

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DECENT ESPRESSO INTERNATIONAL LTD.,

Petitioner,

v.

DUVALL ESPRESSO IP ENFORCEMENT, LLC,

Patent Owner

IPR2025-00747
Patent No. 11,957,271

PATENT OWNER'S PRELIMINARY RESPONSE

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I. INTRODUCTION AND BACKGROUND

A. THE PETITION

On March 17, 2025, Petitioner filed its Petition in the above-referenced proceeding requesting *inter partes* review of (“IPR”) claims 1-10 of U.S. Patent No. 11,957,271 (Ex. 1001, “the ’271 Patent”). See Paper 1 (“Pet.”). The Petition asserts **claims 1-4** are anticipated under 35 U.S.C. 102 in view of Starz¹ and obvious in view of Startz in view of one or more of knowledge of a POSA², Majer³, and/or Porzio⁴, **claims 5-6** are obvious under 35 U.S.C. § 103 in view of Startz in view of one or more of knowledge of a POSA, Majer, Porzio, and/or Buttiker⁵, **claims 1 and 7** are anticipated under 35 U.S.C. § 102 in view of Coccia⁶ and obvious in view of Coccia in view of one or more of knowledge of a POSA, Majer, and/or Porzio, **claim 8** is obvious under 35 U.S.C. § 103 in view of Coccia in view of one or more of knowledge of a POSA, Majer, Porzio, Giuliano⁷, and/or Buttiker, and **claims 9-10** are obvious under 35 U.S.C. § 103 in view of Coccia in view of one or more of knowledge of a POSA, Giuliano, Buttiker, Majer, and/or Porzio. See Pet., at 9.

¹ Ex. 1003 is the patent issuance from the application publication in Ex. 1004.

² Ex. 1002.

³ Ex. 1008.

⁴ Ex. 1011.

⁵ Ex. 1009.

⁶ Ex. 1006.

⁷ Ex. 1005.

B. UNDERLYING LITIGATION AND PETITIONER’S PRIOR IPRs

As noted by Petitioner, the parties to this IPR are also involved in an underlying (and currently stayed) litigation, wherein said lawsuit was filed by Patent Owner in 2023. *See* Pet., at 73. Patent Owner is owned by a practicing entity, Duvall Espresso, Inc., a Delaware corporation operating out of Georgia under the name Duvall Espresso. *See* <https://www.duvallespresso.com/>. The president and principal owner of Duvall Espresso, Inc. is Gideon Duvall, who is also the sole inventor on the ’271 Patent. On April 25, 2025, the Board issued two decisions that affect this proceeding. The first decision denied institution of *Inter Partes* Review of claims 1-9 of U.S. Patent No. 10,772,456 (“the ’456 Patent”) in IPR2024-01492 that involved the Coccia as the base reference. The second decision denied institution of *Inter Partes* Review of claims 1-12 of U.S. Patent No. 11,576,524 (“the ’524 Patent”) in IPR2024-01483 that involved the Startz as the base reference. *See* Ex. 2001. Similar to the above-referenced IPR decisions, Petitioner has again not demonstrated a reasonable likelihood that it would prevail in proving unpatentability of the pending claims challenged in this Petition.⁸

⁸ Patent Owner has filed a statutory disclaimer of claims 1-4 and 7-8, thereby making analysis of said claims unnecessary and claims 5-6 and 9-10 pending. *See* Ex. 2002.

C. THE '271 PATENT

The '271 Patent was filed on February 13, 2023, is entitled “method of generating a desired temperature of an infused beverage within a brewing assembly”, and has an effective filing date of August 16, 2012. Ex. 1001 (cover page). Importantly, Petitioner does not challenge that the claims of the '271 Patent have adequate support by the provisional patent application serial no. 61/742,688 (“the '688 Application”) providing the August 16, 2012, priority date. Pet., at 20. There were ten total claims originally filed in the application issuing into the '271 Patent, wherein said application was issued without any rejections during the prosecution thereof. Pet. 1, at 15. Claim 1 was independent and claims 2-10 were ultimately dependent on claim 1. Ex. 1001, at 16–17.

Similar to the '524 Patent, one of the problems with known brewing systems was the lack of independent control over flow rate and temperature in a proactive manner to produce consistent brewed beverages upstream of the brewing chamber where the solute is infused. Ex. 1001, at 1:28–30, 1:48–52, 2:25–29 (“[T]here is an apparent need for a brewing system that affords independent modulation of infusion pressure and flow rate enabling the user to optimize infused solution chemical composition and produce consistent beverages.”) (“As previously explained, there is an acute need for a brewing system that affords the brewer independent, dynamic

variation of brewing variables of temperature, pressure and flow rate during the production of infused beverage.”).

Where the '524 Patent is directed toward the brewing assembly structure that addressed the aforementioned problems, the '271 Patent was directed toward the method. *Compare* Ex. 2001, at 3–4, to Ex. 1001, at 2:48–52, 2:59. With reference to FIG. 2 (reproduced below), claim 1 in the '271 Patent was directed to the method of inducing solvent flows 201, 202 in separate conduits with one of the flows modulated to a higher temperature than the other, then combining said flows 201, 202 in a resulting solvent conduit to form a resulting solvent 203.

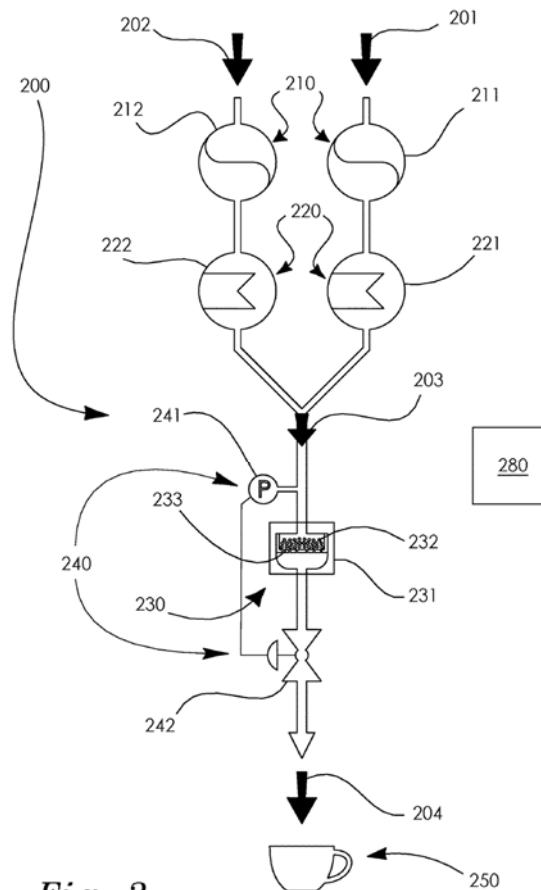


Fig. 2

The dependent claims further added limitations around dynamically and independently (selectively) controlling the temperature and flow rate upstream of the, while maintaining or controlling other desired brewing parameters. Ex. 1001, at 2:48–52, 2:59. Still referring to FIG. 2, which is described as “a schematic diagram depicting an independently controlled beverage brewing system,” the claimed invention, in particular the pending claims 5-6 and 9-10, work to effectuate the same by providing two solvent pumps 211, 212 forming part of a solvent flow management system (“SFMS”) that are selectively controlled with an electronic controller and “work in tandem to provide an additive flow rate that is equivalent to the total desired infusion flow rate in the brewing chamber 230”. *Id.* at 7:36–39; *see also id.* at 7:41–46 (“The SFMS 210 may be independently controlled or coupled to control system 280, thereby modulating the pumps 211, 212 to achieve a required flow rate of solvents 201, 202 based on total desired flow rate of resulting solvent 203 and the desired infusion temperature . . .”).

