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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: David Nordqvist, et al.
Appl. No.: 14/901,912
Conf. No.: 2919
Filed: December 29, 2015
Title: CAPSULE FOR PREPARING A BEVERAGE SUCH AS COFFEE AND THE LIKE
Art Unit: 1792
Examiner: Ericson M. Lachica
Docket No.: 555910.120 (13301-US-PCT)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE TO OFFICE ACTION

In response to the Office Action dated February 8, 2018, please amend the above-referenced patent application as follows.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-21. (Canceled)

22. (New) A capsule for the preparation of a beverage in a beverage preparation device, the capsule comprising:

- a cup-like body shaped from a paper-based sheet to form a cavity wall containing beverage ingredients and an inner flange portion extending outwardly from the cavity wall, wherein the paper-based sheet comprises at least one oxygen barrier layer;
- a cover for closing the cup-like body, wherein the cover is a paper-containing sheet and comprises a gas barrier layer; and
- a flange for the cover to seal thereon, wherein the flange comprising an outer flange portion formed of moulded polymer-based material comprising at least an annular recess forming an indentation that enables the inner flange portion to be received therein, and the polymer-based material of the outer flange portion to seal at least partially against a lower surface of the inner flange portion oriented in a direction (B) towards the cavity wall and against the outer edge of the inner flange portion, and wherein the flange comprises a relief that is thicker than the rest of the flange and which protrudes in a direction opposite to the direction (B) towards the cavity wall.

23. (New) The capsule according to claim 22, wherein the cavity wall is revolutionary symmetrical.

24. (New) The capsule according to claim 22, wherein the outer flange portion prolongs the flange from the outer edge of the inner flange portion both in an outwardly radial direction (R_E) and in an axial direction (C).

25. (New) The capsule according to claim 22, wherein the region of the outer flange portion extending outwardly (radially) beyond the inner flange portion is thicker than the lower part of the outer flange portion sealing against the lower surface of the inner flange portion.
26. (New) The capsule according to claim 22, wherein the outer flange portion comprising an edge portion that is thicker than the rest of the flange, and wherein the edge portion has an axial dimension (L) longer than an axial dimension (L₀) of the outer flange portion.
27. (New) The capsule according to claim 22, wherein the outer flange portion further extends inwardly in a direction (R_i) by an upper part which seals against the upper surface of the inner flange portion.
28. (New) The capsule according to claim 27, wherein the cover is sealed against an annular top surface of the upper part.
29. (New) The capsule according to claim 22, wherein the outer flange portion forms a step-like recess which is arranged in open fashion upwardly towards the cover.
30. (New) The capsule according to claim 29, wherein the cover is sealed onto the inner flange portion and/or an upper surface forming a step-like portion of the outer flange portion oriented in a direction (C) towards the cover.
31. (New) The capsule according to claim 22, wherein the paper-based sheet of the body comprises at least one sealing layer oriented towards the cavity.
32. (New) The capsule according to claim 22, wherein the cover comprises a sealing layer oriented in the direction (B) towards the cavity or bottom of the body.

33. (New) The capsule according to claim 22, wherein the polymer-based material for the outer flange is an injection-mouldable thermoplastic material or elastomeric-thermoplastic material (TPE) selected from a group consisting of polyethylene (PE), high-density polyethylene (HDPE), polypropylene, polyethylene terephthalate (PET) and combinations thereof.
34. (New) The capsule according to claim 22, wherein the moulded polymer-based material is filled with reinforcing material.
35. (New) The capsule according to claim 22, wherein the outer portion of flange comprises an identification code.
36. (New) The capsule of claim 35, wherein the identification code is an optically readable barcode.
37. (New) The capsule according to claim 22, wherein the beverage ingredients are selected from the group consisting of ground coffee, soluble coffee, coffee beans, leaf tea, soluble tea, dairy products, cocoa, chicory, barley, culinary aid, soup ingredient, infant formula and combinations thereof.
38. (New) The capsule of claim 22, wherein the at least one oxygen barrier layer of the paper-based sheet of the cup-like body is selected from the group consisting of EVOH, AlOx, SiOX, or a combination thereof.
39. (New) A method, comprising:
inserting a capsule in a beverage preparation device to prepare a beverage, the capsule comprising:
a cup-like body shaped from a paper-based sheet to form a cavity wall containing beverage ingredients and an inner flange portion extending

outwardly from the cavity wall, wherein the paper-based sheet comprises at least one oxygen barrier layer;

a cover for closing the cup-like body, wherein the cover is a paper-containing sheet and optionally the cover comprises a gas barrier layer; and

a flange for the cover to seal thereon, wherein the flange comprising an outer flange portion formed of moulded polymer-based material comprising at least an annular recess forming an indentation that enables the inner flange portion to be received therein, and the polymer-based material of the outer flange portion to seal at least partially against a lower surface of the inner flange portion oriented in a direction (B) towards the cavity wall and against the outer edge of the inner flange portion, and wherein the flange comprises a relief that is thicker than the rest of the flange and which protrudes in a direction opposite to the direction (B) towards the cavity wall.

