

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Jarisch, et al.	Group Art Unit:	1792
Application No.:	13/697,297	Examiner:	Smith, Chaim A.
Filing Date:	November 9, 2012	Confirmation No.:	1065
Title:	CAPSULE, SYSTEM AND METHOD FOR PREPARING A BEVERAGE BY CENTRIFUGATION	Atty. Docket No.:	3712036-01693

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**SUGGESTION FOR DECLARATION OF
INTERFERENCE PURSUANT TO 37 C.F.R. § 41.202**

In accordance with 37 C.F.R. § 41.202(a), and subject to the procedures set forth in Subpart D- Contested Cases of Part 41, Practice Before the Patent Trial and Appeal Board of 37 C.F.R., Applicant of the Present Application, Application No. 13/697,297 (“the ’297 Application” or “the Jarisch Application”), hereby suggests an interference with Application No. 15/646,980 (“the ’980 Application” or “the Kruger Application”). A copy of this Suggestion for Declaration of Interference will be provided to counsel of record for the Kruger Application.

Applicant also submits under 37 C.F.R. § 41.202 Appendices A-G in support of its Suggestion for Declaration of Interference.

Appendix A is a copy of the current claims in the Kruger Application, for which the U.S. Patent Office mailed a Notice of Allowance on July 11, 2019.

Appendix B is a copy of the current claims in the Jarisch Application, which are not rejected over any prior art and thus believed to be in condition for allowance.

Appendix C is a copy PCT/EP2011/057657, filed in English on May 12, 2011, from which the Jarisch Application is a National Stage Entry, and which provides constructive reduction to practice of the proposed count.

Appendix D is a copy of EP 10169374.5, to which the Jarisch Application claims priority, and which provides constructive reduction to practice of the proposed count.

Appendix E is a copy of EP 10162741.2, to which the Jarisch Application claims priority, and which provides constructive reduction to practice of the proposed count.

Appendix F is a copy of the Wikipedia web address <https://en.wikipedia.org/wiki/Barcode>, last accessed July 19, 2019.

Appendix G is a copy of WO 01/99047A1 to D'Haens et al.

I. SUGGESTION OF INTERFERENCE

A. Status of Currently Pending Claims

On May 10, 2019, the Patent Trial and Appeal Board issued a Decision reversing the Examiner's prior rejection of claims 1, 2, 5-10 and 19 in the Present Application, Application No. 13/697,297 ("the '297 Application" or "the Jarisch Application"). After the Decision, Applicant for the Jarisch Application submitted a Request for Continued Examination (RCE) on July 19, 2019. Applicant also submitted an Amendment with the RCE, and the Amendment added new claims 20-28, which copy allowed claims 1, 10, 13, 16, 18, 20-22, and 24 of U.S. Application No. 15/646,980 ("the '980 Application" or "the Kruger Application").

On August 7, 2019, the Patent Office mailed a Non-Final Office Action for the Jarisch Application, and claims 1, 2, 5-10 and 19-28 in the Jarisch Application are not rejected over any prior art. The Non-Final Office Action rejected claims 21-23 and 25 under 35 U.S.C. § 112, but the Response to Non-Final Office Action submitted concurrently herewith establishes that these

rejections are improper. The Response also adds new claims 29-34 as discussed in greater detail below. Applicant believes all of the claims in the Jarisch Application are in condition for allowance.

The allowed claims of the Kruger Application are not the same as, or for the same or substantially the same subject matter as, a claim of the published version of the Kruger Application, U.S. Pat. Pub. No. 2017/0305654.

B. Identification and Procedural Status of Interfering Applications

1. Status of U.S. Application No. 15/646,980 – the Kruger Application

The Kruger Application was filed July 11, 2017 and published October 26, 2017 as U.S. Pat. Pub. No. 2017/0305654. On May 31, 2019, the Examiner issued a Notice of Allowance for claims 1, 10, and 13-30. On June 12, 2019, the Applicant filed remarks and an after-allowance amendment to the claims. Also on June 12, 2019, the Applicant paid the issue fee. On July 3, 2019, the Applicant withdrew the Kruger Application from issuance and filed a Request for Continued Examination based on newly-submitted prior art references. On July 11, 2019, the Examiner issued a Corrected Notice of Allowance. A clean copy of current claims 1, 10, and 13-30 in the Kruger Application is provided in Appendix A.

2. Status of U.S. Application No. 13/697,297 – the Jarisch Application

The Present Application is U.S. Pat. Appl. No. 13/697,297 to Jarisch et al., which was filed November 9, 2012, and published Mar. 14, 2013 as U.S. Pat. Pub. No. 2013/0064937. As noted above, the Patent Office mailed a Non-Final Office Action for the Jarisch Application on August 7, 2019, and claims 1, 2, 5-10 and 19-28 in the Jarisch Application are not rejected over any prior art. The Non-Final Office Action rejected claims 21-23 and 25 under 35 U.S.C. § 112,

but the Response to Non-Final Office Action submitted concurrently herewith establishes that these rejections are improper.

Previously submitted claims 20-28 copy claims 1, 10, 13, 16, 18, 20-22, and 24 of the Kruger Application, and new claims 29-34 submitted in the accompanying Response to Office Action should also be included in the Interference Count, as further detailed herein. Claims 1, 2, 5-10, and 19-34 are pending in this Application. A clean copy of current claims 1, 2, 5-10, and 19-34, which Applicant believes are in condition for allowance, is provided in Appendix B.

C. Compliance with 35 U.S.C. § 135(b)

Applicant's Suggestion for Interference and corresponding claims comply with 35 U.S.C. § 135(b). Section 135(b)(1) does not apply here because the Kruger Application is not an issued patent. Section 135(b)(2) also does not apply because the Jarisch Application is not "an application filed after the [Kruger] application [] published." Indeed, 35 U.S.C. § 135(b)(2) recites:

A claim which is the same as, or for the same or substantially the same subject matter as, a claim of an application published under section 122(b) may be made in an application filed after the application is published only if the claim is made before 1 year after the date on which the application is published.

First, as set forth above in Section I.B.2, the Jarisch Application was filed November 9, 2012, years before the Kruger Application published on October 26, 2017. Second, even if Kruger's International Application PCT/EP2011/003677 is considered (it should not be), it did not publish until January 26, 2012, which is later than the May 12, 2011 filing date of the Jarisch Application's International Application PCT/EP2011/057657. *See Loughlin v. Ling*, 684 F.3d 1289, 1294 (Fed. Cir. 2012) (An "an application filed" in 35 U.S.C. § 135(b)(2) includes priority to an earlier effective filing date under § 120.). Third, the claims copied from the Kruger

Application are not substantially the same as the claims that published in the Kruger Application's publication.

Accordingly, for at least the foregoing reasons, 35 U.S.C. § 135(b)(2) does not apply.

D. Relevant Interference Rules

“An interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa.” *See* 37 C.F.R. § 41.203(a). The requirements for a Suggestion of Interference are set forth in 37 C.F.R. § 41.202 (a)(1)-(6) as follows:

(1) Provide sufficient information to identify the application or patent with which the applicant seeks an interference,

(2) Identify all claims the applicant believes interfere, propose one or more counts, and show how the claims correspond to one or more counts,

(3) For each count, provide a claim chart comparing at least one claim of each party corresponding to the count and show why the claims interfere within the meaning of § 41.203(a),

(4) Explain in detail why the applicant will prevail on priority,

(5) If a claim has been added or amended to provoke an Interference, provide a claim chart showing the written description for each claim in the applicant's specification, and

(6) For each constructive reduction to practice for which the applicant wishes to be accorded benefit, provide a chart showing where the disclosure provides a constructive reduction to practice within the scope of the interfering subject matter.

Applicant has provided herein information satisfying each of these requirements.

II. 37 C.F.R. § 41.202 (a)(1) – IDENTIFICATION OF APPLICATION

A. Identification of Interfering Patent Application

As set forth above in Section I.A-B, Applicant seeks a Declaration of Interference between the Present Application and the Kruger Application specified below:

U.S. Pat. Appl. No. 15/646,980

Filed: July 11, 2017

Published: October 26, 2017

Publication No. 2017/0305654 A1

Inventor: Marc Krüger

Applicant: K-Fee System GmbH

Title: Portion Capsule Having an Identifier

B. Identification of Related U.S. Patents and Patent Applications

The Kruger Application is a Division of Application No. 15/211,823, filed on July 15, 2016 and currently pending, which is a Division of Application No. 13/744,623, filed on January 18, 2013 and now abandoned, which is a continuation of PCT/EP2011/003677, filed on July 22, 2011. Application No. 16/438,818 is a continuation-in-part of the Kruger Application, filed on June 12, 2019.

III. 37 C.F.R. § 41.202 (a)(2) – IDENTIFICATION OF INTERFERING CLAIMS, PROPOSED COUNT, AND CLAIM CORRESPONDENCE

A. Identification of Interfering Claims

In accordance with the requirements of 37 C.F.R. § 41.202(a)(2), Applicant states that claims 1, 2, 5-10, and 19-28 of the Jarisch Application and claims 1, 10, and 13-30 of the Kruger Application interfere with one another. Claims 1, 2, 5-10, 19 and 29-34 of the Jarisch Application claim subject matter that is not patentably distinct from claims 1, 10, and 13-30 of

the Kruger Application; and claims 20-28 of the Jarisch Application are identical to claims 1, 10, 13, 16, 18, 20-22 and 24 of the Kruger Application.