The method includes the conduits from each pump 211, 212 passing through a thermal modulator 221, 222 forming part of a solvent temperature management system 220 (“STMS”) in order to “dictate the solvent temperature range available for an infusion.” *Id.* at 9:48–57. The system electronic controller 280 is specifically configured to provide for said independent control. Ex. 1001, at 2:54–56 (The invention is directed toward “a system and method for brewing beverages with

independently controlled flow rate, temperature, and pressure”); 7:41–46 (“The SFMS 210 may be independently controlled or coupled to control system 280, thereby modulating the pumps 211, 212 to achieve a required flow rate of solvents 201, 202 based on total desired flow rate of resulting solvent 203 and the desired infusion temperature as explained below.”); 9:20–22 (“[T]he control system 280 is used to independently and automatically modify flow rate, temperature, and pressure of the infusion.”).

The proactive approach to controlling flow rate and temperature is described in the specification: “For example, if a user desires to perform the infusion between 20° C. and 100° C. then thermal modulator 221 may yield solvent 201 at a temperature of 20° C. or lower and thermal modulator 222 may yield solvent 202 at a temperature of 100° C. or higher.” *Id.* at 7:55–59. The problem with simply mixing two fluids together in a high pressure infusion assembly is that other desired infusion brewing parameters, e.g., solvent flow rate, may be problematically changed unintendedly. *Id.* at 1:26–28. Thus, the claimed electronic controller/control system 280 communicatively coupled to the pumps 211, 212 and modulators 221, 222 so as to control the solvent flow pumped by each pump through the respective conduit and thermal modulator to get the desired infusion temperature while maintaining, for example, the desired flow rate. *Id.* at 2:40–45. The specification provides the following informative example.

For example, assuming a negligible thermal loss from the brewing chamber 230 and system conduits, if the user desires an infusion flow rate of 1 cc/sec and an infusion temperature of 90° C., the solvent 201 may be modulated to 100° C. and the solvent 202 may be modulated to 20° C. The pump 212 will flow solvent 202 at a rate of 1/s cc/sec and pump 211 will flow solvent 201 at a rate of 7/8 cc/sec. In order to improve accuracy of the infusion temperature, the specific heat capacity and thermal conductivity of brewing chamber 230 and system conduits may be accounted for when determining solvents' 201, 202 flow rates. The STMS 220 may also be connected to the control system 280, which may modulate and/or monitor temperature of the respective solvents 201, 202, as necessary. Solvent temperatures and/or data from the STMS may be utilized by control system 280 to modulate the performance of the SFMS, thereby advantageously achieving a desired infusion temperature and infusion flow rate.

Id. at 7:63 to 8:14. The Notice of Allowance issued in the underlying application stating that “While it is known to provide for mixing of liquids to have a resultant temperature beverage, the [closest” reference indicates that the adjustment of the temperature of the infusion temperature is not known to be the product of mixed solvents before the infusion, which is required by the claims. While a mixing valve to accomplish a general adjustment of a water temperature is known in the broader art of valving/mixing liquids (See, e.g. 8,225,961) the inclusion of such a mixing valve and control is not seen to be warranted by the problems and desires faced in

the brewing device area, nor would duplication of pumps to effect such a change be considered obvious in this context. It would not be a simple duplication of pumps for added effect-but a duplication to add a different function (mixing temperature adjustment pre-brew/infusion).” Ex. 1013, at 95.

II. LEGAL STANDARD

“In an [inter partes review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring inter partes review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must establish by a preponderance of the evidence that the challenged claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content

of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when of record, objective evidence of obviousness or non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966)

III. ANALYSIS

A. LEVEL OF ORDINARY SKILL IN THE ART

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103(a) requires us to resolve the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The person of ordinary skill in the art (“POSITA”) is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *Id.* In a given case, one or more factors may predominate. *Id.* Patent Owner submits a person of ordinary skill in the art (“POSITA”) would be a mechanical engineer or other similar degree having at least two to three years of experience in designing or development of espresso machines” or, because Petitioner’s definition is so close to that of Patent Owner’s

definition, that no express finding is necessary to find Petitioner has not met its burden to show with particularity that claim 1 is unpatentable. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. CLAIM CONSTRUCTION

Under *Phillips v. AWH Corp.*, claim terms are generally given their ordinary and customary meaning, as would be understood by a POSITA at the time of the invention and in view of the intrinsic evidence that consists of the language of the claims, the specification, and the prosecution history. 415 F.3d 1303, 1313–14 (Fed. Cir. 2005) (en banc). Extrinsic evidence, such as dictionary definitions, may also be useful when construing claim terms but said evidence should be considered in the context of the intrinsic evidence. *Id.* at 1317–19. Said another way, “while extrinsic evidence can shed useful light on the relevant art, . . . it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* at 1317 (internal quotation marks omitted).

Patent Owner submits the plain meaning of the claim terms should be utilized, but submits that none of the asserted grounds disclose or render obvious the Challenged Claims under either the plain meaning of the claims or Petitioner’s constructions. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe only those terms that are in controversy, and only to the extent necessary to resolve the controversy.”). Patent Owner reserves its

right, however, to challenge Petitioner's proposed claim constructions in future pleadings.

C. GROUND 1-2: ASSERTED ANTICIPATION OF CLAIMS 1-4 BASED ON STARTZ⁹ AND OBVIOUSNESS OF CLAIMS 1-4 OVER STARTZ IN VIEW OF ONE OR MORE OF THE KNOWLEDGE OF A POSITA¹⁰, MAJER¹¹, AND/OR PORZIO¹².

Petitioner challenges claims 1-4 as unpatentable under 35 U.S.C. §§ 102 & 103(a) based on the combination of Startz in view of four secondary references and the testimony of its purported expert, Ian Tinkler. Pet., at 32–47. Patent Owner has decided to file a statutory disclaimer of claims 1-4 and 6-8 contemporaneously hereto, thereby making grounds 1-2 moot. Ex. 2002; *see also* 35 U.S.C. § 253(a). Said differently, this disclaimer is not to be interpreted or construed as an admission that Petitioner has met its burden to show the disclaimed claims are invalid, but rather was made for the sole purpose of focusing on the clear deficiencies associated with Petitioner's obviousness assertions of the pending claims.

