

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case No. IPR2023-00502
U.S. Patent 10,994,923

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

PATENT OWNER RESPONSE

TABLE OF CONTENTS

I.	Introduction.....	1
II.	K-fee’s Inventions	2
	A. Overview of the ’923 Patent.....	3
	B. The German Priority Applications	4
	C. Prosecution of the ’923 Patent	7
III.	Claim Construction.....	9
IV.	Level of Ordinary Skill in the Art	9
V.	The Sole Ground Fails Because Jarisch is not Prior Art	10
	A. Patent Owner’s German Priority Applications Antedate Jarisch.....	10
	1. 37 C.F.R. § 1.131 (“Rule 131”) and <i>In re Stempel</i>	11
	2. Comparing the Disclosure of Jarisch with the First German Application.....	15
	3. Petitioner does not dispute that the three German applications disclose the claim limitations.	18
	B. Without the Jarisch Reference the Sole Grounds Fails.....	19
VI.	Petitioner Has Not Shown By A Preponderance of the Evidence That The ’923 Patent Is Unpatentable As Obvious.....	19
	A. Asserted Ground of Rejection: Claims 1-16 Are Allegedly Rendered Obvious Under 35 U.S.C. § 103 by Yoakim in View of Jarisch and Rapparini	19
	1. Yoakim Fails to <i>Disclose</i> a Capsule Free of a Filter As Required in Claims 1 and 10	20
	2. Rapparini Fails to Disclose or Render Obvious a “wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region” as Required in Claims 1 and 9.....	27
	3. The Art Fails to Disclose or Render Obvious “generat[ing] turbulence of water in the cavity”	33

4.	A Person of Ordinary Skill in the Art Would Not Have Been Motivated to Combine Yoakim and Jarisch and Rapparini	36
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TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Biosig Instruments, Inc. v. Nautilus, Inc.</i> , 783 F.3d 1374 (Fed. Cir. 2014)	12
<i>In re Clarke</i> , 356 F.2d 987 (C.C.P.A. 1966)	12, 17
<i>Henny Penny Corp. v. Frymaster LLC</i> , 938 F.3d 1324 (Fed. Cir. 2019)	27
<i>Hologic, Inc. v. Smith & Nephew, Inc.</i> , 884 F.3d 1357 (Fed. Cir. 2018)	4, 18
<i>Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.</i> , 821 F.3d 1359 (Fed. Cir. 2016)	27
<i>Interconnect Planning Corp. v. Feil</i> , 774 F.2d 1132 (Fed. Cir. 1985)	42, 43
<i>InTouch Techs., Inc. v. VGO Communications, Inc.</i> , 751 F.3d 1327 (Fed. Cir. 2014)	33
<i>In re Kahn</i> , 441 F.3d 977 (Fed. Cir. 2006)	44
<i>Kinetic Techs., Inc. v. Skyworks Solutions, Inc.</i> , IPR2014-00530, Paper 8 (PTAB Sept. 29, 2014)	35
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007).....	19
<i>Ex Parte Pavlansky</i> , 2019 Pat. App. LEXIS 7165 (PTAB July 30, 2019)	13
<i>PersonalWeb Techs., LLC v. Apple, Inc.</i> , 848 F.3d 987 (Fed. Cir. 2017)	43
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	9

<i>Plexxikon Inc. v. Novartis Pharm. Corp.</i> , 525 F.Supp.3d 1104 (N.D. Cal. 2021)	13
<i>Polaris Indus., Inc. v. Arctic Cat, Inc.</i> , 882 F.3d 1056 (Fed. Cir. 2018)	33
<i>Pro-Dex, Inc. v. Intelligent Automation Design LLC</i> , IPR2023-00218, Paper 8 (PTAB Jul. 19, 2023)	37, 38
<i>In re Ratti</i> , 46 C.C.P.A. 976 (CCPA 1959)	43
<i>Regents of University of California v. Board Institute, Inc.</i> , 903 F.3d 1286 (Fed. Cir. 2018)	41
<i>Ricoh Co., Ltd. v. Quanta Computer Inc.</i> , 550 F.3d 1325 (Fed. Cir. 2008)	44
<i>In re Rozmus</i> , 1991 U.S. App. LEXIS 2379 (Fed. Cir. Feb. 15, 1991)	13
<i>In re Scheiber</i> , 587 F.2d 59 (C.C.P.A. 1978)	12, 13
<i>In re Schweickert</i> , 676 Fed. App'x 988 (Fed. Cir. 2017)	43
<i>In re Spiller</i> , 500 F.2d 1170 (C.C.P.A. 1974)	13
<i>In re Stempel</i> , 241 F.2d 755 (C.C.P.A. 1957)	<i>passim</i>
<i>In re Stryker</i> , 58 C.C.P.A. 797 (1971)	17
<i>In re Tanczyn</i> , 347 F.2d 830 (CCPA 1965)	14
<i>Trend Micro, Inc. v. Open Text Inc.</i> , IPR2023-00692, Paper 8 (PTAB Nov. 6, 2023)	38

<i>In re Universal Elecs., Inc.</i> , 2023 WL 3335536 (Fed. Cir. May 10, 2023)	43
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Statutes

35 U.S.C. § 112	12
35 U.S.C. § 316(e)	2

Other Authorities

37 C.F.R. § 1.131	11, 13, 14
37 C.F.R. § 42.100(b)	9

LIST OF EXHIBITS

Exhibit	Description
Ex. 2001	Declaration of Marc Kruger
Ex. 2002	Applicant-Initiated Interview Summary for Appl. No. 16/538,752
Ex. 2003	<i>K-fee System GmbH v. Nespresso USA, Inc.</i> , Case No. 2:21-cv-3402 GW(AGRx), Dkt. No. 126-1 (Apr. 1, 2022)
Ex. 2004	<i>K-fee System GmbH v. Nespresso USA, Inc.</i> , Case No. 2:21-cv-3402 GW(AGRx), Dkt. No. 211 (June 17, 2022)
Ex. 2005	<i>K-fee System GmbH v. Nespresso USA, Inc.</i> , Case No. 2:21-cv-3402 GW(AGRx), Dkt. No. 71 (January 19, 2022)
Ex. 2006	Excerpts from file history of Appl. No. 16/538,752
Ex. 2007	Examiner-Initiated Interview Summary for Appl. No. 17/324,182
Ex. 2008	Examiner-Initiated Interview Summary for Appl. No. 17/108,175
Ex. 2009	File History of U.S. Patent No. 10,800,600
Ex. 2010	Excerpts from file history of Appl. No. 16/860,441
Ex. 2011	Applicant-Initiated Interview Summary for Appl. No. 17/963,392
Ex. 2012	Notice of Allowance for Appl. No. 17/330,572
Ex. 2013	Excerpts from Appl. No. 17/670,629
Ex. 2014	NOT USED
Ex. 2015	NOT USED

Exhibit	Description
Ex. 2016	NOT USED
Ex. 2017	Declaration of Laurens “Lars” Howle in Support of Patent Owner’s Response (“Howle Decl.”)
Ex. 2018	NOT USED
Ex. 2019	Transcript of deposition of Michael Jobin taken November 28, 2023
Ex. 2020	NOT USED
Ex. 2021	NOT USED
Ex. 2022	NOT USED
Ex. 2023	NOT USED
Ex. 2024	NOT USED
Ex. 2025	NOT USED
Ex. 2026	Brian D. Wood, et. al., <i>Modeling Turbulent Flows in Porous Media</i> , Annu. Rev. Fluid Mech. (2020)

Patent Owner K-fee System GmbH submits this Patent Owner Response to the above-captioned Petition for *Inter Partes* Review of U.S. Patent No. 10,994,923 (“the ’923 Patent”) (“Petition”).¹

I. Introduction

The Board, without the benefit of a full and complete record, instituted review on one ground: whether claims 1-16 are obvious over the combination of Yoakim, Jarisch, and Rapparini. K-fee now address the substantive errors, omissions, and shortcomings underlying Petitioner’s grounds of invalidity. In support, K-fee presents testimony from its expert, Laurens “Lars” Howle (Ex. 2017).

Ultimately, Petitioner’s arguments fail because:

(1) Petitioner relies on a reference that is not prior art. Based on the testimony of inventor Marc Kruger, as corroborated by the German priority applications, the ’923 Patent is entitled to a priority date that predates the Jarisch reference upon which Petitioner relies in the Petition. Ex. 1005, Jarisch;

(2) Petitioner cannot demonstrate that Yoakim teaches the cavity “is free of a filter” limitations of independent claim 1 and dependent claim 10;

(3) Petitioner cannot demonstrate that Yoakim alone and/or in combination with Rapparini teaches “the wall region includes radially spaced and vertically

¹ All emphases added, unless otherwise noted.

oriented grooves that are free from extending entirely to the bottom region” limitations of independent claims 1 and 9;

(4) Petitioner cannot demonstrate that Yoakim alone and/or in combination with Rapparini teaches “generat[ing] turbulence of water in the cavity” limitations of claims 7 and 13; and

(5) Petitioner cannot demonstrate a person of ordinary skill in the art (“POSITA”) would have been motivated to combine the teachings of Yoakim, Jarisch, and Rapparini to arrive at the novel single-serve capsules of independent claims 1 and 9.

Petitioner has failed to meet its “burden for proving a proposition of unpatentability by a preponderance of the evidence.” 35 U.S.C. § 316(e). For these and the additional reasons provided in this Response, the claims should not be found unpatentable.

