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	restricting the amount of brewing water fed into the brewing chamber per unit of time to such an extent that the brewing water flows through the powder coffee cartridge received in the brewing chamber essentially unpressurized. Schifferle at [0016]: Schematically shown in FIGS. 1 and 2 are the essential elements of the coffee maker according to the invention, namely a fresh water tank 1, a pump 2, a boiler 3, a throttle valve 4, a brewing chamber 5, a beverage outlet 6, a control unit 7 and a selector switch 8. All these elements are mounted inside a schematically indicated housing G. Located below the beverage outlet 6, there is shown a coffee mug 17 for receiving the prepared coffee beverage. The cartridge to be put into the brewing chamber 5 and containing ground coffee is designated by reference numeral 20. In the present example, the bottom 22 of the cartridge 20 is provided with an aperture 25 which is covered by a foil 26 provided at the inside of the bottom 22 of the cartridge 20. Since such a cartridge is primarily suitable for preparing filter coffee, it is designated, in the following, as a filter cartridge 20, while a conventional cartridge having a continuous bottom without any opening is designated as an espresso cartridge. Schifferle at [0018]: Both the lower surface of the closing plate member 11 and the bottom of the cartridge retainer 12 are provided with a punching member 13 and 15, respectively. Thereby, the upper punching member 13 serves for punching the cover 21 of the cartridge 20, while the lower punching member 15 serves for punching the bottom 22 of the cartridge 20. Both punching members 13 and 15, respectively, are located centrally on the closing plate member 11 and the bottom of the cartridge retainer 12, respectively. Moreover, both punching members 13 and 15, respectively, comprise a conically shaped front portion comprising a number of slots 14 and 16, respectively, through which the brewing water can flow into the cartridge 20 and the prepared coffee beverage can flow out of the cartridge 20, respectively.

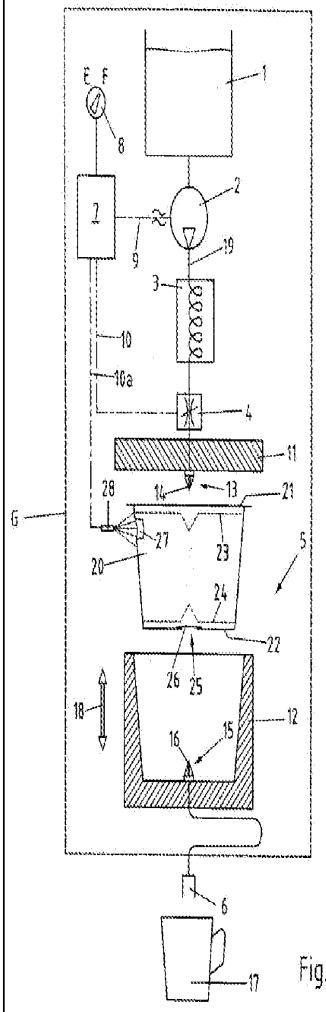
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	Schifferle at [0020]-[0021]: The brewing operation using a cartridge designated for preparing a froth-less coffee beverage, a so-called filter coffee, takes place as follows: The selector switch 8 is manually rotated into the position "F" and the cartridge 20 is inserted into the cartridge retainer 12. Then, the retainer 12 is moved upwards towards the closing plate member 11. Upon completion of this upwards movement (see FIG. 2), both the cartridge cover 21 and the bottom 22 of the cartridge 20, i.e. the foil 26, are punched. Once the upper end position is reached, the closing plate member 11 not only closes the brewing chamber 5, but also presses the cartridge cover 21 against the top end face of the cartridge retainer 12 along an annular contact area, thereby hydraulically sealing the upper portion of the cartridge 20 against the bottom 22 of the cartridge 20. As soon as the brewing chamber 5 is closed, the pump 2 is operated. The amount of brewing water fed into the brewing chamber 5 per unit of time is restricted, as compared to the brewing operation of an espresso coffee, to such an extent that the brewing water flows through the cartridge 20 essentially unpessurized. The flow restriction rate is determined either by a pre-selected, stored value or on the basis of a code contained in the label or marking 27 of the cartridge 20. The flow restriction can be realized either by reducing the flow rate of the pump 2 or by adjusting the throttle valve 4. For reducing the flow rate of the pump 2, in the case of an AC operated pump, a phase controlled modulator or a wave packet controller can be used. As an alternative, the operating frequency of the pump 2 can be changed. It is understood that in practice only one of the measures for reducing the flow rate of the brewing water flowing through the brewing chamber 5 per unit of time is provided, i.e. either means are provided for reducing the flow rate of the pump 2, or a throttle valve 4 is provided for reducing the effective flow cross sectional area. It is further understood that other means for reducing the flow rate of the brewing water flowing through the brewing chamber 5 per unit of time could be provided. Schifferle at Claims 5-6. *See also* [1].

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[redacted]	
7. The method according to claim 1, wherein the method comprises piercing the foil lid in a region that is offset from a central axis of the portion capsule, and wherein the lid is crowned in a region of the central axis of the portion capsule relative to a region of the lid adjacent to the flange.	Schifferle discloses, either expressly or inherently, the method according to claim 1, wherein the method comprises piercing the foil lid in a region that is offset from a central axis of the portion capsule, and wherein the lid is crowned in a region of the central axis of the portion capsule relative to a region of the lid adjacent to the flange. *See, e.g.*: Schifferle at Abstract: The coffee maker for brewing powder coffee contained in a cartridge comprises a brewing chamber adapted to receive the cartridge, at least one punching member for punching the cartridge and a pump for feeding brewing water into the brewing chamber. In order to avoid that the prepared coffee shows froth at its surface, the coffee maker comprises means for restricting the amount of water fed by the pump into the brewing chamber per unit of time. This means ensures that the brewing water flows through the cartridge essentially unpressurized. Schifferle at [0001]: The present invention refers to a coffee maker for brewing coffee powder contained in a cartridge, comprising a brewing chamber adapted to receive a coffee powder cartridge, at least one means for punching the coffee powder cartridge, and a pump for feeding hot brewing water into the brewing chamber. Schifferle at [0011]-[0012]: To meet this and other objects, the invention provides a coffee maker for brewing coffee powder contained in a cartridge, comprising a brewing chamber adapted to receive the coffee powder cartridge, at least one means for punching the coffee powder cartridge, and a pump for feeding hot brewing water into the brewing chamber. Further, means are provided for restricting the amount of brewing water fed into the brewing chamber per unit of time to such

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	an extent that the brewing water flows through the powder coffee cartridge received in the brewing chamber essentially unpressurized. Due to the fact that means are provided for restricting the amount of brewing water fed into the brewing chamber per unit of time to such an extent that the brewing water flows through the powder coffee cartridge received in the brewing chamber essentially unpressurized, the formation of froth on the surface of the coffee beverage can be essentially avoided. Preferably, both the cover and the bottom of the cartridge are punched before the brewing operation is initiated. Schifferle at [0018]: Both the lower surface of the closing plate member 11 and the bottom of the cartridge retainer 12 are provided with a punching member 13 and 15, respectively. Thereby, the upper punching member 13 serves for punching the cover 21 of the cartridge 20, while the lower punching member 15 serves for punching the bottom 22 of the cartridge 20. Both punching members 13 and 15, respectively, are located centrally on the closing plate member 11 and the bottom of the cartridge retainer 12, respectively. Moreover, both punching members 13 and 15, respectively, comprise a conically shaped front portion comprising a number of slots 14 and 16, respectively, through which the brewing water can flow into the cartridge 20 and the prepared coffee beverage can flow out of the cartridge 20, respectively. Schifferle at [0023]-[0024]: Further important is that both the cover 21 of the cartridge 20 and the bottom 22 of the cartridge 20 are punched, i.e. provided with an aperture, before the brewing operation is initiated in order to ensure that no hydraulic pressure build-up can take place, which would lead to the formation of froth in the beverage. As can be further seen in the drawings, the filter cartridge 20 is provided with an upper filter element 23 and a lower filter element 24. Such filter elements 23, 24 favor a consistent flow of the brewing water through the filter cartridge 20 and prevent the coffee powder contained

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	in the cartridge 20 from escaping through the punched out apertures. The filter elements 23, 24 are provided each with a recess directed towards the interior of the cartridge 20 and located in the area where the cover 21 and the bottom 22, respectively, of the cartridge 20 are punched and into which the punching members 13, 15 extend once the cartridge cover 21 and bottom 22 are punched. In order to ensure that the bottom 22 of the cartridge 20 is reliably punched upon closing the brewing chamber 5, a foil 26 is provided which has a low ductility and a low tensile strength as compared to the material of the cartridge itself, such that it easily tears apart under the influence of the lower punching member 15 located at the bottom of the cartridge retainer 12. Schifferle at Claims 1, 4-6. *See also* [1].
[8.pre] The method according to claim 1,	Schifferle discloses, either expressly or inherently, the method according to claim 1. *See, e.g.*: *See* [1].
[8.a] wherein the method comprises controlling a production process of the beverage according to the read barcode,	Schifferle discloses, either expressly or inherently, wherein the method comprises controlling a production process of the beverage according to the read barcode. *See, e.g.*: *See* [1.m].
[8.b] and wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is	Schifferle discloses, either expressly or inherently, that the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located in between the upper section and a bottom of the base element. *See, e.g.*: Schifferle at Abstract:

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located in between the upper section and a bottom of the base element,	The coffee maker for brewing powder coffee contained in a cartridge comprises a brewing chamber adapted to receive the cartridge, at least one punching member for punching the cartridge and a pump for feeding brewing water into the brewing chamber. In order to avoid that the prepared coffee shows froth at its surface, the coffee maker comprises means for restricting the amount of water fed by the pump into the brewing chamber per unit of time. This means ensures that the brewing water flows through the cartridge essentially unpressurized. Schifferle at Fig. 1:

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	 Fig.1 Schifferle at [0016]-[0018]: Schematically shown in FIGS. 1 and 2 are the essential elements of the coffee maker according to the invention, namely a fresh water tank 1, a pump 2, a boiler 3, a throttle valve 4, a brewing chamber 5, a beverage outlet 6, a control unit 7 and a selector switch 8. All these elements are mounted inside a schematically indicated housing G. Located below the

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	beverage outlet 6, there is shown a coffee mug 17 for receiving the prepared coffee beverage. The cartridge to be put into the brewing chamber 5 and containing ground coffee is designated by reference numeral 20. In the present example, the bottom 22 of the cartridge 20 is provided with an aperture 25 which is covered by a foil 26 provided at the inside of the bottom 22 of the cartridge 20. Since such a cartridge is primarily suitable for preparing filter coffee, it is designated, in the following, as a filter cartridge 20, while a conventional cartridge having a continuous bottom without any opening is designated as an espresso cartridge. The brewing chamber 5 comprises an upper closing plate member 11 and a lower cartridge retainer 12. The inner contour of the cartridge retainer 12 essentially corresponds to the outer contour of the filter cartridge 20. In the drawings, both the closing plate member 11 and the cartridge retainer 12 are shown in a cross sectional view. The cartridge retainer 12 is movable in vertical direction, as shown by the double-arrow 18. The means for moving the cartridge retainer up and down, as well as possibly provided means for feeding and removing a cartridge, are not shown since the design thereof is well within the skill of a professional person. Both the lower surface of the closing plate member 11 and the bottom of the cartridge retainer 12 are provided with a punching member 13 and 15, respectively. Thereby, the upper punching member 13 serves for punching the cover 21 of the cartridge 20, while the lower punching member 15 serves for punching the bottom 22 of the cartridge 20. Both punching members 13 and 15, respectively, are located centrally on the closing plate member 11 and the bottom of the cartridge retainer 12, respectively. Moreover, both punching members 13 and 15, respectively, comprise a conically shaped front portion comprising a number of slots 14 and 16, respectively, through which the brewing water can flow into the cartridge 20 and the prepared coffee beverage can flow out of the cartridge 20, respectively.
[8.c] wherein the upper section comprises a circumferential border and the wall of the lower section is	

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angled, with respect to the upper section, and is tapered towards a bottom of the base element.	
[10.pre] A method of using a portion capsule for making a coffee beverage, the method comprising:	Schifferle discloses, either expressly or inherently, a method of using a portion capsule for making a coffee beverage. *See, e.g.*: *See* [1].
[10.a] providing an apparatus including a barcode reader, the apparatus having a pump and being adapted to supply heated water;	Schifferle discloses, either expressly or inherently, providing an apparatus including a barcode reader. *See, e.g.*: *See* [1.a].
[10.b] the apparatus having a pump and being adapted to supply heated water;	Schifferle discloses, either expressly or inherently, the apparatus having a pump and being adapted to supply heated water. *See, e.g.*: *See* [1.b].
[10.c] inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity within which a powdered coffee material is located,	Schifferle discloses, either expressly or inherently, inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity within which a powdered coffee material is located. *See, e.g.*: *See* [1.c].
[10.d] the base element including a circumferential flange having a top side	Schifferle discloses, either expressly or inherently, the base element including a circumferential flange having a top side. *See, e.g.*:

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	See [1.d].
[10.e] and a bottom side with a barcode located on the bottom side,	Schifferle discloses, either expressly or inherently, a bottom side with a barcode located on the bottom side. *See, e.g.*: *See* [1.e].
[10.f] the portion capsule being free of a filter	Schifferle discloses, either expressly or inherently, the portion capsule being free of a filter. *See, e.g.*: *See* [1.i].
[10.g] and comprising a plurality of ribs that are radially spaced, vertically oriented and extend toward a central portion of the cavity, wherein an outer surface of the base element comprises radially spaced and vertically oriented grooves;	
[10.h] piercing the foil lid;	Schifferle discloses, either expressly or inherently, piercing the foil lid. *See, e.g.*: *See* [1.k].
[10.i] reading the barcode with the barcode reader; and	Schifferle discloses, either expressly or inherently, reading the barcode with the barcode reader. *See, e.g.*: *See* [1.l].
[10.j] activating the pump to introduce the heated water into the	Schifferle discloses, either expressly or inherently, activating the pump to introduce the heated water into the portion capsule only upon a determination that the read barcode agrees

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portion capsule only upon a determination that the read barcode agrees with a stored reference, or not activating the pump upon a determination that the read barcode does not agree with the stored reference.	with a stored reference, or not activating the pump upon a determination that the read barcode does not agree with the stored reference. *See, e.g.*: *See* [1.m] and [2].
11. The method according to claim 10, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element comprises an electrically conductive section.	Schifferle discloses, either expressly or inherently, the method according to claim 10, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element comprises an electrically conductive section. *See, e.g.*: *See* [1.f], [3].
14. The method according to claim 10, wherein the method comprises dropping the portion capsule into a dropping box, wherein the base element and/or the lid are made of metal.	
[16.pre] The method according to claim 10,	Schifferle discloses, either expressly or inherently, the method according to claim 10. *See, e.g.*:

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	See [10].
[16.a] wherein the method comprises sealing a seal of the apparatus against the foil lid	Schifferle discloses, either expressly or inherently, wherein the method comprises sealing a seal of the apparatus against the foil lid. *See, e.g.*: *See* [5].
[16.b] wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located between the upper section and a bottom of the base element	Schifferle discloses, either expressly or inherently, wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located between the upper section and a bottom of the base element. *See, e.g.*: *See* [8.b].
[16.c] wherein the upper section comprises a circumferential border and the wall of the lower section is angled, with respect to the upper section, and is tapered towards a bottom of the base element.	

Exhibit C-9 – Invalidity of U.S. Patent No. 10,870,531 in view of Yoakim

INVALIDITY CLAIM CHART
Invalidity of U.S. Patent No. 10,858,531 in view of Yoakim

According to its cover page, U.S. Patent Pub. 2010/0239734 (Yoakim) was published on September 23, 2010 from an application filed on May 7, 2010. Yoakim therefore constitutes prior art under pre-AIA 35 U.S.C. § 102(e). Yoakim anticipates and/or renders obvious the Asserted Claims of the '176 Patent (at least as Nespresso understands K-fee's application of the Asserted Claims in an effort to show infringement).

To the extent K-fee argues that any element below is not disclosed by Yoakim, a person of ordinary skill in the art would have found it obvious to combine the teachings of Yoakim with the background knowledge of a person of ordinary skill in the art and/or the additional references, and exemplary teachings, set forth in Exhibits C-1 to C-9 and in Appendix C.

The chart below provides representative examples of where each element of each claim is found within Yoakim. Citations are meant to be exemplary, not exhaustive, and Nespresso reserves the right to identify and discuss additional portions of the reference in support of its contentions and/or to rebut arguments made by K-fee. Citations to figures, drawings, tables, and the like include reference to any accompanying or related text. All internal cross references are meant to incorporate the cross-referenced material as if fully set forth therein.

It is Nespresso's position that K-fee's Infringement Contentions have not established that any accused product or service infringes any valid claim. Thus, Nespresso's statements below should not be treated as an admission, implication, or suggestion that Nespresso agrees with K-fee regarding either the scope, construction, or interpretation of any of the Asserted Claims, or the infringement theories advanced by K-fee in its Infringement Contentions, including whether any Asserted Claim satisfies 35 U.S.C. §§ 101 or 112. In certain cases, Nespresso specified non-limiting examples of where its application of the prior art is based on K-fee's apparent application of the claim element. These statements are not intended to suggest that Nespresso agrees with K-fee's application of any claim term, suggest a proposed construction at this stage of the case, or suggest that construction is needed, as the parties are not required to exchange terms for construction or proposed constructions until a later date.

K-fee has yet to identify any limitation of the Asserted Claims that it contends is not anticipated and/or rendered obvious by Yoakim. Nespresso therefore expressly reserves the right to respond to any such contention, including by identifying additional obviousness combinations, if K-fee makes any such contention.

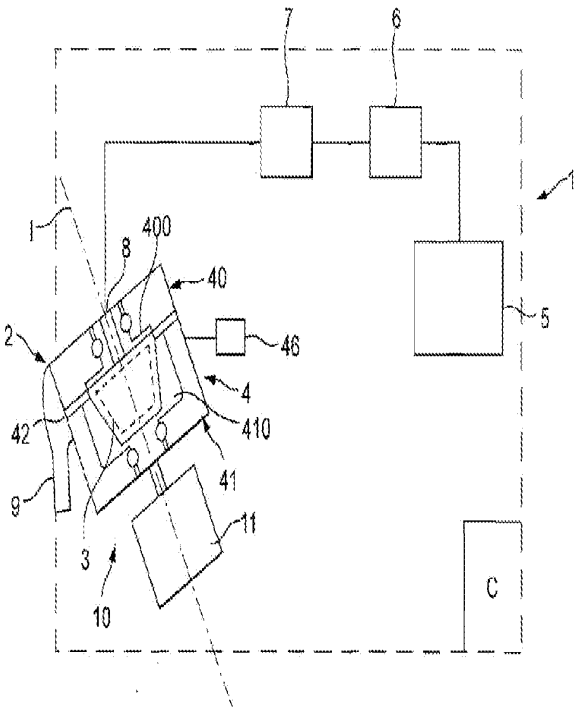
Where Nespresso states that Yoakim discloses a limitation, that disclosure may be express, implicit, and/or inherent.

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Exhibit C-9 – Invalidity of U.S. Patent No. 10,870,531 in view of Yoakim

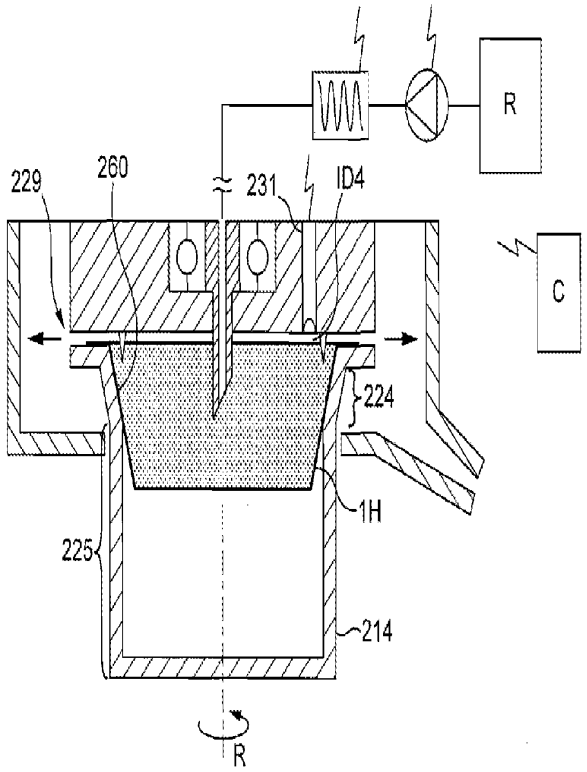
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[1.pre] A method of using a portion capsule for producing a beverage, the method comprising:	Yoakim discloses, either expressly or inherently, a method of using a portion capsule for producing a beverage. *See, e.g.*: Yoakim at [0002]: The present invention relates to a capsule, device, system, and method for preparing a beverage or food liquid from a food substance which is brewed or extracted by using centrifugal forces exerted on a capsule which contains the substance. Yoakim at [0139]-[0144]: The invention also concerns a system for preparing a beverage or food liquid from a food substance contained in a filtering receptacle by passing water through the substance using centrifugal forces . . . wherein the system further comprises referencing means for positioning and referencing the capsule in a removable manner in the device and in operational relationship with the water feed means and along an axis of rotation along the driving means. Yoakim at [0180]: The system 1 of the invention is illustrated in FIG. 1 in the more general sense. The system comprises a device 2 and a capsule 3. The device has a brewing module 4 into which the capsule can be inserted for being brewed and is removed after use for being discarded (e.g., for waste or recycling). The module is in fluid communication with a water reservoir 5 containing fresh or, alternatively heated water. A fluid transport means such as a low pressure pump 6 can be provided in the water circuit to transport water from the reservoir to the module. A water heater 7 is further provided to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporization. Water can be fed into the module 4 at low or substantially no pressure. For example, a pressure between 0 and 2 bars above atmospheric pressure can be envisaged at the inlet 8 of the module.

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	See, e.g., FIG. 1:  FIG. 1
[1.a] providing an apparatus including a barcode reader,	Yoakim discloses, either expressly or inherently, providing an apparatus including a barcode reader. *See, e.g.*: Yoakim at [0025]: The device is useful for preparing beverages from a plurality of different capsules, in which case it further comprises identification means for identifying the different capsules, and control

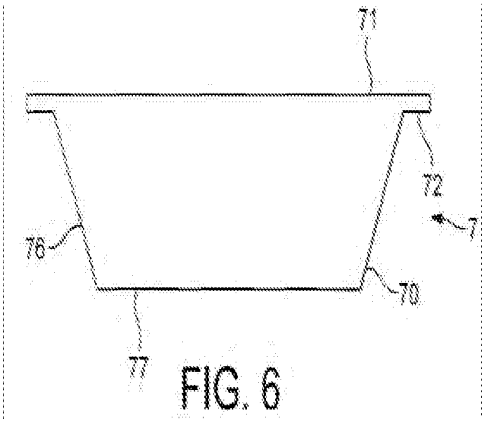
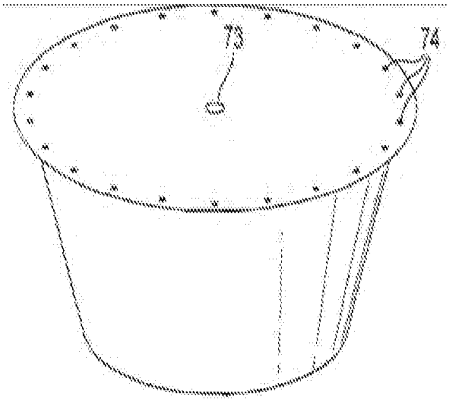
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	means capable of operating the device in centrifugation for any of the different capsules according to predetermined liquid food preparation parameters including the flow rate and the volume of liquid to be injected into the capsule, with the identification means comprising capsule recognition means which are recognized by sensing means connected to the control means of the device to control the preparation parameters accordingly. Yoakim at [0192]: Therefore, as much as two, three, four or even more different flow rates and/or speed ranges can be provided in function of the types of coffee to be delivered. Therefore, depending on the types of beverage to be brewed, the control unit can be programmed to adjust the optical centrifugal conditions. For instance, the control unit may be associated to a capsule recognition system enabling to recognize the types of capsules, i.e., espresso, lungo, cappuccino, long coffee (e.g., 180-400 ml), latte, tea, etc., and to adjust the speed and/or other brewing parameters (e.g., water temperature) according the capsule which is inserted in the device. A recognition system uses a code on the capsule and recognized by the device, such as a color, a barcode, an RFID, a magnetic code, ferromagnetic micro-wires or labels, shapes and combinations thereof. Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. The adjustable parameters can be the rotational speed, the back-pressure at the outlet of the capsule, and/or the volume of liquid fed in the capsule. The identification means participates to deliver a wider range of beverages having differentiated characteristics (volume, taste, strength, crema, colour, etc.). The identification means are associated to control means placed in the centrifugal brewing device which controls the adjustment of the said parameters, by controlling the rotational motor driving the capsule holder or/and the pump supplying liquid in the capsule. Yoakim at [0494]-[0496]:

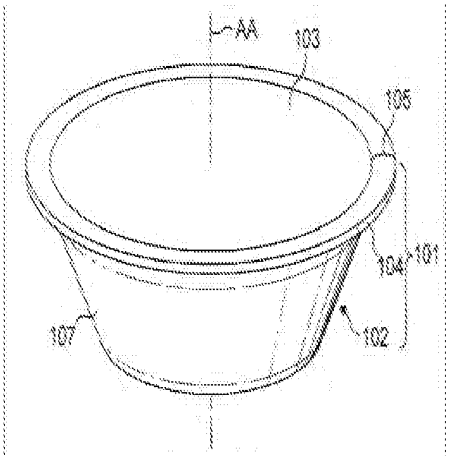
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	The identification means can be sensed by sensing means connected to the control means for an active control of the parameters or can be passive identification means, e.g., selective flow restriction means. In particular, the identification means comprises capsule recognition means which are recognized by the sensing means connected to the control means of the brewing device which controls the brewing parameters accordingly. The recognition means can be differentiable by a visual code such as a barcode, a colour, a sign, a logo, etc., or by a radio-frequency (RFID), a magnetic element or by an identifiable shape. Yoakim at [0525]: In an alternative illustrated in FIGS. 61 and 62, the identification means are directly associated to the different capsules. In this case, the identification means ID4 and ID5 are capsule recognition means attached to or embedded in the capsules. The recognition means can be any mechanical, optical, magnetic, or radio-frequency recognition means capable of delivering information to the brewing device, via a sensing device 231, as to which type of capsule is inserted in the device. For example, the recognition means is a barcode, a colour code, a RFID tag, a magnetically sensitive element, or a mechanical key or shape.

