of success.

1. A POSITA Would Not Be Motivated To Place A Code On The Bottom Of Yoakim’s Flange

103. Petitioner suggests that Jarisch 929’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. at 38. Petitioner does not explain why teachings in Jarisch 929 would have motivated a POSITA to modify Yoakim to relocate the code to the flange bottom given that it has not been shown that Yoakim would have experienced the alleged problem when operating under the embodiments of Figs. 61 and 62. Indeed, Jarisch 929 does not teach or suggest any

rational for moving the support to the underside of the capsule rim. Petitioner cites Jarisch 929 [0017]-[0018] (Pet. at 11-12), but those passages are silent on any motivation to move the support and instead summarily assert it can be done. *See id.*

104. A POSITA would not believe that Yoakim's placement of a "barcode" on the top of the membrane would suffer from readability issues given Yoakim's device reads the "barcode," without any obstruction before brewing when a capsule would not be soiled by beverage residues or damaged. *See* Ex. 1004 at [0192], [0525], [0526]. To the contrary, Petitioner identifies Panesar as a motivating reference, but Yoakim already teaches away the concerns flagged by Petitioner. Pet. at 11; Ex. 1010 at 18:24-20:21, Fig. 10. Indeed, Yoakim teaches capsule holders that would not exhibit the problems described with Jarisch 929's system. For example, Jarisch 929 illustrates a support on the top of the capsule that sits within a dished area that is read from the side of the capsule. *See, e.g.,* Ex. 1006 at Fig. 3. Unlike this dished area, which would have the potential to collect residues, Yoakim teaches a capsule that is not dished where the sensor reads from directly above. *See* Ex. 1004 at Fig. 61. Similarly, Petitioner seeks to rely on Jarisch 929's teachings of potential damage from a "pyramidal plate," but makes no showing of any teaching in Yoakim utilizing such a plate. A POSITA would have understood pyramidal plates to be different from what is taught in Yoakim. *See* Ex. 1004 at Fig. 11 (12b), [0037], [0073]; *see, e.g.,* Ex. 2032 at Figs.6-9, Fig.17, 26:1-2, 33:8-34:21

(disclosing grid-like perforations in puncture plate (i.e. “pyramid plate”) located on top-side capsule membrane), 36:29-37:17. I have not seen anything in Yoakim to suggest the presence of a pyramidal plate. There is thus no reason to modify Yoakim’s design in the manner suggested by Jarisch 929.

105. 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. *See* Ex. 1004 at 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. 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 pierced membrane forming a seal around the piercing inlet because the gap formed between the pierced membrane and the piercing member will not be large enough to allow the coffee granules/beverage material inside the capsule to escape outside the capsule. Ex. 1004 at [0128]. Moreover, Yoakim teaches it is preferable to have the volume of substance in the capsule occupy less than 85% of the total volume, thereby providing “head space” which would further reduce the risk of any beverage material exiting the capsule when the inlet pierces the membrane. Ex.

1004 at [0449]. 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.

106. Also, Yoakim teaches an annular portion that extends only "about 2-5 mm." Ex. 1004 at [0414]. Without support, Petitioner's expert contends 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 at ¶228.

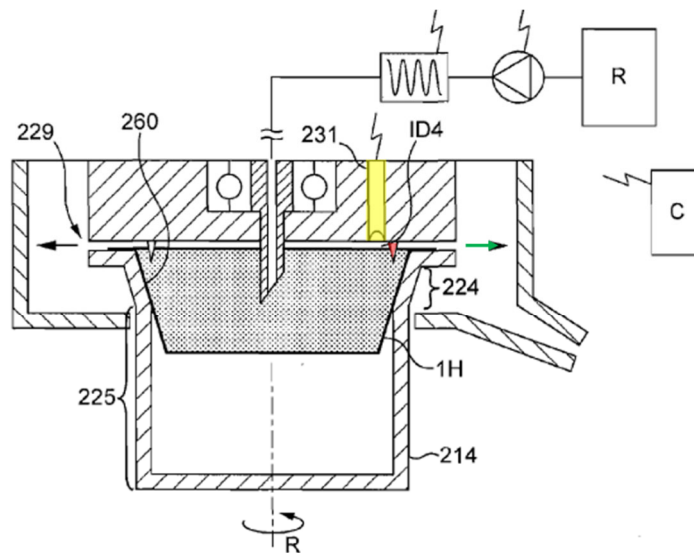


FIG. 61

107. In contrast, Jarisch 929 teaches placement of the code at a distance as much as 10 mm from the peripheral edge. Ex. 1006 at [0018] ("The support can also be disposed on the bottom side of the rim of the capsule. Typically, the distance of the support from the peripheral edge is not more than 10 mm, more preferably not more than 8 mm."), Fig. 2. Jarisch 929 explains that it is "particularly advantageous" to have "a large area for the symbols to be disposed."

Ex. 1006 at [0017]; *see also* Ex. 1006 at [0063]. The need for a large area for the code was seemingly recognized by Jarisch 929 as a solution to the asserted technical challenge of reading elements of a code sequentially. Yoakim lacks such a large area on the annular portion. And the Petition lacks any evidence to reconcile Yoakim's teaching of an annular portion that extends about 2-5 mm with Jarisch 929's teaching of a particularly advantageous large rim at least double the size of Yoakim's. 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 by the teeth 750. 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.

108. Since it is understood from Yoakim Figures 61 and 62 that ID4 is a single code and not a series of codes (as taught by Jarisch 929), a POSITA would have no motivation to move Yoakim's single code to a circular support area which is specifically designed to accommodate reading of the code while the capsule is in rotation. A POSITA viewing Yoakim Figures 61 and 62 would not easily identify any location on the capsule which is more preferable to where Yoakim placed the code.

2. A POSITA Would Not Look to Jarisch/Jarisch 929 Because They Do Not Teach a Working Optically Detectable, Machine-Readable Identifier on the Bottom of the Flange

109. A POSITA would have understood that Jarisch 929 does not teach a working optically detectable, machine-readable identifier on the bottom of the flange. The claims require an “individualization identifier is located on the bottom side of the flange” and “includes an optically detectable, machine readable, repeat pattern.” Jarisch 929 teaches first a support on the top of a capsule. Ex. 1006 at Fig. 3, [0069]-[0089]. This embodiment is purportedly further described in Denisart. Ex. 1006 at [0010], [0047]-[0048]; *see* Ex. 1007.¹ The support is read without any obstructions between the support and the sensor. *See* Ex. 1006 at Fig. 3. Jarisch 929 then discloses the support “mounted on the bottom side 72 of the rim 73” (Ex. 1006 at [0090]), but sending the light through a cell (and reflected by a mirror). Ex. 1006 at [0106]. Jarisch 929’s “bottom side” embodiment, however, fails to teach any optically detectable, machine-readable code because it provides

¹ Denisart reads identification means while the capsule is stationary. Ex. 2031 at 10-11; Ex. 1007 at 8:13-19. Jarisch 929 does not explain how Denisart was modified to read a code while rotating the capsule.

nothing more than the support and general structure of the capsule, reader, and capsule holder.²

110. Based on Jarisch 929's teachings, a POSITA would not have been able to make and use Patent Owner's invention without undue experimentation. Specifically, the combination would not have yielded an optically detectable, machine-readable code on the bottom of the flange. As Christian Jarisch and others later admitted in a co-pending application, the "bottom side" embodiment of Jarisch 929 did not work. In particular, it had the "disadvantage ... that those reading conditions [in Jarisch 929] remain specifically difficult for different reasons, such as because the incoming and outgoing rays of light must traverse the capsule holder when the capsule is held by the capsule holder, causing the loss of a great part of energy and/or because 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 at 2:18-47. They went on to concede "it is not suitable to compensate the loss of reflectivity by improving

² Jarisch suffers from the same defects due to it having the same disclosure. *See* Ex. 1005 at Fig. 4.

the performance of the light emitting and sensing devices of the machine as it would make the beverage preparation machine too expensive.” Ex. 2021 at 2:18-47. 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.” Ex. 2021 at 2:66-3:2; *see also* Ex. 2021 at 3:7-13 (“In particular, a problem met with an optical code on a capsule is that light-reflecting and light-absorbing signals can be difficult to discriminate.”).