⁹ Startz, U.S. Patent No. 8,973,487 (Ex. 1003) and Startz, U.S. Patent Application Publication No. 2012/0291634 (Ex. 1004)

¹⁰ Declaration of Ian Tinkler (Ex. 1002)

¹¹ Majer, International Publication No. WO2011151703 (Ex. 1008)

¹² Porzio et al., International Publication No. WO2011158131 (Ex. 1011)

D. GROUND 3: ASSERTED OBVIOUSNESS OF CLAIMS 5-6 OVER STARTZ IN VIEW OF ONE OR MORE OF THE KNOWLEDGE OF A POSITA, MAJER, PORZIO, AND/OR BUTTIKER¹³.

Petitioner challenges claims 5-6 as unpatentable under 35 U.S.C. § 103(a) based on the combination of Startz in view of three secondary references and the testimony of its purported expert, Ian Tinkler. Pet., at 47-54.

1. *Startz (Ex. 1003 and Ex. 1004)*

Petitioner utilizes both the patent application publication and patent issuing from said publication as “Startz”, so, for brevity, Patent Owner will refer only to the Startz application publication reference (Ex. 1004). With reference below to FIG. 1 from Startz, said reference is solely focused on providing a “fully automatic coffee machine [1], comprising a main flow path [3] that leads through a heating device [2], and a bypass flow path [4] that ***circumvents the heating device*** [2]” to “provide a cost-efficient and accurate admixing of cold water.” Ex. 1004, ¶¶ 0002 (emphasis added), Abstract; *see also id.* ¶ 0006 (“The invention is based on arranging a bypass flow pump in the bypass flow path of a beverage machine comprising a main flow path and a bypass flow path, and to accurately meter an admixing quantity of cold water via the bypass flow pump.”). Said another way, Startz’s pumping configuration (when two pumps are utilized) is unlike claim 1’s proactive independently controlled approach, but is instead reactive, whereby both pumps, at best, work from the same

¹³ Buttiker, European Patent No. EP 2612577 A1 (Ex. 1009 & Ex. 1010—translation)

flow meter data, to adjust flow. Ex. 1003, 57–67. More specifically, Startz discloses two “alternative positions” for circumventing the heating device 2, i.e., by passing the solvent through a bypass flow pump 8 or (as depicted in FIG. 1 with broken lines) passing the solvent through a “bypass 12, which circumvents the heating device 2 and the bypass flow pump 8, and in which a throttle device 13, particular a cover, is arranged.” *Id.* at ¶¶ 0015–16.

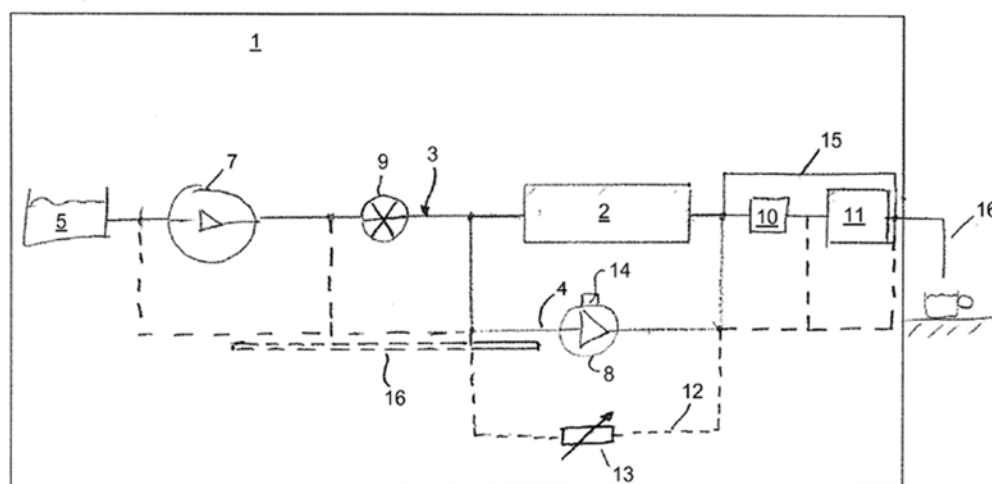


FIG. 1

Startz discloses the use of “a control device 14, which controls/regulates the bypass flow pump 8 as a function of a flow volume, a beverage temperature at the dispensing location 6 or a water temperature in the water tank 5.” *Id.* at ¶ 0018. Startz also discloses the use of a heating device 16 for heating the bypass flow path 4 “to keep descaling liquid in motion in the heating device 2 by means of the bypass flow pump 8 and to thus improve a descaling result, in particular provided that the

brewing valve 10 is not actuated thereby.” *Id.* at ¶ 0020; *see also id.* at claim 9 (“The beverage machine of claim 1, further comprising a further heating device (16), by means of which the bypass flow path (4) can be heated at least area by area.”). Said another way, the heating device 16 is solely used to heat the bypass path area upstream of the bypass flow pump 8 to circulate a heated liquid into the heating device 2 to prevent buildup, mineral deposits, etc. inside of the heating device 2 (i.e., descale it).

To that end, Startz’s “invention deals with the problem of specifying an improved or at least an alternative embodiment for a beverage machine of the generic type that is characterized by a simple design solution, and that additionally provides reliable setting of an accurate mixing temperature.” *Id.* at ¶ 0005. Startz’s invention is akin to the known devices described in the background section of the ’271 Patent, including deficiencies associated with said devices, i.e.:

Temperature control of infusion water is performed by utilizing a proportional mixing valve that is controlled by a controller to mix hot and cold water. While the aforementioned device may be capable of providing dynamic temperature and pressure control, it does so at the expense of the ability to regulate flow rate of the exiting infused beverage. The varying exiting flow rate disadvantageously creates inconsistent beverage output, which is costly for many retailers of beverages. The inconsistencies also are problematic for retailers and

consumers, alike, as both the taste of the beverage and the amount of the beverage may change at each brewing cycle.

Ex. 1001, at 1:62 to 2:7.

2. *POSITA (Ex. 1002)*

Petitioner utilizes the declaration of Mr. Tinkler as a secondary reference and/or to conclude what a POSITA “could” have done. As set forth herein, a bulk of Mr. Tinkler’s statements are uncorroborated and conclusory and thus should be given little, if any, value in the obviousness analysis.