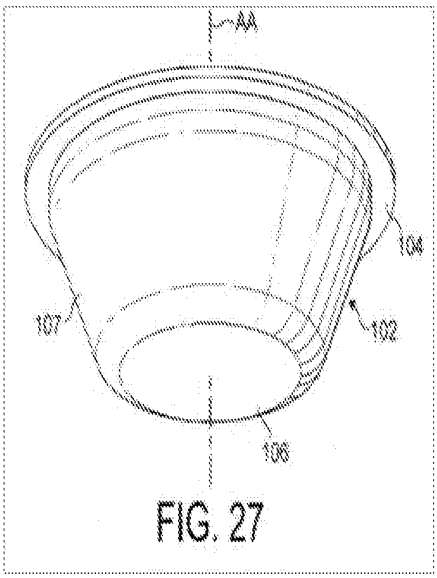
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	Yoakim at FIG. 61:  FIG. 61
[1.b] the apparatus including a pump adapted to supply heated water;	Yoakim discloses, either expressly or inherently, the apparatus including a pump adapted to supply heated water. *See, e.g.*: Yoakim at [0180]: The module is in fluid communication with a water reservoir 5 containing fresh or, alternatively heated water. A fluid transport means such as a low pressure pump 6 can be

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	provided in the water circuit to transport water from the reservoir to the module. A water heater 7 is further provided to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporization. Water can be fed into the module 4 at low or substantially no pressure. For example, a pressure between 0 and 2 bars above atmospheric pressure can be envisaged at the inlet 8 of the module.
[1.c] inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity in which a beverage raw material is provided,	Yoakim discloses, either expressly or inherently, inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity in which a beverage raw material is provided. *See, e.g.*: Yoakim at [0125]: The food substance in the capsule can be ground coffee powder, soluble coffee, tea, chocolate, whitener, flavours, and combinations thereof. Yoakim at [0128]: The capsule can comprise a sealing lid. The sealing lid can comprise a flexible membrane. The membrane can comprise gas barrier and support layers made of polymers, aluminium, and/or aluminium alloys. Yoakim at [0129]: The capsule can also comprise a cup-shaped body onto which the sealing lid is sealed. The cup-shaped body may also comprise gas barrier materials, such as metal, e.g., thin aluminium and/or plastic. Yoakim at [0180]: The system 1 of the invention is illustrated in FIG. 1 in the more general sense. The system comprises a device 2 and a capsule 3. The device has a brewing module 4 into which the capsule

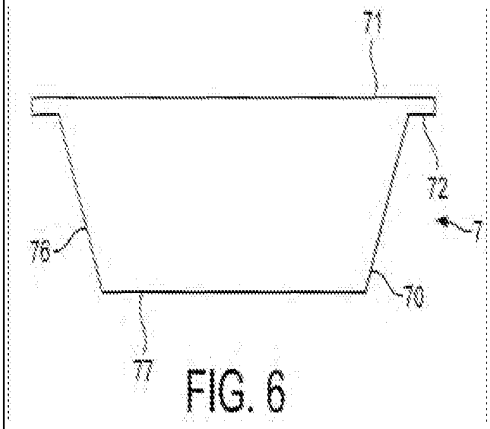
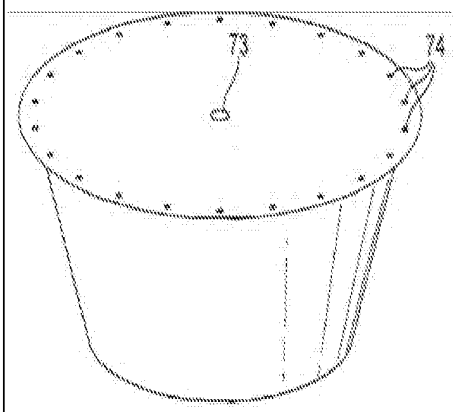
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	can be inserted for being brewed and is removed after use for being discarded (e.g., for waste or recycling Yoakim at [0197]: FIGS. 6 and 7 illustrate a capsule that can suit the device according to the different embodiments of FIGS. 2 to 5. In FIG. 6, the capsule 7 comprises a cup-shaped body 70 with upwardly oriented sidewall 76 and a bottom wall 77. The sidewall forms a portion of cone which promotes the collection of the brewed liquid internally. The body terminates by an upper edge 72 raising outwards onto which is sealed a lid 71. The lid may be a flexible pierceable membrane of several microns in aluminium and/or plastic. The lid can be welded on the upper edges 72 of the body. It can be pointed out that the membrane and body preferably comprise gas barrier layers such as aluminium and/or EVOH. Yoakim at [0198]: The capsule contains a substance chosen among the list consisting of ground coffee, soluble coffee, tea, a whitener such as dairy or non-dairy ingredient(s), herbal tea, nutritional substance, culinary ingredients and a mixture thereof. Yoakim at [0219]: The invention also relates to a food liquid preparation device for preparing a food liquid from a food substance contained in a single-use capsule, removably insertable in the device

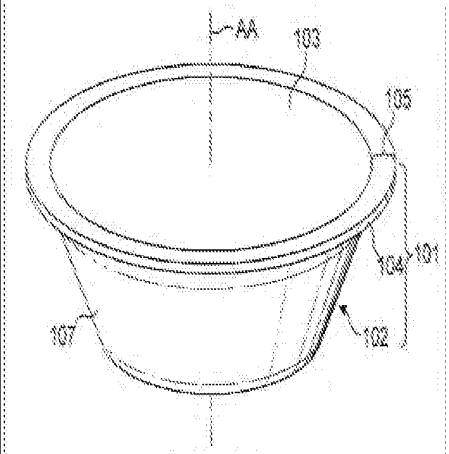
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	See, e.g., FIGS. 6-7:  FIG. 6  FIG. 7 Yoakim at [0414]:

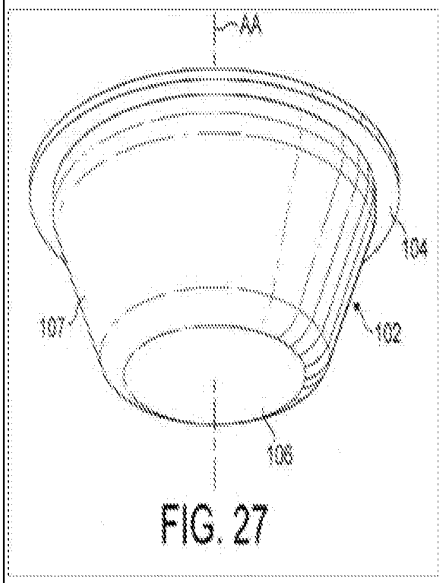
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	As shown in FIGS. 26 and 27, a preferred capsule 101 of the invention generally comprises a dished body 102 onto which is sealed a sealing foil 103. The sealing foil 103 is sealed onto a peripheral rim 104 of the body at a sealing annular portion 105. The rim 104 can extend outwards forming a small annular portion, e.g., of about 2-5mm. The dished body comprises a bottom wall 106 and a side wall 107 which preferably widens in direction of the large open end of the body opposed to the bottom wall. The dished body is preferably rigid or semi-rigid. It can be formed of a food grade plastics, e.g., polypropylene, with a gas barrier layer such as EVOH and the like or aluminium alloy or a complex of plastic and aluminium alloy. The sealing foil 103 can be made of a thinner material such as a plastic laminate also including a barrier layer or aluminium alloy or a combination of plastic and aluminium alloy. The sealing foil is usually of a thickness between 30 and 250 microns, for example. The sealing foil membrane can be pierced for creating the water inlet and the beverage outlet(s) as will be described later in the description. *See, e.g.*, FIGS. 26 and 27:  FIG. 26

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	 FIG. 27 Yoakim at [0461]: FIGS. 45 to 50 are other variants of capsules according to the invention. For example, the capsule of FIG. 45 has a cylindrical side wall 700, an upper wall 701 and a lower wall 702 both sealed or connected to the sidewall 700. The capsule is gastight by choosing materials for the walls, e.g., aluminium and/or suitable plastics, which have gas barrier properties. The upper walls and lower walls can be flexible or rigid depending on said materials. For example, wall 701 can be a flexible sealing membrane welded on upper rim 703 of the body 705 forming the sidewall 700 and lower wall 702. The side wall 700 may comprise outlets 704, 706 for release of the liquid when centrifuged in the beverage preparation device around central axis AA of the capsule. Optionally, the capsule may comprise a filter part 708 delimiting the cavity 709 for the substance and a collecting recess 710 peripherally placed relative to the central cavity.
[1.d] the base element comprising a flange, the flange having a top side to which the foil lid is sealed.	Yoakim discloses, either expressly or inherently, the base element comprising a flange, the flange having a top side to which the foil lid is sealed.. *See, e.g.*:

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	Yoakim at [0129]: The capsule can also comprise a cup-shaped body onto which the sealing lid is sealed. The cup-shaped body may also comprise gas barrier materials, such as metal, e.g., thin aluminium and/or plastic. Yoakim at [0197]: FIGS. 6 and 7 illustrate a capsule that can suit the device according to the different embodiments of FIGS. 2 to 5. In FIG. 6, the capsule 7 comprises a cup-shaped body 70 with upwardly oriented sidewall 76 and a bottom wall 77. The sidewall forms a portion of cone which promotes the collection of the brewed liquid internally. The body terminates by an upper edge 72 raising outwards onto which is sealed a lid 71. The lid may be a flexible pierceable membrane of several microns in aluminium and/or plastic. The lid can be welded on the upper edges 72 of the body. It can be pointed out that the membrane and body preferably comprise gas barrier layers such as aluminium and/or EVOH. *See, e.g.*, FIGS. 6-7:

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	 FIG. 6  FIG. 7 Yoakim at [0414]: As shown in FIGS. 26 and 27, a preferred capsule 101 of the invention generally comprises a dished body 102 onto which is sealed a sealing foil 103. The sealing foil 103 is sealed onto a peripheral rim 104 of the body at a sealing annular portion 105. The rim 104 can extend

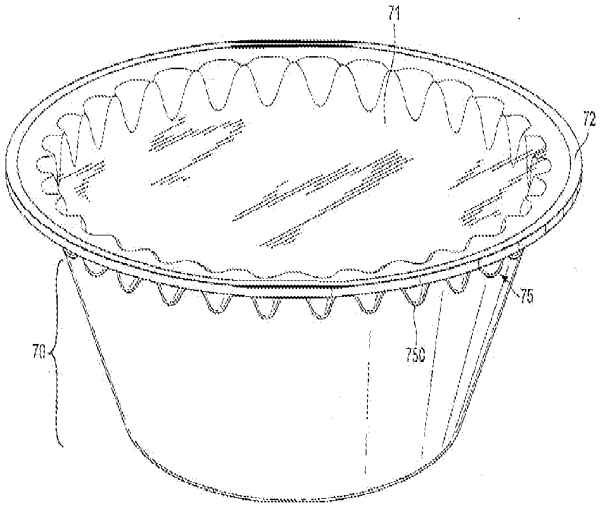
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	outwards forming a small annular portion, e.g., of about 2-5mm. The dished body comprises a bottom wall 106 and a side wall 107 which preferably widens in direction of the large open end of the body opposed to the bottom wall. The dished body is preferably rigid or semi-rigid. It can be formed of a food grade plastics, e.g., polypropylene, with a gas barrier layer such as EVOH and the like or aluminium alloy or a complex of plastic and aluminium alloy. The sealing foil 103 can be made of a thinner material such as a plastic laminate also including a barrier layer or aluminium alloy or a combination of plastic and aluminium alloy. The sealing foil is usually of a thickness between 30 and 250 microns, for example. The sealing foil membrane can be pierced for creating the water inlet and the beverage outlet(s) as will be described later in the description. *See, e.g.*, FIGS. 26 and 27:  FIG. 26

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	 FIG. 27
[1.e] and an opposing bottom side with a barcode located on the bottom side,	Yoakim discloses, either expressly or inherently, an opposing bottom side with a barcode located on the bottom side. *See, e.g.*: Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. Yoakim at [0496]: The recognition means can be differentiable by a visual code such as a barcode, a colour, a sign, a logo, etc., or by a radio-frequency code (RFID), a magnetic element or by an identifiable shape.

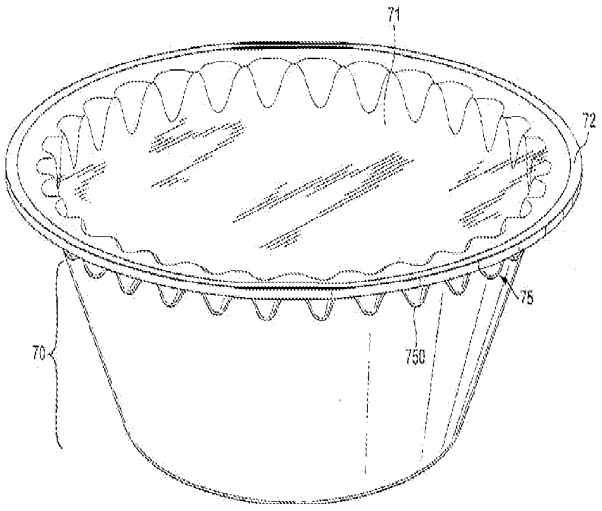
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[1.f] the base element has a wall region with an electrically conductive section	Yoakim discloses, either expressly or inherently, the base element has a wall region with an electrically conductive section. *See, e.g.*: Yoakim at [0129]: The capsule can also comprise a cup-shaped body onto which the sealing lid is sealed. The cup-shaped body may also comprise gas barrier materials, such as metal, e.g., thin aluminium and/or plastic. Yoakim at [0215]: The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. Yoakim at [0461]: FIGS. 45 to 50 are other variants of capsules according to the invention. For example, the capsule of FIG. 45 has a cylindrical side wall 700, an upper wall 701 and a lower wall 702 both sealed or connected to the sidewall 700. The capsule is gastight by choosing materials for the walls, e.g., aluminium and/or suitable plastics, which have gas barrier properties. *See also, e.g.,* Yoakim at [0414].
[1.g] and radially spaced and vertically oriented grooves,	Yoakim discloses, either expressly or inherently, radially spaced and vertically oriented grooves. *See, e.g.*: Yoakim at [0161]: In yet another embodiment, the surface of the capsule comprises a toothed structure. Yoakim at [0215]:

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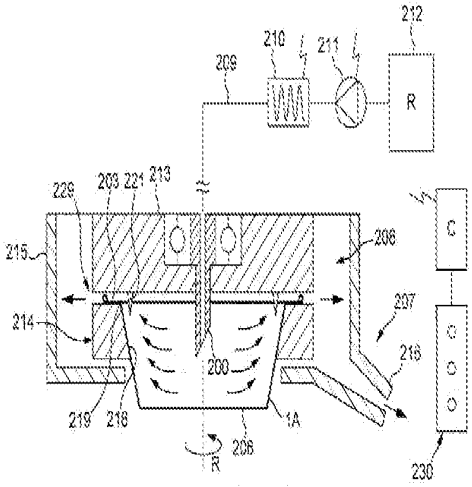
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	FIG. 23 illustrates another capsule of the invention. The capsule comprises means for connecting it to the external rotational driving means of the device. For this, capsule has a toothed structure 75 on at least one of its outer surface. The capsule has a body 70 comprising an upper edge 72 which can be closed by an upper membrane 71. The toothed structure comprises a series of teeth which is positioned below the edge or rim 72 of the body of the capsule. The teeth are placed along the whole periphery of the body of the capsule. The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. For example, the shape of the teeth could be slightly triangular, oval, rectangular or pyramidal. It should be noticed that the teeth could be replaced by other equivalent structures such as series of elements in relief and/or hollow. For example, slits, pins or small needles can be envisaged. Yoakim at [0216]: The device itself that receives the capsule of FIG.23 comprises a toothed surface of complementary shape. FIG. 24 shows a capsule holder 44 adapted to receive the capsule of FIG. 23. The capsule holder has a cavity into which are provided hollow teeth 440. The hollow teeth are arranged to fit the teeth 750 on the outer surface of the capsule. Yoakim at FIG. 23:

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	 FIG. 23
[1.h] the cavity has radially spaced and vertically oriented ribs,	Yoakim discloses, the cavity has radially spaced and vertically oriented ribs. *See, e.g.*: Yoakim at [0161]: In yet another embodiment, the surface of the capsule comprises a toothed structure. Yoakim at [0215]: FIG. 23 illustrates another capsule of the invention. The capsule comprises means for connecting it to the external rotational driving means of the device. For this, capsule has a toothed structure 75 on at least one of its outer surface. The capsule has a body 70 comprising an upper edge 72 which can be closed by an upper membrane 71. The toothed structure comprises a series of teeth which is positioned below the edge or rim 72 of the body of the capsule. The teeth are placed along the whole periphery of the body of the capsule. The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. For example, the shape of the

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	teeth could be slightly triangular, oval, rectangular or pyramidal. It should be noticed that the teeth could be replaced by other equivalent structures such as series of elements in relief and/or hollow. For example, slits, pins or small needles can be envisaged. Yoakim at [0216]: The device itself that receives the capsule of FIG.23 comprises a toothed surface of complementary shape. FIG. 24 shows a capsule holder 44 adapted to receive the capsule of FIG. 23. The capsule holder has a cavity into which are provided hollow teeth 440. The hollow teeth are arranged to fit the teeth 750 on the outer surface of the capsule. Yoakim at FIG. 23:  FIG. 23

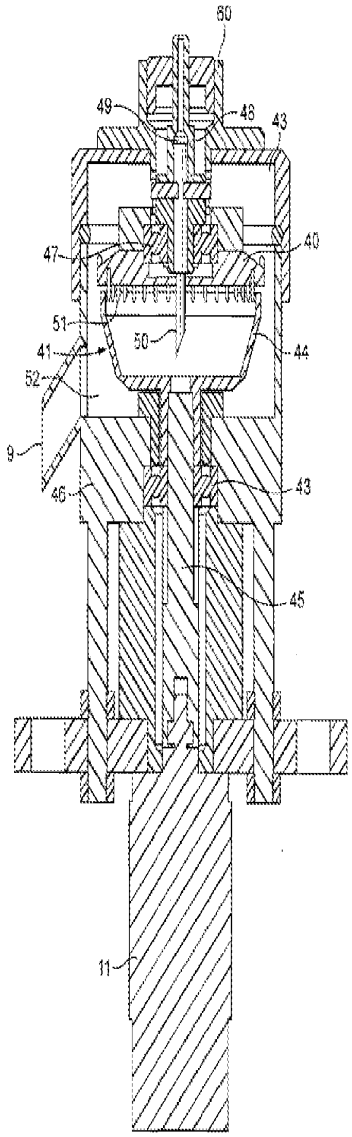
U.S. Patent No. 10,870,531	Disclosure
[1.i] the portion capsule being free of a filter,	Yoakim discloses, either expressly or inherently, the portion capsule being free of a filter. *See, e.g.*: Yoakim at [0171]: In this mode, premade radial outlets for the brewed liquid are provided in the capsule. For instance, a series of slits are provide in the lid and/or body. When the capsule is driven in rotation, the brewed liquid can pass through the slits whereas the solid particles are retained in the capsule. An additional filtering layer can be used to filter the liquid depending on the size of the outlets. Yoakim at [0288]: The capsule may comprise a filter means to filter the centrifuged before the liquid is released from the outlets at the sidewall. Yoakim at [0343]: In a possible mode, the portion of wall with the outlet openings can be formed from a paper filter or woven, non-woven fibres, meshed material, porous polymer membrane or combination thereof. In this case, part of the portion of wall can be formed by a band or different parts of the filter, fibres or meshed material. . . . Yoakim at [0461]: FIGS. 45 to 50 are other variants of capsules according to the invention. For example, the capsule of FIG. 45 has a cylindrical side wall 700, an upper wall 701 and a lower wall 702 both sealed or connected to the sidewall 700. The capsule is gastight by choosing materials for the walls, e.g., aluminium and/or suitable plastics, which have gas barrier properties. The upper walls and lower walls can be flexible or rigid depending on said materials. For example, wall 701 can be a flexible sealing membrane welded on upper rim 703 of the body 705 forming the sidewall 700 and lower wall 702. The side wall 700 may comprise outlets

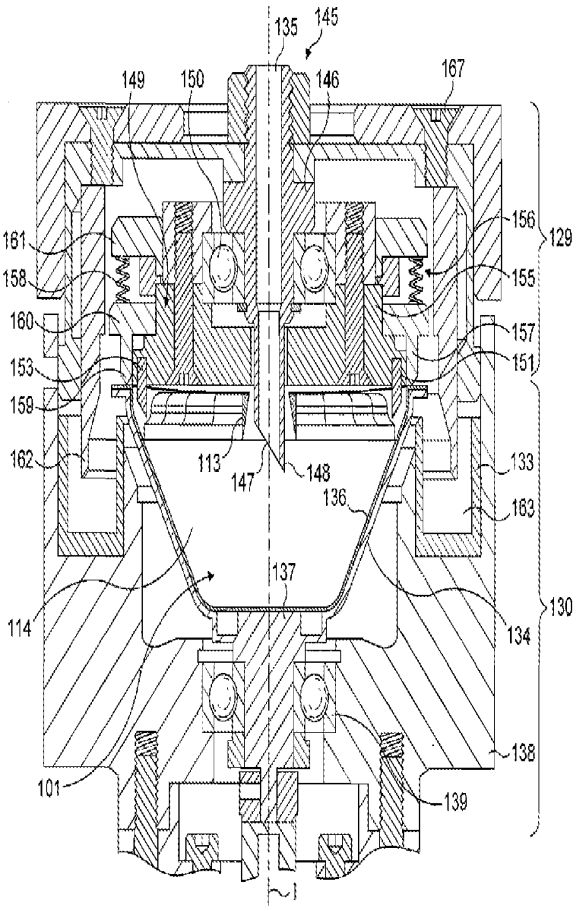
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	704, 706 for release of the liquid when centrifuged in the beverage preparation device around central axis AA of the capsule. Optionally, the capsule may comprise a filter part 708 delimiting the cavity 709 for the substance and a collecting recess 710 peripherally placed relative to the central cavity. Yoakim at FIG. 54:  FIG. 54
[1.j] the base element and/or the lid are made of metal;	Yoakim discloses, either expressly or inherently, the base element and/or the lid are made of metal. *See, e.g.*: Yoakim at [0128]:

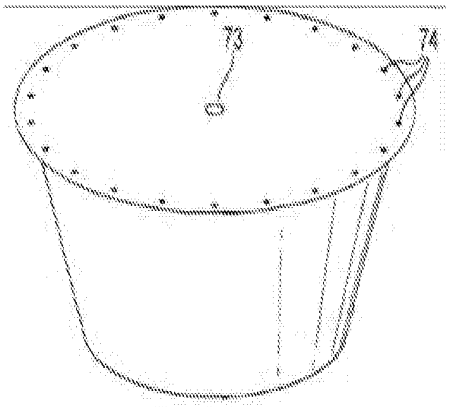
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	The capsule can comprise a sealing lid. The sealing lid can comprise a flexible membrane. The membrane can comprise gas barrier and support layers made of polymers, aluminium and/or aluminium alloys. Yoakim at [0129]: The capsule can also comprise a cup-shaped body onto which the sealing lid is sealed. The cup-shaped body may also comprise gas barrier materials, such as metal, e.g., thin aluminium and/or plastic. Yoakim at [0215]: The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. Yoakim at [0461]: FIGS. 45 to 50 are other variants of capsules according to the invention. For example, the capsule of FIG. 45 has a cylindrical side wall 700, an upper wall 701 and a lower wall 702 both sealed or connected to the sidewall 700. The capsule is gastight by choosing materials for the walls, e.g., aluminium and/or suitable plastics, which have gas barrier properties.
[1.k] piercing the foil lid;	Yoakim discloses, either expressly or inherently, piercing the foil lid. *See, e.g.*: Yoakim at [0186]: At the inside surface of the injection lid 40 is placed a piercing structure 450 which has the function of piercing the injection side 30 of the capsule. A water injector or lance 50 is provided which traverses the injection side 30 and which comprises an injection conduit for carrying

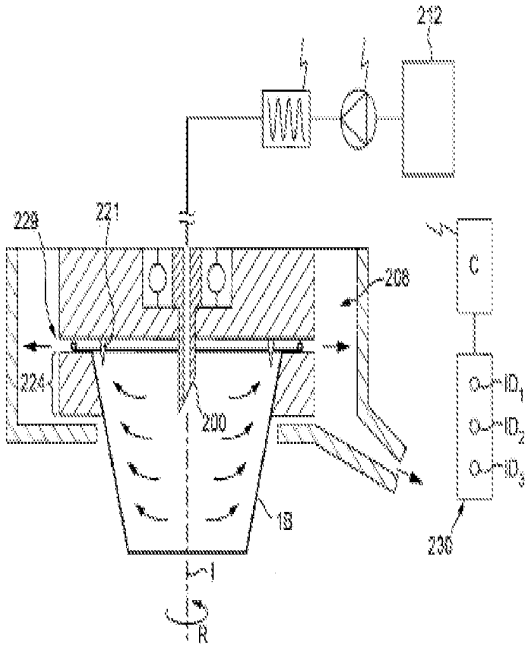
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	water from the water circuit into the capsule. The water injector 50 is preferably located in the center of the capsule. Yoakim at [0187]: A series of needles 51 . . . positioned on the side of the lid 40 to form small perforations at the periphery of the upper side of the capsule. Yoakim at [0435]: About the water injector is mounted a capsule rotary engaging part 149. The engaging part 149 has a central bore for receiving the water injector and rotational guiding means such as a ball or needle bearing 150 inserted between the part 149 and the injector 145. The engaging part further comprises outlet piercing members 151,152, 153, 154 protruding from a disc-shaped engaging wall 155 of the part 149. The piercing members can be small cylindrical portions with a slanted cutting surface able to cut or perforate small holes in the sealing foil 103 of the capsule. The piercing members are arranged at the periphery of the wall 155, preferably evenly distributed to provide several openings in the capsule for the centrifuged liquid to leave the capsule forming several streams of liquid. . . .

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	Yoakim at FIG. 4:  FIG. 4

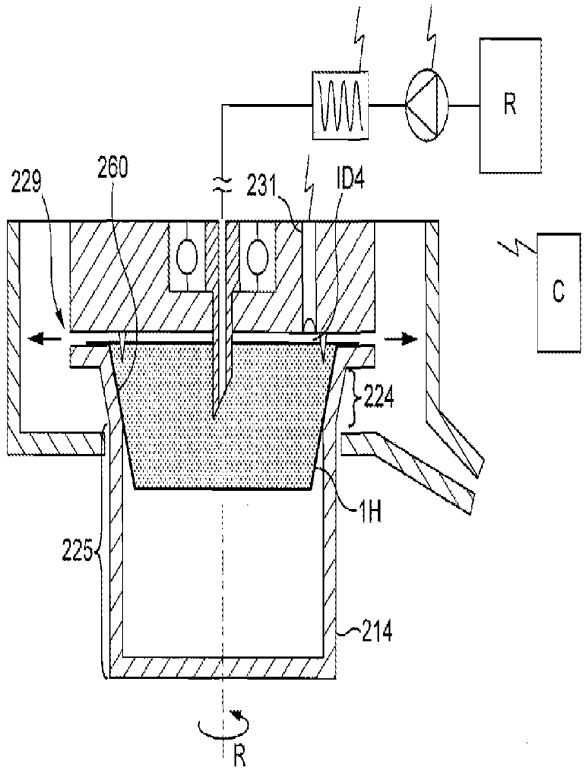
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	Yoakim at FIG. 35:  FIG. 35 Yoakim at [0507]:

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	. . . .The assembly 213 comprises a central injection needle 200 capable of being introduced precisely along the axis of rotation I of the capsule. At its periphery the interface assembly 213 can comprise a series of outlet perforators 221 for allowing centrifuged beverage to leave the capsule through the peripheral outlet 229 between the capsule holder 214 and the interface assembly 213. . . . Yoakim at FIG. 7:  FIG. 7 Yoakim at FIG. 55:

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	 FIG. 55
[1.l] reading the barcode with the barcode reader;	Yoakim discloses, either expressly or inherently, reading the barcode with the barcode reader. *See, e.g.*: Yoakim at [0025]: The device is useful for preparing beverages from a plurality of different capsules, in which case it further comprises identification means for identifying the different capsules, and control means capable of operating the device in centrifugation for any of the different capsules according to predetermined liquid food preparation parameters including the flow rate and the volume of liquid to be injected into the capsule, with the identification means comprising

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	capsule recognition means which are recognized by sensing means connected to the control means of the device to control the preparation parameters accordingly. Yoakim at [0192]: Therefore, as much as two, three, four or even more different flow rates and/or speed ranges can be provided in function of the types of coffee to be delivered. Therefore, depending on the types of beverage to be brewed, the control unit can be programmed to adjust the optical centrifugal conditions. For instance, the control unit may be associated to a capsule recognition system enabling to recognize the types of capsules, i.e., espresso, lungo, cappuccino, long coffee (e.g., 180-400 ml), latte, tea, etc., and to adjust the speed and/or other brewing parameters (e.g., water temperature) according the capsule which is inserted in the device. A recognition system uses a code on the capsule and recognized by the device, such as a color, a barcode, an RFID, a magnetic code, ferromagnetic micro-wires or labels, shapes and combinations thereof. Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. Yoakim at [0496]: The recognition means can be differentiable by a visual code such as a barcode, a colour, a sign, a logo, etc., or by a radio-frequency code (RFID), a magnetic element or by an identifiable shape. Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. The adjustable parameters can be the rotational speed, the back-pressure at the outlet of the capsule, and/or the volume of liquid fed in the capsule. The identification means participates

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	to deliver a wider range of beverages having differentiated characteristics (volume, taste, strength, crema, colour, etc.). The identification means are associated to control means placed in the centrifugal brewing device which controls the adjustment of the said parameters, by controlling the rotational motor driving the capsule holder or/and the pump supplying liquid in the capsule. Yoakim at [0494]-[0496]: The identification means can be sensed by sensing means connected to the control means for an active control of the parameters or can be passive identification means, e.g., selective flow restriction means. In particular, the identification means comprises capsule recognition means which are recognized by the sensing means connected to the control means of the brewing device which controls the brewing parameters accordingly. The recognition means can be differentiable by a visual code such as a barcode, a colour, a sign, a logo, etc., or by a radio-frequency (RFID), a magnetic element or by an identifiable shape. Yoakim at [0525]: In an alternative illustrated in FIGS. 61 and 62, the identification means are directly associated to the different capsules. In this case, the identification means ID4 and ID5 are capsule recognition means attached to or embedded in the capsules. The recognition means can be any mechanical, optical, magnetic, or radio-frequency recognition means capable of delivering information to the brewing device, via a sensing device 231, as to which type of capsule is inserted in the device. For example, the recognition means is a barcode, a colour code, a RFID tag, a magnetically sensitive element, or a mechanical key or shape.