111. Thus, a POSITA would have understood that the support on the capsule of Jarisch 929 lacked an optically detectable, machine-readable code and Jarisch 929 lacked sufficient disclosure to enable a support that could be read/detected. Christian Jarisch also conceded challenges due to the support being “relatively complex to integrate to the packaging structure forming the capsule itself.” *Id.*, 3:7-13. For example, it was known when using a deep drawn capsule that imperfections in the aluminum could cause data of a code to be incorrectly read. Ex. 2026 at ¶5. This led Christian Jarisch and others to later seek to create a functioning support (after Patent Owner’s PCT) and abandoning the mirror disclosed in Jarisch 929. *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 at

31:20-32:11. It would have taken undue experimentation to make and use Patent Owner's invention from Jarisch 929's teachings.

112. A review of the figures of Ex. 2021 further emphasizes that Ex. 2021 is directed to a different solution than that of Jarisch 929 to seek to overcome the fact that the system cursorily described in Jarisch 929 would not have worked.

Compare Ex. 2021 Figs. 2a, 2b *with* Ex. 1006 at Fig. 5.

113. For these same reasons, the teachings in Jarisch 929 were not sufficient to teach the claims and Petitioner's contention of a reasonable expectation of success in combining Yoakim and Jarisch 929 must fail, because Jarisch 929 does not teach "how to read a code positioned on the bottom of the capsule flange." *See* Pet. at 39-40.

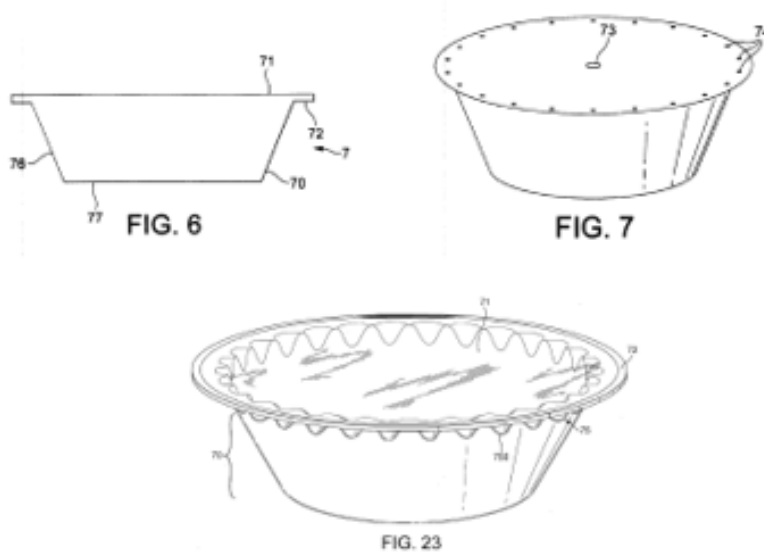
3. Petitioner's RPI Argued Against Such A Modification

114. I understand that Yoakim and Jarisch 929 have a common owner, Societe des Produits Nestle S.A. (formerly Nestec SA), an affiliate (and RPI) of Petitioner, and a common inventor, Alexandre Perentes. Pet. at 37, 89 (listing Petitioner's RPIs).

115. Jarisch 929's priority document was filed May 12, 2010, merely days after Yoakim was filed on May 7, 2010. Yet, Jarisch 929 makes no mention of Yoakim in the background or otherwise. Rather, Jarisch 929 mentions at paragraph [0047] Denisart (WO 2010/026053 (Ex. 1007)) as the system for which the capsule

was intended. Amongst at least 14 priority claims in Yoakim, there is not a single claim of priority to the applications for Denisart. This suggests the inventors of those references and Petitioner's affiliate (and RPI) did not themselves see any clear relation between the two references.

116. During prosecution of the Jarisch (Ex. 1005) reference, a priority application to Yoakim (WO 2008/148601, "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 at 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 (Yoakim '601) at Figs. 6-7 (below), 23 (below); *see also* Ex. 2005 at 8-9. In brief, because Yoakim (Ex. 1004) 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 should undermine Petitioner's arguments now to the contrary.



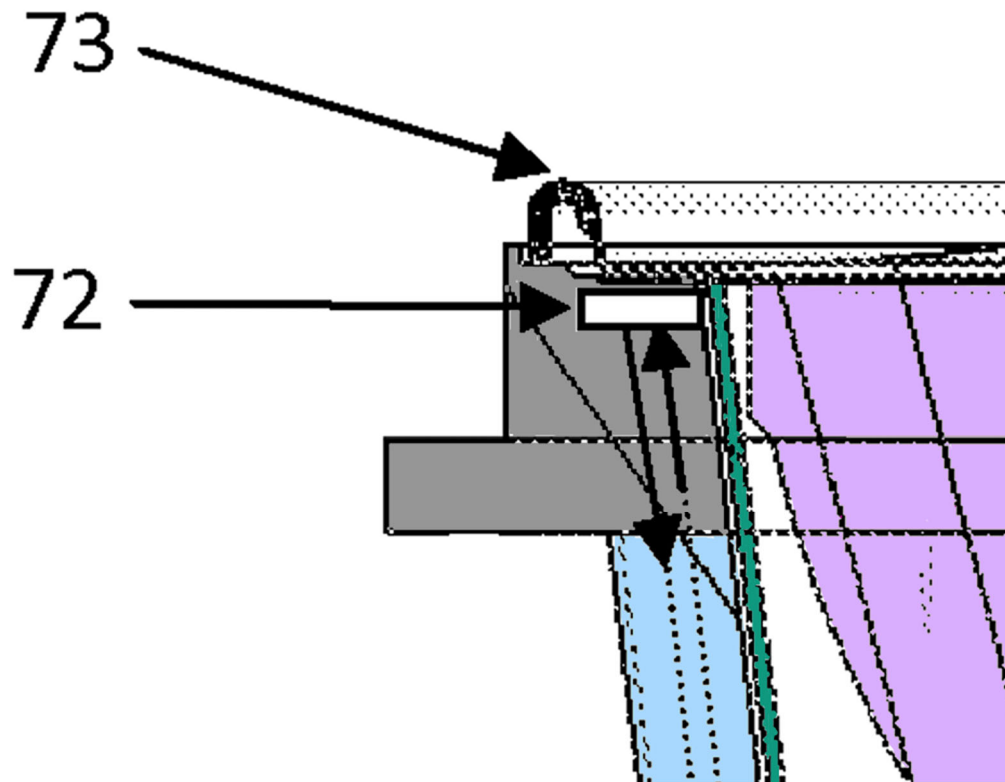
117. The differences between Yoakim and Jarisch 929 demonstrate a lack of expectation of success in combining the references. A POSITA would have understood that the combination would have unnecessarily complicated Yoakim's device and would further have failed to yield an optically detectable, machine-readable code.

4. The Combination Would Not Have Yielded A Reasonable Expectation of Success

118. 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 Jarisch's embodiment for placing a code under the flange did not work. Ex. 2021 at 2:18-3:13. There are additional reasons why there's no expectation of success.

119. 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 at [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 at [0479], [0484], [0507]. In contrast, Jarisch 929’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 Jarisch 929 (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 Jarisch 929: “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 at 2:39-43.