II. K-fee’s Inventions

K-fee markets and sells machines for making coffee and capsules for use in them. One such machine has been marketed as the Verismo machine, which American consumers recognize from K-fee’s past sales through Starbucks® retail outlets. Throughout the world, K-fee competes in portioned coffee markets. In the late 2000’s, as part of its efforts to secure its machines against use with inferior

coffee capsules, K-fee conceived various ideas to individualize capsules. One such idea was to use a barcode, which became a claimed aspect of the '923 Patent.

A. Overview of the '923 Patent

The claims of the '923 Patent are generally directed to a portion capsule for producing a beverage. Ex. 1001 at Abstract. The portion capsule includes a base element with a cavity in which a beverage raw material is provided and closed by a membrane fastened to the base element. *Id.* An object of the '923 Patent is to “provide a portion capsule which only is suitable for a specific coffee machine” to avoid the security issues and potential damage that might result from the use of capsules designed by other manufacturers that are not suited for use in a particular beverage machine. *Id.* at 1:11-24. The '923 Patent has two independent claims (Claims 1 and 9) and 14 dependent claims (Claims 2-8 and 10-16).² Ex. 2017, ¶35.

² The Parties are in litigation in which Patent Owner contends the Petitioner's VertuoLine system meets the claim requirements, and nothing in this Preliminary Response shall be regarded as a disclaimer of claim scope.

The family claims priority to PCT No. PCT/EP2011/003677 (“the PCT application”), which was filed on July 22, 2011.³ The PCT application, in turn, claims priority to three German patent applications: DE 10 2010 031 988.0 filed on July 22, 2010 (Ex. 1046 or “the first German application”); DE 10 2010 044 251.8 filed on September 2, 2010 (Ex. 1047 or “the second German application”); and DE 10 2011 010 534.4 filed on February 7, 2011 (Ex. 1045 or “the third German application”) (collectively, “the German applications”). Ex. 2017, ¶36.

B. The German Priority Applications

The first German application teaches a “portion capsule” which contains a beverage raw material, such as ground coffee, wherein the portion capsule has an “identifier” that “makes it possible to individualize the respective portion capsule.”

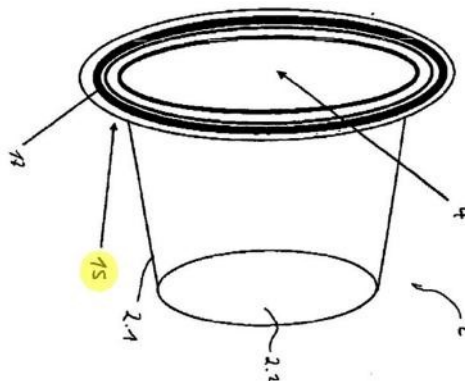
³ Petitioner does not challenge that the ’923 Patent is entitled to priority of the PCT application. *See* Pet. at 39. Moreover, Petitioner’s expert has not formed “any opinions on [the PCT application].” Ex. 2019 at 148:3-18. Accordingly, there is no dispute that the ’923 Patent is entitled to at least the date of that application. *See Hologic, Inc. v. Smith & Nephew, Inc.*, 884 F.3d 1357, 1362 (Fed. Cir. 2018) (concluding substantial evidence supported the Board’s finding that PCT application reasonably conveyed possession of claim element where parties did not dispute disclosure or knowledge in the art).

Ex. 1046 at 22. In one embodiment, the portion capsule “is provided with an electrically conductive coating, for example...an aluminum foil.” Ex. 1046 at 30:21-25. The identifier indicates that the portion capsule is “suitable only for a specific coffee machine.” Ex. 1046 at 3. The disclosed invention thus prevents “serious safety problems and/or damage to the coffee machine” that may arise from the use of a capsule that is “not suitable” for a particular coffee machine. *Id.*;
Ex. 2017, ¶39. The first German application specifies the invention as follows:

A sensor/detection medium provided on the coffee machine detects this identifier and preferably compares it with a stored identifier. Preferably, *the coffee machine can only be put into operation*, especially its pressure pump, which provides the water, *if the determined identification corresponds to the reference identification*. Otherwise, the coffee machine cannot be put into operation.

Id. at 4.

The identifier may take a variety of forms, including a barcode. *Id.* at 5, 7, Fig. 2. “[T]he barcode can be provided on the side of the edge area of the base element facing away from the membrane [4], as symbolized by arrow 15.” *Id.* at 7.



Ex. 1046 and Ex. 1047 at Fig. 2 (annotated). The identifier can be used to control the operation of the coffee machine:

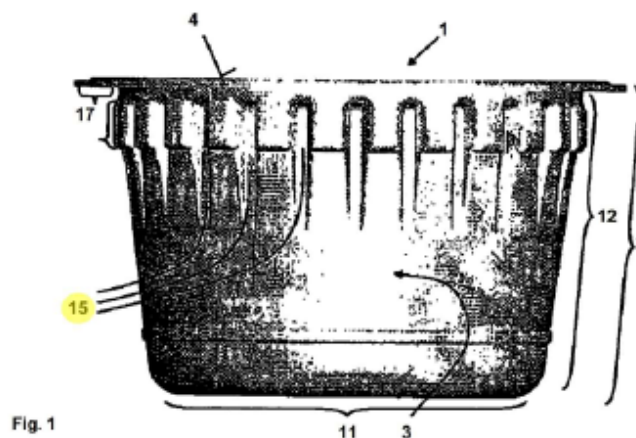
With the portion capsule according to the invention, it is possible to prevent that portion capsules, which are not intended for a certain coffee machine, are introduced into this machine. Furthermore, it is possible for the coffee maker to recognize which type of capsule is in its brewing chamber and to adjust the beverage or food production process, for example the amount of water, its pressure and/or its temperature accordingly.

Id. at 5. The identifiers of the various embodiments are linked by common subject matter, namely, that they are configured for use in a coffee machine with a brewing chamber. Ex. 2017, ¶40.

The second German application introduces an additional embodiment of the identifier that relies on a mechanical feature of the capsule. In particular, the second German application discloses teeth on the rim of the capsule with a corresponding detector on the coffee machine that interacts with the capsule and/or provides support via two holding arms. Ex. 1047 at 8-9. The second German application also describes an optional filter element for the portion capsule. *See id.* at 12:17-19 (“The raw material and, *if appropriate*, inserts, in this case a filter, are provided in this basic element.”). Ex. 2017, ¶41.

The third German application discloses that the cavity of the portion capsule may be closed by a metal cover Ex. 1045 at 28:32-33 (“The membrane 4 preferably comprises...an aluminum foil.”). The third German application further discloses a

plurality of vertical grooves that are designed to (1) prevent buckling of the walls of the capsule and (2) optimize the extraction of the liquid that results from the production process. Ex. 1045 at 2:14- 3:9; *see also id.* at 3:26-35 (the grooves “optimize the flow of the extraction liquid along the basic-element region” and allow for “more pronounced turbulence of the extraction liquid in the cavity”). The “grooves 15 are formed in particular as grooves which are introduced into the wall region 12 and extend substantially longitudinally between the flange 17 and the base region 11 in the form of grooves which face the cavity 3 (i.e. extend substantially perpendicularly in the representation according to Figure 1).” *Id.* at 8:21-25. As pictured at least in Figure 1, the grooves do not extend entirely to the bottom region of the capsule. Ex. 2017, ¶42.



Id. at Fig. 1 (annotated).

C. Prosecution of the '923 Patent

During prosecution of the '923 Patent, Examiner Smith considered each of the three references Petitioner relies upon here. In complying with its duty of candor

to the USPTO throughout the course of examination, Patent Owner submitted all of the information concerning validity that Petitioner asserted against patents related to the '923 Patent. *See* Ex. 1002, Part 1 at 51, 86; Part 3 at 46, 301, Part 4 at 329, Part 6 at 36 (showing references from previous related examinations in the patent family, including foreign prosecution and observation documents, opposition documents, suggestions for interference, and cited documents and exhibits). Examiner Smith indicated that he had considered all of these submissions by signing the IDSs with a statement that “ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/.” *See* Ex. 1002, Part 2 at 348-351, 356-82.

Examiner Smith was well aware of the prior art landscape, including the now-cited art, in the '923 Patent application and related applications. Shortly after the application resulting in the related '176 Patent was transferred to Examiner Smith from a different Examiner, Applicant called him to discuss claim 26 of the pending application, “and to advise that they intended to file a translation of their foreign priority document to overcome the Jarisch reference.” Ex. 2002 at 2. Independently of Patent Owner bringing Jarisch to his attention during the interview, Examiner Smith had relied on a prior publication of Jarisch in combination with other references to reject claims of the related pending '531 Patent application as obvious months before he mailed the Notice of Allowance for the '923 Patent at issue here. Ex. 1062 at 15 (explaining that “Jarisch further discloses that it was well established

to place barcodes...on the bottom side of the flange of a portion capsule (fig. 2 and 3).”). A few days later, on July 17, 2020, the Applicant called Examiner Smith “to discuss the claims of the ’923 Patent application in general and particularly the placement of the barcode on the peripheral region...of the basic element prior to the submission of an amendment.” Ex. 1002, Part 2 at 384. Applicant amended the claims to include, among other limitations, radially spaced and vertically oriented grooves and ribs. Ex. 1002, Part 2 at 338. The Examiner then allowed the claims based on the amendments and arguments and issued a Notice of Allowance on November 4, 2020. Ex. 1002, Part 6 at 48.