REMARKS

This is meant to be a complete Response to the Office Action dated February 8, 2018. The Office Action provided a three-month shortened statutory period in which to respond, ending on May 8, 2018. Therefore, this Response is being filed with a request for a one month extension of time under 37 CFR § 1.136(a), along with the requisite fee associated therewith. Applicant respectfully submits that this Response is being filed during the six month statutory period for response, and as such, entry and consideration thereof are respectfully requested.

Claims 1-21 have been canceled herein, without prejudice, and therefore any and all rejections thereof have been rendered moot and will not be discussed further herein. In addition, new claims 22-39 have been added herein. Applicant respectfully submits that support for the newly added claims can be found throughout the application and claims as originally filed; see, for example, the table below, which lists where support for each new claim can be found in the previous claims.

New Claim	Support in Previous Claim(s) and/or Substitute Specification Submitted at National Entry
22	Claims 1, 2, 10, & 12; Paragraphs [0029] & [0064]; FIG. 4
23	Claim 2 (except depends from new claim 22)
24	Claim 3 (except depends from new claim 22)
25	Claim 4 (except depends from new claim 22)
26	Claim 5 (except depends from new claim 22)
27	Claim 6 (except depends from new claim 22)
28	Claim 7 (except depends from new claim 27)
29	Claim 8 (except depends from new claim 22)
30	Claim 9 (except depends from new claim 29)
31	Claim 11 (except depends from new claim 22)
32	Claim 13 (except depends from new claim 22)
33	Claim 14 (except depends from new claim 22)
34	Claim 15 (except depends from new claim 22)
35	Claim 16 (except depends from new claim 22)
36	Claim 20 (except depends from new claim 35)
37	Claim 17 (except depends from new claim 22)
38	Claim 19 (except depends from new claim 22)
39	Claims 21, 2, 10, & 12; Paragraphs [0029] & [0064]; FIG. 4

Therefore, Applicant respectfully submits that the amendments to the claims do not constitute new matter. Entry and consideration of the amendments to the claims are respectfully requested.

However, all amendments to the claims are made without prejudice; Applicant does not acquiesce in the correctness of the rejections of the claims (or any portion of the rejections of the claims) and reserves the right to present specific arguments regarding any rejected claims not specifically addressed herein. Further, Applicant reserves the right to pursue the full scope of the subject matter of the originally filed claims in the instant application or in a subsequent patent application that claims priority to the instant application.

New claims 22-28 and 31-38 are readable on the invention/species elected in response to the restriction/election of species requirements dated June 14, 2017. Thus, newly added claims 29-30 and 39 are currently withdrawn from consideration as being drawn to a non-elected invention/species.

Applicant respectfully submits that the newly added claims are not anticipated by Rapparini (US 2011/0185911) or Mazzarolo (US 2007/0210091). Applicant notes that the 35 USC § 102(a)(1) rejections over each of the above references did not include original claim 10 or 12; as the subject matter of both original claims 10 and 12 is recited by each of new claims 22-38, Applicant respectfully submits that the 35 USC § 102(a)(1) rejections are not applicable to the newly added claims.

Applicant also respectfully submits that the newly added claims are non-obvious over Rapparini in view of Fond et al. (US 6,025,000). As claim 12 was included in the 35 USC § 103(a) rejection over Rapparini, and as claim 10 was included in the 35 USC § 103(a) rejection over Rapparini in view of Fond et al., Applicant responds herein below to the rejection over Rapparini in view of Fond et al. as potentially applicable to the newly added claims.