120. The Petition fails to address where such a “snug” fit disclosed in Yoakim would be abandoned in favor of the cell configuration in Jarisch 929, 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 at [0024]; *see also* Ex. 1004 at [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 at [0479], *see also* Ex. 1004 at [0478], [0484], [0507]. The snug complementary fit is expressly taught to provide an important “safety function.” Ex. 1004 at [0205]. Moreover, the angle of the widening sidewall is also significant in Yoakim. *See id.*, [0260]-[0261]. Yoakim thus teaches, and depicts, the capsule side wall advantageously engaging with the capsule holder.

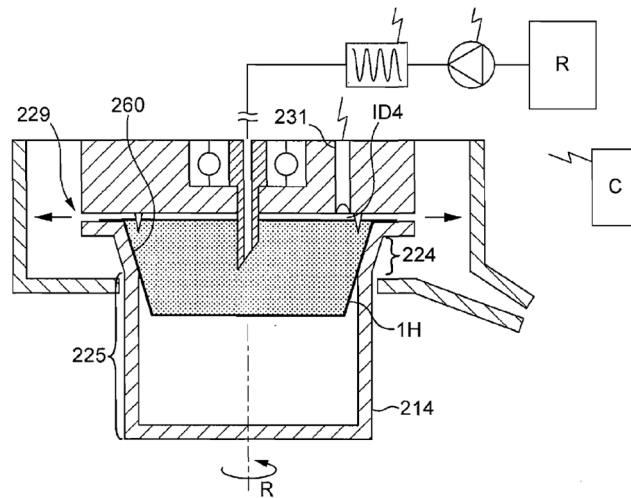


FIG. 61

121. Jarisch 929 teaches that “the capsule of the invention” is designed for use in the system of “WO2010/026053” (Denisart, Ex. 1007). Ex. 1006 at [0047], [0048]. However, Yoakim also describes various other systems with capsules designed for those systems and makes no mention of Denisart or its system at all. Ex. 1004 at [0002], Figs. 1-65. Denisart is silent as to any “unbalance” or vibration

problems. Ex. 1007. The Petition simply does not address and even seeks to obscure (with its blue line) 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 Jarisch 929’s cell teaches a side wall angle shown by Yoakim to provide “poor results” (*id.*, [0261]). This further demonstrates the challenges that discourage incorporation of the teachings from Jarisch 929 into Yoakim and the unlikelihood that a POSITA would be motivated to incorporate the teachings from Jarisch 929.

122. Given all the differences between Yoakim and Jarisch 929, a POSITA would not have modified Yoakim in view of Jarisch 929. Especially since the snug fit in Yoakim performs a safety function, a POSITA would have been discouraged from modifying Yoakim in view of the Jarisch 929 embodiment, which has a gap and incompatible capsules. Indeed, Petitioner has not demonstrated how (or why) Yoakim and Jarisch 929 could be combined without a substantial reconstruction and redesign of elements within the skill level of a POSITA.

123. Petitioner explains “[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. at 39. However, the “sensor/detector (231) [] enabled to identify and read a

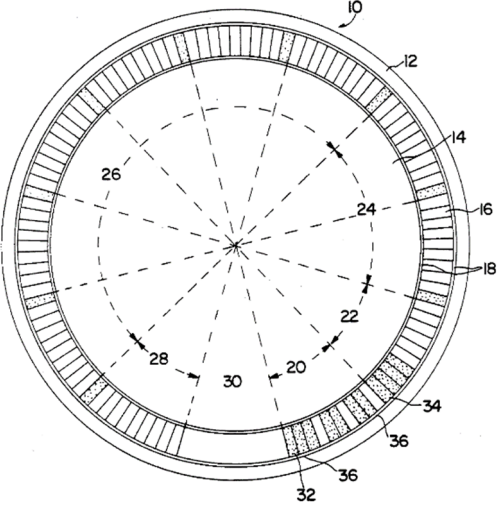
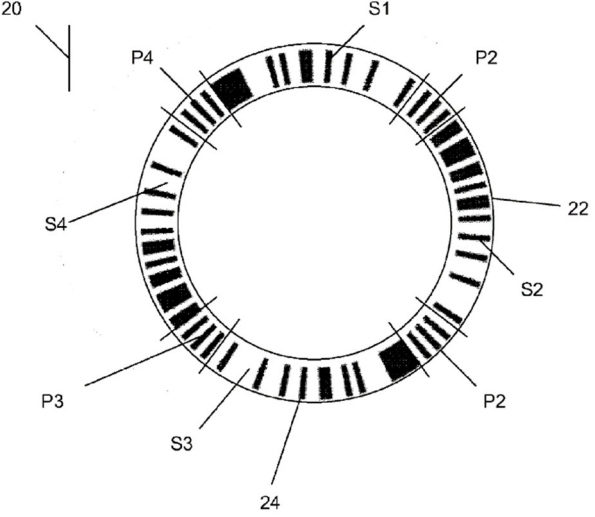
barcode” as described in Yoakim is positioned to read a code on the *opposite* side of the capsule. Pet. at 40; *see also* Ex. 1004 at [0525], Figs. 61, 62.

124. Moreover, Jarisch 929 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 at [0016], Figs. 3, 5. In contrast, Petitioner points to the embodiment of Figs. 61 and 62 of Yoakim in which a non-repeating barcode (among other means) seemingly is read while it is in a fixed position relative to the sensing device 231. Yoakim fails to disclose a code that has symbols that are sequentially read while the capsule is rotated, and the equipment needed to read the code of Yoakim would differ dramatically from that used to read the Jarisch 929 support.

125. Tellingly, one of the inventors of Jarisch 929 submitted a declaration to the Patent Office holding the Patent 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 at ¶¶4-6; *see also* Ex. 2031 at 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 at ¶¶4-6. Fisher (Ex. 2024) discloses a code like

the one Petitioner now argues to combine with Yoakim. Thus, the inventors of Jarisch 929 did not believe a code like the one in Jarisch 929 would have been combined with Yoakim. This would further inform a POSITA that the asserted combination would not have been achieved with reasonable success.

Table 1 – Comparison of Fisher and Jarisch 929

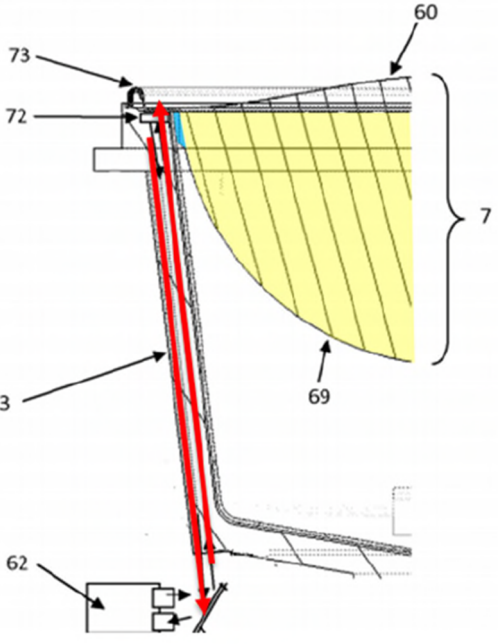
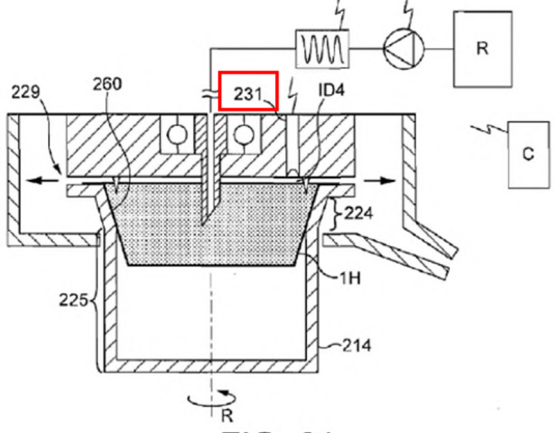
Fisher (Ex. 2024 at Fig. 1)	Jarisch 929 (Ex. 1006 at Fig. 2)
 FIG. 1	

126. Even with these diverging approaches and the Jarisch 929 inventors’ prior sworn testimony to the contrary, Petitioner’s position is contradictory here regarding a POSITA’s motivation to combine. Moreover, Petitioner has not explained how or why a POSITA would modify Yoakim with Jarisch 929, which would require (among other things) a complete reconfiguration of the multiple combined embodiments of Yoakim.

127. A POSITA would have been discouraged from combining Jarisch 929 and Yoakim because of the potential “unbalance” described by Yoakim at paragraph [0507] that requires the snug fit.

128. In brief, there simply is no motivation to make the more than three-way combination of multiple different embodiments in Yoakim and Jarisch 929 to arrive at the claimed invention.

Table 2 – Comparison of Sensor Placement in Jarisch 929 and Yoakim

Jarisch 929	Yoakim
 Pet. at 40 (citing Ex. 1006, Fig. 5).	 FIG. 61 Ex. 1004 at Fig. 61.

129. 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 Jarisch 929 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 at 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 at Fig. 61 (below), [0512].

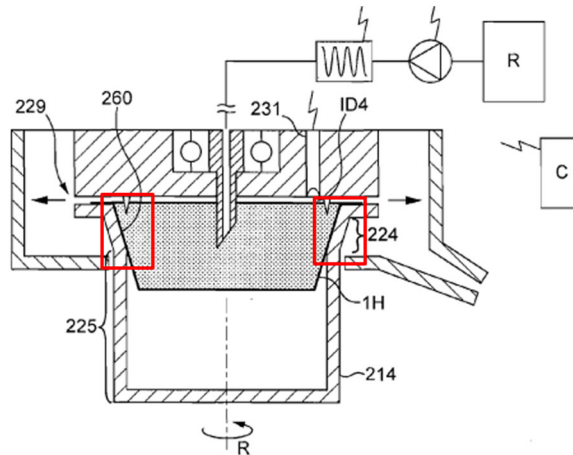


FIG. 61

130. For the sensor/detector to pass light bidirectionally through this flare to successfully read a code, Yoakim would require extensive modifications, including mirroring or index-of-refraction matching within the flared structure. This 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 Jarisch 929's transparent material would also have contributed to impairment to the light available for detection. *See* Ex. 2021 at 2:18-47.

131. 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. A POSITA would have understood from the proposed combination that light would travel up the wall of the capsule holder but the teeth or indentations in the capsule holder would interfere with the reading of any code on the flange.

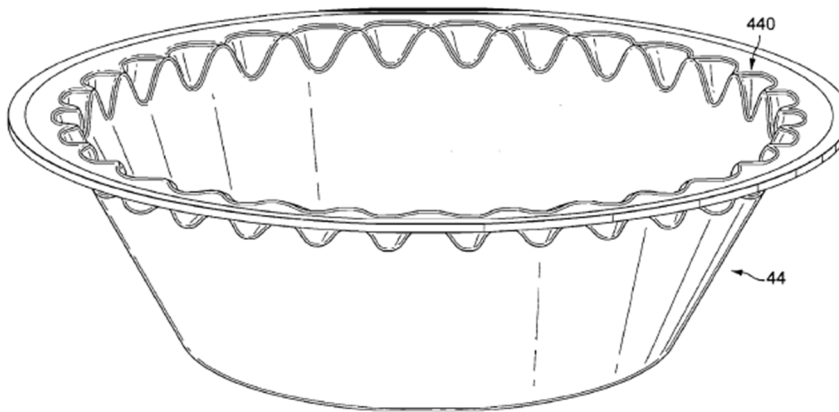


FIG. 24

132. While Petitioner asserts Jarisch 929 teaches use of a single mirror to better position the detector, Petitioner ignores the complexity an optics assembly where the optical elements would need to be encapsulated completely within the wall structure of the capsule holder *and* to accommodate the flared wall structure of the Yoakim capsule holder necessary for assuring a snug fit with the accommodation for the multi-volume capsule set embodiments in Yoakim (i.e., Figs. 61 and 62), which require bending of a light beam. *See* Ex. 2021 at 2:18-47 (conceding that the cell in Jarisch 929 did not work).

133. Here, the complicated optics assembly required in a brewing environment required more than a conclusory assessment that the POSITA could have combined Jarisch 929 and Yoakim. *See* Ex. 2021 at 2:18-47. 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 (*see, e.g.*, Ex. 2021, Ex. 2022) shows there was no expectation of success.

134. Because the combination of Jarisch 929 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), insufficient space on Yoakim's annular portion, and other significant differences, a POSITA would not have been motivated to combine the teachings of the two references.

135. On the present facts, Petitioner's arguments fail because there are so many pointers discouraging the combinations sought, and any such combinations would have required a POSITA to make significant reconfigurations of the different embodiments to introduce a feature that would be redundant to a feature already present.

C. A POSITA Would Not Have Been Motivated to Combine Yoakim/Jarisch 929 With Rossi

136. A POSITA would not have been motivated to combine Yoakim/Jarisch 929 with Rossi. As explained above, a POSITA would have understood that Rossi is directed to methods of preventing incompatible load elements (*e.g.*, capsules) from being used in an edible-product making machine. The Petition argues that combining Rossi with Yoakim would have been obvious

for the benefit of providing safety “for ensuring that an appropriate capsule is used.” Pet. at 40. But Yoakim already expressly recognizes a need for a safety function, achieving that need specifically by the complementary shape of the capsule holder. Ex. 1004 at [0205] (“a safety function for ensuring that only capsules adapted to the system can be used and brewed successfully”).

137. Petitioner also suggests that the safety features of Rossi would be necessary in Yoakim due to Yoakim’s teaching of pressure. Pet. at 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 at [0124]; *see also* Ex. 1004 at [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]. 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 at 3; Ex. 2008 at 13 (describing specification “Pmax 19 bar”).

138. 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 at [0132], [0133], [0186], (“water is pushed by the effect of gravity”), [0209] (“water can be

injected at low pressure.”), [0413] (“Water can be introduced at relatively low pressure or a pressure close to gravity.”), [0428] (“a pressure of between 0 and 2 bar above atmospheric pressure”). 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.

139. To the extent that safety was a concern with Yoakim, the ordinarily skilled artisan had other more reasonable options, including modifying the valve, slowing the speed of rotation to lower the pressure, reducing setting of the water temperature, switching off the heater, deactivating rotation, issuing an audible alarm to the user, issuing a visual signal to the user, or any combination of these.

140. 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 at [0471], [0476], [0526] (“in particular coffees, of different volumes (e.g., risetto, 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 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.

141. 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 at [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 at [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 methods.

142. Moreover, Rossi does not disclose a pump at all and rather focuses primarily on its three-step identification system. 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 at Abstract, [0073], Fig. 10; Ex. 2013 at Abstract, [0009], [0010], [0033], [0067], Fig. 2A; Ex. 2014 at Abstract, Figs. 1, 2; Ex. 2015 at 1. Even Yoakim teaches a pump is not necessary to supply water into a capsule, because other means such as vaporization and gravity are sufficient. *See, e.g.*, Ex. 1004 at [0132] (explaining water can be fed using aspiration or

vaporization), [0427] (explaining tap water can be used). The combination thus does not suggest a beverage system as K-fee claims here.

D. A POSITA Would Not Have Been Motivated to Combine Yoakim/Jarisch 929 With Rapparini

143. A POSITA would not have been motivated to combine Yoakim/Jarisch 929 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 at Abstract, [0010], [0023]. The ribs are provided for stability in packaging and/or filling at high production rates. Ex. 1008 at [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 Jarisch 929. *See generally* Ex. 1008. Indeed, a POSITA would have understood from the figures of Rapparini that no specific embodiment for any espresso machine is depicted. and that Rapparini's container is not suitable for use in a centrifugal espresso machine due to its body's permeability, which would result in food liquid spillage in such machines. Moreover, Petitioner's argument based on Rapparini at [0067] states the invention "can be applied to other capsule materials (which

includes metal)” is unfounded because Rapparini at [0067] does not mention metal. *See* Pet. at 43; Ex. 1008 at [0067].

144. 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 at [0001]), which Yoakim and Jarisch 929 are not. *See* Ex. 1004 at [0027], [0096], [0110], [0129]; Ex. 1006 at [0049].³ Rapparini is silent as to any benefit realized from his invention in providing stability to non-permeable containers and thus provides no motivation for applying its ribs to those containers. *See* Ex. 1008 at [0007] (“the present invention guarantees stability of the structure of filtering and

³ Petitioner incorrectly contends that Rapparini “states its invention can be applied” to metal capsules, as claimed in the ’910 Patent. Pet. at 43. I disagree. This too is based solely on hindsight. A POSITA would have understood from Rapparini’s disclosure of “thermoforming” (Ex. 1008 at [0010], [0026]) a permeable capsule that Rapparini teaches a solution for an alternative to metal, such as plastics. Ex. 1029 at 13 (“Thermoforming is the process of heating a plastic material”); Ex. 1026 at 11. Rapparini in no way teaches or suggests ribs on a deep drawn capsule made of metal, as claimed.

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 the ’910 Patent 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.

145. 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. at 44. But this does not provide a motivation for looking to permeable material for modifying Yoakim’s capsules and again relies entirely on impermissible hindsight, since Yoakim teaches capsules without “a textured body” that already engage the capsule in the brewing system. Ex. 1004 at [0479]. A POSITA would understand the difference between a textured surface and a permeable material. Notably, Yoakim himself tested using permeable capsules in centrifugal brewing devices and concluded the results were “poor.” Ex. 2023 at 2-5, 13-14.

146. 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. at 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. In my opinion, a POSITA would not have looked to permeable capsule teachings to modify non-permeable capsules. This is confirmed by Nestec's own arguments during prosecution of its own patents. Ex. 2030 at 9 (Petitioner's affiliate, Nestec, 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..."). There is thus no motivation to modify the capsules for that purpose alone in Yoakim because doing so would be redundant and superfluous.

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

147. Claim elements [1.n] and [8.n] each require "wherein 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. at 67.

148. The '910 Patent envisions an embodiment where "a filter element is arranged into the cavity. Such a filter element divides the cavity into a first region for accommodating the beverage raw material and into a second region for accommodating a beverage extract." Ex. 1001 at 7:14-17. "In particular the filter element is utilized as a strainer for the extract of a beverage." Ex. 1001 at 11:60-

61; *see also* Ex. 1001 at 11:37-48. The cavity of the capsule is sealed by a membrane. Ex. 1001 at 11:24-27.

149. Yoakim expressly teaches his capsules contain a filter for the purpose of filtering the brewed liquid from the solid particles in the capsule. *See, e.g.*, Ex. 1004 at [0016] (“The enclosure advantageously has ... the opening means or arrangement comprises a series of spaced radial outlets positioned or created at or close to the largest perimeter of the flared design of the enclosure. The enclosure can instead have ... a filter part separating the extractable or infusible ingredient(s) and the collecting cavity food with the filter part optionally spaced from the top wall by a gap.”), [0375], [0376], [0338] (“the openings can have a filtering function per se.”); *see also* Ex. 1004 at [0014], [0017], [0113], [0131] (“The premade peripheral outlets may be a series of small slits of small size to also *filter* the brewed liquid and maintain solid particles of the substance in the capsule.”), [0139], [0171], [0210], [0265] (“In order to filter the liquid in the capsule before it is centrifuged out through the (e.g., pierced) outlets, a filter part is positioned in the capsule to separate a cavity containing the substance and a cavity for collecting the centrifuged liquid.”), [0266], [0272], [0288], [0334], [0337], [0338], [0343], [0375], [0424], [0444] (“These outlet openings 118 of the enclosure of the capsule are sized as a function of the substance stored in the capsule. Small openings such as slots of small width or holes of small diameter tend to provide *a filtering*

function to retain the solid particles in the enclosure of the capsule while allowing only the liquid extract to pass the openings.”), [0448], [0450], [0456], [0460], [0462], [0465], Figs. 28, 29, 39, cls. 4, 6.

150. Counsel informed me and I note that Yoakim is within International Classification “A47J 31/44,” entitled “Parts or details {or accessories} of beverage-making apparatus (**filters or strainers** A47J 31/06)” Ex. 2009 at 4, and International Classification “A23F 5/26,” entitled “Extraction of water-soluble constituents {(A23F 5/246 takes precedence)}” Exhibit 2010 at 2. *See* Ex. 1004 at Cover (51).

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

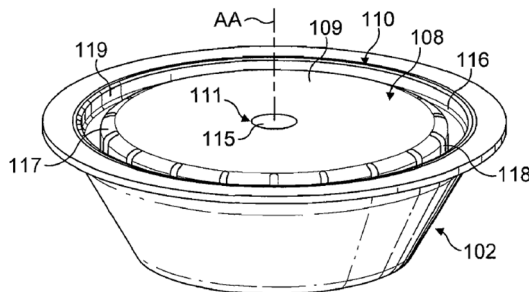
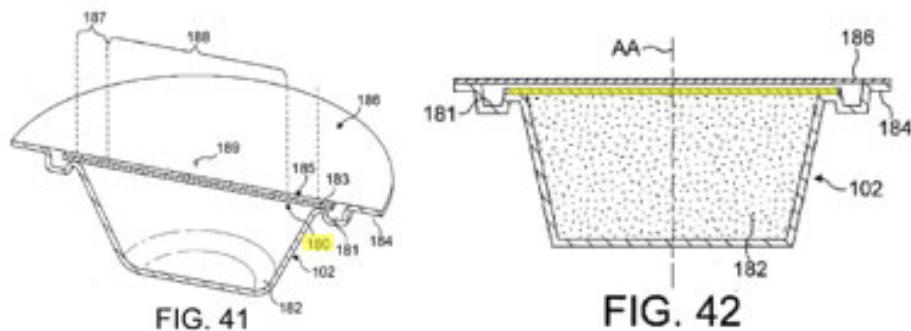


FIG. 29

152. 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 at [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 at [0451], [0452], Figs. 41, 42; Ex. 2011 at 14:13-15:22 (Mr. Jobin admitting porous wall 180 provides “a filtering function”). Porous wall 180 is shown in both Figures 41 and 42 (annotated in yellow below) and is within the cavity. Thus, Yoakim teaches his capsules have filters.



153. Yoakim’s use of filters in every embodiment is further confirmed by Yoakim’s description that “[t]he *capsule of the invention* is thus designed to enable a liquid to be prepared from a substance contained in an enclosure of the capsule by the effect of centrifugation obtained by rotating the capsule around an axis of rotation which is proper to the capsule. The *plurality of openings provided in the capsule* are thus arranged for letting the centrifuged liquid leave the

enclosure at a location which is substantially peripheral on the enclosure around the axis of rotation of the capsule.” Ex. 1004 at [0333]-[0334]; *see also* Ex. 1004 at [0335]-[0338]. Accordingly, Yoakim teaches that the openings can be sized to “be given a function to filter the liquid from the solid particles” and/or the capsule can include a porous material for filtering the solid particles. Ex. 1004 at [0017], [0334].

154. Critically, Petitioner fails to identify **any** teaching in Yoakim of a capsule free of a filter. Indeed, this is evident from the passages and figures Petitioner cites, which all lack any express teaching that Yoakim’s capsule lacks a filter or that filtering is optional. 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 at [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 at [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 at [0210] (“The slits are sized so as to act as a filter for retaining the solid particles such as the ground coffee particles but let the liquid leave the capsule.”).

155. 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. 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 at 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 at [0010]; *see also* Ex. 1004 at [0011], [0012], [0210]. Thus, Yoakim at [0171] teaches the capsule has a filter.

156. Petitioner also cites [0343] but admits this paragraph discloses the use of filters within Yoakim’s capsule. Pet. at 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 at [0255], [0300], [0461]. Regardless, Yoakim teaches every embodiment advantageously features either outlet openings or porous materials or both. *See* Ex. 1004 at [0016]; [0376] ("the openings can have a filtering function per se."). Importantly, none is contrary to Yoakim's descriptions of the capsule of the invention. Ex. 1004 at [0333]-[0334].

157. In the Institution Decision, the Board identified Yoakim's [0300] as an example of capsules that do not have filter inside the cavity. Institution Decision at 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 at Figure 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.

158. Yoakim [0271]'s discloses "[i]n another mode, the filter could be part of the device or be formed by the puncturable membrane and piercing members." The Petition did not rely upon this disclosure of Yoakim and does not contend that a filter that is "part of the device" teaches this claim limitation. *See* Pet. at 67. Nonetheless, a POSITA would not conclude from this disclosure that the capsule 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 at Figs. 16, 17, 26-28.

159. Second, Yoakim never describes or illustrates an embodiment where the device has a filter and thus does not enable such a centrifugal device. 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 at [0325], [0318]-[0319]). This is the very disadvantage in the prior art that Yoakim seeks to overcome. Ex. 1004 at [0004], [0012], [0014]. Yoakim itself thus elsewhere teaches away from having a filter solely in the device. It is only with hindsight of Patent Owner's claims that one would even suggest a capsule in Yoakim absolutely free of any filter.

160. Additionally, a POSITA would not understand a filter to be in the device because Yoakim does not teach what to do with solids retained by a system where the filter is solely in the device. *See generally* Ex. 1004. Unlike a capsule filter, which is discarded with the capsule, a device filter would require removing/cleaning a dirty device after each use.

161. Third, the Petition does not explain how a filter in the device would be understood or achieved in Yoakim, relying instead solely on Yoakim's capsule embodiments. *See* Pet. at 67.

162. Grasping at straws, 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. at 67), but Petitioner's reliance here is also misplaced. First, Figures 6 and 7 fail to show inside the cavity of the capsule. *See* Ex. 1004 at Figs. 6, 7, [0035], [0036]. Thus, these figures cannot demonstrate or even suggest that any of Yoakim's capsules are free of a filter inside the cavity. 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.

163. 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. 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 at [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.

164. Tellingly, each of Figures 54-60 depict a “schematic” view of a capsule, which does not contain every detail of the capsule. *See* Ex. 2011 at 50:24-56:1 (Mr. Jobin admitting Yoakim’s schematic views are “at a very high level,” “drawn with less detail,” and “there are details which are excluded in this view because it’s intended to represent particular information”). 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 at [0080], [0083]; *see also* Ex. 1004 at 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. 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.

165. Additionally, a POSITA would not view using a filter in a centrifuge based brewing system in order to simplify the capsule design as an “obvious design choice” and Petitioner provides no support for this. Moreover, Petitioner’s reliance on “design choice” is misplaced. 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 at [0010]; *see also* Ex. 1004 at [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 at [0418]. Yoakim explains further "it can be *advantageous* to provide smaller openings than for lungo or 'Americano' coffee extract." Ex. 1004 at [0418]. 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.

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

166. Claim elements [1.r] and [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, Jarisch 929, and Rossi. Pet. at 70-73. I disagree because there is no teaching in these references of using information from a code on the capsule to activate a pump. A POSITA would have understood a pump to be controlled without the need for information external of the device.

167. Starting with Yoakim, Petitioner contends "[t]he encoded information [such as barcode or RFID] is used to activate a pump." Pet. at 70-71. But a

POSITA would have understood that 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 at [0477] (“The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. The adjustable parameters can be the rotational speed, the back-pressure at the outlet of the capsule, and/or the volume of liquid fed in the capsule. 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 supplying liquid in the capsule.*”), [0521] (“The system of the invention advantageously comprises 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 (ristretto, espresso, lungo, etc.)”), [0522], [0523] (“the identification means can set different volumes of injected liquid”), [0025], [0028], [0192], [0218].

168. 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. The claims separately require “information used ... to control the beverage-making process.” Claim [1.s]/[8.s]. Yoakim is silent as to whether the control means uses information from the identification means to activate a pump.

169. Moreover, pump activation using information in the identification means is not inherent from Yoakim’s teachings. Petitioner’s arguments are a consequence of hindsight from K-fee’s inventions. For example, Schifferle (Ex. 1039) teaches a coffee maker where “[a]s soon as the brewing chamber 5 is closed, the pump 2 is operated.” Ex. 1039 at [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. In my experience, pump activation is left to the user’s discretion since developers and consumers alike want to preserve user autonomy in deciding when brewing will take place.

170. A POSITA would have understood that 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 at ¶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 at 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).”).

171. The Petition next relies upon Jarisch 929, but does not identify any express teachings relating to activation of the pump using encoded information. Pet. at 71. This is not surprising given Jarisch 929’s limited teachings of a pump and lack of express disclosure of how it works, is controlled, or is activated. *See generally* Ex. 1006; *see also* Ex. 1006 at [0048]. Jarisch 929 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 Jarisch 929. Pet. at 71-72. The Petition fails to identify any teaching in the art of such obviousness and relies solely on impermissible hindsight.

172. Finally, the Petition relies on Rossi. Pet. at 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. at 73. But Rossi does not disclose a pump at all. And a pump is not required by Rossi’s teachings. For example, there are many ways to supply water under pressure without a pump. *See, e.g.*, Ex. 2012 at Abstract, [0073], Fig. 10; Ex. 2013 at Abstract, [0009], [0010], [0033], [0067], Fig. 2A; Ex. 2014 at Abstract, Figs. 1, 2; Ex. 2015 at 1. There are also many subsystems in Rossi to control.

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

174. 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 at 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.

175. More specifically, 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 at 9. This step does not teach the use of information from the validation element to activate a pump. *see also* Ex. 1041 at 6 ("allowing said edible-product making machine to take further steps only if it also recognises on said load element a validation element to be validated"), cl. 1.

176. The second mandatory step of validating (including destructing) the validation element may consist of "mechanical destruction of the validation

element,” which ensures the validation element cannot be re-recognized. *See* Ex. 1041 at 9. This step also does not teach the use of information from the validation element to activate a pump.

177. In the third activation step, the machine “activates a cycle of edible-product production” after it recognizes on the capsule the same identifying element and the validated validation element. Ex. 1041 at 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. Instead, “[t]he use of an activation step of automatically activating the cycle of edible-product production only when the same identifying element is recognized in combination with the validated validation element ensures that the operating condition actually used are the correct conditions as selected by the machine in the first recognition step” so as to “help to prevent the user from making the mistake of inserting into the machine a different load element to the one that was first recognized, for which the operating conditions are set.” Ex. 1041 at 8. None of these steps teach the use of information from the identifying or validation element to activate a pump. And even in combination with Yoakim and Jarisch 929, as explained above, edible-product production would not mean that a pump is activated from information in the barcode or RFID.

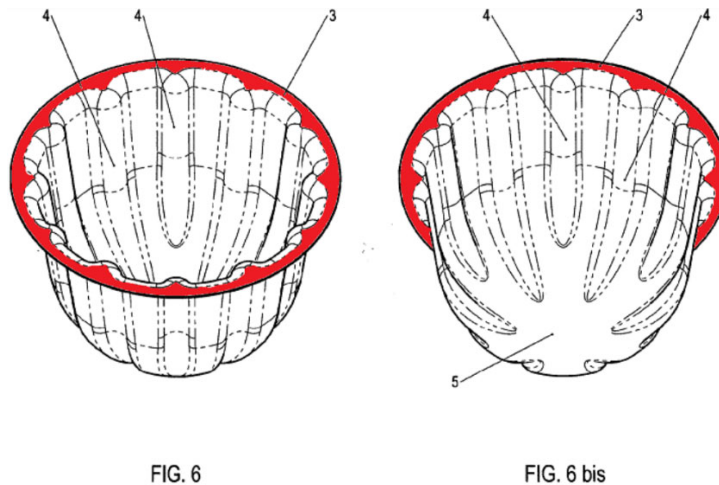
178. That “the activation means 10, connected to the barcode reader 7 through the control unit 9, automatically activate[s] a cycle of production of the edible product” does not suggest the use of information from the identifying or validation element to activate a pump. Ex. 1041 at 13; *see also* Ex. 1041 at 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 Jarisch 929.

XI. 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)

179. 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. at 56-59). I disagree that Rapparini teaches grooves spaced a distance between the flange and the closed bottom. As illustrated below, the ribs of Rapparini intersect with the rim.

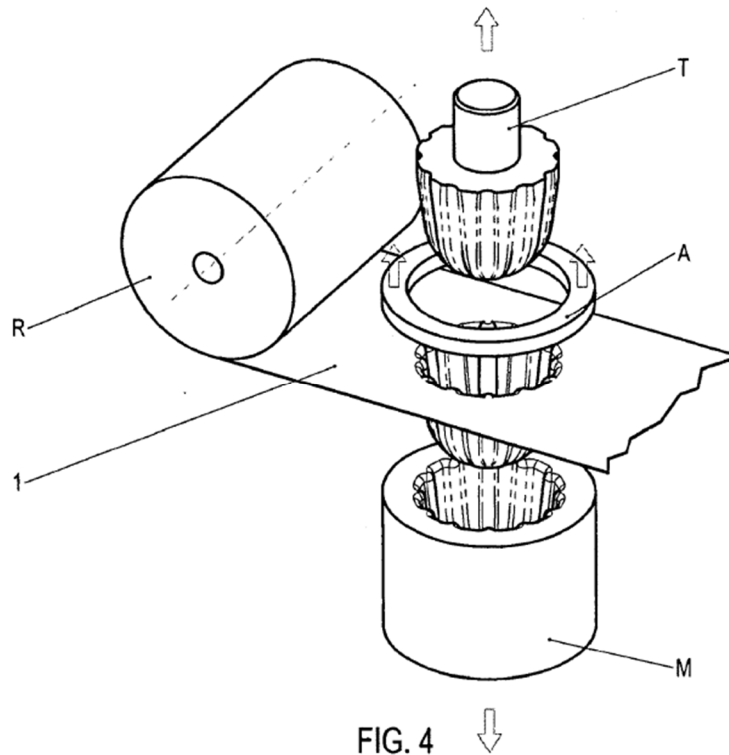
180. As explained above, Petitioner fails to provide a sufficient rationale to prove that a POSITA would look to the teachings of Rapparini. In addition, the ribs of Rapparini’s Figs. 6 and 6 bis intersect with and form part of the flange

(annotated in red below). *Compare* Ex. 1008 at Figs. 6, 6bis *with* Ex. 1001 at Figs. 19-21. This is confirmed by claim 16 in Rapparini, which provides “a plurality of varied length ribs having a depth *extending from the annular rim* towards the cup-shaped bottom.” Ex. 1008, cl. 16. Thus, Rapparini’s ribs are not spaced a distance from the rim.



181. Rapparini’s ribs are a consequence of the process for making the capsule to achieve the ribs, which as depicted in Figure 4 (below) of the Rapparini, uses a die where the ribs extend to the top surface of the thermoformed material. 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 to the flange and are thus not

spaced a distance between the flange and the closed bottom, as required by Patent Owner's claims.



182. A POSITA would have understood there was no practical way to use the process taught by Rapparini to thermoform ribs on a capsule and still have the ribs not extend to the flange. Rapparini teaches a fast assembly line process that would require only a few seconds to perform this operation and such a process would result in the ribs extending all the way to the flange as illustrated above. *See* Ex. 1008 at Fig. 4. Rapparini being an experienced designer of high-speed packaging equipment would have understood the impracticality of a rib that ends at

a distance from the flange. There is no inherent motivation here to stray from the present design which perfectly meets the required needs.

183. Petitioner has not explained how it is feasible to maintain that feature and have ample space for a code as taught by Jarisch 929. The grooves being part of the flange also necessarily means less surface to carry a code. The Petition does not address this effect and the requirement of a substantially-sized rim to employ the code on the bottom of Jarisch 929.

184. Moreover, there is a problem of combining the capsule of Yoakim Fig. 23 with the code of Jarisch 929 since the flange of Fig. 23 is not suitable for the code of Jarisch 929 due to its small size; the Petition is deficient in rationalizing the at least four-way combination of Yoakim Fig. 23, Yoakim Fig. 61, Jarisch 929 Fig. 5, and Rapparini.

185. Overall, a POSITA would not be motivated to modify Rapparini to have grooves that do not extend all the way into the flange. A POSITA attempting to combine these elements would be doing so based purely on hindsight.

186. Independent Claims 1 and 8 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 6 bis 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 6 bis. Petitioner further appears to include grooves that extend into the flange and into the closed bottom. Indeed, Petitioner's expert conceded he did not perform any calculation here and contended "it's disclosed because it's obvious." Ex. 2025 at 121:6-23, 123:12-25, 124:15-125:7, 127:17-128:21.

187. 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. at 59) and the narrower range of 40-60% (Pet. at 77-78)), which is based entirely on hindsight from Patent Owner's claims. Petitioner offers no evidence that reducing the size of the ribs on Rapparini would somehow "increase structural stability" such that a POSITA would have been motivated to achieve Patent Owner's claims.

XII. Jarisch 929 Fails To Teach or Render Obvious the Individualization Identifier Is Provided On the Outside Surface of the Wall (Claims 1-7)

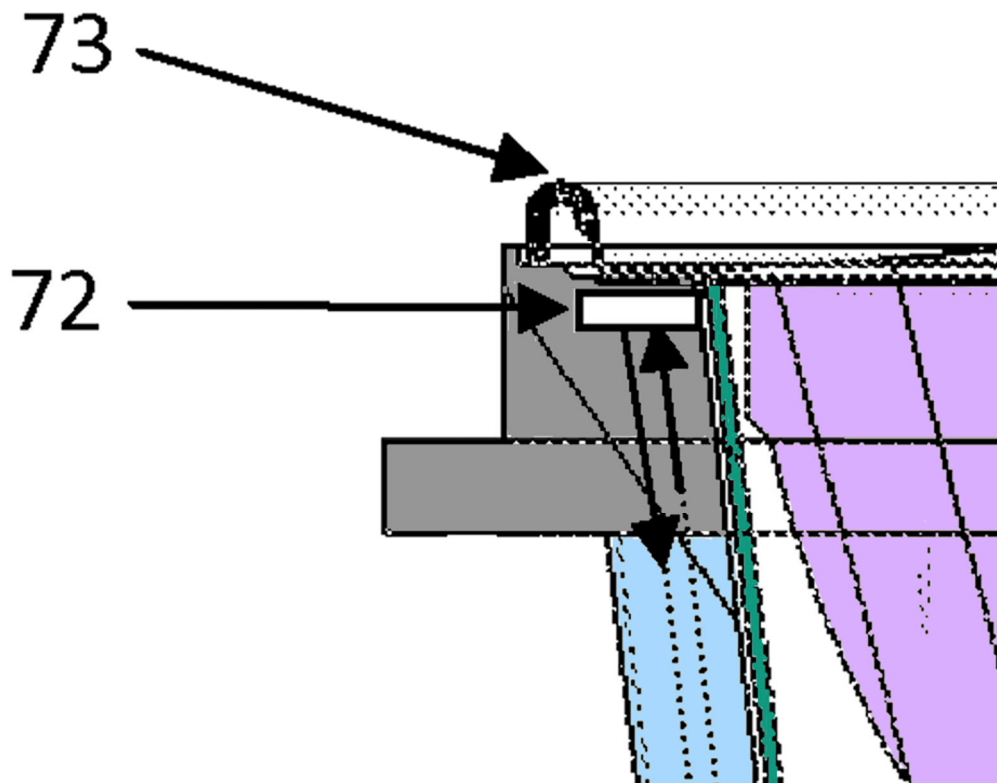
188. Claim element [1.t] requires the identifier "is further provided on the outside surface of the wall of the base element." The Petition cites for this claim element in a conclusory manner Jarisch 929's disclosure. Pet. at 74. But a POSITA would have understood that Jarisch 929 teaches only that the support is on the *lid* or *rim* of the capsule—not a wall.

189. 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, but that is wrong. A POSITA would have understood that Jarisch 929 makes clear that the rim is part of the body, and the support is *only* on the rim and *not* on the outside surface of the wall of the base element, as required by the claims. Ex. 1006 at [0049]-[0050] (“the body part such as on the flange-like rim”). Mr. Jobin agrees. Ex. 2025 at 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 weight on refer only to placing the support on the rim part of the body.

190. Tellingly, Jarisch 929’s placement of the support solely on the lid or rim is confirmed by every example taught. *See, e.g.*, Ex. 1006 at Figs. 3-8, [0069], [0089]-[0090]. Accordingly, a POSITA would not have understood Jarisch 929 to teach or suggest this claim element. It is further evident that this element is not taught by Jarisch 929 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 at [0072], [0090]-[0094], Fig. 2.

191. It also would not have been obvious from Jarisch 929’s teachings to achieve these claim elements. Jarisch 929 teaches placing the support on a flat surface, which is generally how such codes are implemented—particularly in these

types of systems where reliable readings are necessary. Jarisch 929 lacks any teaching of reading a code on any surface other than the lid or rim (*see* Ex. 1006 at Figs. 3-8), and thus Petitioner’s conclusory argument regarding increasing chances of the code being read is misplaced. Indeed, Jarisch 929 teaches a solution “to ensure reliable reading” by repeating the code. *Id.*, [0068]. And as is evidenced from Figure 5 of Jarisch 929, there is no suggestion that the sensor light beam could even reach an outside surface other than the rim.



192. Petitioner’s generic conclusions in support of their arguments are based entirely on hindsight from Patent Owner’s claims.

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

193. 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. at 74-75. Petitioner then identifies Jarisch 929’s teaching of “printed and/or embossed” (Ex. 1006 at [0027]) symbols having “magnetic field, induced magnetic field, resistivity, [or] capacity.” Pet. at 75. But Petitioner makes no showing that such symbols disclose, expressly or inherently, electrical conductivity.

194. 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.

XIV. Jarisch 929 Fails To Teach Or Render Obvious An Identifier Exhibiting A Concavity and/or Convexity (Claims 6-7)

195. 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. at 78) without any evidence in support. I have reviewed Jarisch 929 and do not find any teaching or suggestion of an identifier that exhibits a

convexity or concavity for the reasons I explain above for claims for claim element [1.t].

196. Jarisch 929 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 Jarisch 929 somehow teaches “locating the code on both the bottom of the flange and the capsule body wall” (Pet. at 78), a POSITA would not determine that teaching as showing a convexity or concavity.

197. Accordingly, Jarisch 929 does not teach an identifier that exhibits a convexity or concavity.

198. Tellingly, Petitioner does not explain how Jarisch 929 exhibits either convexity or concavity and a POSITA would not understand Jarisch 929 to disclose such a feature.

199. I have reviewed Jarisch 929 and do not find any teaching or suggestion of an identifier that exhibits a convexity or concavity.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true. Further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine,

imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified patent.


Dov Glucksman

10/1/2024
Date

APPENDIX A



CV of Dov Glucksman

Dov Glucksman has over 50 – years’ experience as a product development engineer, and is recognized as a leader and trail blazer in the field of household electric appliances with over `20 patents in that field and a client list that includes most of the appliance brands in the US and many of the appliance manufacturers worldwide.

Mr. Glucksman earned a B. S. with a double major in Mechanical and in Nuclear Engineering, and his M.S. in Aeronautical Engineering from Israel’s Technion, a world-renowned technical university. Mr. Glucksman also spent 2 years attending Babson College’s International Marketing MBA program.

After completing his engineering studies in his native Israel, Mr. Glucksman was invited to manage aerodynamic research for Torin Corporation, the largest U.S. manufacturer of air moving devices at that time.

In 1967, Mr. Glucksman joined Thermo – Electron Corporation in Waltham MA, before founding Flowtron Inc., in 1969 where he designed, marketed, and manufactured many environmental appliances under the Flowtron brand. He later gained valuable manufacturing experience as Director of Engineering for Boston Manufacturing Company for 6 years.

Mr. Glucksman holds over 120 U.S. patents and has served as an expert witness in patent litigations. He has been featured in and contributed to Design News, Appliance Magazine, and Product Engineering. He has been a guest lecturer at the Rhode Island School of Design and is a recipient of Krups Design Award.

Mr. Glucksman is recognized as an authority in design of electric appliances with special know how in technologies relating to heat transfer and airflow. These core technologies have formed the basis of Mr. Glucksman’s product development firm Appliance Development Corp., (ADC) established in 1974. ADC has worked with large and small companies throughout North America, Europe, and the Far East, primarily in the fields of environmental, kitchen and personal care appliances. On December 2022 Mr. Glucksman closed the ADC laboratory and prototype facility and transferred ADC equipment and clients to Staffordshire Development LLC of Derry New Hampshire. Mr. Glucksman continues providing consulting services to ADC clients referring though all design and development work to Staffordshire Development LLC

Below is a partial list of ADC clients:

Amcor	Deni-Keystone	Kitchen-Aid	Raymond
Bonaire	Eugster	Krups	Revlon
Bonjour	Gillette Appliances	Main Power	Rival
Capresso	HB/Proctor-Silex	Mr. Coffee	SC Johnson
Clairol Appliances	Helen of Troy	Oreck	Sunbeam
Colgate-Palmolive	Holmes	Patton Elec	Siemens
Connaisseurs	IGIA	Pifco	Welbilt
Cuisinart	KAZ	Polaroid	WIK



Mr. Glucksman has been engaged as an Expert Witness in IP litigations pertaining to electric appliances.

Personal: Mr. Glucksman is a native of Israel and spends his time between Mattapoisett on the south coast of MA and Naples in southwest of FL . He is married and has three grown children.

Languages: In addition to his command of the English language, Mr. Glucksman is fluent in German and Hebrew, with a passing knowledge of Dutch and Arabic.

Hobbies and other interests include travel, study of the origin of languages, classical music politics and history.

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