B. Proposed Count

37 C.F.R. § 41.201 defines the term “Count” as “the Board’s description of the interfering subject matter that sets the scope of admissible proofs on priority.” In accordance with the requirements of 37 C.F.R. § 41.202(a)(2), the proposed Count is defined as follows:

COUNT I: The product of claim 20 of Applicant’s ’297 Application or the product of claim 1 of the ’980 Application.

Each of these claims is directed to, *inter alia*, embodiments of a beverage capsule that include a barcode on the bottom side of its flange or rim, opposite the lid or membrane, that extends along the circumference of the flange and is used to individualize the beverage capsule. As set forth herein, any differences between Proposed Count I and claims 1, 2, 5-10, and 19-34 of the Jarisch Application and/or claims 1, 10, and 13-30 of the Kruger Application are not patentable distinctions.

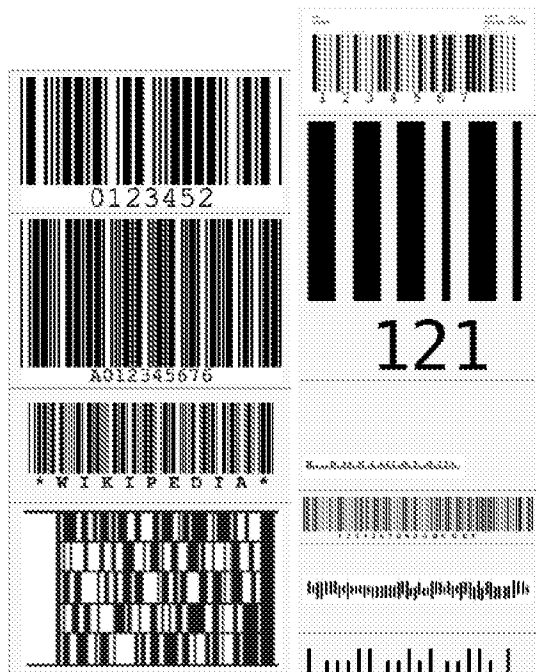
C. Correspondence of the Claims of the Kruger Application and the Jarisch Application to the Count

A (first) claim corresponds to another claim (a second claim) if the subject matter of the second claim, treated as prior art to the first claim, would have anticipated or rendered obvious the subject matter of the first claim. *See* 37 C.F.R. § 41.207(b)(2). Claims 1, 2, 5-10, and 19-34 of the Jarisch Application correspond to Proposed Count I because they claim the same patentable invention as the Proposed Count I. Claims 1, 10, and 13-30 of the Kruger Application correspond to Proposed Count I because they claim the same patentable invention as the Proposed Count I.

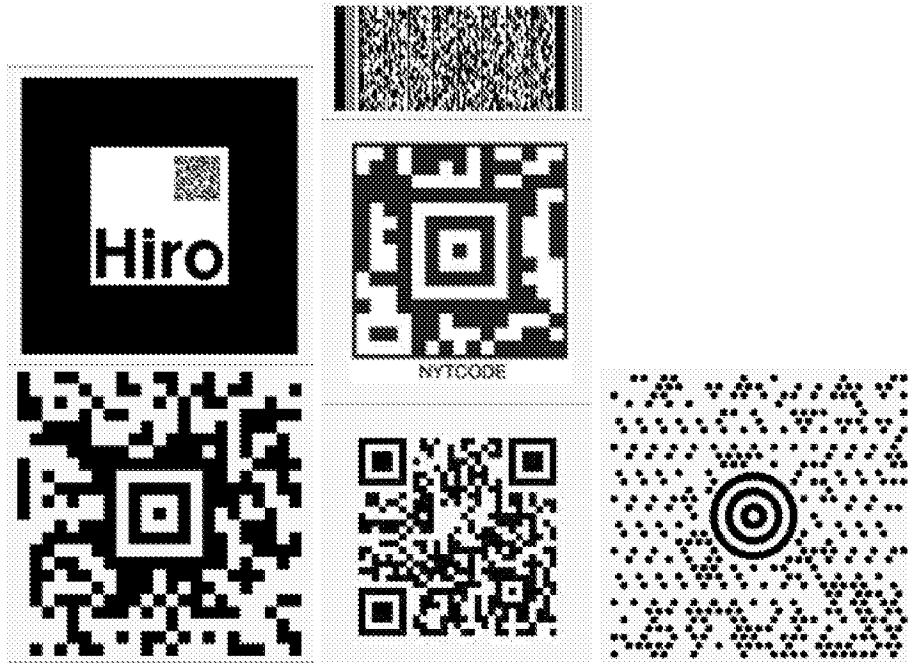
Any differences in claim language choice, or other claimed features that may differ from Proposed Count I do not provide patentable distinctions. Specifically, if the Proposed Count I were prior art to claims 1, 2, 5-10, and 19-34 of the Jarisch Application, and/or claims 1, 10, and 13-30 of the Kruger Application, they would be anticipated by and/or obvious thereover. 37 C.F.R. § 41.207(b)(2). There are no claims in the Jarisch and Kruger Applications that do not correspond to Proposed Count I.

1. Brief Background on Barcode Technology

Both the Jarisch Application and the Kruger Application disclose and claim barcodes on the bottom side of the capsule flange or rim. The term “barcode” is generally understood to refer to various different geometric shapes arranged in a pre-defined pattern in order to be read by an optical sensor. There are multiple types of barcodes that are used by optical readers to read data. (See Appendix F, <https://en.wikipedia.org/wiki/Barcode>.) Some barcodes represent data by varying the widths and spacings of parallel lines. (*Id.*) These are known as one-dimensional (1D) barcodes. Examples of different configurations of 1D barcodes are shown here:



(*Id.*) Two-dimensional (2D) barcodes also exist, which can use rectangles, dots, hexagons or other geometric patterns to represent data. (*Id.*) Examples of certain 2D barcodes are shown here:



(*Id.*)

Additionally, prior art barcode technologies such as WO 01/99047A1 to D'Haens et al. (*see* Appendix G), published in December 2001, describe a ***circular*** barcode for coins or discs made up of prism-shaped depressions (elements 10, 6, 7, 8) arranged in a surface according to a pre-defined pattern that can be read by an optical reader dependent on their reflective properties (*see e.g.*, page 6, lines 11-18). WO 01/99047A1 to D'Haens et al. repeatedly refer to this technology as barcode technology (*see, e.g.*, page 1, lines 4-29; page 1, line 32 – page 2, line 14; page 5, line 26-33). FIGs. 11 and 13 are shown herein:

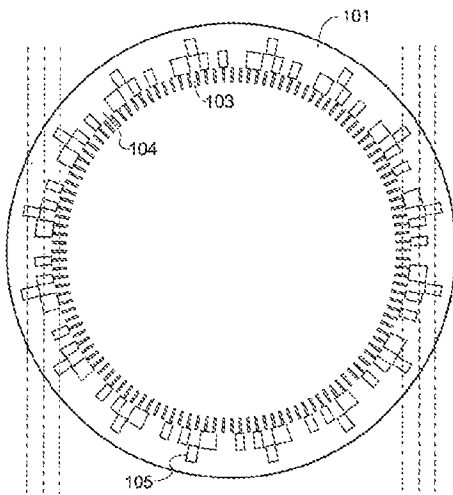


Fig. 11

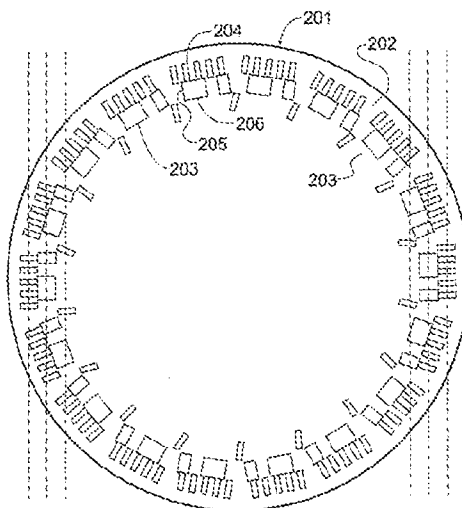
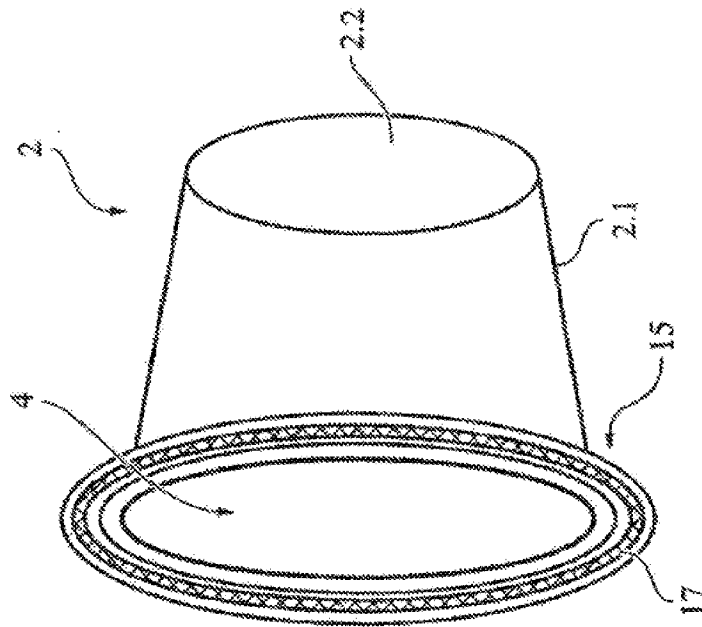


Fig. 13

Accordingly a person of ordinary skill in the art would understand a “barcode” to also include a series of reflective surfaces arranged in a circle, such as shown in WO 01/99047A1 to D’Haens et al.