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	Yoakim at FIG. 61:  FIG. 61
[1.m] determining whether the read barcode agrees with a stored reference; and activating the pump to push heated water into the portion capsule only upon a determination	Yoakim discloses, either expressly or inherently, determining whether the read barcode agrees with a stored reference; and activating the pump to push heated water into the portion capsule only upon a determination that the read barcode agrees with the stored reference. *See, e.g.*:

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that the read barcode agrees with the stored reference.	Yoakim at [0025]: The device is useful for preparing beverages from a plurality of different capsules, in which case it further comprises identification means for identifying the different capsules, and control means capable of operating the device in centrifugation for any of the different capsules according to predetermined liquid food preparation parameters including the flow rate and the volume of liquid to be injected into the capsule, with the identification means comprising capsule recognition means which are recognized by sensing means connected to the control means of the device to control the preparation parameters accordingly. Yoakim at [0192]: Therefore, as much as two, three, four or even more different flow rates and/or speed ranges can be provided in function of the types of coffee to be delivered. Therefore, depending on the types of beverage to be brewed, the control unit can be programmed to adjust the optical centrifugal conditions. For instance, the control unit may be associated to a capsule recognition system enabling to recognize the types of capsules, i.e., espresso, lungo, cappuccino, long coffee (e.g., 180-400 ml), latte, tea, etc., and to adjust the speed and/or other brewing parameters (e.g., water temperature) according the capsule which is inserted in the device. A recognition system uses a code on the capsule and recognized by the device, such as a color, a barcode, an RFID, a magnetic code, ferromagnetic micro-wires or labels, shapes and combinations thereof. Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. The adjustable parameters can be the rotational speed, the back-pressure at the outlet of the capsule, and/or the volume of liquid fed in the capsule. The identification means participates to deliver a wider range of beverages having differentiated characteristics (volume, taste, strength, crema, colour, etc.). The identification means are associated to control means placed in the centrifugal brewing device which controls the adjustment of the said parameters,

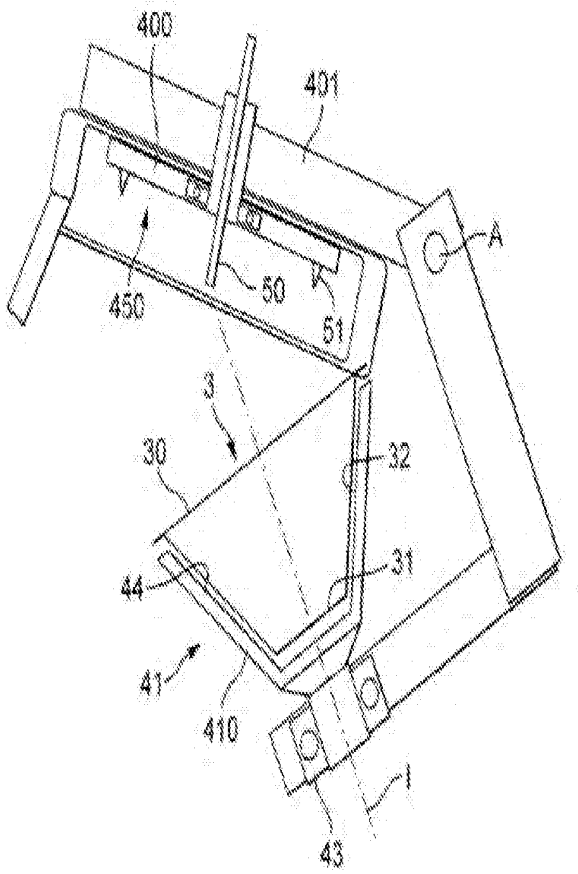
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	by controlling the rotational motor driving the capsule holder or/and the pump supplying liquid in the capsule.
[redacted]	
2. The method according to claim 1, wherein the method comprises not activating the pump to push the heated water into the portion capsule upon a determination that the read barcode does not agree with the stored reference.	Yoakim discloses, either expressly or inherently, the method according to claim 1, wherein the method comprises not activating the pump to push the heated water into the portion capsule upon a determination that the read barcode does not agree with the stored reference. *See, e.g.*: Yoakim at [0025]: The device is useful for preparing beverages from a plurality of different capsules, in which case it further comprises identification means for identifying the different capsules, and control means capable of operating the device in centrifugation for any of the different capsules according to predetermined liquid food preparation parameters including the flow rate and the volume of liquid to be injected into the capsule, with the identification means comprising capsule recognition means which are recognized by sensing means connected to the control means of the device to control the preparation parameters accordingly. Yoakim at [0192]: Therefore, as much as two, three, four or even more different flow rates and/or speed ranges can be provided in function of the types of coffee to be delivered. Therefore, depending on the types of beverage to be brewed, the control unit can be programmed to adjust the optical centrifugal conditions. For instance, the control unit may be associated to a capsule recognition system enabling to recognize the types of capsules, i.e., espresso, lungo, cappuccino, long coffee (e.g., 180-400 ml), latte, tea, etc., and to adjust the speed and/or other brewing parameters (e.g., water temperature) according the capsule which is inserted in the device. A recognition

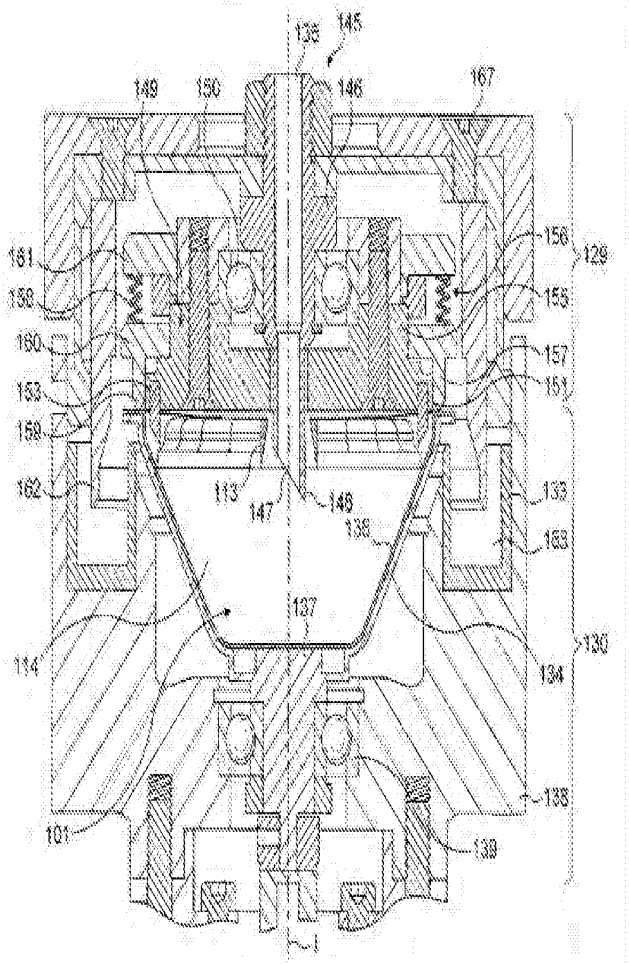
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	system uses a code on the capsule and recognized by the device, such as a color, a barcode, an RFID, a magnetic code, ferromagnetic micro-wires or labels, shapes and combinations thereof. Yoakim at [0477]: The capsule system further comprises an identification means associated to the different capsules in the set for identifying each capsule and adjusting brewing parameters accordingly. The adjustable parameters can be the rotational speed, the back-pressure at the outlet of the capsule, and/or the volume of liquid fed in the capsule. The identification means participates to deliver a wider range of beverages having differentiated characteristics (volume, taste, strength, crema, colour, etc.). The identification means are associated to control means placed in the centrifugal brewing device which controls the adjustment of the said parameters, by controlling the rotational motor driving the capsule holder or/and the pump supplying liquid in the capsule. *See also* [1].
3. The method according to claim 1, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element and/or the foil lid are made of aluminum.	Yoakim discloses, either expressly or inherently, the method according to claim 1, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element and/or the foil lid are made of aluminum. *See, e.g.*: *See* [1.f] and [1.j].
5. The method according to claim 1, wherein the method comprises sealing a seal of the apparatus against the foil lid, and wherein the grooves	Yoakim discloses, either expressly or inherently, the method according to claim 1, wherein the method comprises sealing a seal of the apparatus against the foil lid, and wherein the

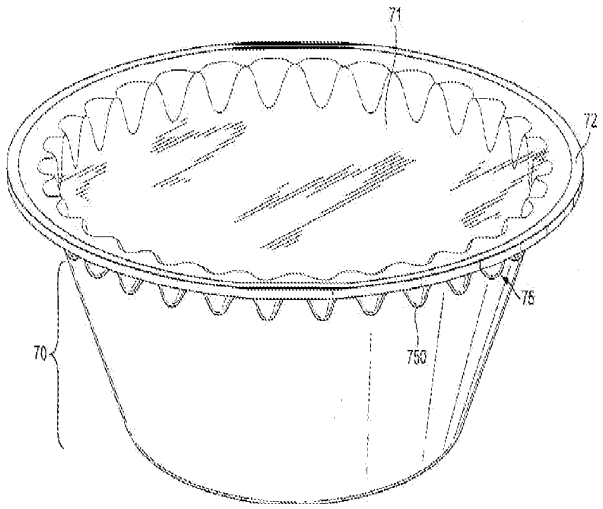
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are free from extending all the way into a region of the base element that is immediately adjacent to the flange.	grooves are free from extending all the way into a region of the base element that is immediately adjacent to the flange. *See, e.g.*: Yoakim at [0384]: A valve means in the device provide the advantage of a control of the pressure of liquid exerted in the capsule at the level of the device. The valve means can be designed to open at a certain pressure threshold, for example by calibration or adjustment, for matching the features of various or specific beverages, e.g., coffee extract, tea extract, instant beverages, etc. Yoakim at [0388]: For example, the engaging portion of the valve means can also comprise an annular pressing edge which is arranged to seal on the engaging portion of the capsule. The pressing edge may take different forms such as a V, W or U shape in order to exert a sufficient sealing pressure on the capsule when the pressure of liquid is still under a predetermined threshold. Yoakim at [0436]: According to one aspect of the invention, the water injection subassembly 129 further comprises a valve system 156 for controlling the flow of liquid that is discharged from the device. . . .The annular engaging portion 157 includes a pressing peripheral surface 159 which applies a closing force on the peripheral rim 104 of the capsule to be able to restrict the flow of liquid under the force of the elastic loading means. The surface 159 can form a cone or V for increasing the sealing pressure in a localized area. Yoakim at [0445]: [T]he valve system 156 of the device can start opening as pressure of liquid increases on the valve when liquid leaves the capsule. Therefore, a certain time delay before opening can be controlled by the valve system to enable sufficient interaction between water and the substance contained in the capsule. This controlled delay depends on various parameters . . .

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	Yoakim at [0446]: In another mode of the invention illustrated in FIGS. 37 and 38, the same numeral references have been taken to identify the same or equivalent technical means. In this mode, the valve system 156 differs in that the elastic loading means is obtained by a rubber elastic O-ring 169 inserting between a lower member comprising a pinching surface 159 and an upper fixed portion 161 of the water injection subassembly 129. The O-ring is maintained in place between two concave surfaces 170, 171 of valve system. Again during brewing, the pressure of liquid in the capsule tends to lift the pinching surface 159 to create an annular passage between the rim 104 of the capsule and the pinching Surface. The pinching surface can be shaped with a sharp tip or edge that can create a concentration of the pinching forces onto the rim. Yoakim at FIG. 2:

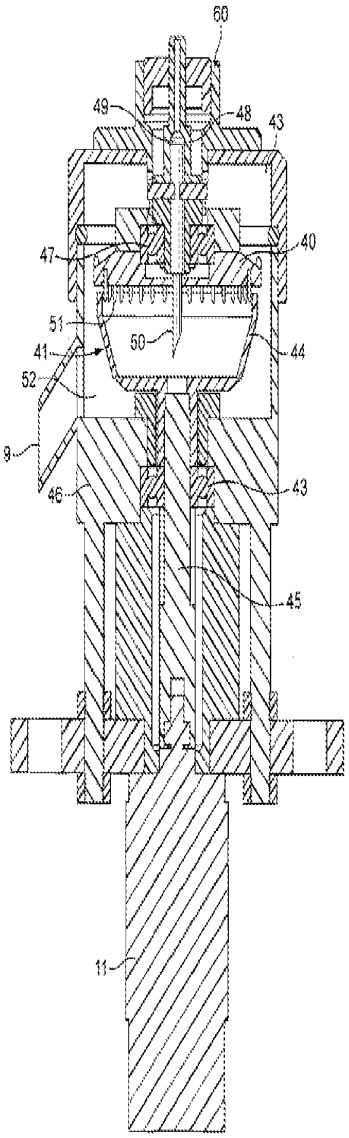
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	 FIG. 2 Yoakim at FIG. 35:

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	 FIG. 35 Yoakim at [0161]: In yet another embodiment, the surface of the capsule comprises a toothed structure.

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	Yoakim at [0215]: FIG. 23 illustrates another capsule of the invention. The capsule comprises means for connecting it to the external rotational driving means of the device. For this, capsule has a toothed structure 75 on at least one of its outer surface. The capsule has a body 70 comprising an upper edge 72 which can be closed by an upper membrane 71. The toothed structure comprises a series of teeth which is positioned below the edge or rim 72 of the body of the capsule. The teeth are placed along the whole periphery of the body of the capsule. The body of the capsule can be made of plastic and/or aluminium or aluminium alloy. For example, it can be moulded by injection of plastic or deep drawn in aluminium. For example, the shape of the teeth could be slightly triangular, oval, rectangular or pyramidal. It should be noticed that the teeth could be replaced by other equivalent structures such as series of elements in relief and/or hollow. For example, slits, pins or small needles can be envisaged. Yoakim at [0216]: The device itself that receives the capsule of FIG.23 comprises a toothed surface of complementary shape. FIG. 24 shows a capsule holder 44 adapted to receive the capsule of FIG. 23. The capsule holder has a cavity into which are provided hollow teeth 440. The hollow teeth are arranged to fit the teeth 750 on the outer surface of the capsule. Yoakim at FIG. 23:

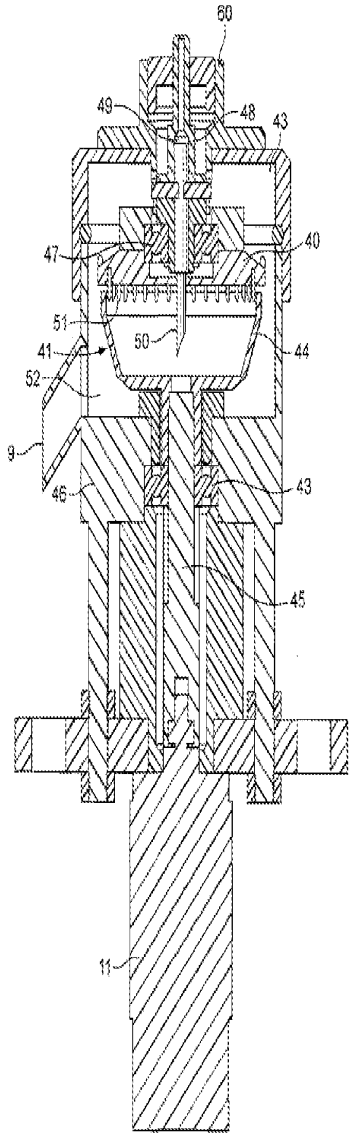
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	 FIG. 23 *See also* [1].
6. The method according to claim 1, wherein the method comprises introducing the heated water into the portion capsule along a central axis of the portion capsule.	Yoakim discloses, either expressly or inherently, method according to claim 1, wherein the method comprises introducing the heated water into the portion capsule along a central axis of the portion capsule. *See, e.g.*: Yoakim at [1080]: The module is in fluid communication with a water reservoir 5 containing fresh or, alternatively heated water. A fluid transport means such as a low pressure pump 6 can be provided in the water circuit to transport water from the reservoir to the module. A water heater 7 is further

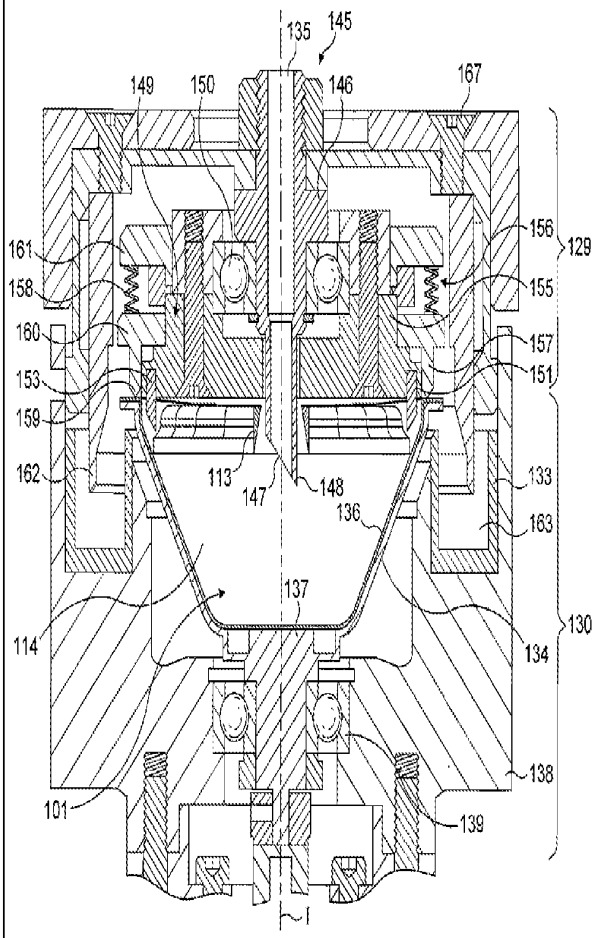
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	provided to heat water to the desired temperature. It can be noted that water could be heated in the reservoir itself and water could be transported from the reservoir by effect of vaporization. Yoakim at [0019]: The inlet port [is] aligned with the central axis of the capsule, wherein the liquid to be injected into the capsule is water[.] Yoakim at [0220]: . . . a water injector, as part of the water injection head, arranged for introducing water along a central axis relative to the capsule holder[.] Yoakim at FIG. 4:

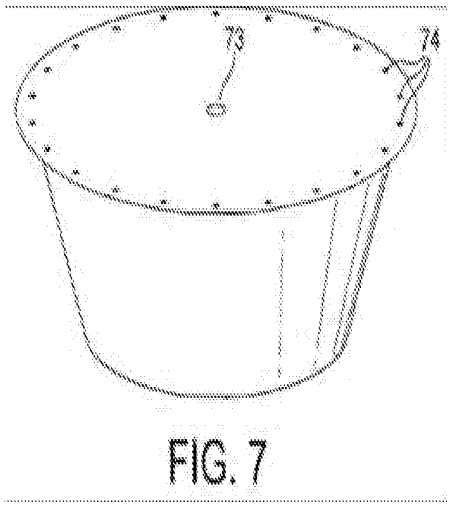
U.S. Patent No. 10,870,531	Disclosure
	 FIG. 4

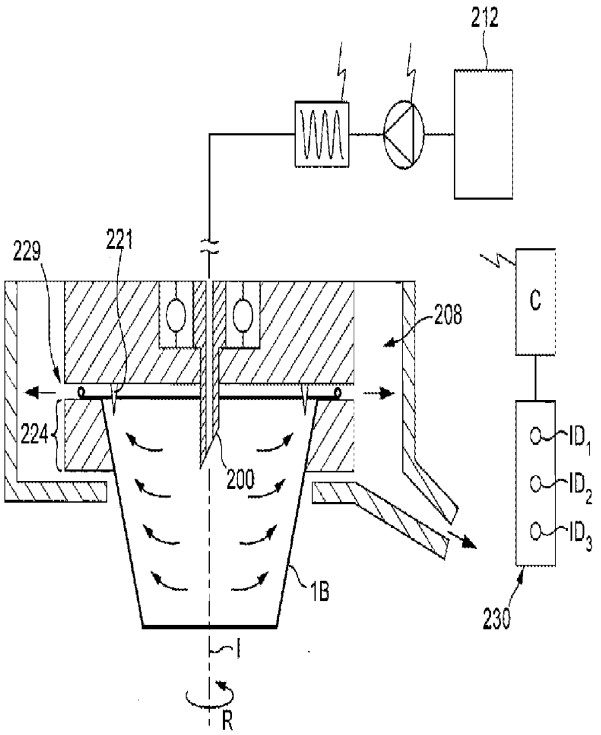
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	Yoakim at [0021]: The liquid introducing means preferably comprises at least one needle for injecting liquid into the capsule at or near its central axis . . .
[redacted]	
7. The method according to claim 1, wherein the method comprises piercing the foil lid in a region that is offset from a central axis of the portion capsule, and wherein the lid is crowned in a region of the central axis of the portion capsule relative to a region of the lid adjacent to the flange.	Yoakim discloses, either expressly or inherently, the method according to claim 1, wherein the method comprises piercing the foil lid in a region that is offset from a central axis of the portion capsule, and wherein the lid is crowned in a region of the central axis of the portion capsule relative to a region of the lid adjacent to the flange. *See, e.g.*: Yoakim at [0186]: At the inside surface of the injection lid 40 is placed a piercing structure 450 which has the function of piercing the injection side 30 of the capsule. A water injector or lance 50 is provided which traverses the injection side 30 and which comprises an injection conduit for carrying water from the water circuit into the capsule. The water injector 50 is preferably located in the center of the capsule. Yoakim at [0187]: A series of needles 51 . . . positioned on the side of the lid 40 to form small perforations at the periphery of the upper side of the capsule. Yoakim at [0435]: About the water injector is mounted a capsule rotary engaging part 149. The engaging part 149 has a central bore for receiving the water injector and rotational guiding means such as a ball or needle bearing 150 inserted between the part 149 and the injector 145. The engaging part further comprises outlet piercing members 151,152, 153, 154 protruding from a disc-

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	shaped engaging wall 155 of the part 149. The piercing members can be small cylindrical portions with a slanted cutting surface able to cut or perforate small holes in the sealing foil 103 of the capsule. The piercing members are arranged at the periphery of the wall 155, preferably evenly distributed to provide several openings in the capsule for the centrifuged liquid to leave the capsule forming several streams of liquid. . . . Yoakim at FIG. 4:

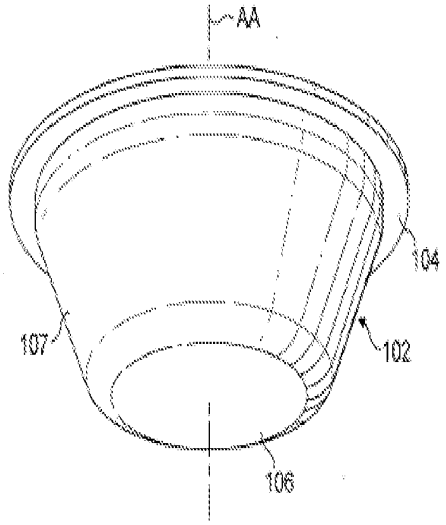
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	 FIG. 4

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	Yoakim at FIG. 35:  FIG. 35 Yoakim at [0507]: . . . .The assembly 213 comprises a central injection needle 200 capable of being introduced precisely along the axis of rotation I of the capsule. At its periphery the interface assembly 213

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	can comprise a series of outlet perforators 221 for allowing centrifuged beverage to leave the capsule through the peripheral outlet 229 between the capsule holder 214 and the interface assembly 213. . . . Yoakim at FIG. 7:  FIG. 7 Yoakim at FIG. 55:

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	 FIG. 55 Yoakim at [0270]: Preferably, the enclosure is partially filled with a substance for enabling the substance to move against a peripheral wall of the capsule during the centrifugation process. The free volume in the enclosure of the capsule is preferably at least partially filled by a protective gas to preserve the freshness of the substance. A suitable protective gas is nitrogen for example. The free volume can also be partially occupied by a gas coming from the substance after degassing of the substance in the capsule. Such gas for ground coffee can be carbon dioxide. Yoakim at [0355]:

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	The dished body and/or lid can be thermoformed or injected in plastics. The lid can be also a porous membrane made of polymer such as PET. In an alternative, the body and/or lid can be deep drawn from thin metal Such as aluminium alloy or a complex of plastic and aluminium alloy. *See also* [1].
[8.pre] The method according to claim 1,	Yoakim discloses, either expressly or inherently, the method according to claim 1. *See, e.g.*: *See* [1].
[8.a] wherein the method comprises controlling a production process of the beverage according to the read barcode,	Yoakim discloses, either expressly or inherently, wherein the method comprises controlling a production process of the beverage according to the read barcode. *See, e.g.*: *See* [1.m].
[8.b] and wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located in between the upper section and a bottom of the base element,	Yoakim discloses, either expressly or inherently, that the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located in between the upper section and a bottom of the base element. *See, e.g.*: Yoakim at FIG. 27:

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	 FIG. 27
[8.c] wherein the upper section comprises a circumferential border and the wall of the lower section is angled, with respect to the upper section, and is tapered towards a bottom of the base element.	Yoakim discloses, either expressly or inherently, that the upper section comprises a circumferential border and the wall of the lower section is angled, with respect to the upper section, and is tapered towards a bottom of the base element. *See, e.g.*: Yoakim at [0164]: Preferably, the capsule has a flared design . . . This design and outlet arrangement promotes the flow of the centrifuged brewed liquid in the capsule, its collection and its removal from the capsule. *See also* [8.b].

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[10.pre] A method of using a portion capsule for making a coffee beverage, the method comprising:	Yoakim discloses, either expressly or inherently, a method of using a portion capsule for making a coffee beverage. *See, e.g.*: *See* [1].
[10.a] providing an apparatus including a barcode reader, the apparatus having a pump and being adapted to supply heated water;	Yoakim discloses, either expressly or inherently, providing an apparatus including a barcode reader. *See, e.g.*: *See* [1.a].
[10.b] the apparatus having a pump and being adapted to supply heated water;	Yoakim discloses, either expressly or inherently, the apparatus having a pump and being adapted to supply heated water. *See, e.g.*: *See* [1.b].
[10.c] inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity within which a powdered coffee material is located,	Yoakim discloses, either expressly or inherently, inserting the portion capsule into the apparatus, the portion capsule including a foil lid sealed to a base element having a cavity within which a powdered coffee material is located. *See, e.g.*: *See* [1.c].
[10.d] the base element including a circumferential flange having a top side	Yoakim discloses, either expressly or inherently, the base element including a circumferential flange having a top side. *See, e.g.*: *See* [1.d].
[10.e] and a bottom side with a barcode located on the bottom side,	Yoakim discloses, either expressly or inherently, a bottom side with a barcode located on the bottom side. *See, e.g.*:

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	See [1.e].
[10.f] the portion capsule being free of a filter	Yoakim discloses, either expressly or inherently, the portion capsule being free of a filter. *See, e.g.*: *See* [1.i].
[10.g] and comprising a plurality of ribs that are radially spaced, vertically oriented and extend toward a central portion of the cavity, wherein an outer surface of the base element comprises radially spaced and vertically oriented grooves;	Yoakim discloses, either expressly or inherently, a plurality of ribs that are radially spaced, vertically oriented and extend toward a central portion of the cavity, wherein an outer surface of the base element comprises radially spaced and vertically oriented grooves. *See, e.g.*: *See* [1.g] and [1.h].
[10.h] piercing the foil lid;	Yoakim discloses, either expressly or inherently, piercing the foil lid. *See, e.g.*: *See* [1.k].
[10.i] reading the barcode with the barcode reader; and	Yoakim discloses, either expressly or inherently, .reading the barcode with the barcode reader. *See, e.g.*: *See* [1.l].
[10.j] activating the pump to introduce the heated water into the portion capsule only upon a determination that the read barcode agrees with a stored reference, or not activating the pump upon a determination that the read barcode	Yoakim discloses, either expressly or inherently, activating the pump to introduce the heated water into the portion capsule only upon a determination that the read barcode agrees with a stored reference, or not activating the pump upon a determination that the read barcode does not agree with the stored reference. *See, e.g.*: *See* [1.m] and [2].

