PATENT OWNER'S DEMONSTRATIVES

Nespresso USA, Inc. v. K-fee System GMBH

Inter Partes Reviews

- IPR2023-00485, U.S. Patent No. 11,230,430
- IPR2023-00502, U.S. Patent No. 10,994,923

June 12, 2024



K-FEE SYSTEM GMBH
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, EX. 2027;
IPR2023-00502, EX. 2027

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

CITATION ABBREVIATIONS

Abbreviation	Description
P1	IPR2023-00502, Paper 1, Petition for *Inter Partes* Review of U.S. Patent No. 10,994,923
P2	IPR2023-00485, Paper 1, Petition for *Inter Partes* Review of U.S. Patent No. 11,230,430
ID1	IPR2023-00502, Paper 9, Decision Institution of *Inter Partes* Review of U.S. Patent No. 10,994,923
ID2	IPR2023-00485, Paper 9, Decision Institution of *Inter Partes* Review of U.S. Patent No. 11,230,430
POPR1	IPR2023-00502, Paper 6, Patent Owner Preliminary Response of U.S. Patent No. 10,994,923
POPR2	IPR2023-00485, Paper 6, Patent Owner Preliminary Response of U.S. Patent No. 11,230,430

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 2
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

CITATION ABBREVIATIONS

Abbreviation	Description
POPR Reply1	IPR2023-00502, Paper 7, Petitioner's Reply to Patent Owner's Preliminary Response for U.S. Patent No. 10,994,923
POPR Reply2	IPR2023-00485, Paper 7, Petitioner's Reply to Patent Owner's Preliminary Response for U.S. Patent No. 11,230,430
PI-POSR1	IPR2023-00502, Paper 8, Pre-Institution Patent Owner's Sur-Reply of U.S. Patent No. 10,994,923
PI-POSR2	IPR2023-00485, Paper 8, Pre-Institution Patent Owner's Sur-Reply of U.S. Patent No. 11,230,430
POR1	IPR2023-00502, Paper 15, Patent Owner Response of U.S. Patent No. 10,994,923
POR2	IPR2023-00485, Paper 15, Patent Owner Response of U.S. Patent No. 11,230,430

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

CITATION ABBREVIATIONS

Abbreviation	Description
POR Reply1	IPR2023-00502, Paper 18, Petitioner's Reply to Patent Owner Response for U.S. Patent No. 10,994,923
POR Reply2	IPR2023-00485, Paper 18, Petitioner's Reply to Patent Owner Response for U.S. Patent No. 11,230,430
POSR1	IPR2023-00502, Paper 19, Patent Owner Sur-Reply of U.S. Patent No. 10,994,923
POSR2	IPR2023-00485, Paper 19, Patent Owner Sur-Reply of U.S. Patent No. 11,230,430

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

INSTITUTED GROUNDS

- **IPR2023-00485 (’430 Patent)**
  - Claims 1-10 under 35 U.S.C. § 103 as unpatentable over Yoakim, Jarisch ’937, Rossi, and Castellani

- **IPR2023-00502 (’923 Patent)**
  - Claims 1-16 under 35 U.S.C. § 103 as unpatentable over Yoakim, Jarisch ’937, and Rapparini

ID1 at 6, 36; ID2 at 6, 40.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 5
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

GERMAN PRIORITY APPLICATIONS

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIRST GERMAN PRIORITY APPLICATION:

JULY 22, 2010



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DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		PCT/EP2011/003677
International filing date:		22 July 2011 (22.07.2011)
Document type:		Certified copy of priority document
Document details:	Country/Office:	DE
	Number:	10 2010 031 968.0
	Filing date:	22 July 2010 (22.07.2010)
Date of receipt at the International Bureau:		21 November 2011 (21.11.2011)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)

Ex. 1046 (First German Priority Application) at 1 (Annotation added); *see* POPR1 at 6-9; POR1 at 4-7; POPR2 at 11-13; POR2 at 3-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APPLICATION:

SEPTEMBER 2, 2010



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DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		**PCT/EP2011/003677**
International filing date:		**22 July 2011 (22.07.2011)**
Document type:		**Certified copy of priority document**
Document details:	Country/Office:	**DE**
	Number:	**10 2010 044 251.8**
	Filing date:	**02 September 2010 (02.09.2010)**
Date of receipt at the International Bureau:		**21 November 2011 (21.11.2011)**

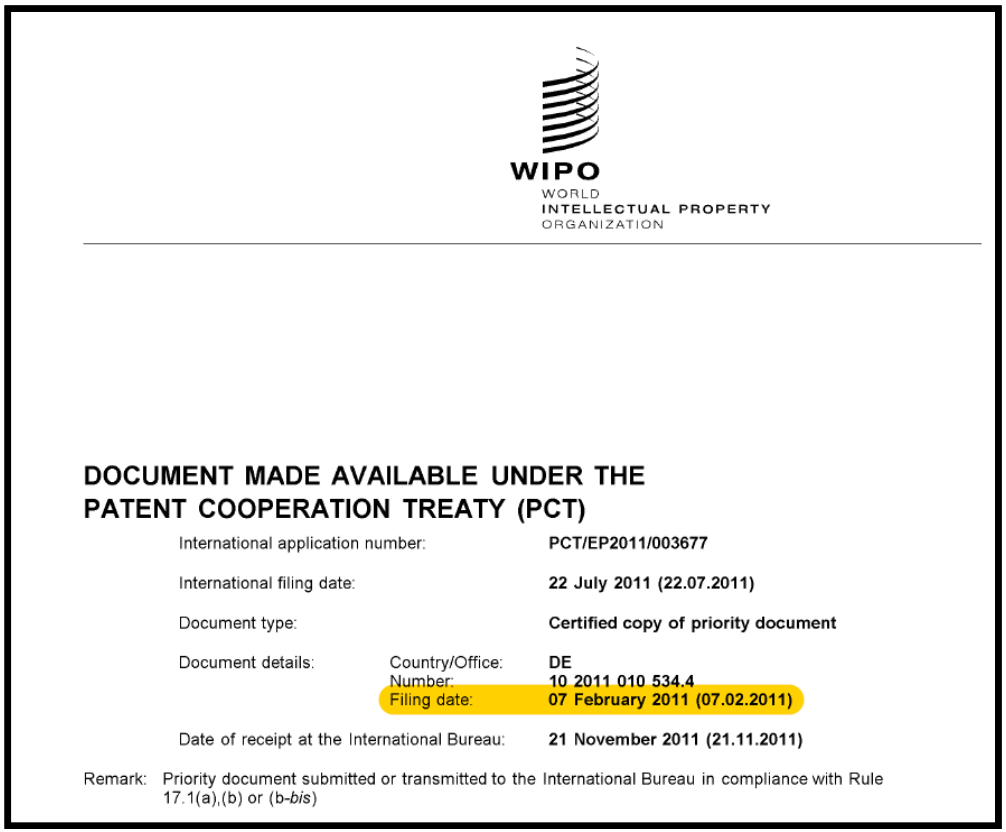
Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)

Ex. 1047 (Second German Priority Application) at 1 (Annotation added); *see* POPR1 at 6-9; POR1 at 4-7; POPR2 at 11-13; POR2 at 3-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THIRD GERMAN PRIORITY APPLICATION:

FEBRUARY 7, 2011



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DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		**PCT/EP2011/003677**
International filing date:		**22 July 2011 (22.07.2011)**
Document type:		**Certified copy of priority document**
Document details:	Country/Office:	**DE**
	Number:	**10 2011 010 534.4**
	Filing date:	**07 February 2011 (07.02.2011)**
Date of receipt at the International Bureau:		**21 November 2011 (21.11.2011)**

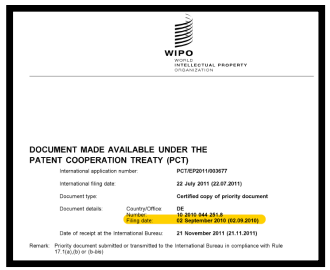
Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)

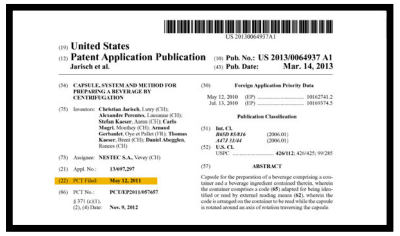
Ex. 1045 (Third German Priority Application) at 1 (Annotation added); *see* POPR1 at 6-9; POR1 at 4-7; POPR2 at 11-13; POR2 at 3-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

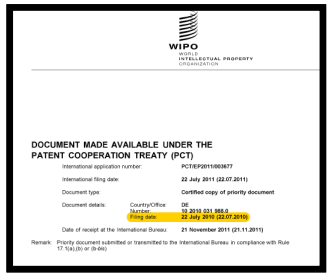
Filed: September 2, 2010
Ex. 1047 (Second German Priority Application)

PCT Filed: May 12, 2011
Ex. 1005 (Jarisch '937)





Filed: July 22, 2010
Ex. 1046 (First German Priority Application)



Filed: February 7, 2011
Ex. 1045 (Third German Priority Application)



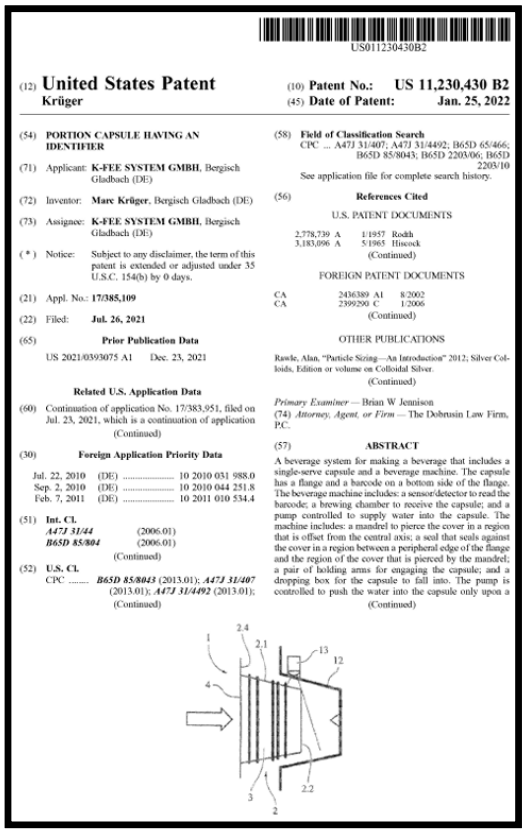
Ex. 1046 (First German Priority Application) at 1 (Annotation added); Ex. 1047 (Second German Priority Application) at 1 (Annotation added); Ex. 1045 (Third German Priority Application) at 1 (Annotation added); Ex. 1005 (Jarisch '937) at 1 (Annotation added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

U.S. PATENT NO. 11,230,430

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE CHALLENGED ’430 PATENT



US011230430B2

(12) **United States Patent**
Krüger

(10) **Patent No.: US 11,230,430 B2**
(45) **Date of Patent: Jan. 25, 2022**

(54) **PORTION CAPSULE HAVING AN IDENTIFIER**

(71) Applicant: **K-FEE SYSTEM GMBH**, Bergisch Gladbach (DE)

(72) Inventor: **Marc Krüger**, Bergisch Gladbach (DE)

(73) Assignee: **K-FEE SYSTEM GMBH**, Bergisch Gladbach (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **17/385,109**

(22) Filed: **Jul. 26, 2021**

(65) **Prior Publication Data**

US 2021/0393075 A1 Dec. 23, 2021

Related U.S. Application Data

(60) Continuation of application No. 17/383,951, filed on Jul. 23, 2021, which is a continuation of application
(Continued)

(30) **Foreign Application Priority Data**

Jul. 22, 2010 (DE) 10 2010 031 988.0
Sep. 2, 2010 (DE) 10 2010 044 251.8
Feb. 7, 2011 (DE) 10 2011 010 534.4

(51) **Int. Cl.**
A47J 31/44 (2006.01)
B65D 85/804 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B65D 85/8043*** (2013.01); ***A47J 31/407*** (2013.01); ***A47J 31/4492*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC ... A47J 31/407; A47J 31/4492; B65D 65/466; B65D 85/8043; B65D 2203/06; B65D 2203/10
See application file for complete search history.

(56) **References Cited**

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Rawle, Alan, "Particle Sizing—An Introduction" 2012; Silver Colloids, Edition or volume on Colloidal Silver.
(Continued)

Primary Examiner — Brian W Jennison
(74) *Attorney, Agent, or Firm* — The Dobrusin Law Firm, P.C.

(57) **ABSTRACT**

A beverage system for making a beverage that includes a single-serve capsule and a beverage machine. The capsule has a flange and a barcode on a bottom side of the flange. The beverage machine includes: a sensor/detector to read the barcode; a brewing chamber to receive the capsule; and a pump controlled to supply water into the capsule. The machine includes: a mandrel to pierce the cover in a region that is offset from the central axis; a seal that seals against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel; a pair of holding arms for engaging the capsule; and a dropping box for the capsule to fall into. The pump is controlled to push the water into the capsule only upon a
(Continued)

- Ground 1: Yoakim, Jarisch ’937, Rossi, Castellani
  - Claims 1-10 (all claims)

Ex. 1001 (’430 Patent) at 1; *see generally* POPR2; POR2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

CLAIM 1 OF THE ’430 PATENT

The invention claimed is:

1. A beverage system for making a beverage, comprising:

a single-serve capsule comprising: a base element with a cavity, in which a raw beverage material is provided; a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side; a cover that is fastened to the top side of the flange to close the cavity; and a barcode provided on the bottom side of the flange; and

a beverage machine comprising: a sensor/detector configured to read the barcode; a brewing chamber configured to receive the base element of the single-serve capsule and having an end portion that opposes the bottom side of the flange; and a pump controlled to supply water into the single-serve capsule;

wherein the single-serve capsule is free of a filter that is located inside of the cavity, the single-serve capsule also comprises:

i. an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element; and

ii. a barrier layer to prevent moisture or aroma from escaping out of the single-serve capsule;

wherein the beverage machine also comprises:

i. a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element;

ii. a seal that that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel;

iii. a pair of holding arms for engaging the single-serve capsule; and

iv. a dropping box for the single-serve capsule to fall into;

wherein the pump is controlled to push the water into the single-serve capsule only upon a determination that the read barcode agrees with a stored reference.

Ex. 1001 (’430 Patent) at cl. 1; *see generally* POPR2; POR2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO FAILED TO CARRY ITS BURDENS

- ’430 claims find priority in Second German Priority Application (Ex. 1047)
  - Jarisch ’937 is not prior art

- Failings in Petitioner’s grounds from cited references
  - Capsule free of a filter
  - Machine pump controlled upon identifier detection and determination
  - Side wall having indentations

- No motivation to combine references

See generally POPR2, PI-POSR2, POR2, POSR2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE SECOND GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 15
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IPR2023-00502, U.S. PATENT 10,994,923

THE SO-CALLED “MISSING” ELEMENTS

- (1) “an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element.”
- (2) “a barcode provided on the bottom side of the flange”

P2 at 38-46; POPR2 at 31-56; PI-POSR2 at 3-4; POR2 at 35-56.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE SECOND GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

ANNULAR CONVEXITY

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 17
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’430 CLAIMS FIND PRIORITY IN SECOND GERMAN PRIORITY APPLICATION

- Second German Priority Application (Ex. 1047) teaches “an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element.”
  - Fig. 16
  - Nespresso is inconsistent with its positions

POR2 at 54-56; POSR2 at 16-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

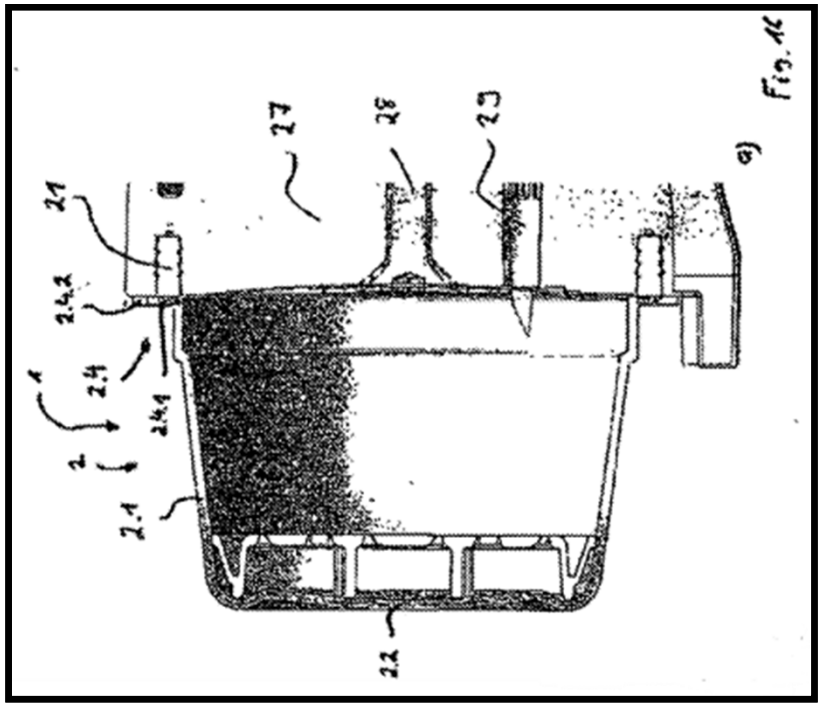
ANNULAR CONVEXITY – SHOWN IN FIG. 16

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DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		PCT/EP2011/003677
International filing date:		22 July 2011 (22.07.2011)
Document type:		Certified copy of priority document
Document details:	Country/Office:	DE
	Number:	10 2010 044 251.8
	Filing date:	02 September 2010 (02.09.2010)
Date of receipt at the International Bureau:		21 November 2011 (21.11.2011)

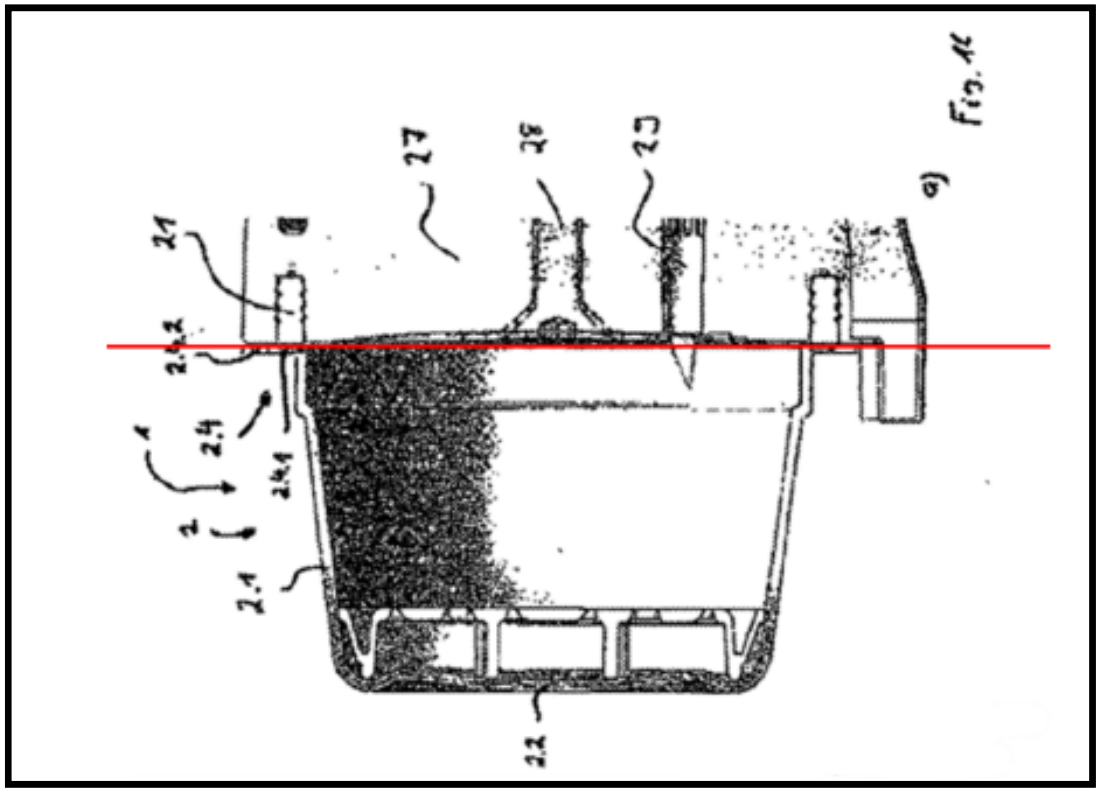
Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)



Ex. 1047 (Second German Priority Application) at 1, Fig. 16; POR2 at 54-56; Ex. 2017 (Howle Dec.) at ¶90; POSR2 at 16-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

STRAIGHT LINE ESTABLISHES ANNULAR CONVEXITY

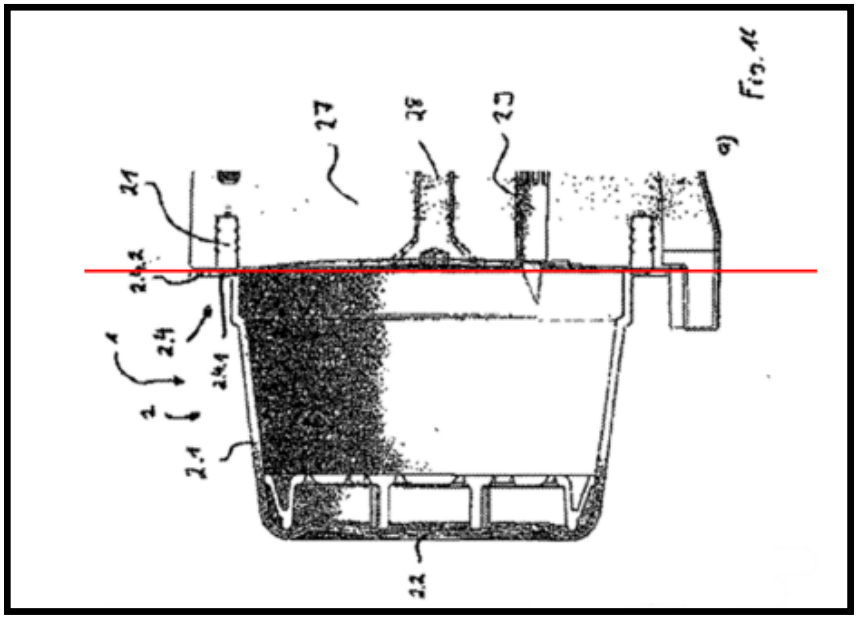


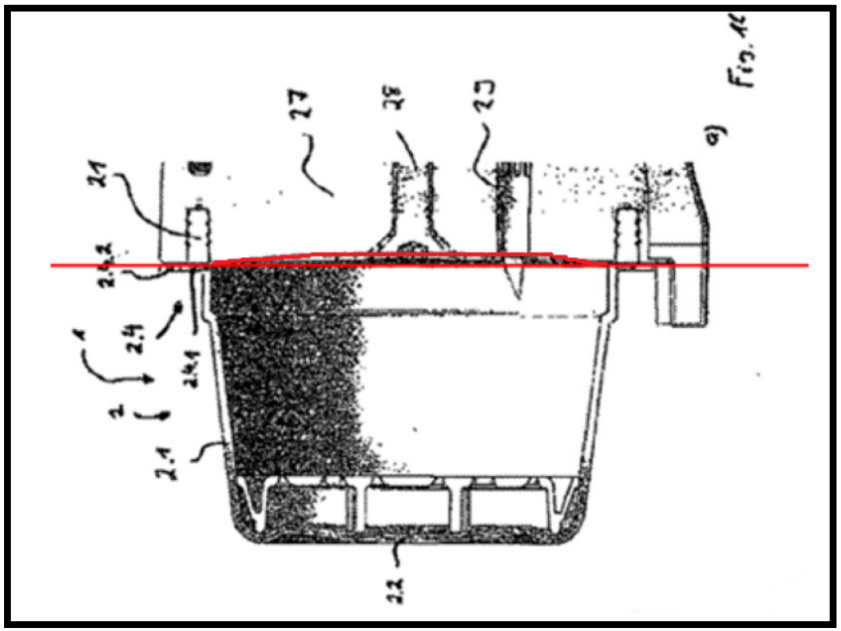
- Annular convexity at the central region of the cover

Ex. 1047 (Second German Priority Application) at Fig. 16; POR2 at 54-56; Ex. 2017 (Howle Dec.) at ¶90; POSR2 at 16-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOUR EYES ARE NOT LYING

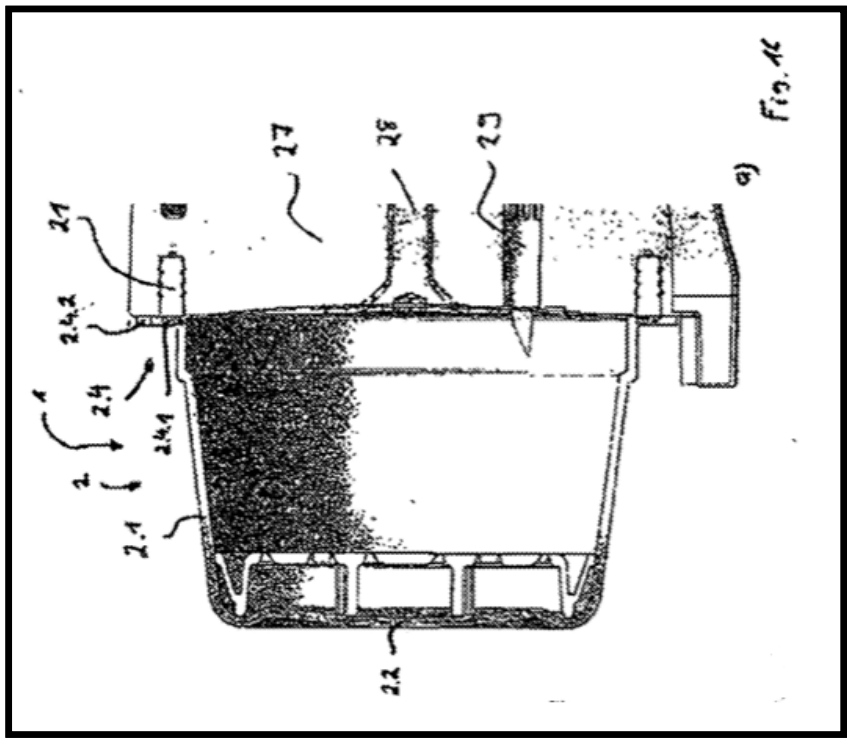




Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotations added); POR2 at 54-56; Ex. 2017 (Howle Dec.) at ¶90; POSR2 at 16-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIG. 16 DEPICTS ANNULAR CONVEXITY



90. The second German application explicitly discloses “an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element” in Figure 16 (annotated below), which depicts a “cover [that] is bowed outwardly.” Ex. 1047 at 41:13-35. A POSITA would have understood that a bowed cover, as shown below in the annotated Figure 16, depicts “an upper end portion that has an annular convexity.” The red reference line shows that the upper end of the portion capsule, as shown in Figure 16, is not flat. However, a POSITA would have understood that upon the cover being pierced by the mandrel, the once-convex cover would be flattened as the volume of air inside the capsule decreases. Moreover, a POSITA would have understood that an intact portion capsule would have an outwardly-bowed cover because of, for example, differential pressure inside and outside of the capsule. Therefore, the water inlet 28 and brewing head 27 are ***not*** flush with the flat top of the capsule membrane, as Petitioner argues.

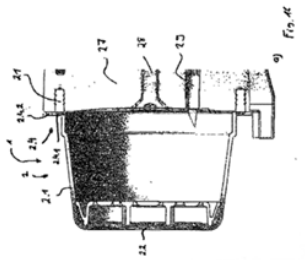
Left: Ex. 1047 (Second German Priority Application) at Fig. 16.

Right: Ex. 2017 (Howle Dec.) at ¶90 (Annotations added); *see also* POR2 at 54-56; POSR2 at 16-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA WOULD UNDERSTAND FIG. 16 DEPICTS ANNULAR CONVEXITY

80. The second German application provides support for a single-serve capsule that comprises “(i) an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element” (element [1.i]) by displaying/depicting an outwardly bowed cover at the upper end of the portion capsule in the image of Figure 16. Ex. 1047 at Fig, 16. A POSITA would have understood that Figure 16 depicts a convex (not flat) cover and a bottom region with concavity.



Ex. 1047 at Figure 16.

Ex. 2017 (Howle Dec.) at ¶80.

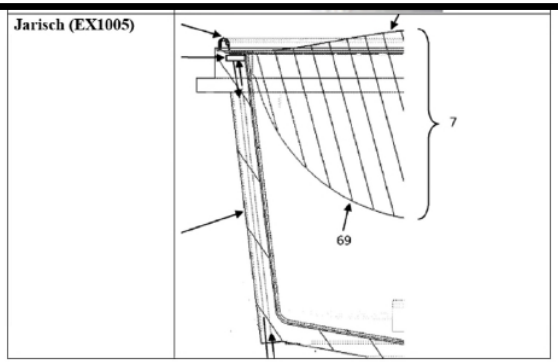
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S EXPERT AGREES

85. It was also known to pressurize the gas in the capsule by “creating a pressure inside the packaging that is higher than atmospheric pressure” because such pressurization “allows the shelf life of coffee to be extended for up to 18 months.” (*See* Ex. 1055, Food Packaging at 208.) Pressurization with an inert gas is possible, which could create a pressure differential that would slow down permeation of oxygen into the container. Pressurization can also be caused by CO_2 outgassing from coffee grounds inside of the container. If the coffee grounds are not degassed prior to packaging, this could result in increased pressure in the container. (EX. 1056, Espresso Coffee, at 249-250.)

86. Such pressurization results in a greater pressure inside the capsule than in the outside atmosphere, thus resulting in the capsule’s foil lid bowing outwardly like a balloon. Accordingly, it is obvious to a person of skill in the art that pressurization of a coffee capsule would result in an outwardly bowed appearance of the capsule’s foil membrane, such as shown in the following figure (highlighted in yellow):

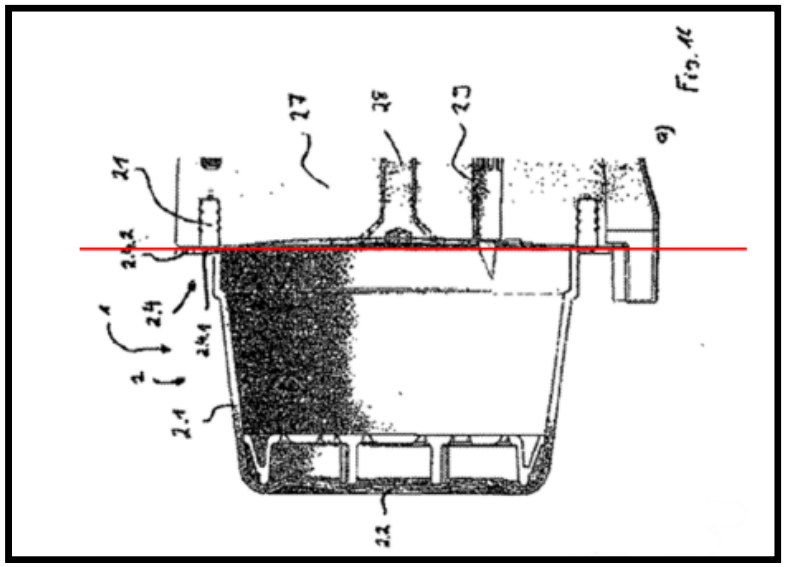
Jarisch (EX1005)



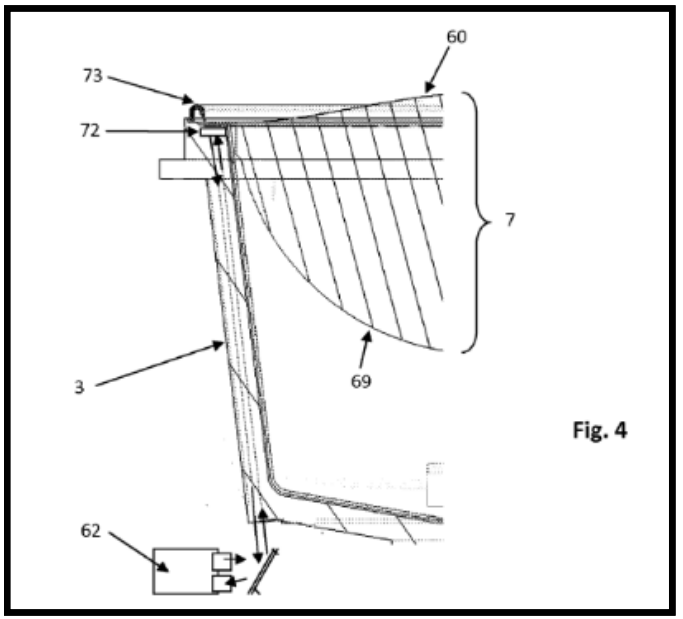
235. According to the Patent Owner’s apparent interpretation, Jarisch also explicitly discloses a capsule with an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element. Ex. 1005 at FIG. 4 (shown above). The use of a capsule shown in Jarisch would have been obvious to a person of ordinary skill in the art because such a configuration can result from known ingredient quality preservation techniques, like those that rely on inert gas and pressurization.

Ex. 1003 (Jobin Dec.) at ¶¶85-86, 234-235 (Annotations added); *see* POR2 at 54-56; POSR2 at 16-19. DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S INCONSISTENCIES



No annular convexity here…



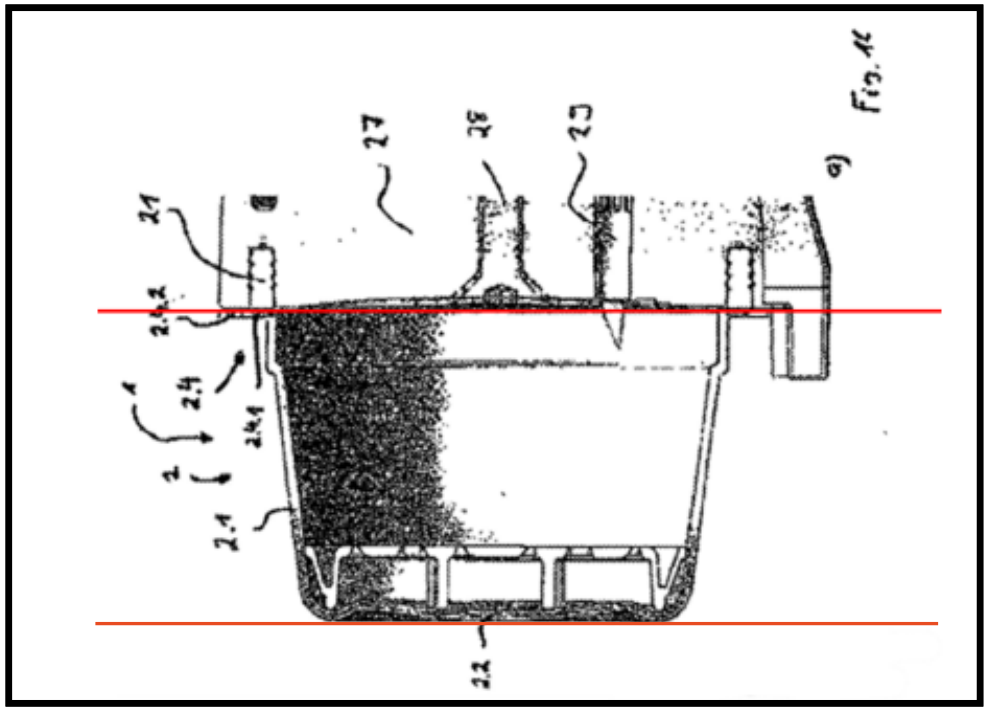
But annular convexity here???

Left: Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotation added).

Right: Ex. 1005 (Jarisch ’937) at Fig. 4; *see* POR Reply2 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NOT A PERSPECTIVE VIEW FIGURE



Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotation added); *see* Ex. 2017 (Howle Dec.) at ¶80.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE SECOND GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

A BARCODE PROVIDED ON THE BOTTOM SIDE OF THE FLANGE

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 27
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

IDENTIFIER

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’430 CLAIMS FIND PRIORITY IN AT LEAST THE SECOND GERMAN PRIORITY APPLICATION

- Second German Priority Application discloses an identifier

It has therefore been an object of the present invention to provide a portion capsule which is suitable just for a quite specific coffee machine.

The object is achieved by a portion capsule for making a beverage, having a basic element with a cavity, in which a raw beverage material is provided and which is closed by a membrane, which is fastened on the basic element, in which the portion capsule has an identifier, which makes it possible to individualize the respective portion capsule.