2. *The Kruger Application Barcode*

Claim 1 of the Kruger Application (the subject of Proposed Count I) recites “an identifier . . . wherein the identifier is a **barcode** that is provided on a bottom side of the flange” and “extends around an entire circumference of the flange. . . .” The specification of the Kruger Application does not define or limit the claimed “barcode” to a particular type of barcode. For example, the Kruger Application does not limit the term “barcode” to thick and thin parallel lines arranged in a linear pattern. This is further evidenced by FIG. 2 of the Kruger Application where “barcode 17” printed on the membrane does not comprise bars, or thick and thin parallel lines, but rather, illustrates a pattern of geometrically shaped objects arranged about the circumference of the capsule. (See Kruger Application at [0064].) FIG. 2 of Kruger is reproduced in part below:



Moreover, the Kruger Application explains that the “identifier” corresponding to the barcode “is composed of surface areas having different optical properties, for example reflection” and including “at least two areas which differ in their optical properties.” (*See* Kruger Application at [0008].) This is further reflected in Kruger’s dependent claim 21, which recites that “the barcode has at least two areas which differ in their optical properties.”

Accordingly, the barcode positioned on the underside of the capsule flange as described and claimed by Kruger is not limited or defined, and one skilled in the art would understand that, if the Kruger Application was prior art to the Jarisch Application, it would anticipate or render obvious the code positioned on the bottom side of the capsule flange described and claimed in the Jarisch Application. Claims 1, 10, and 13-30 of the Kruger Application correspond to Proposed Count I.

3. *The Jarisch Application Barcode*

Claim 20 of the Jarisch Application (copied from claim 1 of the Kruger Application, and the subject of Proposed Count I) recites “an identifier . . . wherein the identifier is a *barcode* that

is provided on a bottom side of the flange” and “extends around an entire circumference of the flange. . . .” Claim 1 of the Jarisch Application recites “a code adapted for being identified or read by an external reader, the code is arranged on a bottom of the flange-like rim, which is opposed to the lid” and wherein “the code comprises successive segments. . . .” Dependent claim 6 of the Jarisch Application further modifies the code of claim 1 such that “the code is a bit code formed by a series of discrete polygonal or dot surfaces printed on and/or embossed in the container.” Dependent claim 8 further modifies the code of claim 1 such that “the code is printed or embossed by a pattern which possesses surfaces having different reflective and/or absorbing properties to light.” Dependent claim 9 further modifies the code of claim 8 such that “the pattern possesses a first surface having inclined mirroring or absorbing properties to light and a second surface having flat mirroring or flat reflective properties to light.” All of these claims relate to permutations of barcode technology on the bottom side of the capsule flange.

Indeed, although the term “barcode” is not expressly used to describe the invention, the Jarisch Application indicates that “[p]referably, the code is an optical code” and “may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container or embossed in the container.” (*See* Jarisch Application at [0017].) The code “may comprise successive arch-shaped segments” and “may also comprise successive segments which are individually rectilinear.” (*Id.* at [0037].) The bit code is read optically based on the reflective properties of the successive rectangular code segments. (*Id.* at [0063] – [0064].) The data read “depend[s] on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles).” (*Id.* at [0086].)

Accordingly, the optical code positioned on the bottom side of the capsule flange as described and claimed by Jarisch constitutes a type of barcode to one of ordinary skill in the art.

Thus, if the Jarisch Application was prior art to the Kruger Application, it would anticipate or render obvious the barcode positioned on the bottom side of the capsule flange described and claimed in the Kruger Application. Claims 1, 2, 5-10, 19-28 and 29-34 of the Jarisch Application correspond to Proposed Count I.

IV. 37 C.F.R. § 41.202 (a)(3) – CLAIM CHART COMPARING AT LEAST ONE CLAIM OF COUNT 1

37 C.F.R. § 41.202(a)(3) requires, for each count, a claim chart comparing at least one claim of each party corresponding to the count and show why the claims interfere within the meaning of 37 C.F.R. § 41.203(a). Under 37 C.F.R. § 41.203(a), claims interfere “if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa.”

The following chart compares claim 20 of the Jarisch Application and claim 1 of the Kruger Application, which are identical.

The '297 Appl., Claim 20	The '980 Appl., Claim 1	Differences
[a] A single-serve capsule for making a beverage, comprising:	[a] A single-serve capsule for making a beverage, comprising:	None.
[b] a base element with a cavity, in which a raw beverage material is provided, a flange horizontally extending from the base element,	[b] a base element with a cavity, in which a raw beverage material is provided, a flange horizontally extending from the base element,	None.
[c] a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange,	[c] a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange,	None.
[d] an identifier, which makes it possible to individualize the respective single-serve capsule, wherein the identifier is a barcode that is provided on a bottom side of the flange,	[d] an identifier, which makes it possible to individualize the respective single-serve capsule, wherein the identifier is a barcode that is provided on a bottom side of the flange,	None.

[e] the identifier extends around an entire circumference of the flange,	[e] the identifier extends around an entire circumference of the flange,	None.
[f] the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	[f] the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	None.

V. 37 C.F.R. § 41.202 (a)(4) – APPLICANT WILL PREVAIL ON PRIORITY

Applicant’s Jarisch Application will prevail on priority at least because Applicant was first to invent the subject matter of Count I, as evidenced at least by constructive reduction to practice prior to Kruger’s earliest possible constructive reduction to practice.

The Jarisch Application will prevail on priority with respect to Proposed Count I and thus Applicant should be designated the Senior Party in the interference proceeding because Applicant has the earliest constructive reduction to practice of the proposed count. The Jarisch Application is entitled to an earlier constructive reduction to practice than the earliest possible constructive reduction to practice of the Kruger Application. Thus, even assuming, *arguendo*, that the Kruger Application is given its earliest possible reduction to practice date of July 22, 2010 to DE 102010031988.0, the Jarisch Application’s May 12, 2010 constructive reduction to practice is earlier in time, rendering Jarisch the Senior Party to the interference. Moreover, even assuming, *arguendo*, that the Jarisch Application could only claim priority back to its July 13, 2010 constructive reduction to practice, this would still be earlier than the Kruger Application’s earliest possible constructive reduction to practice, rendering Jarisch the Senior Party to the interference.

Specifically, each of the following applications, to which the Jarisch Application claims priority, constitutes a constructive reduction to practice of an embodiment within the scope of the proposed count:

- **PCT/EP2011/057657, filed May 12, 2011**, from which the Jarisch Application is a National Stage Entry. Section VI.A provides a claim chart illustrating exemplary written disclosure in PCT/EP2011/057657 for each limitation of claims corresponding to the proposed count satisfying constructive reduction to practice. A copy of PCT/EP2011/057657 is attached hereto as Appendix C.
- **EP 10169374.5, filed July 13, 2010**, from which the Jarisch Application and PCT/EP2011/057657 claim priority. Section VI.B provides a claim chart illustrating exemplary written disclosure in EP 10169374.5 for each limitation of claims corresponding to the proposed count satisfying constructive reduction to practice. A copy of EP 10169374.5 is attached hereto as Appendix D.
- **EP 10162741.2, filed May 12, 2010**, from which the Jarisch Application and PCT/EP2011/057657 claim priority. Section VI.C provides a claim chart illustrating exemplary written disclosure in EP 10162741.2 for each limitation of claims corresponding to the proposed count satisfying constructive reduction to practice. A copy of EP 10162741.2 is attached hereto as Appendix E.

Accordingly, Applicant will be able to prove conception and constructive reduction to practice before the earliest possible date of constructive reduction to practice of the Kruger Application. Applicant reserves the right to rely upon additional evidence of conception, diligence and reduction to practice in connection with earlier dates.

VI. 37 C.F.R. § 41.202 (a)(5) – WRITTEN DESCRIPTION FOR CLAIMS 20-28 IN APPLICANT'S SPECIFICATION

Pursuant to 37 C.F.R. § 41.202(a)(5), “[i]f a claim has been added or amended to provoke an interference, provide a claim chart showing the written description for each claim in the

applicant's specification.” Although claims 1, 2, 5-10 and 19 fall within the scope of Proposed Count I, and are subject to interference with the Kruger Application, they are preexisting claims that were not added or amended for purposes of provoking interference.

Claims 20-28 were previously added to further provoke interference. Although the Jarisch Application does expressly use the term “barcode” to describe the geometric optical code, as explained in Sections III.C.1-3, the Jarisch Application describes barcode technology and thus provides written description support for the claim term. *See Blue Calypso LLC v. Groupon, Inc.*, 117 USPQ.2d, 2016 WL 791107, at *9-11 (Fed. Cir. 2016) (vacating PTAB's finding that a specification failed to meet the written description requirement when the disputed claim term was not present in the specification because “when examining the written description for support for the claimed invention, [the Federal Circuit has] held that the exact terms appearing in the claim ‘need not be used *in haec verba*’”).

Accordingly, the following claim chart shows exemplary written description for each new claim in the Jarisch Application copied from the Kruger Application. Applicant reserves the right to rely upon additional portions of the disclosure to support written description.

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
20. A single-serve capsule for making a beverage, comprising:	[0001] The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. [0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. . . . The capsule can be single use.