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does not agree with the stored reference.	
11. The method according to claim 10, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element comprises an electrically conductive section.	Yoakim discloses, either expressly or inherently, the method according to claim 10, wherein the method comprises engaging the portion capsule with a pair of holding arms, and wherein the base element comprises an electrically conductive section. *See, e.g.*: *See* [1.f], [3].
14. The method according to claim 10, wherein the method comprises dropping the portion capsule into a dropping box, wherein the base element and/or the lid are made of metal.	Yoakim discloses, either expressly or inherently, the method according to claim 10, wherein the method comprises dropping the portion capsule into a dropping box, wherein the base element and/or the lid are made of metal. *See* [1.j].
[16.pre] The method according to claim 10,	Yoakim discloses, either expressly or inherently, the method according to claim 10. *See, e.g.*: *See* [10].
[16.a] wherein the method comprises sealing a seal of the apparatus against the foil lid	Yoakim discloses, either expressly or inherently, wherein the method comprises sealing a seal of the apparatus against the foil lid. *See, e.g.*: *See* [5].

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[16.b] wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located between the upper section and a bottom of the base element	Yoakim discloses, either expressly or inherently, wherein the wall comprises an upper section and a lower section, the upper section is located adjacent to the flange, and the lower section is located between the upper section and a bottom of the base element. *See, e.g.*: *See* [8.b].
[16.c] wherein the upper section comprises a circumferential border and the wall of the lower section is angled, with respect to the upper section, and is tapered towards a bottom of the base element.	Yoakim discloses, either expressly or inherently, wherein the upper section comprises a circumferential border and the wall of the lower section is angled, with respect to the upper section, and is tapered towards a bottom of the base element. *See, e.g.*: *See* [8.c].

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/383,951	07/23/2021	Marc KRÜGER	1859.029USC10	6871

25215 7590 11/29/2021

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EXAMINER	
JENNISON, BRIAN W	

ART UNIT	PAPER NUMBER
3761	

NOTIFICATION DATE	DELIVERY MODE
11/29/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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rmasquelier@patentco.com

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

Office Action Summary	Application No. 17/383,951	Applicant(s) KRÜGER, Marc	
	Examiner BRIAN W JENNISON	Art Unit 3761	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 11/21/2021.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 21-35 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☑ Claim(s) 21 and 24-35 is/are allowed.

7) ☑ Claim(s) 22-23 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 9/14/2021 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☑ All b)☐ Some** c)☐ None of the:

1.☑ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 7/28/2021, 7/29/2021, 11/12/2021.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

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IPR2023-00485, U.S. PATENT 11,230,430

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Claim Interpretation

1. The following is a quotation of 35 U.S.C. 112(f):

> (f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

2. The claims in this application are given their broadest reasonable interpretation using the plain meaning of the claim language in light of the specification as it would be understood by one of ordinary skill in the art. The broadest reasonable interpretation of a claim element (also commonly referred to as a claim limitation) is limited by the description in the specification when 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is invoked.

As explained in MPEP § 2181, subsection I, claim limitations that meet the following three-prong test will be interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph:

(A) the claim limitation uses the term "means" or "step" or a term used as a substitute for "means" that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;

(B) the term "means" or "step" or the generic placeholder is modified by functional language, typically, but not always linked by the transition word "for" (e.g., "means for") or another linking word or phrase, such as "configured to" or "so that"; and

(C) the term "means" or "step" or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.

Use of the word "means" (or "step") in a claim with functional language creates a rebuttable presumption that the claim limitation is to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites sufficient structure, material, or acts to entirely perform the recited function.

Absence of the word "means" (or "step") in a claim creates a rebuttable presumption that the claim limitation is not to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is not interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites function without reciting sufficient structure, material or acts to entirely perform the recited function.

Claim limitations in this application that use the word "means" (or "step") are being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an Office action. Conversely, claim limitations in this application that do not use the word "means" (or "step") are not being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an Office action.

3. This application includes one or more claim limitations that do not use the word "means," but are nonetheless being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because the claim limitation(s) uses a generic placeholder that is coupled with functional

language without reciting sufficient structure to perform the recited function and the generic placeholder is not preceded by a structural modifier. Such claim limitation(s) is/are:

- "insertion shaft" in **claim 21**
    - The generic placeholder is "insertion shaft" and the functional language attributed the "insertion shaft" includes: "receive the single-serve capsule and to enable detection of the identifier by the sensor/detector."
        - Structure "read into" the claims from the specification to support the claimed functional language includes "It is provided that the mean for fit locking 24 is placed in the media chute or insertion shaft 26 of an insertion shaft housing 23 having a port for inserting the portion capsule in the coffee machine" (page 10, Paragraph [0076] of the Specification)

- "insertion shaft" in **claim 29**
    - The generic placeholder is "insertion shaft" and the functional language attributed the "insertion shaft" includes: "receive the single-serve capsule and to enable detection of the identifier by the sensor/detector."
        - Structure "read into" the claims from the specification to support the claimed functional language includes "It is provided that the mean for fit locking 24 is placed in the media chute or insertion shaft 26 of an insertion shaft housing 23 having a port for inserting the portion capsule in the coffee machine" (page 10, Paragraph [0076] of the Specification)

- "insertion shaft" in **claim 32**

- The generic placeholder is "insertion shaft" and the functional language attributed the "insertion shaft" includes: "receive the single-serve capsule and to enable detection of the identifier by the sensor/detector."
    - Structure "read into" the claims from the specification to support the claimed functional language includes "It is provided that the mean for fit locking 24 is placed in the media chute or insertion shaft 26 of an insertion shaft housing 23 having a port for inserting the portion capsule in the coffee machine" (page 10, Paragraph [0076] of the Specification)

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22-23, rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Claim 22 recites "beverage machine *configured* to compare the detected identifier with a stored reference."

However, it is not clear, based on the claim language, how the beverage machine is configured to compare the detected identifier with a stored reference." It is not clear which structure of the beverage machine is provided to perform the functional language.

Claim 23 recites "the beverage machine is *configured* to not supply water into the single-serve capsule upon a determination by the beverage machine that the single-serve capsule is not suitable for use with the beverage machine."

However, it is not clear, based on the claim language, how the beverage machine is "to not supply water into the single-serve capsule upon a determination by the beverage machine that the single-serve capsule is not suitable for use with the beverage machine." It is not clear which structure of the beverage machine is provided to perform the functional language.

Allowable Subject Matter

Claims 21, 24-35 are allowed.

The following is an examiner's statement of reasons for allowance: allowance of claims 21, 24-35 is indicated as none of the cited prior art discloses or suggests a pump controlled to supply water into the single-serve capsule only upon detection of the identifier by the sensor/detector and a determination by the beverage machine that the single-serve capsule is suitable for use with the beverage machine.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN W JENNISON whose telephone number is (571)270-5930. The examiner can normally be reached M-Th 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN W JENNISON/
Primary Examiner, Art Unit 3761

11/22/2021

Notice of References Cited	Application/Control No. 17/383,951	Applicant(s)/Patent Under Reexamination KRÜGER, Marc	
	Examiner BRIAN W JENNISON	Art Unit 3761	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20100239734-A1	09-2010	Yoakim; Alfred	B65D85/8043	426/433
*	B	US-20130064937-A1	03-2013	Jarisch; Christian	B65D85/8058	426/112
*	C	US-20130064929-A1	03-2013	Jarisch; Christian	A47J31/22	426/87
*	D	US-20110189362-A1	08-2011	Denisart; Jean-Paul	A47J31/22	426/433
*	E	US-9320385-B2	04-2016	Spiegel; Akos	A47J31/3676	1/1
*	F	US-8695484-B2	04-2014	Mori; Peter	A47J31/44	99/295
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

K-FEE SYSTEM GMBH, EX2012, page 1817
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/383,951	KRÜGER, Marc
	Examiner	**Art Unit**
	BRIAN W JENNISON	3761

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/383,951	KRÜGER, Marc
	Examiner	Art Unit
	BRIAN W JENNISON	3761

CPC - Searched*		
Symbol	Date	Examiner
A47J: 31/4492, 31/4482, 31/446, 31/468	11/22/2021	BJ
B65D: 85/8043, 65/466, 2203/06, 2203/10	11/22/2021	BJ

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Evaluated in Global Dossier	11/22/2021	BJ
Conducted CPC search in EAST	11/22/2021	BJ
Conducted inventor search in EAST	11/22/2021	BJ
Evaluated IDS in EAST	11/22/2021	BJ
Evaluated NPL in Application	11/22/2021	BJ

/BRIAN W JENNISON/ Primary Examiner, Art Unit 3761	

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/383,951	KRÜGER, Marc
	Examiner	Art Unit
	BRIAN W JENNISON	3761

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
A47J	31/4492, 31/4482, 31/446, 31/468	11/22/2021	BJ

/BRIAN W JENNISON/ Primary Examiner, Art Unit 3761	

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

Filed via EFS @ USPTO.gov on November 12, 2021
Practitioner's Docket No. 1859.029USC10 (KRU0022-WO-US-T11)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Marc KRÜGER	Art Unit: 3761
Application No.: 17/383,951	Examiner: Brian W. Jennison
Filed: July 23, 2021	Conf. No.: 6871

For: PORTION CAPSULE HAVING AN IDENTIFIER

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

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Applicant submits this statement in accordance with its duty of disclosure under 37 C.F.R. §§ 1.56, 1.97, and 1.98. The submission made herewith is in no way intended as an admission that the cited items constitute material prior art or otherwise would render the claims unpatentable in any way. The submission also is in no way intended to substitute for the Examiner's own independent investigation.

Copies of foreign patent documents and non-patent literature together with a listing on form PTO/SB/08a are submitted herewith. Applicant respectfully solicits the Examiner's consideration of the cited references and entry thereof into the record of this application.

This Information Disclosure Statement is being submitted prior to the mailing of a first Office Action or Notice of Allowance. No fees are believed to be due; however, if any fee is due with the filing of this paper, please charge the amount to Deposit Account 50-1097.

Date: November 12, 2021

/Paul J. Palinski/

Paul J. Palinski

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17/383,951
	Filing Date	July 23, 2021
	First Named Inventor	Marc KRÜGER
	Art Unit	3761
	Examiner Name	Brian W. Jennison
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initial*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Nespresso's Preliminary Invalidity Contentions from US District Court Central District of California Case No. 2:21-cv-3402 GW(ARGx), dated September 22, 2021.	

EXAMINER SIGNATURE			
Examiner Signature	/BRIAN W JENNISON/	Date Considered	11/22/2021

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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K-FEE SYSTEM GMBH, EX2012, page 1822
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

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Practitioner's Docket No. 1859.029USC10 (KRU0022-WO-US-T11)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Marc KRÜGER	Art Unit: 3761
Application No.: 17/383,951	Examiner: TBA
Filed: July 23, 2021	Conf. No.: 6871

For: PORTION CAPSULE HAVING AN IDENTIFIER

Commissioner for Patents
P.O. Box 1450
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Copies of foreign patent documents and non-patent literature together with a listing on form PTO/SB/08a are submitted herewith. Applicant includes English translations from the European Patent Office and/or Japanese Patent Office websites and are subject to the caveat expressed on the translations. Applicant respectfully solicits the Examiner's consideration of the cited references and entry thereof into the record of this application.

This Information Disclosure Statement is being submitted prior to the mailing of a first Office Action or Notice of Allowance. No fees are believed to be due; however, if any fee is due with the filing of this paper, please charge the amount to Deposit Account 50-1097.

Date: July 29, 2021

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17/383,951
	Filing Date	July 23, 2021
	First Named Inventor	Marc KRÜGER
	Art Unit	3761
	Examiner Name	TBA /BRIAN W JENNISON/
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

FOREIGN PATENT DOCUMENTS							
Examiner Initial*	Cite No.	Foreign Document Number	Country Code	Kind Code	Publication Date	Name of Patentee or Applicant of cited Document	T[5]
	1.	200435370	KR	Y1	01/18/2007	Unknown	X

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initial*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Petition for Inter Partes Review of U.S. Patent No. 10,870,531 (IPR2021-01223), dated July 12, 2021.	
	2.	Petition for Inter Partes Review of U.S. Patent No. 10,858,176 (IPR2021-01221), dated July 12, 2021.	
	3.	Petition for Inter Partes Review of U.S. Patent No. 10,858,177 (IPR2021-01222), dated July 12, 2021.	
	4.	Declaration of Michael Jobin, Exhibit 1003 from Petition for Inter Partes Review of U.S. Patent No. 10,858,177 (IPR2021-01222), dated July 12, 2021.	
	5.	Declaration of Michael Jobin, Exhibit 1003 from Petition for Inter Partes Review of U.S. Patent No. 10,858,176 (IPR2021-01221), dated July 12, 2021.	
	6.	Declaration of Michael Jobin, Exhibit 1003 from Petition for Inter Partes Review of U.S. Patent No. 10,870,531 (IPR2021-01223), dated July 12, 2021.	

EXAMINER SIGNATURE			
Examiner Signature	/BRIAN W JENNISON/	Date Considered	11/22/2021

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L9	227	A47J31/4482.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 14:06
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S13	4	"1974638"	DERWENT	OR	OFF	2020/05/18 14:55
S14	1	"20080245236"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 14:56
S15	6	"2005044067"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 14:56
S16	3	"2005044067"	DERWENT	OR	OFF	2020/05/18 14:57

S17	2	"20080187638"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 14:57
S18	7	"1471012"	DERWENT	OR	OFF	2020/05/18 16:46
S19	4	"1849718"	DERWENT	OR	OFF	2020/05/18 16:47
S20	1	"20020048621"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 16:47
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S27	1,033	B65D65/466.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 17:25
S28	373	B65D2203/06.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 17:25
S29	1,288	B65D2203/10.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 17:25
S30	545	A47J31/4492.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 17:25
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S39	1,033	B65D65/466.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 22:17
S40	373	B65D2203/06.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 22:17
S41	1,288	B65D2203/10.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 22:17
S42	545	A47J31/4492.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 22:17
S43	744	(S38 S39 S40 S41 S42) and ribs	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/18 22:17

S51	2,177	B65D85/8043.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/19 11:36
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S53	374	B65D2203/06.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/19 11:36
S54	1,288	B65D2203/10.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/19 11:36
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S63	19	(S60 S61) and (rib ribbed ribbing)	US-PGPUB; USPAT; USOCR	OR	OFF	2020/05/19 11:43
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S94	24	("20020048621" | "20050150391" | "20060000851" | "20080050490" | "20080302251" | "5974950" | "7216582" | "7685930" | "7798055" | "7863546" | "7987767").PN. OR ("8857317").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 10:48
S95	89	("20020048621" | "20020129712" | "20030145736" | "3404616" | "3537384" | "4583449" | "5325765" | "5440972" | "5598764" | "6142063" | "6240832" | "6655260" | "6740345" | "6763759" | "6829981" | "7021197").PN. OR ("7856920").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 10:58
S96	9	S95 and (identifier barcode)	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 10:58

S97	108	("10334868" | "10426180" | "10442610" | "1101199" | "1233823" | "1412401" | "1496611" | "1713119" | "20020009017" | "20020048215" | "20040155061" | "20050169101" | "20050174884" | "20050193896" | "20050201198" | "20080067172" | "20080073307" | "20080223741" | "20080279040" | "20090065570" | "20090179042" | "20090293735" | "20100136064" | "20100154645" | "20100163509" | "20100173856" | "20110120316" | "20120024861" | "20120087203" | "20120121768" | "20120171186" | "20130058184" | "20140001207" | "20140335482" | "20140336817" | "20150065587" | "20150135965" | "20150314246" | "20150329282" | "20150367302" | "20160214787" | "20170112326" | "20190053658" | "2021626" | "2110498" | "2851257" | "3061279" | "3134577" | "3240391" | "3323320" | "3738619" | "4160602" | "4193698" | "4195730" | "4315570" | "4324494" | "4357861" | "4408690" | "4502377" | "4547076" | "4703770" | "5150967" | "5328263" | "5439289" | "5634714" | "5766665" | "5863118" | "5863126" | "5865538" | "5957335" | "6071006" | "6318889" | "6341887" | "6527027" | "6616323" | "6647863" | "6670171" | "6706300" | "6708735" | "7144150" | "7461970" | "7503687" | "7648049" | "7854104" | "7856920" | "7959348" | "8337074" | "8763515" | "8807823" | "8844426" | "8960999" | "9010992" | "9399547" | "9474417" | "9783361" | "9833109").PN. OR ("11076720").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:04
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S101	440	B65D2203/06.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:08

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S103	636	A47J31/4492.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:08
S104	5,425	(S99 S100 S101 S102 S103)	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:08
S105	1,744	A47J31/407.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:08
S106	27	B65D85/8058.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:09
S107	0	B65D85/466.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:09
S108	1,240	B65D65/466.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:10
S109	549	S103 and (identifier barcode code)	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 11:11
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S112	2	S110 not (S88 S89)	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 12:17
S113	0	((("KRÜGER") near3 ("Marc"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 12:27
S114	79	((("KRUGER") near3 ("Marc"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/02 12:28
S122	2	"10870531"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:34
S123	2	"20100239734"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:35
S124	2	"20130064937"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:35
S125	1	"20130064929"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:36
S126	3	"2010026053"	DERWENT	OR	OFF	2021/11/22 11:37
S127	2	"20110189362"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:38
S128	15	"13744623"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:56

S129	82	((("Kruger") near3 ("Marc"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:58
S130	0	"17385109"	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/22 11:58

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S80	800	B65D85/8043.cpc.	USPAT	OR	OFF	2020/09/25 14:19
S81	396	B65D65/466.cpc.	USPAT	OR	OFF	2020/09/25 14:19
S82	148	B65D2203/06.cpc.	USPAT	OR	OFF	2020/09/25 14:19
S83	509	B65D2203/10.cpc.	USPAT	OR	OFF	2020/09/25 14:19
S84	202	A47J31/4492.cpc.	USPAT	OR	OFF	2020/09/25 14:19
S115	639	A47J31/407.cpc.	USPAT	OR	OFF	2021/11/02 12:50
S116	905	B65D85/8043.cpc.	USPAT	OR	OFF	2021/11/02 13:02
S117	448	B65D65/466.cpc.	USPAT	OR	OFF	2021/11/02 13:02
S118	168	B65D2203/06.cpc.	USPAT	OR	OFF	2021/11/02 13:02
S119	576	B65D2203/10.cpc.	USPAT	OR	OFF	2021/11/02 13:02
S120	233	A47J31/4492.cpc.	USPAT	OR	OFF	2021/11/02 13:02
S121	2,059	S116 S117 S118 S119 S120	USPAT	OR	OFF	2021/11/02 13:02

11/22/2021 2:31:39 PM
C:\Users\bjennison\Documents\EAST\Workspaces\17-383951.wsp

Bibliographic Data

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Verified and Acknowledged: /BRIAN W JENNISON/ Examiner's Signature [ ] Initials

Title: PORTION CAPSULE HAVING AN IDENTIFIER

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
07/23/2021	426	3761	1859.029USC10
RULE			

APPLICANTS

K-FEE SYSTEM GMBH, Bergisch Gladbach, GERMANY

INVENTORS

Marc KRÜGER, Bergisch Gladbach, GERMANY

CONTINUING DATA

This application is a CON of 17330572 05/26/2021

17330572 is a CON of 17324182 05/19/2021

17324182 is a CON of 17108175 12/01/2020

17108175 is a CON of 16860432 04/28/2020 PAT 10858177

16860432 is a CON of 16438818 06/12/2019 PAT 10994923

16438818 is a CON of 15646980 07/11/2017

15646980 is a DIV of 15211823 07/15/2016ABN

15211823 is a DIV of 13744623 01/18/2013ABN

13744623 is a CON of PCT/EP2011/003677 07/22/2011

FOREIGN APPLICATIONS

GERMANY DE10 2010 031 988.0 07/22/2010

GERMANY DE10 2010 044 251.8 09/02/2010

GERMANY DE10 2011 010 534.4 02/07/2011

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17/383,951
	Filing Date	July 23, 2021
	First Named Inventor	Marc Krüger
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U.S. PATENTS					
Examiner Initials*	Cite No.	Patent Number	Kind Code	Issue Date	Name of Patentee or Applicant of cited Document
	1.	2,778,739		01/22/1957	Rodth
	2.	3,183,096		05/11/1965	Hiscock
	3.	3,501,896	A	03/24/1970	Stoeser et al.
	4.	3,631,793		06/23/1969	Bednartz
	5.	3,640,727		02/08/1972	Heusinkveld
	6.	4,136,202		01/23/1979	Favre
	7.	4,389,925		06/28/1983	Piana
	8.	4,534,985		08/13/1985	Gasau
	9.	4,540,595		09/10/1985	Acitelli et al.
	10.	4,644,151	A	05/12/1987	Piet
	11.	4,676,482	A1	11/04/1987	Marvin et al.
	12.	4,742,645		05/10/1988	Johnston
	13.	4,859,337		08/22/1989	Woltermann
	14.	4,860,645	A	08/29/1989	Van Der Lijn et al.
	15.	4,867,993		09/19/1989	Nordskog
	16.	4,976,179		12/11/1990	Lacrouts-Cazenave
	17.	5,012,629		05/07/1991	Rehman et al.
	18.	5,028,769	A	07/02/1991	Claypool et al.
	19.	5,108,768	A	04/28/1992	So
	20.	5,194,553	A	03/16/1993	Freeburne et al.
	21.	5,242,702	A	09/07/1993	Fond
	22.	5,243,164	A	09/07/1993	Erickson et al.
	23.	5,251,758	A	10/12/1993	Kolacek
	24.	5,285,041	A	02/08/1994	Wright
	25.	5,402,707	A	04/04/1995	Fond et al.
	26.	5,460,078	A	10/24/1995	Weller
	27.	5,496,573	A	03/05/1996	Tsuji et al.
	28.	5,501,945	A	03/26/1996	Kanakkanatt
	29.	5,535,765	A	07/16/1996	Takashima
	30.	5,601,716	A	02/11/1997	Heinrich et al.
	31.	5,637,850	A	06/10/1997	Honda
	32.	5,656,311	A	08/12/1997	Fond
	33.	5,656,318	A	08/12/1997	Fond et al.
	34.	5,677,522	A	10/14/1997	Rice et al.
	35.	5,725,261	A	03/10/1998	Rahn
	36.	5,840,189	A	11/24/1998	Sylvan et al.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1859
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	37.	5,888,549	A	03/30/1999	Buchholz et al.
	38.	5,895,672	A	04/20/1999	Cooper
	39.	5,897,899	A	04/27/1999	Fond
	40.	5,917,165	A	06/29/1999	Platt et al.
	41.	5,941,055	A	08/24/1999	Coates
	42.	5,948,455	A	09/07/1999	Schaeffer et al
	43.	5,980,743	A	11/09/1999	Bairischer
	44.	5,994,677	A	11/30/1999	Akerlind
	45.	6,153,026	A	11/28/2000	Michotte
	46.	6,199,780	B1	03/13/2001	Görlitz
	47.	6,202,929	A	03/20/2001	Verschuur et al.
	48.	6,213,326	B1	04/10/2001	Denner et al.
	49.	6,299,926	B1	10/09/2001	Balakrishnan et al.
	50.	6,440,256	B1	08/27/2002	Gordon et al.
	51.	6,451,332	B1	09/17/2002	Tanaka et al.
	52.	6,589,577	B2	07/08/2003	Lazaris et al.
	53.	6,598,800	A1	07/29/2003	Schmit et al.
	54.	6,607,762	B2	08/19/2003	Lazaris et al.
	55.	6,627,244	B2	09/30/2003	Omura
	56.	6,645,537	B2	11/11/2003	Sweeney et al.
	57.	6,655,260	B2	12/02/2003	Lazaris
	58.	6,817,538	B2	11/16/2004	Afzali-Ardakani et al.
	59.	6,861,086	B2	03/01/2005	Buckingham et al.
	60.	6,948,420	B2	09/27/2005	Kirschner et al.
	61.	6,994,879	B2	02/07/2006	Cirigliano et al.
	62.	7,408,094	B2	08/05/2008	Little et al.
	63.	7,444,925	B2	02/07/2006	Cirigli
	64.	7,464,518	B2	12/16/2008	Ansinn
	65.	7,543,527	B2	06/09/2009	Schmed
	66.	7,552,672	B2	06/30/2009	Schmed
	67.	7,595,870	B2	09/29/2009	Ringlien
	68.	7,673,558	B2	03/09/2010	Panesar et al.
	69.	7,685,930	B2	03/30/2010	Mandralis et al.
	70.	7,815,953	B2	10/19/2010	Mastropasqua et al.
	71.	7,935,646	B2	05/03/2011	Viazmensky et al.
	72.	7,946,217	B2	05/24/2011	Favre et al.
	73.	7,981,451	B2	07/19/2011	Ozanne
	74.	8,039,029	B2	10/18/2011	Ozanne
	75.	8,039,034	B2	10/18/2011	Ozanne

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1860
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Marc Krüger
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	76.	8,088,423	B2	01/03/2012	Ohresser et al.
	77.	8,101,928	B2	01/24/2012	Hill et al.
	78.	8,114,461	B2	02/14/2012	Perlman et al.
	79.	8,163,318	B2	04/24/2012	Ozanne et al.
	80.	8,168,908	B2	05/01/2012	Heimann
	81.	8,257,766	B2	09/04/2012	Yoakim et al.
	82.	8,276,639	B2	10/02/2012	Binacchi
	83.	8,361,527	B2	01/29/2013	Winkler et al.
	84.	8,474,368	B2	07/02/2013	Kilber et al.
	85.	8,491,948	B2	07/23/2013	Ozanne et al.
	86.	8,491,976	B2	07/23/2013	Sato et al.
	87.	8,505,440	B2	08/13/2013	Kirschner et al.
	88.	8,512,886	B2	08/20/2013	Ozanne
	89.	8,734,881	B2	05/27/2014	Yoakim et al.
	90.	8,747,775	B2	06/10/2014	Sandvick
	91.	8,794,125	B1	08/05/2014	Rivera
	92.	8,906,436	B2	12/09/2014	Nowak
	93.	8,916,220	B2	12/23/2014	Mahlich et al.
	94.	8,956,672	B2	02/17/2015	Yoakim et al.
	95.	9,049,958	B2	06/09/2015	Fischer
	96.	9,072,402	B2	07/07/2015	Ryser
	97.	9,079,705	B2	07/14/2015	Digiuni
	98.	9,150,347	B2	10/06/2015	Scheiber
	99.	9,204,751	B2	12/08/2015	Peterson
	100	9,216,854	B2	12/22/2015	Schreiber
	101	9,227,837	B2	01/05/2016	Reinmuth
	102	9,271,602	B2	03/01/2016	Beaulieu et al.
	103	9,290,317	B2	03/22/2016	Quinn et al.
	104	9,295,278	B2	03/29/2016	Nowak
	105	9,357,791	B2	06/07/2016	Fountain et al.
	106	9,359,126	B2	06/07/2016	Wong et al.
	107	9,359,128	B2	06/07/2016	Mahlich
	108	9,392,902	B2	07/19/2016	Parentes et al.
	109	9,394,101	B2	07/19/2016	Empl
	110	9,409,703	B2	08/09/2016	Krüger et al.
	111	9,409,704	B2	08/09/2016	Digiuni et al.
	112	9,415,931	B2	08/16/2016	Gerbaulet et al.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1861
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	113	9,428,328	B2	08/30/2016	Trombetta et al.
	114	9,428,329	B2	08/30/2016	Trombetta et al.
	115	9,434,525	B2	09/06/2016	Fabozzi et al.
	116	9,486,108	B1	11/08/2016	Douglas et al.
	117	9,808,112	B2	11/07/2017	Favero et al.
	118	9,969,564	B2	05/15/2018	Krüger