The newly added claims are directed to a capsule for the preparation of a beverage in a beverage preparation device. The capsule includes a cup-like body, a cover for closing the cup-like body, and a flange for the cover to seal thereon. The cup-like body is shaped from a paper-based sheet to form a cavity wall containing beverage ingredients and an inner flange portion extending outwardly from the cavity wall; in addition, the paper-based sheet comprises at least

one oxygen barrier layer. The cover is a paper-containing sheet and comprises a gas barrier layer. The flange comprises an outer flange portion formed of moulded polymer-based material comprising at least an annular recess forming an indentation that enables the inner flange portion to be received therein, and the polymer-based material of the outer flange portion to seal at least partially against a lower surface of the inner flange portion oriented in a direction (B) towards the cavity wall and against the outer edge of the inner flange portion. In addition, the flange comprises a relief that is thicker than the rest of the flange and which protrudes in a direction opposite to the direction (B) towards the cavity wall.

The combination of Rapparini and Fond et al. fails to explicitly or implicitly teach multiple limitations recited by the newly added claims. For example (but not by way of limitation), the combination of Rapparini and Fond et al. fails to explicitly or implicitly disclose the following claimed limitations:

- (1) a flange comprising an outer flange portion formed of moulded polymer-based material comprising at least an annular recess forming an indentation that enables the inner flange portion of the body to be received therein and the polymer-based material of the outer flange portion to seal at least partially against a lower surface of the inner flange portion oriented in a direction (B) towards the cavity wall and against the outer edge of the inner flange portion;
- (2) the flange comprising a relief that is thicker than the rest of the flange and which protrudes in a direction opposite to the direction (B) towards the cavity wall;
- (3) the cup-like body being shaped from a paper-based sheet that comprises at least one oxygen barrier layer; and
- (4) the cover being a paper-containing sheet and comprising a gas barrier layer.

The Federal Circuit has held that “[i]n order for a patent to be held invalid for obviousness, every claim limitation of the invention at issue must be found to exist in the prior art references” (see *Velander v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003)). As such,

Applicant respectfully submit that a *prima facie* case of obviousness has not been established because multiple claim limitations were not taught by the prior art combination.

In addition, even if each and every claimed element could be found in the prior art references (which they cannot), the prior art provides no articulated reasoning with some rational underpinning for modifying the prior art as suggested by the Examiner. Rapparini teaches a filtering container that is permeable to liquid (see, for example, the title and abstract thereof); therefore, a person having ordinary skill in the art would find no motivation or reasonable expectation of success in modifying a filtering, permeable container to include oxygen barrier or gas barrier layers; indeed, to modify the container of Rapparini in this manner would render said container defective for its intended purpose.

The Federal Circuit has continually held that simply the presence of each claimed element in the prior art is not sufficient for a finding of obviousness; rather, there must be a reasonable expectation of success in combining the prior art as required to arrive at the present invention. A reasonable expectation of success cannot be found when the prior art teaches away from the combination, thus resulting in a composition that does not work for its intended purpose and/or results in a non-functional composition.

Even assuming that a person of ordinary skill might have some motivation to add a data path to Pickering, the record does not show any reasonable expectation that this significant change would be successful. An invention is not obvious just "because all of the elements that comprise the invention were known in the prior art;" rather a finding of obviousness at the time of invention requires a "plausible rational [sic] as to why the prior art references would have worked together." *Power-One*, 599 F.3d at 1351; *Amgen Inc. v. F. Hoffmann-La Roche, Ltd.*, 580 F.3d 1340, 1362 (Fed. Cir. 2009) ("An obviousness determination requires that a skilled artisan would have perceived a reasonable expectation of success in making the invention in light of the prior art."). Indeed, expert testimony indicated that the proposed combination of Pickering with a data path would not have resulted in the invention of the '150 patent's claim 8 and would not have worked for its intended purpose. Broadcom's expert, Dr. Stojanovic, testified that combining Pickering with a data path function would result in an "unfunctional circuit." J.A. 749-51. The combination of Pickering with a data path would have caused sampling in undefined zones resulting in undefined values. J.A. 750-51. In other words, adding data recovery functionality to Pickering would have defeated the ability to recover data. J.A. 750-51. *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013)(emphasis added)

Rather, Applicant respectfully submits that impermissible hindsight reconstruction has been utilized to arrive at the present claims. The Federal Circuit has continually warned against the use of hindsight reconstruction in an obviousness analysis:

[t]o imbue one of ordinary skill in the art with knowledge of the invention ... when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983).

A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. *KSR Intl'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007)

Therefore, even if each and every claimed element could be found in the prior art references—which they cannot—impermissible hindsight reconstruction has been utilized to arrive at the presently claimed invention, as the prior art provides no articulated reasoning with some rational underpinning for modifying the prior art as suggested by the Examiner. Thus, a *prima facie* case of obviousness has not been established.

For the foregoing reasons, Applicant respectfully submits that newly added claims 22-28 and 31-38 are patentable over the art of record and in a condition for allowance. Applicant respectfully requests favorable action with respect to claims 22-28 and 31-38. In addition, upon allowance of any generic (or product) claim(s), Applicant also respectfully requests reconsideration and withdrawal of the restriction/election of species requirement dated June 14, 2017, as well as rejoinder and reconsideration of all non-elected inventions/species as well as currently withdrawn claims 29-30 and method claim 39, in accordance with the provisions of 37 CFR § 1.141.

Applicant respectfully submits that all of newly added claims 22-39 are patentable over the art of record and in a condition for allowance. Favorable action with respect to claims 22-39 and an expeditious allowance of the subject application are respectfully requested.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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Agent for Applicant

Electronic Patent Application Fee Transmittal				
Application Number:		14901912		
Filing Date:		29-Dec-2015		
Title of Invention:		Capsule For Preparing A Beverage Such As Coffee And The Like		
First Named Inventor/Applicant Name:		David NORDQVIST		
Filer:		Kathryn Lynn Hester/Anne Burns		
Attorney Docket Number:		555910.120 (13301-US-PCT)		
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	1251	1	200	200
Miscellaneous:				
Total in USD (\$)				200

Electronic Acknowledgement Receipt	
EFS ID:	32848364
Application Number:	14901912
International Application Number:	
Confirmation Number:	2919
Title of Invention:	Capsule For Preparing A Beverage Such As Coffee And The Like
First Named Inventor/Applicant Name:	David NORDQVIST
Customer Number:	30589
Filer:	Kathryn Lynn Hester/Anne Burns
Filer Authorized By:	Kathryn Lynn Hester
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Time Stamp:	15:54:19
Application Type:	U.S. National Stage under 35 USC 371

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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	555910120_13301USPCT_sb21_Transmittal_06082018.pdf	57131	no	1
			5085d40bd42ba9427735f6bc99a5a867cb8ec388		
Warnings:					
Information:					
2	Extension of Time	555910120_13301USPCT_AIA2_2_ExtensionofTime_06082018.pdf	54947	no	1
			1e155492d267314b65bc161211b7d610fcae69275		
Warnings:					
Information:					
3		555910120_13301USPCT_AmendmentandResponsetoOfficeAction_06082018.pdf	147856	yes	11
			de0efd092bea77b6b5ae09a7c48a9ed29982ae13		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	11	
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30945	no	2
			e10507fd80bcd5537f904c4a86d849b1c7cf8c2		
Warnings:					
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Total Files Size (in bytes):			290879		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	14/901,912
	Filing Date	December 29, 2015
	First Named Inventor	David Nordqvist
	Art Unit	1792 (conf. no. 2919)
	Examiner Name	Ericson M. Lachica
Total Number of Pages in This Submission	Attorney Docket Number	555910.120 (13301-US-PCT)

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form	☐ Drawing(s)	☐ After Allowance Communication to TC
☒ Fee Attached	☐ Licensing-related Papers	☐ Appeal Communication to Board of Appeals and Interferences
☒ Amendment/Reply	☐ Petition	☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
☐ After Final	☐ Petition to Convert to a Provisional Application	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ Power of Attorney, Revocation	☐ Status Letter
☒ Extension of Time Request	☐ Change of Correspondence Address	☒ Other Enclosure(s) (please identify below):
☐ Express Abandonment Request	☐ Terminal Disclaimer	See Remarks
☐ Information Disclosure Statement	☐ Request for Refund	
☐ Certified Copy of Priority Document(s)	☐ CD, Number of CD(s) _____	
☐ Reply to Missing Parts/Incomplete Application	☐ Landscape Table on CD	
☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	Remarks Electronically Transmitted: June 8, 2018 1) sb21 Transmittal (1 page); 2) AIA22 Extension of Time (1 page); and 3) Amendment and Response to Office Action (11 pages).	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	DUNLAP CODDING, P.C.	
Signature	/kathrynlhester/	
Printed name	Kathryn L. Hester, Ph.D.	
Date	June 8, 2018	Reg. No. 46,768

CERTIFICATE OF TRANSMISSION/MAILING		
I hereby certify that this correspondence is being electronically transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:		
Signature	/kathrynlhester/	
Typed or printed name	Kathryn L. Hester, Ph.D.	Date June 8, 2018

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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