Ex. 1047 (Second German Priority Application) at 30:17-27; POR2 at 56-58; POSR2 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

BARCODE

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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IPR2023-00502, U.S. PATENT 10,994,923

’430 CLAIMS FIND PRIORITY IN AT LEAST THE SECOND GERMAN PRIORITY APPLICATION

- Second German Priority Application teaches that “a barcode” is a type of identifier

> The identifier is further preferably a machine-readable print. This print is done preferably using an ink which is permissible in the food sector. Further preferred printing material or printing materials are constituted by fluorescent materials, with optical properties which change under the influence of temperature. The print is preferably a barcode, a logo or a repeat pattern.

Ex. 1047 (Second German Priority Application) at 33:1-7; POR2 at 56-66; POSR2 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIG. 2 CONFIRMS THE IDENTIFIER IS A BARCODE

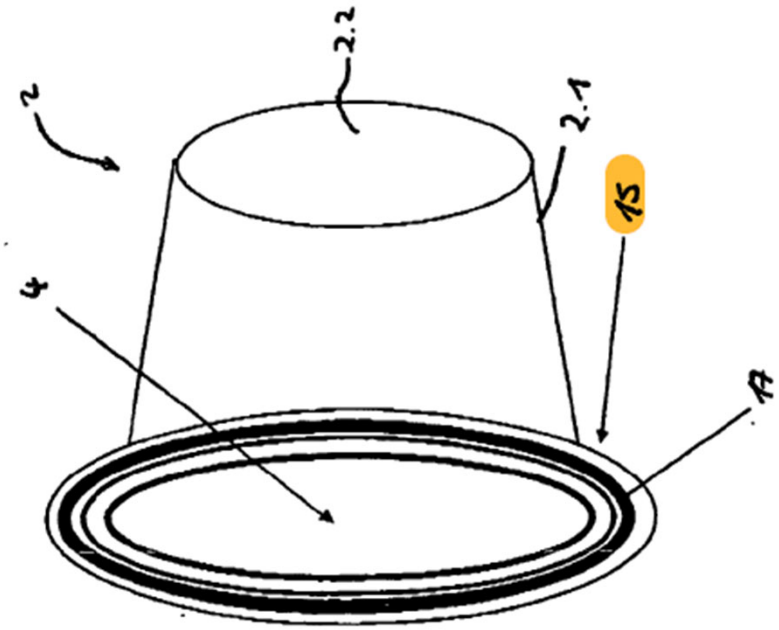


Figure 2 shows a further embodiment of the portion capsule according to the invention. In the present case, this capsule has a barcode in the region of the upper side of the membrane. This barcode can be printed on, by material removal, or can be produced by optically detectable means, for example fluorescent means, which are present in the sheet material. As an alternative, appropriate metal rings may form part of the sheet material or be applied to the sheet material. The regions of the barcode may consist of a ferromagnetic material. As an alternative, it is possible, as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane. This barcode is read by a detector 13, for example in an insertion shaft. The barcode constitutes the identifier according to the invention.

Left: Ex. 1047 (Second German Priority Application) at Fig. 2 (Annotation added).

Right: Ex. 1047 (Second German Priority Application) at 38:21-24 (Annotation added); *see* POR2 at 56-66; Ex. 2017 (Howle Dec.) at ¶¶ 93-103.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’430 CLAIMS FIND PRIORITY IN AT LEAST THE SECOND GERMAN PRIORITY APPLICATION

- Second German Priority Application specifically teaches that the identifier applies to all other examples

> What has been said in relation to the identifier applies to all the other examples.

Ex. 1047 (Second German Priority Application) at 38:8-9 (Annotation added); POR2 at 56-66; POSR2 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’430 Patent (IPR2023-00485)

AT LEAST THE SECOND GERMAN PRIORITY APPLICATION DISCLOSES A SERIES OF IDENTIFIERS

22 Q So there's a series of identifiers
23 disclosed on pages 32 and 33 of Exhibit 1047,
24 and they're not associated with any particular
25 embodiment, correct?
1 MR. McCRAW: Object to form.
2 A I view this section as sort of an
3 overview section, and then later specific
4 embodiments are described.

The identifier is preferably constituted by surface-area regions with different optical, for example reflection, properties. These surface areas may be provided on the membrane, the side wall and/or the base of the portion capsule. The portion capsule preferably has at least two regions which differ in their optical properties, for example the reflection properties.

The identifier is further preferably a concavity and/or a convexity. The concavity and/or convexity can be

The identifier is preferably a layer or sub-layer of the membrane. This kind of identifier may be, for example, an optically detectable material, for example a fluorescent material. Furthermore, the identifier may

The identifier is further preferably a machine-readable print. This print is done preferably using an ink which is permissible in the food sector. Further preferred printing material or printing materials are constituted by fluorescent materials, with optical properties which change under the influence of temperature. The print is preferably a barcode, a logo or a repeat pattern.

In a further preferred embodiment, the identifier is an electrically conductive region which is provided all over the capsule, but preferably in and/or on the side wall, periphery and/or base thereof. This electrically

In a further preferred embodiment, the identifier is a ferro-magnetic region.

The identifier is further preferably an RFID chip.

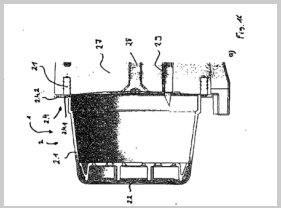
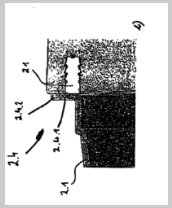
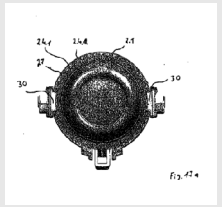
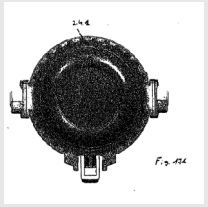
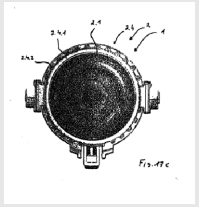
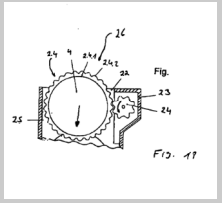
Left: Ex. 2018 (Jobin Depo.) at 184:22-185:4.

Right: Ex. 1047 (Second German Priority Application) at 32:1-33:38.

see POR2 at 56-61; *see* Ex. 2017 (Howle Dec.) at ¶¶ 73, 92-103. All annotations added.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APPLICATION DISCLOSES AN IDENTIFIER

SECOND GERMAN APPLICATION FIGURES (Ex. 1047)	
Fig. 16	 
Fig. 17	  
Fig. 18	

Ex. 1047 (Second German Priority Application) at Figs. 16-18; POR2 at 56-66; POSR2 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’430 CLAIMS FIND PRIORITY IN AT LEAST THE SECOND GERMAN PRIORITY APPLICATION

- Fig. 16 discloses flange with form-fitting/detection means 2.4.2

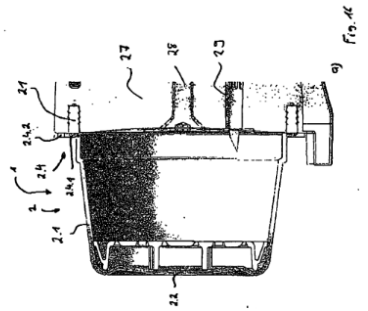
Figure 16 shows a further embodiment of the portion capsule 1 according to the invention. This capsule has a basic element 2, which in the present case is essentially conical and has a wall 2.1 and a base region 2.2. The raw material and, if appropriate, inserts, in this case a filter, are provided in this basic element. An annular peripheral region 2.4, onto which for example a cover sheet is sealed, is arranged at that end of the basic element which is located opposite the base region 2.2. This peripheral region 2.4 has, in its outer region, a form-fitting and/or friction-fitting means and/or a detection means 2.4.2. In the present case, this means 2.4.2, as can be gathered in particular from figures 17a-17c, is a toothed ring 2.4.2. Preferably a sealing surface 2.4.1 is provided in the peripheral region 2.4, on the inside in respect of this toothed ring, and interacts with sealing action with a seal 21, which is arranged on the brewing chamber 27. This seal 21 ensures that water which flows through the water inlet 28 flows into the capsule through an opening in the latter produced by the piercing spike 29, and does not flow around the capsule.

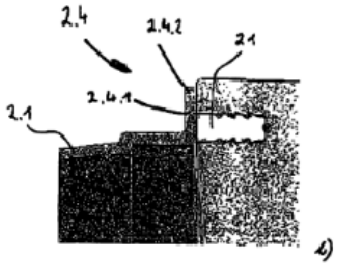
Ex. 1047 (Second German Priority Application) at 41:13-35 (Annotation added); POR2 at 56-66; POSR2 at 13-16.

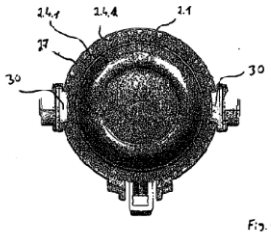
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

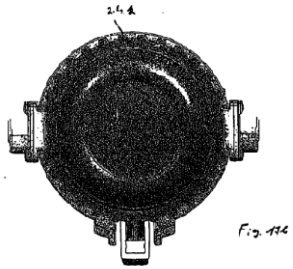
'430 CLAIMS FIND PRIORITY IN AT LEAST THE SECOND GERMAN PRIORITY APPLICATION

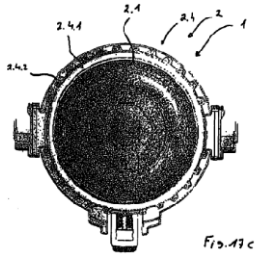
- Form-fitting/detection means 2.4.2 can be a toothed ring, as depicted in Figures 16 and 17(a)-(c)











Ex. 1047 (Second German Priority Application) at Figs. 16-17; POR2 at 56-66; POSR2 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

JOBIN HAS ADMITTED THAT 2.4.2 IS AN IDENTIFIER

153. Figures 16 (below) and 17 disclose yet another distinct embodiment of a capsule, which uses a physical identifier in the form of a “toothed ring” around the “outer region” of the flange or peripheral region 2.4. (Ex. 1047 at p. 12, lines 22-

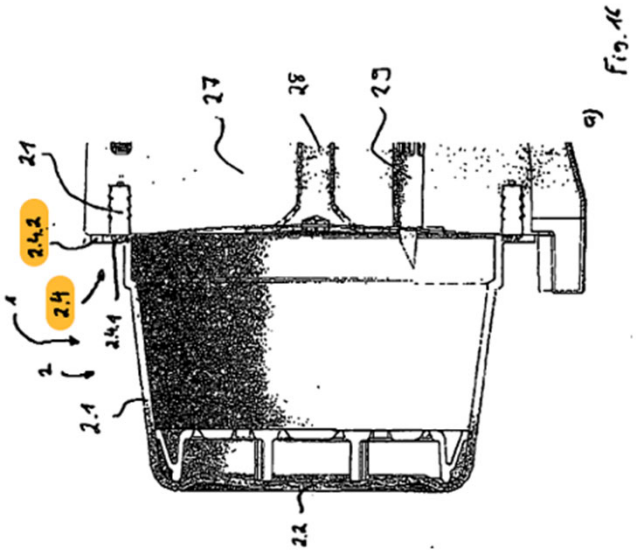
Ex. 1003 (’430 Jobin Dec.) at ¶153; Ex. 1047 (Second German Priority Application) at 8-9, 12, Figs. 16-17.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA WOULD UNDERSTAND FORM-FITTING/DETECTION MEANS IS INTERCHANGEABLE WITH IDENTIFIER

73. Moreover, in a description of the different identifiers that could be used with the portion capsule, the application describes that "[t]he identifier is further preferably a machine-readable print," and the "print is preferably a barcode, a logo or a repeat pattern." Ex. 1047 at 33:1-7. As such, a POSITA would have understood that *either* a repeated toothed ring identifier *or* other detection means could be placed on the bottom side of the flange at Figure 17(a) 2.4.2. *Id.* at Figure 17(a). In fact, Mr. Jobin *agrees* (1) element 2.4 depicts the flange; (2) element 2.4.2 depicts the toothed ring; and (3) that Fig. 17C depicts a view of the bottom of the capsule. *See* Ex. 2018 at 169:5-170:4, 186:10-20 (agreeing that a POSITA would have understood Figure 17a (and the other drawings) to be a view of the bottom of a portion capsule, or base region 2.2, looking up at the toothed ring on the bottom side of the flange). Figure 2 also depicts the barcode on the bottom side of the flange which further informs the understanding of a POSITA reviewing the application. Ex. 1047 at Fig. 2. While the means 2.4.2 can be a toothed ring as depicted in Figures 16 and 17(a)-(c), a POSITA would have understood that other "detection means" such as the barcode disclosed with respect to Figure 2 could be located on the bottom side of the flange instead of the toothed ring.

- Dr. Howle provides that other detection means could be used interchangeably



Left: Ex. 2017 (Howle Dec.) at ¶73 (Annotation added); *see also* POR2 at 56-66; POSR2 at 13-16.

Right: Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotations added); *see also id*. at Figs. 17(a)-(c).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

ON THE BOTTOM SIDE OF THE FLANGE

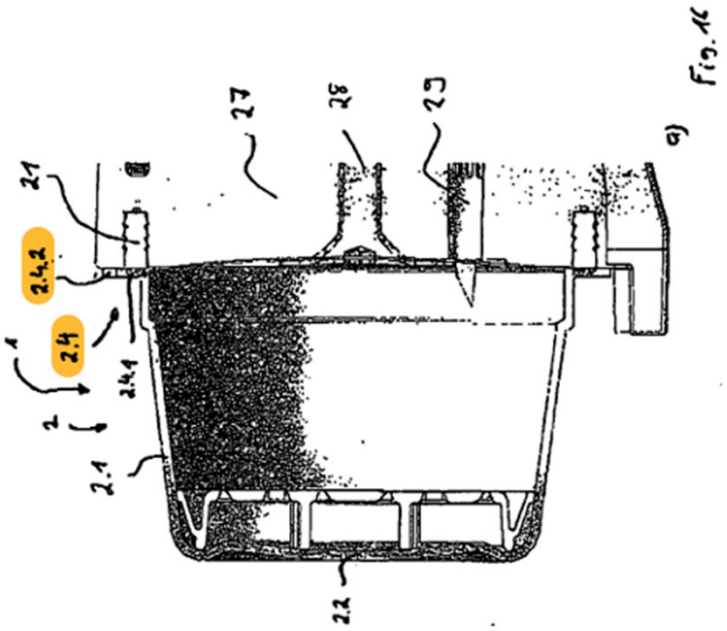
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 40
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

FIG. 16: A FLANGE (2.4)

Figure 16 shows a further embodiment of the portion capsule 1 according to the invention. This capsule has a basic element 2, which in the present case is essentially conical and has a wall 2.1 and a base region 2.2. The raw material and, if appropriate, inserts, in this case a filter, are provided in this basic element. An annular peripheral region 2.4, onto which for example a cover sheet is sealed, is arranged at that end of the basic element which is located opposite the base region 2.2. This peripheral region 2.4 has, in its outer region, a form-fitting and/or friction-fitting means and/or a detection means 2.4.2. In the present case, this means 2.4.2, as can be gathered in particular from figures 17a-17c, is a toothed ring 2.4.2. Preferably a sealing surface 2.4.1 is provided in the peripheral region 2.4, on the inside in respect of this toothed ring, and interacts with sealing action with a seal 21, which is arranged on the brewing chamber 27. This seal 21 ensures that water which flows through the water inlet 28 flows into the capsule through an opening in the latter produced by the piercing spike 29, and does not flow around the capsule.

- Peripheral region 2.4 is a flange



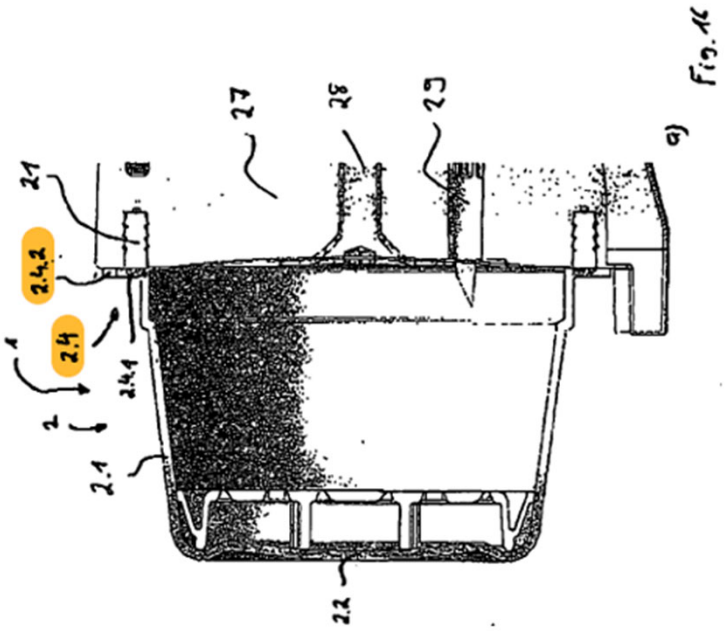
Left: Ex. 1047 (Second German Priority Application) at 41:22-24 (Annotation added); POR2 at 56-66; *see* Ex. 2018 (06/22/23 Jobin Depo) at 174:7-14, 185:10-186:9; Ex. 2017 (Howle Dec.) at ¶¶ 92-102.

Right: Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIG. 16: A FLANGE WITH FORM-FITTING/DETECTION MEANS (2.4.2)

Figure 16 shows a further embodiment of the portion capsule 1 according to the invention. This capsule has a basic element 2, which in the present case is essentially conical and has a wall 2.1 and a base region 2.2. The raw material and, if appropriate, inserts, in this case a filter, are provided in this basic element. An annular peripheral region 2.4, onto which for example a cover sheet is sealed, is arranged at that end of the basic element which is located opposite the base region 2.2. This peripheral region 2.4 has, in its outer region, a form-fitting and/or friction-fitting means and/or a detection means 2.4.2. In the present case, this means 2.4.2, as can be gathered in particular from figures 17a-17c, is a toothed ring 2.4.2. Preferably a sealing surface 2.4.1 is provided in the peripheral region 2.4, on the inside in respect of this toothed ring, and interacts with sealing action with a seal 21, which is arranged on the brewing chamber 27. This seal 21 ensures that water which flows through the water inlet 28 flows into the capsule through an opening in the latter produced by the piercing spike 29, and does not flow around the capsule



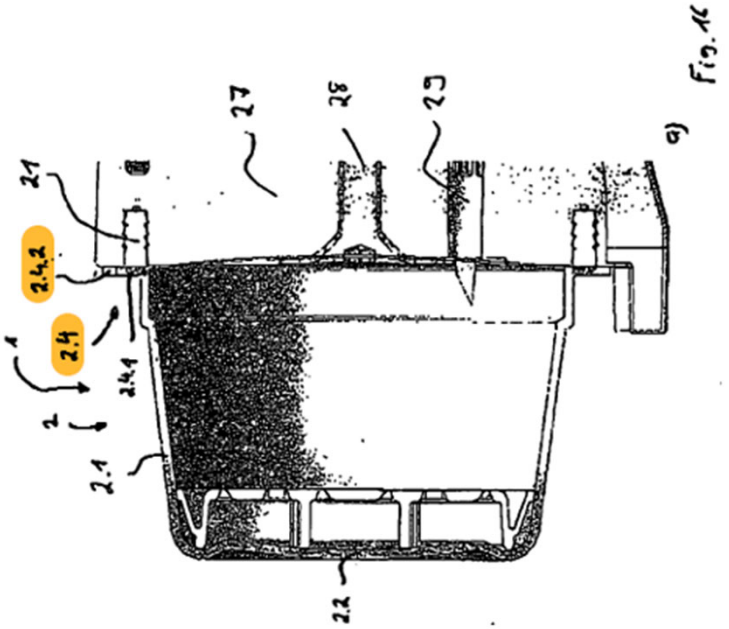
Left: Ex. 1047 (Second German Priority Application) at 41:22-24 (Annotation added); POR2 at 56-66; *see* Ex. 2018 (06/22/23 Jobin Depo) at 174:7-14, 185:10-186:9; Ex. 2017 (Howle Dec.) at ¶¶ 92-102.

Right: Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA WOULD UNDERSTAND FORM-FITTING/DETECTION MEANS IS INTERCHANGEABLE WITH IDENTIFIER

97. Moreover, while the figures particularly depict a toothed ring "form-fitting means" located on the underside of the flange, which Mr. Jobin himself admits is an identifier, the application specifically discloses and a POSITA would have understood that other "detection means" (such as a barcode, logo, repeat pattern, or other machine-readable print) could be used in the same location and for the same purpose. *See* Ex. 2018 at 185:10-186:9. Indeed, Mr. Jobin agreed that the machine-readable print identifiers are not associated with particular embodiments of the second German application, but rather part of the "overview section" of the specification and "not referring to the figures." Ex. 2018 at 184:22-185:4. This is yet further reinforced by the teaching that the embodiment of Figs. 16-18 teach to use a camera as a detector. Mr. Jobin agrees that a camera can be used to read a barcode. Ex. 2019 at 20:17-25.

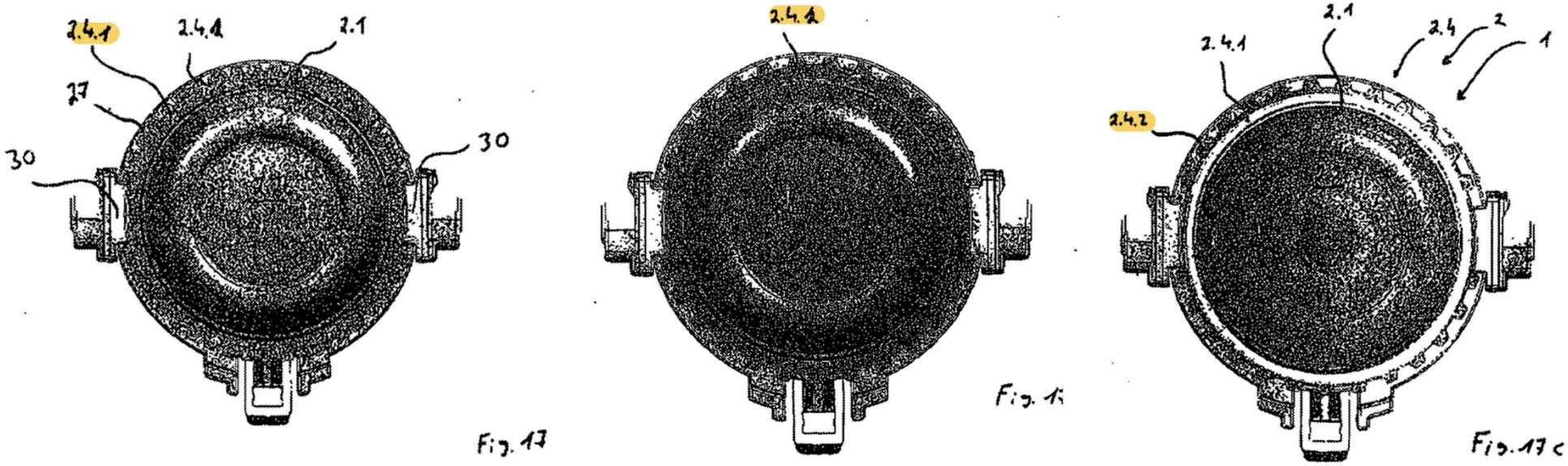


Left: Ex. 2017 (Howle Dec.) at ¶97 (Annotation added); *see also* POR2 at 56-66.

Right: Ex. 1047 (Second German Priority Application) at Fig. 16 (Annotations added); *see also id.* at Figs. 17(a)-(c).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

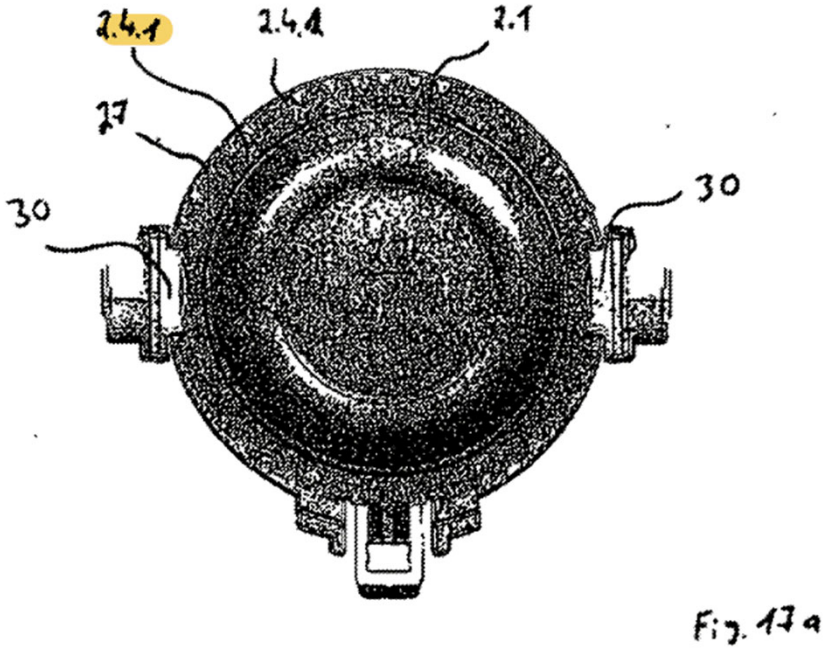
FIGS. 17A, 17B, AND 17C SHOW THE IDENTIFIERS 2.4.2 ON THE BOTTOM SIDE OF THE FLANGE



Ex. 1047 (Second German Priority Application) at Figs. 17 (a)-(c) (Annotations added); *see* POR2 at 56-66; *see* Ex. 2017 (Howle Dec.) at ¶¶ 72-75, 92-102.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S EXPERT AGREES THAT FIGS. 17A-C DEPICT THE CAPSULE FROM THE BOTTOM



10	Q Would you agree that Figures 17A, B
11	and C depict the capsule from the bottom?
12	MR. McCRAW: Object to the form.
13	A It's hard to tell from these images,
14	but it is my understanding that we are viewing
15	the capsule from the bottom.

Left: Ex. 1047 (Second German Priority Application) at Fig. 17(a) (Annotation added).

Right: Ex. 2018 (Jobin Depo) at 186:10-15 (Annotation added); *see* POR2 at 56-62; Ex. 2017 (Howle Dec.) at ¶¶ 73, 92-102.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIG. 2 CONFIRMS THE IDENTIFIER IS A BARCODE ON THE BOTTOM OF THE FLANGE

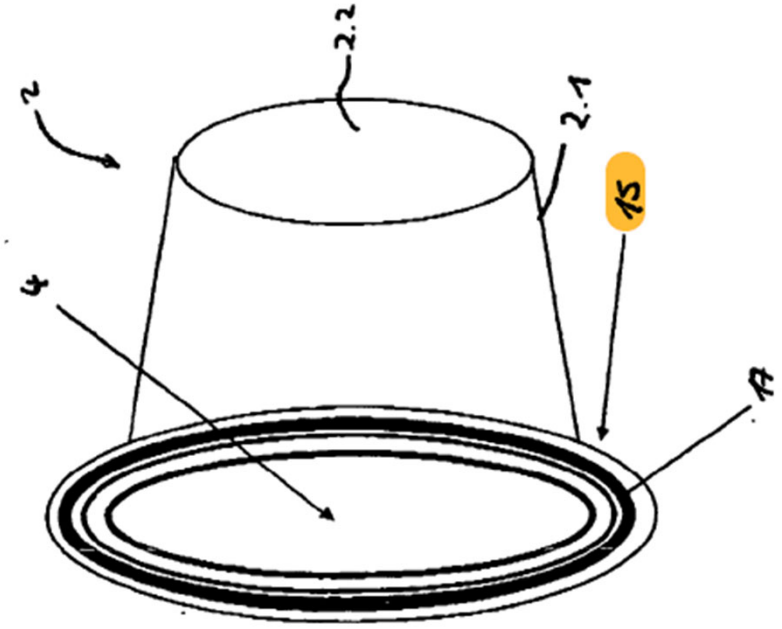


Figure 2 shows a further embodiment of the portion capsule according to the invention. In the present case, this capsule has a barcode in the region of the upper side of the membrane. This barcode can be printed on, by material removal, or can be produced by optically detectable means, for example fluorescent means, which are present in the sheet material. As an alternative, appropriate metal rings may form part of the sheet material or be applied to the sheet material. The regions of the barcode may consist of a ferromagnetic material. As an alternative, it is possible, as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane. This barcode is read by a detector 13, for example in an insertion shaft. The barcode constitutes the identifier according to the invention.

Left: Ex. 1047 (Second German Priority Application) at Fig. 2 (Annotation added).

Right: Ex. 1047 (Second German Priority Application) at 38:21-24 (Annotation added); *see* POR2 at 56-62; *see* Ex. 2017 (Howle Dec.) at ¶¶ 72-73, 92-102.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE SECOND GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

ADDITIONAL LIMITATIONS ARE DISCLOSED AND UNDERSTOOD TOGETHER

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 47
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’430 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATION

- Second German Priority Application discloses all limitations and linkage
  - The specification discloses all limitations
  - Figs. 16-18 support disclosure of all limitations
  - Figs. 1-2 provide additional evidence

POR2 at 35-66; POSR2 at 13-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 48
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

LEGAL STANDARDS

- “the test for sufficiency is whether the disclosure of the [earlier] application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of that earlier filing date.”
  - *Hologic, Inc. v. Smith & Nephew, Inc.*, 884 F.3d 1357, 1361 (Fed. Cir. 2018)
- Petitioner’s position requires that, “to arrive at the specifically claimed subject matter, a person skilled in the art would need to pick and choose from the certain of [K-fee’s] claims without guidance from the written description.”
  - *FWP IP ApS v. Biogen MA, Inc.*, 749 F. App'x 969, 977 (Fed. Cir. 2018)

POR2 at 62-66.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 49
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

NESPRESSO SUGGESTS THIS IS A PREDICTABLE ART

> The process of coffee extraction has been known for centuries (EX1003, ¶¶53-54), and single-portion coffee offerings began to emerge in the 1960s. *Id.* ¶¶55-56. Single-serve beverage systems by Keurig, Nespresso, and others were widely available by 2010. *Id.* ¶57. The operation and components of these systems are well-known. *Id.* ¶¶58-59. They include a brewing chamber to place the single-serve capsule, and needles to pierce the capsule to allow for water injection using a water pump and heater, which extracts the beverage into a cup for drinking. *Id.*

P2 at 3.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 50
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

PETITION INCORRECTLY ASSERTS LACK OF “LINKING”

Petition at 44-45

> Accordingly, the specification fails to disclose any capsule with an annular convexity, and lacks any disclosure linking the remaining features across its disparate embodiments, particularly (i) a barcode located on the bottom of the capsule flange, (ii) holding arms associated with the toothed ring embodiments, (iii) a seal associated with the toothed ring embodiments, as well as (iv) a capsule with an annular convexity and concavity, and (v) a capsule including indentations in the side wall. EX1003, ¶155. Accordingly, "[t]aking each claim—as we must—as an integrated whole rather than as a collection of independent limitations, one searches the [September 2010 Application] in vain for the disclosure of even a single species that falls within the claims or for any "blaze marks" that would lead an ordinarily skilled investigator toward such a species among a slew of competing possibilities." *Novozymes*, 723 F.3d at 1349.

- Disclosure and proof of all limitations and linkage:
  - The Second German Priority Application (Ex. 1047)
  - Dr. Howle’s declaration (Ex. 2017)

P2 at 44-45; POR2 at 35-43, 61-66 (Annotation added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION INCORRECTLY ASSERTS LACK OF “LINKING”

Limitation	Citation Showing
A barcode located on the bottom of the capsule flange	• Ex. 2017 (Howle Dec.) at ¶¶72-73 • Ex. 1047 (Second German Priority Application) at 33:1-7, 41:13-35, Fig. 16

72. The second German application provides support for the capsule having “a barcode provided on the bottom side of the flange” (element [1.d]) by disclosing that the “peripheral region 2.4 has, in its outer region, a form-fitting and/or friction-fitting means ***and/or a detection means 2.4.2.***” Ex. 1047 at 41:13-35. A POSITA would have understood that “means 2.4.2” can be a toothed ring as depicted in Figures 16 and 17(a)-(c) ***or*** another “detection means” stated in the claims, such as the barcode disclosed with respect to Figure 2. *See id.* at 38:11-27, 41:13-35. The application continues that the Figure 2 “capsule has a barcode in the region of the upper side of the membrane.” *Id.* at 38:11-27. The application alternatively discloses that “as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane” (*id.*), *i.e.*, the underside of the flange. Accordingly, the application supports placing a barcode under the flange, and a POSITA would have understood that the placement of the detector could be moved depending on the placement of the identifier. *See, e.g., id.* at Figures 11-13, 15.

73. Moreover, in a description of the different identifiers that could be used with the portion capsule, the application describes that “[t]he identifier is further preferably a machine-readable print,” and the “print is preferably a barcode, a logo or a repeat pattern.” Ex. 1047 at 33:1-7. As such, a POSITA would have understood that ***either*** a repeated toothed ring identifier ***or*** other detection means could be placed on the bottom side of the flange at Figure 17(a) 2.4.2. *Id.* at Figure 17(a). In fact, Mr. Jobin ***agrees*** (1) element 2.4 depicts the flange; (2) element 2.4.2 depicts the toothed ring; and (3) that Fig. 17C depicts a view of the bottom of the capsule. *See* Ex. 2018 at 169:5-170:4, 186:10-20 (agreeing that a POSITA would have understood Figure 17a (and the other drawings) to be a view of the bottom of a portion capsule, or base region 2.2, looking up at the toothed ring on the bottom side of the flange). Figure 2 also depicts the barcode on the bottom side of the flange which further informs the understanding of a POSITA reviewing the application. Ex. 1047 at Fig. 2. While the means 2.4.2 can be a toothed ring as depicted in Figures 16 and 17(a)-(c), a POSITA would have understood that other “detection means” such as the barcode disclosed with respect to Figure 2 could be located on the bottom side of the flange instead of the toothed ring.

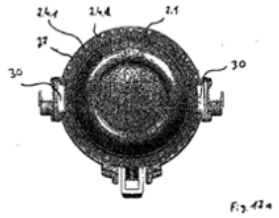
P2 at 44-45; Ex. 2017 (Howle Dec.) at ¶¶72-73; Ex. 1047 (Second German Priority Application) at 33:1-7, 41:13-35, Fig. 16 (Annotation added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION INCORRECTLY ASSERTS LACK OF “LINKING”

Limitation	Citation Showing
Holding arms associated with the toothed ring embodiments	• Ex. 2017 (Howle Dec.) at ¶84 • Ex. 1047 (Second German Priority Application) at 41:37-42:14, Fig. 17a

84. The second German application provides support for a beverage machine that comprises (iii) a pair of holding arms for engaging the single-serve capsule” (element [1.m]) by displaying/depicting the holding arms in Figures 17(a)-17(c), which “show how the portion capsule 1 is retained on a part of the brewing chamber 27 by means of two retaining arms 30. These retaining arms 30 interact with the means 2.4.2.” Ex. 1047 at 41:37-42:14.



Ex. 1047 at Fig. 17(a).

P2 at 44-45; Ex. 2017 (Howle Dec.) at ¶84; Ex. 1047 (Second German Priority Application) at 41:37-42:14, Fig. 17a.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION INCORRECTLY ASSERTS LACK OF “LINKING”

Limitation	Citation Showing
A seal associated with the toothed ring embodiments	• Ex. 2017 (Howle Dec.) at ¶Ex. 1047 (Second German Priority Application) at 41:13-35, Fig. 16

77. The second German application provides support for “a brewing chamber configured to receive the base element of the single-serve capsule and having an end portion that opposes the bottom side of the flange” (element [1.f]) by disclosing that, under the description for Figure 16, “[p]referably a sealing surface 2.4.1 is provided in the peripheral region 2.4, on the inside in respect of this toothed ring, and interacts with sealing action with a seal 21, which is arranged on the brewing chamber 27.” Ex. 1047 at 41:13-35. As shown below, Figure 16 depicts a brewing chamber 27. *Id.* at Fig. 16. Additionally, Figure 1 provides a further description disclosing this limitation by stating that “[t]his coffee capsule is introduced into a brewing chamber 12 (illustrated schematically here).” *Id.* at 37:1-38:6.