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Kind Code	Publication Date	Name of Patentee or Applicant of cited Document
	1.	2001/0038204	A1	11/08/2001	Nojima et al
	2.	2001/0047724	A1	12/06/2001	Lazaris
	3.	2001/0048957	A1	12/06/2001	Lazaris et al.
	4.	2001/0181005	A1	08/09/2007	Kirschner et al.
	5.	2002/0020659	A1	02/21/2002	Sweeney
	6.	2002/0048621	A1	04/25/2002	Boyd et al.
	7.	2002/0085164	A1	07/04/2002	Stanford-Clark
	8.	2002/0088807	A1	07/11/2002	Perkovic et al.
	9.	2002/0110626	A1	08/15/2002	Buckingham et al.
	10.	2002/0148356	A1	10/17/2002	Lazaris et al.
	11.	2003/0005826	A1	01/09/2003	Sargent et al.
	12.	2003/0033938	A1	02/20/2003	Halliday et al.
	13.	2003/0039731	A1	02/27/2003	Dalton et al.
	14.	2003/0121979	A1	07/03/2003	Haens et al.
	15.	2003/0172813	A1	09/18/2003	Schifferle
	16.	2003/0222089	A1	12/04/2003	Hale
	17.	2004/0005384	A1	01/08/2004	Cai
	18.	2004/0045443	A1	03/11/2004	Lazaris et al.
	19.	2004/0089158	A1	05/13/2004	Mahlich
	20.	2004/0089602	A1	05/13/2004	Heinrich et al.
	21.	2004/0115310	A1	06/17/2004	Yoakim et al.
	22.	2004/0118295	A1	06/24/2004	Angeles
	23.	2004/0142070	A1	07/22/2004	Haen
	24.	2004/0155113	A1	08/12/2004	Urano et al
	25.	2004/0182250	A1	09/23/2004	Halliday et al.
	26.	2004/0188459	A1	09/30/2004	Halliday et al.
	27.	2005/0016383	A1	01/27/2005	Kirschner et al.
	28.	2005/0045566	A1	03/03/2005	Larkin et al.
	29.	2005/0051478	A1	03/10/2005	Karanikos et al.
	30.	2005/0061478	A1	03/24/2005	Huang
	31.	2005/0150391	A1	07/14/2005	Schifferle

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

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	32.	2005/0160919	A1	07/28/2005	Balkau
	33.	2005/0183581	A1	08/25/2005	Kirschner et al.
	34.	2005/0266122	A1	12/01/2005	Franceschi
	35.	2006/0010744	A1	01/19/2006	Schumacher
	36.	2006/0032427	A1	02/16/2006	Ishii et al.
	37.	2006/0084344	A1	04/20/2006	Bonneh
	38.	2006/0107841	A1	05/25/2006	Schifferle
	39.	2006/0194004	A1	08/31/2006	Niemoller at al.
	40.	2006/0228447	A1	10/12/2006	Ganesan et al.
	41.	2006/0236871	A1	10/26/2006	Ternite et al.
	42.	2007/0144355	A1	06/28/2007	Denisart et al.
	43.	2007/0148290	A1	06/28/2007	Ternite et al.
	44.	2007/0157821	A1	07/12/2007	Panesar et al.
	45.	2007/0181005	A1	08/09/2007	Kirschner et al.
	46.	2007/0181412	A1	08/09/2007	Raunig
	47.	2007/0203587	A1	08/30/2007	Erlandsson et al.
	48.	2007/0257118	A1	11/08/2007	Riley et al.
	49.	2008/0024536	A1	01/31/2008	Hirano et al.
	50.	2008/0026121	A1	01/31/2008	Mastropasqua et al.
	51.	2008/0028946	A1	02/07/2008	Kirschner et al.
	52.	2008/0038441	A1	02/14/2008	Kirschner
	53.	2008/0085356	A1	04/10/2008	Colliver et al.
	54.	2008/0116105	A1	05/22/2008	Statham
	55.	2008/0148948	A1	06/26/2008	Evers et al.
	56.	2008/0187638	A1	08/07/2008	Hansen
	57.	2008/0245236	A1	10/09/2008	Ternite et al.
	58.	2008/0299262	A1	12/04/2008	Reati
	59.	2008/0302251	A1	12/11/2008	Rijskamp et al.
	60.	2009/0004343	A1	01/01/2009	Xiong et al.
	61.	2009/0007793	A1	01/08/2009	Glucksman et al.
	62.	2009/0007796	A1	01/08/2009	Maddalena Ricotti
	63.	2009/0092711	A1	04/09/2009	Ninh et al.
	64.	2009/0126577	A1	05/21/2009	Ternite
	65.	2009/0136626	A1	05/28/2009	Mueller
	66.	2009/0211458	A1	08/27/2009	Denisart et al.
	67.	2009/0211713	A1	08/27/2009	Binacchi
	68.	2009/0223375	A1	09/10/2009	Verbeek
	69.	2009/0249961	A1	10/08/2009	Cheng
	70.	2009/0289121	A1	11/26/2009	Maeda et al.
	71.	2009/0291379	A1	11/26/2009	Masaya Oota, et al.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1863
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	72.	2009/0324788	A1	12/31/2009	Roy et al.
	73.	2009/0324791	A1	12/31/2009	Ohresser et al.
	74.	2010/0000667	A1	01/07/2010	Funnell
	75.	2010/0028495	A1	02/04/2010	Novak et al.
	76.	2010/0050880	A1	03/04/2010	Suter et al.
	77.	2010/0051532	A1	03/04/2010	Wawrla et al.
	78.	2010/0054532	A1	03/04/2010	Mitte et al.
	79.	2010/0072272	A1	03/25/2010	Angros
	80.	2010/0078480	A1	04/01/2010	Aker
	81.	2010/0108541	A1	05/06/2010	Roberto
	82.	2010/0132564	A1	06/03/2010	Ozanne et al.
	83.	2010/0147418	A1	06/17/2010	Piana
	84.	2010/0147872	A1	06/17/2010	Saxton et al.
	85.	2010/0181378	A1	07/22/2010	Hayakawa et al.
	86.	2010/0196545	A1	08/05/2010	Buffet et al.
	87.	2010/0239717	A1	09/23/2010	Yoakim et al.
	88.	2010/0239733	A1	09/23/2010	Yoakim et al.
	89.	2010/0239734	A1	09/23/2010	Yoakim,et al.
	90.	2010/0260915	A1	10/14/2010	Young
	91.	2010/0263329	A1	10/21/2010	Nash
	92.	2010/0264640	A1	10/21/2010	Lane et al.
	93.	2010/0288131	A1	11/18/2010	Kilber et al.
	94.	2010/0288133	A1	11/18/2010	Litzka et al.
	95.	2010/0303964	A1	12/02/2010	Beaulieu et al.
	96.	2010/0308061	A1	12/09/2010	Loulourgas
	97.	2011/0005399	A1	01/31/2011	Epars et al.
	98.	2011/0020500	A1	01/27/2011	Eichler et al.
	99.	2011/0033580	A1	02/10/2011	Biesheuvel et al.
	100	2011/0041702	A1	02/24/2011	Yoakim
	101	2011/0064852	A1	03/17/2011	Mann
	102	2011/0076361	A1	03/31/2011	Peterson et al.
	103	2011/0089135	A1	04/21/2011	Simon et al.
	104	2011/0097450	A1	04/28/2011	Krüger
	105	2011/0142996	A1	06/16/2011	Krüger
	106	2011/0189350	A1	08/04/2011	Van Belleghem et al.
	107	2011/0212225	A1	09/01/2011	Mariller
	108	2011/0250333	A1	10/13/2011	Ozanne
	109	2011/0250812	A1	10/13/2011	Pourdeyhimi et al.
	110	2011/0303095	A1	12/15/2011	Fu et al.
	111	2011/0308397	A1	12/22/2011	Sinot et al.
	112	2012/0006685	A1	01/12/2012	Van Engelen

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
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	113	2012/0058226	A1	03/08/2012	Winkler et al.
	114	2012/0060697	A1	03/15/2012	Ozanne
	115	2012/0070542	A1	03/22/2012	Camera et al.
	116	2012/0070543	A1	03/22/2012	Mahlich
	117	2012/0070551	A1	03/22/2012	Mahlich
	118	2012/0097041	A1	04/26/2012	Bucher et al.
	119	2012/0097602	A1	04/26/2012	Tedford
	120	2012/0100264	A1	04/26/2012	Bucher et al.
	121	2012/0121765	A1	05/17/2012	Kamerbeek et al.
	122	2012/0123106	A1	05/17/2012	Joos
	123	2012/0126834	A1	05/24/2012	Kleinhans
	124	2012/0183657	A1	07/19/2012	Marina et al.
	125	2012/0195155	A1	08/02/2012	Gennai et al.
	126	2012/0201933	A1	08/09/2012	Dran et al.
	127	2012/0207893	A1	08/16/2012	Krüger
	128	2012/0207895	A1	08/16/2012	Rivera
	129	2012/0251668	A1	10/04/2012	Wong, et al.
	130	2012/0251672	A1	10/04/2012	Kamerbeek, et al.
	131	2012/0258210	A1	10/11/2012	Wong et al.
	132	2012/0295234	A1	11/22/2012	Rognon et al.
	133	2012/0308688	A1	12/06/2012	Peterson et al.
	134	2013/0055903	A1	03/07/2013	Deuber
	135	2013/0059039	A1	03/07/2013	Trombetta et al.
	136	2013/0064929	A1	03/14/2013	Jarisch et al.
	137	2013/0064937	A1	03/14/2013	Jarisch et al.
	138	2013/0084363	A1	04/04/2013	Krueger et al.
	139	2013/0084376	A1	04/04/2013	Fischer et al.
	140	2013/0101716	A1	04/25/2013	Beaulieu et al.
	141	2013/0122153	A1	05/16/2013	Ferrier et al.
	142	2013/0125762	A1	05/23/2013	Dogan et al.
	143	2013/0129872	A1	05/23/2013	Krueger et al.
	144	2013/0136828	A1	05/30/2013	Anghileri
	145	2013/0149424	A1	06/13/2013	Fischer
	146	2013/0156897	A1	06/20/2013	Goldstein
	147	2013/0206011	A1	08/15/2013	Ozanne et al.
	148	2013/0209618	A1	08/15/2013	Trombetta et al.
	149	2013/0209619	A1	08/15/2013	Mahlich
	150	2013/0209622	A1	08/15/2013	Fountain et al.
	151	2013/0216663	A1	08/22/2013	Dogan et al.
	152	2013/0230627	A1	09/05/2013	Hansen et al.
	153	2013/0243910	A1	09/19/2013	Krueger et al.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
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	154	2013/0312619	A1	11/28/2013	Spiegel et al.
	155	2013/0327223	A1	12/12/2013	Bartoli et al.
	156	2014/0001563	A1	01/03/2014	Krueger et al.
	157	2014/0004231	A1	01/02/2014	Norton et al.
	158	2014/0017359	A1	01/16/2014	Krueger et al.
	159	2014/0046126	A1	02/13/2014	Gilligan et al.
	160	2014/0127364	A1	05/08/2014	Fu et al.
	161	2014/0141128	A1	05/22/2014	Trombetta et al.
	162	2014/0141129	A1	05/22/2014	Greene
	163	2014/0161936	A1	06/12/2014	Trombetta et al.
	164	2014/0178538	A1	06/26/2014	Husband et al.
	165	2014/0196608	A1	07/17/2014	Amrein et al.
	166	2014/0220191	A1	08/07/2014	Kelly et al.
	167	2014/0224130	A1	08/14/2014	Castellani et al.
	168	2014/0230370	A1	08/21/2014	Bianchi
	169	2014/0263033	A1	09/18/2014	Fu et al.
	170	2014/0272018	A1	09/18/2014	Koller et al.
	171	2014/0287104	A1	09/25/2014	Austin et al.
	172	2014/0287105	A1	09/25/2014	Husband et al.
	173	2014/0346022	A1	11/27/2014	Keller et al.
	174	2014/0348984	A1	11/27/2014	Zeller et al.
	175	2014/0370181	A1	12/18/2014	Young et al.
	176	2015/0010680	A9	01/08/2015	Mahlich
	177	2015/0020481	A1	01/22/2015	Hodler
	178	2015/0029702	A1	01/29/2015	Foley
	179	2015/0056331	A1	02/26/2015	Rivera
	180	2015/0056340	A1	02/26/2015	Trombetta et al.
	181	2015/0056351	A1	02/26/2015	Deuber
	182	2015/0079241	A1	03/19/2015	Mahlich
	183	2015/0119220	A1	04/30/2015	Rea et al.
	184	2015/0128525	A1	05/14/2015	Bartoli et al.
	185	2015/0132441	A1	05/14/2015	Accursi
	186	2015/0157164	A1	06/11/2015	Digiuni
	187	2015/0158665	A1	06/11/2015	Krueger et al.
	188	2015/0158666	A1	06/11/2015	Krüger et al.
	189	2015/0166204	A1	06/18/2015	Rea et al.
	190	2015/0173558	A1	06/25/2015	Cross et al.
	191	2015/0175347	A1	06/25/2015	Empl
	192	2015/0201790	A1	07/23/2015	Smith et al.
	193	2015/0239652	A1	08/27/2015	Trombetta et al.
	194	2015/0246741	A1	09/03/2015	Hansen et al.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	195	2015/0274411	A1	10/01/2015	Krueger
	196	2015/0297021	A1	10/22/2015	Bugnano et al.
	197	2015/0297023	A1	10/22/2015	Hansen et al.
	198	2015/0314954	A1	11/05/2015	Empl
	199	2015/0329282	A1	11/19/2015	Bartoli et al.
	200	2015/0353275	A1	12/10/2015	Accursi
	201	2015/0375926	A1	12/31/2015	Fischer
	202	2016/0001968	A1	01/07/2016	Krüger et al.
	203	2016/0037961	A1	02/11/2016	Digiuni
	204	2016/0045060	A1	02/18/2016	Flick
	205	2016/0058234	A1	03/03/2016	Eppler et al.
	206	2016/0066591	A1	03/10/2016	Halliday et al.
	207	2016/0075506	A1	03/17/2016	Chapman et al.
	208	2016/0194146	A1	07/07/2016	Schelch et al.
	209	2016/0207696	A9	07/21/2016	Trombetta et al.
	210	2016/0242594	A1	08/25/2016	Empl et al.
	211	2016/0251150	A1	09/01/2016	Macchi et al.
	212	2016/0325921	A1	11/10/2016	Empl
	213	2016/0332759	A1	11/17/2016	Trombetta et al.
	214	2016/0340110	A1	11/24/2016	Trombetta et al.
	215	2017/0020329	A1	01/26/2017	Douglas et al.
	216	2017/0027374	A1	02/02/2017	Smith et al.
	217	2019/0359418	A1	11/28/2019	Kruger

FOREIGN PATENT DOCUMENTS							
Examiner Initial*	Cite No.	Foreign Document Number	Country Code	Kind Code	Publication Date	Name of Patentee or Applicant of cited Document	T[5]
	1.	2399283 (also published as US 6,589,577)	CA	C	05/01/2007	Lazaris et al.	
	2.	2399290 (also published as US 6,607,762)	CA	C	01/10/2006	Lazaris et al.	
	3.	2436389 (also published as US 6,861,086)	CA	A1	08/22/2002	Buckingham et al.	
	4.	2531544 (also published as US 7,946,217)	CA	C	05/01/2012	Favre et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
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	5.	2661921 (also published as US 8,512,886)	CA	A1	03/06/2008	Ozanne	
	6.	2662069 (also published as US 8,039,029)	CA	C	01/08/2013	Ozanne	
	7.	2662071 (also published as US 8,491,948)	CA	C	07/05/2011	Ozanne et al.	
	8.	2763746 (also published as US 8,114,461)	CA	A1	03/11/2010	Perlman et al.	
	9.	2784752 (also published as US 9,204,751)	CA	C	06/23/2011	Peterson	
	10.	2785843 (also published as US 2013/0156897)	CA	A1	02/10/2013	Goldstein	
	11.	2788283 (also published as US 9,428,328)	CA	A1	03/01/2013	Trombetta et al.	
	12.	2810237 (also published as US 8,361,527)	CA	A1	03/08/2012	Winkler et al.	
	13.	2832794 (also published as US 2014/0127364)	CA	C	03/22/2016	Fu et al.	
	14.	2833096 (also published as US 2014/0141128)	CA	C	05/31/2016	Fu et al.	
	15.	2866119 (also published as US 2015/0020481	CA	A1	09/19/2013	Hodler	
	16.	2872667 (also published as US 2015/0157164)	CA	A1	11/21/2013	Digiuni et al.	
	17.	2874025 (also published as US 2015/0119220)	CA	A1	12/27/2013	Rea et al.	
	18.	2877090 (also published as US 9,409,704)	CA	A1	01/09/2014	Digiuni et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	19.	2886299 (also published as US 9,969,564)	CA	A1	04/03/2014	Krüger	
	20.	2888658 (also published as US 2014/0161936)	CA	C	06/12/2014	FU et al.	
	21.	2898173 (also published as US 2015/0353275)	CA	A1	08/07/2014	Accursi	
	22.	2901582 (also published as US 2016/0075506)	CA	A1	11/20/2014	Chapman et al.	
	23.	2902231	CA	A1	08/28/2014	Trombetta et al.	
	24.	101646613 (also published as US 2001/0181005)	CN	A	02/10/2010	Kirschner et al.	
	25.	102741136 (also published as US 2011/0064852)	CN	A	10/17/2012	Torsten	
	26.	104334473 (also published as US 2015/0132441)	CN	A	02/04/2015	Accursi	
	27.	1207866	DE	B	12/23/1965	Bentz	X
	28.	1221960	DE	B	07/28/1966	Bentz &Sohn Melitta	X
	29.	3432339	DE	A1	03/13/1986	Gesen et al.	X
	30.	69615001 (also published as US 5,948,455)	DE	T2	03/21/2002	Yoakim et al.	
	31.	102006004329	DE	A1	08/09/2007	Martinez et al.	X
	32.	102010027485	DE	A1	01/19/2012	Krueger	X
	33.	102010034206	DE	A1	02/16/2012	Eppler	X
	34.	102011010534	DE	A1	08/09/2012	Krüger et al.	
	35.	102011115833 (also published as US 9,409,703)	DE	A1	04/18/2013	Krüger et al.	
	36.	102012110446	DE	A1	01/02/2014	Krüger et al.	X
	37.	102014018470	DE	A1	06/16/2016	Heimann et al.	X
	38.	202006003115	DE	U1	05/11/2006	Unknown	X
	39.	202009014945 (also published as US 9,072,402)	DE	U1	09/23/2010	Ryser	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	40.	202010007919 (also published as US 2013/0209619)	DE	U1	11/11/2010	Mahlich	
	41.	0224297 (also published as US 4,860,645)	EP	A1	06/03/1987	Van Der Lijn	
	42.	569230 (also published as US 5,194,553)	EP	A1	11/10/1993	Freeburne et al.	
	43.	1273528	EP	A1	01/08/2003	Yoakim et al.	X
	44.	1722398 (also published as US 8,101,928)	EP	A1	11/15/2006	Downer et al.	
	45.	0244339 (also published as US 4,676,482)	EP	A1	11/04/1987	Reece et al.	
	46.	0455337	EP	A1	11/06/1991	Bentley et al.	
	47.	0468078 (also published as US 5,242,702)	EP	A1	01/29/1992	Fond	
	48.	0468079	EP	A1	01/29/1992	Fond	
	49.	0638486	EP	B1	10/23/1996	Gibbs et al.	
	50.	0656224 (also published as US 5,601,716)	EP	A1	06/07/1995	Heinrich et al.	
	51.	0859467 (also published as US 5,917,165)	EP	A1	08/19/1998	Platt et al.	
	52.	0923865 (also published as US 6,451,332)	EP	A2	06/23/1999	Tanaka et al.	
	53.	1129623	EP	A1	09/05/2001	Diaz	
	54.	1221418 (also published as US 2002/0088807)	EP	A1	07/10/2002	Perkovic et al	
	55.	1344722 (also published as US 7,543,527)	EP	A1	09/17/2003	Schifferle	
	56.	1344724	EP	A1	09/17/2003	Hale	
	57.	1363501 (also published as US 2002/0110626)	EP	A2	11/26/2003	Buckingham	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	58.	1471012	EP	A2	10/27/2004	Tuens	
	59.	1555219 (also published as US 7,552,672)	EP	A1	07/20/2005	Schifferle	
	60.	1559351 (also published as US 2005/0160919)	EP	A2	08/03/2005	Balkau	
	61.	1586534 (also published as US 2008/0148948)	EP	A1	10/19/2005	Evers et al.	
	62.	1710173 (also published as US 2006/0236871)	EP	A1	10/11/2006	Ternite et al.	
	63.	1772398	EP	A1	04/11/2007	Van Belleghem	
	64.	1792850 (also published as US 2007/0148290)	EP	B1	06/06/2007	Ternite et al.	
	65.	1796516 (also published as US 8,109,200)	EP	A2	06/20/2007	Hansen	
	66.	1849718	EP	A1	10/31/2007	Rubino	
	67.	1882431 (also published as US 8,088,423)	EP	B1	04/28/2010	Ohresser et al.	
	68.	1882432 (also published as US 2009/0324791)	EP	B1	01/30/2008	Ohresser et al	
	69.	1892199	EP	A1	02/27/2008	Ternite	X
	70.	1974638 (also published as US 2008/0024536)	EP	A1	10/01/2008	Ternite et al.	
	71.	2012994	EP	B1	07/11/2012	Abegglen et al.	
	72.	2158829 (also published as US 2010/0050880)	EP	A1	03/03/2010	Suter et al.	
	73.	2218653	EP	A1	08/18/2010	Wons UWE	X
	74.	2230195 (also published as US 8,734,881)	EP	A1	09/22/2010	Yoakim et al.	
	75.	2239211 (also published as US 8,257,766)	EP	A1	10/13/2010	Yoakim et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	76.	2284102	EP	A1	02/16/2011	Schulte et al.	
	77.	2287090 (also published as US 2011/0041702)	EP	A1	02/23/2011	Yoakim	
	78.	2364930 (also published as US 8,956,672)	EP	A2	09/14/2011	Yoakim et al.	
	79.	2384133 (also published as US 2011/0250333)	EP	B1	11/09/2011	Ozanne	
	80.	2412645	EP	A1	02/01/2012	Hiridjee	X
	81.	2444339 (also published as US 2013/0216663)	EP	A1	04/25/2012	Dogan, et al.	
	82.	2484505 (also published as US 2012/0195155)	EP	A2	08/08/2012	Gennai et al.	
	83.	2537778	EP	A1	12/26/2012	Pineschi	
	84.	2559636 (also published as US 9,434,525)	EP	A1	02/20/2013	Fabozzi	
	85.	2809006 (also published as US 2014/0346022)	EP	A1	12/03/2014	Keller et al.	
	86.	2957525 (also published as US 2019/0359418)	EP	A1	12/23/2015	Kruger	
	87.	0272922	EP	A2	06/29/1988	Bentley et al.	
	88.	0512468	EP	A1	11/11/1992	Fond	
	89.	1882432	EP	A1	01/30/2008	Ohresser et al.	
	90.	2556323	FR	A1	06/14/1985	Munier Rene	
	91.	2912124	FR	A1	08/08/2008	Blanc et al.	
	92.	2963332 (also published as US 2013/0122153)	FR	A1	02/03/2012	Ferrier et al.	
	93.	1402799	GB	A	08/13/1975	Battelle Memorial Institute	
	94.	2482032 (also published as US 9,357,791)	GB	A	01/18/2012	Fountain et al.	
	95.	2469874	GB	A	11/03/2010	Hansen et al.	
	96.	02289207	JP	A	11/29/1990	Ozasa et al.	abs.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1872
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	97.	2001-017094	JP	A	01/23/2001	Toshiyuki et al.	X
	98.	2001-082699	JP	A	03/30/2001	Suzuki et al	
	99.	2001-250161	JP	A	09/14/2001	Takayuki et al.	X
	100.	2002-274000	JP	A	09/25/2002	DAINIPPON PRINTING CO LTD	
	101.	2002-347852	JP	A	12/04/2002	SHOWA DENKO PLASTIC PROD CO	
	102.	2003-235733	JP	A	08/26/2003	Mitsuaki	X
	103.	2003-265320 (also published as US 2003/0172813)	JP	A	09/24/2003	Schifferle	
	104.	2003-522567 (also published as US 2003/0033938)	JP	A	07/29/2003	Halliday et al.	
	105.	2004-097015	JP	A	04/02/2004	Matsuura	X
	106.	2004-533305 (also published as US 2004/0115310)	JP	A	11/04/2004	Unknown	
	107.	2005-199070 (also published as US 2005/0150391)	JP	A	07/28/2005	Schifferle	
	108.	2006-510682 (also published as US 7,408,094)	JP	A	03/30/2006	Little et al.	
	109.	2007-522856 (also published as US 7,673,558)	JP	A	08/16/2007	Panesar et al.	
	110.	2010-500199 (also published as US 2010/0000667)	JP	A	01/07/2010	Funnell	
	111.	2010-507418 (also published as US 2010/0051532)	JP	A	03/11/2010	Wawrla et al.	
	112.	2010-516364 (also published as US 2013/0206011)	JP	A	05/20/2010	Ozanne et al.	
	113.	2010-528635 (also published as US 9,277,837)	JP	A	08/26/2010	Yoakim et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
	Examiner Name	TBA
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	114.	2013-538609 (also published as US 9,049,958)	JP	A	10/17/2013	Fischer	
	115.	2015-085086	JP	A	05/07/2015	Hirota et al.	X
	116.	H01-233688	JP	A	09/19/1989	TOKYU CAR CORP	
	117.	H0394377	JP	A	04/19/1991	Toshiaki	
	118.	H04176311	JP	A	06/24/1992	Moji et al.	X
	119.	H06510682 (also published as US 5,460,078)	JP	A	12/01/1994	Weller	
	120.	S62-130649	JP	A	06/12/1987	Shiengu et al.	X
	121.	S62-168512	JP	A	07/24/1987	Yoosuto et al.	
	122.	1020050107747	KR	A	11/15/2005	Halliday et al.	
	123.	596919 (also published as US 2010/0303964)	NZ	A	11/29/2013	Beaulieu et al.	
	124.	01/99047 (also published as US 2003/0121979)	WO	A	12/27/2001	Haens et al.	
	125.	02/28241	WO	A	04/11/2002	Boyd	
	126.	02/078498 (also published as US 2004/0089158)	WO	A1	10/10/2002	Mahlich	
	127.	2004/065258	WO	A2	08/05/2004	Gomez et al.	
	128.	2004/082390 (also published as US 2006/0228447)	WO	A1	09/30/2004	Ganesan et al.	
	129.	2005/044067	WO	A1	05/19/2005	Ruchonnet	
	130.	2005/047111	WO	A1	05/26/2005	Rapparini	
	131.	2005/079638 (also published as US 2007/0157821)	WO	A1	09/01/2005	Panesar	
	132.	2006/121520 (also published as US 2005/0183581)	WO	A2	11/16/2006	Kirschner et al.	
	133.	2007/042414 (also published as US 7,981,451)	WO	A1	04/19/2007	Ozanne	
	134.	2007/042486	WO	A2	04/19/2007	Van Belleghem	
	135.	2007/122144	WO	A1	11/01/2007	Blanc et al.	X