3. *Buttiker (Ex. 1009 & Ex. 1010)*

Petitioner utilizes both the European Patent (Ex. 1009) and the English translation thereof (Ex. 1010) as the “Buttiker” reference. With reference below to FIG. 1 from Buttiker, said reference is directed toward a system and method for “preparing a hot beverage, specifically a coffee beverage.” Ex. 1010, at Abstract. Buttiker’s “objective of preparing relatively large portions of hot beverages” is accomplished by pumping water through one “hot water source” 41 in one conduit assembly 31b, 51a, 51b and into a “brewing unit” 60 and pumping water through a separate hot water source 42 in a separate conduit assembly 32b, 51a, 52b, 52c that bypasses the brewing unit 60 “to selectively mix hot water from at least one hot water source 42 downstream of the brewing unit 60 the brewed beverage.” *Id.*



Buttiker utilizes a “control unit [20] being configured to perform the controls because of a specified or adjustable amount of hot beverage that is to be dispensed.” *Id.* To that end, the system in Buttiker utilizes a “directional control valve 55 [that] is designed to be controllable and thereby enables the hot water to be routed to the hot water dispensing pipe 52c by means of appropriate control by means of the control device 20 by means of demand-based control depending on a predetermined or determinable quantity of hot beverage to be dispensed.” *Id.* at ¶ 0021.

4. *Dependent Claim 5*

Claim 5 of the '271 Patent recites the following:

5. The method according to claim 4, further comprising:

electronically controlling the first and second pumps with an electronic controller to selectively modulate the flows of the first and second solvents, respectively, to generate a desired flow rate of the resulting solvent.

Claim 5 depends on claim 4, which depends on claim 3, which depends on claim 2, which depends on claim 1, wherein claim 5 (emphasized with bolded and italicized font) is integrated below into claim 1 as follows:

1. A method of generating a desired temperature of an infused beverage within a brewing assembly comprising the steps of:

inducing a flow of a first solvent within a first solvent conduit with a first pump upstream of a brewing chamber in a brewing assembly and thermally modulating the first solvent in the first solvent conduit to a first temperature with a first thermal modulator;

inducing a flow of a second solvent within a second solvent conduit, separate from the first solvent conduit, with a second pump upstream of the brewing chamber, and thermally modulating the second solvent to a second temperature higher and different than the first temperature and with a second thermal modulator;

selectively combining the first and second solvents at a resulting solvent conduit upstream of the brewing chamber to form a resulting solvent at a selectively desired temperature lower than the second temperature;

electronically controlling the first and second pumps with an electronic controller to selectively modulate the flows of the first and second solvents, respectively, to generate a desired flow rate of the resulting solvent;

receiving the resulting solvent at the brewing chamber housing a solute at the selectively desired temperature to produce an infused beverage;
and

discharging the infused through an outlet on the beverage assembly.

While reserving Patent Owner's right to challenge Petitioner's other assertions in the Petition and produce expert testimony in support of Patent Owner's assertions, Patent Owner submits Petitioner's clear failure to show that the prior art teaches or renders obvious the limitations claim 5 warrants denial of the Petition and that Petitioner has failed to establish a reasonable likelihood that Petitioner would prevail in showing that claim 5 is unpatentable. As admitted by Petitioner, "Startz does not explicitly disclose all of the limitations of claim 5." Pet., at 47. Rather, Petitioner states that Buttiker discloses said limitations and asserts that based on "section VIII.H. [in its Petition that] a POSA would have been motivated to combine Startz and Buttiker." *Id.* (citing to Ex. 1002-49 for purported support).

a. Buttiker is not prior art

Petitioner admits that the '688 Application supports all claims in the '271 Patent; as such, the '271 Patent has an effective filing date of August 12, 2012. *See*

supra § I.C.; Ex. 1001, at 1. Said another way, while Petitioner does reference other patent applications in the '271 Patent chain claiming new subject matter not originally disclosed in the '688 Application—thereby having an effective filing date of August 13, 2013, the Petition does not assert the '271 Patent has the August 13, 2013, effective date. *Id.* The Petition asserts that Buttiker is prior art under 35 U.S.C. § 102(a), without designating which subsection it purportedly falls under. Pet, at 7–8. Buttiker was filed January 6, 2012, and published on July 10, 2013, after the effective filing date of the claimed invention of the '271 Patent. *See* Ex. 1010, at 1. Sections 102(a)(1) or (a)(2) are reproduced below.

(a)Novelty; Prior Art.—A person shall be entitled to a patent unless—

(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or

(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

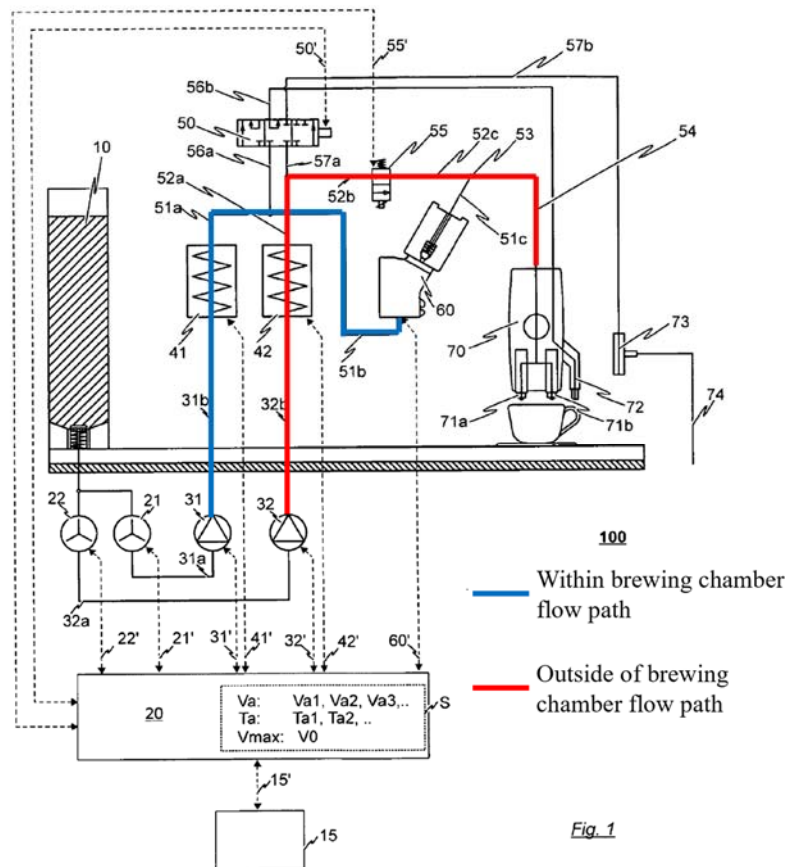
35 U.S.C. § 102(a)(1)–(2).