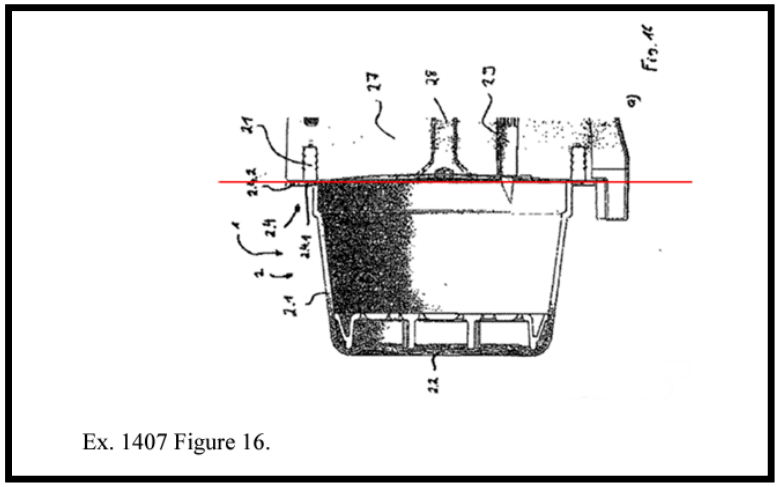
P2 at 44-45; Ex. 2017 (Howle Dec.) at ¶77; Ex. 1047 (Second German Priority Application) at 41:13-35, Fig. 16 (Annotation added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION INCORRECTLY ASSERTS LACK OF “LINKING”

Limitation	Citation Showing
Capsule with an annular convexity and concavity	• Ex. 2017 (Howle Dec.) at ¶¶89-91 • Ex. 1047 (Second German Priority Application) at 41:13-35, Fig. 16

90. The second German application explicitly discloses “an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to the central axis of the base element” in Figure 16 (annotated below), which depicts a “cover [that] is bowed outwardly.” Ex. 1047 at 41:13-35. A POSITA would have understood that a bowed cover, as shown below in the annotated Figure 16, depicts “an upper end portion that has an annular convexity.” The red reference line shows that the upper end of the portion capsule, as shown in Figure 16, is not flat. However, a POSITA would have understood that upon the cover being pierced by the mandrel, the once-convex cover would be flattened as the volume of air inside the capsule decreases. Moreover, a POSITA would have understood that an intact portion capsule would have an outwardly-bowed cover because of, for example, differential pressure inside and outside of the capsule. Therefore, the water inlet 28 and brewing head 27 are ***not*** flush with the flat top of the capsule membrane, as Petitioner argues.



Ex. 1407 Figure 16.

P2 at 44-45; Ex. 2017 (Howle Dec.) at ¶¶89-91; Ex. 1047 (Second German Priority Application) at 41:13-35, Fig. 16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 56
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

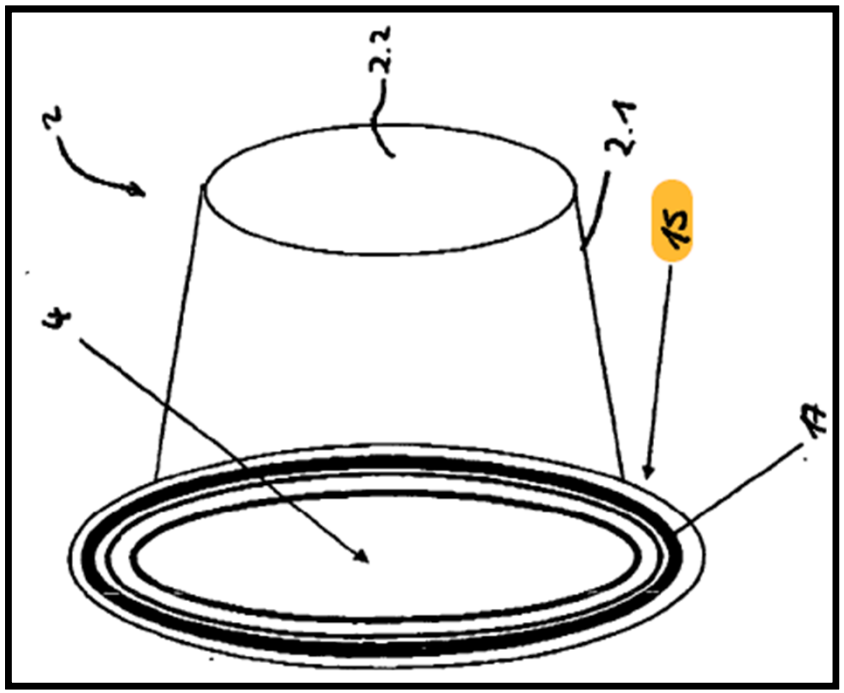
ALL CLAIMS SUPPORTED BY THE EMBODIMENT OF FIGS 16-18

conclusion. **A POSITA would have understood the embodiment disclosed in Figures 16-18 of the second German application alone satisfies the written description requirement, reciting every limitation in each of the claims of the '430 Patent.** *See generally* Ex. 2017, ¶¶53-88. Indeed, "[t]he written description requirement does not require the applicant 'to describe exactly the subject matter claimed, [instead] the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed.'" *Union Oil Co. of Cal. v. Atlantic Richfield Co.*, 208 F.3d 989, 997 (Fed. Cir. 2000) (citation omitted); *see also Cummins-Allison Corp. v. SBM Co.*, 484 Fed. Appx. 499, 505 (Fed. Cir. 2012) (explaining that "the earlier filed application need not describe the later filed claims verbatim"); *Ex Parte Sims*, Appeal 2018-003749, 2019 Pat. App. LEXIS 4077, at *11 (P.T.A.B. June 24, 2019) (finding the specification provided adequate written description support because it explicitly stated "'[a]ny embodiments described in one or more of such patent applications and/or herein may be used in any combination with one or more embodiments described herein in any combination'"). Additional relevant disclosure can be found, for example, in Figures 1 and 2 and the accompanying written description for each of Figures 1, 2, 16, 17, and 18. Moreover, a POSITA would understand the embodiments are linked by virtue of Fig. 16 and various passages in the general teachings of the application. *See generally* Ex. 2017, ¶¶53-88.

POR2 at 38-39 (Annotation added); *see generally* Ex. 2017 (Howle Dec.) at ¶¶ 53-88.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

FIG. 2 PROVIDES ADDITIONAL EVIDENCE



in any combination’”). Additional relevant disclosure can be found, for example, in Figures 1 and 2 and the accompanying written description for each of Figures 1, 2, 16, 17, and 18. Moreover, a POSITA would understand the embodiments are linked by virtue of Fig. 16 and various passages in the general teachings of the application. *See generally* Ex. 2017, ¶¶53-88.

Left: Ex. 1047 at 51 (Fig. 2) (Annotation added).
Right: POR2 at 38-39.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 58
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

POSITA READS THE SECOND GERMAN PRIORITY APPLICATION AS A WHOLE

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

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

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

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

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

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

POSR2 at 18-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 59
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

POSITA READS THE SECOND GERMAN PRIORITY APPLICATION AS A WHOLE

> What has been said in relation to the identifier applies to all the other examples.

Second German Priority Application at 38:9-10

Ex. 1047 (Second German Priority Application) at 38:9-10; see Ex. 2017 (Howle Dec.) at ¶¶53, 61-63, 92-104.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA READS THE SECOND GERMAN PRIORITY APPLICATION AS A WHOLE

> 61. A POSITA would have understood upon reading the second German application that the capsule features described are linked and would be intended to be combinable with each of the described embodiments. For example, the second German application describes that “*[t]he invention* will be explained hereinbelow with reference to figures 1-18. These explanations do not have a limiting effect on the general concept of the invention.” Ex. 1047 at 35:1-37. Moreover, after the general description of the invention which included multiple examples identifier and the complete description of Figure 1, the second German application stated that “[w]hat has been said in relation to the identifier applies to all other examples.” *Id.* at 38:8-9. The next example of identifier is found in the description of Figure 2, which provides an additional disclosure regarding the location of the identifier on the capsule. *Id.* at 38:11-27.

Ex. 2017 (Howle Dec.) at ¶61

Ex. 2017 (Howle Dec.) at ¶61; *see* POR2 at 39; POR Reply2 at 7-8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APPLICATION: EMBODIMENTS LINKED VIA “THE BREWING CHAMBER”

The portion capsule according to the invention makes it possible to prevent portion capsules which are not provided for a specific coffee machine to be introduced into the same. Furthermore, the identifier makes it possible for the coffee machine to detect which kind of capsule is located in its brewing chamber and to set the beverage-making or food-making process, i.e. for example the quantity of water, the pressure thereof and/or the temperature thereof, correspondingly.

Ex. 1047 at 33:22-30.

According to a further, or a preferred, subject matter of the present invention, the portion capsule has a peripheral region, which is preferably provided on the basic element. The periphery is preferably provided on that region of the basic element which is located opposite the base. For example a membrane for closing the basic element may be arranged on this peripheral region once the raw material has been introduced into the portion capsule. The periphery, however, may also be used for guiding the capsule in an insertion shaft such that the capsule drops into a brewing chamber in a quite specific position. At the same time, the periphery can be used as a stop and/or sealing surface.

Ex. 1047 at 34:13-25.

Figure 16 shows a portion capsule with a toothed ring in the brewing chamber.

Ex. 1047 at 36:30-31.

Ex. 1047 (Second German Priority Application) at 33:22-30, 34:13-25, 36:30-31 (Annotations added); POR2 at 35, 57-58, POSR2 at 15-16, 18-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APPLICATION: EXPLANATIONS DO NOT LIMIT INVENTION

> The invention will be explained hereinbelow with reference to figures 1-18. These explanations do not have a limiting effect on the general concept of the invention.

Ex. 1047 (Second German Priority Application) at 35:23-26 (Annotations added); POSR2 at 16, 18-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APP. PROVIDES SPECIFIC DISCLOSURE: MULTIPLE DEPENDENT CLAIMS SHOW THAT THE FEATURES WERE DESIGNED TO BE USED ACROSS EMBODIMENTS

10. The portion capsule (1) as claimed in one of the preceding patent claims, characterized in that the identifier is an RFID.

11. The portion capsule (1) as claimed in one of the preceding patent claims, characterized in that the identifier is a barcode (17).

12. The portion capsule (1) as claimed in one of the preceding patent claims, characterized in that it has an insert element (19) with an identifier.

13. The portion capsule (1) as claimed in one of the preceding claims or the preamble of patent claim 1, characterized in that it has a peripheral region (2.4), which is preferably provided on the basic element (2).

14. The portion capsule (1) as claimed in claim 13, characterized in that a form-fitting means, friction-fitting means and/or detection means (2.4.2) is provided in the peripheral region, in particular on the outer circumference thereof, at least in certain regions.

15. The portion capsule (1) as claimed in claim 14, characterized in that the form-fitting means, friction-fitting means and/or detection means (2.4.2) is a toothed ring or toothed-ring segment.

16. The portion capsule (1) as claimed in claim 15, characterized in that the teeth of the toothed ring or of the toothed-ring segment are essentially triangular, rectangular, square or undulating.

17. The portion capsule as claimed in one of claims 13-16, characterized in that a sealing surface (2.4.1) is provided on the periphery (2.4).

- Combinable elements are limited in scope

Ex. 1047 (Second German Priority Application) at 47-48 (cls. 10-17); *see* POR2 at 41-42, 61-66; POSR2 at 14-16, 18-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SECOND GERMAN PRIORITY APPLICATION: CLAIMS 1, 13, 17 DESIGNED TO COMBINE

1. A portion capsule (1) for making a beverage, having a basic element (2) with a cavity (3), in which a raw beverage material is provided and which is closed by a membrane (4), which is fastened on the basic element, characterized in that it has an identifier (5), which makes it possible to individualize the respective portion capsule.

13. The portion capsule (1) as claimed in one of the preceding claims or the preamble of patent claim 1, characterized in that it has a peripheral region (2.4), which is preferably provided on the basic element (2).

17. The portion capsule as claimed in one of claims 13-16, characterized in that a sealing surface (2.4.1) is provided on the periphery (2.4).

- Generic linking claim 1
  - Contemplated combos of embodiments
- Claim 17
  - Machine with seal, e.g., Fig. 16(a) and (b)

Ex. 1047 (Second German Priority Application) at 46, 47, 48 (cls. 1, 13, 17) (Annotations added); *see* POR2 at 41-42; POSR2 at 14-16, 18-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE USPTO HAS ALREADY FOUND PRIORITY IN RELATED MATTERS

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 66
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

USPTO INITIALLY FOUND NO DISCLOSURE IN RELATED PATENT

system. However, there is no disclosure of the below claim limitations in the above identified applications to teach or suggest the combination of features of independent claims such as (1) chamfered mandrel that pierces the cover at the location that is offset from the central longitudinal axis, (2) the cover is bowed outwardly, (3) the capsule receptacle defined by a base portion and an annular portion, (4) an optical sensor/detector positioned outside of the base portion of the wall structure of the capsule holder and below the annular portion, which directs a beam through a portion of the wall structure to read the identifier on the single-serve capsule and (5) a seal that is at least partially seated in the groove and configured to bear against a top side of the cover in a region between the peripheral edge of the cover and the region of the cover that is pierced by the chamfered mandrel, found in any of applicant's prior filed applications. Therefore for claims in the current application are not entitled to the benefit of the claimed priority dates, foreign or domestic and the priority date is the filing date of the application, that is **10 December 2021**.

Ex. 2010 (’094 Prosecution History) at 13-14; POPR2 at 32-36; POR2 at 35-38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

USPTO WITHDREW PRIORITY REJECTIONS AS BOWED COVER WAS SUPPORTED BY GERMAN PRIORITY APPLICATIONS

Examiner’s December 10, 2021 Non-Final Rejection in Related U.S. Patent No.11,542,094

system. However, there is no disclosure of the below claim limitations in the above identified applications to teach or suggest the combination of features of independent claims such as (1) chamfered mandrel that pierces the cover at the location that is offset from the central longitudinal axis, (2) the cover is bowed outwardly, (3) the capsule receptacle defined by a base portion and an annular portion, (4) an optical sensor/detector positioned outside of the base portion of the wall structure of the capsule holder and below the annular portion, which directs a beam through a portion of the wall structure to read the identifier on the single-serve capsule and (5) a seal that is at least partially seated in the groove and configured to bear against a top side of the cover in a region between the peripheral edge of the cover and the region of the cover that is pierced by the chamfered mandrel, found in any of applicant’s prior filed applications. Therefore for claims in the current application are not entitled to the benefit of the claimed priority dates, foreign or domestic and the priority date is the filing date of the application, that is **10 December 2021**.

Examiner’s June 14, 2022 Applicant-Initiated Interview Summary in Related U.S. Patent No.11,542,094

Date of Interview: 14 June 2022

Issues Discussed:

Proposed Amendment(s)

The attorney agreed not to amend the claim. Thus, proposed amendment to claims in the agenda will not be enter.

Drawings

The attorney stated that the support can be found on "On pg 6, at lines 23-26. On pg.9, i.e., what has been said in relation to the identifier applies to all other examples ... as symbolized by the arrow 15. Examiner noted that the arrow pointed at the bottom side of flange of a capsule. Examiner agreed that fig.16A is an example of the capsule that can be with a beverage machine. Thus, drawing objections will be withdrawn.

Other

1. Discuss about Foreign priority document. The attorney stated that the support can be found on "On pg 6, at lines 23-26. On pg.9, i.e., what has been said in relation to the identifier applies to all other examples ... as symbolized by the arrow 15. Examiner noted that the arrow pointed at the bottom side of flange of a capsule. Examiner agreed that fig.16A is an example of the capsule that can be with a beverage machine. Thus, priority notification will be withdrawn.

2. The attorney agreed to file terminal disclaimer with respect to US 11254491.

Ex. 2010 (’094 Prosecution History) at 8, 13-14 (Annotations added); *see* POPR2 at 32-36; POR2 at 35-38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

USPTO WITHDREW PRIORITY REJECTIONS SUPPORTING BARCODE LIMITATION IN GERMAN PRIORITY APPLICATIONS

Examiner’s June 14, 2022 Applicant-Initiated Interview Summary in Related U.S. Patent No.11,542,094

Date of Interview: 14 June 2022

Issues Discussed:

Proposed Amendment(s)

The attorney agreed not to amend the claim. Thus, proposed amendment to claims in the agenda will not be enter.

Drawings

The attorney stated that the support can be found on "On pg 6, at lines 23-26. On pg.9, i.e., what has been said in relation to the identifier applies to all other examples ... as symbolized by the arrow 15. Examiner noted that the arrow pointed at the bottom side of flange of a capsule. Examiner agreed that fig.16A is an example of the capsule that can be with a beverage machine. Thus, drawing objections will be withdrawn.

Other

1. Discuss about Foreign priority document. The attorney stated that the support can be found on "On pg 6, at lines 23-26. On pg.9, i.e., what has been said in relation to the identifier applies to all other examples ... as symbolized by the arrow 15. Examiner noted that the arrow pointed at the bottom side of flange of a capsule. Examiner agreed that fig.16A is an example of the capsule that can be with a beverage machine. Thus, priority notification will be withdrawn.

2. The attorney agreed to file terminal disclaimer with respect to US 11254491.

Ex. 2010 (’094 Prosecution History) at 8 (Annotation added); *see* POPR2 at 32-36; POR2 at 35-38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PRIOR ART FAILING: CAVITY FREE OF A FILTER

’430 Patent (IPR2023-00485): All claims

’923 Patent (IPR2023-00502): Claims 1-8, 10

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO TEACHINGS IN PRIOR ART:

- Single-serve capsule free of a filter *(also argued in ’923 Patent (IPR2023-00502))*
- Pump controlled to supply water into the single-serve capsule
- A side wall having indentations

See POR1 at 20-27; POSR1 at 16-19; POR2 at 9-25; POSR2 at 19-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO TEACHINGS IN PRIOR ART:

- Single-serve capsule free of a filter *(also argued in ’923 Patent (IPR2023-00502))*
  - Petition fails to identify Yoakim’s capsule “free of a filter”
  - Exemplary Yoakim Fig. 28 discloses a filter within the cavity
  - Yoakim at [0171] discloses an additional filter to the original filter

See POR1 at 20-27; POSR1 at 16-18; POR2 at 10-15; POSR2 at 19-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

ALL ’430 PATENT CLAIMS REQUIRE:

wherein the single-serve capsule is free of a filter that is located inside of the cavity, the single-serve capsule

Ex. 1001 (’430 Patent) at 26 (cls. 1, 7) (Annotation added); *see* POR2 at 10-15; POSR2 at 19-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’923 PATENT CLAIMS 1-8 AND 10 REQUIRE:

The invention claimed is:

1. Single-serve capsule for making a beverage, having a base element made of metal with a cavity that is free of a filter, and in which a raw beverage material is provided, the cavity including radially spaced and vertically oriented ribs, the capsule having a flange which is provided on the base element, and the cavity being closed by a metal cover, which is fastened on a top side of the flange, the base element comprises a wall region extending between the flange and a bottom region of the base element, the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region,

10. The single-serve capsule according to claim **9**, wherein the base element is made of metal and the cavity is free of a filter.

Ex. 1001 (’923 Patent) at 25-26 (cls. 1, 10) (Annotations added); *see* POR1 at 20-27; POSR1 at 16-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’923 AND ’430 PATENT FILTER DESCRIPTION

According to the invention it is further provided that a filter element is arranged into the cavity. Such a filter element divides the cavity into a first region for accommodating the beverage raw material and into a second region for accommodating a beverage extract. In particular, it is provided that the filter element is made of a non-woven material.

Ex. 1001 (’430 Patent) at 23 (7:12-18); Ex. 1001 (’923 Patent) at 23 (7:12-18).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONS' TWO-SENTENCE ARGUMENT DOES NOT DEMONSTRATE DISCLOSURE OF A CAVITY FREE OF A FILTER

P1 at 50
('923 Patent)

c) "with a cavity that is free of a filter" (Claim [1.b])

To the extent the '923 Patent describes and enables "free of a filter," Yoakim discloses a portion capsule with a cavity that does not include a filter, and expressly confirms that a filter is optional. EX1004, [0171] ("An additional filtering layer can be used to filter the liquid depending on the size of the outlets."), [0343] (disclosing optional filter embodiment), [0288], [0461]; EX1003, ¶¶213-214. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using portion capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶¶215-216.

P2 at 62
('430 Patent)

i) Element [1.h], [7.h]

To the extent the '430 Patent describes and enables a capsule free of a filter, Yoakim discloses a capsule that does not include a filter and expressly confirms that a filter is optional. EX1004, [0171] ("An additional filtering layer can be used to filter the liquid depending on the size of the outlets."), [0343] (disclosing optional filter embodiment); EX1003, ¶¶230-231. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶232.

Left: P1 at 50 (Annotations added).
Right: P2 at 62 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [0171] DOES NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE THE CAVITY

[0171] In this mode, premade radial outlets for the brewed liquid are provided in the capsule. For instance, a series of slits are provided in the lid and/or body. When the capsule is driven in rotation, the brewed liquid can pass through the slits whereas the solid particles are retained in the capsule. An additional filtering layer can be used to filter the liquid depending on the size of the outlets.

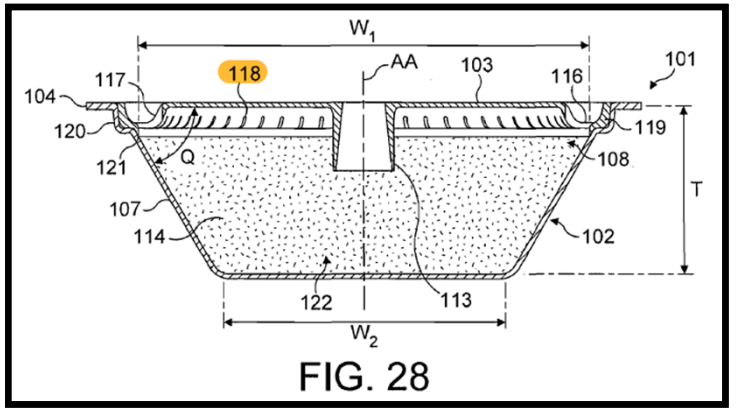


FIG. 28

An "*additional* filtering layer" is *additive to the filtering outlets/slits*

Yoakim Fig. 28, element 118 depicts "a series of slits," which is a filter

Left: Ex. 1004 (Yoakim) at 42 ([0171]) (Annotations added).

Right: Ex. 1004 (Yoakim) at 17 (Fig. 28) (Annotation added); POR1 at 20-24; POR2 at 10-12; POSR1 at 16-18; POSR2 at 19-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [0343] DOES NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE OF THE CAVITY

[0343] In a possible mode, the portion of wall with the outlet openings can be formed from a paper filter or woven, non-woven fibres, meshed material, porous polymer membrane or combination thereof. In this case, part of the portion of wall can be formed by a band or different parts of the filter, fibres or meshed material. The meshed material can be of metal and/or polymeric wires, for instance. The fibres can be a fabric of polymer and/or natural fibres. In these different cases, the openings can be formed of the pores formed between the fibres of the material. In particular, polymer woven or meshed material or a porous polymer membrane can be both tear resistant and designed with a low porosity, i.e., lower than 200 microns, more preferably between 1 and 100 microns, for providing a significant pressure drop, i.e., within about 1-4 bar. A suitable material can be a PET woven membrane.

[0343] discloses the outlet openings

c) "with a cavity that is free of a filter" (Claim [1.b])

To the extent the '923 Patent describes and enables "free of a filter," Yoakim discloses a portion capsule with a cavity that does not include a filter, and expressly confirms that a filter is optional. EX1004, [0171] ("An additional filtering layer can be used to filter the liquid depending on the size of the outlets."), [0343] (disclosing optional filter embodiment), [0288], [0461]; EX1003, ¶¶213-214. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using portion capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶¶215-216.

Petitioner *admits* Yoakim at [0343] expressly discloses filters within Yoakim's capsule

Left: Ex. 1004 (Yoakim) at 51 ([0343]) (Annotation added).

Right: P1 at 50 (Annotation added); *see also* P2 at 62; POR1 at 23-24; POR2 at 10-11.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [0288] AND [0461] DO NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE OF THE CAVITY

[0288] The capsule may comprise a filter means to filter the centrifuged before the liquid is released from the outlets at the sidewall.

Yoakim at [0288] and [0461] disclose a filter

[0461] FIGS. **45** to **50** are other variants of capsules according to the invention. For example, the capsule of FIG. **45** has a cylindrical side wall **700**, an upper wall **701** and a lower wall **702** both sealed or connected to the side wall **700**. The capsule is gastight by choosing materials for the walls, e.g., aluminium and/or suitable plastics, which have gas barrier properties. The upper walls and lower walls can be flexible or rigid depending on said materials. For example, wall **701** can be a flexible sealing membrane welded on upper rim **703** of the body **705** forming the sidewall **700** and lower wall **702**. 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. Optionally, the capsule may comprise a filter part **708** delimiting the cavity **709** for the substance and a collecting recess **710** peripherally placed relative to the central cavity. 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 centrifuged liquid passed through the cylindrical wall **700** in outlets **704**, **706** positioned, for example, at about the median transversal plane of the capsule. A series of outlets can be distributed at intervals around the side wall **700**. The outlets may be already pre-made in the wall **700** and covered by a gastight sealing membrane **711**. The sealing membrane can be a flexible band surrounding the wall which can be pierced at the outlets, cut or removed, e.g., peeled off, by the user for uncovering the outlets before it is inserted in the centrifugal brewing device. The size of the outlets can be small enough to provide a flow restriction to the liquid.

Left: Ex. 1004 (Yoakim) at 49 ([0288]).

Right: Ex. 1004 (Yoakim) at 59 ([0461]); *see also* P1 at 50; P2 at 62; POR1 at 23-24; POR2 at 10-11.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [FIG. 45] DOES NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE OF THE CAVITY

erties. The upper walls and lower walls can be flexible or rigid depending on said materials. For example, wall **701** can be a flexible sealing membrane welded on upper rim **703** of the body **705** forming the sidewall **700** and lower wall **702**. 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. Optionally, the capsule may comprise a filter part **708** delimiting the cavity **709** for the substance and a collecting recess **710** peripherally placed relative to the central cavity. 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 centrifuged liquid passed through the cylindrical wall **700** in outlets **704**, **706** positioned, for example, at about the median transversal plane of the capsule. A series of outlets can be distributed at intervals around the side wall **700**. The outlets may be already pre-made in the wall **700** and covered by a gastight sealing membrane **711**. The sealing membrane can be a flexible band

Element 708 is a "filter part"

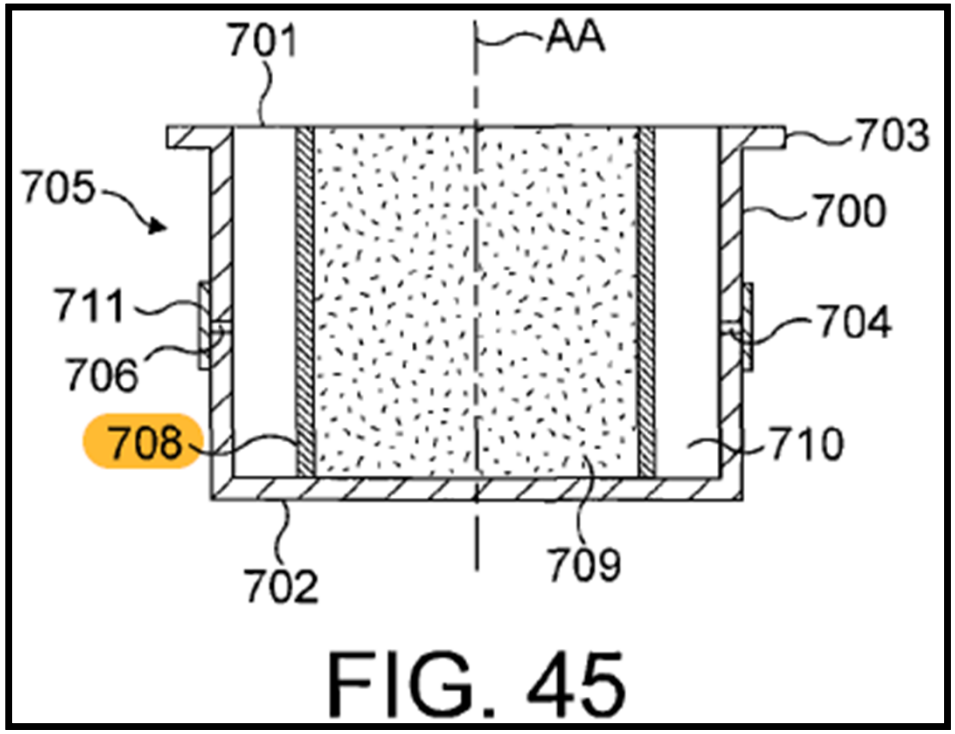


FIG. 45

Left: Ex. 1004 (Yoakim) at 59 ([0461]).

Right: Ex. 1004 (Yoakim) at 28 (Fig. 45); *see* POR1 at 23-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [FIG. 42] DOES NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE OF THE CAVITY

[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. The recess **181** is delimited by an inner edge **183** and an outer rim **184**. The porous wall **180** can be attached to an inner edge **183** of the recess **181**. A gastight foil membrane **186** is preferably attached onto the outer rim **184** of the body. The inner edge is preferably placed below the outer rim in order to leave a free space **185** between porous wall **180** and the foil membrane **186**. The porous wall can be sealed by heat or ultrasonic welding onto the inner edge **183**. In order to leave a certain gap to let liquid travels to the recess, the inner edge **183** is slightly lower than the outer rim **84** onto which is sealed the outer membrane **186**.

[0452] The porous wall **180** can have openings (i.e., pores) along its whole surface or along a peripheral portion of wall only. FIG. **41** shows a portion of the wall **187** of wall **180**, which normally have the openings whereas the central portion **188** is free of openings.

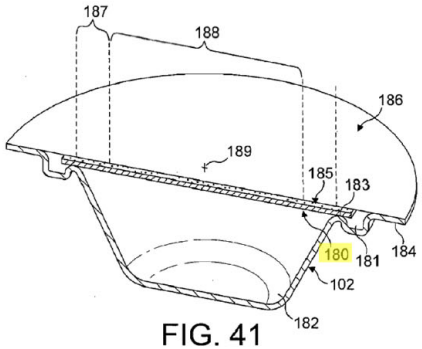


FIG. 41

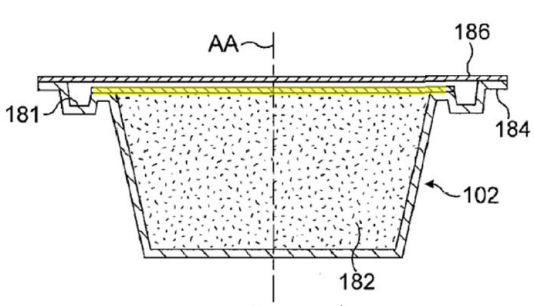


FIG. 42

Figure 42 depicts a porous wall 180, which is a filter for separating the liquid from the food substance.

Left: Ex. 1004 (Yoakim) at 58 ([0451]-[0452]).

Right: Ex. 1004 (Yoakim) at 26 (Figs. 41, 42); *see also* P1 at 50; P2 at 62; POR1 at 23-24; POR2 at 12-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

JOBIN RETRACTED HIS OPINION THAT YOAKIM AT [FIG. 42] DISCLOSED A CAVITY FREE OF A FILTER

Q. Sitting here today, are you aware of any errors or mistakes in your reports?
A. Yes. I'm aware of one in the '923. Let's see if I can locate it.

On page 107 of my '923 declaration, in paragraph 215, I cite to Figure 42, and that's a typo that is meant to be Figure 52.

So instead of 42 and 54, it should state Figures 52 and 54. And that typo appears twice in that sentence.

Jobin claims to have relied on Yoakim at Fig. 52 instead of Yoakim at Fig. 42

Q. And why do you believe that that was a typo?
A. Well, I remember what I intended to put there, and I remember the figure that I intended to cite. And in reviewing the document in the last weeks, noted that the figure was different from what I recollect. So I assume it was a typo.
Q. What is different about Figure 52 from which you recollect?
A. I just remember looking at 52, and that was what I was using to provide as an example to support my opinion in 215. 42 didn't support that opinion.

Left: Ex. 2019 (11/28/23 Jobin Depo) at 11-12 (11:22-12:7).

Right: Ex. 2019 (11/28/23 Jobin Depo) at 12 (12:8-21); *see* POR1 at 26, n. 5; *see also* POR2 at 14, n. 3; Ex. 2019 (11/28/23 Jobin Depo) at 11:22-16:19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER'S RELIANCE ON [FIG. 52] IS IMPROPER

Petition does not cite Yoakim at Fig. 52

c) "with a cavity that is free of a filter" (Claim [1.b])

To the extent the '923 Patent describes and enables "free of a filter," Yoakim discloses a portion capsule with a cavity that does not include a filter, and expressly confirms that a filter is optional. EX1004, [0171] ("An additional filtering layer can be used to filter the liquid depending on the size of the outlets."), [0343] (disclosing optional filter embodiment), [0288], [0461]; EX1003, ¶¶213-214. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using portion capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶¶215-216.

P1 at 50 ('923 Patent)

i) Element [1.h], [7.h]

To the extent the '430 Patent describes and enables a capsule free of a filter, Yoakim discloses a capsule that does not include a filter and expressly confirms that a filter is optional. EX1004, [0171] ("An additional filtering layer can be used to filter the liquid depending on the size of the outlets."), [0343] (disclosing optional filter embodiment); EX1003, ¶¶230-231. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶232.

P2 at 62 ('430 Patent)

Jobin does not cite Yoakim at Fig. 52 in his declaration

Q. Do you point to Figure 52 anywhere in your declaration?

A. I have to review my declaration again to know for sure. But I don't recall, at this time, citing that anywhere else. I'll look at the figure real quick.

I don't recall citing that in any other particular section.

Right: P1 at 50; P2 at 62 (Annotations added).

Left: Ex. 2019 (11/28/23 Jobin Depo) at 16 (16:9-16); *see* POR2 at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT FIG. 54 DOES NOT DISCLOSE A CAPSULE FREE OF A FILTER THAT IS LOCATED INSIDE OF THE CAVITY

[0083] FIG. **54** is a schematic representation of the centrifugal device into which is inserted the capsule of FIG. **51**;

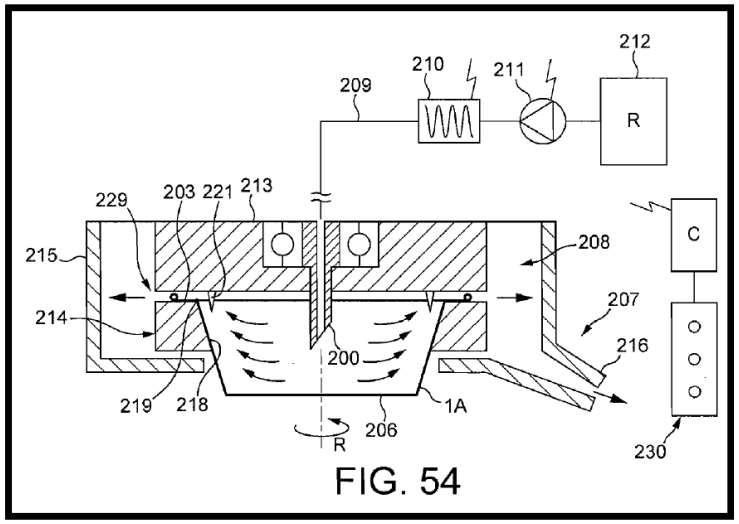


FIG. 54

According to Yoakim, Fig. 54 is a schematic drawn at a high level

```
24        Q.   Figure 2 is also described in
25   paragraph 31 of Yoakim as a schematic
 1   representation.
 2                Do you understand that Figure 2
 3   does not show all the details?
 4                ATTORNEY MCCRAW:  Object to
 5        form.  Objection.  Relevance.
 6                THE WITNESS:  Paragraph 31
 7        states [as read]:
 8                "Figure 2 is a schematic
 9             representation of a brewing module
10             in open position of the system of
11             the invention into which is inserted
12             a capsule."
13                They are depicting a view which
14        shows the various components of the
15        brewing module.  Whether all of the
16        details are included or not is not stated.
17                But, you know, there are
18        other -- obviously, this subsystem goes
19        into a larger system.  And there are
20        details which are excluded in this view
21        because it's intended to represent
22        particular information.
```

```
20                I see that the schematic
21        representations of Figure 2 and 3 are
22        drawn with less detail.
```

Jobin agrees schematic views are "drawn with less detail"

Left: Ex. 1004 (Yoakim) at 39 ([0083]), 31 (Fig. 54) (Annotation added).

Right: Ex. 2019 (11/28/23 Jobin Depo) at 51-55 (52:24-53:22, 55:20-22); *see* P1 at 50; P2 at 62; POR1 at 25-26; POSR1 at 17; PO2 at 13-14; POSR2 at 21; Ex. 2019 (11/28/23 Jobin Depo) at 50:24-56:1.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HOWLE AGREES THAT SCHEMATIC VIEWS DO NOT CONTAIN EVERY DETAIL

74. 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.