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	136.	2008/011913 (also published as US 2008/0026121)	WO	A1	01/31/2008	Mastropasqua et al.	
	137.	2008/132571	WO	A1	11/06/2008	Pineschi	
	138.	2008/090122 (also published as US 2013/0209620)	WO	A2	07/31/2008	Ozanne et al.	
	139.	2008/107645 (also published as US2010/0196545)	WO	A2	09/12/2008	Buffet et al.	
	140.	2008/121489 (also published as US 8,505,440)	WO	A1	10/09/2008	Kirschner et al.	
	141.	2008/126045 (also published as US 2010/0108541)	WO	A1	10/23/2008	Degli	
	142.	2009/084061	WO	A1	07/09/2009	Nani	
	143.	2009/114119 (also published as US 2010/0028495)	WO	A1	09/17/2009	Novak et al.	
	144.	2009/112291	WO	A1	09/17/2009	Eichler et al.	
	145.	2009/115475 (also published as US 2011/0005399)	WO	A1	09/24/2009	Epars et al.	
	146.	2009/130311 (also published as US 2011/0189350)	WO	A1	10/29/2009	Van Belleghem et al.	
	147.	2009/153161	WO	A1	12/23/2009	Ofenhitzer et al.	X
	148.	2010/007633	WO	A1	01/21/2010	Quadrelli	
	149.	2010/013146	WO	A3	04/29/2010`	Cometto	
	150.	2010/026053	WO	A1	03/11/2010	Denisart et al.	
	151.	2010/041179 (also published as US 2011/212225)	WO	A2	04/15/2010	Mariller	
	152.	2010/076761	WO	A1	07/08/2010	Giua et al.	
	153.	2010/076048	WO	A1	07/08/2010	Campiche	
	154.	2010/085824	WO	A1	08/05/2010	Eder et al.	
	155.	2010/118545	WO	A2	10/21/2010	Deuber	X
	156.	2010/137952 (also published as US 2012/0121765)	WO	A1	12/02/2010	Kamerbeek et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	157.	2010/137960 (also published as US 9,359,126)	WO	A1	12/02/2010	Wong et al.	
	158.	2010/138563 (also published as US 2013/0101716)	WO	A1	11/29/2010	Beaulieu et al.	
	159.	2011/000723 (also published as US 2012/0100264)	WO	A2	01/06/2011	Bucher et al.	
	160.	2011/012501 (also published as US 2012/0126834)	WO	A1	02/03/2011	Kleinhans	
	161.	2011/047836	WO	A1	04/28/2011	Rapparini	
	162.	2011/141532	WO	A1	11/17/2011	Jarisch et al.	
	163.	2011/147491 (also published as US 2013/0084376)	WO	A1	12/01/2011	Fischer et al.	
	164.	2011/147553 (also published as US 2013/0149424)	WO	A1	12/01/2011	Fischer	
	165.	2011/147591 (also published as US 2013/0084363)	WO	A1	12/01/2011	Krueger et al.	
	166.	2012/000878 (also published as US 9,392,902)	WO	A2	01/05/2015	Parentes et al.	
	167.	2012/007257 (also published as US 9,290,317)	WO	A1	01/19/2012	Quinn et al.	
	168.	2012/009668 (also published as US 2013/0209622)	WO	A1	01/19/2012	Fountain et al.	
	169.	2012/019902 (also published as US 9,808,112)	WO	A1	02/16/2012	Favero et al.	
	170.	2012/038063 (also published as US 8,916,220)	WO	A1	03/29/2012	Mahlich	
	171.	2012/080928 (also published as US 2013/0327223)	WO	A1	06/21/2012	Bartoli et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
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	172.	2012/100977 (also published as US 9,415,931)	WO	A1	08/02/2012	Gerbaulet et al.	
	173.	2012/104760	WO	A1	08/09/2012	Bartoli et al.	
	174.	2012/135204 (also published as US 2014/0348984)	WO	A1	10/04/2012	Zeller et al.	
	175.	2012/175985 (also published as US 2014/0287104)	WO	A1	12/27/2012	Peter et al.	
	176.	2013/008012 (also published as US 2014/0220191)	WO	A2	01/17/2013	Kelly et al.	
	177.	2013/032330 (also published as US 2014/0178538)	WO	A1	03/07/2013	Husband et al.	
	178.	2013/043048 (also published as US 2014/0287105)	WO	A1	03/28/2013	Husband et al.	
	179.	2013/136209 (also published as US 2016/0037961)	WO	A1	09/19/2013	Digiuni	
	180.	2013/171663 (also published as US 2015/0128525)	WO	A1	11/21/2013	Bartoli et al.	
	181.	2013/189923 (also published as US 2015/0175347)	WO	A1	12/27/2013	Empl	
	182.	2014/001563 (also published as US 2015/0158666)	WO	A1	01/03/2014	Krueger et al.	
	183.	2014/001564 (also published as US 2015/0158665)	WO	A1	01/03/2014	Krueger et al.	
	184.	2014/006048 (also published as US 2015/0173558)	WO	A2	01/09/2014	Cross et al.	
	185.	2014/090567 (also published as US 20150314954)	WO	A1	06/19/2014	Empl	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	186.	2014/102702 (also published as US 2015/0329282)	WO	A1	07/03/2014	Bartoli et al	
	187.	2014/127863 (also published as US 2015/0375926)	WO	A1	08/28/2014	Fischer	
	188.	2015/028425 (also published as US 2016/0194146)	WO	A2	03/05/2015	Schelch et al.	
	189.	2015/062703 (also published as US 2016/0251150)	WO	A1	05/07/2015	Macchi et al.	
	190.	2015/075584	WO	A1	05/28/2015	Accursi	
	191.	2015/107484	WO	A1	07/23/2015	Rivola et al.	
	192.	2016/077916	WO	A1	05/26/2016	Hanneson et al.	
	193.	98/51396	WO	A1	11/19/1998	Timmermann et al.	X
	194.	99/58035 (also published as US 5,895,672)	WO	A1	11/18/1999	Cooper	
	195.	2004/065258	WO	A2	08/05/2004	Gomez et al.	
	196.	2007/114685	WO	A1	10/11/2007	Verbeek	
	197.	2010/125326	WO	A1	11/04/2010	Hansen et al.	
	198.	2010/125329	WO	A1	11/04/2010	Hansen et al.	

NON-PATENT LITERATURE DOCUMENTS

Examiner Initial*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Rawle, Alan, "Particle Sizing – An Introduction" 2012; Silver Colloids, Edition or volume on Colloidal Silver	
	2.	Decision on Appeal before the Patent Trial and Appeal Board for Appeal No. 2017-007984 dated May 10, 2019.	
	3.	Notice of Opposition regarding EP3023362 filed July 30, 2018.	
	4.	Search Report for CN201180035944 mailed September 25, 2014.	
	5.	First Office Action for Application No. CN201180035944 mailed October 10, 2014.	
	6.	Second Office Action for Application No. CN201180035944 mailed April 21, 2015.	
	7.	Third Office Action for Application No. CN201180035944 mailed November 12, 2015.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	8.	Notification to Grant Patent for Application No. CN201180035944 mailed May 25, 2016.	
	9.	Search Report for CN201610644043 mailed May 11, 2018	
	10.	First Office Action for CN201610644043 mailed May 28, 2018	
	11.	Search Report and Written Opinion for PCT/EP2011/003677 mailed July 22, 2011.	
	12.	Search Report and Written Opinion for Application No. EP 15174333.3 dated November 3, 2015. (EP2952453)	
	13.	Office Action for Application No. EP 15174333.3 dated August 16, 2016. (EP2952453)	
	14.	Search Report and Written Opinion for Application No. EP 15173071.0 dated November 5, 2015. (EP2957525)	
	15.	Office Action for Application No. EP 15173071.0 dated November 5, 2015. (EP2957525)	
	16.	Third party observation for Application No. EP2957525 dated September 30, 2016.	
	17.	Search Report and Written Opinion for Application No. EP 15197332.8 dated April 12, 2016. (EP3023361)	
	18.	First Office Action for Application No. EP 15197332.8 dated January 19, 2017. (EP3023361)	
	19.	Second Office Action for Application No. EP 15197332.8 dated May 24, 2017. (EP3023361)	
	20.	Third Office Action for Application No. EP 15197332.8 dated November 2, 2017. (EP3023361)	
	21.	Search Report and Written Opinion for Application No. EP 15197336.9 dated April 4, 2016 (EP3023362)	
	22.	Search Report and Written Opinion for Application No. EP 15197338.5 dated April 7, 2016 (EP3023363)	
	23.	Search Report for Application No. JP 2013-520009 dated November 25, 2014. (JP5946828)	
	24.	First Office Action for Application No. JP 2013-520009 dated December 10, 2014. (JP5946828)	
	25.	Second Office Action for Application No. JP 2013-520009 dated August 19, 2015. (JP5946828)	
	26.	Decision to Grant for Application No. JP 2013-520009 dated April 28, 2016. (JP5946828)	
	27.	Search Report for Application No. JP 2016-032427 dated November 21, 2016. (JP2016163691)	
	28.	First Office Action for Application No. JP 2016-032427 dated November 28, 2016. (JP2016163691)	
	29.	Second Office Action for Application No. JP 2016-032427 dated June 20, 2017. (JP2016163691)	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
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	30.	Search Report for Application No. JP 2017-034769 dated November 15, 2017. (JP2017148511)	
	31.	Office Action for Application No. JP 2017-034769 dated January 30, 2018. (JP2017148511)	
	32.	Office Action for Application No. KR 10-2013-7004356 dated April 5, 2018. (KR20137004356)	
	33.	Office Action for Application No. 10-2017-7019956 dated April 10, 2018. (KR20170087528)	
	34.	Opposition Request against European Patent No. EP 3 023 362 dated July 01, 2019.	
	35.	Notice of Opposition for Application No. 19165223.9 dated February 24, 2020.	
	36.	Notice of Opposition for European Patent No. EP3521208 granted February 19, 2020.	
	37.	Opposition against European Patent No. EP3521208; Application No. 19165223.9 granted February 19, 2020.	
	38.	Communication of Notice of Opposition dated January 27, 2020 for Application No. 19165219.7	
	39.	English Translation of JP2003235733	
	40.	Wikipedia definition of "Deep Drawing" http://en.wikipedia.org/wiki/Deep_Drawing	
	41.	Wikipedia definition of "Tiefziehen" http://de.wikipedia.org/wiki/Tiefziehen	
	42.	Wikipedia definition of "Stamping (metalworking)" https://en.wikipedia.org/wiki/Stamping_(metalworking)	
	43.	Wikipedia definition of "Barcode"	
	44.	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004" Official of the European Union	
	45.	Brief Communication for Opposition Proceedings for Appl. 15197336.9, dated March 19, 2020	
	46.	Oral Letter regarding the opposition Procedure dated March 16, 2020 for EP 3023362	
	47.	Opposition oral letter regarding the opposition procedure dated March 16, 2020 for EP 023362	
	48.	Annex to the Communication Opposition Appln No. 15197336.9; 2020	
	49.	Brief Communication-Opposition Proceedings for Appl. No. 15197336.9 dated January 8, 2020	
	50.	Letter regarding Opposition Procedure for EP Patent No. 3023362 dated December 23, 2019	
	51.	Brief Communication for Appl No 15197336.9 dated October 15, 2019	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	52.	"Information technology – Automatic identification and data capture techniques – EAN/UPC bar code symbol specification" Second Edition: December 15, 2009	
	53.	Letter accompanying subsequently filed items for EP3023362, KRO-44; October 10, 2019.	
	54.	Brief Communication – Opposition Proceedings for Appl No. 15197336.9 dated July 23, 2019	
	55.	Letter accompanying subsequently filed items for EP3023362 1038-CMS-O; July 17, 2019	
	56.	Brief Communication – Opposition proceedings for Appln No. 15197336.9 dated July 12, 2019	
	57.	Opposition Procedure for EP Patent No. EP 3023362 dated July 1, 2019	
	58.	Miscellaneous requests concerning client data EPO – June 12, 2019	
	59.	Letter regarding the Opposition Procedure KRO-44/FWJPL dated March 20, 2019	
	60.	Ralf Jesse, "Barcode" Gutachten zur Frage Begriffle, Bitcode/Binacode; Patents EP 3023362; May 19, 2019	
	61.	"Information technology – Automatic identification and data capture techniques – Bar code verifier conformance specification – Part 1: Linear symbols" May 20, 2019 10:12	
	62.	"Information technology – Automatic identification and data capture techniques – Bar code print quality test Spec Linear Symbols" German Version: EN ISO/IEC 15416:2001: 1998-02	
	63.	Declaration under 27 C.F.R. for Appl No. 13/697,297; August 15, 2016	
	64.	Wikipedia "Binarcode" https://de.wikipedia.org/wiki/Binarcode	
	65.	Rosenbaum, Jessie, "Bar-Code" Theorie Lexikon Software; 2000	
	66.	Potter Mathia, "BARCODE" Euinfuhrung und Andwendungen; 1993	
	67.	Oliver Rosenbaum "Das Barcode-Lexicon" edition advanced: cbhv; 1997	
	68.	Fairley Michael "Codes and Coding Technology" LCGS, FIP3 and FLOM3: A Labels & Labeling Publication 2015	
	69.	Claims – Amended Claims with annotations-2	
	70.	Claims – 2019-05-20 Amended Claims with Annotations	
	71.	Auxiliary request during Opposition procedure – 2019-05-20	
	72.	Letter regarding opposition procedure for EP 3023362 dated March 4, 2019	
	73.	Definition of Barcode by Merriam-Webster https://www.meriam-webster.com/dictionary/barcode	
	74.	Barcode-Wikitionary "Barcode" https://de.wikitionary.org/wiki/Barcode 2018	
	75.	Strichcode – Wikipedia "Strichcode" https://de.wikiepdia.org/wiki/strichcode	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
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	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	76.	Reply of the patent proprietor to the notice of opposition 2019-02-11; Appln No. 151973366.9	
	77.	Notice of Opposition against European Patent No. EP 3023362 dated July 30, 2018	
	78.	Notice of Opposition to a European patent, Patent No. EP3023362 dated July 24, 2018.	
	79.	Specification NP-C2.03-02-SP-04-2 Membrane	
	80.	Specification NP-C2.03-01-SP-01-4 empty capsule	
	81.	Marketing brochure “Nespresso Varietäten mit 5 neuen Grand Crus”	
	82.	Photo taken in Nespresso store	
	83.	Marketing brochure "i6 Grands Crus – geschaffen um Ihre Sinne zu ilberraschen "	
	84.	RTS online article	
	85.	Invoice for various Nespresso capsules, dated May 04, 2009	
	86.	Invoice for various Nespresso capsules, dated August 10, 2009	
	87.	Invoice for various Nespresso capsules, dated December 02, 2009	
	88.	Invoice for various Nespresso capsules, dated May 18, 2009	
	89.	Invoice for various Nespresso capsules, dated October 21, 2008	
	90.	Invoice for various Nespresso capsules, dated June 24, 2009	
	91.	Invoice for various Nespresso capsules, dated May 19, 2008	
	92.	Invoice for various Nespresso capsules, dated September 10, 2008	
	93.	Invoice for various Nespresso capsules, dated February 17, 2009	
	94.	Invoice for various Nespresso capsules, dated December 22, 2008	
	95.	User manual for the Tassimo@ brewing machine	
	96.	Web article discussing the T-discs@ cartridges	
	97.	Regulation No. 817.023.21 of the EDI on consumer goods	
	98.	Regulation No.8 17.022.3 1of the EDI on the additives permitted in foodstuffs	
	99.	Regulation of the Swiss Federal Council on Foodstuffs and Consumer Goods	
	100.	"European Printing Ink Association " Guideline on Printing Inks	
	101.	leaflet on printing inks for food packages from the division “Printing Inks" of the Association of the German Paint and Printing Ink Industry	
	102.	EuPIA Exclusion List for Printing Inks and Related Products	
	103.	EuPIA Guideline on Good Manufacturing Practices for the Production of Packaging Inks formulated for use on the non-food contact surfaces of food packaging and articles intended to come into contact with food	
	104.	Commission Regulation (EC) No 2023/2006	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

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	First Named Inventor	Marc Krüger
	Art Unit	3761
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

	105.	Council Directive 89/109/EEC relating to materials and articles intended to come into contact with foodstuffs	
	106.	Policy Statement on Packaging Inks applied to the non-food contact surface of Food Packaging of the public health committee of the council of Europe	
	107.	Nestle Guidance Note on Packaging Inks	
	108.	Council Directive on the colouring matters authorised for use in foodstuffs intended for human consumption	
	109.	Council Directive 89/107/EEC on the approximation of the laws of the Member States concerning food additives authorized for use in foodstuffs intended for human consumption	
	110.	European Parliament and Council Directive 94/36/EC on colours for use in foodstuffs	
	111.	Excerpt from the textbook "Plastics Packaging – Properties, Processing, Applications and Regulations" by Selke/Culter/Hernandez	
	112.	"Lexikon Verpackungstechnik" by Bleisch/Goldhahn/Schricker/Vogt;	
	113.	Paper titled "Aromaveranderung von vakuumverpacktem Kaffee bei unterschiedlichen Packstoffen" by Lindner-Steinert/Zou	
	114.	Paper "Die flexible Verpackung von morgen – Anforderungen an die Veredler" by Agulla/Langowski	
	115.	Excerpt from publication "Grundziige der Lebensmitteltechnik" of 2004 by Tscheuschner	
	116.	Excerpt from publication "Produkt-bkobilanz vakuumverpackter Rostkaffee" of 1999 by Diers/Langowski/Pannkoke	
	117.	3rd Party Observations in EP Patent Application No. 19 165 220.5 (3 533 726), dated June 19, 2020.	
	118.	Opposition Against EP Patent No. EP 3 023 362 dated July 13, 2020.	
	119.	Letter dated September 30, 2020 from file of US Application No. 16/517,054 (by SOCIÉTÉ DES PRODUITS NESTLÉ S.A.)	
	120.	Supplemental arguments filed by Societe des Produits Nestle S.A. in the opposition against European Patent No. EP3521209, dated January 07, 2021.	
	121.	Supplemental arguments filed by Societe des Produits Nestle S.A. in the opposition against European Patent No. EP3023362, dated January 07, 2021.	
	122.	Suggestion for Declaration of Interference dated Sept. 30, 2019	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1883
NESPRESSO USA, INC. v. K-FEE SYSTEM GMBH
IPR2023-00485, U.S. PATENT 11,230,430

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17/383,951
	Filing Date	July 23, 2021
	First Named Inventor	Marc Krüger
	Art Unit	3761
	Examiner Name	TBA
	Attorney Docket Number	1859.029USC10 (KRU0022-WO-US-T11)

EXAMINER SIGNATURE			
Examiner Signature	/BRIAN W JENNISON/	Date Considered	11/22/2021
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.W.J/

K-FEE SYSTEM GMBH, EX2012, page 1884
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IPR2023-00485, U.S. PATENT 11,230,430

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/383,951	Filing Date 07/23/2021	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	12/06/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 13	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/JAMES W TUNSTALL/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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 1.14. This collection is estimated to take 12 minutes 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	44445442
Application Number:	17383951
International Application Number:	
Confirmation Number:	6871
Title of Invention:	PORTION CAPSULE HAVING AN IDENTIFIER
First Named Inventor/Applicant Name:	Marc KRÜGER
Customer Number:	25215
Filer:	Paul J. Palinski/BECKY BALLARD
Filer Authorized By:	Paul J. Palinski
Attorney Docket Number:	1859.029USC10
Receipt Date:	06-DEC-2021
Filing Date:	23-JUL-2021
Time Stamp:	18:10:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	PackagingSpecification.pdf	1673257 24830ac46c72987a571538c0df73a8d0e9fb6d23	no	1
Warnings:					

Information:					
2	Non Patent Literature	ImprovingTraceability.pdf	409641 bfecb73e990202a8e8bf84b4d7b9ec0e8eab9198	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	2082898	

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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.

UNITED STATES PATENT AND TRADEMARK OFFICE

USPTO Automated Interview Request (AIR)

Dec 6 2021

This paper requesting to schedule and/or conduct an interview is appropriate because:

This submission is requested to be accepted as an authorization for this interview to communicate via the internet. Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned concerning scheduling of the interview via video conference, instant messaging, or electronic mail, and to conduct the interview in accordance with office practice including video conferencing.

Name(s):
Paul Palinski

S-signature:
/Paul Palinski/

Registration Number:
71080

U.S. Application Number:
17383951

Confirmation Number:
6871

E-mail Address:
ppalinski@patentco.com

Phone Number:
+1 5867139545

Proposed Time of Interview:
12-12-2021 10:00 AM ET

Alternative Proposed Time(s) of Interview:
12-12-2021 11:00 AM ET

Alternative Proposed Time(s) of Interview:
12-12-2021 12:00 PM ET

Prefered Interview Type:
Telephonic

I am the applicant or applicant's representative for this application.

Topic for Discussion:
Proposed action for placing application into condition for allowance.

uspto UNITED STATES PATENT AND TRADEMARK OFFICE

Filed Via EFS @ USPTO on December 6, 2021
1859.029USC10 / KRU0022-WO-US-T11

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Marc Krüger	Art Unit: 3761
Application No.: 17/383,951	Examiner: Jennison, Brian W.
Filed: July 23, 2021	Conf. No.: 6871

For: PORTION CAPSULE HAVING AN IDENTIFIER

Docket No: 1859.029USC10 / KRU0022-WO-US-T11

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

RESPONSE;
AMENDMENT; AND
INTERVIEW SUMMARY

In response to the Office Action mailed on November 29, 2021, please amend the above-identified application as follows and consider the following remarks.

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IPR2023-00485, U.S. PATENT 11,230,430

Amendments to the Claims

1) – 20) (Cancelled)

21) (Currently Amended) A beverage system for making a beverage, comprising:

A) a single-serve capsule comprising:

i) a base element with a cavity, in which a beverage material is provided, the base element being symmetrical about a central longitudinal axis thereof and having a rounded bottom portion;

ii) a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side;

iii) a cover fastened to the top side of the flange, the cover is bowed outwardly in a central region of the cover relative to a peripheral region of the cover, the cover includes a region configured to be pierced at a location that is offset from the central longitudinal axis;

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

v) an identifier, which includes a repeat pattern, provided on the bottom side of the flange;

B) a beverage machine comprising:

i) a sensor/detector;

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ii) ~~an insertion shaft~~ a receptacle configured to receive the single-serve capsule ~~and to enable detection of the identifier by the sensor/detector~~;

iii) a pump controlled to supply water into the single-serve capsule only upon detection of the identifier by the sensor/detector and a determination by the beverage machine that the single-serve capsule is suitable for use with the beverage machine;

iv) a chamfered mandrel that is configured to pierce the cover at the location that is offset from the central longitudinal axis;

v) a groove that is laterally offset from the chamfered mandrel; and

vi) a seal that is at least partially seated in the groove and configured to bear against the top side of the cover in a region between the peripheral edge of the cover and the region of the cover that is pierced by the chamfered mandrel.

22) (Cancelled)

23) (Cancelled)

24) (Previously Presented) The beverage system according to claim 21, wherein the beverage machine comprises a waste container for the single-serve capsule to fall into.

25) (Previously Presented) The beverage system according to claim 24, wherein the beverage machine comprises a pair of holding arms for guiding the single-serve capsule.

26) (Previously Presented) The beverage system according to claim 21, wherein the base element comprises a side wall that includes a plurality of indentations arranged about the central longitudinal axis.

27) (Previously Presented) The beverage system according to claim 26, wherein the cavity is defined by an inside wall, which includes a ledge at an upper region thereof, the ledge projects from the inside wall towards the central longitudinal axis.

28) (Previously Presented) The beverage system according to claim 26, wherein the identifier is located on the side wall.

29) (Currently Amended) A beverage system for making a beverage, comprising:

A) a single-serve capsule comprising:

i) a base element with a cavity, in which a beverage material is

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provided, the base element being symmetrical about a central longitudinal axis and having a rounded bottom portion;

ii) a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side;

iii) a cover that is fastened to the top side of the flange, the cover is bowed outwardly in a central region of the cover relative to a peripheral region of the cover, the cover includes a region configured to be pierced at a location offset from the central longitudinal axis;

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

v) an identifier, which includes a repeat pattern, provided on the bottom side of the flange;

B) a beverage machine comprising:

i) a sensor/detector;

ii) ~~an insertion shaft~~ a receptacle configured to receive the single-serve capsule ~~and to enable detection of the identifier by the sensor/detector~~;

iii) a pump controlled to supply water into the single-serve capsule only upon detection of the identifier with the sensor/detector and determination by the beverage machine that the detected identifier agrees with a stored reference;

iv) a chamfered mandrel that is configured to pierce the cover at the location offset from the central longitudinal axis;

v) a pair of holding arms for guiding the single-serve capsule;

vi) a waste container for the single-serve capsule to fall into;

vii) a groove that is laterally offset from the chamfered mandrel; and

viii) a seal that is at least partially seated in the groove and configured to bear against the top side of the cover in a region between the peripheral edge of the cover and the region of the cover that is pierced by the chamfered mandrel.

30) (Previously Presented) The beverage system according to claim 29, wherein the base element comprises a side wall, which includes a plurality of indentations, and the identifier is located on the side wall.

31) (Previously Presented) The beverage system according to claim 30, wherein the cavity is defined by an inside wall, which includes a ledge at an upper region thereof, the ledge projects from the inside wall towards the central longitudinal axis.

32) (Currently Amended) A beverage system for making a beverage, comprising:

A) a single-serve capsule comprising:

i) a base element with a cavity, in which a beverage material is provided, the base element being symmetrical about a central longitudinal axis;

ii) an inside wall defining the cavity, which includes a ledge at an upper region thereof, the ledge projects from the inside wall towards the central longitudinal axis

iii) a rounded bottom portion;

iv) a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side;

v) a cover that is fastened to the top side of the flange, the cover is bowed outwardly in a central region of the cover relative to a peripheral region of the cover, the cover includes a region configured to be pierced at a location offset from the central longitudinal axis;

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

vii) a side wall comprising a plurality of indentations arranged about the central longitudinal axis;

viii) an identifier, which includes a repeat pattern, provided on the bottom side of the flange;

B) a beverage machine comprising:

i) a sensor/detector;

ii) a receptacle ~~an insertion shaft~~ configured to receive the single-serve capsule ~~and detection of the identifier by the sensor/detector~~;

iii) a pump controlled to supply water into the single-serve capsule only upon detection of the identifier with the sensor/detector and a determination by the beverage machine that the single-serve capsule is suitable for use with the beverage machine;

iv) a chamfered mandrel that is configured to pierce the cover in the location offset from the central longitudinal axis

v) a pair of holding arms for guiding the single-serve capsule;

vi) a waste container for the single-serve capsule to fall into;

vii) a groove that is laterally offset from the chamfered mandrel; and

viii) a seal at least partially seated in the groove and configured to seal against the top side of the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel.

33) (Previously Presented) The beverage system according to claim 32, wherein

the base element is made of a biodegradable material.

34) (Previously Presented) The beverage system according to claim 32, wherein the base element is deep drawn.

35) (Previously Presented) The beverage system according to claim 32, wherein a ratio of a diameter of the side wall to a diameter of the flange is between 0.85 and 0.89.

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REMARKS

Amendment to the Claims

Applicant has amended the claims. No new matter has been added. The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be entitled in view of the prior art. Further, by the present amendment, it does not follow that the amended claims have become so perfect in their description that no one could devise an equivalent. After amendment, as before, limitations in the ability to describe the present invention in language in the patent claims naturally prevent the Applicants from capturing every nuance of the invention or describing with complete precision the range of its novelty or every possible equivalent. See, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 62 USPQ2d 1705 (2002). Accordingly, the foregoing amendments are made specifically in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicants would otherwise be entitled. Applicant reserves the right to pursue any original, previously presented, and/or cancelled claim in this application or in subsequent application, such as a continuation application.

Interview Summary

Applicant thanks Examiner Jennison for the courtesies extended to Applicant's representative Paul Palinski during the telephonic interview conducted on December 06, 2021. During the interview, Applicant's representative presented the claim amendments submitted herewith, in the interest of expediting prosecution and in the interest of putting the application into condition for allowance. Examiner Jennison indicated that the claim amendments are sufficient to overcome the rejection.