III. Claim Construction

The Board, in its Institution Decision, determined that no claims require express construction. Institution Decision at 7. The Board construes claim terms “using the same claim construction standard that would be used to construe the claim in a civil action” 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms “are generally given their ordinary and customary meaning.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (citations omitted).

IV. Level of Ordinary Skill in the Art

In its Institution Decision, the Board adopted Patent Owner’s definition of a POSITA. Institution Decision at 8; Ex. 2017, ¶¶33-34.

V. The Sole Ground Fails Because Jarisch is not Prior Art

A. Patent Owner's German Priority Applications Antedate Jarisch

In the three previous Petitions filed by Petitioner against this family of patents (IPR2021-01221, IPR2021-01222 and IPR2021-01223), Petitioner argued that the German applications collectively failed to provide priority support. Petitioner continues to advance the same unsuccessful argument when it argues that “[t]he Board has already found that the Office determined Patent Owner should not receive priority to its foreign applications.” Pet. at 39. That is incorrect. At most, the Board made a finding that the examiner of the application leading to the ’176 Patent “expressly considered whether Jarisch was prior art, given the dates of the German priority application, and was not persuaded that Jarisch was not prior art.” IPR2021-01223, Paper 11 at 5. However, when the Examiner of the applications leading to the challenged ’177, ’531, ’491, and ’430 Patents was recently presented with status updates regarding the prior and pending IPRs, the Examiner acknowledged that “[t]he priority dates of the applications, and prior art cited, under Pre-AIA were verified.” Ex. 2007 at 2; Ex. 2008 at 2. Moreover, a different Examiner similarly stated that he “did not find any issue with patent owner’s foreign priority date” after discussing the IPR filings with Applicant on March 24, 2023. Ex. 2011 at 2. Examiners continue to affirm Patent Owner’s entitlement to the priority date of its German applications. Ex. 2017, ¶¶55-57.

Specifically, despite an abundance of evidence that Patent Owner was clearly in possession of the claimed invention at the time of the German priority applications, Petitioner nonetheless argued that priority was unavailable because no *single* foreign priority application disclosed each and every feature of the claims. Petitioner makes the same argument here, and does not challenge the fact that each and every limitation of the '923 Patent claims was conceived of, possessed by the inventor, or is disclosed in the three German priority documents. Even despite Patent Owner's conception of the subject matter of the '531 Patent claims before Jarisch, Petitioner argues that Patent Owner should not be entitled to the benefit of this conception, thus allowing Jarisch to be considered as prior art. Ex. 2017, ¶¶55-57.

1. 37 C.F.R. § 1.131 ("Rule 131") and *In re Stempel*

Notwithstanding the inequitable result advocated by Petitioner, there has long been a remedy in patent law that allows an inventor to "swear behind" a reference if the inventor had possession of the subject matter disclosed by the reference in question. *In re Stempel*, 241 F.2d 755, 759 (C.C.P.A. 1957) ("We are convinced that under the law all the applicant can be required to show is priority with respect to so much of the claimed invention as the reference happens to show. When he has done that he has disposed of the reference."). "Rule 131 provides a procedure by which the applicant is permitted to show, if he can, that his date of invention was earlier than the date of the reference." *Id.* at 760.

As a further example, *In re Scheiber*, in reliance on *In re Stempel*, explains:

[t]he operation of [35 U.S.C.] § 120 differs from the operation of [] Rule 131. The latter provides an applicant a mechanism for overcoming specific prior art references predating his effective filing date. The applicant need show priority with respect to ***only so much of the claimed invention as the references disclose***, *In re Stempel*, 241 F.2 755,760 (1957), or ***only so much as to render the claimed invention obvious***. . . . Unlike Rule 131, § 120 operates independently of the prior art, of which it makes no mention, and it expressly requires an earlier application to disclose the claimed subject matter in compliance with 35 U.S.C. § 112, first paragraph. Thus it is entirely appropriate that the showing required under § 120 differs from that required under Rule 131.

587 F.2d 59, 61-62 (C.C.P.A. 1978) (internal citations omitted). The concurring opinion in *In re Scheiber* specifically acknowledges the inequity that can result from the § 112 written description requirement, noting that, in *Scheiber*, “the appeal [was] deficient only in the presentation of the evidence.” *Id.* at 65. Fortunately, Patent Owner can directly address this inequity by relying on the first German application and a Rule 131 declaration here.

The doctrine of *Stempel* has been infrequently invoked due to the unique set of circumstances required, where priority to a prior application is challenged but the inventor can otherwise show prior possession of the disclosed subject matter of the reference. *Stempel* and its progeny, however, remain good law. *See Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1381, fn.3 (Fed. Cir. 2014) (citing *In re Clarke*, 356 F.2d 987 (C.C.P.A. 1966), which relies upon *Stempel*, as an example of applying a reasonable certainty standard). Indeed, the Federal Circuit

cited both *Stempel* and *Scheiber* in explaining that “[i]n order to remove a reference, a Rule 131 declaration must show that prior to the effective date of the reference the applicant had reduced to practice so much of the claimed invention as the reference shows.” *In re Rozmus*, 1991 U.S. App. LEXIS 2379, at *2 (Fed. Cir. Feb. 15, 1991). And in *In re Spiller*, the precursor court to the Federal Circuit also relied on *Stempel* to conclude that “under Rule 131, it is sufficient that appellant has shown a reduction to practice of his basic invention, which showing will also suffice as to claims differing therefrom only in details which are obvious to one of ordinary skill in the art.” *In re Spiller*, 500 F.2d 1170, 1178 (C.C.P.A. 1974).

The court in *Plexxikon Inc. v. Novartis Pharm. Corp.*, a case on which Petitioner relies to argue for the rejection of the *Stempel* and *Scheiber* line of cases, acknowledges that the PTO continues to apply this standard, despite the Federal Circuit’s purported lack of approval. 525 F.Supp.3d 1104, 1112-15 (N.D. Cal. 2021). Indeed, the Office continues to rely on *Scheiber* and *Spiller* in its decisions. *See, e.g., Ex Parte Pavlansky*, 2019 Pat. App. LEXIS 7165 (PTAB July 30, 2019) (“[T]he Declaration and accompanying Exhibits B and C are sufficient to antedate Ridenour under the standard set forth in *Spiller*.”). Additionally, MPEP 715.01(d) explains with respect to swearing behind a combination of references that “[e]ven if applicant’s 37 C.F.R. 1.131(a) affidavit is not fully commensurate with the rejected claim, the applicant can still overcome the rejection by showing that the differences

between the claimed invention and the showing under 37 C.F.R. 1.131(a) would have been obvious to one of ordinary skill in the art, in view of applicant's 37 C.F.R. 1.131(a) evidence, prior to the effective date of the reference(s) or the activity."

Patent Owner submitted the Declaration of inventor Marc Krüger ("Krüger Declaration" or Ex. 2001) as an exhibit to the Preliminary Response. As declared therein, Mr. Krüger was in possession of at least as much of the subject matter as relied upon by Petitioner from the Jarisch reference and disclosed in the German applications, before the effective date of Jarisch. Ex. 2001. Mr. Krüger's Declaration, as corroborated by the German priority applications, establishes that Mr. Krüger had conceived and constructively reduced to practice the concept of using an identifier, such as a code or barcode, and placing that identifier on the underside of a flange of a coffee capsule. Ex. 2001. It further establishes possession of the claimed inventions by no later than the third German priority application.

The Board at institution relied upon *In re Tanczyn*, 347 F.2d 830 (CCPA 1965) for the proposition that "to 'swear behind' a reference, 'in addition to showing what the [prior art] reference shows,' the affidavit also must establish 'possession of either the whole invention claimed, or something falling within the claim, in the sense that the whole claim reads on it.'" Institution Decision at 14 (quoting *Tanczyn*, 347 F.2d at 833). It found that Mr. Krüger's declaration "attempt[ed] only to show that placing a barcode under the flange was conceived of and reduced to practice prior to the

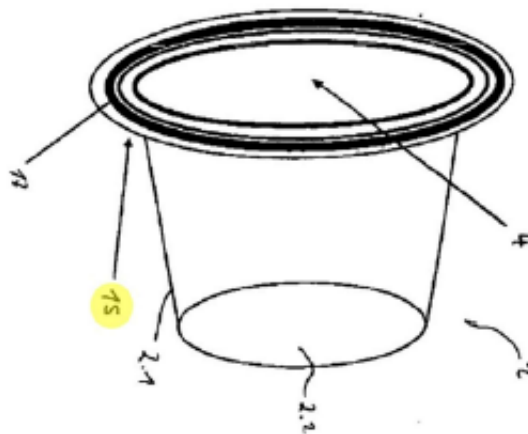
publication of Jarisch.” *Id.* But as just explained, Mr. Krüger’s declaration provides more. Specifically, it identifies corroborating documents in the form of the German applications and describes their disclosures, which support possession of the claimed inventions and demonstrate the evolution of Mr. Krüger’s inventions over a short period of time. *See* Ex. 2001 at ¶¶ 12-22. Thus, Mr. Krüger’s declaration and the German applications support swearing behind Jarisch, and Petitioner has not controverted the declaration with evidence.

In view of the long history of *Stempel* and its progeny, the Board should follow it, and uphold the Krüger Declaration as antedating Jarisch and removing it from consideration.