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
a base element with a cavity, in which a raw beverage material is provided,	[0001] The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. [0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. . . . The capsule can be single use. [0005] The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, herbal tea, dairy powder, baby food, culinary powder and combination thereof. [0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. . . . The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.
a flange horizontally extending from the base element,	[0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0021] In an embodiment, the container comprises a body and a lid connected to the body [0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.
a membrane that is configured to close the cavity, the membrane is	[0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
fastened to a top side of the flange, and	to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.
an identifier, which makes it possible to individualize the respective single-serve capsule,	[0006] The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof. [0014] The aim of the present invention is to propose an improved way to identify the capsule within a beverage production machine to ensure a more reliable and convenient retrieval or reading of information so as to adjust working parameters of the machine. [0015] The aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule. FIGs. 4-7
wherein the identifier is a barcode that is provided on a bottom side of the flange,	[0006] The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof. [0017] Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container. [0022] In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. The bottom of the rim is sufficiently away from the liquid injection and beverage delivery areas so that there is a lower risk for the code to become unreadable such if partly or totally hidden or soiled by

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	beverage residues or otherwise (e.g., coffee particles). As a result, the reading is made more reliable. . . . [0024] In particular, the reading means may comprise a light emitter and a light sensor. . . . The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule. [0063] 2) Optical Reading On Rim Bottom Side Of Capsule (FIGS. 4 to 7): [0064] The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or an arc-shaped pattern at least along an angular portion of the rim. FIGS. 4-7.
the identifier extends around an entire circumference of the flange, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	[0016] More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time. [0021] In an embodiment, the container comprises a body and a lid connected to the body and wherein the code is present on the lid of the container. The lid may be a closed foil and/or a filter, for example. [0022] In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. . . .

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	[0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. [0037] The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g., membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more. The fact that the code is placed along an arc-shaped line render the reading by a sweep beam very difficult. This is why the rotation of the capsule plays an important role. In case that the code is located on the body, it is then necessary to rotate the capsule to have access, for the sensor, to the entire set of marks composing the code. The code is further located close to the peripheral edge of the capsule. The peripheral edge is defined as the outermost circular line of the capsule. Preferably, the distance of the code from the peripheral edge is not more than 10 mm, more preferably not more than 8 mm. [0039] The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	capsule, the same code can be detected or read more than one time. FIGs. 4-7.
21. The single-serve capsule according to claim 20, wherein the barcode is printed by material removal.	[0017] Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container. [0019] Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light. [0020] In a possible mode, the code is mechanically embossed or engraved on the container by laser or by other means such as a press. [0078] The code can be applied on the capsule by: Printing (absorbing/reflecting + diffusing), visible, invisible or, Laser engraving (e.g. for absorbing/reflecting-diffusing) surfaces or, Embossing: Flat and inclined mirroring surfaces. [0088] <u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). FIGs. 4-7.
22. The single-serve capsule according to claim 20, wherein the base element is made of metal.	[0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). [0095] Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.
23. The single-serve capsule according to claim 20, wherein the base element comprises a bottom and a wall region that extends between the flange and the bottom, the side wall has an electrically conductive section.	[0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). [0095] Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps.

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.
24. The single-serve capsule according to claim 20, wherein the identifier comprises metal.	[0024] In particular, the reading means may comprise a light emitter and a light sensor. In an alternative, the reading means comprises an inductive sensor. The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). [0095] Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.
25. The single-serve capsule according to claim 20, wherein the barcode extends around an entire perimeter of the base element.	[0016] More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time. [0037] The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g., membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more. The fact that the code is placed along an arc-shaped line render the reading by a sweep beam very difficult. This is why the rotation of the capsule plays an important role. In case that the code is located on the body, it is then necessary to rotate the capsule to have access, for the sensor, to the entire set of marks composing the code. The code is further located close to the peripheral edge of the capsule. The peripheral edge is defined as the outermost circular line of the capsule. Preferably, the distance of the code from the peripheral edge is not more than 10 mm, more preferably not more than 8 mm. [0039] The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	FIGs. 4-7.
26. The single-serve capsule according to claim 20, wherein the barcode has at least two areas which differ in their optical properties.	[0019] Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light. [0064] The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or an arc-shaped pattern at least along an angular portion of the rim. [0067] The bit code may consist of: Inclined mirroring or (flat) absorbing surfaces for bit “0” and Flat mirroring or flat reflective (diffusing) surfaces for bit “1” [0078] The code can be applied on the capsule by: Printing (absorbing/reflecting + diffusing), visible, invisible or, Laser engraving (e.g. for absorbing/reflecting–diffusing) surfaces or, Embossing: Flat and inclined mirroring surfaces. [0083] On FIG. 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. [0084] On FIG. 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor S is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. [0085] In each configuration (e.g., FIGS. 5-6), a bit such as “1” or “0” is provided to the control unit. [0086] Therefore, the number of bits and their bit code depend on the number and specific arrangement of mirror surfaces (e.g.

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading. FIGs. 4-7.
27. The single-serve capsule according to claim 20, wherein the identifier is electrically conductive.	[0024] In particular, the reading means may comprise a light emitter and a light sensor. In an alternative, the reading means comprises an inductive sensor. The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). [0095] Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.
28. The single-serve capsule according to claim 20, wherein the identifier is a machine-readable imprint.	[0017] Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed on the container. [0071] The reader may consist of -A light source with/without focusing optic and/ -A light sensor with/without focusing optic. [0078] The code can be applied on the capsule by:

Claims 20-28	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al.
	Printing (absorbing/reflecting+diffusing), visible, invisible or, Laser engraving (e.g. for absorbing/reflecting–diffusing) surfaces or, Embossing: Flat and inclined mirroring surfaces. [0082] In the embodiment of the FIG. 4, the light source is placed at the bottom of the centrifugal cell 3. This cell is light conductive allowing the beam to reach the bottom side 72 of its rim 73. The reflected light is conducted by the transparent (or light conductive) centrifugal cell 3 to reach the sensor 62. In case that the sensor 62 cannot be aligned with the transparent part of the centrifugal cell 3, a mirror can be placed as illustrated in the FIG. 4 to deflect the forward and backward beams. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). FIGs. 2-7.

VII. 37 C.F.R. § 41.202 (a)(5) – WRITTEN DESCRIPTION FOR NEW CLAIMS IN APPLICANT’S SPECIFICATION

As noted above, 37 C.F.R. § 41.202(a)(5) sets forth: “[i]f a claim has been added or amended to provoke an interference, provide a claim chart showing the written description for each claim in the applicant’s specification.” Although claims 1, 2, 5-10 and 19 fall within the scope of Proposed Count I, and are subject to interference with the Kruger Application, they are preexisting claims that were not added or amended for purposes of provoking interference. Claims 20-28 were previously added to provoke interference and are discussed in the preceding section.

Claims 29-34 are newly added in the accompanying Response to Office Action as additional grounds for provoking interference. Accordingly, the following claim charts show exemplary written description for each of these new claims in the Jarisch Application, EP 10169374.5 to Jarisch et al., filed July 13, 2010 and EP 10162741.2 to Jarisch et al., filed May 12, 2010. Applicant reserves the right to rely upon additional portions of the disclosure to support written description.

A. Exemplary Chart Demonstrating Written Description Support for New Claims 29-34 found in U.S. Patent Appl. No. 13/697,297 to Jarisch et al

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
29. The single-serve capsule according to Claim 20, wherein the identifier is mechanically embossed on the capsule.	[0017] Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container. [0019] Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light. [0020] In a possible mode, the code is mechanically embossed or engraved on the container by laser or by other means such as a press. [0078] The code can be applied on the capsule by: Printing (absorbing/reflecting + diffusing), visible, invisible or, Laser engraving (e.g. for absorbing/reflecting–diffusing) surfaces or, Embossing: Flat and inclined mirroring surfaces. [0088] 3) Application modes of codes onto a capsule The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
	-Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). FIGs. 4-7.
30. The single-serve capsule according to Claim 20, wherein the identifier is mechanically engraved on the capsule.	[0020] In a possible mode, the code is mechanically embossed or engraved on the container by laser or by other means such as a press. [0088] 3) Application modes of codes onto a capsule The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). FIGs. 4-7.
31. The single-serve capsule according to Claim 20, wherein the base element is made of aluminum.	[0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or,

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
32. The single-serve capsule according to Claim 20, wherein the identifier is provided on a metallic surface of the capsule.	Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology). [0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology)
33. The single-serve capsule according to Claim 32, wherein the identifier is configured to be sensed by an inductive sensor.	[0024] In particular, the reading means may comprise a light emitter and a light sensor. In an alternative, the reading means comprises an inductive sensor. The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule. [0082] In the embodiment of the FIG. 4, the light source is placed at the bottom of the centrifugal cell 3. This cell is light conductive allowing the beam to reach the bottom side 72 of its rim 73. The reflected light is conducted by the transparent (or light conductive) centrifugal cell 3 to reach the sensor 62. In case that the sensor 62 cannot be aligned with the transparent part of the centrifugal cell 3, a mirror can be placed as illustrated in the FIG. 4 to deflect the forward and backward beams. [0089] The codes described in the previous examples can be applied by different methods onto a capsule such as by: Printing or mechanical deforming on a formed capsule or, Printing or mechanical deforming on the capsule raw material (foil) before container forming or, Printing on outer surface of a

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
	capsule container or, Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).
34. A single-serve capsule for making a beverage, comprising:	[0001] The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. [0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. . . . The capsule can be single use.
a base element with a cavity, in which a raw beverage material is provided,	[0001] The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. [0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0004] The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. . . . The capsule can be single use. [0005] The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, herbal tea, dairy powder, baby food, culinary powder and combination thereof. [0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. . . . The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
a flange horizontally extending from the base element,	[0002] The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity. [0021] In an embodiment, the container comprises a body and a lid connected to the body [0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	[0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. FIGs. 4-7.
an identifier, which makes it possible to individualize the respective single-serve capsule,	[0006] The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof. [0014] The aim of the present invention is to propose an improved way to identify the capsule within a beverage production machine to ensure a more reliable and convenient retrieval or reading of information so as to adjust working parameters of the machine. [0015] The aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
	the capsule is rotated around an axis of rotation traversing the capsule. FIGs. 4-7
wherein the identifier is a barcode that is provided on a bottom side of the flange, the barcode extends around an entire perimeter of the base element, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	[0006] The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof. [0016] More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time. [0017] Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container. [0021] In an embodiment, the container comprises a body and a lid connected to the body and wherein the code is present on the lid of the container. The lid may be a closed foil and/or a filter, for example. [0022] In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. The bottom of the rim is sufficiently away from the liquid injection and beverage delivery areas so that there is a lower risk for the code to become unreadable such if partly or totally hidden or soiled by beverage residues or otherwise (e.g., coffee particles). As a result, the reading is made more reliable. . . .