Ex. 2017 ('923 Patent) at 42 (¶74) (Annotation added); *see* Ex. 2017 ('430 Patent) at 74 (¶113); POR1 at 26; POR2 at 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

JOBIN’S CONCLUSORY DECLARATION PROVIDES NO ANALYSIS

P1 at 50
(’923 Patent)

c) “with a cavity that is free of a filter” (Claim [1.b])

To the extent the ’923 Patent describes and enables “free of a filter,” Yoakim discloses a portion capsule with a cavity that does not include a filter, and expressly confirms that a filter is optional. EX1004, [0171] (“An additional filtering layer can be used to filter the liquid depending on the size of the outlets.”), [0343] (disclosing optional filter embodiment), [0288], [0461]; EX1003, ¶¶213-214. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using portion capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶¶215-216.

Jobin Decl. ¶¶213-216

c. Claim [1.b] “with a cavity that is free of a filter”

213. To the extent the ’923 Patent describes and enables a capsule “free of a filter,” Yoakim discloses “the portion capsule being free of a filter.” Specifically, Yoakim describes extraction of coffee capsules using methods that do not include a filter, and in fact confirm that the addition of a filter structure is optional. Ex. 1004 at [0171] (“An additional filtering layer can be used to filter the liquid depending on the size of the outlets.”).

214. Yoakim further describes the optional filter embodiment, which is not otherwise present in the Yoakim embodiments that I have discussed. *See* Ex. 1004 at [0343] (“In a possible mode, the portion of wall with the outlet openings can be formed from a paper filter or woven, non-woven fibres, meshed material, porous polymer membrane or combination thereof. In this case, part of the portion of wall can be formed by a band or different parts of the filter, fibres or meshed material.”); *see also* [0288] and [0461].

215. Yoakim also explicitly discloses embodiments including portion capsules that do not have a filter. A simple capsule with a body and a membrane lid that in use is pierced on the center axis and at multiple points around the perimeter is shown at FIGS. 42 and 54. Ex. 1004 at Fig. 42 and 54.

216. Accordingly, to the extent the ’923 Patent describes and enables this limitation, Yoakim discloses “the portion capsule being free of a filter” as required by claim [1.b].

Left: P1 at 50 (Annotations added).

Right: Ex. 1003 (’923 Jobin Depo) at 106-107 (¶¶213-216) (Annotations added); *see* POR1 at 26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

JOBIN’S CONCLUSORY DECLARATION PROVIDES NO ANALYSIS

P2 at 62
(’430 Patent)

i) Element [1.h], [7.h]

To the extent the ’430 Patent describes and enables a capsule free of a filter, Yoakim discloses a capsule that does not include a filter and expressly confirms that a filter is optional. EX1004, [0171] (“An additional filtering layer can be used to filter the liquid depending on the size of the outlets.”), [0343] (disclosing optional filter embodiment); EX1003, ¶¶230-231. As depicted in FIG54 and FIG42, Yoakim expressly discloses embodiments using capsules that do not have a filter. EX1004, FIG42, FIG54; EX1003, ¶232.

i. “wherein the single-serve capsule is free of a filter that is located inside of the cavity” (Claims [1.h],[7.h])

230. To the extent the ’430 Patent describes and enables a capsule free of a filter, Yoakim discloses a single-serve capsule that is “free of a filter that is located inside of the cavity.” Specifically, Yoakim describes extraction of coffee capsules using methods that do not include a filter, and in fact confirm that the addition of a filter structure is optional. Ex. 1004 at [0171] (“An additional filtering layer can be used to filter the liquid depending on the size of the outlets.”)

231. Yoakim further describes the optional filter embodiment, which is not otherwise present in the Yoakim embodiments that I have discussed. *See* Ex. 1004 at [343] (“In a possible mode, the portion of the wall with the outlet openings can be formed from a paper filter or woven, non-woven fibres, meshed material, porous polymer membrane or combination thereof. In this case, part of the portion of wall can be formed by a band or different parts of the filter, fibres or meshed material.”)

232. Yoakim also explicitly discloses embodiments including portion capsules that do not have a filter. *See, e.g.*, Ex. 1004 at FIG. 42, 54.

Left: P2 at 62 (Annotations added).

Right: Ex. 1003 (’430 Jobin Depo) at 122-123 (¶¶230-232) (Annotations added); *see also* POR2 at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER'S RELIANCE ON NEW CITATIONS IN REPLY SHOULD BE REJECTED

"Board did not abuse its discretion in holding [Petitioner] to its word and disregarding its new theory first raised in reply."

Henny Penny Corp. v. Frymaster LLC, 938 F.3d 1324, 1330-31 (Fed. Cir. 2019)

"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."

PTAB Consolidated Patent Trial Practice Guide (Nov. 21, 2019), at 73

POR1 at 27; POR2 at 14-15; *see also* POSR1 at 20; POSR2 at 11.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM AT [0503] DOES NOT CORRECT PETITION'S GAPS

Petitioner's Reply to POR

Next, K-fee argues that FIG54 does not disclose a capsule lacking a filter in the cavity, and is instead a "schematic" view disclosing capsules that are "the same as those in the rest of Yoakim's teachings and thus exhibit the same filter." POR, 13. But, there is no *single capsule embodiment* in Yoakim or "the same filter" across embodiments. Moreover, [0503] describes the details of FIGS51-55, and confirms there is no filter in the cavity. It explains that the capsules of FIGS51-55 have "a body 202 having a cup shape with a free rim 203 extending outwardly and a top upper wall 204" that is connected to the free rim of the body. The upper wall, which is the outer lid or membrane of the capsule, "*can be* a perforable membrane, a porous wall or a combination thereof." EX1004, [0503]. Thus, even if a porous wall was included—which [0503] confirms is optional—such porous wall constitutes the lid/membrane 204 in FIG54 and is *not in the capsule cavity* as required by the claims.[4] EX1067, 49:19-50:5. Nor does a pierced membrane constitute a filter in the cavity. EX1067, 65:23-66:4.

Yoakim at [0503] – teaches only the walls and the membrane (not the contents of cavity)

[0503] The capsule system of the present invention as illustrated in FIGS. **51** to **55** comprises a set of capsules **1**A, **1**B of different volumes but a same insertion diameter "D". The capsule of FIG. **51** shows a small volume capsule **1**A whereas the capsule of FIG. **52** shows a larger volume capsule **1**B. The two capsules comprise a body **202** having a cup shape with a free rim **203** extending outwardly and a top upper wall **204**. The upper wall is connected to the free rim of the body by a seal such as a heat or ultrasonic weld line. The upper wall can be a perforable membrane, a porous wall or a combinations thereof. The capsules comprise a central axis "I" which represents the axis of rotation during centrifugation of the capsule in the brewing device (FIG. **53**).

Left: POR Reply2 at 11-12 (Annotation added); *see also* POR Reply1 at 8-9.

Right: Ex. 1004 (Yoakim) at 61 ([0503]) (Annotation added); *see also* POSR1 at 18; POSR2 at 21-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM FIG. 16 IS A NEW ARGUMENT

Petition



Petitioner's Reply to POR

wall or a combination thereof." EX1004, [0503]. Thus, even if a porous wall was included—which [0503] confirms is optional—such porous wall constitutes the lid/membrane 204 in FIG54 and is *not in the capsule cavity* as required by the claims.[4] EX1067, 49:19-50:5. Nor does a pierced membrane constitute a filter in the cavity. EX1067, 65:23-66:4.

K-fee argues that a filter in Yoakim is necessary (POR, 10-11), but ignores that Yoakim discloses many different ways to brew a beverage ***without*** a filter in the cavity. Yoakim confirms that the *machine* could provide the filter instead of the capsule (EX1004, [0271], [0255]), or that filtering can be provided by the membrane or lid, which is not in the cavity (*Id.*, [0171], [210], [502]). Despite criticizing Yoakim for needing a filter, Howle could not explain how the *'430 Patent* would brew a beverage without a filter, nor could he articulate *any advantages* to this trivial limitation. EX1067, 66:13-68:12.

3. **K-fee's Citations Confirm Yoakim Discloses An Optional Filter**

K-fee highlights numerous Yoakim paragraphs which *confirm* Yoakim discloses that a filter in the cavity is *optional*, and several embodiments *lack a filter in the cavity*. POR, 11-12; Pet. 62. K-fee cites [0271], which confirms that the

[4] FIG54's description as a "schematic" is irrelevant. FIG16 depicts a "cross sectional view" showing no filter in the cavity. EX1004, [0045].

POR Reply2 at 11-12 (Annotation added); POSR1 at 18; *see* POR Reply1 at 9; POSR2 at 21-22; POSR1 at 18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM FIG. 16 DOES NOT CORRECT PETITION'S GAPS

Petitioner's New Reply Argument Is Improper and Also Wrong

- Figure 16 discloses slits within the cavity

[0210] FIGS. **16** to **19** illustrate another embodiment of the capsule according to the invention. This capsule has a cup-shaped body **80** comprising the same gripping means **840** at its outer surface for enabling the capsule to be driven in rotation in the device. The capsule also comprises a lid **81** shown in FIGS. **18** and **19**. Contrary to the capsule of the preceding mode, the lid **80** and body **81** are attached by permanent connecting means such as ultrasonic welding. The brewed liquid that is centrifuged is allowed to pass through a series of slits **810** provided on the upwardly protruding edge **880** of the body. The slits are sized so to act as a filter for retaining the solid particles such as the ground coffee particles but let the liquid leave the capsule. The lid is connected

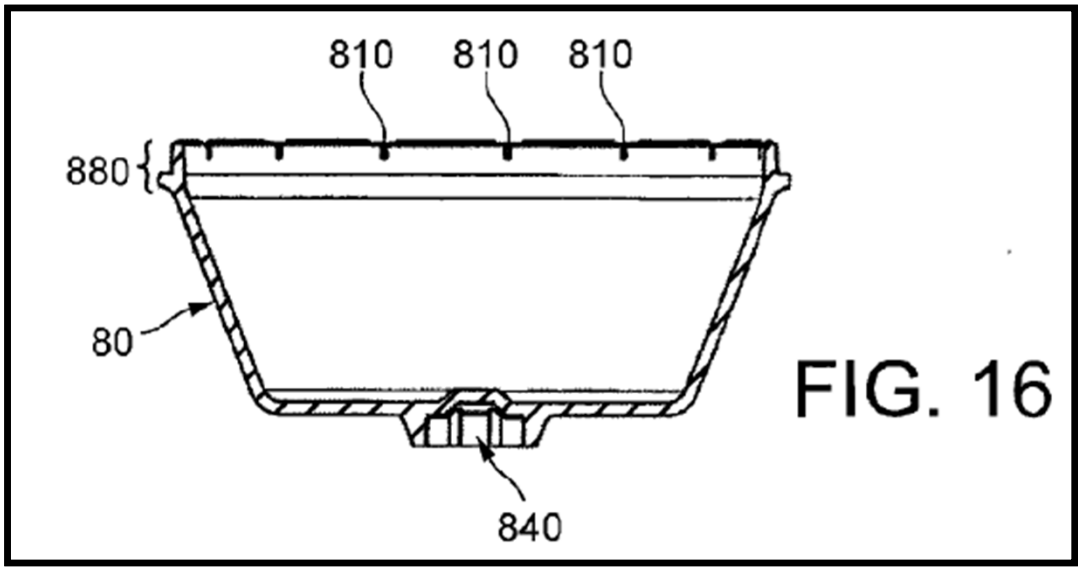


FIG. 16

Left: Ex. 1004 (Yoakim) at 45 ([0210]) (Annotation added).

Right: Ex. 1004 (Yoakim) at 10 (Fig. 16); *see* POSR1 at 18; POSR2 at 21-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER DID NOT PROVIDE RATIONALE TO COMBINE FIG. 16

Petitioner's New Reply Argument Is Improper and Also Wrong

> Next, K-fee argues that FIG54 does not disclose a capsule lacking a filter in the cavity, and is instead a "schematic" view disclosing capsules that are "the same as those in the rest of Yoakim's teachings and thus exhibit the same filter." POR, 13. But, there is no *single capsule embodiment* in Yoakim or "the same filter" across embodiments. Moreover, [0503] describes the details of FIGS51-55, and confirms

POR Reply2 at 11

POR Reply2 at 11 (Annotation added).

See POSR2 at 21-22; POSR1 at 16-18; Ex. 1004 at 10 (Fig. 16).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER DID NOT PROVIDE RATIONALE TO COMBINE FIG. 16

Petitioner's New Reply Argument Is Improper and Also Wrong

"Petitioner also fails to provide a sufficient rationale to combine the teachings of [a single prior art reference's] different embodiments. Petitioner simply fails to explain sufficiently why one skilled in the art would have found it obvious to combine those teachings."

See Abiomed, Inc. v. Maquet Cardiovascular, LLC, IPR2017-01204, Paper 9, at 11 (PTAB Oct. 23, 2017)

POSR1 at 18; POSR2 at 21; *see* Ex. 1004 at Fig. 16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PRIOR ART FAILING: PUMP CONTROLLED TO SUPPLY WATER INTO THE SINGLE-SERVE CAPSULE

ALL CLAIMS

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 95
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

NO TEACHINGS IN PRIOR ART:

- Pump controlled to supply water into the single-serve capsule
  - No disclosure of pump controlled to supply water only upon detection and determination
  - Petition argues combination of Yoakim "low pressure pump 6" and Rossi
  - Petitioner's reply newly argues Yoakim "pump 211" and pivots from Rossi
  - Rossi does not disclose controlling a pump as claimed

See POR1 at 20-27; POSR1 at 16-19; POR2 at 15-22; POSR2 at 22-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

INDEPENDENT CLAIMS 1, 7 REQUIRE:

wherein the beverage machine also comprises:
i. a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element;
ii. a seal that that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel;
iii. a pair of holding arms for engaging the single-serve capsule; and
iv. a dropping box for the single-serve capsule to fall into;
wherein the pump is controlled to push the water into the single-serve capsule only upon a determination that the read barcode agrees with a stored reference.

wherein the beverage machine, by reading or detecting the identifier with the sensor/detector, is configured to determine if the single-serve capsule belongs to a group of single serve capsules operable for use with the beverage machine, and only if the beverage machine determines that the single-serve capsule belongs to the group of single serve capsules operable for use with the beverage machine is the pump controlled to push the water into the single-serve capsule.

- Pump supplies water *only* upon both:
  - Detection
  - Determination

Ex. 1001 (’430 Patent) at 25-26 (cls. 1, 7) (Annotations added); *see* POPR2 at 62-64; POR2 at 15-22; POSR2 at 22-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

CLAIMED PUMP SUPPLIES WATER ONLY UPON IDENTIFIER DETECTION

- Petition argues combination
  - Yoakim: “pump control” by “low pressure pump **6**”
  - Rossi: “controlling a pump” based on “identifier detection and suitability determination”

- Yoakim “pump **211**” ([0522]) argued first time in Reply

P2 at 71-73; POR Reply2 at 14-18; *see* Ex. 1004 (Yoakim); Ex. 1041 (Rossi).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM DOES NOT DISCLOSE CLAIMED PUMP CONTROL

[0180] The system **1** of the invention is illustrated in FIG. **1** in the more general sense. The system comprises a device **2** and a capsule **3**. The device has a brewing module **4** into which the capsule can be inserted for being brewed and is removed after use for being discarded (e.g., for waste or recycling). The module is in fluid communication with a water reservoir **5** containing fresh or, alternatively heated water. A fluid transport means such as a low pressure pump **6** can be provided in the water circuit to transport water from the reservoir to the module. A water heater **7** is further provided to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporisation. Water can be fed into the module **4** at low or substantially no pressure. For example, a pressure between 0 and 2 bars above atmospheric pressure can be envisaged at the inlet **8** of the module.

Yoakim “pump **6**” teachings

≠

Pump controlled to supply water *only* upon detection of identifier

Ex. 1004 (Yoakim) at 42 ([0180]) (Annotation added); *see* POR2 at 15-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM DOES NOT DISCLOSE CLAIMED PUMP CONTROL

[0521] The system of the invention advantageously comprises an identification means ID**1**, ID**2**, ID**3** (FIGS. **54** and **55**) or ID**4**, ID**5** (FIGS. **61** and **62**) associable to each capsule to ensure control of the brewing parameters, in particular, the flow rate and the volume of injected liquid in the capsule, as a function of the volume of the capsule and/or the product characteristics of the capsule (granulometry, roasting, etc.) and/or the beverage to be delivered (ristretto, espresso, lungo, etc.). The system of the invention is capable of delivering different flow rates which are influenced by two key parameters: the rotational speed of the capsule in the device and the back-pressure exerted on the centrifuged liquid. For a given back-pressure, the higher the rotational speed, the larger the flow. Conversely, for a given rotational speed, the larger the back-pressure, the smaller the flow. The back-pressure can be

Yoakim “flow rate” teachings

≠

Pump controlled to supply water *only* upon detection of identifier

Ex. 1004 (Yoakim) at 62 ([0521]) (Annotation added); *see* POR2 at 15-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM TEACHES AS A KEY PARAMETER CONTROL OF FLOW RATE BY A VALVE – NOT A PUMP

[0521] The system of the invention advantageously comprises an identification means ID1, ID2, ID3 (FIGS. **54** and **55**) or ID4, ID5 (FIGS. **61** and **62**) associable to each capsule to ensure control of the brewing parameters, in particular, the flow rate and the volume of injected liquid in the capsule, as a function of the volume of the capsule and/or the product characteristics of the capsule (granulometry, roasting, etc.) and/or the beverage to be delivered (ristretto, espresso, lungo, etc.). The system of the invention is capable of delivering different flow rates which are influenced by two key parameters: the rotational speed of the capsule in the device and the back-pressure exerted on the centrifuged liquid. For a given back-pressure, the higher the rotational speed, the larger the flow. Conversely, for a given rotational speed, the larger the back-pressure, the smaller the flow. The back-pressure can be varied by varying the closing force of a flow restriction valve placed downstream of the enclosure of the capsule and/or by varying the cross-section of the restriction outlets, such as described in co-pending patent application WO 2009/106175.

- Yoakim discloses numerous controllable features, *e.g.*,
  - Restriction valve
  - Flow rate
  - Rotational speed
- Only reach claim with benefit of hindsight and ’430 Patent

Ex. 1004 (Yoakim) at 62-63 ([0521]) (Annotation added); *see* POR2 at 15-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO AGREES THAT VALVE IN YOAKIM CONTROLS THE FLOW OF LIQUID

Petition

m) Element [1.l], [7.m]

To the extent this limitation can be understood, Yoakim discloses this limitation in the form of a “flow restriction means which is arranged after the outlet(s) of the capsule” EX1004, [0370]-[0380], [0382], [0396]-[0398]; EX1003, ¶245. Specifically, Yoakim discloses the brewing machine further comprising a sealing valve system 156, which is referred to as an annular engaging portion 157, and can be in the form of a cone or V “for increasing sealing pressure.” EX1004, [0436], [0388], [0446]; EX1003, ¶¶247-248. This seal is designed to “control[] the flow of liquid that is discharged from the device.” EX1004, [0436], [0384]-[0385]; EX1003, ¶246.

Ex. 1004 (Yoakim)

[0521] The system of the invention advantageously comprises an identification means ID**1**, ID**2**, ID**3** (FIGS. **54** and **55**) or ID**4**, ID**5** (FIGS. **61** and **62**) associable to each capsule to ensure control of the brewing parameters, in particular, the flow rate and the volume of injected liquid in the capsule, as a function of the volume of the capsule and/or the product characteristics of the capsule (granulometry, roasting, etc.) and/or the beverage to be delivered (ristretto, espresso, lungo, etc.). The system of the invention is capable of delivering different flow rates which are influenced by two key parameters: the rotational speed of the capsule in the device and the back-pressure exerted on the centrifuged liquid. For a given back-pressure, the higher the rotational speed, the larger the flow. Conversely, for a given rotational speed, the larger the back-pressure, the smaller the flow. The back-pressure can be varied by varying the closing force of a flow restriction valve placed downstream of the enclosure of the capsule and/or by varying the cross-section of the restriction outlets, such as described in co-pending patent application WO 2009/106175.

Left: P2 at 66-67 (Annotation added).

Right: Ex. 1004 (Yoakim) at 62-63 ([0521]) (Annotations added); *see* POR2 at 15-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM DOES NOT DISCLOSE CLAIMED PUMP CONTROL

[0522] As known per se, the control of the rotational speed is carried out by the control means selectively activating the rotational motor (not shown) which drives part of the interface assembly **213**, the capsule holder **214** and the capsule together in rotation. The control of the volume of liquid injected in the capsule is carried out by the control means selectively activating the pump **211** to meter the proper volume of liquid.

Yoakim “pump **211**” teachings (argued first in Reply)

≠

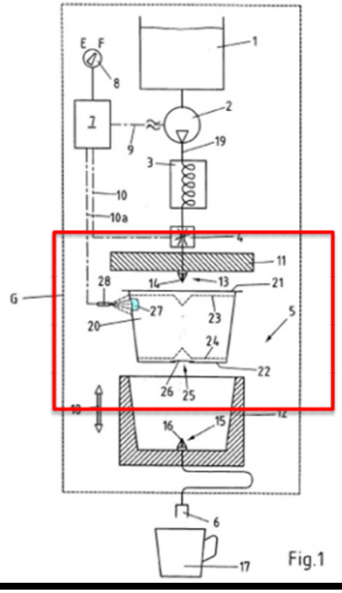
Pump controlled to supply water *only* upon detection of identifier

Ex. 1004 (Yoakim) at 63 ([0522]); P2 at 71-73; POR Reply2 at 14-18; *see* POSR2 at 23-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

IDENTIFIER IS NOT INHERENT TO ACTIVATE PUMP

Patent No. 11,230,430
Petition for *Inter Partes* Review

Date	Capsule/System	Description
2005	 Fig.1	Coffee identification system with using a barcode ***so the system can control extraction parameters, including the water pump***. EX1039, [0019].

Pump Activation Arises Automatically from Closing Brewing Chamber, Not from a Detected Code

US 2005/0150391 A1

3

closing plate member **11** not only closes the brewing chamber **5**, but also presses the cartridge cover **21** against the top end face of the cartridge retainer **12** along an annular contact area, thereby hydraulically sealing the upper portion of the cartridge **20** against the bottom **22** of the cartridge **20**. As soon as the brewing chamber **5** is closed, the pump **2** is operated. The amount of brewing water fed into the brewing chamber **5** per unit of time is restricted, as compared to the

P2 at 10; POSR2 page 23-24; Ex. 1039 at 6 ([0021]).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM TEACHES CENTRIFUGAL ROTATION CAN OCCUR BEFORE WATER INTRODUCED

means. In the locked position, the capsule is opened by the water injector that pierces through the sealing foil of the capsule and introducing itself through the water inlet **135** of the capsule. At the same time, several liquid outlets are pierced at the periphery of the sealing foil by the outlet piercing members **151**, **152**, **153**, **154**. Water can thus be introduced in the capsule via the central water injector **145**. Venting holes can be produced in the injection subassemblies to allow gas to escape the capsule while water is introduced in. The capsule can be driven in rotation by activating the rotary motor **140**. The start of the centrifugal operation can be carried out at the same time as water injection start being introduced in the capsule or slightly after or before this water injection operation starts.

- “Centrifugal rotation”—a step in production process—can occur even before water introduced into capsule
- Thus, “activating a cycle of production” would not necessarily involve controlling a pump to supply water to capsule

Ex. 1004 (Yoakim) at 56 ([0440]) (Annotation added); *see* POR2 at 21-22; Ex. 2017 (Howle Dec.) at ¶129.

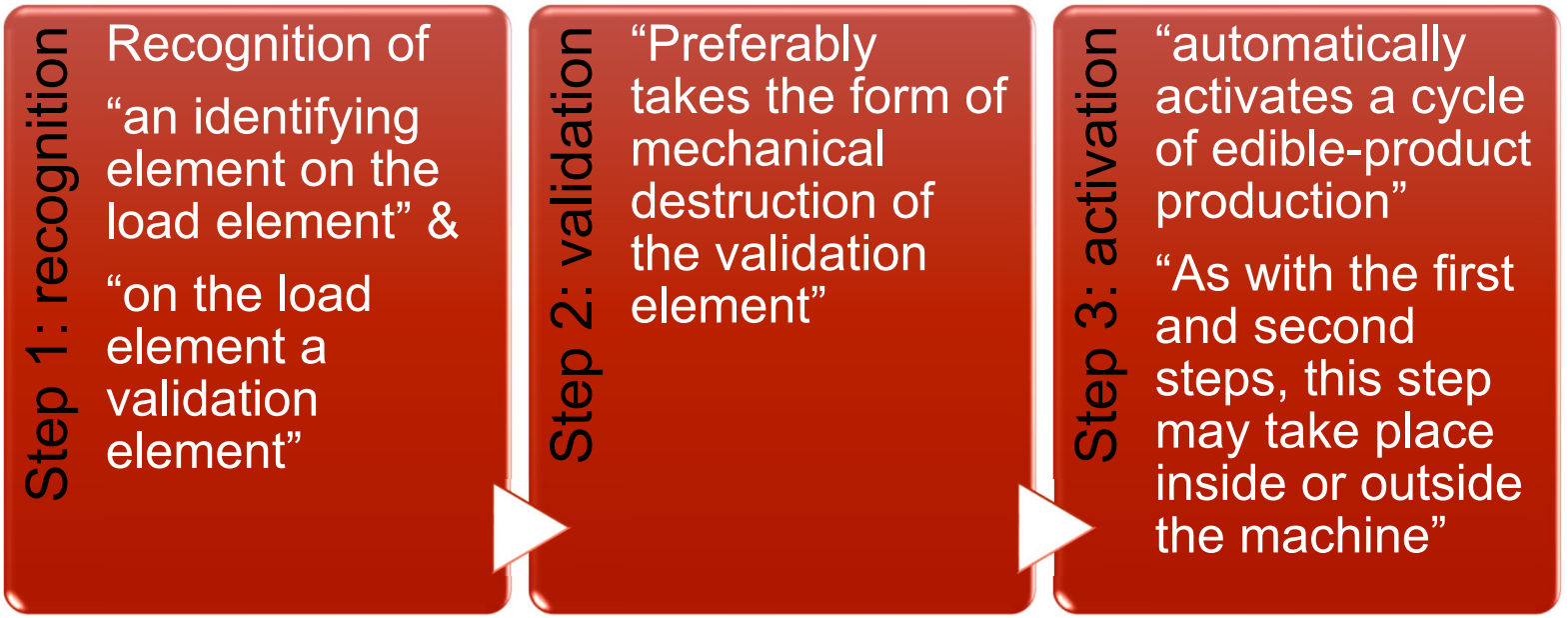
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 106
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

ROSSI’S 3 STEPS DISCLOSE 0 PUMPS



Ex. 1041 (Rossi) at 6-13; *see* POR2 at 18-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 107
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

ROSSI DOES NOT DISCLOSE A PUMP

123. Rossi does not teach pump activation only upon determination by the beverage machine. Moreover, Rossi does not disclose a pump, and a pump is not inherent in view of other techniques for supplying heated water under pressure. *See, e.g.*, Ex. 2022, 2023, 2024, 2025. Indeed, Mr. Jobin readily admits that during his work on coffee machines design, he worked on a machine that did not use a pump to move fluid from the reservoir to the brew basket. Ex. 2018 at 50:12-25. While Rossi describes that “the load element is generally pierced to allow water to pass through it,” and “[t]he contents of the load element are brewed or dissolved in the water in order to make the edible product,” nowhere does it use the word “pump.” *See* Ex. 1041 at 3. And as Yoakim states, a pump is not necessary to supply water into a capsule, because other means such as vaporization are sufficient.

Ex. 2017 (Howle Dec.) at ¶123 (Annotation added); *see* POR2 at 18-21.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

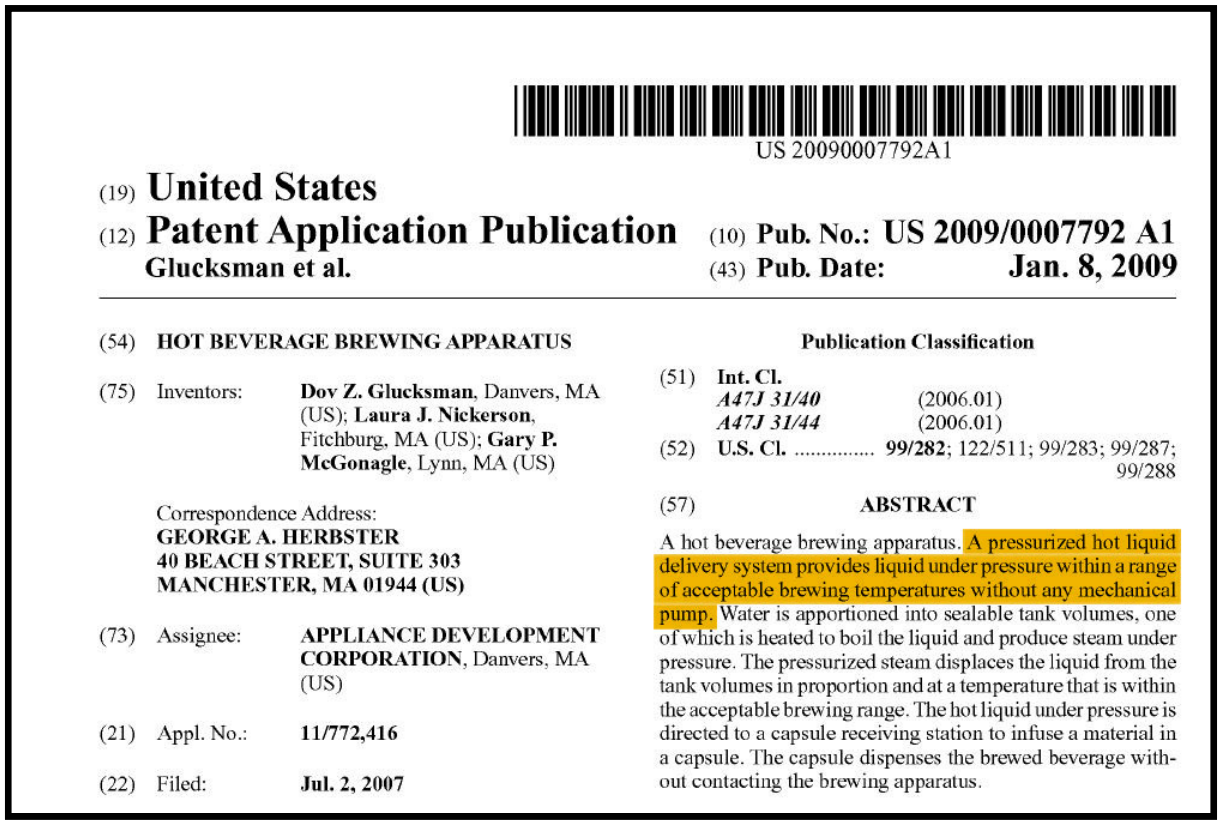
POSITA UNDERSTANDS ROSSI NEEDS NO PUMP: MANY OTHER OPTIONS

123. Rossi does not teach pump activation only upon determination by the beverage machine. Moreover, Rossi does not disclose a pump, and a pump is not inherent in view of other techniques for supplying heated water under pressure. *See, e.g.*, Ex. 2022, 2023, 2024, 2025. Indeed, Mr. Jobin readily admits that during his work on coffee machines design, he worked on a machine that did not use a pump to move fluid from the reservoir to the brew basket. Ex. 2018 at 50:12-25. While Rossi describes that “the load element is generally pierced to allow water to pass through it,” and “[t]he contents of the load element are brewed or dissolved in the water in order to make the edible product,” nowhere does it use the word “pump.” *See* Ex. 1041 at 3. And as Yoakim states, a pump is not necessary to supply water into a capsule, because other means such as vaporization are sufficient.

Ex. 2017 (Howle Dec.) at ¶123 (Annotation added); *see* POR2 at 20.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA UNDERSTANDS MANY WAYS TO SUPPLY HOT WATER UNDER PRESSURE, NOT JUST PUMP



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(19) **United States**

(12) **Patent Application Publication**
Glucksman et al.

(10) **Pub. No.: US 2009/0007792 A1**

(43) **Pub. Date: Jan. 8, 2009**

(54) **HOT BEVERAGE BREWING APPARATUS**

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(21) Appl. No.: **11/772,416**

(22) Filed: **Jul. 2, 2007**

Publication Classification

(51) **Int. Cl.**
A47J 31/40 (2006.01)
A47J 31/44 (2006.01)

(52) **U.S. Cl.** **99/282**; 122/511; 99/283; 99/287; 99/288

(57) **ABSTRACT**

A hot beverage brewing apparatus. A pressurized hot liquid delivery system provides liquid under pressure within a range of acceptable brewing temperatures without any mechanical pump. Water is apportioned into sealable tank volumes, one of which is heated to boil the liquid and produce steam under pressure. The pressurized steam displaces the liquid from the tank volumes in proportion and at a temperature that is within the acceptable brewing range. The hot liquid under pressure is directed to a capsule receiving station to infuse a material in a capsule. The capsule dispenses the brewed beverage without contacting the brewing apparatus.

Ex. 2022 (Glucksman) at 1 (Annotation added); *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA UNDERSTANDS MANY WAYS TO SUPPLY HOT WATER UNDER PRESSURE, NOT JUST PUMP

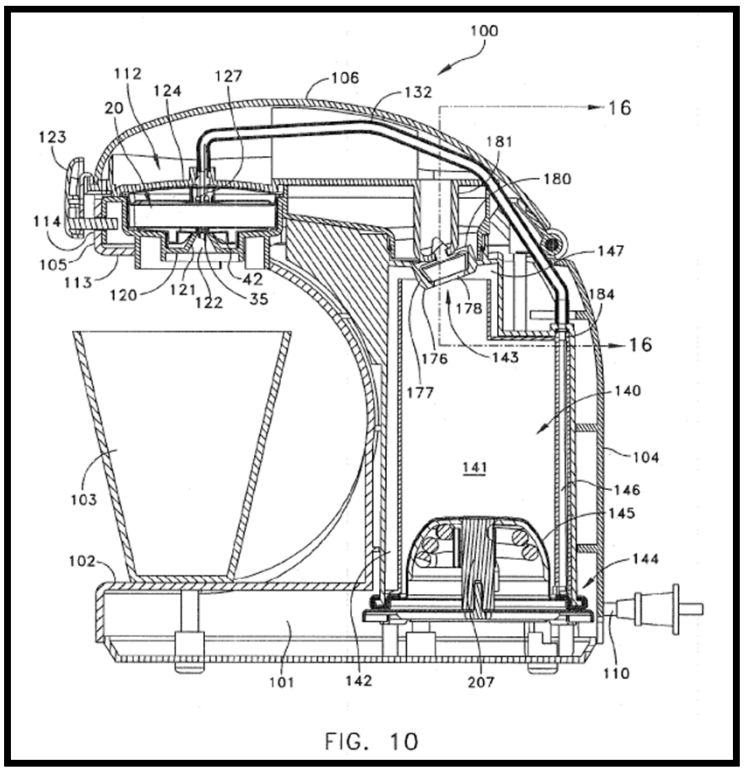


FIG. 10

Ex. 2022 (Glucksman) at 23 ([0073), 9 (Fig. 10); *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA UNDERSTANDS MANY WAYS TO SUPPLY HOT WATER UNDER PRESSURE, NOT JUST PUMP

US 20080302252A1

(19) **United States**

(12) **Patent Application Publication**
O’Brien et al.

(10) **Pub. No.: US 2008/0302252 A1**

(43) **Pub. Date: Dec. 11, 2008**

(54) **PORTABLE BREWING DEVICE AND METHOD OF MAKING AND OPERATING**

(75) Inventors: **Stephen James O’Brien**, San Jose, CA (US); **Carmel Ish-Shalom**, Alameda, CA (US); **David Richard Stevens**, San Jose, CA (US)

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(73) Assignee: **Espressi Corporation**, San Jose, CA (US)

(21) Appl. No.: **12/137,533**

(22) Filed: **Jun. 11, 2008**

Related U.S. Application Data

(60) Provisional application No. 60/934,294, filed on Jun. 11, 2007.

Publication Classification

(51) **Int. Cl.**
A47J 31/32 (2006.01)

(52) **U.S. Cl.** ..... **99/302 R**

(57) **ABSTRACT**

A portable brewing device is provided for brewing a hot beverage such as espresso that includes a compressed gas container communicating with a pressure regulator that is configured to control the pressure of gas released from the compressed gas container. A release switch is configured to communicate with pressure regulator and configured to release pressure controlled gas when actuated by a user. A water vessel is configured to receive the pressure controlled gas when the switch is actuated by a user. A mixing vessel can hold a brew substance and is configured to communicate with the water vessel and also configured to receive water from the water vessel to pass through the brew substance when pressure is released from the gas container through the pressure regulator. An outlet is configured to release a brewed product produced from water flowing through the brew substance contained in the mixing vessel when brewing.