Claim Interpretation

The Office Action interprets certain claim terms in claims 21, 29, and 32 under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. Applicant does not necessarily agree with this interpretation in view of applicable Federal Circuit case law (See e.g. TEK Global, S.R.L. v. Sealant Sys. Int'l, 920 F.3d 777 (Fed. Cir. 2019). However, to remove

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any further doubt, and in the interest of expediting prosecution and to put the application into condition for allowance, Applicant has amended the claims such that interpretation under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph is no longer required.

Claim Rejections – 35 USC 112

Claims 22-23 are rejected under 35 USC 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph for the reasons alleged on pages 5-6 of the Office Action. Without conceding the validity of this rejection, claims 22-23 are now cancelled without prejudice in the interest of expediting prosecution, thus rendering this rejection moot.

Allowable Subject Matter

Applicant thanks Examiner Jennison for allowing claims 21 and 24-35. Applicant believes the claims are allowable for at least the same reasons mentioned on page 6 of the office action. Applicant also believes the claims are allowable as a whole and in various combinations and sub combinations in view of the prior art.

Applicant also notes that certain references cited by the Examiner in the "Notice of References Cited" section of the Office Action are not prior art, in view of Applicant's entitlement to at least the claimed September 02, 2010 priority application.

Conclusions

In view of these amendments and remarks, the rejections are believed to be rendered moot. Accordingly, Applicant submits that the present application is in condition for allowance and requests that the Examiner pass the case to issue at the earliest convenience. Should the Examiner have any question or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned at (248) 292-2920.

If for some reason Applicant has not requested a sufficient extension and/or has not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge our Deposit Account No. 50-1097 for any fee which may be due.

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Respectfully submitted,

Date: December 06, 2021

/Paul Palinski/

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Attorney for Applicant
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(12) EUROPEAN PATENT APPLICATION

(21) Application number: **87116623.7**

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(54) Method for making a ground coffee discoid pad.

(57) A method for making a ground coffee discoid pad (20) for brewing an express coffee wherein a pressure means (1) applies a pressure to a coffee pad (2) placed in a pocket made of water and air permeable material and simultaneously rotates in contact with the coffee surface about an axis perpendicular to said surface and the applied pressure ranges from 22 to 65 atmospheres (Fig. 1).

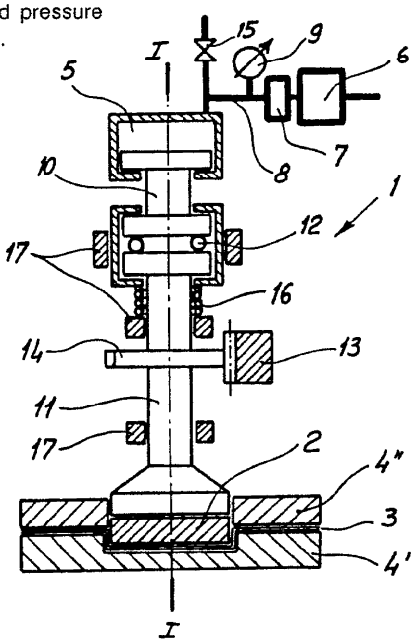


Fig.1

EP 0 272 432 A1

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Method for making a ground coffee discoid pad.

This present invention relates to a method for making a ground coffer discoid pad wrapped between two layers of water and air permeable material to brew an express coffee.

The applicant is the owner of the European Patent N° 006.175 which discloses a coffee discoid pad made up under a pressure not less of 15 atmospheres. Also a number of machines are known that carry out methods for making a coffee discoid pad. The applicant is also owner of the European patent application N° 84 112168.4-2308 which discloses a machine wherein a measure of ground coffee, delivered from a dispenser in a pocket formed in a web of suitable paper material, is subject to a first compression to form a coherent coffee pad and immediately after a pressure means definitively presses said pad while simultaneously rotates about its own longitudinal axis. The pessure that said pressure means applies to the coffee is not specified although the force applied to a discoid pad having a not specified diameter is mentioned.

The machine disclosed by the above European patent application makes a more or less compact discoid pad, depending on the pressure applied to the pressure means.

The drawback in the discoid pads subjected to pressures usual in the art, from few atmospheres up to 10 atmospheres, resides in that the dimensions are not constant and the compactness is not homogeneous, whilst in the case the discoid pad is subjected to pressures ranging from 10 to 18 atmospheres said drawback is not present. A drawback common to all known discoid pads is that the coffee deteriorates after a certain time period even if the discoid pads are packed in a vacuum container. If, then, a lot of vacuum packed discoid pads get in touch with air after container opening and the lot consumption is not rapid, then the coffee spoiling is rapid. In fact, the air passage through the paper material layers that cover the coffee causes the latter being oxidated and the coffee beverage being not good.

The discoid pad as made by the invented method obviates said drawback.

The method for making a discoid pad of ground coffee comprises in a known way the steps of: forming a pocket in a lower web of water and air permeable material placed in a molding plate concavity, depositing a ground coffee measured heap in said pocket, squashing said heap to transform it into a coffee pad, applying a pressure to transform said coffee pad into a coherent well compacted element, covering said element with an upper web of a water and air permeable material and, finally, fixing one to the other said lower and upper webs along the perimeter of said coffee element and comprises in a new way: applying to the coffee pad a maximum pressure such that the oily substances on and in the coffee granules fill up uniformly all the interstices between said granules in the whole coherent coffee element.

The maximum pressure as required to attain the above effect is determined experimentally for each coffee blend as prepared for making a lot of discoid pads. In fact said maximum pressure depends on the coffee quality, roasting stage, granulometry as provided by grinding, thickness of the pad, humidity degree in the ground coffee and said pressure will range from 22 to 65 atmospheres. From each lot of a certain coffee blend it is provided a certain quantity of coherent coffee elements or of coffee discoid pads that are subjected to pressure trials to determine the maximum required pressure.

The advantage with the invented method resides in that the oily substances, by permeating all the interstices between the single coffee granules, provide a space closed by a continuous oily surface substantially coincident with the peripheral surface of the coherent coffee element so that the oily particles on said continuous surface may oxidize on contact with the air passed through the permeable material covering said element, but work as a barrier against the oxidation proceeding towards the interior of the coherent element. Such a continuous oily surface allows a discoid pad to maintain its own aromatic properties much longer than a discoid pad produced by one of the known methods.

The invention is described in detail herebelow by means of an example and with reference to the drawings wherein:

FIG. 1 is a diagrammatic side elevation view of a pressure means which is operating on a coffee pad,

FIG. 2 is a cross section view of a discoid pad obtained by the invented method and

FIG. 3 is a cross section view of a conventional discoid pad.

Figure 1 shows a pressure means 1 applied on a ground coffee pad 2 that is placed in a pocket formed along a paper strip 3 in a concave receptacle in a lower plate 4' and has the upper peripheral part contained by an upper plate 4".

The ground coffee pad 2 is formed by a coffee blend of washed and non-washed arabic quality, coming from Africa and Latin America; the coffee is treated by discontinuous roasting by 13 minutes time; the granulometry as obtained by grinding is:

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al least 75% in weight having diameter less than 0.4 mm and from 20% to 55% in weight having diameter less than 0.1 mm; thickness 10 to 11 mm; humidity in the coffee after grinding: less than 1%. The maximum pressure as applied, experimentally determined in order to have the whole pad permeated by oily substances, is about 40 Kg/sq.cm.

As disclosed by said European patent application N°84. 112168.4-2308, the pressure means 1 is pressed on the upper surface of the coffee pad 2 when a pressurized fluid is delivered in the chamber 5 from a compressed air source 6, through a pressure reducing valve 7, along the duct 8. A pressure gauge 9 controls the air pressure. The shafts 10 and 11 of the pressure means 1 are coaxial and a thrust bearing 12 makes the shaft 11 free to rotate about axis I-I by a rack 13 meshing a gear 14 fixed to shaft 11, the means which move said rack being not shown. Shaft 11 is rotated while pressure means 1 presses the coffee pad 2, as explained in detail in said patent application. As conventional control means, not shown, discharge air from chamber 5 through a valve 15, the helical spring 16 lifts the pressure means 1. By reference number 17 guide means for shafts 10 and 11 are indicated.

Figure 2 shows a coffee discoid pad 20 produced by a pressure means that applies to the coffee pad 2 a maximum pressure of 40 Kg/sq.cm. and shows that the oilysubstances fill up all the coffee pad, viz. all the part sectioned in the figure. It will be realized, consequently, that the conditions for this discoid pad, as far as air attack to coffee is concerned, are equivalent to the conditions of a coffee pad comprised in a space closed by a continuous surface 18 of oily substances. This surface 18 will be oxidized by air penetrating through the paper material 19, but will prevent from oxidation proceeding into the pad.

Figure 3 shows a coffee discoid pad 21 produced by applying to a coffee pad a pressure according to one of the known methods, lower than 22 atmospheres. Oily substances show having permeated the coffee in an irregular manner, discontinuous in the coffee pad 22. The parts 23 permeated by oily substances, shown by hatching in the figure, are in some regions spaced one from another and also present skin discontinuances 24 which allow air to penetrate the pad heart. It will be realized that such a discoid pad is subject to rapid spoiling. The paper material wrapping pad 22 to form discoid pad 21 is referred to by 25.

Claims

1. Method for making a ground coffee discoid pad (20) for brewing an express coffee comprising the steps of: forming a pocket in a lower web of water and air permeable material placed in a molding plate concavity, depositing a ground coffee measured heap in said pocket, squashing said heap to transform it into a coffee pad (2), applying a pressure to transform said coffee pad into a coherent well compacted element, covering said element with an upper web of water and air permeable material, and, finally, fixing one to the other said lower and upper webs along the perimeter of said coffee element, characterized in that the pressure for transforming said coffee pad (2) in a coherent well compacted element is driven up to a maximum pressure such that oily substances on and in the coffee granules uniformly fill up all the interstices between said granules in the whole coherent coffee element.

2. Method according to claim 1 characterized in that a human or automatic analizer examines at least a group of n coherent elements or discoid pads (20) all having same dimensions and compactness homogeneity and all being made with the same coffee blend having the same roasting stage, same granulometry and same humidity contents, each coherent element or discoid pad having been subjected to a maximum pressure, different from the other ones, ranging from 22 to 65 atmospheres in order to recognize that one of the n maximum pressures that makes the interstices between said granules to be filled up by oily substances uniformely in the whole coffee coherent element.

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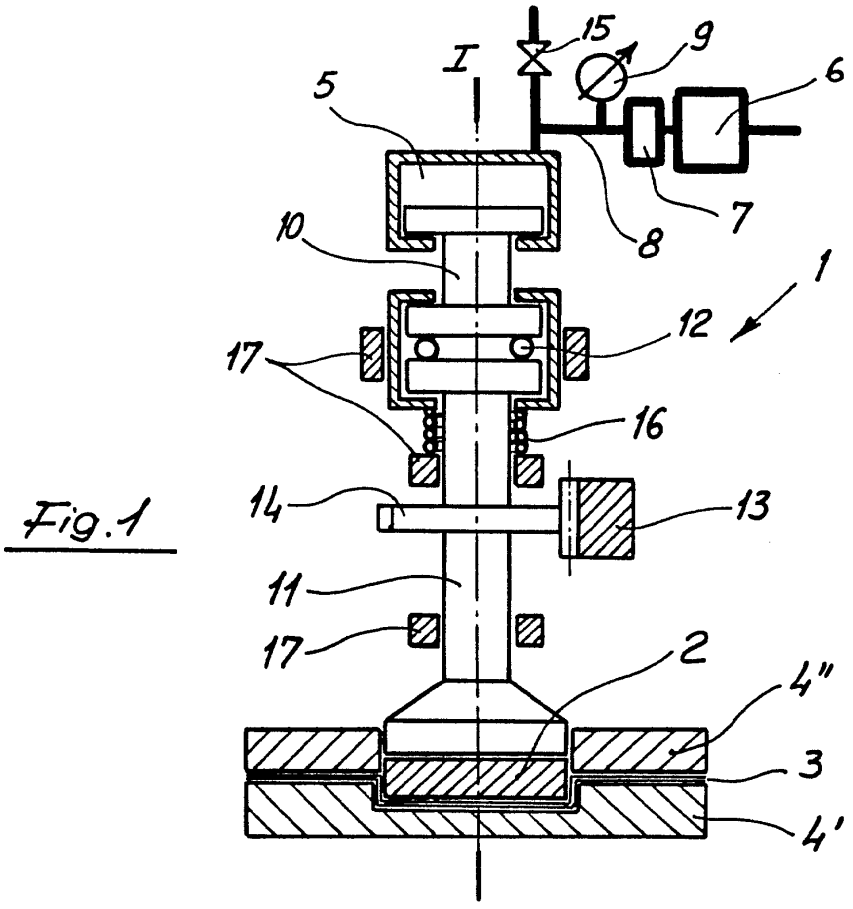
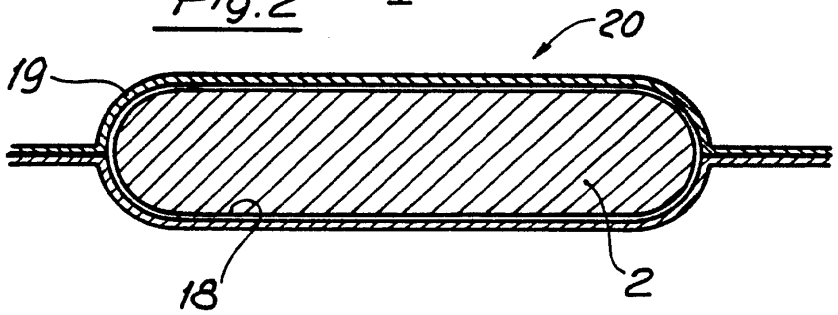


Fig.1

Fig.2



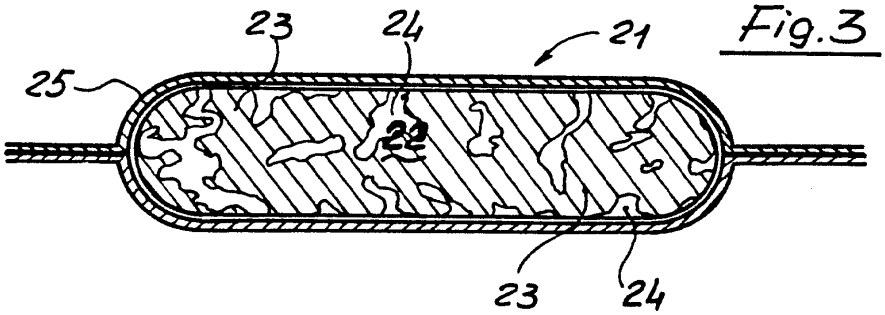


Fig.3

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European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 87 11 6623

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
D,Y	EP-A-0 144 623 (ILLYCAFFE) * Claims 1-3 *	1,2	A 23 F 5/12 B 65 B 29/02
Y	DE-C- 388 (F. RUCH et al.) * Page 1, column 1, paragraph 3 - column 2, paragraph 1 *	1,2	
A	US-A-3 293 042 (A. EITZEN)		
D,A	EP-A-0 006 175 (ILLYCAFFE)		
A	GB-A-1 189 011 (RUDD-MELIKIAN)		
A	DE-A-1 692 235 (A. CREMER)		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

A 23 F
A 47 J
B 65 B
B 65 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	29-02-1988	DESMEDT G.R.A.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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& : member of the same patent family, corresponding document

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(54) **Method for preparing beverages and beverage preparing machines.**

(57) A beverage is prepared employing a package containing at least one beverage ingredient, e.g. roast and ground coffee. The package (10;200) is located at a brewing station, the package is pierced by a tool (49;248) to form an outlet opening (38;202) in the package, an aqueous medium, e.g. hot water, is introduced into the package, the aqueous medium is allowed to commingle with the beverage ingredient, and the beverage so formed is collected through the outlet formed in the package. The piercing tool is employed both to form the outlet opening, and to fold the material (117;204) surrounding the opening out of the path of the beverage which subsequently emerges through the outlet opening.

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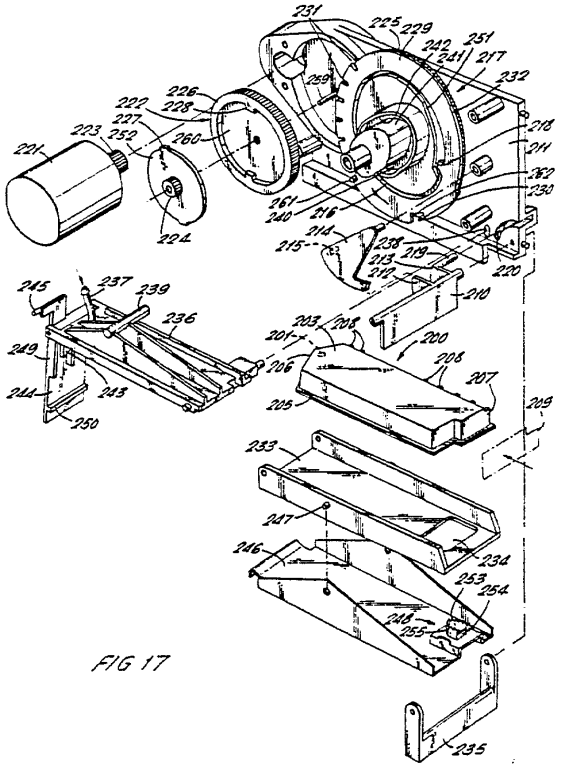


FIG 17

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METHOD FOR PREPARING BEVERAGES AND BEVERAGE PREPARING MACHINES

This invention relates to beverage preparing machines and, in particular, machines for preparing beverages from beverage containing packages.

In our European Patent Application No. 87311325.2 there is described a package which contains at least one beverage ingredient, e.g. coffee. In a preferred embodiment the package is formed from a substantially air-and water-impermeable material and comprises a sealed body portion having a compartment containing the beverage ingredient and outlet means designed so that the beverage produced, in use, is filtered thereby avoiding the necessity for an external filter.

There is also described in Application No. 87311325.2, a method for preparing a beverage which comprises positioning a beverage containing package at a brewing station, introducing water through water introduction means into the package, allowing the water to commingle with the beverage ingredient, and collecting the beverage so-formed through an outlet formed in the package.

According to the invention there is provided a method of preparing a beverage employing a package containing at least one beverage ingredient comprising locating the package at a brewing station, piercing the package with a tool to form an outlet opening in the package, introducing an aqueous medium into the package, allowing the aqueous medium to commingle with the beverage ingredient, and collecting the beverage so formed through the outlet opening formed in the package, wherein the piercing tool is employed both to form the outlet opening, and to fold the material surrounding the opening out of the path of the beverage which subsequently emerges through the outlet opening.

Preferably the package has a sealed outlet, the tool piercing the sealing material at said outlet to form said opening.

In one embodiment the sealed outlet has a counterbore and the piercing action of the tool folds inwardly the material surrounding the opening formed by the tool whereby the material lies within the counterbore of the outlet.

Preferably prior to introducing the aqueous medium, the piercing tool is withdrawn both from the outlet opening and out of the path of the beverage which emerges through the outlet.

In another embodiment the sealed outlet has a trough adjacent the outlet, and the piercing action of the tool folds the material covering the outlet into the trough thereby moving the material out of the path of the beverage which emerges through the outlet.

It is preferred that the package is pierced by the tool from below.

It is also preferred that the method includes the step of engaging the package at a point of entry of the package into the machine, and conveying the package to the brewing station.

The method preferably includes the further step of clamping the package at the brewing station prior to the package being pierced to form the outlet opening.

Preferably hot water is the aqueous medium which is passed through the package. It is also preferred that the passage of the aqueous medium is followed by a burst of compressed air through the package.

The method preferably also includes the step of ejecting the used package from the brewing station, for example, into a waste bin within the beverage preparing machine.

The method may include a preliminary step of the user selecting the package from a storage portion of the beverage preparing machine.

The invention also provides a machine for preparing a beverage by employing a package containing at least one beverage ingredient comprising means for locating the package at a brewing station, a tool for piercing the package to form an outlet opening in the package, and means for introducing an aqueous medium into the package to enable the aqueous medium to commingle with the beverage ingredient to form a beverage, the beverage so formed being collected through an outlet opening formed in the package, wherein the piercing tool is adapted to fold the material surrounding the outlet opening out of the path of the beverage from the outlet opening.

Preferably the package has a sealed outlet and the tool is adapted to pierce the sealing material at said outlet to form said opening.

In one embodiment the sealed outlet has a counterbore and the tool has a shank for insertion into the counterbore to fold inwardly the material surrounding the opening formed by the tool whereby the material lies within the counterbore of the outlet.

Means may be provided to reciprocate the piercing tool to form the outlet and to withdraw the tool from the outlet, and then to pivot the tool out of the path of the beverage from the outlet opening.

The piercing tool may be carried by a frame having a cam follower for engagement by a cam, rotation of the cam effecting pivotal movement of the frame and the piercing tool thereon. Also, the means for withdrawing the piercing tool from the outlet opening may be a mechanical link between the cam and the frame which when released allows

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the tool to pierce the package under spring pressure to form the outlet opening therein.

In another embodiment the piercing tool is tubular and has an end surface to pierce the sealing material around a part of the outlet, without removing any material, and the tool is adapted to fold the cut material externally of the outlet.

The piercing tool may be of D cross-section, the arcuate portion of the end surface being serrated to pierce and eventually to cut the sealing material, and the straight portion at the same end serving to fold the cut material whereby the material lies externally of the outlet.

It is preferred that the piercing tool is positioned beneath the package when disposed at the brewing station.

It is preferred that the machine also includes means for engaging the package at a point of entry of the package into the machine, and conveying the package to the brewing station.

Preferably the machine further includes means for clamping the package at the brewing station.

Preferably there is provided a supply of hot water as the aqueous medium, and means for feeding hot water from the supply to means for introducing water into the package.

Means are also preferably provided for passing compressed air through the package, which means are preferably connected to the means for introducing the aqueous medium.

It is preferred that means are provided for ejecting the used package from the brewing station, and preferably a waste bin is provided for collecting the used packages.

Preferably there are provided means for storing a plurality of packages, and means for the user to select a required package from the storage means.

By way of example, specific embodiments of a beverage machine in accordance with the invention will be described with reference to the accompanying drawings in which:-

Figure 1 is a perspective view of a first beverage preparing machine;

Figure 2 shows a package for use in the machine of Figure 1, the package being part cut-away and illustrating the surface of the package which, in use, is the uppermost surface;

Figure 3 shows the underside of the package of Figure 2;

Figure 4 is a perspective view of one of the four stacks of packages stored in the machine of Figure 1, viewed from the rear;

Figure 5 illustrates the cam mechanism prior to selection of a package, the slot door being closed;

Figure 6 is a similar view to Figure 5, the cam having been rotated backwards to open the slot door to allow the package to be manually inserted into the slot;

Figure 7 shows the package inserted into the slot and driven forwards to the brewing station, the slot door then being closed;

Figure 8 illustrates the friction coupling between the cam and the arm for moving the package to the brewing station, the cam being in the same position as Figure 6;

Figure 9 is a similar view to Figure 8 with the cam in the same position as Figure 7;

Figure 10 shows the friction coupling with the arm for moving the package at a position intermediate its positions in Figures 8 and 9 and the friction coupling in its slipped condition;

Figure 11 shows the package clamped between the platens;

Figure 12 shows the piercing needle raised to pierce the outlet of the package;

Figure 13 shows the piercing needle withdrawn and pivoted backwardly;

Figure 14 shows the ejection of the package after the timed brewing cycle;

Figure 15 illustrates the water and air introduction means;

Figure 16 is a part cut-away, perspective view of the peristaltic pump for pumping water and air simultaneously;

Figure 17 is an exploded view of a second beverage preparing machine;

Figure 18 is an underneath view of a package to be treated in the machine of Figure 17; and

Figure 19 is a section along line 19-19 in Figure 18, illustrating the cutting and folding action of the piercing tool.

The embodiments of this example are concerned generally with a kind of beverage preparing machine in which the user inserts a package containing at least one beverage ingredient into the machine and the machine dispenses the required beverage. In the particular embodiment described, the beverage is coffee, e.g. roast and ground coffee, but it is envisaged that, in each embodiment, the machine is equally applicable for dispensing other beverages from appropriate beverage packages, e.g. tea, chocolate or soup. Moreover, with the addition of an alternative cold water supply, the machine could readily be adapted to dispense cold drinks on insertion of a suitable package.

For the embodiment illustrated in Figures 1 to 16, the preferred package is described in detail in Figures 4 to 6 of the specification of our co-pending European Patent Application No. 87311325.2. However, the package (Figures 2 and 3 of the present application) has a generally rectan-

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gular shape with flat top and bottom surfaces and is thereby suitable for insertion into the machine longitudinally through a slot. The package 10 has a body portion 110 formed from a rigid plastics material, e.g. polypropylene, which provides the walls of a compartment 111 for containing the desired beverage ingredient which, in this embodiment, is roast and ground coffee. The base of the compartment is provided by a bottom sealing layer 118 (Figure 3) of a flexible material, in this embodiment aluminium foil. The body portion 110 also provides a water inlet 112 at the leading end of the package which is open to the top of the package and which communicates internally of the package with the bottom of the compartment 111. Similarly, a coffee outlet aperture 38, open to the bottom of the package at the other end, communicates internally of the package with the top of the compartment 111 via channels 114 and slots 115 between the channels and the compartment. The slots 115 are defined by castellations 116 in the walls of the body portion 110 dividing the channels 114 from the compartment 111. The whole of the top surface of the body portion 110 is covered by a sealing layer 119 (Figure 2) of aluminium foil which is continuously edge sealed around the periphery of the body portion to prevent the ingress of air, and also spot sealed to the castellations 116 between the slots 115. The layer 119 of foil thus provides the top surface of each slot 115. Initially, the outlet aperture 38 is also separately sealed with aluminium foil 117 (Figure 3). The coffee thereby remains fresh within the package during storage. In use, the inlet 112 and the outlet 38 are opened and sufficient water is passed through the package under pressure. The water is force fed downwardly through the inlet 112 into the bottom of the compartment 111, disperses upwardly through the coffee grounds, and filtered coffee is dispensed from the top of the compartment through the slots 115 into the channels 114 and via the outlet aperture 38 into a cup 40 placed beneath the outlet.

Referring further to Figures 1 to 16, a coffee dispensing machine has capacity to store four stacks of packages 10 side by side behind a hinged front panel 99. In this embodiment, the machine is coin-operated so that by inserting a coin through a slot 11, and pressing the button 12 of a particular stack, a releasing mechanism associated with the stack causes the bottom package of the stack to drop into the tray 14 for removal by the user. Should a package not be provided, for some reason, the coin may be retrieved from a recess 13 by pressing the button 15.

Alternatively, the coin-operated mechanism may be omitted or bypassed, whereby the required package is made available by pressing the appropriate button 12.

The releasing mechanism (Figure 4) for each stack comprises an arrangement of fingers 90 mounted for reciprocal, rotary movement in a horizontal plane by an electric motor 91. Sets of fingers 90 are disposed on opposite sides of the column of packages, each set comprising three fingers 92,93,94 spaced apart one above the other. The fingers of each set are arranged in fixed relation, the top and middle fingers 92,93 being aligned vertically, but the bottom finger 94 being displaced at 90° to the top and middle fingers. Each set of fingers is rotated by a rack 95 and pinion 96, the racks 95 being part of or attached to a bottom sliding plate 97 which is moved in one direction by actuation of the motor 91 and returned by springs 98.

Initially the lowermost package, when it is first loaded into the machine, rests on the top four fingers 92 which are directed inwardly, i.e. transversely, of the package as shown. Actuation of the motor 91 by pressing the button 12, slides the plate 97 rearwardly thereby rotating the sets of fingers through 90°, clockwise on one side and anti-clockwise on the other side of the package, so that the top and middle fingers 92,93 extend longitudinally of the lowermost package and the bottom fingers 94 extend inwardly of the package. The stack of packages fall under gravity onto the four bottom fingers 94. The plate 97 is then allowed to be returned forwardly by the springs 98. The lowermost package falls into the tray 14, and the next package is held between the top and middle fingers 92,93. Each time the mechanism is operated, the lowermost package is dispensed, and the stack of packages advances downwardly by one.