Claims 29-34	Support in U.S. Patent Appl. No. 13/697,297 to Jarisch et al
	[0024] In particular, the reading means may comprise a light emitter and a light sensor. . . . The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule. [0036] In the following examples (see FIG. 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee. [0063] 2) Optical Reading On Rim Bottom Side Of Capsule (FIGS. 4 to 7): [0064] The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or an arc-shaped pattern at least along an angular portion of the rim. FIGS. 4-7.

B. Exemplary Chart Demonstrating Written Description Support for New Claims 29-34 found in EP 10169374.5 to Jarisch et al., filed July 13, 2010

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
29. The single-serve capsule according to Claim 20, wherein the identifier is mechanically embossed on the capsule.	Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” • Page 8, lines 10-14: “<u>3) Application modes of codes onto a capsule</u>” The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or,

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	-Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10: Claim 10. FIGs. 4-7.
30. The single-serve capsule according to Claim 20, wherein the identifier is mechanically engraved on the capsule.	Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 8, lines 10-14: “<u>3) Application modes of codes onto a capsule</u>” The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10: Claim 10. FIGs. 4-7.
31. The single-serve capsule according to Claim 20, wherein the base element is made of aluminum.	Page 8, lines 7-14: “<u>3) Application modes of codes onto a capsule</u>” The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule or, -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or,-Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”
32. The single-serve capsule according to Claim 20,	Page 1 at lines 15-22: “<u>4) Inductive code reading:</u>”

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
wherein the identifier is provided on a metallic surface of the capsule.	Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
33. The single-serve capsule according to Claim 32, wherein the identifier is configured to be sensed by an inductive sensor.	Page 1 at lines 15-22: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
34. A single-serve capsule for making a beverage, comprising:	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.”

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
a base element with a cavity, in which a raw beverage material is provided,	Page 1 at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i> at lines 23-25: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, dairy powder, baby food, culinary powder and combination thereof.” Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
a flange horizontally extending from the base element,	Page 1, lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Pages 15-16: FIGs. 4-7.
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	Pages 15-16: FIGs. 4-7.
an identifier, which makes it possible to individualize the respective single-serve capsule,	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 2, lines 24-30: “The aim of the present invention is to propose a way to identify the capsule within a production machine so as to adjust working parameters of the machine. This aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule.”
wherein the identifier is a barcode that is provided on a bottom side of the flange, the barcode extends around an entire perimeter of the base element, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 6, lines 20-24: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties.” Page 10: Claims 1, 11, 12, 13, 14. Pages 15-16: FIGs. 4-7. Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g.,

Claims 29-34	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” <i>Id.</i> at lines 13-25: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the

C. Exemplary Chart Demonstrating Written Description Support for New Claims 29-34 found in EP 10162741.2 to Jarisch et al., filed May 12, 2010

Claims 29-34	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
29. The single-serve capsule according to Claim 20, wherein the identifier is mechanically embossed on the capsule.	Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”

30. The single-serve capsule according to Claim 20, wherein the identifier is mechanically engraved on the capsule.	Page 5: <u>“(3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”
31. The single-serve capsule according to Claim 20, wherein the base element is made of aluminum.	Page 5: <u>“(3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”
32. The single-serve capsule according to Claim 20, wherein the identifier is provided on a metallic surface of the capsule.	Page 5: <u>“(4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
33. The single-serve capsule according to Claim 32, wherein the identifier is configured to be sensed by an inductive sensor.	Page 5: <u>“(4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim

	which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
34. A single-serve capsule for making a beverage, comprising:	Page 1: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.”
a base element with a cavity, in which a raw beverage material is provided,	Page 1: The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i>: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, herbal tea, dairy powder, culinary powder and combination thereof.”
a flange horizontally extending from the base element,	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is

	connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
an identifier, which makes it possible to individualize the respective single-serve capsule,	Page 1: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 3: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” Page 4: “The reader may consist of • A light source with/without focusing optic and, • A light sensor with/without focusing optic
wherein the identifier is a barcode that is provided on a bottom side of the flange, the barcode extends around an entire perimeter of the base element, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	Page 3: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provide redundancy and more reliability to the reading.”

	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Page 3: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim.
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VIII. 37 C.F.R. § 41.202 (a)(6) – CONSTRUCTIVE REDUCTION TO PRACTICE

Pursuant to 37 C.F.R. § 41.202(a)(6), “[f]or each constructive reduction to practice for which the applicant wishes to be accorded benefit, provide a chart showing where the disclosure provides a constructive reduction to practice within the scope of the interfering subject matter.” As demonstrated in the following exemplary charts, Applicant is entitled to a constructive reduction to practice for the proposed count based on: (i) the filing of PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011; (ii) the filing of European Patent Application No. 10169374.5, filed July 13, 2010; and (iii) the filing of European Patent Application No. 10162741.2, filed May 12, 2010. The following citations in Sections VII.A-C are exemplary, and Applicant reserves the right to rely upon additional portions of the cited documents to demonstrate constructive reduction to practice.

A. Exemplary Chart Demonstrating Constructive Reduction to Practice of Claims Corresponding to Proposed Count I in PCT/EP2011/057657, filed May 12, 2011

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
1. A capsule for the preparation of a beverage, the capsule comprising	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Claim 1.
a container configured to house a beverage ingredient	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i> at lines 23-25: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, dairy powder, baby food, culinary powder and combination thereof.” Claim 1.
the container comprises a cup-shaped body having a	Page 5, lines 22-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
flange-like rim a lid connected to the cup-shaped body, and	flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” FIGs. 4-7.
a code adapted for being identified or read by an external reader	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 2, lines 28-30: “The aim of the present invention is to propose a way to identify the capsule within a production machine so as to adjust working parameters of the machine.” Page 3, lines 1-5: “This aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule.” Page 4, lines 15-19: “The invention further relates to a method for preparing a beverage from a system comprising a capsule as aforementioned and a beverage preparation device; wherein the device comprises capsule holding means for holding the capsule therein and rotational drive means for driving the holding means a capsule in rotation along said axis of rotation and reading means arranged for reading the code when the capsule is rotated along said axis.” Claim 1. FIGs. 4-7.
the code is arranged on a bottom of the flange-like rim, which is opposed to the lid, to be read while the capsule is rotated around an axis of rotation traversing the capsule,	Page 3, line 31 – Page 4, line 6: “In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. The bottom of the rim is sufficiently away from the liquid injection and beverage delivery areas so that there is a lower risk for the code to become unreadable such if partly or totally hidden or

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	soiled by beverage residues or otherwise (e.g., coffee particles). As a result, the reading is made more reliable. The reading may also be carried out while the capsule is in place in the beverage production device. Therefore, the preparation of the beverage is simplified and the preparation time can be reduced.” Page 4, lines 15-19: “The invention further relates to a method for preparing a beverage from a system comprising a capsule as aforementioned and a beverage preparation device; wherein the device comprises capsule holding means for holding the capsule therein and rotational drive means for driving the holding means and capsule in rotation along said axis of rotation and reading means arranged for reading the code when the capsule is rotated along said axis.” Page 8, lines 5-10: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties.” <i>Id.</i> at line 16: “The bit code is read by rotating the capsule along its central axis A.” Claims 11, 12, 13, 14. FIGs. 4-7.
wherein the container comprises a circumference, the code comprises successive segments that extend substantially along at least an eighth of the circumference,	Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	probability that at least one code is readable but also may potentially reduce the reading time.” Page 5, line 27 – Page 6, line 7: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.” Page 6, lines 18-23: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated there to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Claims 2-4. FIGs. 4-7.
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	Page 5, lines 23-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
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.	FIGs. 2-7.
2. The capsule of Claim 1, wherein the code is arranged on the container along an arc-shaped or circular path of the circumference of the container.	Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time.” Page 5, line 27 – Page 6, line 7: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	Page 6, lines 18-23: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Page 8, line 12: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Claim 2. FIGs. 4-7.
5. The capsule of Claim 1, wherein the code is repeated along the circumference of the container.	Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time.” Page 6, lines 18-23: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	Page 8, line 12: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 9, lines 15-19: “Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Claims 2 and 4. FIGs. 4-7.
6. The capsule of Claim 1, wherein the code is a bit code formed by a series of discrete polygonal or dot surfaces printed on and/or embossed in the container.	Page 3, lines 15-17: “Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container.” <i>Id.</i> at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” Page 8, lines 6-10: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 13-15: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 8, lines 24-27: “The code can be applied on the capsule by:

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	• Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Claim 6. FIGs. 4-7.
7. The capsule of Claim 1, wherein the code is printed by an ink which is not visible by a human eye under natural light.	Page 3, lines 18-19: “The code may printed by a visible ink by human eyes under natural light or, alternatively, an ink which is not visible by human eyes under natural light (e.g., ink visible under UV).” Page 6, lines 15-17: “According to an embodiment, the code is printed by an ink which is not visible by human eyes under natural light (e.g., ink visible under UV). In this case, the sensor further comprises a UV-light beam source and a UV detector.” Claim 7.
8. The capsule of Claim 1, wherein the code is printed or embossed by a pattern which possesses surfaces having different reflective and/or absorbing properties to light.	Page 3 at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” Page 8, lines 6-10: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 13-15: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	• Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 9, lines 14-19: “In each configuration (e.g., Figs. 5-6), a bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Claim 8. FIGs. 4-7.
9. The capsule of Claim 8, wherein the pattern possesses a first surface having inclined mirroring or absorbing properties to light and a second surface having flat mirroring or flat reflective properties to light.	Page 3 at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” Page 8, lines 6-10: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	<i>Id.</i> at lines 13-15: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 9, lines 7-19: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor S is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. In each configuration (e.g., Figs. 5-6), a bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Claim 8-9. FIGs. 4-7.

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
10. The capsule of Claim 1, wherein the code is mechanically embossed or engraved on the container by a laser.	Page 3 at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” <i>Id.</i> at lines 26-27: “In a possible mode, the code is mechanically embossed or engraved on the container by laser or by other means such as a press.” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Claim 10.
19. The capsule of Claim 1, comprising a peripheral edge that is an outermost circular line of the capsule, wherein the code is positioned within	Page 6, lines 11-14: “The code is further located close to the peripheral edge of the capsule. The peripheral edge is defined as the outermost circular line of the capsule. Preferably, the distance of the code from the peripheral edge is not more than 10 mm, more preferably not more than 8 mm.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
10mm of the peripheral edge.	FIGs. 2-7.
20. A single-serve capsule for making a beverage, comprising:	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Claim 1.
a base element with a cavity, in which a raw beverage material is provided,	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i> at lines 23-25: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, dairy powder, baby food, culinary powder and combination thereof.” Page 5, lines 22-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Claim 1. FIGs. 4-7.
a flange horizontally extending from the base element,	Page 1, lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” Page 5, lines 22-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” FIGs. 4-7.
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	Page 5, lines 22-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” FIGs. 4-7.
an identifier, which makes it possible to individualize the respective single-serve capsule,	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 2, line 28 – Page 3, line 5: “The aim of the present invention is to propose an improved way to identify the capsule within a beverage production machine to ensure a more reliable and convenient retrieval or reading of information so as to adjust working parameters of the machine.

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	This aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule.” Claim 1. FIGs. 4-7.
wherein the identifier is a barcode that is provided on a bottom side of the flange,	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time.” Page 3, lines 15-17: “Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container.” Page 3, line 31 – Page 4, line 6: “In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. The bottom of the rim is sufficiently away from the liquid injection and beverage delivery areas so that there is a lower risk for the

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	code to become unreadable such if partly or totally hidden or soiled by beverage residues or otherwise (e.g., coffee particles). As a result, the reading is made more reliable. The reading may also be carried out while the capsule is in place in the beverage production device. Therefore, the preparation of the beverage is simplified and the preparation time can be reduced.” Page 8, lines 5-10: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or an arc-shaped pattern at least along an angular portion of the rim.” Claims 1, 11, 12, 13, 14. FIGs. 4-7.
the identifier extends around an entire circumference of the flange, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time.” Page 3, line 31 – Page 4, line 6: “In another embodiment, the code is present on the rim of the capsule. In the most preferred embodiment, the code is present on the bottom of the rim of the capsule which is opposed to the lid of the capsule. The bottom of the rim is sufficiently away from the liquid injection and beverage delivery areas so that there is a lower risk for the code to become unreadable such if partly or totally hidden or

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	soiled by beverage residues or otherwise (e.g., coffee particles). As a result, the reading is made more reliable. The reading may also be carried out while the capsule is in place in the beverage production device. Therefore, the preparation of the beverage is simplified and the preparation time can be reduced.” Page 5, lines 23-26: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Page 5, line 27 – Page 6, line 7: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.” Page 6, lines 18-23: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	Claim 2. FIGs. 4-7.
21. The single-serve capsule according to claim 20, wherein the barcode is printed by material removal.	Page 3 at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” <i>Id.</i> at lines 26-27: “In a possible mode, the code is mechanically embossed or engraved on the container by laser or by other means such as a press.” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Claim 10. FIGs. 4-7.

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
22. The single-serve capsule according to claim 20, wherein the base element is made of metal.	Page 1, lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10 at lines 3-10: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
23. The single-serve capsule according to claim 20, wherein the base element comprises a bottom and a	Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u>

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
wall region that extends between the flange and the bottom, the side wall has an electrically conductive section.	The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology)." Page 10 at lines 3-10: <u>"4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device."
24. The single-serve capsule according to claim 20, wherein the identifier comprises metal.	Page 9, line 24 – Page 10, line 2: <u>"3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology)." Page 10 at lines 3-10: <u>"4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps.

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
25. The single-serve capsule according to claim 20, wherein the barcode extends around an entire perimeter of the base element.	Page 3, lines 6-14: “More particularly, the capsule has a circumference wherein the code is arranged on the container along an arc-shaped or circular path of the circumference. In a particular mode, the capsule has a circumference wherein the code comprises successive segments which are individually rectilinear but extend substantially along at least a part of the circumference. More particularly, the code is arranged along at least a eighth of the circumference. This configuration provides a reliable reading or retrieval of information as well as an effective portion for information. In order to ensure a reliable reading or retrieval of information, the code is repeated along said circumference. The repetition ensures a higher probability that at least one code is readable but also may potentially reduce the reading time.” Page 5, line 27 – Page 6, line 7: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.”

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	Page 6, lines 18-23: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Claim 2. FIGs. 4-7.
26. The single-serve capsule according to claim 20, wherein the barcode has at least two areas which differ in their optical properties.	Page 3 at lines 20-25: “Preferably, the code is printed or embossed to form a pattern which possesses surfaces having different reflective and/or absorbing properties to light. In particular, the pattern possesses first surfaces and second surfaces having different reflective and/or absorbing properties to light. More particularly, the pattern possesses first surfaces inclined mirroring or absorbing properties to light and second surfaces having flat mirroring or flat reflective properties to light.” Page 8, lines 6-10: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 13-15: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or,

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	• Embossing: Flat and inclined mirroring surfaces.” Page 9, lines 7-19: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor S is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. In each configuration (e.g., Figs. 5-6), a bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Claims 8-9. FIGs. 4-7.
27. The single-serve capsule according to claim 20, wherein the identifier is electrically conductive.	Page 4, lines 12-15: “In particular, the reading means may comprise a light emitter and a light sensor. In an alternative, the reading means comprises an inductive sensor. The optical reading means or inductive sensor may be arranged to detect a code on the rim of the capsule.” Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u>” The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	-Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10 at lines 3-10: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
28. The single-serve capsule according to claim 20, wherein the identifier is a machine-readable imprint.	Page 3, lines 15-17: “Preferably, the code is an optical code. The code may be a bit code formed by a series of discrete polygonal (e.g., rectangles or squares) or dot surfaces printed on the container and/or embossed in the container.” Page 8, lines 17-19: “The reader may consist of -A light source with/without focusing optic and/ -A light sensor with/without focusing optic.” Page 8, lines 24-27: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 9, lines 1-6: “In the embodiment of figure 4, the light source is placed at the bottom of the centrifugal cell 3. This cell is light conductive allowing the beam to reach the bottom side 72 of its rim 73. The reflected light is conducted by the transparent (or light conductive) centrifugal cell 3 to reach the sensor 62. In case that the sensor 62 cannot be aligned with the

Claims Corresponding to Proposed Count I	Support in PCT/EP2011/057657 to Jarisch et al., filed May 12, 2011
	transparent part of the centrifugal cell 3, a mirror can be placed as illustrated in the figure 4 to deflect the forward and backward beams.” Page 9, line 24 – Page 10, line 2: “<u>3) Application modes of codes onto a capsule</u>” The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” FIGs. 2-7.

B. Exemplary Chart Demonstrating Constructive Reduction to Practice of Claims Corresponding to Proposed Count I in EP 10169374.5 to Jarisch et al., filed July 13, 2010

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
1. A capsule for the preparation of a beverage, the capsule comprising	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 10: Claim 1.