[0009] Because water boilers and high-pressure water pumps and their necessary pipes, pressure bypass valves and other engineering requirements tend to be large and heavy, most espresso machines tend to be quite bulky and heavy. They would not, for example, easily fit inside one’s backpack, and would probably be too heavy to easily carry if they did.

[0010] However, the market for portable espresso makers does exist and to date has been served by several classes of devices, including steam powered Moka pots, water expansion devices, manual water-pumped devices, manual air-pumped devices, and other devices.

[0033] In one embodiment, a portable brewing device for brewing a hot beverage such as espresso is provided that includes a compressed gas container communicating with a pressure regulator that is configured to control the pressure of gas released from the compressed gas container. A release switch is configured to communicate with pressure regulator and configured to release pressure controlled gas when actuated by a user. A water vessel is configured to receive the pressure controlled gas when the switch is actuated by a user. A mixing vessel can hold a brew substance and is configured to communicate with the water vessel and also configured to receive water from the water vessel to pass through the brew substance when pressure is released from the gas container through the pressure regulator. An outlet is configured to

Left: Ex. 2023 (O’Brien) at 1 (Annotation added).

Right (Top to Bottom): Ex. 2023 (O’Brien) at 14 ([0009], [0010]), 17 ([0033]) (Annotations added); *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA UNDERSTANDS MANY WAYS TO SUPPLY HOT WATER UNDER PRESSURE, NOT JUST PUMP

Ex. 2023

[0067] In the embodiment shown in FIG. **1** and the section view FIG. **2**A it can be seen the device utilizes a compressed gas container (**222**) held in the device’s handle (**202**), a piercing unit (**204**) (also **502** in FIG. **5**B), a pressure regulator (**206**/**224**), a gas flow valve switch (**208**) comprised of two ports, a safety one way valve (**234**), a water vessel (**230**) for holding the hot water and a grounds vessel (**232**) for holding ground coffee or prepared coffee pods contained within the primary operating vessel (**218**), a water distributor (**236**), a pressure resistant lid (**212**) for enclosing the water vessel and grounds vessel (**232**), two separate seals to maintain a differential pressure between the water vessel and grounds vessel, locking bayonet ring (**210**) to seal the lid (**212**) against the primary operating vessel (**218**), a water transfer pipe (**240**), an outlet system (**216**), and two distribution spouts (**214**) (also **531** in FIG. **5**B).

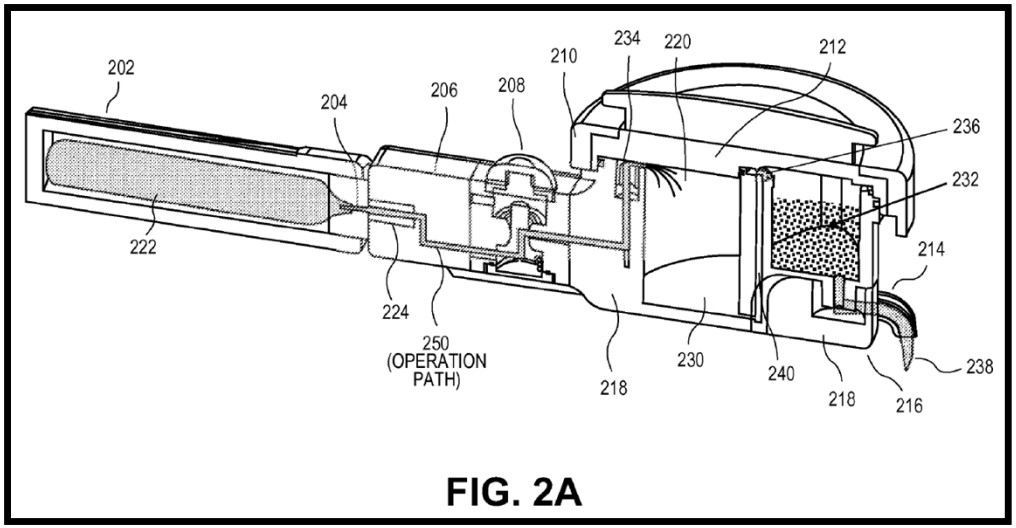


FIG. 2A

Ex. 2023 (O’Brien) at 3 (Fig. 2A), 19 ([0067]) (Annotations added); *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA UNDERSTANDS MANY WAYS TO SUPPLY HOT WATER UNDER PRESSURE, NOT JUST PUMP

Ex. 2024

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

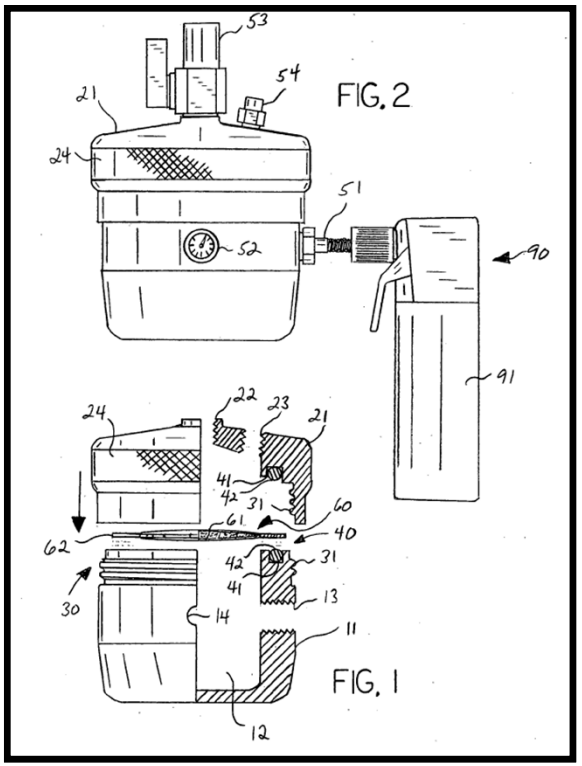
(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 August 2008 (21.08.2008)

PCT

(10) International Publication Number
WO 2008/100597 A1

(57) **Abstract:** An espresso maker and method of producing espresso, the espresso maker having a chamber (12) to receive hot water and a coffee filter pod (61), the water and filter pod (61) in the chamber (12) being pressurized by an outside source of compressed gas (90) to approximately 15 bar. The hot water is allowed to contact the filter pod (61) for a short time prior to pressurization, and the chamber (12) is maintained at the desired minimum pressure for a short time after pressurization prior to opening of a release valve (53) to allow flow of liquid through the filter pod (61) and into a container.



Ex. 2024 (Shrader) at 1, 17 (Fig. 2) (Annotations added); *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

MOKA POT: LONG USED TO MAKE ESPRESSO WITH NO PUMP



Ex. 2025 (Moka Express) at 1; *see* POR2 at 20; POSR2 at 24; Ex. 2017 (Howle Dec.) at ¶123.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER FAILS TO ESTABLISH THAT ROSSI TEACHES A PUMP INHERENTLY

Ex. 2022 at Abstract

(57) **ABSTRACT**

A hot beverage brewing apparatus. A pressurized hot liquid delivery system provides liquid under pressure within a range of acceptable brewing temperatures without any mechanical pump. Water is apportioned into sealable tank volumes, one of which is heated to boil the liquid and produce steam under pressure. The pressurized steam displaces the liquid from the tank volumes in proportion and at a temperature that is within the acceptable brewing range. The hot liquid under pressure is directed to a capsule receiving station to infuse a material in a capsule. The capsule dispenses the brewed beverage without contacting the brewing apparatus.

POSR2 at 24:

Petitioner argues obviousness to modify Yoakim's system with Rossi. PR.15. But Rossi's teachings are not directed to pump control. Indeed, Rossi does not even disclose a pump, and none of Rossi's three mandatory steps is directed to pump control. POR.20-22. Petitioner attempts to extrapolate from "machine activation" to "pump control" but there's no suggestion in Yoakim or Rossi for such a jump. Petitioner argues that in "a high-pressure, single-serve capsule system, a pump would be inherent, implied, and at a minimum obvious." PR.18. But that is directly contradicted by Patent Owner's evidence, which demonstrates the ability to deliver water at high pressure without a pump. Ex.2022, Abstract, [0073], Fig. 10; Ex.2023, Abstract, [0009], [0010], [0033], [0067], Fig. 2A; Ex.2024, Abstract, Figs. 1, 2; Ex.2025, 1; POR.20. Petitioner leans on hindsight bias and fails to address why a

Ex. 2023 at [0067], Fig. 2A

[0067] In the embodiment shown in FIG. **1** and the section view FIG. **2**A it can be seen the device utilizes a compressed gas container (**222**) held in the device's handle (**202**), a piercing unit (**204**) (also **502** in FIG. **5**B), a pressure regulator (**206/224**), a gas flow valve switch (**208**) comprised of two ports, a safety one way valve (**234**), a water vessel (**230**) for holding the hot water and a grounds vessel (**232**) for holding ground coffee or prepared coffee pods contained within the primary operating vessel (**218**), a water distributor (**236**), a pressure resistant lid (**212**) for enclosing the water vessel and grounds vessel (**232**), two separate seals to maintain a differential pressure between the water vessel and grounds vessel, locking bayonet ring (**210**) to seal the lid (**212**) against the primary operating vessel (**218**), a water transfer pipe (**240**), an outlet system (**216**), and two distribution spouts (**214**) (also **531** in FIG. **5**B).

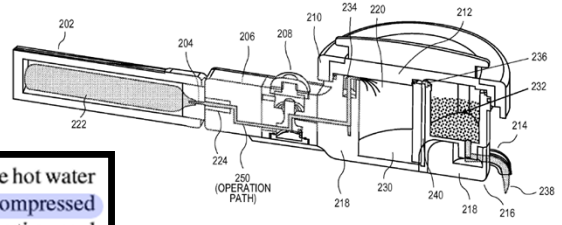


FIG. 2A

Ex. 2024 at Abstract

(57) Abstract: An espresso maker and method of producing espresso, the espresso maker having a chamber (12) to receive hot water and a coffee filter pod (61), the water and filter pod (61) in the chamber (12) being pressurized by an outside source of compressed gas (90) to approximately 15 bar. The hot water is allowed to contact the filter pod (61) for a short time prior to pressurization, and the chamber (12) is maintained at the desired minimum pressure for a short time after pressurization prior to opening of a release valve (53) to allow flow of liquid through the filter pod (61) and into a container.

POSR2 at 24; Ex. 2022 at Abstract; Ex. 2023 at 19 ([0067]), 3 (Fig. 2A); Ex. 2024 at Abstract (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM CONFIRMS: PUMP NOT NECESSARY TO SUPPLY HEATED WATER TO CAPSULE

[0132] The method of the invention comprises an operation wherein hot water is introduced into the capsule at substantially no pressure. Water can be brought by a hot water feed mechanism using a principle of aspiration or vaporisation.

[0180] The system **1** of the invention is illustrated in FIG. **1** in the more general sense. The system comprises a device **2** and a capsule **3**. The device has a brewing module **4** into which the capsule can be inserted for being brewed and is removed after use for being discarded (e.g., for waste or recycling). The module is in fluid communication with a water reservoir **5** containing fresh or, alternatively heated water. A fluid transport means such as a low pressure pump **6** can be provided in the water circuit to transport water from the reservoir to the module. A water heater **7** is further provided to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporisation. Water can be fed into the module **4** at low or substantially no pressure. For example, a pressure between 0 and 2 bars above atmospheric pressure can be envisaged at the inlet **8** of the module.

Ex. 1004 (Yoakim) at 40 ([0132]), 42 ([0180]) (Annotations added); *see* POR2 at 16-18; Ex. 2017 (Howle Dec.) at ¶119.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION IS SILENT ON HOW A POSITA WOULD RECONCILE ROSSI WITH OTHER SYSTEMS

155. A POSITA would not be motivated to add the separate validation element of Rossi to the centrifugal brewing systems of Yoakim and Jarisch. This is particularly true in light of the Petitioner's failure to take into account the nature of the validation element disclosed in Rossi, which is (1) separate from the identification element used to control the operation of the machine, (2) used to determine whether a load element has already been used, (3) preferably takes the form of the mechanical destruction of the validation element, (4) is described as advantageous if the validation is visible to the user, such that it is clear the load element is validated and cannot be reused, (5) is generally described as taking place outside of the machine, and (6) is used for purposes of "unlocking" the machine. The Petition is silent in assessing how a skilled person would consider Rossi as a whole, and how Rossi could be reconciled with the systems of Yoakim and Jarisch. Overall, a POSITA would not have combined the teaching of Yoakim and Jarsich, let alone combined the teachings of Rossi with Yoakim and Jarisch.

Ex. 2017 (Howle Dec.) at ¶155 (Annotation added); *see* POR2 at 34.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITION IS SILENT ON MOTIVATION TO COMBINE SYSTEMS OF ROSSI AND YOAKIM

Yoakim: low pressure, 0-2 bars

[0132] The method of the invention comprises an operation wherein hot water is introduced into the capsule at substantially no pressure. Water can be brought by a hot water feed mechanism using a principle of aspiration or vaporisation.

to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporisation. Water can be fed into the module **4** at low or substantially no pressure. For example, a pressure between 0 and 2 bars above atmospheric pressure can be envisaged at the inlet **8** of the module.

Rossi: high pressure, 15-18 bars

Nespresso’s Expert testified:

Q So it's your opinion that a high-pressure machine requires a pump, correct?

MR. McCRAW: Object to form. Asked and answered.

A High-pressure, high-temperature water would require a particular type of pump. We're talking about 15 to 18 bars, such as the pressure that would be used in a -- in an espresso single-serve machine.

Left: Ex. 1004 (Yoakim) at 40 ([0132]), 42 ([0180]) (Annotations added).

Right: Ex. 2018 (Jobin Depo.) at 166:6-14 (Annotations added).

POSR2 at 24-25; Ex. 2017 (Howle Dec.) at ¶39.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 119
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

PRIOR ART FAILING: SIDE WALL HAVING INDENTATIONS

Claims 5, 7-10

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 120
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

NO TEACHINGS IN PRIOR ART:

- A side wall having indentations
  - Petition identifies Yoakim’s “toothed structure around [the capsule’s] perimeter” on the outer surface of the capsule as the indentations on the side wall
  - Yoakim teaches that the outer surface is a different surface from the side wall.
  - Scalloped edges of Yoakim’s toothed structure reduce space for code and require additional modification to Jarisch ’937 for motivation to combine

See POR2 at 22-25; POSR2 at 25-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 121
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

INDEPENDENT CLAIM 7 & DEPENDENT CLAIMS 5, 8-10 REQUIRE

5. The beverage system according to claim **4**, wherein the side wall of the base element includes indentations.

wherein the single-serve capsule is free of a filter that is located inside of the cavity, the single-serve capsule also comprises:

i. an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element;

ii. a barrier layer to prevent moisture or aroma from escaping out of the single-serve capsule; and

iii. a side wall having indentations;

Ex. 1001 ('430 Patent) at 26 (cls. 5, 7); *see* POR2 at 22-25; POSR2 at 25-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER IDENTIFIES THE TOOTHED STRUCTURE ON THE OUTER SURFACE

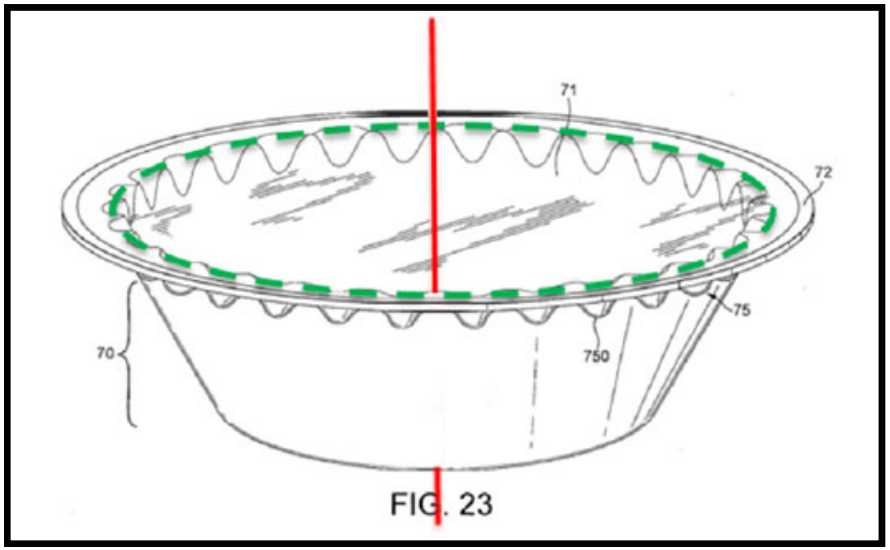


FIG. 23

[0215] FIG. **23** illustrates another capsule of the invention. The capsule comprises means for connecting it to the external rotational driving means of the device. For this, capsule has a toothed structure **75** on at least one of its outer surface. The capsule has a body **70** comprising an upper edge **72** which can be closed by an upper membrane **71**. The toothed structure comprises a series of teeth which is positioned below the edge or rim **72** of the body of the capsule. The teeth are placed along the whole periphery of the body of the capsule. The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. For example, the shape of the teeth could be slightly triangular, oval, rectangular or pyramidal. It should be noticed that the teeth could be replaced by other equivalent structures such as series of elements in relief and/or hollow. For example, slits, pins or small needles can be envisaged.

P2 at 75-76; Ex. 1004 at 13 (Fig. 23 (Petitioner’s annotations included)), 46 ([0215]).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM TEACHES THAT THE OUTER SURFACE IS A DIFFERENT SURFACE FROM THE SIDE WALL

OUTER SURFACE ≠ SIDE WALL

Yoakim at [0016]

[0016] The enclosure advantageously has a flared design with a widening side wall located between top and bottom walls, and an outer surface or structure for engaging external rotational driving means of a centrifugal device with the outer surface or structure configured to offer resistance to torque during rotation of the capsule or for frictionally engaging or receiving a complementary surface or structure of the driving means to enable the driving means to rotate the capsule, and the opening means or arrangement comprises a series of spaced radial outlets positioned or created at or close to the largest perimeter of the flared design of the enclosure. The enclosure can instead have a flared design with a widening side wall located between top and bottom walls and with capsule further comprising a collecting cavity for receiving the prepared liquid food with the cavity positioned adjacent to the largest perimeter of the flared design of the enclosure, and a filter part separating the extractable or infusible ingredient (s) and the collecting cavity food with the filter part optionally spaced from the top wall by a gap.

Jobin agrees

Q. Do you understand that the widening -- widening sidewall is different from the outer surface?
ATTORNEY MCCRAW: Same objection.
THE WITNESS: We're in the "Summary of the Invention" section. No particular figure is referred to here.
But my general understanding of the capsule structures that are described within Yoakim in general are that they have a flaring design, a wall that goes from a smaller diameter to a larger diameter as you go up towards the top of the capsule. Then that sidewall structure is typically shown to include both inner and outer walls.
And then here it claims [as read]:
"an outer surface or structure for engaging rotational driving means."
So that is different from the wall itself.

POR2 at 22-25; Ex. 1004 at 37 ([0016]); Ex. 2019 (11/28/23 Jobin Depo) at 69:19-70:17.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM’S TOOTHED STRUCTURE IS NOT COMBINABLE WITH JARISCH ’937’S STRAIGHT CHAMBER

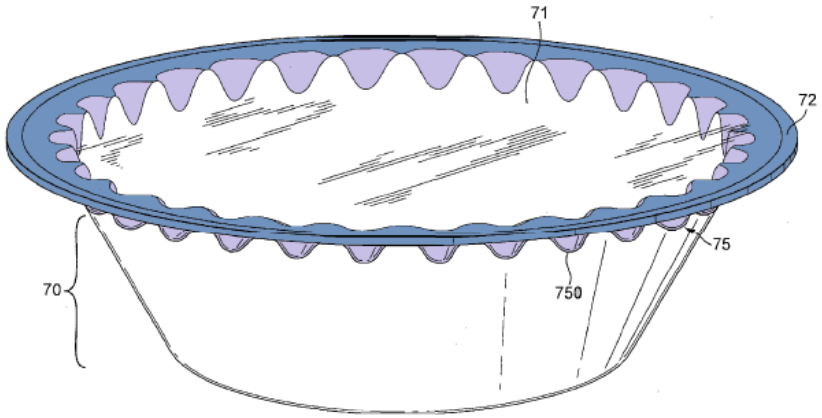


FIG. 23

Yoakim Fig. 23’s scalloped edges intersecting with the flange reduce space for any code.

annular portion **105**. The rim **104** can extend outwards forming a small annular portion, e.g., of about 2-5 mm. The dished

Yoakim requires a “snug fit” mating surface in the capsule holder.

[0479] As a result, the risk of producing vibrations during centrifugation is reduced because all the capsules of the set are snugly fitted in the device with limited possible relative movement between each capsule and the device during rotation, i.e., capsule holder.

Left: Ex. 1004 at 13 (Fig. 23).

Right: Ex. 1004 at 54 ([0414]), 60 ([0479]), POSR2 at 8-9, 25-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO MOTIVATION TO COMBINE

Petition fails to establish motivation to combine the references

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO MOTIVATION TO COMBINE:

- No motivation to combine Yoakim, Jarisch ’937, Rossi, and Castellani
  - Yoakim has its own safety mechanism
  - Rossi discloses high pressure system with no rotation while Yoakim and Jarisch ’937 disclose low pressure systems with rotation
  - Petitioner ignores important nuances of Rossi's validation element
  - Significant redesign would be required to combine references

See POR2 at 25-34; POSR2 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 127
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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NO MOTIVATION TO COMBINE

Ground 1

- Combining 4 references:
  - Yoakim
  - Jarisch ’937
  - Rossi
  - Castellani

See POR2 at 25-34; POSR2 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 128
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

ROSSI SAFETY MECHANISM DOES NOT PROVIDE MOTIVATION TO COMBINE

- In arguing motivation to use Rossi’s safety mechanism, Petitioner ignores Yoakim’s own safety mechanism
  - No motivation to look elsewhere
  - No explanation of how to reconcile the systems

See POR2 at 33-34; POSR2 at 8-9, 22-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 129
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

PETITIONER ARGUES MOTIVATION TO COMBINE ROSSI FOR ITS SAFETY MECHANISM

Petition at 78

Second, Rossi discloses determining whether the capsule belongs to a group of capsules that are “operable for use” with the beverage machine. Rossi explains that prior art machines “are usually designed so as to operate with a certain design or type of load element” and “[u]se of an **incorrect load element may cause the machine to malfunction** and can prejudice the safety and integrity of the machine and may harm the user.” EX1041, 5. Rossi seeks to solve this problem by “providing a safe and simple system and process for **ensuring that an appropriate load element is used.**” *Id.*; EX1003, ¶289.

Petition at 49-50

A POSITA would have further been motivated to combine the portion capsule and brewing systems of Yoakim and Jarisch with the machine activation control of Rossi for the predictable benefit of greater specificity and accuracy of brewing conditions, and increased safety in the machine from preventing operation with unsuitable capsules. EX1003, ¶185. Rossi explains that “use of an incorrect [capsule] may cause the machine to malfunction and can prejudice the safety and integrity of the machine and [] may harm the user.” EX1041, 5. Rossi explains that “allowing [the] … machine to take further steps only if it also recognizes on said [capsule] the validation element” results in “avoiding the production of an edible product of inferior quality and ensuring the proper functioning of the machine.” EX1041, 7. Accordingly, a POSITA would understand that Rossi provides motivation for using an optical code to ensure the capsule belongs to a group of capsules operable for use with the machine, and only initiate the brewing process

P2 at 49-50, 78 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 130
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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YOAKIM ALREADY DISCLOSES ITS OWN SAFETY MECHANISM

[0205] The driving means of the device further comprise a drive shaft **45** associated to a support **451** for holding the bottom of the capsule. Of course, the shape of the gripping means can take many other variations without departing from the scope of the present invention. FIGS. **12** and **13** show a gripping structure **840** having a central recess **841** and four arched recesses **842**, **843**, **844**, **845** extending from the central recess **841**. This gripping structure forms a lock into which is fitted a complementary engaging structure **450**, i.e., a key, of the capsule holder **451**. The complementary shapes of the capsule and capsule holder enable to fulfill both the gearing function for driving the capsule at high speeds in rotation and a safety function for ensuring that only capsules adapted to the system can be used and brewed successfully.

Ex. 1004 (Yoakim) at 44-45 ([0205]) (Annotations added); *see* POR2 at 15-18; Ex. 2017 (Howle Dec.) ¶ ¶ 118-119.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 132
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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ROSSI SAFETY MECHANISM DOES NOT PROVIDE MOTIVATION TO COMBINE

- Simply swapping references’ safety features—without consideration of disadvantages—is insufficient to demonstrate motivation to combine
  - *See Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1331-32 (Fed. Cir. 2019)

POR2 at 14, 18-22; *see* Ex. 2017 (Howle Dec.) ¶¶125-30.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

ROSSI “VALIDATION ELEMENT” DOES NOT SUPPLY MOTIVATION TO COMBINE

- Petitioner ignores Rossi validation element nuances
  1. Distinct from “identification” element
  2. Used to preclude reuse
  3. Preferably destroys validation element
  4. Best if validation is clear to user, visibly not reusable
  5. May take place outside of the machine
  6. Used to “unlock” the machine

POR2 at 18-22, 34; Ex. 2017 (Howle Dec.) at ¶¶155.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

INCOMPATIBILITIES BETWEEN SYSTEMS BELIE ARGUED MOTIVATION TO COMBINE

- Rossi: high pressure system, no rotation
- Yoakim & Jarisch ’937: low pressure rotational systems

harm the user. These types of machines often involve the use of high pressure, high temperature water, which poses a potential health hazard if the machine is not used correctly or malfunctions. Alternatively, use of the wrong operating

≠

[0132] The method of the invention comprises an operation wherein hot water is introduced into the capsule at substantially no pressure. Water can be brought by a hot water feed mechanism using a principle of aspiration or vaporisation.

[0133] Alternatively, for a higher flow consistency, hot water can be introduced using a low pressure pump such as a peristaltic pump or a diaphragm pump and the like.

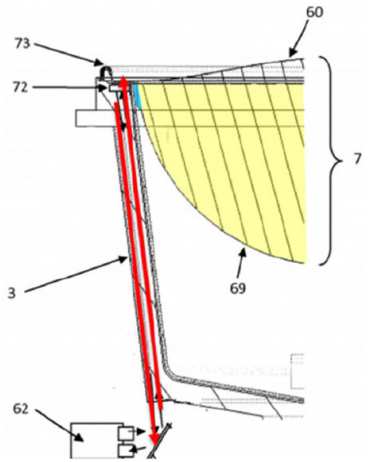
POSR2 at 22-25; Ex. 1004 at 40 ([0132]-[0133]); Ex. 1041 at 5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Optical codes—and detectors—on opposite sides of capsules
  - Jarisch ’937 sensor 62
  - Yoakim sensing device 231

Pet. at 49



citing Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner)

Ex 1004 (Yoakim) at 34 (Fig. 61)

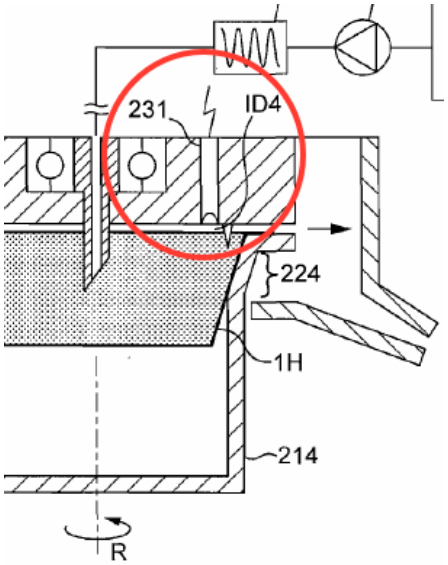


FIG. 61

(Annotations added)

POR2 at 29-33; Ex. 2017 (Howle Dec.) at ¶154; P2 at 49; Ex 1004 (Yoakim) at 34 (Fig. 61).

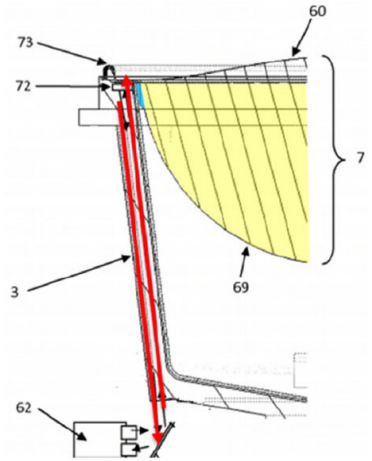
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

Ex. 2017 (Howle Dec.), ¶154 (Annotation added)

154. Because the combination of Jarisch and Yoakim would have required a significant redesign of the elements, including in moving 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. A POSITA would further have not sought to go through such efforts to implement a feature that is unnecessary in light of no apparent concern in Yoakim of reading the barcode on the top of the capsule.

Pet. at 49



citing Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner)

Ex 1004 (Yoakim) at 34 (Fig. 61)

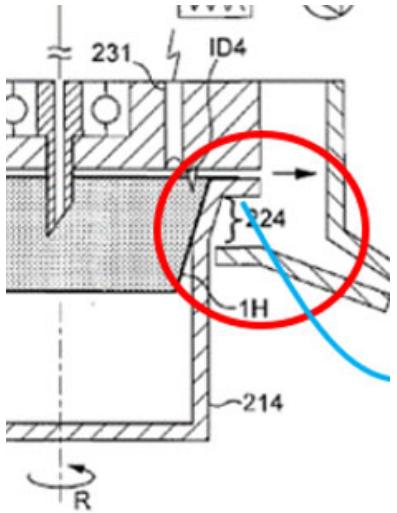


FIG. 61

(Annotations added)

POR2 at 29-33; Ex. 2017 (Howle Dec.) at ¶154; P2 at 49; Ex 1004 (Yoakim) at 34 (Fig. 61).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO HAS ELSEWHERE ARGUED RELATED YOAKIM APP. NOT COMBINABLE

142. Moreover, a POSITA would not have combined the teachings of Yoakim and Jarisch, as Petitioner suggests. Petitioner is the owner of Jarisch. 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 47. I note that Jarisch's priority document was filed days after Yoakim. But Jarisch make no mention of Yoakim in the background or otherwise. This suggests to a POSITA that the inventors of those references did not themselves see any clear relation between the two references. During prosecution of a similar Jarisch reference (U.S. Patent No. 10,800,600), a parent application to Yoakim was cited by the Examiner (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." IPR2021-01222, Paper 6, EX2002-1 at 393.

Ex. 2017 (Howle Dec.) at ¶142 (Annotation added); *see* POR2 at 25-26; POSR2 at 12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO HAS ELSEWHERE ARGUED RELATED YOAKIM APP. NOT COMBINABLE

’430 Petition at 57

> Yoakim discloses a brewing system that includes an “identification means” to adjust brewing parameters, which helps deliver a wider range of beverages having differentiated characteristics. *Id.*, [0477], [0526]; EX1003, ¶210. Yoakim further discloses that this recognition means *can be a barcode* or other visual code. *Id.*, [0496], [0525]; EX1003, ¶211.

IPR2021-01222, Paper 6, EX2002-1 at 393

> *Yoakim* discloses a capsule that includes a cup-shaped body and a sealing lid sealed onto the body. See *Yoakim*, for example, bottom of page 4. However, *Yoakim* does not disclose any code provided on the capsule. Indeed, the Examiner admits that Claim 1 differs from *Yoakim* in there being a code adapted for being identified or read by an external reader. Nonetheless, in an

P2 at 57 (Annotation added); Ex. 2017 (Howle Dec.) at ¶142; *see* POR2 at 25-26; POSR2 at 12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER DOES NOT PROVIDE MOTIVATION TO COMBINE CASTELLANI

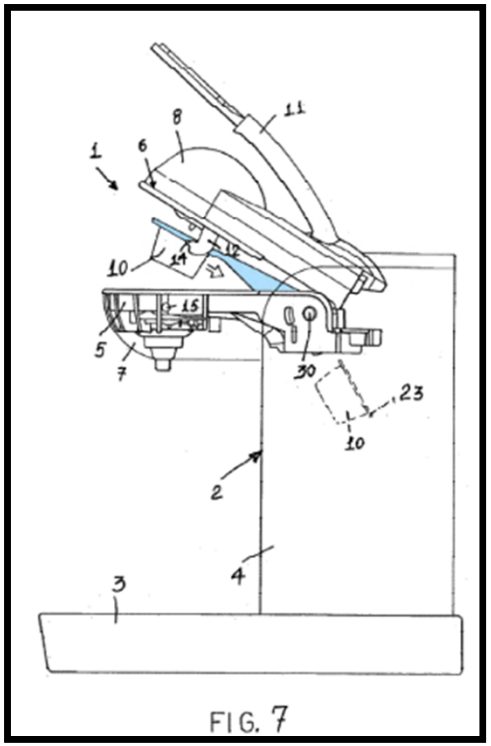


FIG. 7

Ex. 1009 (Castellani) at 8 (Fig. 7); P2 at 53.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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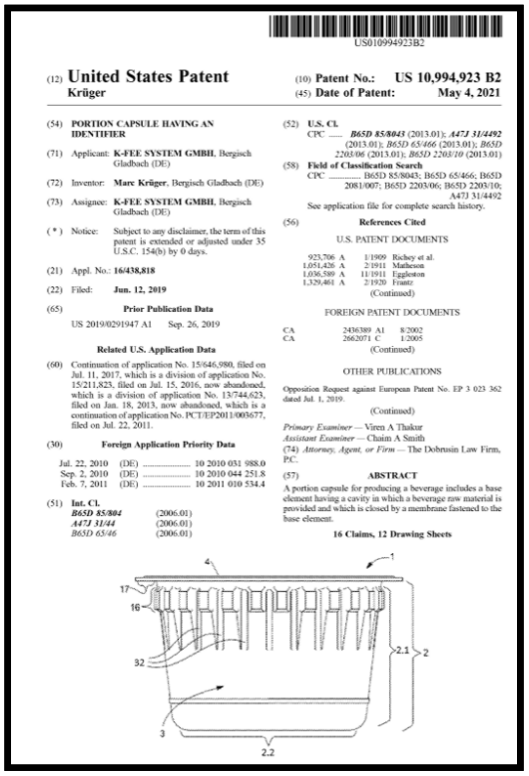
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 142
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

U.S. PATENT NO. 10,994,923

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE CHALLENGED ’923 PATENT



US010994923B2

(12) **United States Patent**
Krüger

(10) **Patent No.: US 10,994,923 B2**
(45) **Date of Patent: May 4, 2021**

(54) **PORTION CAPSULE HAVING AN IDENTIFIER**

(71) Applicant: **K-FEE SYSTEM GMBH**, Bergisch Gladbach (DE)

(72) Inventor: **Marc Krüger**, Bergisch Gladbach (DE)

(73) Assignee: **K-FEE SYSTEM GMBH**, Bergisch Gladbach (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/438,818**

(22) Filed: **Jun. 12, 2019**

(65) **Prior Publication Data**

US 2019/0291947 A1 Sep. 26, 2019

Related U.S. Application Data

(60) Continuation of application No. 15/646,980, filed on Jul. 11, 2017, which is a division of application No. 15/211,823, filed on Jul. 15, 2016, now abandoned, which is a division of application No. 13/744,623, filed on Jan. 18, 2013, now abandoned, which is a continuation of application No. PCT/EP2011/003677, filed on Jul. 22, 2011.

(30) **Foreign Application Priority Data**

Jul. 22, 2010 (DE) 10 2010 031 988.0
Sep. 2, 2010 (DE) 10 2010 044 251.8
Feb. 7, 2011 (DE) 10 2011 010 534.4

(51) **Int. Cl.**
B65D 85/804 (2006.01)
A47J 31/44 (2006.01)
B65D 65/46 (2006.01)

(52) **U.S. Cl.**
CPC ***B65D 85/8043*** (2013.01); ***A47J 31/4492*** (2013.01); *B65D 65/466* (2013.01); *B65D 2203/06* (2013.01); *B65D 2203/10* (2013.01)

(58) **Field of Classification Search**
CPC B65D 85/8043; B65D 65/466; B65D 2081/007; B65D 2203/06; B65D 2203/10; A47J 31/4492
See application file for complete search history.

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(Continued)

Primary Examiner — Viren A Thakur
Assistant Examiner — Chaim A Smith
(74) *Attorney, Agent, or Firm* — The Dobrusin Law Firm, P.C.

(57) **ABSTRACT**

A portion capsule for producing a beverage includes a base element having a cavity in which a beverage raw material is provided and which is closed by a membrane fastened to the base element.