2. Comparing the Disclosure of Jarisch with the First German Application

Petitioner relies upon Jarisch as disclosing a barcode located on the bottom side of a flange. Pet. at 56. In particular, Petitioner cites to Figure 5 and ¶¶ [0022], [0014]-[0015], in addition to the Jobin declaration. *Id.* Petitioner argues that this satisfies the [1.j] and [9.h] limitation of claims 1 and 9 of the ’923 Patent. As declared by Mr. Krüger and confirmed by the first German application, Patent Owner had possession of what Jarisch discloses. Ex. 2001. For example, Mr. Krüger and the disclosure of the first German application demonstrate that Patent Owner had conceived of an identifier such as a barcode, located under the flange of the capsule, which could be read by the coffee machine to provide instructions as to coffee

machine operation. Ex. 2001 at ¶¶ 10-18; Ex. 1046 at p. 4, ¶ 1 (“A sensor/detection medium provided on the coffee machine detects this identifier and preferably compares it with a stored identifier.”); p. 4, ¶ 2 (“the identifiers are surface areas with different optical properties, for example reflection properties”); p. 5, ¶ 1 (“the imprint is a barcode”); p. 5, ¶ 5 (“Furthermore, it is possible for the coffee maker to recognize what type of capsule is in its brewing chamber and to adjust the beverage or food production process, for example the amount of water, its pressure and/or temperature accordingly”); p. 7, ¶ 2 (describing Figure 2, “the barcode can be provided on the side of the edge area of the base element facing away from the membrane, as symbolized by arrow 15”). Ex. 2017, ¶¶ 58-59.



Ex. 1046, Fig. 2 (annotated).

The first German reference discloses a “code” under the flange, specifically a barcode. But even if Petitioner were to argue that the barcode disclosed in the first German application is somehow not a code, “an applicant should not be prevented

from obtaining a patent to an invention where a compound described in a reference would have been obvious to one of ordinary skill in the art in view of what the affiant proves was completed with respect to the invention prior to the effective date of the reference.” *In re Clarke*, 356 F.2d 987, 989-992 (C.C.P.A. 1966). *Stempel*, therefore, may also be invoked where the species possessed by the applicant would have rendered obvious the separate species disclosed by the reference.

As further set forth in *In re Clarke*:

“[A]ntedating affidavits must contain facts showing a completion of the invention commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference. In our view, where it can be concluded that facts, offered in a Rule 131 affidavit in support of a general allegation of conception and reduction to practice of the invention, would persuade one of ordinary skill in the art to a reasonable certainty that the applicant possessed so much of the invention as to encompass the reference disclosure, then that showing should be accepted as establishing prime facie a case of inventorship prior to the reference, sufficient for the purpose of overcoming the reference.

356 F.2d at 992. The species that is disclosed by the first German application and Mr. Krüger’s declaration would have at least rendered the specific elements of the species disclosed by Jarisch – a code under the flange of a capsule – obvious from the perspective of a person having ordinary skill in the art. *See also In re Stryker*, 58 C.C.P.A. 797, 799 (1971) (finding applicant properly antedated a cited reference because “the difference between the claimed invention and the reference disclosure are so small as to render the claims obvious over the reference.”).

Jarisch therefore discloses no more than what was already known by the inventor and Patent Owner, and constructively reduced to practice by virtue of the first German application on July 22, 2010 – more than 9 months before Jarisch’s effective date of May 12, 2011. Under Rule 131, *In re Stempel*, and the numerous decisions following *In re Stempel*, Jarisch should be removed as a reference from Ground 1. Ex. 2017, ¶62.

3. Petitioner does not dispute that the three German applications disclose the claim limitations.

The Krüger declaration further demonstrates that Mr. Krüger conceived of each of the elements disclosed in the three German applications as of February 7, 2011. Ex. 2001, ¶¶ 12, 19, 22. Petitioner does not dispute that the third German application has “vertical grooves and ribs on the exterior and interior of the capsule body wall.” Pet. at 40. Nor does the Petitioner dispute that the first and second German application “discloses a barcode located on the capsule flange.” Pet. at 41; Ex. 2017, ¶61. While Petitioner contends that no individual application contains all of the elements, it does not dispute that the elements are present across all three German applications. The lack of dispute supports a finding in Patent Owner’s favor. *See Hologic, Inc. v. Smith & Nephew, Inc.*, 884 F.3d 1357, 1362 (Fed. Cir. 2018) (concluding substantial evidence supported the Board’s finding that earlier application reasonably conveyed possession of claim element where parties did not

dispute disclosure or knowledge in the art). Thus, the Krüger declaration as corroborated by the three German applications demonstrates priority over Jarisch.

B. Without the Jarisch Reference the Sole Grounds Fails

Petitioner's Ground 1 hinges on Jarisch. *See, e.g.*, Pet. at 55-56, 58, 65.

Accordingly, this Ground fails without Jarisch as prior art.

VI. Petitioner Has Not Shown By A Preponderance of the Evidence That The '923 Patent Is Unpatentable As Obvious

A. Asserted Ground of Rejection: Claims 1-16 Are Allegedly Rendered Obvious Under 35 U.S.C. § 103 by Yoakim in View of Jarisch and Rapparini

On the incomplete record and without the benefit of Patent Owner's expert, the Board determined that Petitioner's assertions regarding Yoakim, Jarisch, and Rapparini (Ground 1) were sufficient at the institution stage of the proceeding. *See* Institution Decision at 19–30. But as explained below, it is clear that Petitioner has failed to show by a preponderance of the evidence that a POSITA would have arrived at the claimed inventions merely through the combined teachings of the alleged prior art presented in the Petition.

Obviousness is an objective analysis. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this

background, the obviousness or nonobviousness of the subject matter is determined.” *Id.*

Here, Petitioner’s asserted combination fails to render obvious claims 1–16. First, the Petition fails to show that Yoakim teaches a capsule free of a filter, as required by independent claim 1 and dependent claim 10.

Second, the Petition fails to show that Rapparini teaches or renders obvious a wall region that includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region, as required by independent claims 1 and 9.

Third, the Petition fails to show that Yoakim alone and/or in combination with Rapparini teaches generating turbulence of water in the cavity, as required by dependent claims 7 and 13.

Finally, the Petition fails to present evidence demonstrating how or why a POSITA would have combined the references to achieve the claimed single-serve capsules.

Accordingly, on the record before it, the Board should not find any of claims 1–16 of the ’923 Patent unpatentable.

1. Yoakim Fails to *Disclose* a Capsule Free of a Filter As Required in Claims 1 and 10

Claim element [1.b] and claim 10 each require a cavity that “is free of a filter.” According to Petitioner, “Yoakim *discloses* a portion capsule with a cavity that does

not include a filter, and expressly confirms that a filter is optional.” Pet. at 50. Petitioner is incorrect. Yoakim expressly teaches that his capsules contain a filter, and that such filter is inside the cavity, for the purpose of filtering the brewed liquid from the solid particles in the capsule. Indeed, this is evident from the passages and figures Petitioner cites, which lack any express statement that Yoakim’s capsule lacks a filter. Ex. 2017, ¶64.

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]. [0171] further teaches that “[a]n *additional* filtering layer can be used to filter liquid depending on the size of the outlets.” *Id.* A POSITA would have understood this “additional filtering layer” to be additive to the slits already described in the same paragraph. Ex. 2017 at ¶65. Indeed, Yoakim explains that “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. *Id.* Smaller outlets would not need such additional filtering, whereas larger outlets likely would in order to separate (filter) brewed liquid from the solid particles. *Id.*; 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.”). In fact, Mr. Jobin testified that

“[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. 2019 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 teachings and stated purpose of “better ... controlling quality of the final brewed beverage or food liquid product” (Ex. 1004 at [0010]; *see also id.* at [0011], [0012], [0210]). Thus, Yoakim at [0171] teaches the capsule has a filter. Ex. 2017, ¶¶65-66.

The fact that Yoakim’s capsules use filters is confirmed by other paragraphs in Yoakim. *See, e.g.*, 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 id.* at [0016], [0017] (“The extractable or infusible ingredient(s) are typically provided in the form of particles, with the opening means or arrangement comprising ***a porous material or a series of slits slots or holes*** distributed substantially evenly around the enclosure with the porous material, slits,

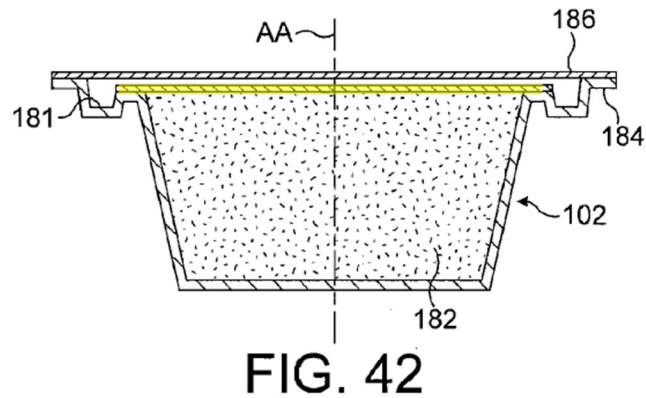
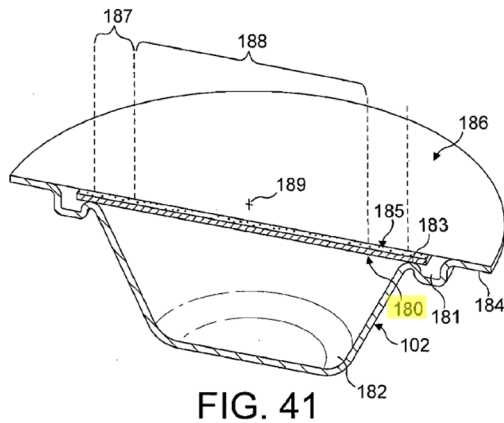
slots or holes having open dimensions that are smaller than the particles of the extractable or infusible ingredient(s).”), [0113], [0131] (“The premade peripheral outlets may be a series of small slits of small size to also *filter* the brewed liquid and maintain solid particles of the substance in the capsule.”), [0139], [0171], [0210], [0255], [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], [0271], [0272], [0288], [0300], [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], [0461], [0462], [0465], Figs. 28, 29, 39, cls. 4, 6. Petitioner also cites [0343] but admits that this paragraph expressly discloses the use of filters within Yoakim’s capsule. Paragraph [0288] and [0461], also cited by Petitioner, are similarly filter embodiments of Yoakim. Ex. 1004 at [0288] (“a filter means to filter the centrifuged before the liquid

is released from the outlets at the sidewall”)⁴, [0461] (“The side wall 700 may comprise outlets 704, 706 for release of the liquid when centrifuged in the beverage preparation device around central axis AA of the capsule. . . . The filter part, may for instance, be an integral part of the body 705 or a part which is added in the capsule, e.g., a filter cylinder. . . . The size of the outlets can be small enough to provide a flow restriction to the liquid.”); *see also id.* at Fig. 45 (depicting filter part 708 and outlets 704, 706). The Petition thus fails to identify any teaching in Yoakim of a capsule free of a filter that is located inside of the cavity. Ex. 2017, ¶¶67-71.

Petitioner further cites two figures of Yoakim that purportedly disclose capsules that do not have a filter (Pet. at 50), but Petitioner’s reliance here is also misplaced. For example, Figure 42 depicts a porous wall 180, which is a filter for separating the liquid from the food substance. 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.,*

⁴ A POSITA would have understood that the “filter means” here is additive to the filter provided by the outlets at the sidewall.

pores) along its whole surface...))), Figs. 41, 42; Ex. 2019 at 14:13-15:22 (Mr. Jobin admitting that porous wall 180 provides “a filtering function”). Porous wall 180 is depicted in both Figs. 41 and 42 (annotated in yellow below) and is within the cavity. Ex. 2017, ¶72.



Finally, Figure 54—the final disclosure relied upon by Petitioner—is provided to illustrate “the centrifugal device into which is inserted the capsule of Fig. 51.” Ex. 1004 at [0083]. 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. A POSITA would have understood the capsules depicted in Figure 54 (as well as Figs. 52, 55, 61, 62, 63) are the same as those in the rest of Yoakim’s teachings and thus exhibit the same filter. They each depict a “schematic” view, which does not contain every detail. Ex. 2019 at 50:24-56:1 (Mr. Jobin admitting that 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”). Tellingly, Figure 54 reflects a “schematic side view of a capsule of small volume” (i.e., simplified) and not a cross sectional view like figures 41 and 42. *See* Ex. 1004 at [0080], [0083]; *see also* Fig. 1, [0030] (“FIG. 1 is a schematic representation”). Indeed, it does not depict any of the detailed features of the capsule, such as the food substance and lid. A POSITA would thus have not concluded from Figure 54 that Yoakim’s capsules are free of a filter. 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.⁵ Ex. 2017, ¶¶74-75.

⁵ At deposition, Petitioner’s expert testified that his declaration (Ex. 1003 at ¶215) in this proceeding incorrectly identified Figure 42 of Yoakim (and should have instead included Figure 52) for the free of filter limitation. He conveniently characterizes this as a “typo.” Ex. 2019 at 11:22-12:7. But while he claims that he “noted that the figure was different from what I recollect” (*id.* at 12:13-14), the table at the end of his declaration cites to and depicts Figure 42—not Figure 52. Ex. 1003 at 152-53. Moreover, the Petition makes no reference to Figure 52 and instead relies upon Figure 42. *See* Pet. at 50. To the extent Petitioner seeks to correct the Petition to rely on Figure 52 here, it is also a schematic view. Ex. 1004 at [0081], Fig. 52.

Petitioner thus fails to satisfy its burden that Yoakim discloses this element. To the extent that Petitioner seeks to rely on other aspects of Yoakim in reply or suggest a filter would have been obvious, such reliance is improper. *See, e.g., SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“the petitioner’s petition ... is supposed to guide the life of the litigation.”); *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1330-31 (Fed. Cir. 2019) (“Board did not abuse its discretion in holding [Petitioner] to its word and disregarding its new theory first raised in reply.”); *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (affirming the Board’s rejection of obviousness argument raised for first time in reply where petition relied on what the reference “teaches”); PTAB Consolidated Patent Trial Practice Guide (Nov. 21, 2019), at 73 (“Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g.,] to make out a prima facie case of unpatentability.”). *See* Ex. 2017, ¶76.

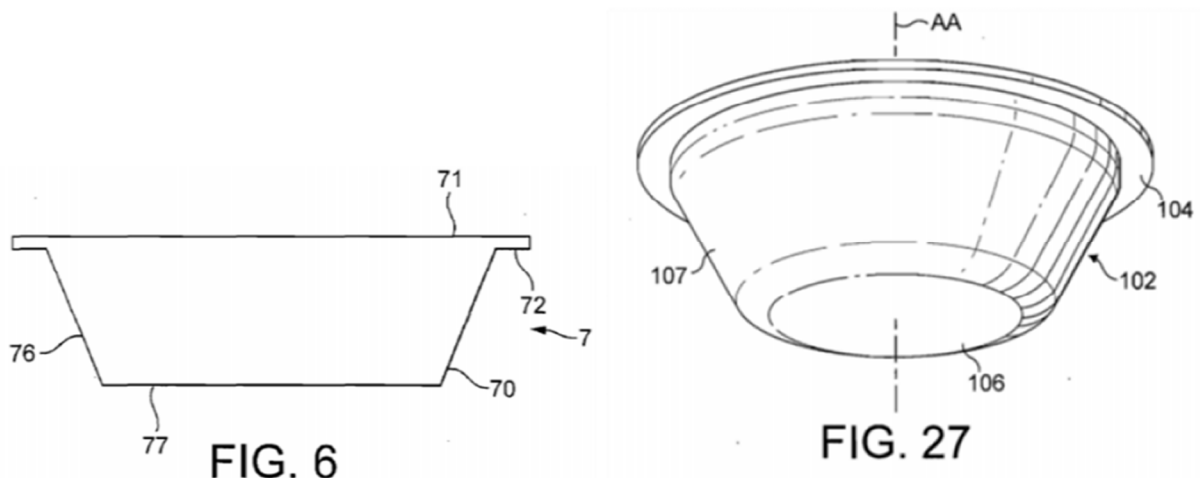
2. Rapparini Fails to Disclose or Render Obvious a “wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region” as Required in Claims 1 and 9

Claim element [1.h] and claim 9 require “the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the

The shortcomings described above with respect to Figure 54 apply equally to Figure 52.

bottom region.” According to Petitioner, “Rapparini *discloses* this feature.” Pet. at 53. The Petition relies on Rapparini’s Fig. 6bis for such disclosure. *Id.* But that figure depicts a container (with a rounded bottom) unlike the capsule (with a flat bottom and flange) Petitioner relies upon in Yoakim and that Petitioner suggests to modify to achieve the claimed inventions. *See, e.g.*, Pet. at 53 (citing Yoakim’s Figs. 6, 27 embodiment); *see also* Ex. 1003, ¶ 209; Ex. 2017, ¶¶77-78. The Yoakim capsules Petitioner relies upon are reproduced below.

Yoakim Figures 6 and 27



Rapparini teaches that for container shapes like those that are relied upon by Petitioner (as depicted in Figures 6 and 27 of Yoakim (above); Ex. 2019 at 34:24-35:17 (Mr. Jobin admitting the shape of Rapparini’s Figure 10 capsule “could be termed frustoconical” and that excluding the grooves the bottom “otherwise appears to be flat”)), it is “particularly advantageous” to extend the grooves to the bottom region. Ex. 1008 at [0061], Fig. 10; *see also* Ex. 2017, ¶79.

Rapparini Figure 10

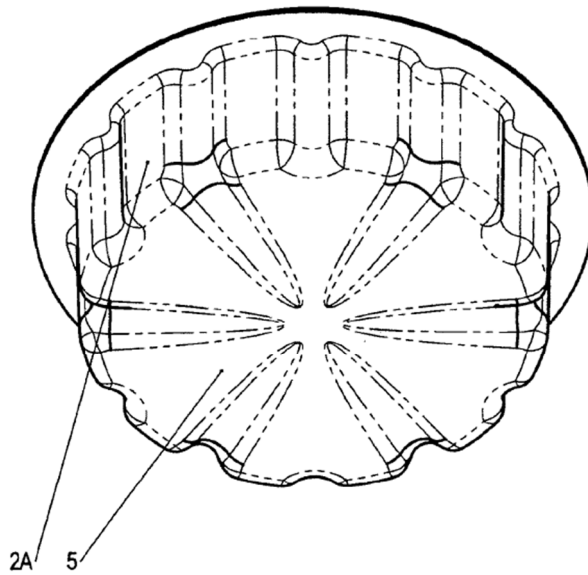


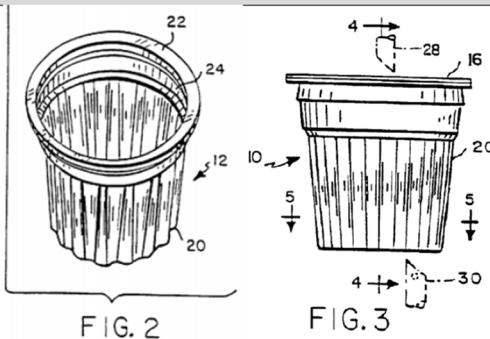
FIG. 10

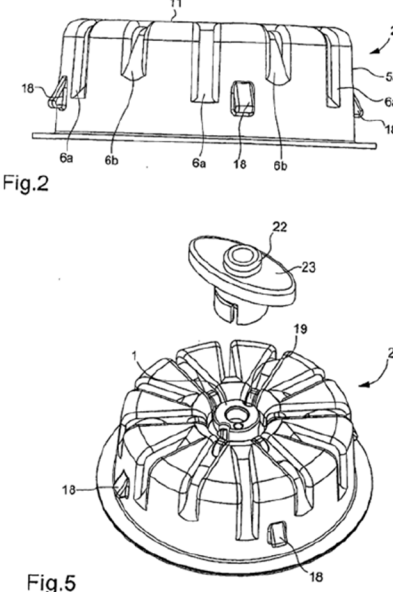
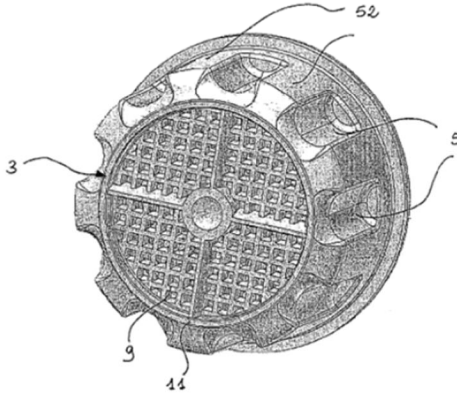
As depicted in the “particularly advantageous” configuration, Rapparini provides short ribs that extend to the bottom and long ribs that extend into the bottom. Rapparini explains “[t]he short ribs run along the entire height of the side wall of the container 2A” while “[t]he long ribs extend beyond the side wall of the container 2A in the bottom portion of same so as to meet substantially at the centre of the bottom portion of the container 2A.” Ex. 1008 at [0061]. Thus, for the capsule shape in Yoakim for which Petitioner relies, Rapparini teaches extending the grooves entirely

to the bottom.⁶ The teachings with respect to Figure 10 would have guided a POSITA in modifying Yoakim’s frustoconical capsules—not Figure 6bis. Ex. 2017 at ¶ 79.

Petitioner further contends it would have been obvious to not extend the grooves to the bottom. Pet. at 54. But this contention is directly contradicted by Rapparini, which teaches it is “particularly advantageous” to extend the grooves to the bottom region for flat-bottomed capsules. Tellingly, every flat-bottom capsule example Petitioner identifies extends the grooves to the bottom and cites advantages of doing so.

⁶ Despite his reliance upon Rapparini for this limitation and his claims regarding the use of grooves in capsules, when asked about whether there were any advantages to using the capsule shape of Figure 10, Petitioner’s expert testified that “I don’t have any opinion on the form of Figure 10 at this time.” Ex. 2019 at 37:23-25; *see also id.* at 42:17-19 (“Well, I haven’t cited to Figure 10, and so I haven’t drawn any opinions related to Figure 10.”).

Date	Capsule	Description
2001	 FIG. 2 FIG. 3	“circumferentially spaced flutes which are strategically positioned to <i>enhance resistance to buckling</i>” EX1033, 2:20-25. Grooves and ribs “serve to efficiently direct the brewed beverage downwardly ... with an accompanying <i>beneficial increase in turbulence</i>.” <i>Id.</i> 2:30-35.

Date	Capsule	Description
2006	 Fig.2 Fig.5	“A first series of ribs 6a plays a part in <i>reinforcing the capsule</i> 2. . . A second series of ribs 6b is designed to <i>prevent the nozzle from rotating</i> in the packaging.” EX1011, [0077].
2007	 FIG. 2	Grooves and ribs on the capsule wall and cavity. EX1034, [0009]. “the internal grooves of the capsule attain <i>optimal flow conditions</i> for the liquid passing through the capsule itself, to the advantage of the quality and repeatability of the end beverage and also of the correct operation of the associated machines...” <i>Id.</i> [0009], [0019], [0020].

Pet. at 6-7. For example, Ex. 1033 discloses the grooves “are strategically positioned to enhance resistance to buckling.” *Id.* at 2:20-25. These “particularly advantageous” and strategically-placed enhancements for flat-bottomed capsules suggest extending the grooves to the bottom regions. Indeed, Petitioner’s expert, Mr. Jobin, admits that “[a] capsule would be designed for a particular application.” Ex. 2019 at 36:2-3. As such, taking the frustoconical, flat bottomed capsules from Yoakim that Petitioner relies upon for the single-serve capsule limitations, a POSITA would *not* have been motivated by Rapparani’s teachings of rounded-bottom capsules and instead would have looked at the Figure 10 capsule of Rapparani. In this embodiment, Rapparani teaches extending the grooves to the bottom regions and that it is “particularly advantageous” to do so. Ex. 2017 at ¶¶79-80. It thus would not suggest Patent Owner’s invention and further would not have been obvious.

Petitioner offers the conclusory testimony of Mr. Jobin that it would have been obvious to combine Yoakim with Rapparini, but he too does not identify any motivation for having the grooves not extend to the bottom region. *See* Ex. 1003 at ¶ 238. It is only with impermissible hindsight of the ’923 Patent that Petitioner can even suggest this would have been obvious in view of Rapparini, which as shown above finds it “particularly advantageous” to extend the grooves to the bottom and beyond. It is not sufficient to speculate about “what a skilled artisan would have been *able* to do, rather than what a skilled artisan would have been *motivated* to do

at the time of the invention.” *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1069 (Fed. Cir. 2018) (emphasis in original) (citing *InTouch Techs., Inc. v. VGO Communications, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014)) (concluding that a party’s expert “succumbed to hindsight bias in her obviousness analysis” where such analysis “primarily consisted of conclusory references to her belief that one of ordinary skill in the art *could* combine these references, not that they *would* have been motivated to do so”). Petitioner thus has failed to show any motivation for a POSITA to not extended the grooves to the bottom, as required by K-fee’s patent claims. Ex. 2017 at ¶¶81-82.

3. The Art Fails to Disclose or Render Obvious “generat[ing] turbulence of water in the cavity”

Claims 7 and 13 require that “the grooves in the cavity generate turbulence of water in the cavity.” According to Petitioner, a POSITA would have understood that Rapparini’s grooves would induce turbulent flow in Yoakim’s portion capsule. Pet. at 63. But Rapparini makes no reference whatsoever to turbulent flow. Ex.1008. And to make that logical leap, Petitioner relies upon Yoakim to argue that fluid is guided and distributed into separate grooves promoting flow while spinning. Pet. at 63 (citing Ex. 1004 at [0218]). But a POSITA would have understood from Yoakim that the water flow resulting from Yoakim’s grooves is laminar—not turbulent. Ex. 1004 at [0509] (“Since many perforators are placed evenly at the periphery of the upper wall, liquid can also exit by making a *laminar flow* of beverage dispersed

radially along the whole periphery of the upper wall”); Ex. 2019 at 43:9-10 (Petitioner’s expert admitting that “[t]urbulence is the opposite of smooth or laminar flow”); *see* Ex. 2017 at ¶84. Petitioner presents no evidence that adding Rapparini’s grooves to Yoakim’s portion capsule would have resulted in turbulent flow within the capsule. Moreover, Petitioner does not explain how or why a POSITA would have been motivated to modify Yoakim to achieve turbulent flow in view of Yoakim’s express teachings that the use of grooves promotes laminar flow. *See* Ex. 1004 at [0218], [0509]; Ex. 2017 at ¶84.

Petitioner then argues that it would have been obvious to POSITA that a capsule with Rapparini’s grooves and Yoakim’s water flow would generate turbulent flow. *Id.* (citing Ex. 1003 at ¶¶278-79). In so doing, Petitioner’s expert relies upon references that are not part of the combination for Ground 1 – Sweeney (Ex. 1033) and Rubino (Ex. 1034). Petitioner’s purported expert argues, without factual support or citation, that “[d]iscontinuities such as ribs and grooves of the type shown in Rapparini would cause the fluid to move in various directions, resulting in turbulence and mixing in the capsule.” Ex. 1003 at ¶ 278. This conclusory statement is made without reference to the underlying structure, direction, speed, pressure, volume flow, or any of the other parameters which determine whether a flow is laminar or turbulent. Petitioner’s purported expert does not cite to any experimentation or modeling he conducted or papers which show, under identical

conditions to those disclosed by Yoakim and Rapparini, that turbulent flow necessarily would result. Such testimony is entitled to little or no weight. Ex. 2017 at ¶85; 37 C.F.R. § 42.65(a) (expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.); *Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, IPR2014-00530, Paper 8 at 13 (PTAB Sept. 29, 2014) (“Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.”), *see also id.*, 15 (the declaration “essentially repeats the arguments and citations from the Petition, with no further data, facts, or analysis.... Accordingly, we give this evidence no probative weight.”).

Patent Owner’s expert explains why Mr. Jobin’s conclusory analysis is problematic and fails to demonstrate obviousness. Specifically, a POSITA with experience in flows in saturated porous media, such as in beverage brewing, would have understood that turbulence results, generally, when the flow is dominated by inertial forces rather than by viscous forces. While this is also generally true for flows in bulk fluids, the methods for characterizing and measuring turbulence in fluid-saturated porous media (such as a brewing capsule) depart substantially from those in bulk fluids. Ex. 2017 at ¶¶85-86. For fluid-saturated porous media, the flow regime is generally characterized by the *Pore Reynolds Number*, which is related to the ratio of inertial to viscous forces. Ex. 2026 at 172. In the fluid-saturated medium,

the flow regimes, from lower to higher *Pore Reynolds Numbers*, are the Darcy (viscous, creeping), laminar inertial, laminar unsteady, and chaotic, turbulent regimes. Ex. 2026 at 177. In his merely conclusionary statement, Mr. Jobin offers no analysis, experiment, measurement, or simulation to support his unfounded assertion that Rapparini's grooves and Yoakim's water flow would generate turbulent flow in Yoakim's capsule. Indeed, Mr. Jobin does not explain why turbulent flow would result as opposed to the other flow regimes. Ex. 2017 at ¶85.

For these reasons, Petitioners arguments as to claims 7 and 13 must fail.

4. A Person of Ordinary Skill in the Art Would Not Have Been Motivated to Combine Yoakim and Jarisch and Rapparini

Petitioner argues that a POSITA would have combined Yoakim with Jarisch and Rapparini, thus rendering the invention of the '923 Patent obvious. Pet. at 43-48. Not so. As an initial matter, Petitioner suggests that Jarisch's placing of the code on the bottom of the flange would result in the reading being more reliable. Pet. at 56. But Petitioner does not explain why such teachings in Jarisch would have motivated a POSITA to modify Yoakim in that way. Indeed, there is no reason to believe that Yoakim's placement of a "barcode" on the top of the membrane would suffer from readability issues given Yoakim's device reads the "barcode" before brewing when a capsule would not be soiled by beverage residues. Ex. 1004 at [0525], [0526]; Ex. 2017 at ¶87. Moreover, as illustrated below the barcode (ID4 in the yellow region) is inboard of the outlet perforators 221 (annotated in red) so

the centrifugal forces when the capsule is spinning would drive the fluid away (annotated in green) from the barcode—not towards it. *See id.* at Figs. 61, 62, [0507].

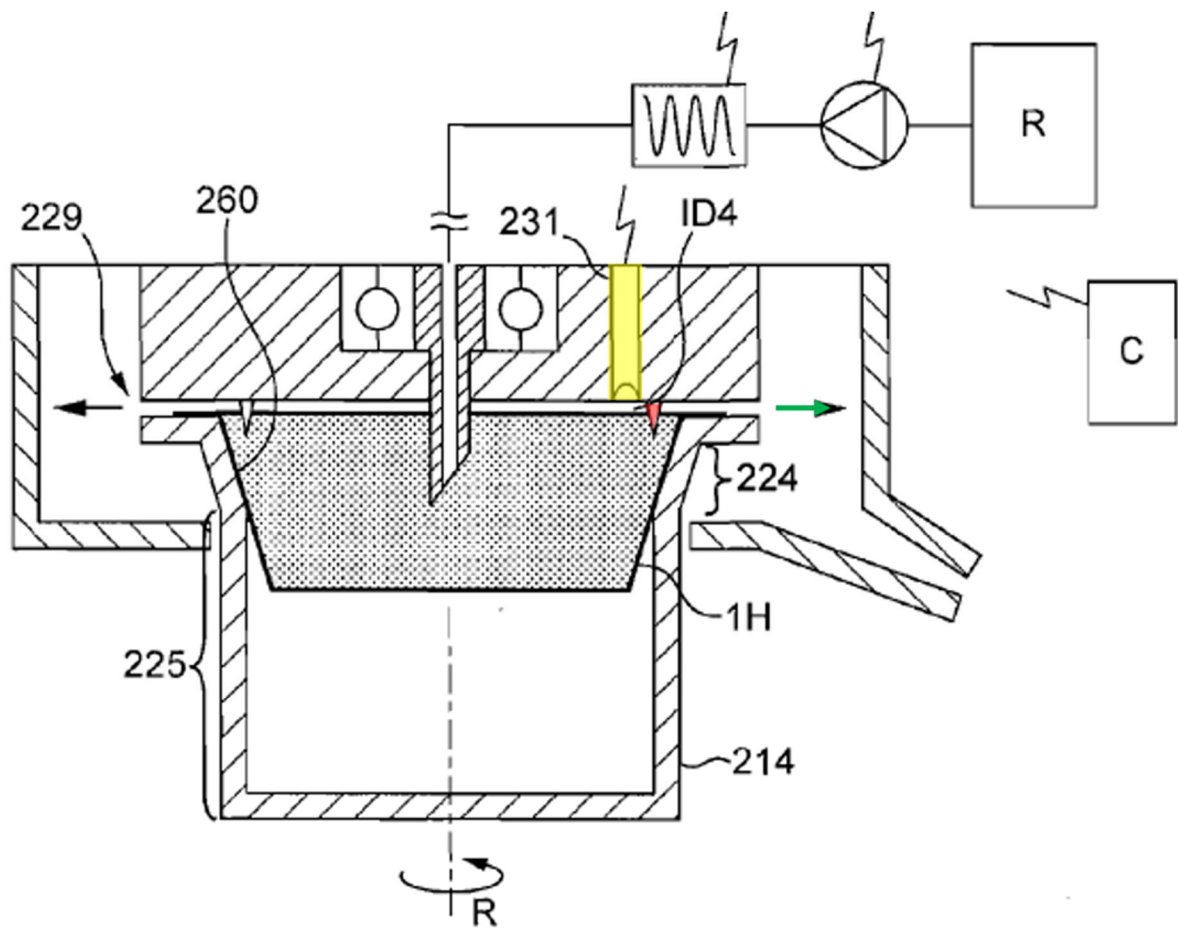


FIG. 61

Thus, the barcode would not be soiled and such a modification to Yoakim would be unnecessary. Petitioner's argument thus should be rejected. *See, e.g., Pro-Dex, Inc. v. Intelligent Automation Design LLC*, IPR2023-00218, Paper 8 at 24-26

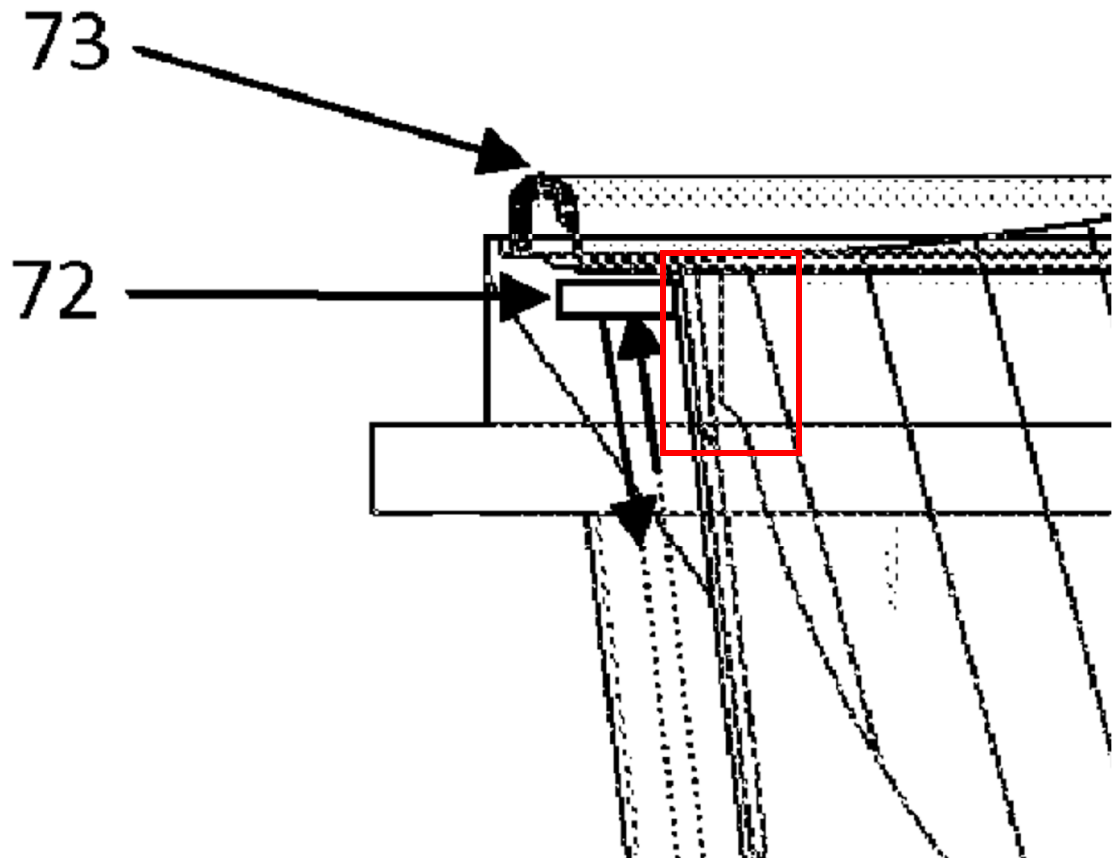
(PTAB Jul. 19, 2023); *Trend Micro, Inc. v. Open Text Inc.*, IPR2023-00692, Paper 8 at 24 (PTAB Nov. 6, 2023) (finding combination insufficient where no explanation given as to how teachings might be beneficial in the system modified).