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
a container configured to house a beverage ingredient	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i> at lines 23-25: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, dairy powder, baby food, culinary powder and combination thereof.” Page 10: Claim 1.
the container comprises a cup-shaped body having a flange-like rim a lid connected to the cup-shaped body, and	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Pages 15-16: FIGs. 4-7.
a code adapted for being identified or read by an external reader	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 2, lines 24-30: “The aim of the present invention is to propose a way to identify the capsule within a production machine so as to adjust working parameters of the machine. This aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule.” Page 3, lines 1-5: “The invention further relates to a method for preparing a beverage from a system comprising a capsule as aforementioned and a beverage preparation device; wherein the device comprises capsule holding means for holding the capsule therein and rotational drive means for driving the holding means a capsule in rotation along said axis of rotation and reading means arranged for reading the code when the capsule is rotated along said axis.” Page 10: Claim 1. FIGs. 4-7.
the code is arranged on a bottom of the flange-like rim, which is opposed to the lid, to be read while the capsule is rotated around an axis of rotation traversing the capsule,	Page 6, lines 20-24: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties.” Page 7, line 1: “The bit code is read by rotating the capsule along its central axis A.” Page 10: Claims 11, 12, 13, 14. Pages 15-16: FIGs. 4-7.
wherein the container comprises a circumference, the code comprises successive segments that extend substantially along at least an eighth of the circumference,	Page 4, lines 13-25: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.” Page 5, lines 4-9: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated there to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Page 10: Claims 2-4. Pages 15-16: FIGs. 4-7.
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.	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Pages 14-16: FIGs. 2-7.
2. The capsule of Claim 1, wherein the code is arranged on the container along an arc-shaped or circular path of the circumference of the container.	Page 4, lines 13-25: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.” Page 5, lines 4-9: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Page 6, line 26: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 10: Claim 2. Pages 15-16: FIGs. 4-7.
5. The capsule of Claim 1, wherein the code is repeated along the circumference of the container.	Page 5, lines 4-9: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Page 7, line 27- Page 8, line 2: “Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Page 10: Claims 2 and 4. Pages 15-16: FIGs. 4-7.
6. The capsule of Claim 1, wherein the code is a bit code formed by a series of discrete polygonal or dot surfaces printed on and/or embossed in the container.	Page 6, lines 21-24: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 27-29: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 10: Claim 6. Pages 15-16: FIGs. 4-7.
7. The capsule of Claim 1, wherein the code is printed by an ink which is not visible by a human eye under natural light.	Page 5, lines 1-3: “According to an embodiment, the code is printed by an ink which is not visible by human eyes under natural light (e.g., ink visible under UV). In this case, the sensor further comprises a UV-light beam source and a UV detector.” Page 10: Claim 7.
8. The capsule of Claim 1, wherein the code is printed or embossed by a pattern which possesses surfaces	Page 6, lines 21-24: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
having different reflective and/or absorbing properties to light.	and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 27-29: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 7, line 22 – Page 8, line 2: “On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Page 10: Claim 8. Pages 15-16: FIGs. 4-7.
9. The capsule of Claim 8, wherein the pattern possesses a first surface having inclined mirroring or absorbing properties to light	Page 6, lines 21-24: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
and a second surface having flat mirroring or flat reflective properties to light.	and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 27-29: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 7, line 19 – Page 8, line 2: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Page 10: Claims 8-9. Pages 15-16: FIGs. 4-7.

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
10. The capsule of Claim 1, wherein the code is mechanically embossed or engraved on the container by a laser.	Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 8, lines 10-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10: Claim 10.
19. The capsule of Claim 1, comprising a peripheral edge that is an outermost circular line of the capsule, wherein the code is positioned within 10mm of the peripheral edge.	Page 4, lines 29-32: “The code is further located close to the peripheral edge of the capsule. The peripheral edge is defined as the outermost circular line of the capsule. Preferably, the distance of the code from the peripheral edge is not more than 10 mm, more preferably not more than 8 mm.” Pages 14-16: FIGs. 2-7.
20. A single-serve capsule for making a beverage, comprising:	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient.

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 10: Claim 1.
a base element with a cavity, in which a raw beverage material is provided,	Page 1, lines 4-5: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.” <i>Id.</i> at lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i> at lines 23-25: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, dairy powder, baby food, culinary powder and combination thereof.” Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Page 10: Claim 1. Pages 15-16: FIGs. 4-7.
a flange horizontally extending from the base element,	Page 1, lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.”

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Pages 15-16: FIGs. 4-7.
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Pages 15-16: FIGs. 4-7.
an identifier, which makes it possible to individualize the respective single-serve capsule,	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 2, lines 24-30: “The aim of the present invention is to propose a way to identify the capsule within a production machine so as to adjust working parameters of the machine. This aim is achieved by a capsule for the preparation of a beverage comprising a container and a beverage ingredient contained therein, wherein the container comprises a code adapted for being identified or read by external reading means, wherein the code is arranged on the container to be read while the capsule is rotated around an axis of rotation traversing the capsule.” Page 10: Claim 1. Pages 15-16: FIGs. 4-7.
wherein the identifier is a barcode that is provided on a bottom side of the flange,	Page 1, lines 26-28: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate,

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	pressure, rotational speed, temperature and combinations thereof.” Page 6, lines 20-24: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties.” Page 10: Claims 1, 11, 12, 13, 14. Pages 15-16: FIGs. 4-7.
the identifier extends around an entire circumference of the flange, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	Page 4, lines 9-12: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A lid such as a foil or membrane (liquid-tight or permeable to liquid) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” <i>Id.</i> at lines 13-25: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.”

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	Page 5, lines 4-9: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Page 10: Claim 2. Pages 15-16: FIGs. 4-7.
21. The single-serve capsule according to claim 20, wherein the barcode is printed by material removal.	Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 8, lines 10-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 10: Claim 10. FIGs. 4-7.
22. The single-serve capsule according to claim 20, wherein the base element is made of metal.	Page 1, lines 8-11: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.”

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	<i>Id.</i> at lines 19-22: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 8, lines 7-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule or, -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i> at lines 15-22: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
23. The single-serve capsule according to claim 20, wherein the base element comprises a bottom and a wall region that extends between the flange and the bottom, the side wall has an electrically conductive section.	Page 8, lines 7-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule or, -Printing or mechanical deforming on the capsule raw material (foil) before container forming or,

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	-Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i> at lines 15-22: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
24. The single-serve capsule according to claim 20, wherein the identifier comprises metal.	Page 8, lines 7-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule or, -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i> at lines 15-22: “<u>4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
25. The single-serve capsule according to claim 20, wherein the barcode extends around an entire perimeter of the base element.	Page 8, lines 13-25: “The capsule is designed for rotating around an axis A. This axis A crosses perpendicularly the center of the membrane which has the form of a disk. This axis A exits at the center of the bottom of the body. This axis A will help to define the notion of “circumference” which is a circular path located on the capsule and having the axis A as reference axis. This circumference can be on the lid, e.g. membrane or on the body part such as on the flange-like rim. The lid may be impervious to liquid before insertion in the device or it may be pervious to liquid by means of small openings or pores provided in the center and/or periphery of the lid. The code is spread along the circumference or a part of the circumference. The code may comprise successive arch-shaped segments. The code may also comprise successive segments which are individually rectilinear but extend along at least a part of the circumference. According to one embodiment, the sensor cannot read the code without the rotation of the capsule. This is the case where the code is spread along at least a eighth, preferably at least a quarter of the circumference or even more.” Page 5, lines 4-9: “The code is preferably repeated along the circumference in order to ensure a reliable reading. The code is repeated at least twice on the circumference. Preferably, the code is repeated three to six times on the circumference. Repetition of the code means that the same code is duplicated and the successive codes are positioned in series along the circumference so that upon a 360-degree rotation of the capsule, the same code can be detected or read more than one time.” Claim 2. Pages 15-16: FIGs. 4-7.
26. The single-serve capsule according to claim 20, wherein the barcode has at least two areas which differ in their optical properties.	Page 6, lines 21-24: “The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring and/or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i> at lines 27-29: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	• Flat mirroring or flat reflective (diffusing) surfaces for bit “1” Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or, • Embossing: Flat and inclined mirroring surfaces.” Page 7, line 19 – Page 8, line 2: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit. Therefore, the number of bits and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provides redundancy and more reliability to the reading.” Page 10: Claims 8-9. Pages 15-16: FIGs. 4-7.
27. The single-serve capsule according to claim 20, wherein the identifier is electrically conductive.	Page 8, lines 7-14: “ <u>3) Application modes of codes onto a capsule</u> ”

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule or, -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or,-Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i> at lines 15-22: “4) Inductive code reading: Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
28. The single-serve capsule according to claim 20, wherein the identifier is a machine-readable imprint.	Page 7, lines 2-4: “The reader may consist of -A light source with/without focusing optic and, -A light sensor with/without focusing optic.” Page 7, lines 13-18: “In the embodiment of the figure 4, the light source is placed at the bottom of the centrifugal cell 3. This cell is light conductive allowing the beam to reach the bottom side 72 of its rim 73. The reflected light is conducted by the transparent (or light conductive) centrifugal cell 3 to reach the sensor 62. In case the sensor 62 cannot be aligned with the transparent part of the centrifugal cell 3, a mirror can be placed as illustrated in the figure 4 to deflect the forward and backward beams.” Page 7, lines 9-12: “The code can be applied on the capsule by: • Printing (absorbing / reflecting + diffusing), visible, invisible or, • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or,

Claims Corresponding to Proposed Count I	Support in EP 10169374.5 to Jarisch et al., filed July 13, 2010
	• Embossing: Flat and inclined mirroring surfaces.” Page 8, lines 10-14: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: -Printing or mechanical deforming on a formed capsule, or -Printing or mechanical deforming on the capsule raw material (foil) before container forming or, -Printing on outer surface of a capsule container or, -Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”

C. Exemplary Chart Demonstrating Constructive Reduction to Practice of Claims Corresponding to Proposed Count I in EP 10162741.2 to Jarisch et al., filed May 12, 2010

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
1. A capsule for the preparation of a beverage, the capsule comprising	Page 1: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 6: Claim 1.
a container configured to house a beverage ingredient	Page 1: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device.

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i>: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, herbal tea, dairy powder, culinary powder and combination thereof.” Page 6: Claim 1.
the container comprises a cup-shaped body having a flange-like rim a lid connected to the cup-shaped body, and	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
a code adapted for being identified or read by an external reader	Page 1: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 3: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” Page 4: “The reader may consist of

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	• A light source with/without focusing optic and, • A light sensor with/without focusing optic.” Page 6: Claim 1.
the code is arranged on a bottom of the flange-like rim, which is opposed to the lid, to be read while the capsule is rotated around an axis of rotation traversing the capsule,	Page 3: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” Page 4: “The bit code is read by rotating the capsule along its central axis A.” Page 6: Claims 8-10.
wherein the container comprises a circumference, the code comprises successive segments that extend substantially along at least an eighth of the circumference,	Page 3: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provide redundancy and more reliability to the reading.” Page 6: Claims 2-3.
the cup-shaped body extends from a bottom end of the cup-shaped body to a top end of the cup-shaped body	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
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.	connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
2. The capsule of Claim 1, wherein the code is arranged on the container along an arc-shaped or circular path of the circumference of the container.	Page 3: <u>“(2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 6: Claim 2.
5. The capsule of Claim 1, wherein the code is repeated along the circumference of the container.	Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim. This repetition provide redundancy and more reliability to the reading.” Page 6: Claims 2-3.
6. The capsule of Claim 1, wherein the code is a bit code formed by a series of discrete polygonal or dot surfaces printed on and/or embossed in the container.	Page 3: <u>“(2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “The bit code may consist of:

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	• Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1”. Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 6: Claim 4.
7. The capsule of Claim 1, wherein the code is printed by an ink which is not visible by a human eye under natural light.	Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 6: Claim 5.
8. The capsule of Claim 1, wherein the code is printed or embossed by a pattern which possesses surfaces having different reflective and/or absorbing properties to light.	Page 3: “<u>2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.”

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	<i>Id.</i>: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1”.” Page 4: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit.” Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: <u>“3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 6: Claim 6.

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
9. The capsule of Claim 8, wherein the pattern possesses a first surface having inclined mirroring or absorbing properties to light and a second surface having flat mirroring or flat reflective properties to light.	Page 3: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1”.” Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 4: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit.” Page 6: Claim 6.
10. The capsule of Claim 1, wherein the code is mechanically embossed or	Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
engraved on the container by a laser.	• Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: “3) Application modes of codes onto a capsule The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 6: Claim 7.
20. A single-serve capsule for making a beverage, comprising:	Page 1: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” Page 6: Claim 1.
a base element with a cavity, in which a raw beverage material is provided,	Page 1: “The invention relates to the preparation of a beverage by use of a capsule containing beverage ingredient in a beverage production device. The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.” <i>Id.</i>: “The term ingredient means any suitable beverage substance such as ground coffee, soluble coffee, leaf tea, soluble tea, herbal tea, dairy powder, culinary powder and combination thereof.” Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Page 6: Claim 1.
a flange horizontally extending from the base element,	Page 1: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
a membrane that is configured to close the cavity, the membrane is fastened to a top side of the flange, and	Page 1: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.”
an identifier, which makes it possible to individualize the respective single-serve capsule,	Page 1: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.”
wherein the identifier is a barcode that is provided on a bottom side of the flange,	Page 1: “The invention relates more particularly to the identification of the capsule by means of a code. The code may be necessary to control parameters in the beverage preparation device such as liquid or beverage flow rate, pressure, rotational speed, temperature and combinations thereof.” Page 3: <u>“(2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” Page 4: “The reader may consist of • A light source with/without focusing optic and, • A light sensor with/without focusing optic.” Page 6: Claim 9.
the identifier extends around an entire circumference of the flange, the bottom side of the flange is opposite the top side of the flange to which the membrane is fastened.	Page 2: “In the following examples (see figure 4), the capsule comprises a cup-shaped body 69 extending by a flange-like rim 73. A foil or membrane (liquid-tight or permeable) 60 is connected to the body, e.g., sealed on the rim. The capsule is filled with beverage ingredient such as ground coffee.” Page 3: <u>“(2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim.”
21. The single-serve capsule according to claim 20, wherein the barcode is printed by material removal.	Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: “<u>3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 6: Claim 7.
22. The single-serve capsule according to claim 20, wherein the base element is made of metal.	Page 1: “The preparation of a beverage by a capsule containing beverage ingredient is known. In general, the capsule is inserted in a beverage production device, such as a coffee machine, liquid is fed in the capsule and a beverage is extracted from the capsule under pressure or by gravity.” <i>Id.</i>: “The term “capsule” refers to any flexible, rigid or semi-rigid container containing beverage ingredient. Other synonymous to a capsule are: “pod”, “pad”, “cartridge” or “sachet”. The capsule can be single use. The container can also be filled with ingredient by the user to form the capsule just before use.”

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	Page 5: <u>“3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i>: <u>“4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
23. The single-serve capsule according to claim 20, wherein the base element comprises a bottom and a wall region that extends between the flange and the bottom, the side wall has an electrically conductive section.	Page 5: <u>“3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” Page 5: <u>“4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface.

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
24. The single-serve capsule according to claim 20, wherein the identifier comprises metal.	Page 5: <u>“3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i>: <u>“4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
25. The single-serve capsule according to claim 20, wherein the barcode extends around an entire perimeter of the base element.	Page 3: <u>“2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.”

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	<i>Id.</i>: “Onto the capsule rim, a bit code is applied along a circular or arc-shaped path of the rim.” Page 4: “The same sequence of bits forming a “code” can be repeated several times on the circumference of the rim.” Page 6: Claims 2-3.
26. The single-serve capsule according to claim 20, wherein the barcode has at least two areas which differ in their optical properties.	Page 3: <u>“(2) Optical reading on rim bottom side of capsule (figures 4 to 7):</u> The capsule 7 may comprise a code 70 on the bottom side 72 of its rim 73. The bit code is formed of a succession of small rectangular surfaces having light mirroring properties and intermediate surfaces having flat mirroring or diffusing properties. The surfaces are arranged in a circular pattern or at least along an angular portion of the rim.” <i>Id.</i>: “The bit code may consist of: • Inclined mirroring or (flat) absorbing surfaces for bit “0” and • Flat mirroring or flat reflective (diffusing) surfaces for bit “1”.” Page 4: “On figure 5, the light beam 74 from the light source “L” touches the mirror surface of the code (small rectangle 81) and is reflected into a reflective beam 76 to the sensor “S” with high intensity. A bit such as “0” or “1” is thereby provided to the control unit. On figure 6, the light beam 74 from the light source “L” touches diffusing or absorbing surfaces (surface 82 between two small rectangles). The light beam 77 that reaches the sensor is of small intensity. Other beams such as beam 78 are diffused outside the sensor S due to the diffusing properties of the surface. A bit such as “1” or “0” is provided to the control unit. Therefore, the number of its and their bit code depends on the number and specific arrangement of mirror surfaces (e.g. rectangles) and diffusing or absorbing surfaces (e.g., zones between the rectangles). The same sequence of bits forming a “code” can be repeated several times on the circumference of

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	the rim. This repetition provide redundancy and more reliability to the reading.” Page 6: Claim 6.
27. The single-serve capsule according to claim 20, wherein the identifier is electrically conductive.	Page 5: <u>“3) Application modes of codes onto a capsule</u> The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).” <i>Id.</i>: <u>“4) Inductive code reading:</u> Another mode consists in sensing a code provided on a metallic surface of the capsule using an inductive sensor. The code is formed by reliefs or recesses in the metallic surface. For instance, the capsule comprises a circumferential metal rim which comprises a succession of discrete slots and/or bumps. When the capsule is rotated about its central axis, the rim is moved relative to the sensor such that the slots and/or bumps are detected. The code can be read on a time base of a CPU of the beverage preparation device. The maximum rotational speed to read the code depends on the used sensor and the internal CPU of the device.”
28. The single-serve capsule according to claim 20, wherein the identifier is a machine-readable imprint.	Page 4: “The reader may consist of -A light source with/without focusing optic and, -A light sensor with/without focusing optic.” Page 4: “The code can be applied on the capsule by: • Printing (absorbing / reflective + diffusing), visible, invisible, or • Laser engraving (e.g. for absorbing / reflecting-diffusing) surfaces or • Embossing: Flat and inclined mirroring surfaces” Page 5: <u>“3) Application modes of codes onto a capsule</u>

Claims Corresponding to Proposed Count I	Support in EP 10162741.2 to Jarisch et al., filed May 12, 2010
	The codes described in the previous examples can be applied by different methods onto a capsule such as by: 4.1 Printing or mechanical deforming on a formed capsule or, 4.2 Printing or mechanical deforming on the capsule raw material (foil) before container forming or, 4.3 Printing on outer surface of a capsule container or, 4.4 Printing on the inner surface of a capsule container, using the curl as information support (Aluminum capsule technology).”

IX. CONCLUSION

As set forth herein, Applicant respectfully submits that Claims 1, 2, 5-10, and 19-34 of Application No. 13/697,297 (“the ’297 Application” or “the Jarisch Application”) interfere with Claims 1, 10, and 13-30 of Application No. 15/646,980 (“the ’980 Application” or “the Kruger Application”) and, pursuant to 37 C.F.R. § 41.202, suggest that the Office declare an Interference between the Jarisch Application and the Kruger Application.

Respectfully submitted,

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