16 Claims, 12 Drawing Sheets

- Ground 1:
  - Yoakim,
  - Jarisch ’937,
  - Rapparini
- Impacts all claims (claims 1-16)

Ex. 1001 (US Patent No. 10,994,923 B2) at 1; *see generally* POR1.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

CLAIM 1 OF THE ’923 PATENT

The invention claimed is:

1. Single-serve capsule for making a beverage, having a base element made of metal with a cavity that is free of a filter, and in which a raw beverage material is provided, the cavity including radially spaced and vertically oriented ribs, the capsule having a flange which is provided on the base element, and the cavity being closed by a metal cover, which is fastened on a top side of the flange, the base element comprises a wall region extending between the flange and a bottom region of the base element, the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region,

wherein the capsule has an identifier, which makes it possible to individualize the respective single-serve capsule, and the identifier is a barcode provided on a bottom side of the flange which is directed away from the metal cover.

Ex. 1001 (’923 Patent) at cl. 1; *see generally* POR1.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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NESPRESSO FAILED TO CARRY ITS BURDENS

- Jarisch ’937 is not prior art
  - Unrebutted Krüger Declaration (Ex. 2001)
  - German Priority Applications Corroborate Krüger
  - USPTO Found Priority in Related Matters
- Failings in Petitioner’s grounds from cited references
  - Cavity free of a filter
  - Wall region including radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region
  - Generating turbulence of water in the cavity
- No motivation to combine references or embodiments therein

See generally POPR1, PI-POSR1, POR1, POSR1.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

JARISCH ’937 IS NOT PRIOR ART

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’923 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATIONS

- Unrebutted Krüger Declaration (Ex. 2001) confirms entitlement to priority date
  - Krüger Declaration confirms German Priority Applications disclosed the whole claimed invention before Jarisch ’937
  - Disclosure included all asserted elements from Jarisch ’937
- Third German Priority Application (Ex. 1045) teaches “a capsule made of metal”
- First German Priority Application (Ex. 1046) teaches a “barcode”
  - Fig. 2
  - Unrebutted Krüger Declaration (Ex. 2001) confirms disclosure
- First German Priority Application (Ex. 1046) teaches a barcode “provided on the bottom side of the capsule flange”
  - Fig. 2
  - Unrebutted Krüger Declaration (Ex. 2001) confirms disclosure
- Third German Priority Application (Ex. 1045) teaches vertical grooves and ribs on the wall of the cavity
  - Fig. 1
  - Unrebutted Krüger Declaration (Ex. 2001) confirms disclosure
- USPTO found priority in related matters

POPR1 at 6-9, 13-35; POR1 at 4-7, 10-19; POSR1 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

INSTITUTION DECISION MISAPPREHENDS DISCLOSURE OF GERMAN APPLICATIONS

> Here, Patent Owner and Mr. Krüger attempt only to show that placing a barcode under the flange was conceived of and reduced to practice prior to the publication of Jarisch. Prelim. Resp. 34. Such a disclosure does not read on the challenged claims, which require, *inter alia*, a capsule made of metal, a barcode under the flange, and a wall region that includes radially spaced and vertically oriented grooves that are free from extending to the bottom region. Ex. 1001, 12:52–67. Accordingly, on this record, Patent Owner fails to "swear behind" Jarisch.[9]

ID1 at 14 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 149
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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THE UNREBUTTED KRÜGER DECLARATION CONFIRMS THAT JARISCH ’937 IS NOT PRIOR ART

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 150
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’923 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATIONS

- Ex. 2001 confirms entitlement to priority date
  - Unrebutted Krüger Declaration confirms German Priority Applications disclosed the whole claimed invention before Jarisch ’937
  - Disclosure included all asserted elements from Jarisch ’937

POR1 at 15-19; POSR1 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 151
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

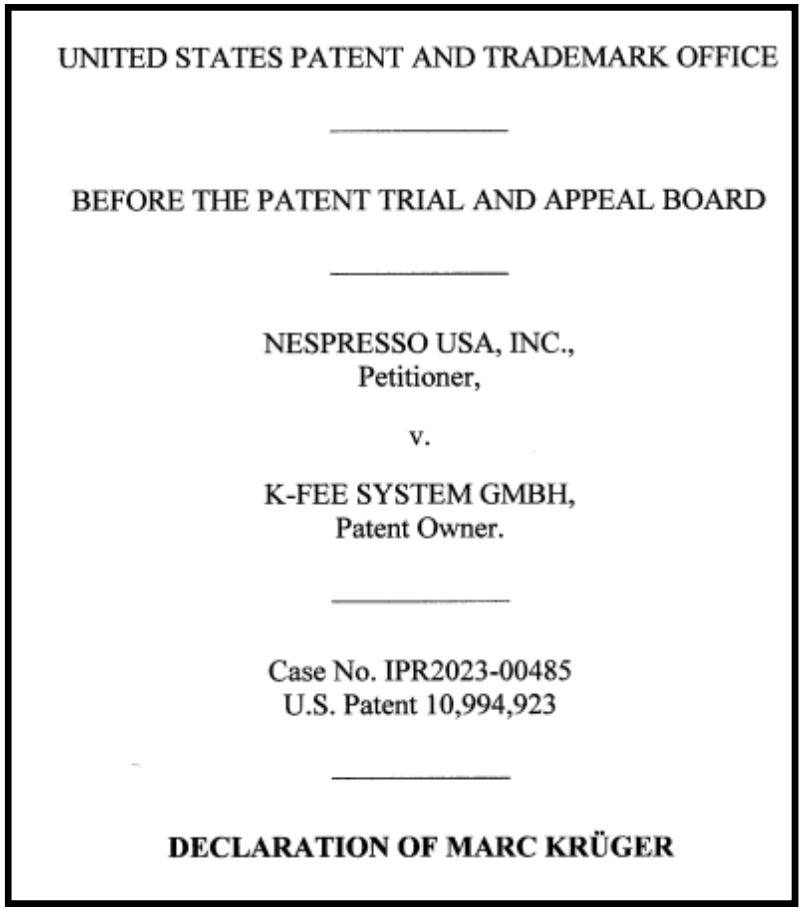
THE KRÜGER DECLARATION IS UNREBUTTED

- Nespresso chose not to depose Marc Krüger
- Nespresso provides no evidence undercutting the veracity of Marc Krüger’s declaration

POSR1 at 13; *see generally* Ex. 2001 (Krüger Dec.).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 152
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case No. IPR2023-00485
U.S. Patent 10,994,923

DECLARATION OF MARC KRÜGER

MR. KRÜGER’S UNREBUTTED DECLARATION ESTABLISHES CONCEPTION & REDUCTION TO PRACTICE

Ex. 2001 (Krüger Dec.) at 1; *see* POPR1 at 29-35; POR1 at 10-19; POSR1 at 13-16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

KRÜGER DECLARATION DEMONSTRATES GERMAN PRIORITY APPLICATIONS DESCRIBE THE SAME COFFEE SYSTEM

10. From 2009 onward, I was developing single-serve coffee machine capsules. I devised a security feature design by which a coffee machine could only be operated using authorized capsules with an "identifier" such as a barcode. Upon recognition of the identifier, the coffee machine would operate to make a beverage. If the identifier was not recognized, the coffee machine would not operate.

18. Thereafter, I continued to work on the coffee machine, capsule, identifiers and other aspects of K-fee's single-serve coffee system. Additional concepts and innovations were described further in subsequent patent applications.

Ex. 2001 (Krüger Dec.) at ¶¶ 10, 18; POR1 at 15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

KRÜGER DECLARATION DEMONSTRATES EACH GERMAN APPLICATION DISCLOSES DIFFERENT EMBODIMENTS OF THE SAME INVENTION

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case No. IPR2023-00485
U.S. Patent 10,994,923

DECLARATION OF MARC KRÜGER

12. Dr. Felix Wolff assisted me and K-fee with patent prosecution, and I contacted Dr. Wolff to discuss this new invention. We held a meeting during which we discussed the invention. After that meeting, Dr. Wolff drafted a patent application and upon my instruction, Dr. Wolff filed the first German application, DE 10 2010 031 988, on July 22, 2010 (EX1046). Each of the embodiments contained in the first German application were conceived before the filing date of July 22, 2010.

19. Dr. Wolff, upon my instruction, filed the second German application. (EX1047). Dr. Wolff filed DE 10 2010 044 251 on September 2, 2010. Each of the embodiments contained in the second German application were conceived before the filing date of September 2, 2010.

22. Dr. Wolff, upon my instruction, filed the third German application, DE 10 2011 010 534 on February 7, 2011 (EX1045). Each of the embodiments contained in the third German application were conceived before the filing date of February 7, 2011.

Ex. 2001 (Krüger Dec.) at ¶¶ 12, 19, 22; POR1 at 18; POSR1 at 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE THIRD GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

CAPSULE MADE OF METAL

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 156
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IPR2023-00502, U.S. PATENT 10,994,923

THIRD GERMAN PRIORITY APPLICATION DISCLOSES A CAPSULE MADE OF METAL

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		**PCT/EP2011/003677**
International filing date:		**22 July 2011 (22.07.2011)**
Document type:		**Certified copy of priority document**
Document details:	Country/Office:	**DE**
	Number:	**10 2011 010 534.4**
	Filing date:	**07 February 2011 (07.02.2011)**
Date of receipt at the International Bureau:		**21 November 2011 (21.11.2011)**

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)

preferably been thermoformed. The membrane 4 preferably comprises a thin plastics film or an aluminum foil. The

Ex. 1045 at 28:32-33

POR1 at 6; Ex. 1045 (Third German Priority Application) at 28:32-33 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE FIRST GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

BARCODE PROVIDED ON THE BOTTOM SIDE OF THE CAPSULE FLANGE

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 158
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’923 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATIONS

- Unrebutted Krüger Declaration (Ex. 2001) confirms disclosure of a barcode under the flange

- The First German Priority Application (Ex. 1046) teaches a barcode provided on the bottom side of the capsule flange
  - Fig. 2

POPR1 at 32-35; POR1 at 15-19; POSR1 at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 159
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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KRÜGER DECLARATION SHOWS A BARCODE UNDER THE FLANGE

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case No. IPR2023-00485
U.S. Patent 10,994,923

DECLARATION OF MARC KRÜGER

10. From 2009 onward, I was developing single-serve coffee machine capsules. I devised a security feature design by which a coffee machine could only be operated using authorized capsules with an “identifier” such as a barcode. Upon recognition of the identifier, the coffee machine would operate to make a beverage. If the identifier was not recognized, the coffee machine would not operate.

13. In many embodiments the coffee machine has a sensor or detection medium that detects the identifier. EX1046 at 23. The coffee machine could then compare the detected identifier with a stored identifier and put the coffee machine into operation if the capsule identifier matches the stored identifier. *Id.* at 23.

14. One embodiment of an identifier is a barcode on the capsule. *Id.* at 26-28, 30. More specifically, the barcode could be placed on an edge or flange of the capsule, even more specifically on the bottom of the flange facing away from the membrane which seals the top of the capsule. *Id.* at 28. The barcode on the bottom of the flange could be read by a detector in the insertion shaft, for example. *Id.*

Ex. 2001 (Krüger Dec.) at ¶¶ 10, 13, 14 (Annotations added); *see* POPR1 at 32-35; POR1 at 15-18; POSR1 at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

BARCODE

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 161
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FIRST GERMAN PRIORITY APPLICATION DISCLOSES AN IDENTIFIER SUCH AS A BARCODE

Figure 2 shows a further embodiment of the portion capsule according to the invention. In the present case, this capsule has a barcode in the region of the upper side of the membrane. This barcode can be printed on, by material removal, or can be produced by optically detectable means, for example fluorescent means, which are present in the sheet material. As an alternative, appropriate metal rings may form part of the sheet material or be applied to the sheet material. The regions of the barcode may consist of a ferromagnetic material. As an alternative, it is possible, as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane. This barcode is read by a detector 13, for example in an insertion shaft. The barcode constitutes the identifier according to the invention.

Ex. 1046 at 28:16-32

The identifier is further preferably a machine-readable print. This print is done preferably using an ink which is permissible in the food sector. Further preferred printing material or printing materials are constituted by fluorescent materials, with optical properties which change under the influence of temperature. The print is preferably a barcode, a logo or a repeat pattern.

Ex. 1046 at 24:24-30

Ex. 1046 (First German Priority Application) at 24:24-30, 28:16-32 (Annotations added); *see* POPR1 at 6-8, 32-35; POR1 at 4-6, 14-16; POSR1 at 13-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PROVIDED ON THE BOTTOM SIDE OF THE CAPSULE FLANGE

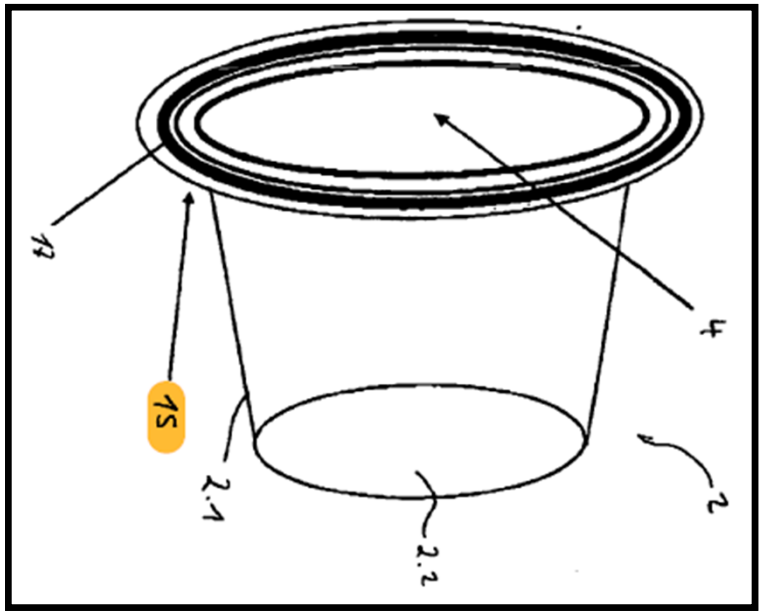
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 163
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

BARCODE LOCATED ON BOTTOM SIDE OF FLANGE – SHOWN IN FIG. 2 OF FIRST GERMAN PRIORITY APPLICATION

Figure 2 shows a further embodiment of the portion capsule according to the invention. In the present case, this capsule has a barcode in the region of the upper side of the membrane. This barcode can be printed on, by material removal, or can be produced by optically detectable means, for example fluorescent means, which are present in the sheet material. As an alternative, appropriate metal rings may form part of the sheet material or be applied to the sheet material. The regions of the barcode may consist of a ferromagnetic material. As an alternative, it is possible, as symbolized by the arrow 15, for the barcode to be provided on that side of the peripheral region of the basic element which is directed away from the membrane. This barcode is read by a detector 13, for example in an insertion shaft. The barcode constitutes the identifier according to the invention.

Ex. 1046 at 28:16-32



Ex. 1046 at Fig. 2 (annotation added)

Ex. 1046 (First German Priority Application) at 28:16-32, Fig. 2 (Annotations added); *see* POPR1 at 6-8, 32-35; POR1 at 4-6, 14-16; POSR1 at 13-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THE THIRD GERMAN PRIORITY APPLICATION ESTABLISHES THAT JARISCH ’937 IS NOT PRIOR ART:

A WALL REGION THAT INCLUDES RADIALLY SPACED AND VERTICALLY ORIENTED GROOVES THAT ARE FREE FROM EXTENDING TO THE BOTTOM REGION

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 165
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

’923 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATIONS

- Unrebutted Krüger Declaration (Ex. 2001) confirms disclosure of vertical grooves and ribs on the wall of the cavity

- The Third German Priority Application (Ex. 1045) teaches vertical grooves and ribs on the wall of the cavity
  - Fig. 1

POPR1 at 8-9, 32-35; POR1 at 6-7, 15-19; POSR1 at 14-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

KRÜGER DECLARATION DISCLOSES ALL ELEMENTS, INCLUDING VERTICAL GROOVES

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESPRESSO USA, INC.,
Petitioner,

v.

K-FEE SYSTEM GMBH,
Patent Owner.

Case No. IPR2023-00485
U.S. Patent 10,994,923

DECLARATION OF MARC KRÜGER

10. From 2009 onward, I was developing single-serve coffee machine capsules. I devised a security feature design by which a coffee machine could only be operated using authorized capsules with an “identifier” such as a barcode. Upon recognition of the identifier, the coffee machine would operate to make a beverage. If the identifier was not recognized, the coffee machine would not operate.

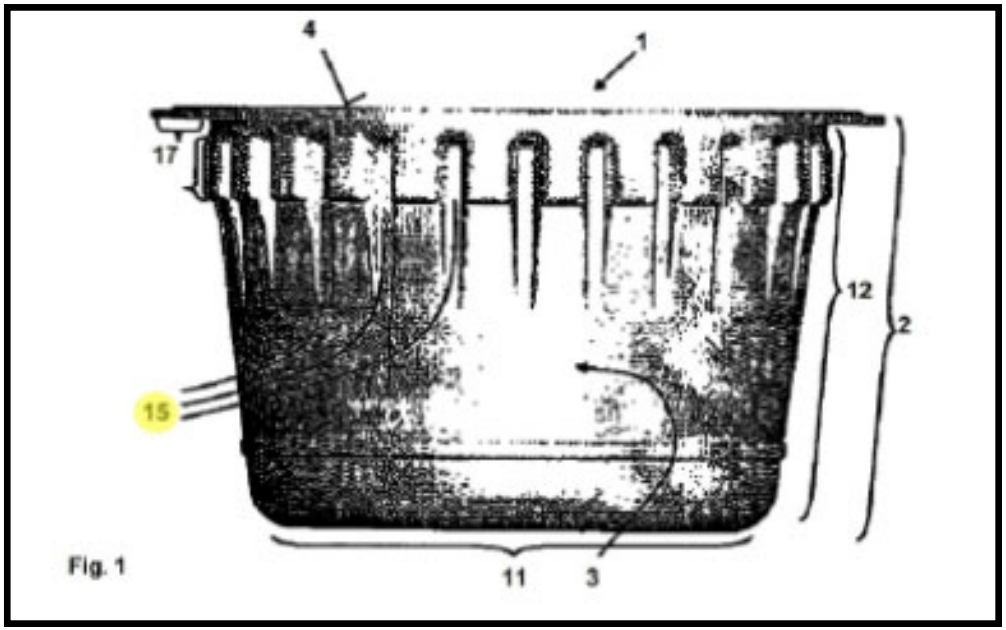
18. Thereafter, I continued to work on the coffee machine, capsule, identifiers and other aspects of K-fee’s single-serve coffee system. Additional concepts and innovations were described further in subsequent patent applications.

22. Dr. Wolff, upon my instruction, filed the third German application, DE 10 2011 010 534 on February 7, 2011 (EX1045). Each of the embodiments contained in the third German application were conceived before the filing date of February 7, 2011.

Ex. 2001 (Krüger Dec.) at ¶¶ 10, 18, 22; POR1 at 15-19; POSR1 at 13-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THIRD GERMAN APPLICATION DISCLOSES VERTICAL GROOVES



Ex. 1045 (Third German Priority Application) at Fig. 1 (annotation added); *see* POPR1 at 8-9, 32-35; POR1 at 6-7, 15-19; POSR1 at 14-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 168
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THE USPTO HAS ALREADY FOUND PRIORITY IN RELATED MATTERS

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 169
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IPR2023-00502, U.S. PATENT 10,994,923

923 CLAIMS FIND PRIORITY IN GERMAN PRIORITY APPLICATIONS

- USPTO found priority in related matters
  - Examiner affirmed priority date
  - Examiner considered all cited references

POPR1 at 13-27; PI-POSR1 at 4-5; POR1 at 7-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

EXAMINER AFFIRMED PRIORITY DATE OF PATENT-IN-SUIT

Claims 1-20 are allowed.

The following is an examiner’s statement of reasons for allowance: allowance of claims 1-20 is indicated as none of the cited prior art discloses or suggests the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region, a width of the side wall defined between each of the plurality of grooves is wider than a width of each of plurality of grooves, wherein the capsule has an identifier, which makes it possible to individualize the single-serve capsule, the identifier is a barcode on the wall region and on a bottom side of the flange.

The closest prior art is Yoakim (US 2010/0239734), Denisart (WO 2010/026053), Boyd (US 2002/0048621) and Aker (US 2010/0078480). These references fail to disclose most of the claimed limitations such as, the identifier on the bottom of the flange and the cavity being free of a filter. The other pertinent references either do not meet the priority date or, in the Examiner’s opinion, are not able to be combined.

It should also be noted the amount of references cited, a significant portion being filings from a third party, are not considered an undue burden.

Ex. 2012 (”Notice of Allowance for Appl. No. 17-330572”) at 6; POPR1 at 9-11, 13-20; *see* PI-POSR1 at 4-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

EXAMINER CONSIDERED JARISCH ’937, YOAKIM, AND RAPPARINI IN RELATED APPLICATIONS

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S/

Receipt date: 06/12/2019

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	TBA
	Filing Date	Herewith
	First Named Inventor	Marc Krüger
	Art Unit	TBA
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC4 (KRÜ0022-WO-US-T4)

	79. 2010/0239734	A1	09/23/2010	Yoakim,et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S/

Receipt date: 06/12/2019

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	TBA
	Filing Date	Herewith
	First Named Inventor	Marc Krüger
	Art Unit	TBA
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC4 (KRÜ0022-WO-US-T4)

	120 2012/0258210	A1	10/11/2012	Wong et al.	
	121 2012/0295234	A1	11/22/2012	Rognon et al.	
	122 2012/0308688	A1	12/06/2012	Peterson et al.	
	123 2013/0055903	A1	03/07/2013	Deuber	
	124 2013/0059039	A1	03/07/2013	Trombetta et al.	
	125 2013/0064929	A1	03/14/2013	Jarisch et al.	
	126 2013/0064937	A1	03/14/2013	Jarisch et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16/438,818
	Filing Date	June 12, 2019
	First Named Inventor	Marc Krüger
	Art Unit	1792
	Examiner Name	Becker, Drew E.
	Attorney Docket Number	1859.029USC4 (KRÜ0022-WO-US-T4)

	24.	2010/034663 (also published as US2012/0031794)	WO	A1	04/01/2010	Ozanne et al.	
	25.	2010/041179	WO	A2	04/15/2010	Mariller	X
	26.	2011/047836	WO	A1	04/28/2011	Rapparini	

Ex. 1002, Part 2 at 348-351, 356-82; *see* POPR1 at 9-11, 13-20; PI-POSR1 at 4-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

OTHER FAILINGS IN CITED REFERENCES

- Cavity free of a filter *(also argued in ’430 Patent (IPR2023-00485))*
- “wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region”
- “generat[ing] turbulence of water in the cavity”

See P1 at 50, 53-54, 62-63, 66; P2 at 62; POR1 at 19-36; POR2 at 10-15; POSR1 at 16-27; POSR2 at 19-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PRIOR ART FAILING: CAVITY FREE OF A FILTER

’923 Patent (IPR2023-00502): Claims 1-8, 10

’430 Patent (IPR2023-00485): All claims

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

OTHER FAILINGS IN CITED REFERENCES

- Cavity free of a filter *(also argued in '430 Patent (IPR2023-00485))*
  - Petition fails to show Yoakim's capsule is "free of a filter"
  - Yoakim teaches outlets in the cavity that filter

See P1 at 50; P2 at 62; POR1 at 20-27; POR2 at 10-15; POSR1 at 16-19; POSR2 at 19-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PRIOR ART FAILING: WALL REGION INCLUDES RADIALLY SPACED AND VERTICALLY ORIENTED GROOVES THAT ARE FREE FROM EXTENDING ENTIRELY TO THE BOTTOM REGION

All Claims

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

OTHER FAILINGS IN CITED REFERENCES

- “wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region”
  - Rapparini teaches that frustoconical capsules have grooves extending entirely to the bottom region
  - Petitioner routinely cites Yoakim’s frustoconical capsule
  - A POSITA would not be motivated to combine Rapparini’s disclosure in Fig. 6bis with Yoakim’s frustoconical capsule

See P1 at 49, 52-54; POR1 at 27-33; POSR1 at 19-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

ALL ’923 PATENT CLAIMS REQUIRE:

The invention claimed is:

1. Single-serve capsule for making a beverage, having a base element made of metal with a cavity that is free of a filter, and in which a raw beverage material is provided, the cavity including radially spaced and vertically oriented ribs, the capsule having a flange which is provided on the base element, and the cavity being closed by a metal cover, which is fastened on a top side of the flange, the base element comprises a wall region extending between the flange and a bottom region of the base element, the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region,

wherein the capsule has an identifier, which makes it possible to individualize the respective single-serve capsule, and the identifier is a barcode provided on a bottom side of the flange which is directed away from the metal cover.

9. Single-serve capsule for making a beverage, comprising:

a base element with a cavity having radially spaced and vertically oriented ribs and in which a raw beverage material is provided, the capsule having a flange that extends from the base element, the cavity being closed by a cover, which is fastened on a top side of the flange, the base element comprises a wall region extending between the flange and a bottom region of the base element, the wall region includes radially spaced and vertically oriented grooves that are free from extending entirely to the bottom region,

Ex. 1001 (’923 Patent) at cls. 1, 9; *see* POR1 at 27-33; POSR1 at 19-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S PETITION RELIES SOLELY UPON YOAKIM’S FRUSTOCONICAL CAPSULES

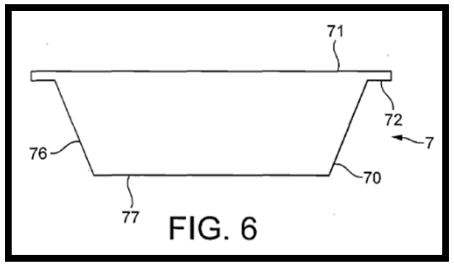


FIG. 6

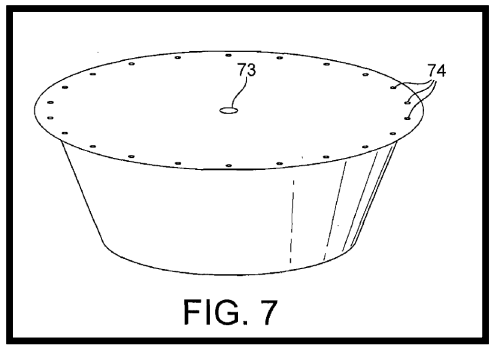


FIG. 7

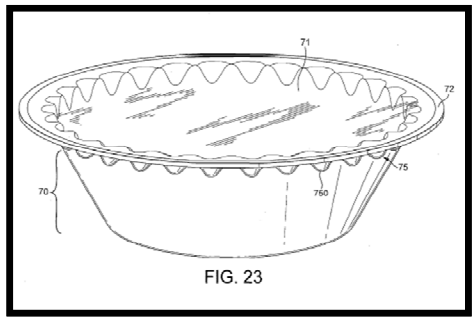


FIG. 23

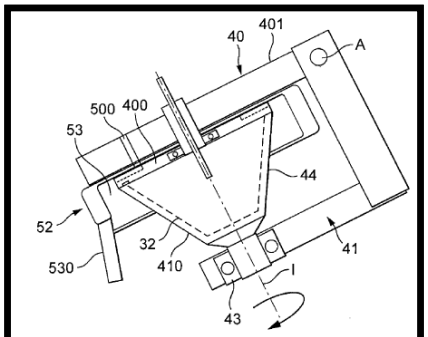


FIG. 25

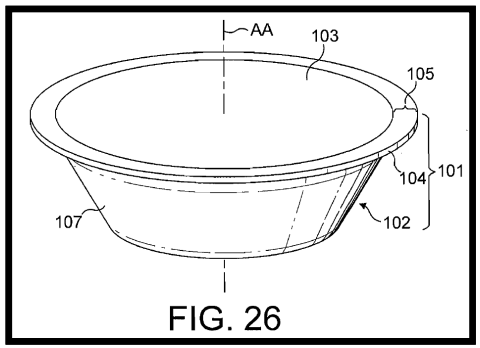


FIG. 26

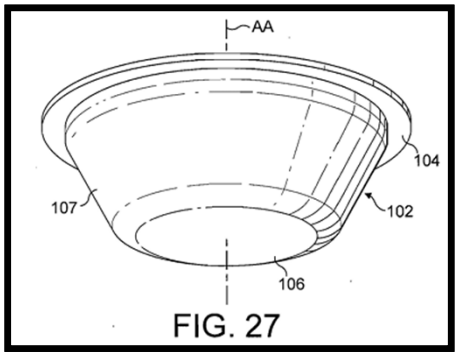


FIG. 27

Ex. 1004 (Yoakim) at Figs. 6-7, 23, 25-27; *see* P1 at 30, 36-37, 43-44, 47-55, 57, 60-63; POR1 at 27-33; POSR1 at 19-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S PETITION RELIES SOLELY UPON YOAKIM’S FRUSTOCONICAL CAPSULES

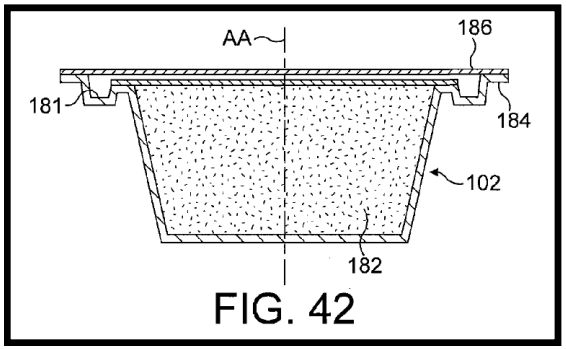


FIG. 42

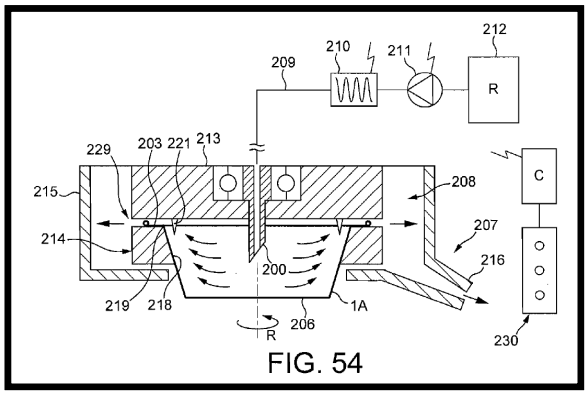


FIG. 54

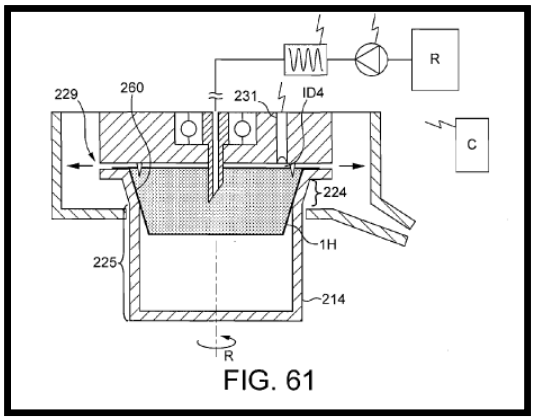


FIG. 61

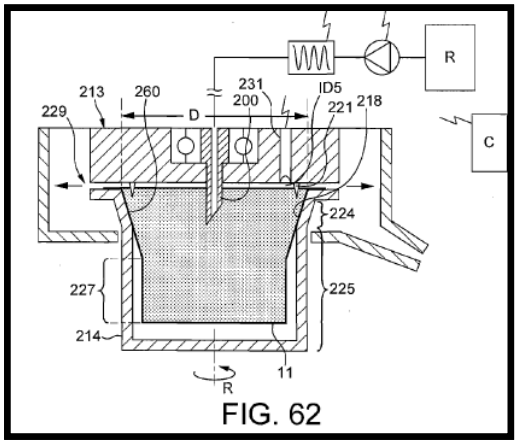


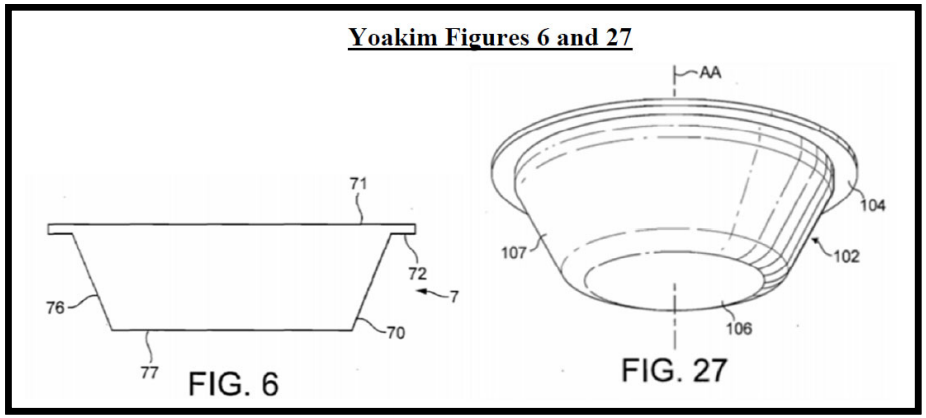
FIG. 62

Ex. 1004 (Yoakim) at Figs. 42, 54, 61-62; *see* P1 at 30, 36-37, 43-44, 47-55, 57, 60-63; POR1 at 27-33; POSR1 at 19-26.

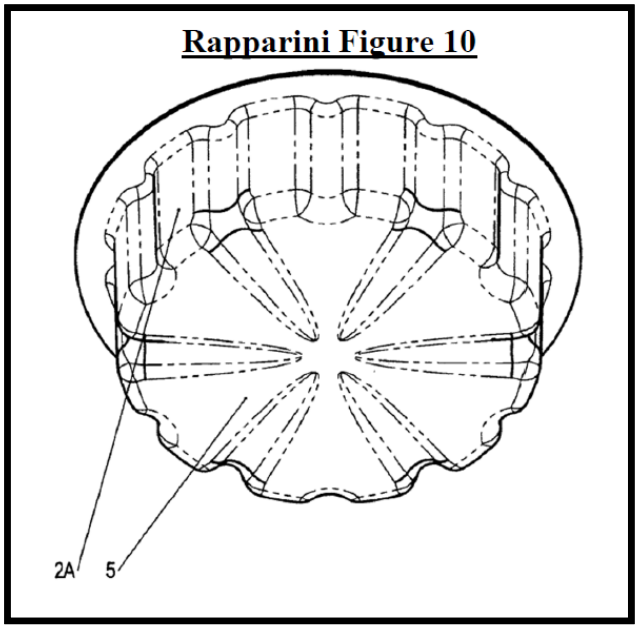
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

RAPPARINI’S FRUSTOCONICAL CAPSULES’ GROOVES EXTEND ENTIRELY TO THE BOTTOM REGION

Petition relies on Yoakim’s frustoconical capsule. *E.g.*, Pet. at 49, 51-53



Rapparini Figure 10 has a frustoconical capsule



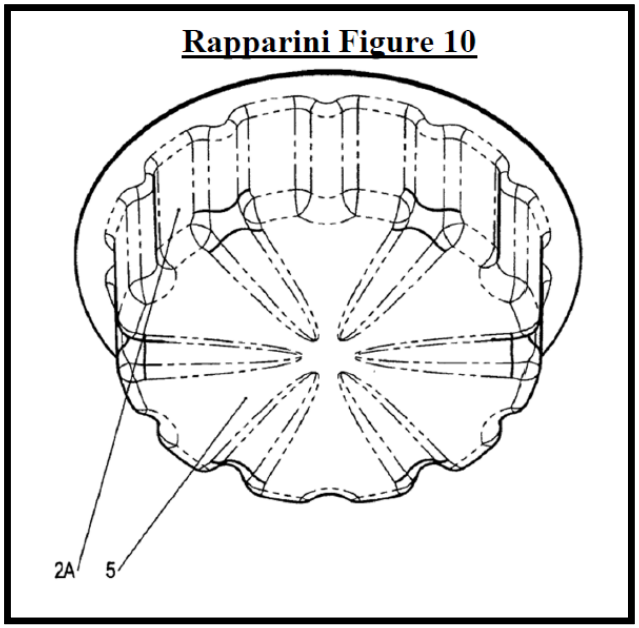
POR1 at 27-33; POSR1 at 19-26; Ex. 1004 (Yoakim) at Figs 6, 27; Ex. 1008 (Rapparini) at Fig. 10.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

RAPPARINI’S FRUSTOCONICAL CAPSULES’ GROOVES EXTEND ENTIRELY TO THE BOTTOM REGION

Rapparini at [0061]

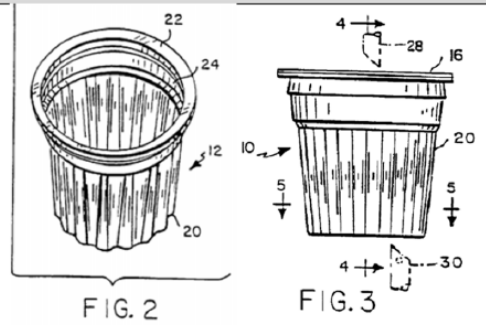
[0061] As can be seen in FIG. **10**, the alternate length of the stiffening ribs **4** is particularly advantageous in the present case. In particular, in the present case, the container **2**A has substantially a cylindrical shape with a substantially flat bottom. The short ribs run only along the side wall of the container **2**A. In particular, the short ribs run along the entire height of the side wall of the container **2**A. The long ribs extend beyond the side wall of the container **2**A in the bottom portion of same so as to meet substantially at the centre of the bottom portion of the container **2**A. In particular, the pointed endings of the long ribs point toward the centre of the bottom portion of the container **2**A. Moreover, the depth of the long ribs decreases toward the centre of the bottom **5** of the container **2**A so as to maintain the stability of the central portion. The short ribs have substantially constant depth along their entire length. Moreover, the short ribs have substantially constant width along their entire length and do not exhibit pointed endings.