“AIA 35 U.S.C. 102(a)(1) indicates that a prior patent of a claimed invention will preclude the grant of a subsequent patent on the claimed invention. This means that if a claimed invention was patented in this or a foreign country before the effective filing date of the claimed invention, AIA 35 U.S.C. 102(a)(1) precludes the grant of a patent on the claimed invention. The effective date of the patent for purposes of determining whether the patent qualifies as prior art under AIA 35 U.S.C. 102(a)(1) **is the grant date of the patent.**” MPEP § 2152.02(a) (emphasis added). Here, the grant date of Buttiker post-dates the August 12, 2012, effective filing date of the '271 Patent, thereby not making it prior art under § 102(a)(1). Buttiker is not prior art under section (a)(2) because § 102(a)(2) only applies to “a U.S. patent granted under 35 U.S.C. 151 having an effectively filed date earlier than the application; a U.S. Patent Application Publication published under 35 U.S.C. 122(b) having an effectively filed date earlier than the application; or a WIPO publication of an international application (PCT) or international design application that designates the United States where the WIPO publication has an effectively filed date earlier than the application.” See MPEP § 2152.07.

- b. Startz and Buttiker do not teach or disclose electronically controlling the first and second pumps with an electronic control to selectively modulate the modulate the flows of the first and second solvents to generate a desired flow rate of the resulting solvent

As admitted by Petitioner, Startz does not disclose the limitations of claim 5. Pet., at 47. To purportedly teach said limitation, Petitioner points to Buttiker's disclosure of a control device 20 electronically controlling pumps 31 and 32 with an electronic controller to modulate solvents "to generate a desired flow rate (flow per unit of time) of the resulting solvent (mixed water)." Pet, at 47–48. Assuming *arguendo* Buttiker is prior art, Petitioner first misrepresents that the "resulting solvent" in Buttiker is "mixed water" and Petitioner also glosses over the important fact that the "resulting solvent" in Buttiker is downstream of the brewing chamber. Specifically, the limitations of claim 5 require electronically controlling the two pumps "upstream of the brewing chamber", or in the flow path to the brewing chamber, and Buttiker only discloses, as annotated below from FIG. 1 of Buttiker, electronically controlling a single pump (i.e., pump 41) in the flow path of the brewing chamber. Ex. 1009, at FIG. 1; Ex. 1010, at ¶ 0018 (The brewing unit feed pipe 51b is thereby connected to the brewing chamber of the brewing unit 60, so that a portion of hot water (brewing water), which has been conveyed by means of the first feed pump 31 via the brewing unit feed pipe 51b to the brewing unit 60, can

flow from the first hot water source 41 into the brewing chamber and the coffee powder in the brewing chamber can be brewed by means of this portion.”); Ex. 1010, at ¶ 0021 (“In order to enable a demand-based supply of this hot water to be mixed from the second hot water source 42, the second feed pump 32 creates part of a hot water mixing device and supplies water from the liquid container 10 to the second hot water source 42 via a liquid pipe 32b, which leaves this second hot water source 42 on the output side via a hot water supply pipe 52a and is supplied to a directional control valve 55 via a directional control valve supply pipe 52b of hot water, whereby a brewed coffee beverage (hot beverage) is produced.”).



Petitioner made a similar argument in the IPR of the 524 Patent with respect to another secondary reference, Majer, and Patent Owner disputed the same by asserting that while Majer disclosed a controller connected to two pumps, “only one of those pumps would fall within the scope of claim 1, which requires pumps in the same flow path as the brewing chamber.” Ex. 2001, at 19–20. The Board agreed, stating that “Petitioner correctly notes that Majer discloses controller 9 connected to two pumps, but we agree with Patent Owner that only one of those pumps meets the requirements of the claimed pumps, which are both connected to conduits that eventually lead to the brewing chamber.” Ex. 2001, at 21. Said another way, similar to Majer, Buttiker does not teach electronically controlling each of the pumps to induce/modulate the flow of solvents therein upstream of the brewing chamber and to generate a desired flow rate of the resulting solvent also upstream of the brewing chamber. Petitioner’s purported expert also does not dispute this clear deficiency in Buttiker. *See* Ex. 1002, at ¶¶ 106–17.

Additionally, Buttiker also fails to disclose that the pumps in Buttiker are modulated to “generate a desired flow rate” of the “resulting solvent.” Rather, as discussed above in § D.3, Buttiker is modifying the pumps to adjust the “amount of hot beverage that is to be dispensed” to achieve its clear “objective of preparing relatively large portions of hot beverages.” Petitioner and its purported expert omit this clear intent behind the system and method in Buttiker. *See* Ex. 1010, at Abstract.

Instead, Petitioner and its purported expert state that “POSA would have understood that ‘amount of water which is routed in a certain time interval’ is a ‘flow rate’ because a ‘rate’ is a quantity or amount of one thing measured per unit or something else.” Ex. 1002, at ¶ 0111. While Patent Owner does not dispute that Buttiker teaches using a flow meter to determine how much hot water is pumped to the control valve 55 and then to the mix node 53, but there is no teaching in Buttiker concerning controlling **both pumps** to generate a desired **resulting solvent flow rate**. At best, Buttiker teaches controlling a first pump to generate a desired amount of solvent flowing to the brewing chamber and also controlling a second pump to generate the desired amount solvent flowing into the infused beverage to get to a total “amount of hot beverage that is to be dispensed.” This would also intuitively make sense because Buttiker is not concerned with the **rate** in which the infused beverage and incoming solvent are at, but rather that the **quantity** needed to make the “finished hot beverage.” Buttiker, at ¶ 0007 (“The addition of hot water to the brewing product to be dispensed from the brewing unit as required ensures that a sufficiently large portion is dispensed from the brewing device in accordance with the predetermined or definable quantity”); *see also id.* at ¶ 0025 (“In the mixing node 53 and possibly further downstream in the hot beverage dispensing pipe 54, the brewing product and the hot water added as required are subsequently mixed to form the finished hot beverage i.e. in particular the finished coffee beverage.”).

- c. The Petition has failed to set forth how and why POSITA would have combined the teachings in Buttiker with Startz

Assuming *arguendo* Buttiker is prior art and is believed to disclose the limitations of claim 5, Petitioner has entirely failed to provide motivation and/or other sufficient reasoning why a POSITA would have combined the pump configuration in Buttiker with Startz. Petitioner cites to § VIII.H. of its Petition and page 49 of its purported expert's declaration for the purported motivation to combine Buttiker with Startz. Pet., at 47.

Section VIII.H. of the Petition is generally entitled “motivation to combine” and generally references that a POSITA “would have considered patents, publications, and knowledge related to heated beverage-making”, “would have considered various control systems”, “would have sought control systems, sensors, and components that enhanced the precision, accuracy, and dynamic temperature control of Startz’s system”, and “a POSA would have been motivated to combine the disclosures of one or more of Majer, Porzio, Buttiker, and/or Giuliano with the disclosures of Coccia and/or Startz to solve the problems and achieve the goals identified in the 271 patent.” Pet., at 27–29. There is no specific mention of claim 5 in these general allegations, nor is there specific reference (or description utilizing the teachings in Buttiker or Startz) as to how and why a POSITA would take a specific pumping configuration disclosed in Buttiker—that does not even control

two pumps upstream of a brewing chamber to generate a desired resulting flow rate—and combine it with Startz. Pet., at 27–32.

Said differently, § VIII.H. of the Petition is barren of specific teachings or discussions concerning claim 5 and the proposed motivation to combine the equated limitations purportedly disclosed in Buttiker with Startz and insufficient to show motivation to combine. *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (“We agree with the district court that Toro provides no explanation or reasoning for concluding that one of skill in the art would have combined these particular references to produce the claimed invention. . . . [The District Court] recognized that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art and that it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”) (internal quotations omitted); *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008) (“[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references.”). Like the Board did in the prior IPR petitions filed by Petitioner, the Board should find “such broad assertions do not establish that it would have been obvious to combine the specific references relied on in the challenge” to claim 5. Pet., at 27–32; Ex. 2001, at 22 n.14; *see also Nobel*

Biocare Services AG v. Intradent USA, Inc., 903 F.3d 1365, 1382 (Fed. Cir. 2018) (explaining that the Board can reject arguments based on expert testimony that lacks specificity or detail).

Petitioner also cites to page 49 of its purported expert for the purported motivation to combine Startz with Buttiker. Pet., at 47. Page 49 of Petitioner's expert declaration incorporates by reference the same generalized and conclusory statements concerning "motivation to combine prior art references" reproduced in § VIII.H. of the Petition, so it too should be afforded little, if any, weight. *See Nobel Biocare Services AG*, 903 F.3d at 1382; *see also* 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.").

Just the like '524 Patent Petition, the Board should find that Petitioner has not only failed to sufficiently provide the requisite motivation to combine, but also has failed to describe why "Startz's system would have any need to [make the proposed changes suggested]. At most, Startz suggests monitoring the 'flow volume' out of pump 7, which may be accomplished by monitoring fluid flow meter 9, but that does not require coupling control device 14 to pump 7." Ex. 2001, at 18. Specifically, Startz already teaches that "the admixing water quantity can be controlled in a highly accurate manner in the case of known pump characteristics, in particular with the use of a gear-type pump or of a magnetic piston pump. By means of the active

reactions of the bypass flow pump 8, a defined rate of flow can furthermore be established quickly.” Ex. 1004, at ¶ 0019. So, Patent Owner submits there is no need to electronically control the bypass pump 8 (much less both pumps 7, 8) in Startz to generate a desired resulting solvent flow rate as Startz already discloses a highly accurate means to adjust the quantity of admixing cold solvent and because Startz is concerned with a “defined rate of flow.” *Id.* Petitioner and its purported expert also gloss over that fact that purportedly modifying Startz to make both pumps electronically controlled would also make its system more costly, which is counter to the teachings in Startz regarding cost-efficiency. Startz, at Abstract (“Thus a bypass pump (8) is arranged in the bypass flow path (4) to provide a cost-efficient and accurate admixing of cold water.”); *id.* at ¶ 0009 (“On principle, such a bypass flow pump can also be produced in a more cost-efficient manner than a 2/2-way magnetic valve, for example, so that the solution according to the invention is also economical.”); *id.* at ¶ 0017 (“Generally, the bypass flow pump 8 and/or the main flow pump 7 can be embodied as vane-type pump, as gear-type pump or as magnetic piston pump, whereby in particular the latter alternative represents a cost-efficient and at the same time an accurately controllable pump.”); *id.* at ¶ 0022 (“ In the event that the bypass flow pump 4 is furthermore manufactured as a gear-type pump or as a vane-type pump or as a magnetic piston pump, a cost-efficient manufacture can

furthermore be obtained as compared to magnetic valves, which have been used there until now.”).

Lastly, Petitioner has also failed to provide the requisite motivation to teach “selectively modulat[ing]” each of the first and second solvent flows, respectively. Patent Owner submits that suggesting that the two pumps 7, 8 in Startz selectively modulate the flow would also be counter to the teachings in Startz. Specifically, as described above, Startz has a reactive (instead of proactive) pump configuration that reacts to a determined flow rate received from the flow meter 9 flow of solvent downstream of the pump 7, wherein Startz discloses the operability of those pumps 7, 8 (whether through a potential electronic controller or otherwise) being configured in a dependent relationship (instead of independent/selective control as required the claim 5. Ex. 1004, at 3:63–67. Specifically, Startz states that: “The mixing portion and thus the admixing quantity of the bypass flow pump 8 can be controlled accurately if the total rate of flow is known, which can be determined via the fluid flow meter 9, for example.” *Id.*

Said another way, the location of the flow meter 9 downstream of the pump 7, but upstream of bypass pump 8, requires, according to Starz, the reactive approach of running pump 7, determining the overall flow rate from meter 9, and then pumping a quantity of solvent dependent on the flow from the pump 7. *Id.* Petitioner and its expert do not explain or account for said dependent mixing process articulated

in Startz that runs counter to selective control in claim 5, further buttressing why a POSITA would not have been motivated to modify Startz or combine the components and operability alleged. Patent Owner submits any purported combination of Startz with Buttiker would clearly be based on improper hindsight analysis, which is buttressed by Petitioner's purported expert stating that a POSITA "could" have built a machine with pumps, "such as the pumps disclosed in Buttiker, Majer, and Porzio." Ex. 1002, at ¶ 0055; *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) ("[O]bviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.").

For the foregoing reasons, Patent Owner submits that Petitioner has not met its burden to show a reasonable likelihood it would prevail with respect to the contention that claim 5 is unpatentable over the combination of Startz in view of any of its secondary references or its purported expert.

5. *Dependent Claim 6*

Dependent claim 6 depends on dependent claim 5, so Patent Owner submits that Petitioner's challenges to dependent claim 6 are not rendered obvious for at least the deficiencies set forth above with respect to claim 5.

E. GROUND 4-5: ASSERTED ANTICIPATION OF CLAIMS 1 AND 7 BASED ON COCCIA¹⁴ AND OBVIOUSNESS OF CLAIMS 1 AND 7 OVER COCCIA IN VIEW OF ONE OR MORE OF THE KNOWLEDGE OF A POSITA, MAJER, AND/OR PORZIO.

Petitioner challenges claims 1 and 7 as unpatentable under 35 U.S.C. § 102 based on Coccia and 35 U.S.C. § 103 based on the Coccia in view two secondary references and the testimony of its purported expert, Mr. Tinkler. Pet., at 54–64. Patent Owner has decided to file a statutory disclaimer of claims 1 and 7 contemporaneously hereto, thereby making grounds 4-5 moot. Ex. 2002; *see also* 35 U.S.C. § 253(a). Said differently, this disclaimer is not to be interpreted or construed as an admission that Petitioner has met its burden to show the disclaimed claims are invalid, but rather was made for the sole purpose of focusing on the clear deficiencies associated with Petitioner’s obviousness assertions of the pending claims.

F. GROUND 6: ASSERTED OBVIOUSNESS OF CLAIM 8 BASED ON COCCIA IN VIEW OF ONE OR MORE OF THE KNOWLEDGE OF A POSITA, BUTTIKER, GIULIANO¹⁵, PORZIO, AND/OR MAJER

Petitioner challenges claim 8 as unpatentable under 35 U.S.C. § 103 based on the Coccia in view of four secondary references and the testimony of its purported expert, Mr. Tinkler. Pet., at 64–67. Patent Owner has decided to file a statutory disclaimer of claim 8 contemporaneously hereto, thereby making ground 6 moot.

¹⁴ Coccia, U.S. Patent Application Publication No. 2011/0097454 (Ex. 1006)

¹⁵ Giuliano et al., International Publication No. WO9107898 (Ex. 1005)

Ex. 2002; *see also* 35 U.S.C. § 253(a). Said differently, this disclaimer is not to be interpreted or construed as an admission that Petitioner has met its burden to show the disclaimed claims are invalid, but rather was made for the sole purpose of focusing on the clear deficiencies associated with Petitioner's obviousness assertions of the pending claims.

G. GROUND 7: ASSERTED OBVIOUSNESS OF CLAIMS 9-10 BASED ON COCCIA IN VIEW OF ONE OR MORE OF THE KNOWLEDGE OF A POSITA, GIULIANO, BUTTIKER, MAJER, AND/OR PORZIO

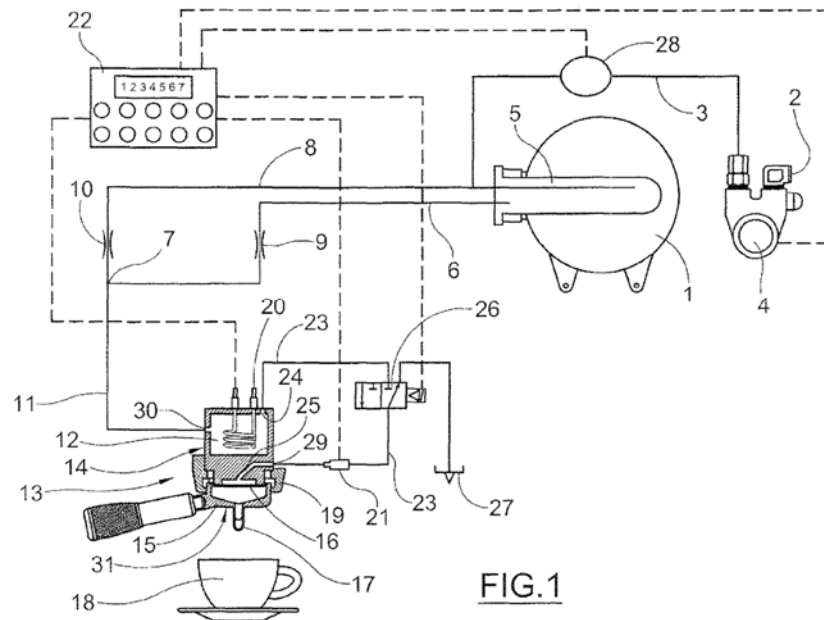
Petitioner challenges claims 9-10 as unpatentable under 35 U.S.C. § 103(a) based on the combination of Coccia in view of four secondary references and the testimony of its purported expert, Mr. Tinkler. Pet., at 68–72.

1. *Coccia (Ex. 1006)*

With reference below to FIG. 1 from Coccia, Coccia teaches a coffee machine for producing and dispensing coffee-based beverages with a specific structure and method associated with “controlling the dispensing pressure” and “regulat[ing] the flow rate of water output as a function of a detected dispensing pressure valve”, wherein the “dispensing pressure” is the pressure of the solvent in the machine “supplied to the filter unit [31] which contains the ground coffee.” Ex. 1006, Abstract, at ¶ 0025. More specifically, Coccia's machine is addressing the issues with prior coffee machines having a hydraulic circuit that can increase pressure in the infusion chamber “without having to vary the temperature”, but that often exceed

the desired dispensing pressure, leading to “adverse effects,” and those machines that may account for the infusion pressure, but do not account for the needed flow rate at the infusion chamber to avoid “excessive extraction”, or not enough extraction. Ex. 1006, at ¶¶ 0011, 0020. These issues are principally caused because the coffee ground size and compaction are inconsistently generated from each brewing cycle, or “dispensing operation,” to the next. Ex. 1006, at ¶¶ 0020, 0057.

Thus, Coccia states that “[a]pplicant’s have observed that it would be advantageous in particular to be able to dispense the beverage in a controlled manner, and possibly to act on the water pressure in response to a variation in the grain size of the coffee.” *Id.* at ¶ 0022; *see also id.* at ¶ 0024 (discussing Coccia’s intent to “provide a coffee machine which makes it possible to control the whole cycle of pressurisation [sic] of the coffee during dispensing by acting on the value of the flow of water in order to enable a regulation of the preparation of the beverage”).



Therefore, Coccia discloses a hydraulic pump 4 that is configured to pump water through ducts 3, 6, 8, 11 until reaching a heating chamber 12 where the solvent (which may be preheated) is heated to the “dispensing temperature T2” before it is introduced into the filter unit 31 through ducts 23, 25. Ex. 1006, at ¶¶ 0043–45. Coccia discloses utilizing the mixing conduits 6, 8 with the heating chamber 12 (Ex. 1006, at ¶ 0045), utilizing on the cold conduit 8 and the heating chamber 12 (Ex. 1006, at ¶ 0078), or just the mixing conduits 6, 8 (Ex. 1006, at ¶ 0079). When the heating chamber 12 is utilized, it specifically serves to stabilize the temperature while the desired water pressure is obtained. *Id.* at ¶ 0045 (“The hot water under pressure is caused to flow through the supply duct 11 to the heating chamber 12 via the inlet 30, in which chamber is stabilised in temperature, and is then introduced into the filter unit 31. More particularly, the water is introduced into the filter-holder

15 via a duct 23 which connects the outlet 24 of the heating chamber 12 to the inlet 29 of the dispensing duct 25.”).

Separating the duct 23 and the “dispensing duct” 25 is an “electrovalve 26 which has two operating positions”, i.e., “one position, causes the water to be supplied to the filter holder and thus the formation of the beverage, and in the other position it discontinues the supply of the water and communicates with a discharge 27 external to the machine.” Ex. 1006, at ¶ 0046. When the electrovalve 26 is in its “other position” where it “discontinues the supply of the water and communicates with a discharge 27 external to the machine”, it takes resulting solvent supplied to the filter holder after the formation of the beverage back through connection duct 23, through electrovalve 26 and out discharge 27 in order to depressurize the filter holder. *Id.*

2. *Dependent Claim 9*

Claim 9 of the '271 Patent recites the following:

9. The method according to claim 8, further comprising:

thermally modulating the first solvent in the first solvent conduit to the first temperature with a second thermal modulator; and

electronically controlling a second thermal modulator with the electronic controller to selectively modulate the temperature of the first solvent to generate the selectively desired temperature.

Claim 9 depends on claim 8, which depends on claim 1, wherein claim 9 (emphasized with bolded and italicized font) is integrated below into claim 1 as follows:

1. A method of generating a desired temperature of an infused beverage within a brewing assembly comprising the steps of:

inducing a flow of a first solvent within a first solvent conduit upstream of a brewing chamber in a brewing assembly, the first solvent at a first temperature and ***thermally modulating the first solvent in the first solvent conduit to the first temperature with a second thermal modulator***;

inducing a flow of a second solvent within a second solvent conduit, separate from the first solvent conduit, upstream of the brewing chamber, and thermally modulating the second solvent to a second temperature higher and different than the first temperature;

selectively combining the first and second solvents at a resulting solvent conduit upstream of the brewing chamber to form a resulting solvent at a selectively desired temperature lower than the second temperature;

electronically controlling a thermal modulator with an electronic controller to selectively modulate the temperature of the second solvent to generate the selectively desired temperature;

electronically controlling the second thermal modulator with the electronic controller to selectively modulate the temperature of the first solvent to generate the selectively desired temperature;

receiving the resulting solvent at the brewing chamber housing a solute at the selectively desired temperature to produce an infused beverage; and

discharging the infused through an outlet on the beverage assembly.

While reserving Patent Owner's right to challenge Petitioner's other assertions in the Petition and produce expert testimony in support of Patent Owner's assertions, Patent Owner submits Petitioner's clear failure to show that the prior art teaches or renders obvious the limitations claim 9 warrants denial of the Petition and that Petitioner has failed to establish a reasonable likelihood that Petitioner would prevail in showing that claim 9 is unpatentable.

As admitted by Petitioner, "Coccia does not disclose thermally modulating both first and second solvents." Pet., at 68. Petitioner also does not assert that Coccia discloses electronically controlling any thermal modulators to modulate any of the solvents before generating the resulting solvent. *See id.* at 68–70. Rather, Petitioner asserts that Buttiker discloses said limitations in claim 9 and again asserts that based on "section VIII.H [in its Petition that] a POSA would have been motivated to combine Coccia and Buttiker." *Id.* at 68. Very similar to the above argument with respect to ground 3, this ground should be denied and the Petition should be denied.

a. Buttiker is not prior art

For the same reasons discussed in § III.D.4.a., Buttiker is not prior art and the Petition should be denied for this reason alone.

b. The Buttiker reference also fails to disclose electronically controlling two thermal modulators to modulate respective solvents to a desired temperature

For the same reasons discussed in § III.D.4.b., Buttiker fails to teach electronically controlling two thermal modulators to modulate each respective solvent to a desired temperature within the brewing chamber flow path or before they are selectively combined at a resulting solvent conduit upstream of the brewing chamber to form a resulting solvent (as required by claim 9). Like pump 32 in Buttiker, Petitioner solely references Buttiker's teaching of two thermal modulators 41, 42, wherein the equated thermal modulator 42 is also outside of the brewing chamber flow path, making it impossible teach a configuration where a thermal modulator modulates the temperature of solvent to join another heated solvent upstream of the brewing chamber and to create the resulting solvent. Pet., at 68–69. Petitioner also cites pages 69-70 of its purported expert's declaration for disclosing said feature, but said pages simply mimic the Petition. *Id.*; see also Ex. 1002, at 69–70.

- c. The Petition has also failed to set forth how and why POSITA would have combined the teachings in Buttiker with Coccia

Assuming *arguendo* Buttiker is prior art and is believed to disclose the limitations of claim 9, Petitioner has entirely failed to provide motivation and/or other sufficient reasoning why a POSITA would have combined thermal modulation configuration in Buttiker with Coccia. For the same reasons discussed in § III.D.4.c., Petitioner only generically and conclusory asserts that it would have been obvious to combine Coccia with Buttiker without specificity, rational underpinnings, or requisite motivation. *See* Pet., at 69–70 (“As set forth above, section VIII.H, a POSA would have been motivated to combine Coccia and Buttiker.”). The Petition also references pages 68–71 of its purported expert to buttress its obviousness assertion, but just like the obviousness assertions with respect to claim 5, the declaration generically mimics the Petition and falls fatally short meeting the standard to show claim 9 is unpatentable as obvious.

In particular, Petitioner has not described how or why a POSITA would add another thermal modulator to the solvent conduits 6, 8, why it would be necessary or specifically desired and/or electronically controlled, why adding it would not be superfluous or redundant in light of the heating chamber 12, or why Coccia does not disclose the sole equated thermal modulator 5 in the solvent conduit 6 being

electronically controlled, nor does Petitioner describe how incorporating two electronically controlled thermal modulators would otherwise affect the stabilizing purpose of the heating chamber 12 used in Coccia; and, Patent Owner submits any purported motivation to add another thermal modulator to the cold line 8 in Coccia would only be accomplished with improper hindsight reasoning. Simply stating that that “a POSA would have recognized the need for two separate pumps, two separate heaters, and electronic control of pumps and/or heaters” is fatally broad and insufficient to meet the standard of obviousness or otherwise showing a reasonable likelihood that claim 9 is unpatentable.

3. *Dependent Claim 10*

Dependent claim 10 depends on dependent claim 9, so Patent Owner submits that Petitioner’s challenges to dependent claim 10 are not rendered obvious for at least the deficiencies set forth above with respect to claim 9.

IV. RELIEF REQUESTED

For the reasons set forth above, Patent Owner submits the information presented in the Petition fails to establish a reasonable likelihood that Petitioner would prevail in showing that claims 5-6 and 9-10 are unpatentable and institution should be denied.

Respectfully submitted,

Dated: July 21, 2025

/Mark C. Johnson/

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CERTIFICATION UNDER 37 C.F.R. 42.24(D)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Preliminary Response to Petition totals 8,996 which is less than the 14,000 allowed under 37 CFR § 42.24(b)(1)).

Respectfully submitted,

/Mark C. Johnson/

Mark C. Johnson

Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), I hereby certify that the foregoing document and its supporting exhibits were served on July 21, 2025, via email to counsel for Petitioner, i.e., Perry S. Clegg (perry.clegg@johnsonmartinlaw.com), Matthew S. Nelles (matt.nelles@johnsonmartinlaw.com), and James David Johnson (david.johnson@johnsonmartinlaw.com).

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