On one side of the storage unit, is a slot 16 in the machine housing and accessible to the user for insertion of the selected package 10, and beneath the slot is a recess 17 for the cup 40 into which the coffee is dispensed. The package is designed for acceptance only if it is inserted with the end containing the water inlet 112 leading and its outlet 38 directed downwards. To achieve this, the sides of the slot are defined by grooves 18 for reception of respective flanges 19 on the particular package of this embodiment. The flange on the right-hand side of the package as it is inserted into the slot (see Figure 6) has a greater height dimension than the flange on the left-hand side of the package. The leading end of the package also has a nose 20 and along the right-hand side of the package, i.e. built into the thicker flange 19, is a rack defining a row of recesses 21 which act as teeth for engagement by the cranked end 22 of an arm 30 to drive the package to a brewing station within the machine in which a flat on the nose 20 of the package engages an end stop 35.

In the static start position, the end stop 35 is in

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a downwardly pivoted position (Figure 7) in which a flange 81 on the end stop is held against face 82 of a cam 83 by spring 86, and a pin 84 on the end stop engages a notch 85 in the cam face 82. The end stop 35 is thereby held in its down, operative position. The slot 16 is also closed by a vertically sliding door 23 on the inside of the machine casing. At the brewing station there is a cam 24 mounted on a shaft 25 which is driven via a shaft coupling 125 (Figure 8) by a reversible electric motor 109 (Figure 7). Selection of a package by the user starts the motor 109 running in the reverse direction, which rotates the cam 24 backwards, i.e. in an anticlockwise direction as viewed in Figure 5. A shoulder 26 on the cam engages a pin 27 projecting rearwardly from the door and thereby lifts the door 23 to open the slot 16 for reception of the desired package 10. Reverse rotation of the cam 24 stops when a micro-switch 28 disengages from a surface 29 of the cam and switches off the motor 109. The arm 30 is connected to the cam 24 via a friction coupling. More particularly the arm 30 is mounted on the shaft 25 behind the cam 24 as viewed in Figure 5 and has an annulus 120 (Figures 8 and 9) which fits within a counterbore 121 in the rear surface of the cam. Both facing surfaces of the annulus 120 and the counterbore 121 are undercut to provide a short externally protruding convex face 122 on the annulus 120 in frictional engagement with a longer internally protruding concave face 123 in the counterbore. An arcuate slot 124 is also provided, e.g. by milling, at the junction of the annulus 120 and the body portion of the arm 30, in alignment with the convex face 122. This slot 124 results in the convex face 122 being flexurally supported as a fixed beam by the remaining portion of the annulus 120. During assembly, the convex face 122 of the arm 30 is pre-loaded against the concave face 123 of the cam 24 such that the frictional force exerted by one face upon the other ensures a driving connection or friction coupling therebetween. Thereby as the cam 24 rotates backwards to open the door 23, the arm 30 is driven by the cam backwards against a back stop 31 (Figures 6 and 8). The end 22 of the arm 30 is thereby positioned above the recesses 21 in the package when it is inserted into the machine. The mechanism is now at rest awaiting the insertion of the package.

On insertion of a package 10, the cam 24 through the friction coupling drives the arm 30 forwardly into its position shown in Figures 7 and 9, the end 22 of the arm engaging one of the recesses 21 in the package 10 and moving the package against the end stop 35. However, during the normal subsequent rotation of the cam 24, the friction coupling will allow disengagement of the face 123 of the cam from the face 122 of the arm 30. Also during the step of the end 22 of the arm 30 driving the package 10 towards its end stop 35 to position the package at the brewing station, should the user maintain his grip on the package or even retract the package partially or wholly from the slot 16, the face 122 of the friction coupling will slip relatively to the face 123 (Figure 10), leaving the arm 30 at an intermediate position and allowing the package to be withdrawn, or at least not moved forwardly by the end of the arm, without risk of injury to the user. The friction coupling thereby enables the drive means to be overridden and the cam 24 can continue to rotate.

The package 10 is inserted by the user with its nose 20 leading and the side flanges 19 engaged in the grooves 18 of the slot. The package also rests on a fixed bottom platen 33 at the brewing station. Only when the package has been inserted far enough to engage a first micro-switch 34 projecting through the wall of the right-hand groove will the operating cycle begin. Engagement of the package with the micro-switch 34 operates the motor 109 to drive the cam 24 forwardly, i.e. in a clockwise direction as viewed in Figure 6. The arm 30 moves with the cam and the end 22 of the arm engages with one of the recesses 21 of the rack of the package, whereby unless the package is held by the user as described above, subsequent forward movement of the arm drives the package along the bottom platen 33 until the nose of the package engages the end stop 35 (Figures 7 and 9). Simultaneously, the forward movement of the cam 24 allows the door 23 to drop under gravity into its closed position behind the package. Also, when the package reaches the end stop 35 it actuates a second micro-switch 36 (Figure 6) projecting through the wall of the right-hand groove to stop the motor 109 and hence the forward movement of the cam. If the cam is held by the user as described above, or does not otherwise reach the end stop 35, the drive means is overridden and the cam continues to rotate until the package is re-engaged and reaches the end stop 35. The micro-switch 36 is then actuated to stop the motor.

In its position against the end stop 35 (Figure 7), the package rests on the bottom platen 33 with its outlet 38 above an aperture 39 in the bottom platen for dispensing coffee directly from the package into the cup 40 below. Above the package is a top platen 41 which is movable vertically by the cam 24 between an inoperative raised position and an operative lowered position (Figure 11) in which the package is firmly clamped between the platens.

Mounted in the top platen 41 in this embodiment, are water introducing means comprising an inlet connector 47 leading to a downwardly directed outlet nozzle 48. The nozzle 48 extends below the bottom face of the top platen 41, so that when the

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top platen 41 is lowered, the nozzle 48 simultaneously pierces a hole in the aluminium foil sealing layer 119 in alignment with the inlet 112 of the package and enters the inlet.

Downward movement of the top platen 41 is effected by the surface 42 of cam 24 engaging a cam follower 43 mounted on a bracket 44 attached to the top platen. Rotation of the cam 24, for this stage of the cycle, is actuated by engagement of a micro-switch 45 with cam surface 46.

Clamping of the package by the top platen 41 is necessary because of the subsequent passage of water under pressure through the package during the brewing cycle. Also the fact that the top platen 41 covers the whole of the sealing layer 119, in surface to surface contact, particularly above the slots 115 and interposed castellations 116, acts to reinforce the aluminium foil along the lines of slots 115 and to resist the tendency for the flow of coffee to lift the foil and thereby locally expand the height of the slots which would adversely affect their filtering characteristic.

With the package firmly clamped between the platens 41,33, further rotation of the cam 24 actuates a needle 49 (Figure 12) to pierce from below the sealing surface 117 (Figure 3) closing the lower end of the downwardly directed outlet aperture 38 of the package. For this purpose the needle 49 points upwardly and is carried by a yoke 50 mounted for pivotal movement about the horizontal axis of shaft 51 and for reciprocal vertical movement within the confines of slot 52. The needle 49 has a shoulder 53 between its pointed piercing end 54 and its shank 55. The outlet 38 of the package also has a countersunk portion 120 (Figure 3) to accommodate the shank 55 of the needle during the piercing operation. The needle is urged towards its uppermost position by a spring 56 attached to the yoke 50, the spring also holding a projection 57 on the yoke in contact with the face 58 of the cam 24. A lever 59 is provided to hold the yoke 50 and hence the needle 49 in its lowermost, inoperative position against the force of the spring 56. For this purpose, the lever 59 adjacent its free end engages a bar 60 on the yoke, and has a cam follower 61 which engages with face 62 of the cam 24. In the cam face 62 is a notch 63.

During normal rotation of the cam 24 in a clockwise direction, the needle 49 is held down and pivoted forwardly, by the combination of the lever 59 and a first flat face 58a of the cam 24, in a position beneath the outlet aperture 38 of the package (Figure 12). When the cam follower 61 engages the notch 63, the spring 56 raises the yoke 50 and the needle 49 carried thereon so that the needle pierces the sealing surface 117 closing the outlet aperture. The aluminium foil forming the sealing surface 117 is thus punctured and its broken edges are turned inwardly by the shank 55 of the needle to lie neatly within the counterbore 120 of the outlet aperture 38. This feature prevents the foil obstructing the outlet aperture of the package thereby enabling the coffee to flow, at the appropriate stage in the brewing cycle, out of the package without catching on the foil. Should the coffee contact the foil edge, the coffee will not flow in an even stream into the cup below. After piercing the outlet aperture of the package, the needle 49 is withdrawn by further rotation of the cam 24 and tilted to its backwardly pivoted position (Figure 13) out of the path of the coffee passing from the package into the cup by a second flat face 58b of the cam 24. The mechanism is then set for the timed brewing cycle to occur. Pivotal movement of the needle 49 out of the path of the coffee is important so that the needle is not contacted by the coffee and thus does not become contaminated or require cleaning before piercing the outlet aperture 38 of the subsequent package.

The water inlet connector 47 is connected by a pipe 64 to a tank 65 for supplying, in this embodiment, hot water to the package (Figure 15). The tank 65 is filled through a tundish 90, a float 91 indicating when the tank is full. Heater means 110 within the tank 65 is thermostatically controlled to maintain the water temperature at about 98° C, i.e. just below boiling. It is also desirable that minimum loss of temperature should occur between the water leaving the tank 65 and its passage through the package. For this reason, the pipe 64 is as short as convenient and a pump 66 provided for feeding the water to the package is mounted as near as possible to the hot tank itself. In this embodiment, the pump 66 is mounted on an extension of the top of the tank 65. The pump 66 is a peristaltic pump operated by a motor 92. In this embodiment, within the pump housing 94 three rollers 93 (Figure 16) are provided mounted between plates 101, 102 which are carried by a shaft 104 driven by the motor 92 in an anti-clockwise direction as viewed in Figure 16. Each roller 93 also has a pinion 103 at one end which meshes with a stationary rack 105 attached to the pump housing. By this means, each roller 93 is positively rotated about its own axis as the roller assembly rotates within the pump housing. The pipe 64 passes around the roller assembly, i.e. between the rollers 93 and the internal circumferential surface of the pump housing, in an anti-clockwise direction so that rotation of the roller assembly effects flow of water through the pipe 64. Simultaneously, the rollers 93 of the pump 66 suck air through the open end of a pipe 67 which also passes in an anti-clockwise direction around the roller assembly (as viewed) but starting from the opposite side of the pump, whereby effectively the pipes 64, 67 pass around the rollers of the pump in

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opposite directions. The other end of the pipe 67 is connected to a reservoir 68 (Figure 15) thereby creating a quantity of compressed air within the reservoir. At least to reduce the tendency for the roller assembly to drive the pipes 64, 67 forward, each pipe has an integral extruded flange 107 formed during manufacture of the pipe which engages a correspondingly shaped groove 108 in the internal surface 106 of the pump housing thereby securely clamping the respective pipe within the pump housing. Downstream of the pump 66, the pipe 67 has a branch pipe 69 leading to the water introducing nozzle and controlled by a solenoid operated valve 70. The pump 66 thus acts as a double-sided pump feeding water on one side and air on the other, whilst the valve 70 prevents air from passing out of the reservoir 68 until it is required, and also prevents water entering the reservoir.

At the start of the brewing cycle, valve 70 is closed. The pump 66 is operated to feed water from the tank 65 to the nozzle 48, and simultaneously fill the reservoir 68 with compressed air. The water fed to the nozzle will filter through the package, and filtered coffee will emerge through the pierced outlet into the cup below. The pump will then be stopped, and the valve 70 opened. This allows the air from the reservoir to pass immediately as a short burst through the package to achieve two functions. First it will purge the pipe 64 downstream of the pump so that water does not remain static therein. It also flushes the package itself leaving a relatively dry package. Furthermore, using the pump to create a store of compressed air simultaneously to feeding water gives an advantage that the air is able to be passed through the package without a time delay. During the stage of flushing the package, the shut off pump 66 acts as a stop valve to prevent air or water from passing back into the hot water tank 65.

Following the timed brewing cycle, the used package is removed from the brewing station. To release the package, the upper platen 41 is raised by further rotation of the cam 24, the cam face 71 (Figure 11) engaging a downwardly facing surface 72 of an aperture 73 in a bracket 74 extending upwardly from the upper platen. Susequently, in this embodiment, the cam 83 is rotated to engage the pin 84 and thereby lift the end stop 35 against the spring 80 until the end stop is above the package (Figure 14). The cam 83 is formed integrally with a pinion 75 having teeth 76 around a part of its periphery only so that, in the rest position of the cam 83, the teeth 76 do not prevent the package being inserted. The drive connection to the pinion/cam 75,83 is a gear wheel 77 mounted for rotation with the pinion/cam and driven by peripheral teeth 78 comprising a part only of cam face 79, the other part being smooth. Also one tooth of the gear wheel 77 is undercut so that by arranging for this tooth to engage the smooth part of the cam face 79 during the rest period of the pinion/cam 78,83, the drive connection thereto is effectively locked. However, on rotation of the cam 24 so that the teeth 78 of the cam face 79 engage the gear wheel 77, the teeth 78 will rotate the gear wheel and hence the pinion/cam. The end stop 35 is thereby released as described above, and the pinion 75 is rotated so that its teeth 76 engage the recesses or rack 21 of the package to drive it forwardly off the bottom platen 33 into a waste bin 87 (Figure 14). At the same time the cam 24 is reengaged in driving relation with the arm 30 and drives it forwardly against a front stop 37, in which position the end 22 of the arm is disengaged from the rack 21 of the package. The waste bin is disposed beneath and behind the cup recess 17 and is accessible through a hinged door 100. After one rotation of the pinion/cam, the used package is removed from the brewing station, and the pin 84 is reengaged in the notch 85 of the cam 83 whereby the end stop is returned to its down, operative position to await the next package. Simultaneously, the cam 24 also allows the yoke 50 carrying the piercing needle 49 to return to its rest position in which the needle is positioned vertically beneath the position to be occupied by the outlet aperture of the next package.

Prior to use, the beverage preparing machine is stocked with packages 10 containing the desired beverage ingredient or selection of beverage ingredients, which in this embodiment is roast and ground coffee. The upper platen 41 is raised, the end stop 35 is down, the outlet piercing needle 49 is in its forwardly pivoted position, and the slot door 23 is closed. The tank 64 is filled with water which is maintained hot by the heater 110, and the valve 70 is closed.

A user inserts a coin and selects the desired package 10 by pressing the respective button 12. The package drops into the tray 14. Simultaneously the cam 24 is operated by the motor 35 to rotate backwards to preset the arm 30 against its back stop 31 and to open the slot door 23. The user places a cup in the recess 17, and inserts the package lo into the slot 16 a sufficient distance to engage the micro-switch 34. The motor 109 driving the cam 24 is thereby operated to start the treatment process. The cam 24 is rotated forwards, and the end 22 of the arm 30 engages the rack 21 of the package 10 to drive the package forwards into a position on the bottom platen 33 in which the nose 20 of the package engages the end stop 35 and the outlet 38 of the package is directly above the piercing needle 49. In this position, the package operates the micro-switch 36 to switch off the

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cam motor 109, and is located at the brewing station. The cam motor is then operated to lower the upper platen 41 to securely clamp the package and to insert the water introducing nozzle 48 through the top surface 109 of the package, and then to release the piercing needle 49 to open the outlet of the package. Subsequently the needle 49 is withdrawn from the outlet and pivoted backwardly out of the vertical plane of the outlet.

The brewing cycle then follows. The pump 66 is operated to feed hot water from the tank 65 under pressure into the package 10 and simultaneously to fill the reservoir 68 with compressed air. The water passes through the package, and filtered coffee emerges from the outlet and flows smoothly into the cup below. After a metered amount of water has been fed to the package, the pump 66 is stopped and the valve 70 opened. Opening of the valve 70 allows the reservoir 68 to be immediately evacuated, the resultant burst of air passing through the package serving to empty the remaining water from the pipe 65 downstream of the pump 66 and from the package leaving the drained grounds in the package firm and dry. The valve 70 is then closed. Whilst the user removes his cup of coffee, the cam motor 109 is again operated, first to raise the upper platen 41. The end stop 35 is then raised by rotation of the subsidiary cam 83. The used package is engaged by the pinion 75 and ejected from the brewing station into the waste bin 87. The end stop is then allowed to fall back into its operative position, and, simultaneously the piercing needle is returned to its forwardly pivoted position to await a fresh package inserted by the next user. The operating cycle is ready to be repeated.

Figures 17 to 19 concern another coffee dispensing machine which operates in the same general manner as the machine of Figures 1 to 16. Thus only the basic differences are illustrated and will be described.

The package 200 still has a water inlet 201 in the upper surface of the package adjacent its leading end, and a coffee outlet aperture 202 in the lower surface of the package adjacent its trailing end, in relation to the direction of travel of the package through the machine. Both the water inlet 201 and the coffee outlet aperture 202 are initially sealed by aluminium foil 203, 204 respectively. In the case of the coffee outlet aperture 202 (see Figures 18 and 19), the foil 204 covers the outlet aperture, and is sealed to a surface area 256 surrounding the outlet aperture but not to the rim 257 itself. Between the area 256 and the rim 257 is a trough 258. The package has a relatively thin peripheral flange 205 about its base and a nose-shaped leading end 206. On the right-hand side of the package, as it is inserted into the machine, is a thicker flange 207 formed by outwardly protruding vertical ribs 208 constituting a rack by which the package is driven to the brewing station and subsequently ejected therefrom. The first two ribs are spaced forwardly towards the nose of the package relative to the remainder of the ribs.

The entry slot 209 of the machine is profiled to compliment the thicker flange 207 on the right-hand side of the package and thereby prevent the package being inserted the wrong way round or upside down.

Within the machine, behind the slot 209, is an entry door 210. The door is hinged to parallel side plates 211 (only one of which is shown) for inward movement about its top edge, by the package. After the package has been inserted and driven inwardly to the brewing station, the door returns, by gravity, to its closed position, the quadrant 212 on the internal surface of the door resting against the trailing end of the package. The door is also locked by a triangular shaped member 214 which is pivoted at its apex to the right-hand side plate 211 and which, in its operative position, sits on quadrant 212. Swinging movement of the locking member 214 between its operative and inoperative positions is effected by engagement of a projection 215 on the member in an annular track or channel 216 in the drive cam 217. The cam rotates through one revolution during each brewing cycle. The track 216 includes a portion 218 in which the projection 215 is positioned in the rest or home position of the cam, the member then being in its inoperative position and the door 210 unlocked. Rotation of the cam 217 in a clockwise direction as viewed in Figure 17 causes the surface 251 to depress the member 214 to lock the door 210, which has by then closed, after insertion of the package into the machine. Attached to a second quadrant 213 on the door is an outwardly extending projection 219 which slides around channel 220 in the right-hand side plate 211 during opening and closing of the door. This projection 219 acts to operate a microswitch when the door is closed, to send a signal to the controller.

The cam 217 is driven by motor 221 via an intermediate gear 222, a pinion 223 on the motor shaft engaging the gear 222, and a pinion 224 on the gear 222 engaging a gear wheel 225 fixed to the cam. The intermediate gear 222 is constructed of two separate parts 226, 252, both of which are mounted for rotation on the same shaft 250. Part 226 of gear 222 carries the outer ring of teeth surrounding a central recess 260, and part 252 comprises a plate which lies within the recess 260 and on which is mounted the pinion 224. A driving coupling is provided between the two parts, the coupling comprising a projection 228 on the part 226 projecting inwardly from the wall of the recess

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260, for engaging an outwardly extending projection 227 on the plate of part 252. However, freedom of rotary movement is also possible between the two parts 226, 252 whereby the cam 217 and part 252 can be rotated by the package 200 without rotating part 226 and the motor 221. For this purpose, the leading rib 208 of the package engages the rearwardly facing surface 262 on the cam.

The cam 217 also has secondary teeth disposed around the periphery of the outer section 229 of the door control track 216 for engagement with the ribs 208 of the package 200. These secondary teeth comprise a single tooth 230 for engaging behind the second rib 208 of the package 200 to drive the package to the brewing station, and a series of narrow slots or teeth 231 for subsequently engaging the other ribs 208 extending to the trailing end of the package, to eject the used package. A pin 261 is also provided just beyond the last slot 231 which acts to give the package a final push during the ejection of the package. Intermediate the tooth 230 and the slots 231, the edge 232 of the cam is cut back to allow the cam to ride over said other ribs 208 of the package during the intervening period of the brewing cycle.

When the package 200 is at the brewing station, the package rests flat on the base of a channel shaped lower platen 233 having a cut-out 234 aligned with the outlet aperture 202 which is still sealed. The platen 233 is hinged to the side plates 211 at its inner end, and held horizontal by a catch 235. The catch 235 may be released and the platen 233 pivoted downwardly for servicing of the machine or unjamming the machine, for example, if it becomes blocked by a misfed package or other object. However, during normal operation of the machine, the lower platen 233 remains stationary. The side plates 211 also extend downwardly within the channel shaped lower platen, but provide a gap above the base of the platen. This gap allows the peripheral flange 205 on each longitudinal edge of the package to slide between the lower edge of the respective side plate 211 and the base of the platen.

An upper platen 236 clamps the package 200 on the lower platen 233, the upper platen having a flat underside for making surface-to-surface contact with the top surface of the package, thereby maintaining the width of the filtering slots within the package as described in the first embodiment. Also, as before, the upper platen 236 carries the water introducing nozzle 237 of the machine which also acts to pierce the inlet seal of the package when the platen is pushed downwardly by the cam 217. For this purpose, the upper platen 236 is hinged at its outer end within short slots 238 which allow that end of the upper platen a small amount of vertical movement to achieve the required surface to surface contact with the package. Mounted on top of the upper platen 236 is a transverse bar 239 which engages a circular track or channel 240 in the cam 217. Thereby, on rotation of the cam, the convex surface 241 of the track acts to lower the platen from a rest position to clamp the package. A microswitch actuated by a projection on the back of the cam indicates to the controller when the upper platen is fully down. After the coffee has been dispensed from the package, the concave surface 242 of the track acts to raise the platen into a position which is higher than its rest position.

On the underside of the upper platen 236 adjacent its inner end is an end stop 243 for engagement by the nose 206 of the package 200 to locate the package at the brewing station. When the upper platen is fully raised by the cam, the end stop is clear of the package to allow the used package to be ejected off the lower platen 233 into a waste bin. At the same time, the package opens a flap 244 which is hinged to the inner end of the upper platen for movement about a horizontal axis.

The flap 244 carries an actuator 245 which operates a microswitch when the flap has returned to its vertical position after ejection of the used package into the waste bin. Thereby, if the waste bin is too full to allow the flap to return, the machine is precluded from operating until the waste bin has been cleared.

The flap 244 is also employed to pierce the foil 204 covering the coffee outlet aperture 202 of the package 200 and thereby open the sealed outlet aperture. For this purpose a lever 246 extending longitudinally beneath the lower platen 233 is balanced about a central pivot 247 on the lower platen. Mounted on the end of the lever 246 below the cut-out 234 in the lower platen is a tubular piercing tool 248. When the lever is pressed downwardly at its other end, the tool 248 rises through the cut-out to pierce the package externally of the outlet aperture 202. The piercing tool 248 remains raised whilst the coffee is dispensed but out of path of the coffee. This movement of the lever 246 is effected by the underside of two vertical ribs 249 on the flap 244 as the upper platen 236 is being lowered. Return movement of the tool is effected by a horizontal bar 250 on the flap 244 lifting the adjacent end of the lever 246 as the upper platen 236 is raised after the coffee has been dispensed.

This is different to the first embodiment in which the piercing needle is lowered and removed from the outlet aperture 202 prior to the dispensing of the coffee. For this reason, in this embodiment, the piercing tool 248 comprises an open ended cylinder 255 of D cross-section having dimensions larger than the external dimensions of the outlet 202. The arcuate portion 253 of the upper end of

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the tool 248 is serrated to pierce and eventually to cut the foil 204, without removing any foil. The straight bar portion 254 at the same end is cut back longitudinally of the cylinder at least to the base of the teeth of the serrated portion to fold or push the cut foil 204 away from the outlet aperture before the coffee is dispensed therethrough. The bar portion 254 of the tool 248 holds the cut portion of the foil within the trough 258 (Figure 19), and thereby clear of the outlet 202 and, as in the first embodiment, out of the path of the coffee to be dispensed. In this embodiment, the D-shaped tool 248 is arranged so that the bar portion 254 is transverse of the lever 246 and nearer to the adjacent end of the lever than the arcuate portion 253.

In operation of this embodiment, the user selects the package 200 and arranges a cup to collect the coffee to be dispensed. The user then inserts the package into the machine through the entry slot 209. The door 210 hinges open and actuates a microswitch to signal to the controller. The front rib 208 of the package engages surface 262 of the cam and turns the cam 217 in a clockwise direction to take up the freedom of rotary movement allowed by the driving coupling between the parts 226, 252 of the intermediate gear 222, the package turning the cam but not the motor 221. When the trailing end of the package is flush with the entry slot 209, the second rib of the package lies in engagement with the tooth 230 of the cam. The motor 221 is started which causes the package to be drawn into the mechanism by the tooth 230 up to the end stop 243 which locates the package at the brewing station on the lower platen 233. At this point the entry door 210 is able to close with the quadrant 212 lying against the trailing end of the package. Rotation of the cam 217 also operates the door lock 214 which prevents further opening of the door 210 until the beginning of the next cycle.

With the package at the brewing station, the cam 217 disengages from the second rib of the package and due to the cut back edge 232 is able to continue rotating. As the cam rotates it causes the upper platen 236 to move downwards from its rest position to clamp the package 200 between the two platens 233, 236. The surface to surface contact between the upper platen 236 and the package 200 also maintains the width of the filtering slots within the package. At the same time as clamping the package, the water introducing nozzle 237 is pushed through the seal 203 and into the inlet 201 of the package. The downward movement of the upper platen 236 also causes the vertical ribs 249 on the flap 244 to pivot the lever 246 so that the piercing tool 248 opens the coffee outlet aperture 202 by piercing and eventually cutting the foil 204 and folding it back into the trough 258. Thereby both the cut material and the tool 248 are held out of the path of the coffee to be dispensed. On completion of the downward movement of the upper platen 236, the cam 217 stops rotating, and a signal to the controller initiates the water cycle which is unchanged from the first embodiment.

On completion of the brewing cycle, the cam 217 continues its rotation and causes the upper platen 236 to lift to a position higher than its start position. The end stop 243 is thereby raised above the package 200, and the lever 246 pivoted to return the piercing tool 248 beneath the lower platen 233. The drive slots 231 on the cam next engage with the rear set of ribs 208 of the package, and cause the used package to move off the lower platen 233 under the flap 244 and into the waste bin. On the package opening the flap 244, the actuator 245 operates a microswitch to signal to the controller. The pin 261 on the cam gives the package a final push and ensures that the package leaves the lower platen. When the package is clear, the cam stops in its home position. Failure of the flap 244 to close, signals that the waste bin is over full and precludes the machine from accepting a further package to start another brewing cycle.

The invention is not restricted to the specific details of the embodiments described above. For example, although it is envisaged that water is passed through the package to prepare the required beverage, it will be appreciated that there may be employed any desired aqueous medium, for example water/milk with or without sugar, which is compatible with the beverage ingredient in the package.

Also, in other embodiments, the slot 16 through which the package 10 is inserted may be another shaped aperture, e.g. a square aperture, to suit the particular package to be treated.

Furthermore, the means for introducing water or other aqueous medium may be independent of the top platen 41.

Claims

1. A method of preparing a beverage employing a package (10;200) containing at least one beverage ingredient comprising locating the package at a brewing station, piercing the package with a tool (49;248) to form an outlet opening in the package, introducing an aqueous medium into the package, allowing the aqueous medium to commingle with the beverage ingredient, and collecting the beverage so formed through the outlet opening (38;202) formed in the package, characterised by employing the piercing tool (49;248) both to form the outlet opening, and to fold the material

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