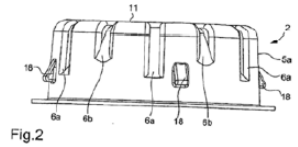
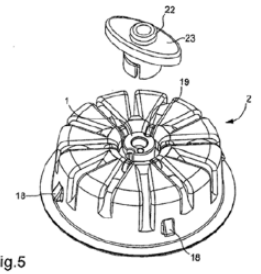
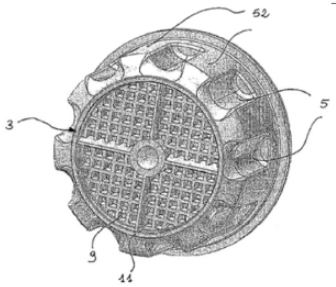


POR1 at 27-33; POSR1 at 19-26; Ex. 1008 (Rapparini) at 19 ([0061]), 9 (Fig. 10).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

EVERY FRUSTOCONICAL CAPSULE EXAMPLE PETITIONER IDENTIFIES EXTENDS THE GROOVES TO THE BOTTOM

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

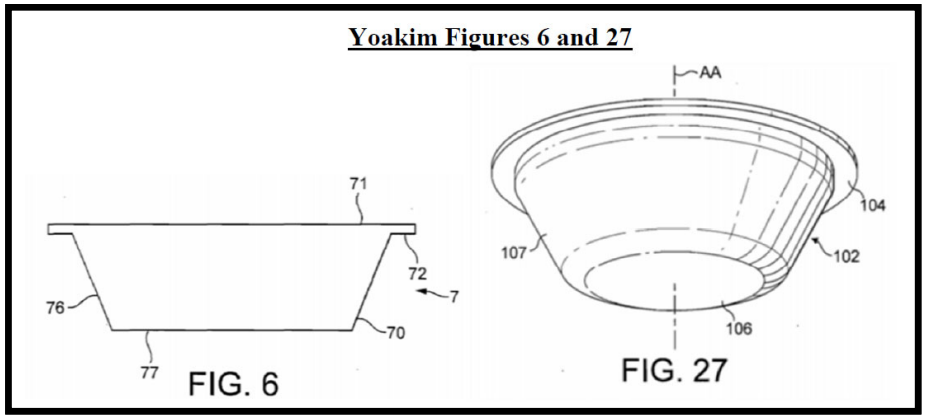
Date	Capsule	Description
2006	 	“A first series of ribs 6a plays a part in ***reinforcing the capsule*** 2. . . .A second series of ribs 6b is designed to ***prevent the nozzle from rotating*** in the packaging.” EX1011, [0077].
2007		Grooves and ribs on the capsule wall and cavity. EX1034, [0009]. “the internal grooves of the capsule attain ***optimal flow conditions*** 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…” *Id.* [0009], [0019], [0020].

POR1 at 27-33; Ex. 1033 (Sweeney) at 2:20-25, 2:30-35, Figs. 2-3; Ex. 1011 (Mock) at [0077], Figs. 2, 5; Ex. 1034 (Rubino) at [0009], [0019], [0020], Fig. 2.

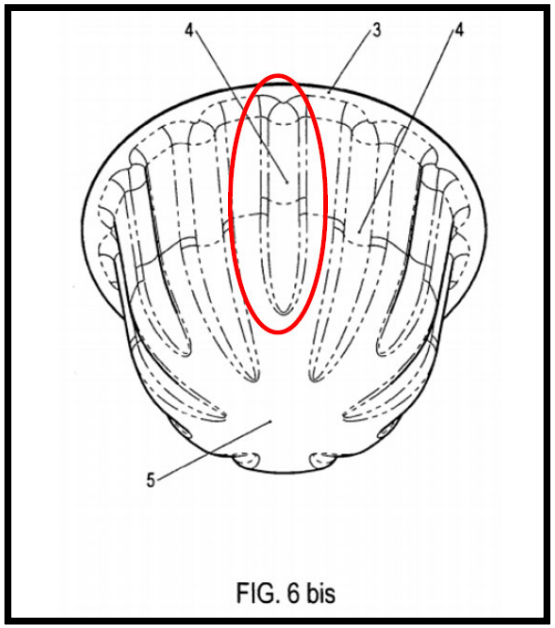
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA WOULD NOT LOOK TO RAPPARINI’S FIG. 6BIS CAPSULE TO MODIFY YOAKIM’S FRUSTOCONICAL CAPSULE

Petition relies on Yoakim’s frustoconical capsule. E.g., Pet. at 49, 51-53



Rapparini Figure 6bis has a rounded bottom



POR1 at 27-33; POSR1 at 19-26; Ex. 1004 (Yoakim) at Figs, 6, 27; Ex. 1008 (Rapparini) at Fig. 6bis.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

RAPPARINI FIG.10 IS APPLICABLE

[0067] For instance, several kinds of materials can be employed for realizing the containers according to the present invention. Moreover, the containers according to the present invention can have several dimensions. For example, the containers can be adapted to be employed for domestic machines such as moka pots or automatic espresso machines. Alternatively, the containers can be adapted to be employed for industrial machines.

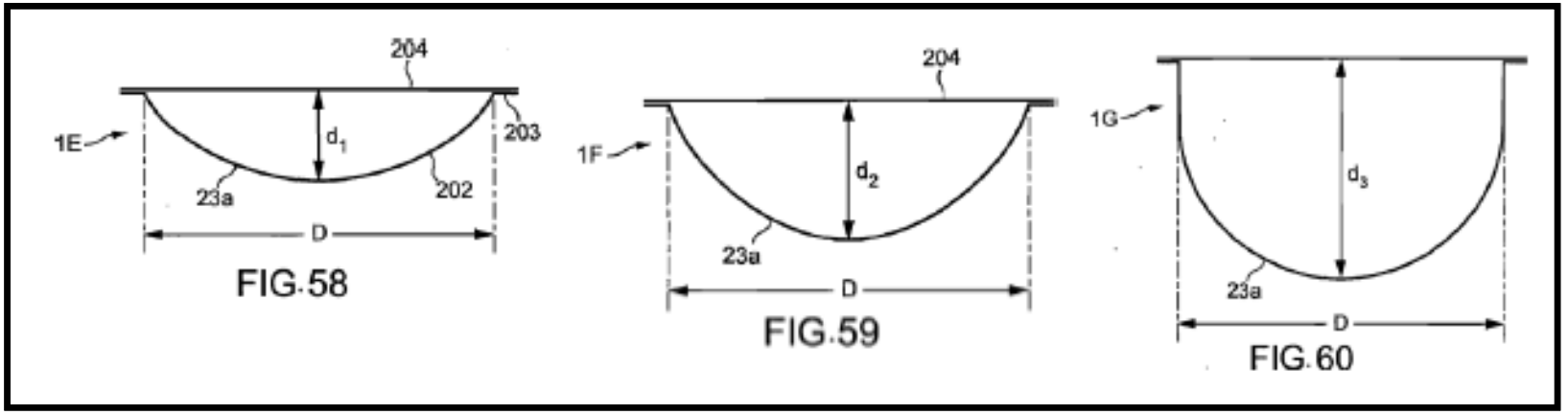
- Petitioner improperly argues Rapparini Fig. 10 is inapplicable because it is directed to a Moka Pot
- Rapparini at [0067] indicates that all containers in Rapparini are suitable for Moka Pots
- Applying Petitioner’s logic, the Rapparini reference as a whole is inapplicable

POSR1 at 19-26; Ex. 1008 (Rapparini) at [0067].

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER’S ARGUMENTS RAISED FOR THE FIRST TIME ON REPLY SHOULD BE REJECTED

Petitioner improperly pivots to relying on rounded capsules from a different embodiment in Yoakim (Figs. 58-60) that it never cited in the Petition.

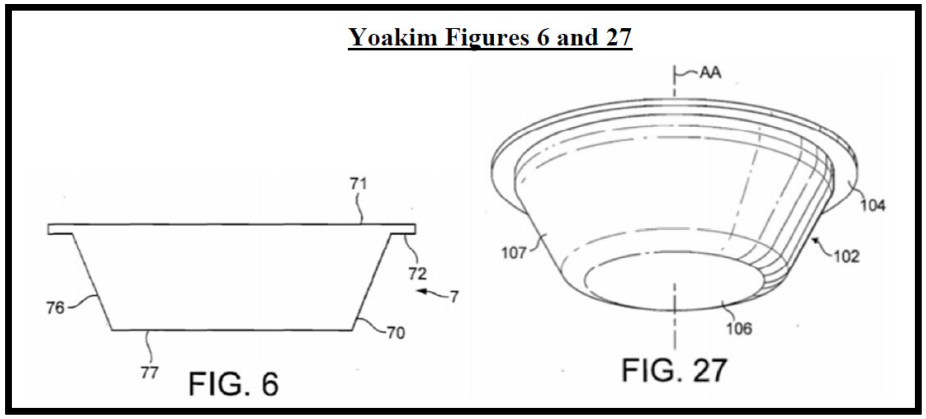


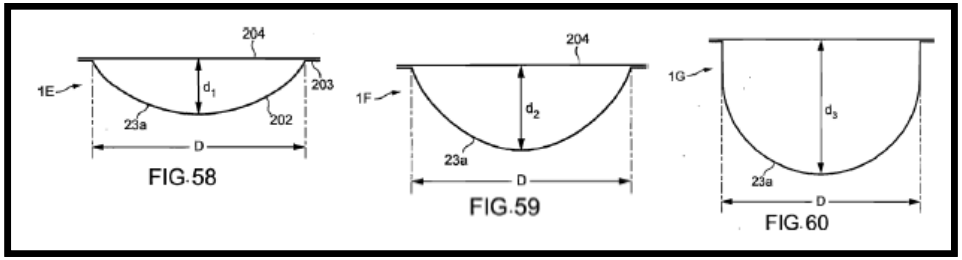
POSR1 at 19-26; POR Reply1 at 13; Ex. 1004 (Yoakim) at Figs. 58-60.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER FAILS TO PROVIDE A SUFFICIENT RATIONALE TO COMBINE THE TEACHINGS OF YOAKIM’S DIFFERENT EMBODIMENTS

Petitioner does not explain how or why a POSITA would have combined Yoakim’s single-sized capsule embodiments at Figs. 6 and 27 with the multi-volume capsules at Figs. 58-60.

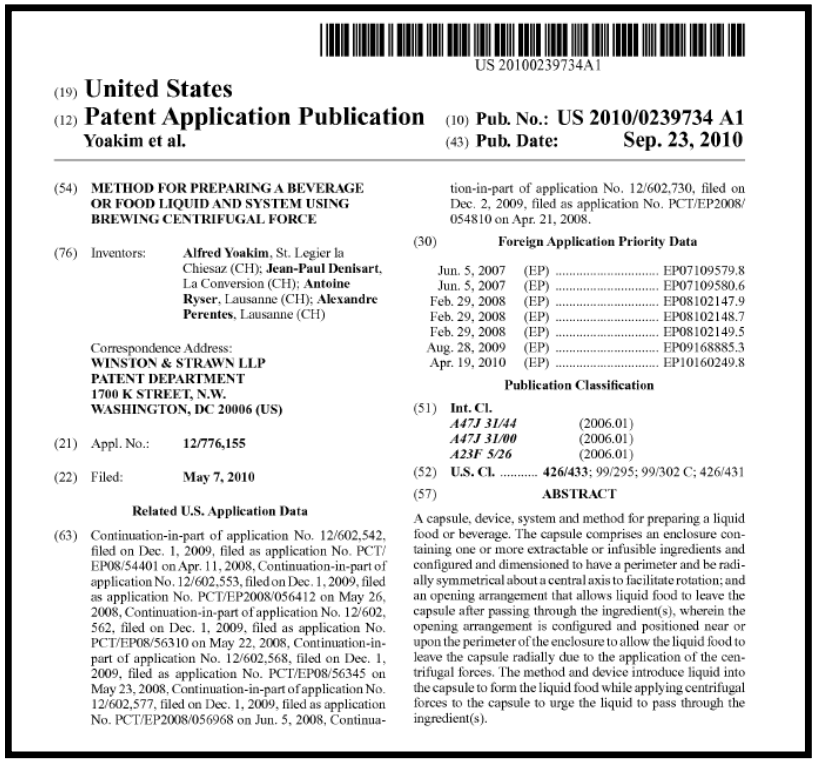




P1 at 53; Ex. 1004 (Yoakim) at Figs 6, 27; POSR1 at 19-26; POR Reply1 at 13; Ex. 1004 (Yoakim) at Figs. 58-60.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

YOAKIM DISCLOSES MULTIPLE DISCRETE, UNCONNECTED EMBODIMENTS



US 20100239734A1

(19) **United States**

(12) **Patent Application Publication**

Yoakim et al.

(10) **Pub. No.: US 2010/0239734 A1**

(43) **Pub. Date: Sep. 23, 2010**

(54) **METHOD FOR PREPARING A BEVERAGE OR FOOD LIQUID AND SYSTEM USING BREWING CENTRIFUGAL FORCE**

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WASHINGTON, DC 20006 (US)

(21) Appl. No.: **12/776,155**

(22) Filed: **May 7, 2010**

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/602,542, filed on Dec. 1, 2009, filed as application No. PCT/EP08/54401 on Apr. 11, 2008, Continuation-in-part of application No. 12/602,553, filed on Dec. 1, 2009, filed as application No. PCT/EP2008/056412 on May 26, 2008, Continuation-in-part of application No. 12/602,562, filed on Dec. 1, 2009, filed as application No. PCT/EP08/56310 on May 22, 2008, Continuation-in-part of application No. 12/602,568, filed on Dec. 1, 2009, filed as application No. PCT/EP08/56345 on May 23, 2008, Continuation-in-part of application No. 12/602,577, filed on Dec. 1, 2009, filed as application No. PCT/EP2008/056968 on Jun. 5, 2008, Continuation-in-part of application No. 12/602,730, filed on Dec. 2, 2009, filed as application No. PCT/EP2008/054810 on Apr. 21, 2008.

(30) **Foreign Application Priority Data**

Jun. 5, 2007	(EP)	EP07109579.8
Jun. 5, 2007	(EP)	EP07109580.6
Feb. 29, 2008	(EP)	EP08102147.9
Feb. 29, 2008	(EP)	EP08102148.7
Feb. 29, 2008	(EP)	EP08102149.5
Aug. 28, 2009	(EP)	EP09168885.3
Apr. 19, 2010	(EP)	EP10160249.8

Publication Classification

(51) **Int. Cl.**

A47J 31/44	(2006.01)
A47J 31/00	(2006.01)
A23F 5/26	(2006.01)

(52) **U.S. Cl.** ..... **426/433**; 99/295; 99/302 C; 426/431

(57) **ABSTRACT**

A capsule, device, system and method for preparing a liquid food or beverage. The capsule comprises an enclosure containing one or more extractable or infusible ingredients and configured and dimensioned to have a perimeter and be radially symmetrical about a central axis to facilitate rotation; and an opening arrangement that allows liquid food to leave the capsule after passing through the ingredient(s), wherein the opening arrangement is configured and positioned near or upon the perimeter of the enclosure to allow the liquid food to leave the capsule radially due to the application of the centrifugal forces. The method and device introduce liquid into the capsule to form the liquid food while applying centrifugal forces to the capsule to urge the liquid to pass through the ingredient(s).

Discrete embodiments disclosed from priority and continuation-in-part applications include:

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

POSR1 at 19-26; Ex. 1004 (Yoakim) at 1.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER PROVIDES NO RATIONALE FOR COMBINING SEPARATE EMBODIMENTS WITHIN YOAKIM

“Petitioner also fails to provide a sufficient rationale to combine the teachings of [a single prior art reference’s] different embodiments. Petitioner simply fails to explain sufficiently why one skilled in the art would have found it obvious to combine those teachings.”

See Abiomed, Inc. v. Maquet Cardiovascular, LLC, IPR2017-01204, Paper 9, at 11 (PTAB Oct. 23, 2017)

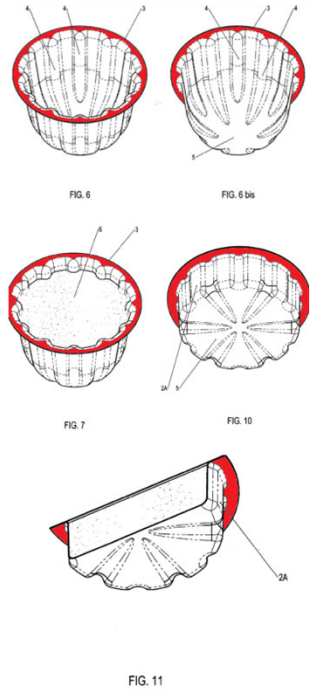
POSR1 at 19-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 189
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

RAPPARINI SHOWS GROOVES THAT INTERSECT FLANGE

Rapparini grooves extend into and intersect with at least the flange in each embodiment of the drawings.



Jobin’s testimony is merely conclusory

n. Claim 4 “The single-serve capsule according to claim 3, wherein the grooves are free from extending all the way to the flange.”

260. Yoakim in view of Jarisch and further in view of Rapparini discloses “[t]he single-serve capsule according to claim 3,” as shown above at ¶¶255-259. To the extent this limitation can be understood, Rapparini discloses grooves on the capsule wall that “are free from extending all the way to the flange.”

261. As explained above regarding claim elements [1.h] at ¶¶235-239, Rapparini discloses radially spaced and vertically oriented grooves. Rapparini further discloses grooves on the capsule wall that “are free from extending all the way to the flange.” This is shown in FIG. 6 bis, where the grooves end just below the flange of the capsule.

262. A POSITA would not consider the grooves of Rapparini to be extending all the way to its flange, which is above the termination of the groove

P1 at 58-59; POSR1 at 23-26; Ex. 1008 (Rapparini) at Figs 6, 6bis, 7, 10, 11 (Annotations added); Ex. 1003 (Jobin Dec.) at ¶¶ 260-263.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PRIOR ART FAILING: GENERATING TURBULENCE OF WATER IN THE CAVITY

Claims 7, 13

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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IPR2023-00502, U.S. PATENT 10,994,923

OTHER FAILINGS IN CITED REFERENCES

- “generat[ing] turbulence of water in the cavity”
  - Rapparini is silent as to whether its capsules generate turbulent flow.
  - POSITA would have understood that Yoakim’s water flow is laminar—not turbulent.
  - No evidence that adding Rapparini’s grooves to Yoakim’s portion capsule would have resulted in turbulent flow within the capsule.

See P1 at 62-63; POR1 at 33-36; POSR1 at 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DEPENDENT CLAIMS 7, 13 REQUIRE

> **7**. The single-serve capsule according to claim **1**, wherein the cavity has grooves defined between the ribs, and the grooves in the cavity generate turbulence of water in the cavity.

> **13**. The single-serve capsule according to claim **9**, wherein the cavity has grooves defined between the ribs, and the grooves in the cavity generate turbulence of water in the cavity.

Ex. 1001 (’923 Patent) at cls. 7, 13; *see* POR1 at 33-36.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

WATER FLOW RESULTING FROM YOAKIM’S CAPSULE IS *LAMINAR*—NOT *TURBULENT*

Yoakim discloses laminar flow

[0509] The extraction of the beverage out of the capsules **1**A or **1**B is obtained by driving the interface assembly **213** and capsule holder **214** together with the capsule, in rotation (R) along axis I, at relatively high speed, e.g., between 500 and 15000 rpm. The rotation is driven by a rotational motor (not shown). Liquid is forced to traverse the ingredient and leave the capsule at the upper periphery of the capsule, i.e., by outlet perforations provided in the upper wall by perforators **221**. 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. The centrifuged liquid is projected between the rim of the capsule and the upper surface of the interface assembly **213** against the collector **215**. The liquid beverage is then collected and dispensed through the duct **216**.

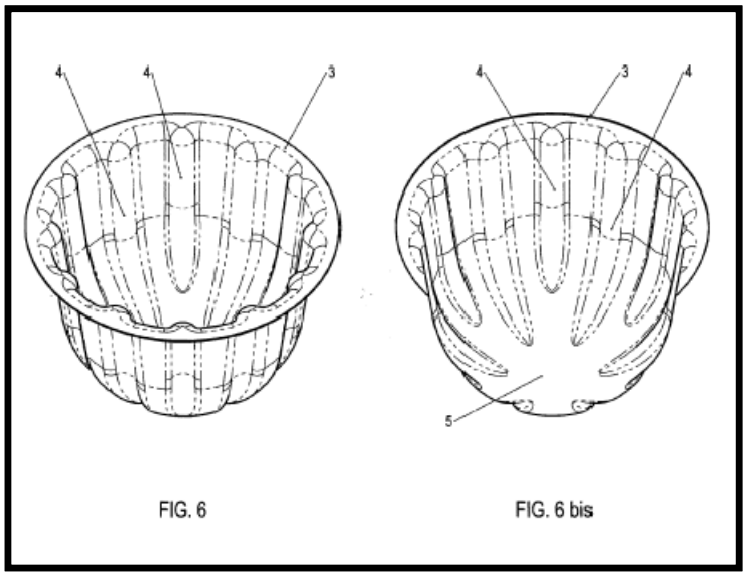
Jobin agrees that the *opposite* of turbulent flow is laminar flow

9 Turbulence is the opposite of
10 smooth or laminar flow.

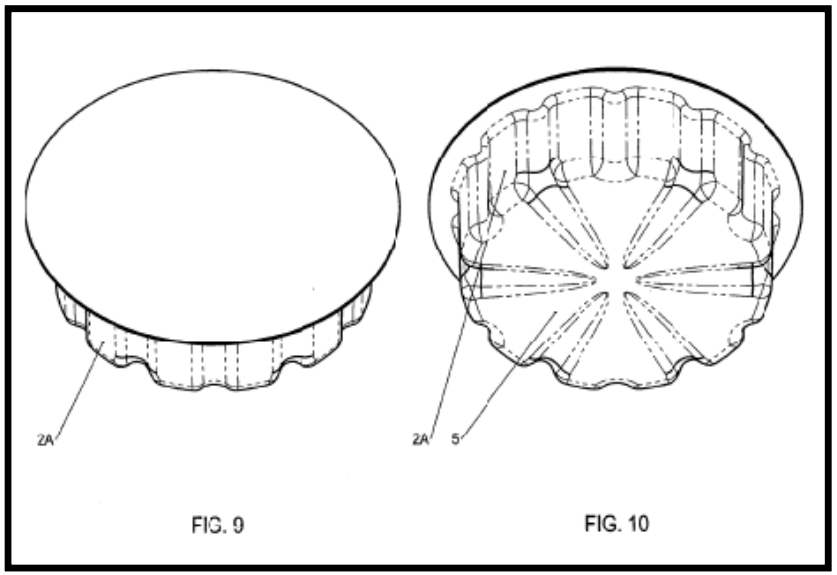
Ex. 1004 (Yoakim) at 62 ([0509]) (annotation added); Ex. 2019 (11/28/23 Jobin Depo) at 43:9-10; POR1 at 33-36; POSR1 at 26-27; Ex. 2017 (Howle Dec.) at ¶¶ 84-86.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER DOES NOT DISPUTE THAT RAPPARINI IS SILENT AS TO WHETHER ITS CAPSULES GENERATE TURBULENT FLOW







Ex. 1008 (Rapparini) at Figs. 6, 6bis, 9, 10; POR1 at 33-36; POSR1 at 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

THERE ARE MANY TYPES OF FLOW REGIMES

2.2.1. Microscale flow field properties. Because of the complicated interaction between the fluid and solid phases in porous materials, there is no single set of criteria that outlines the behavior of porous materials at different Re_p. However, a qualitative progression of the flow regimes can still be established, and it is useful for understanding the evolution of flow structure with increasing Re_p. To facilitate easy comparison with other work, we also provide the corresponding ranges using Re_D and Re_H (and assuming $\epsilon_\gamma = 0.4$).

(*a*) Darcy regime ($Re_p < 25$, $Re_D < 10$, $Re_H < 17$): In this regime, the flow field is well approximated by Stokes flow.

(*b*) Inertial regime ($25 < Re_p < 375$, $10 < Re_D < 150$, $17 < Re_H < 250$): In this range, inertial effects begin to manifest, with pore spaces dominated by inertial cores; the velocity distribution in the pores differs markedly from the that of the Darcy regime. Steady vortical structures have been observed in this regime (e.g., Wood 2007).

(*c*) Unsteady laminar (transitional) regime ($375 < Re_p < 750$, $150 < Re_D < 300$, $250 < Re_H < 500$): In this regime, unsteady, transitional flows are observed. These flows vary from periodic behavior in vortexes to large-scale structures exhibiting intermittency.

(*d*) Turbulent regime ($Re_p > 750$, $Re_D > 300$, $Re_H > 500$): The structure of the flows within the pore space begins to resemble more conventional turbulent flows.

Mr. Jobin does not explain why turbulent flow would result as opposed to the other flow regimes

Ex. 2026 (“Modeling Turbulent Flows in Porous Media”) at 7-8; POR1 at 33-36; POSR1 at 26-27; Ex. 2017 (Howle Dec.) at ¶¶ 84-86.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER’S RELIANCE ON REFERENCES OUTSIDE OF GROUND 1 IS CONCLUSORY

85. 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.

Ex. 2017 (Howle Dec.) at ¶85; POR1 at 33-36; POSR1 at 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER CITES TO NO EXPERIMENTATION OR MODELING FOR COMBINING RAPPARINI AND YOAKIM

“Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.”

Kinetic Techs., Inc. v. Skyworks Solutions, Inc., IPR2014-00530, Paper 8 at 13 (PTAB Sept. 29, 2014)

Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight

37 C.F.R. § 42.65(a)

POR1 at 33-36.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 198
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IPR2023-00502, U.S. PATENT 10,994,923

JOBIN’S TESTIMONY IS CONCLUSORY

> 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. I understand from counsel that such expert testimony is entitled to little or no weight. Mr. Jobin’s conclusory analysis is problematic and fails to demonstrate obviousness. 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. For these reasons, Petitioners arguments as to claims 7 and 13 fail to demonstrate unpatentability.

Ex. 2017 (Howle Dec.) at ¶85 (Annotation added); POR1 at 33-36; POSR1 at 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO MOTIVATION TO COMBINE

Petition fails to establish motivation to combine the references

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NO MOTIVATION TO COMBINE:

- No motivation to combine Yoakim, Jarisch ’937, and Rapparini
  - Significant redesign would be required to combine references
  - A POSITA would not be motivated to combine Yoakim’s frustoconical capsules (Figs. 6, 27) with Rapparini’s grooves (Fig. 6bis)

- All ’923 patent claims require combining Yoakim, Jarisch ’937, and Rapparini

See POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 201
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

NO MOTIVATION TO COMBINE

Ground 1

- Combining 3 references:
  - Yoakim
  - Jarisch ’937
  - Rapparini

POR1 at 36-45; POSR1 at 5-12.

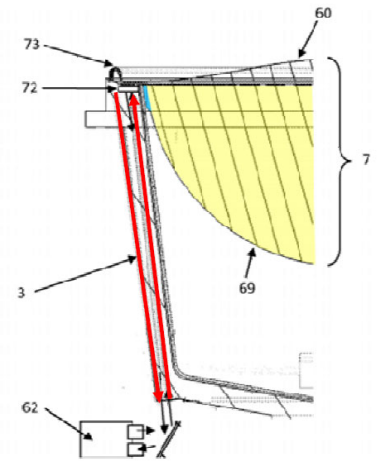
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 202
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00502, U.S. PATENT 10,994,923

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Optical codes—and detectors—on opposite sides of capsules
  - Jarisch ’937 sensor 62
  - Yoakim sensing device 231

Petition at 46



citing Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner)

Ex 1004 (Yoakim) at Fig. 61

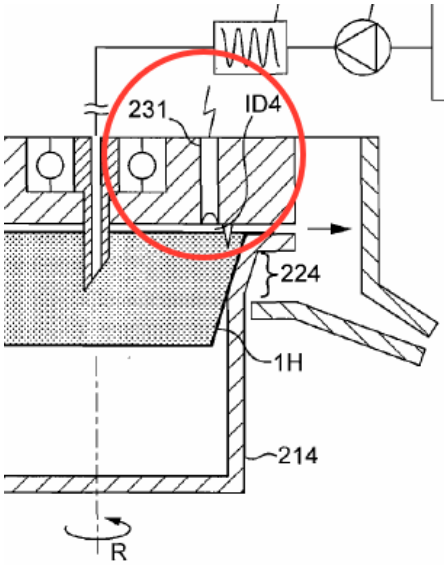


FIG. 61

(Annotations added)

P1 at 46; POR1 at 36-45; POSR1 at 5-12; Ex. 2017 (Howle Dec.) at ¶¶ 90-97; Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner); Ex 1004 (Yoakim) at Fig. 61 (Annotations added).

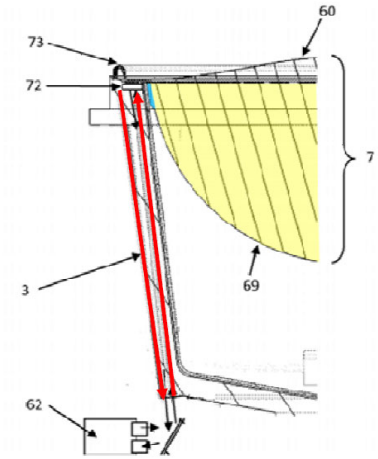
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

Ex. 2017 (Howle Dec.), ¶90 (Annotation added)

90. In addition, 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. 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. Because the combination of Jarisch and Yoakim would have required a significant redesign of the elements, including in moving 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.

Petition at 46



citing Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner)

Ex 1004 (Yoakim) at Fig. 61

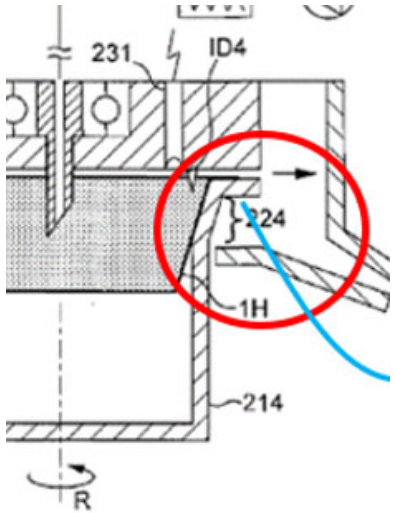


FIG. 61

(Annotations added)

POR1 at 40-43; Ex. 2017 (Howle Dec.) at ¶90; Ex 1005 (Jarisch ’937) at Fig. 4 (Annotations by Petitioner); Ex 1004 (Yoakim) at Fig. 61 (Annotations added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

95. By way of example, though it was known at the relevant time that some plastics having transparency could have been machined or molded, in order to achieve precision necessary for detecting a code while a capsule was rotating, it would have been required that there be no anomalies within the transparent body and on its surfaces. However, it was also known at the time that optical properties of a molded transparent material were dependent upon (for example) residual internal stresses (e.g., caused by the thicker volume lower left corner of the holder in Fig. 4 of Jarisch and by flow and solidification differences during a molding operation and dependent on the mold sprues, runners, and gates) causing internal refraction differences, surface roughness occasioned by a molding tool, air traps, surface waviness resulting from any shrinking during cooling of a molded part, distortion occasioned by repetitive thermal expansion and contraction from exposure to thermal cycling in an environment near hot water in a coffee machine) any sub-surface deformation occasioned by secondary processing (e.g., machining or polishing). Any or all of the above would 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. Further, an attempt to introduce the externally located Jarisch capsule holder into the embodiment of Figs. 61 and 62 of Yoakim would also require an expensive special sealed system that would protect the detector from the harsh environment of the machine during coffee making.

Ex. 2017 (Howle Dec.) at ¶95; POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO HAS ELSEWHERE ARGUED RELATED YOAKIM APP. NOT COMBINABLE

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.

1. The Skilled Artisan Would Not Have Combined These References To Arrive At The Code Recited in Claim 1

Appellant respectfully submits that *Yoakim*, *Boyd*, *Aker*, *Ruchonnet*, *Halliday ‘333*, *Halliday ‘074*, *Hayes*, *Mahlich*, *Evers*, and *Erlandsson* fail to render obvious independent Claim 1. For example, the skilled artisan would not have combined these cited references to arrive at a capsule comprising a code arranged on a bottom of the flange-like rim, which is opposed to the lid, wherein the cup-shaped body extends from a bottom end of the cup-shaped body to a top end of the cup-shaped body where the cup-shaped body terminates such that a height of the cup-shaped body is the distance from the bottom end to the top end, the flange-like rim extends from the top end of the cup-shaped body, and the lid has a height that is less than the height of the cup-shaped body, as required by independent Claim 1.

Left: Ex. 2017 (Howle Dec.) at ¶88 (Annotations added); POR1 at 38-43.
Right: Ex. 2009 (Yoakim ’601 File History) at 589.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Yoakim seeks to avoid imbalance

[0006] In a centrifugal system, an additional risk exists to create vibrations if the capsules is not properly supported in the centrifugal device. For a set of capsules presenting different volumes and containing different amounts of ingredient, there is an increased risk of unbalance and, consequently a risk of producing vibrations. The brewing device can move when it vibrates and it may generate a very important noise. Furthermore, a lack of support in the capsule holder can cause deformation of the capsule during centrifugation and create potential failure of the container, in particular, for plastic capsules. Therefore, there is a need for providing a capsule system that is able to deliver conveniently a wider variety of beverages, in particular coffees having different characteristics (taste, crema, etc.) in the centrifuge brewing device.

Ex. 1004 (Yoakim) at [0006]; POR1 at 39-43; POSR1 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Yoakim teaches a snug fit

[0024] The capsule receiving means of the device comprises a capsule holder which 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 complementary surface or structure of the capsule to enable the driving means to rotate the capsule.

Ex. 1004 (Yoakim) at [0024]; POR1 at 39-43; POSR1 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Yoakim provides requirements to avoid imbalance

> **[0512]** In the embodiment of FIGS. **61** and **62**, the capsule holder **214** of the brewing device comprises a first portion **224** forming the support surface **218** for the upper portion **260** of the capsules and a lower portion **225** forming a closing surface below the capsule of sufficient length to accommodate both the smaller capsule 1H (FIG. **61**) and the larger capsule 1I (FIG. **62**).