Moreover, Petitioner's real party-in-interest is the owner of the Jarisch reference. As noted by Petitioner, Yoakim and Jarisch have a common owner, Societe des Produits Nestle S.A., an affiliate of Petitioner, and a common inventor, Alexandre Perentes. Pet. at 44. This "is merely the jumping-off point in reaching the determination of whether a claimed invention is obvious." *Trend Micro*, IPR2023-00692, Paper 8 at 22. Other facts undermine the alleged combination. As an initial matter, Jarisch's priority document was filed days after Yoakim. Yet, Jarisch make no mention of Yoakim in the background or otherwise. This suggests the inventors of those references did not themselves any clear relation between the two references. Tellingly, during prosecution of the Jarisch reference, however, a parent application to Yoakim was cited against Jarisch (WO 2008/148601, "Yoakim '601"). In attempting to overcome a rejection based on Yoakim '601, Petitioner disparaged the ability of Yoakim '601 to be combined with other references describing single-serve coffee capsules, 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. 2009 at 393. Petitioner continued, stating that the other references do not "provide

any reason or motivation for the skilled artisan to modify Yoakim ['601] alone or in combination with *Boyd* (even if they are combinable) to include the claimed code on a bottom of the flange-like rim of a capsule as required by independent claim 1.” *Id.* at 395-96. Patent Owner acknowledges that Yoakim (Ex. 1004) is a continuation-in-part of the Yoakim '601 reference and that Figure 23 of Yoakim '601 is identical to Figure 23 of Yoakim. When prosecuting its own application, Petitioner argued that different references describing single-serve coffee capsules were non-combinable. Petitioner should not be permitted to argue the opposite now. Ex. 2017 at ¶88.

There are other important differences between Yoakim and Jarisch that undermine the combination of the two that Petitioner fails to address. 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 id.* at [0205], [0216], [0512], Figs. 61, 62. Yoakim thus teaches, and depicts, the capsule side wall advantageously engaging with the capsule holder. In contrast, Jarisch’s capsule does not engage

with the interior of cell 3. As can be seen in Figure 4 of Jarisch (zoomed in below), there is a gap between the capsule and the cell.

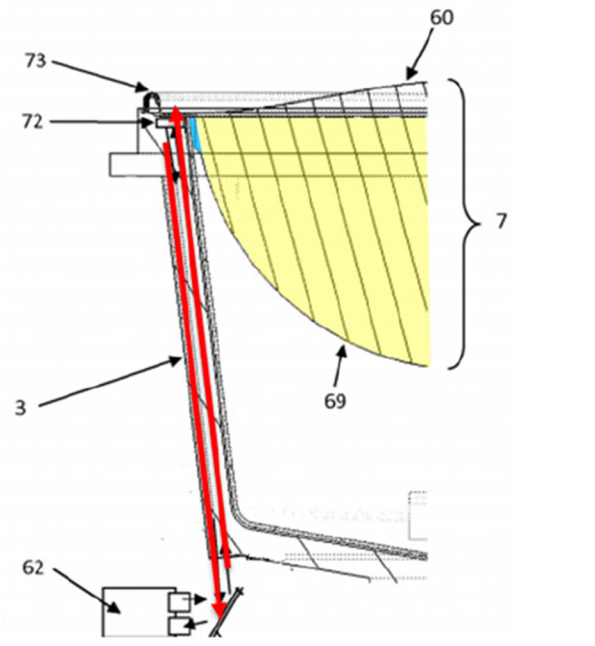
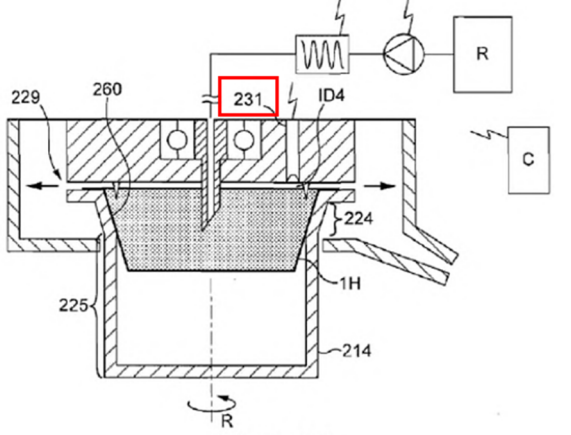


Petitioner's images obscure this gap with a blue line. But this further demonstrates the challenges of incorporating the teachings from Jarsich into Yoakim. Ex. 2017 at ¶89.

Further, Petitioner has not demonstrated how (or why) Yoakim and Jarisch could be combined without a substantial reconstruction and redesign of elements within the skill level of a POSITA. Ex. 2017 at ¶90. "An obviousness determination

requires finding that a person of ordinary skill in the art would have been motivated to combine or modify the teachings in the prior art *and would have had a reasonable expectation of success in doing so.*” *Regents of University of California v. Board Institute, Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018). Here, as Petitioner explains, “[t]he Jarisch 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 48-49. 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 58; *see also* Ex. 1004 at [0525], Figs. 61, 62.

Table 1 – Comparison of Sensor Placement in Jarisch and Yoakim

Jarisch	Yoakim
 Pet. at 46 (citing Ex. 1005, Fig. 5).	 FIG. 61 Ex. 1004 at Fig. 61.

A POSITA would not have had a reasonable expectation of success in moving the sensor to the bottom of Yoakim's brewing device. *See* Ex. 2017, ¶¶90-91. For example, unlike the cell 3 in Jarisch which has a straight chamber transparent material between the code and the sensor, Yoakim's capsule holder 214 (above right) is comprised of lower portion 225 and first portion 224, which are connected by a bend (or flare) in the structure. Ex. 1004 at Fig. 61, [0512]. For the sensor/detector to pass light through this flare, 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's transparent material would also have contributed to undesired refraction from anisotropy in the material, Fresnel effects, internal reflection, transmission loss along the wall of the holder, and other impairment to the light available for detection.

This combination would thus require extensive experience with optics and more than ordinary skill. At his deposition, Mr. Jobin stated that "[b]odily incorporation is not required, in my understanding" to combine Jarisch and Yoakim. Ex. 2019 at 108:13-14. But he fails to demonstrate that a POSITA would have had the requisite experience to utilize those teachings with a reasonable expectation of success. In fact, it would take extraordinary skill to achieve the combination for at least the reasons presented above. *See* Ex. 2017, ¶92; *Interconnect Planning Corp. v.*

Feil, 774 F.2d 1132, 1138 (Fed. Cir. 1985) (“The invention must be evaluated not through the eyes of the inventor, who may have been of exceptional skill, but as by one of ‘ordinary skill.’”); *In re Universal Elecs., Inc.*, 2023 WL 3335536, at *4 (Fed. Cir. May 10, 2023). Given all of this, Yoakim and Jarisch would lead a POSITA away from combining these two references in the manner Mr. Jobin claims.

On the present facts, the complicated optics assembly required in a harsh operating environment required more than conclusory assessment that the POSITA could have combined Jarisch and Yoakim. The analysis requires an explanation of how such combination would have been made within the skills of the POSITA. Ex. 2017, ¶¶92-96; *see generally PersonalWeb Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017). But the Petition lacks any such facts.

Because the combination of Jarisch 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), a POSITA would not have been motivated to combine the teachings of the two references. Ex. 2017, ¶97; *see, e.g., In re Ratti*, 46 C.C.P.A. 976, 981 (CCPA 1959) (rejecting prior art combination because the combination “would require a substantial reconstruction and redesign of the elements shown [in the prior art] as well as a change in the basic principles under which [the prior art] construction was designed to operate”); *In re Schweickert*, 676 Fed. App’x 988, 995 (Fed. Cir. 2017)

(reversing Board’s obviousness determination where proposed modification of prior art is “unnecessary” to prior art system that “already” performs function of proposed additional feature and “would do little more than add unwanted cost and complexity to the system”).

In addition, the “bit code” described in the Jarisch reference teaches away from Petitioner’s proposed combination. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1332 (Fed. Cir. 2008) (quoting *In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006)). Here, Yoakim uses the bare term “barcode,” without providing any information as to what that code would actually be.⁷ In contrast, Jarisch teaches “[a] problem with identifying a capsule in a beverage preparation machine,” including those that use “barcodes,” “is that retrieving or reading information from the capsule is not always reliable or convenient.” Ex. 1005 at

⁷ Petitioner’s expert testified that the plain and ordinary meaning of barcode would “include a collection of bars of light and dark colors and of varying widths.” Ex. 2019 at 137:13-17. Neither he nor the Petition identify such a disclosure in Yoakim.

[0008], [0009], [0011], [0013]. Jarisch’s solution is to use a “bit code.” *Id.* at [0017], [0064]. Indeed, Jarisch makes no mention of barcodes in describing “the present invention.” A POSITA would therefore be left with the “bit code” described in Jarisch, which Petitioner agrees is not a “barcode.” Ex. 2017 at ¶¶98-99. Jarisch further adds complexity in requiring the code be read while rotating, which Yoakim does not require. Ex. 1005 at [0048]. As a result, a POSITA would not have been motivated to combine the Yoakim and Jarisch references to achieve K-fee’s claimed inventions. Ex. 2017, ¶¶98-99. Even if a POSITA was so motivated, the outcome would be the employment of a “bit code,” which does not meet the “barcode” limitation of the claim.

Date: December 6, 2023

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24, the undersigned hereby certifies that the word count for the foregoing Patent Owner Preliminary Response totals 9,751 words, which is less than the 14,000 allowed under 37 C.F.R. § 42.24(a)(1)(i), (b)(1).

Date: December 6, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

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

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