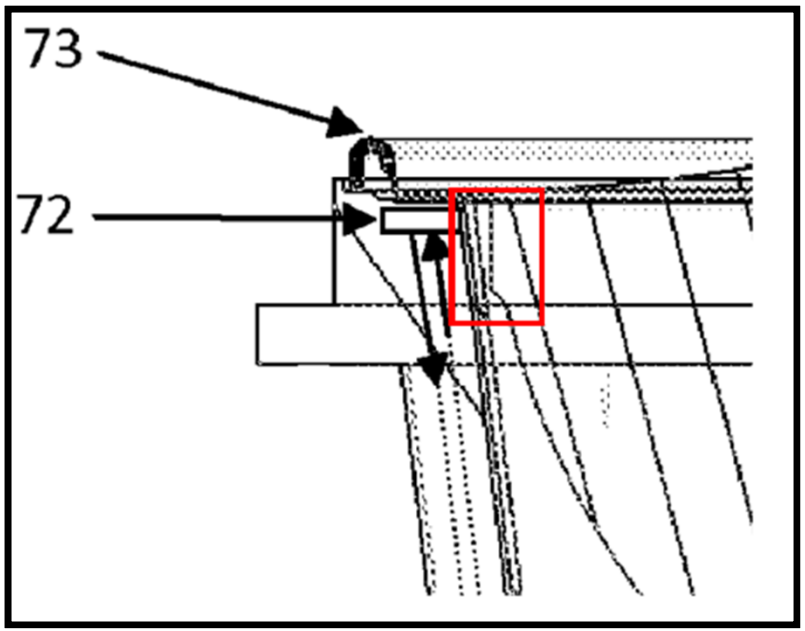
Ex. 1004 (Yoakim) at [0512]; POR1 at 39-43; POSR1 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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IPR2023-00502, U.S. PATENT 10,994,923

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Petitioner ignores the gap of Jarisch ’937 between the capsule and the cell

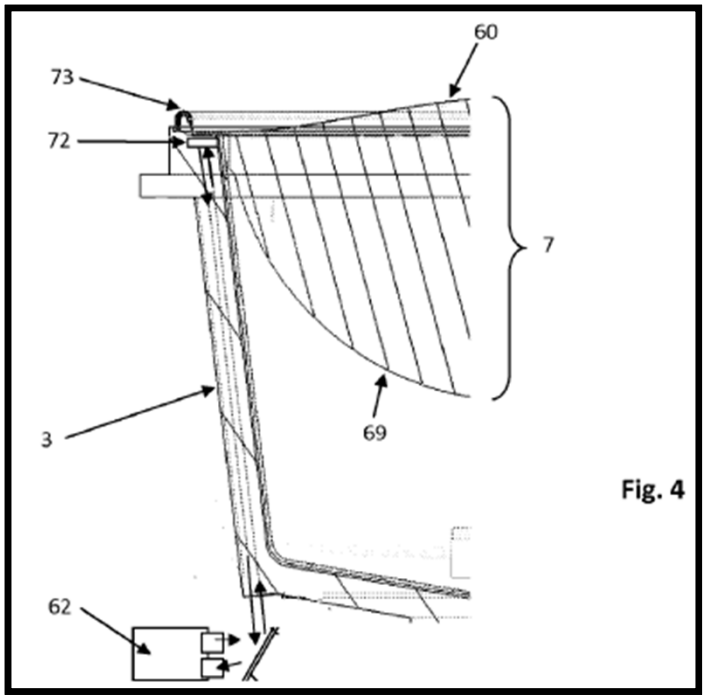


Ex. 1005 (Jarisch ’937) at Fig. 4 (annotations added); POR1 at 39-43; POSR1 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE SIGNIFICANT REDESIGN

- Petitioner has not explained how Jarisch ’937’s “straight chamber” could be combined with these requirements



Ex. 1005 (Jarisch ’937) at Fig. 4; POR1 at 39-43; POSR1 at 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING JARISCH ’937 AND YOAKIM WOULD REQUIRE EXTRAORDINARY SKILL

92. 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, in my opinion, it would take *extraordinary skill* to achieve the combination for at least the reasons presented above. A POSITA with the requisite skill level required in this matter would not have the proper electro-optics training to have the knowledge or understanding to combine Jarisch and Yoakim as Mr. Jobin proposes. In fact, Mr. Jobin provides no details on how a POSITA may come to the conclusion that these references are combinable such that the present invention is rendered obvious. 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.

94. Using the proposed structure of the capsule holder of Jarisch would have added significant costs and complexity. This is due to selection of the proper material, the method of making the capsule holder, and how it could be incorporated into a harsh environment of a coffee making machine.

96. While it is possible that such a solution could have been realized in the relevant time frame, it is my opinion that to arrive at it would have taken hundreds of hours or more, and would have required enlisting a person with skills well beyond those of the POSITA. Further, the manufacturing process alone to develop and implement such a specific type of capsule holder, would have involved significant complexity, with mold design, polymer processing parameters.

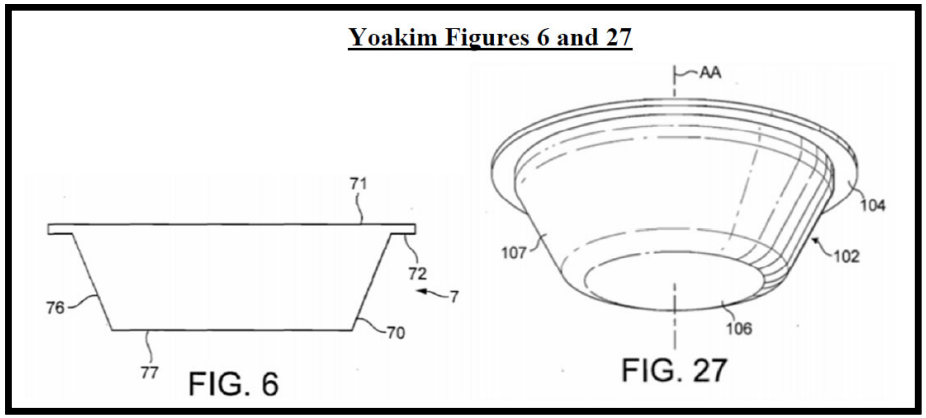
97. Thus, any attempts to combine Yoakim and Jarisch would lead a POSITA *away* from combining these two references as Mr. Jobin claims. Because the combination of Jarisch and Yoakim would have required a significant redesign of the elements, including in moving the location of the sensor or detector (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. A POSITA would further have not sought to go through such efforts to implement a feature that is unnecessary in light of no apparent concern in Yoakim of reading the barcode on the top of the capsule.

Ex. 2017 (Howle Dec.) at ¶¶92, 94, 96-97; POR1 at 36-45; POSR1 at 5-12.

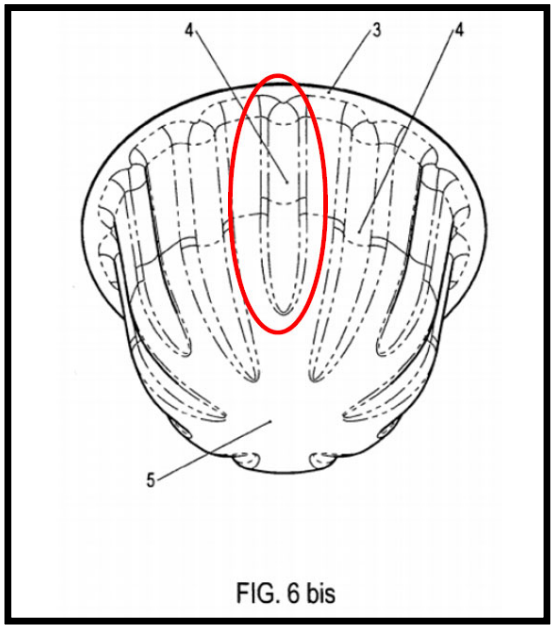
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

COMBINING YOAKIM’S FRUSTOCONICAL CAPSULES WITH GROOVES FROM RAPPARINI’S ROUNDED CAPSULE IS NOT OBVIOUS

Petition relies on Yoakim’s frustoconical capsule. Pet. at 53



Rapparini Figure 6bis has a rounded bottom



POR1 at 27-33; P1 at 53; Ex. 1004 (Yoakim) at Figs 6, 27; Ex. 1008 (Rapparini) at Fig. 6bis.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S PETITION RELIES SOLELY UPON YOAKIM’S FRUSTOCONICAL CAPSULES

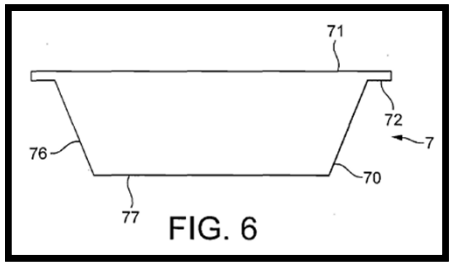


FIG. 6

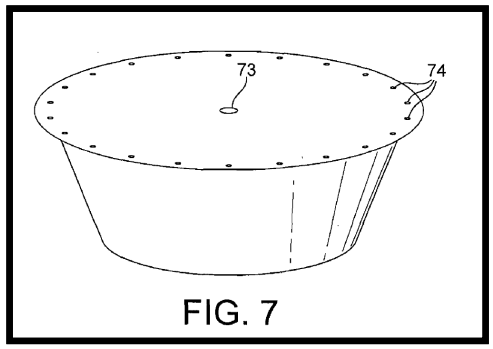


FIG. 7

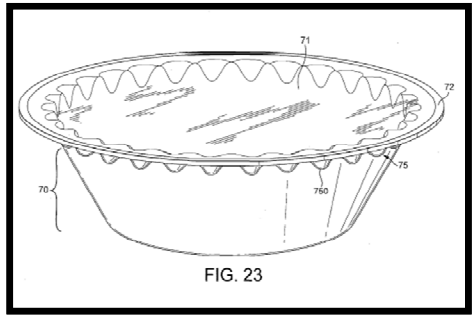


FIG. 23

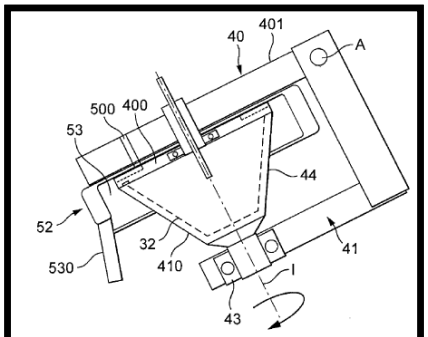


FIG. 25

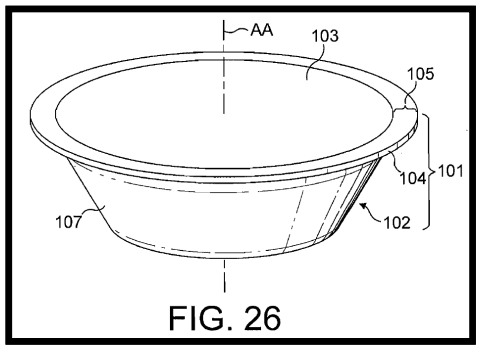


FIG. 26

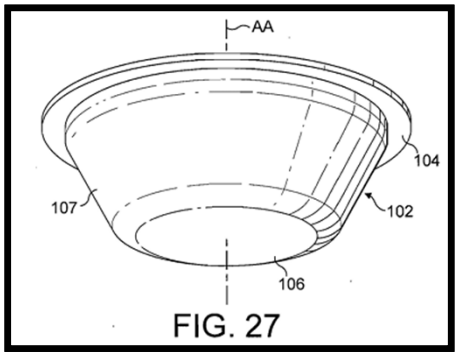


FIG. 27

Ex. 1004 (Yoakim) at Figs. 6-7, 23, 25-27; *see* P1 at 30, 36-37, 43-44, 47-55, 57, 60-63; POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

NESPRESSO’S PETITION RELIES SOLELY UPON YOAKIM’S FRUSTOCONICAL CAPSULES

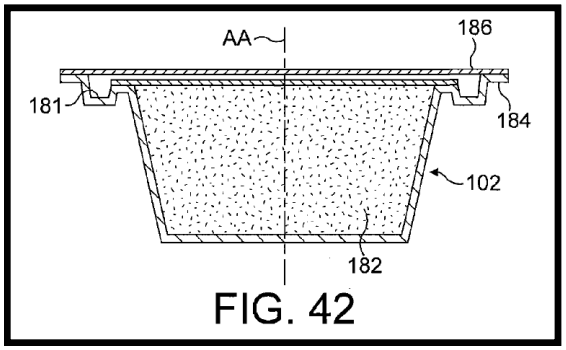


FIG. 42

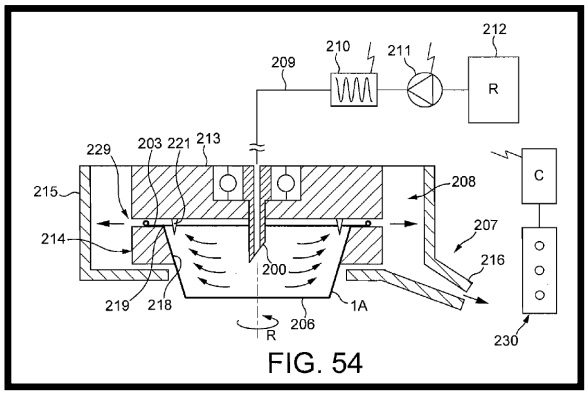


FIG. 54

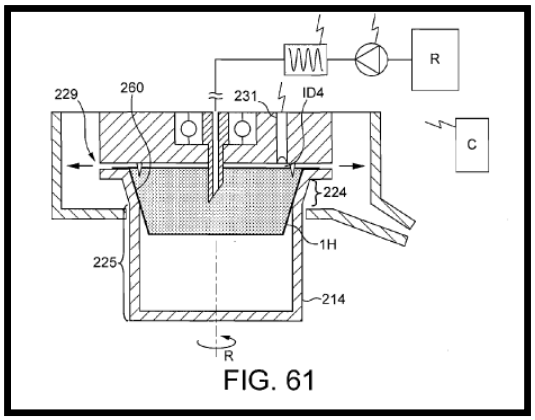


FIG. 61

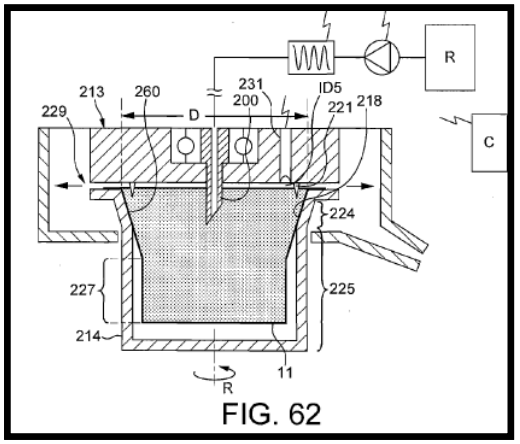


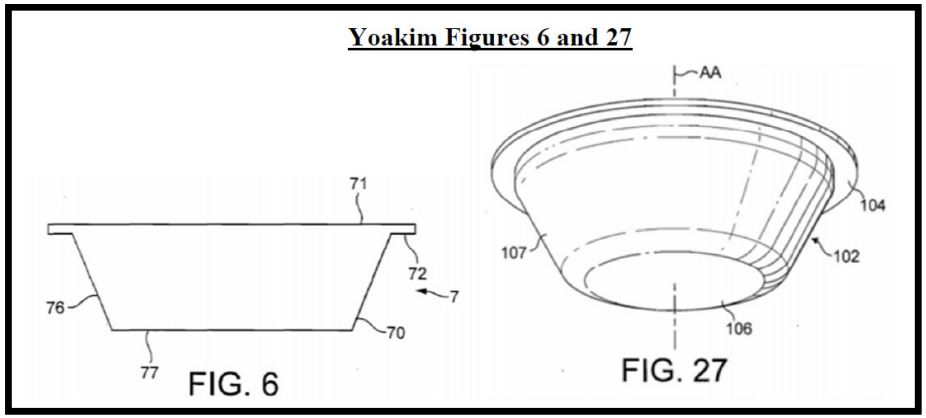
FIG. 62

Ex. 1004 (Yoakim) at Figs. 42, 54, 61-62; *see* P1 at 30, 36-37, 43-44, 47-55, 57, 60-63; POR1 at 36-45; POSR1 at 5-12.

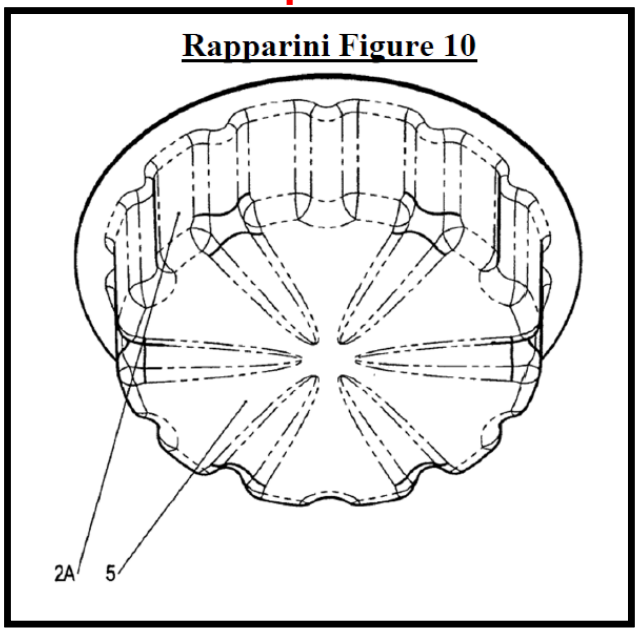
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

RAPPARINI’S FRUSTOCONICAL CAPSULE DISCLOSES GROOVES EXTENDED TO THE BOTTOM

Petition relies on Yoakim’s frustoconical capsule. Pet. at 53



Rapparini Figure 10 has a frustoconical capsule



Ex. 1004 (Yoakim) at Figs 6, 27; Ex. 1008 (Rapparini) at Fig. 10; POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA WOULD NOT BE MOTIVATED TO COMBINE YOAKIM’S FRUSTOCONICAL CAPSULES WITH GROOVES FROM RAPPARINI’S ROUNDED CAPSULE

Yoakim Figures 6 and 27

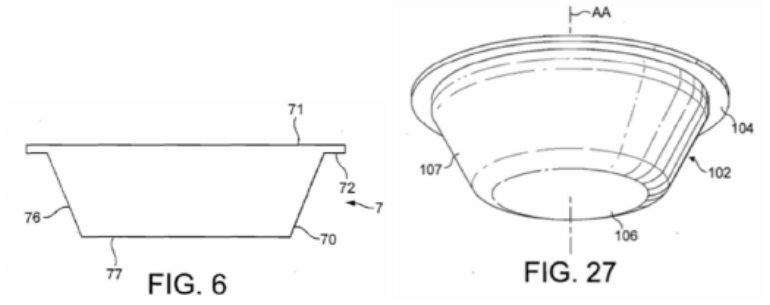


FIG. 6 FIG. 27

79. Rapparini teaches that for container shapes like those that are relied upon by Petitioner (as depicted in Figures 6 and 27 of Yoakim (above)), it is “particularly advantageous” to extend the grooves to the bottom region. Ex. 1008 at [0061], Fig. 10; *see* 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”). 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. The teachings with respect to Figure 10 would have guided a POSITA in modifying Yoakim’s similarly flat-bottomed capsule—not Figure 6bis, which is of a distinctly different design than the capsule disclosed and depicted in Yoakim. In fact, despite Mr.

Ex. 1004 (Yoakim) at Figs 6, 27; Ex. 2017 (Howle Dec.) at ¶79; POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER PROVIDES NO RATIONALE FOR COMBINING SEPARATE EMBODIMENTS WITHIN YOAKIM

“Petitioner also fails to provide a sufficient rationale to combine the teachings of [a single prior art reference’s] different embodiments. Petitioner simply fails to explain sufficiently why one skilled in the art would have found it obvious to combine those teachings.”

See Abiomed, Inc. v. Maquet Cardiovascular, LLC, IPR2017-01204, Paper 9, at 11 (PTAB Oct. 23, 2017)

POR1 at 36-45; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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IPR2023-00502, U.S. PATENT 10,994,923

PETITIONER PROVIDES NO RATIONALE FOR COMBINING SEPARATE EMBODIMENTS WITHIN YOAKIM

Yoakim Figs. 35 and 38 are not combinable with Figs. 23, 61, and 62 because they have no sensor or barcode

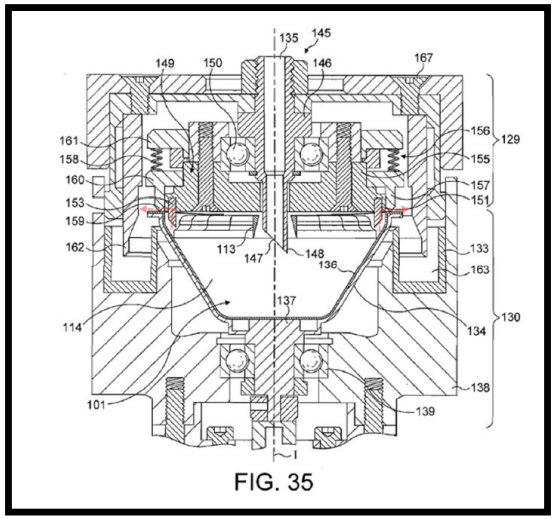


FIG. 35

Yoakim Fig. 35 does not have a sensor or barcode

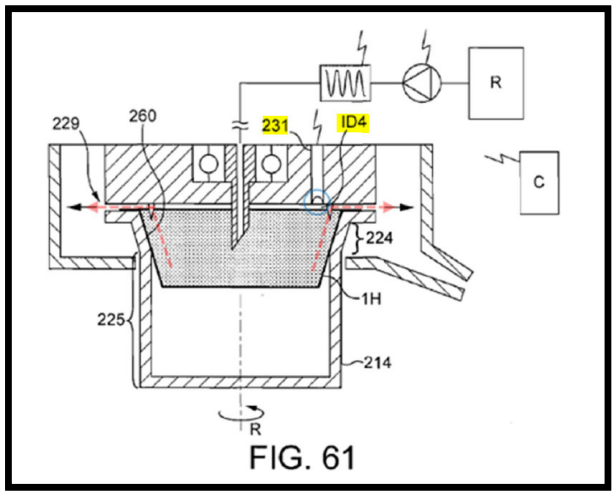


FIG. 61

Yoakim Fig. 61 depicts identification means ID4 and sensor 231

Ex. 1004 (Yoakim) at Figs 35, 61; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER PROVIDES NO RATIONALE FOR COMBINING SEPARATE EMBODIMENTS WITHIN YOAKIM

Yoakim Figs. 35 and 38 are not combinable with Figs. 23, 61, and 62 because the capsule has a peripheral collection recess to maintain fluid at the periphery

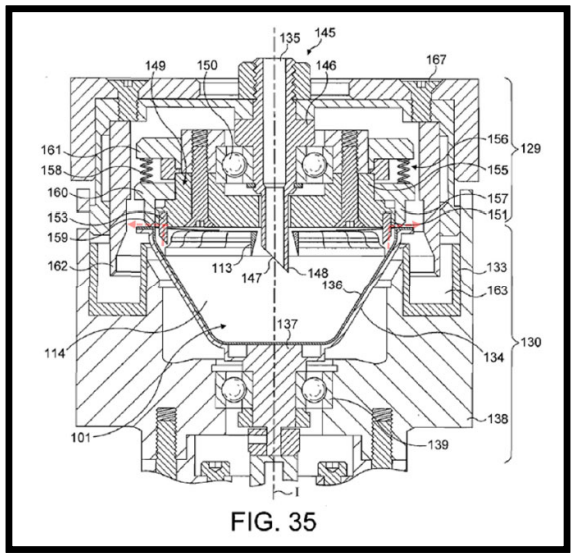


FIG. 35

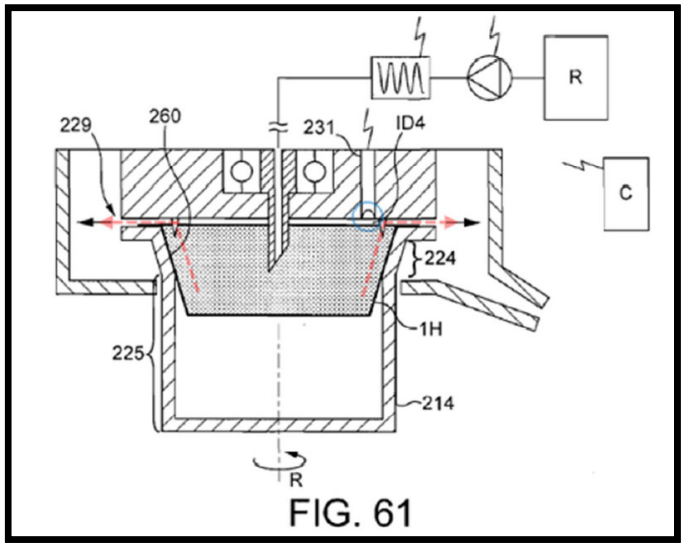


FIG. 61

Ex. 1004 (Yoakim) at Figs 35, 61; POSR1 at 5-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PETITIONER PROVIDES NO RATIONALE FOR COMBINING SEPARATE EMBODIMENTS WITHIN YOAKIM

Embodiment in Figs. 61 and 62 is designed for multiple volume size capsules

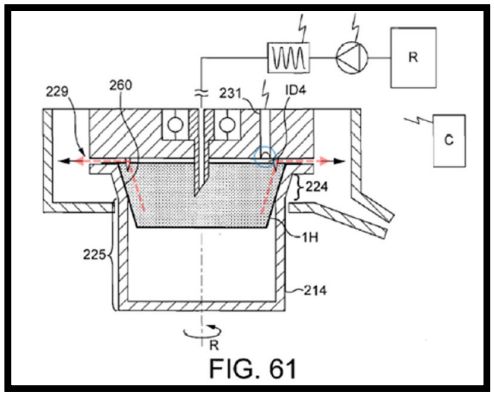


FIG. 61

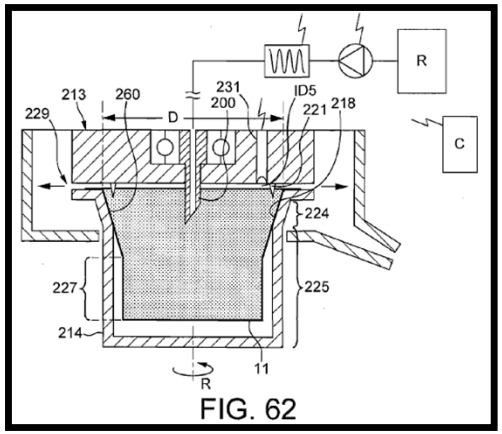


FIG. 62

[0512] In the embodiment of FIGS. **61** and **62**, the capsule holder **214** of the brewing device comprises a first portion **224** forming the support surface **218** for the upper portion **260** of the capsules and a lower portion **225** forming a closing surface below the capsule of sufficient length to accommodate both the smaller capsule **1**H (FIG. **61**) and the larger capsule **1**I (FIG. **62**).

Ex. 1004 (Yoakim) at Figs 61-62, [0512]; POSR1 at 6-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 222
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IPR2023-00502, U.S. PATENT 10,994,923

EXPERTS

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POSITA STANDARD
PRELIMINARILY ADOPTED BY THE BOARD

B. *Level of Ordinary Skill in the Art*

Petitioner contends that a person of ordinary skill in the art "would have a bachelor's degree in engineering plus five years of experience in design of mechanical beverage systems, or similar products." Pet. 33 (citing Ex. 1003 ¶ 40). Patent Owner counters that this person "would have a bachelor's degree in engineering plus five years of experience in design of mechanical beverage systems, or similar products, as well as experience with sensors for recognizing an identifier." Prelim. Resp. 13.

The parties' proposed definitions differ only in that Patent Owner would require experience with sensors for recognizing an identifier. Pet. 31; Prelim. Resp. 18. Because both independent challenged claims include an identifier, in the form of "a barcode," based on the current record, we agree with Patent Owner that one of ordinary skill in the art would have experience with sensors for recognizing an identifier. Ex. 1001, 12:65, 14:3 (each independent claim of the '923 patent requiring an identifier in the form of "a barcode"). As such, for purposes of this decision only, we adopt Patent Owner's definition of a person of ordinary skill in the art. We invite the parties to address during trial whether the ultimate result would change based on our selection between these slightly differing proposed definitions.

B. *Level of Ordinary Skill in the Art*

Petitioner contends that a person of ordinary skill in the art "would have a bachelor's degree in engineering plus five years of experience in design of mechanical beverage systems, or similar products." Pet. 31 (citing Ex. 1003 ¶ 40).

Patent Owner contends that a person of ordinary skill in the art "would have a bachelor's degree in engineering plus five years of experience in design of mechanical beverage systems, or similar products, as well as experience with sensors for recognizing an identifier." Prelim. Resp. 18.

The parties' proposed definitions differ only in that Patent Owner would require experience with sensors for recognizing an identifier. Pet. 31; Prelim. Resp. 18. Because each independent claim of the '430 patent includes an "identifier," in the form of a "barcode," and a "sensor/detector," on this record, we agree with Patent Owner that one of ordinary skill in the art would have experience with sensors for recognizing an identifier, based on the current record. Ex. 1001, 12:66–67, 14:1–2 (each independent claim of the '430 patent requiring an "identifier" in the form of "a barcode"). As such, we adopt Patent Owner's definition of a person of ordinary skill in the art for the purposes of this Decision.

Left: ID1 at 8 (Annotation added).

Right: ID2 at 8 (Annotation added).

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE AND MR. JOBIN MEET THE POSITA STANDARD

- "Whether or not [the expert] was a skilled artisan in September 1998 is irrelevant because an expert does not have to be one of ordinary skill in the art during the relevant time frame to be qualified as an expert."
  - *Bayerische Motoren Werke Aktiengesellschaft v. Paice LLC*, IPR2020-01386, Paper 37 at 73 (PTAB Jan. 31, 2022).
- "the proper question to ask is not whether the testifying witness is in fact such a 'hypothetical person,' but rather whether the testifying witness possesses sufficient qualifications to be able to testify as to what the hypothetical person of ordinary skill in the art postulated by §103 would have known and understood at the time of the invention"
  - *GoPro, Inc. v. Contour IP Holding, LLC*, IPR2015-01078, Paper 84 at 12 (PTAB Jul. 31, 2019).

POSR1 at 4-5; POSR2 at 4-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

KYOCERA SENCO INDUSTRIAL TOOLS INC. V. INTERNATIONAL TRADE COMMISSION IS **NOT** CONTRARY

"[T]o be qualified to offer expert testimony on issues from the vantage point of an ordinarily skilled artisan in a patent case, an expert must at a minimum possess ordinary skill in the art."

Kyocera Senco Indus. Tools Inc. v. Int'l Trade Comm'n, 22 F.4th 1369, 1376-78 (Fed. Cir. 2022)

- Dr. Howle possess, at a minimum, ordinary skill in the art
- By contrast, the expert in *Kyocera* lacked the requisite experience at all times

POSR1 at 5; POSR2 at 5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE'S TESTIMONY DESERVES MORE WEIGHT



	Dr. Howle	Mr. Jobin
Ph.D. in Mechanical Engineering	✓	✗
Licensed Professional Engineer	✓	✗
Fellow of the American Society of Mechanical Engineers	✓	✗
Tenured Undergraduate and Graduate Engineering Professor	✓	✗
Teaching engineering design courses for over 20 years	✓	✗
Medical Device and instrumentation experience (similar technology to beverage systems)	✓	✓

Ex. 2017 ('923 Howle Dec.) at ¶¶ 5-15; Ex. 2017 ('430 Howle Dec.) at ¶¶ 5-15; Ex.1067 (Dr. Howle 02/22/24 Depo), 101:19-102:11; *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE'S EDUCATION, EXPERIENCE, AND AWARDS

Education

5. I hold B.S.E., M.S., and Ph.D. degrees from Duke University in the field of Mechanical Engineering. In 1993, I joined the faculty in the Department of Mechanical Engineering and Materials Science as an Assistant Professor. In 2000, I was promoted to Associate Professor with tenure. Later, in 2020, I was promoted to my current rank of Full Professor with tenure.

Experience

gradients, and optical grating methods. I have considerable experience designing and using strain gauges, thermocouples, thermistors, photo emitter/detector circuitry, ultrasonic and inductive proximity sensors, Hall effect transducers, piezoelectric elements, pressure transducers, ultrasonic and impellor flow meters, acceleration gauges, and interferometers.

Awards

11. In 2020, I was named as a Fellow of the Undersea and Hyperbaric Medical Society. In 2012, I was named as a Fellow of the American Society of Mechanical Engineers. In 2011, a New Product Award was granted at the MCEE expo in Montreal for a product that I designed. In 2009, I was a finalist for a design award from "INDEX: Design to Improve Life," a Danish nonprofit organization.

4:20-cv-03732 "Eko Brands, LLC v. Solofill, LLC and Robert Vu". I have accumulated more than 1,300 hours designing, analyzing, and evaluating single-serve beverage brewing systems.

Left: Ex. 2017 ('923 Howle Dec.) at ¶¶ 5, 11; Ex. 2017 ('430 Howle Dec.) at ¶¶ 5, 11.

Right: Ex. 2017 ('923 Howle Dec.) at ¶¶ 9, 13; Ex. 2017 ('430 Howle Dec.) at ¶¶ 9,13; *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE'S EXPERIENCE (CONTD.)

6. At Duke University, I have taught widely across the undergraduate and graduate curricula. At the undergraduate level, I have taught Mechanical Design, Analysis for Mechanical Design, Modeling and Control of Dynamical Systems, Fluid Mechanics, Heat and Mass Transfer, Wind Turbine Design and Analysis, Advanced Computer Aided Design, Manufacturing Engineering, and Advanced Manufacturing Engineering. At the graduate level, I have taught courses in Wind Turbine Design and Analysis, Introduction to Scientific Computing, Probabilistic Pharmacokinetics and Pharmacodynamics, Computational Fluid Dynamics and Heat Transfer, Advanced Computational Fluid Dynamics, and Topics in Nonlinear Dynamics.

8. From 2008 to the present, I have been owner and Manager-Member of BelleQuant Engineering, PLLC, a North Carolina based and licensed professional engineering consulting firm (license number P-0774).

five-year process. You have to take an initial exam and then approve a minimum of four years of experience working for -- under professional engineers so they can write reference letters and then sit for the financial exam.

I believe I became licensed in 2008, but all the experience leading up to that, I had completed by 2000. So quite a bit. In fact, many of my publications here go into methods that are applicable to the cases that we're talking about today.

Left: Ex. 2017 ('923 Howle Dec.) at ¶6; Ex. 2017 ('430 Howle Dec.) at ¶6.

Right: Ex. 2017 ('923 Howle Dec.) at ¶8; Ex. 2017 ('430 Howle Dec.) at ¶8; Ex.1067 (Dr. Howle 02/22/24 Depo), 101:19-102:11 (Annotations added); *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE'S EXPERIENCE IN DESIGN OF SIMILAR PRODUCTS

In fact, for some of the work I did for Bracco diagnostics and EZM I designed entire piston pumps and peristaltic pumps and looked at optical means for measurement. In my experience at Duke University, I actually developed a shadow graphic imaging technique that used a laser, methods to create porous media, closely related to flow in coffee grounds, yet for the first time since 1900 people have been trying to do this, to try to visualize flow patterns within porous media.

Q. And do you believe that those products have similarities to the products that are in issue in this case?

MR. MCCRAW: Objection. Leading. Objection. Outside the scope of the cross. Object to form.

THE WITNESS: Certainly all the disciplines that go into that, the tools that we, as an engineer, used can be applied easily to one or the other. Mechanical power flow pump is M.delta-v whether you're working with a coffee maker or an injection machine similar to the medical equipment that I was working with.

So yes. Even some of the applications are directly relevant. Flow rates for the pumps, pressure differences, all of that are within the parameters of these various patents.

Left: Ex.1067 (Dr. Howle 02/22/24 Depo) at 101:3-12.

Right: Ex.1067 (Dr. Howle 02/22/24 Depo) at 103:19-104:9; *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

K-FEE SYSTEM GMBH, EX2027, page 230
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IPR2023-00502, U.S. PATENT 10,994,923

JOBIN IDENTIFIES SIMILAR EXPERIENCE WITH MEDICAL DEVICES AS RELEVANT

12. Later in 2001, I joined Altitude, Inc., a product development consulting firm, first as Engineering Manager, and then I was promoted to Director of Engineering in 2005. I performed design and engineering activities, and also led a team of designers and engineers to develop a wide range of consumer products, medical devices and instrumentation. Many of these products and technologies were comparable in complexity to coffee makers with replaceable capsules. Some examples are described below.

Ex.1003 ('923 Jobin Dec.) at ¶12 (Annotation added); *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DR. HOWLE HAS BEEN ACCEPTED AS A CREDIBLE EXPERT WITNESS

13. I have served as an expert witness on more than 25 cases, have testified at trial on six occasions, and have been deposed eight times. Directly related to single-serve beverage brewing systems, I served as an expert and/or testified at trial in the cases 337-TA-929 "Certain beverage brewing capsules, components thereof, and products containing the same", 337-TA-929 (Enforcement and Rescission Proceeding), C15-0522RSL "Eko Brands, LLC v. Adrian Rivera Maynez Enterprises, Inc., et al.", 4:16-cv-2702 "Solofill, LLC v. Adrian Rivera, Adrian Rivera Maynez Enterprises, Inc.", LA CV16-04676 JAK (SSx) Lead Case; LA CV16-04753 JAK (SSx); LA CV16-04706 JAK (SSx); LA CV16-047702 JAK (SSx), "Rivera v. Remington Designs, LLC; Rivera v. Eko Brands, LLC and Espresso Supply, Inc; Rivera v. Solofill, LLC; Rivera v. Creative Concepts", and 4:20-cv-03732 "Eko Brands, LLC v. Solofill, LLC and Robert Vu". I have accumulated more than 1,300 hours designing, analyzing, and evaluating single-serve beverage brewing systems.

Ex. 2017 ('923 Howle Dec.) at ¶ 13; Ex. 2017 ('430 Howle Dec.) at ¶ 13; *see* POSR1 at 1-5; POSR2 at 1-5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE