

(19)



**Octrooi centrum  
Nederland**

(11)

**2017283**

**(12) B1 OCTROOI**

(21)

Aanvraagnummer: **2017283**

(51)

Int. Cl.:

**A47J 31/36** (2017.01) **A47J 31/06** (2017.01)

(22)

Aanvraag ingediend: **03/08/2016**

(41)

Aanvraag ingeschreven:  
**14/02/2018**

(73)

Octrooihouder(s):  
**Koninklijke Douwe Egberts B.V. te Utrecht.**

(43)

Aanvraag gepubliceerd:  
-

(72)

Uitvinder(s):  
**Judith Ogink te Eindhoven.**  
**Marjan Cornelissen te Eindhoven.**  
**Peter Rijskamp te Eindhoven.**  
**Klaas Kooijker te Eindhoven.**

(47)

Octrooi verleend:  
**14/02/2018**

(45)

Octrooischrift uitgegeven:  
**14/02/2018**

(74)

Gemachtigde:  
**ir. C.M. Jansen c.s. te Den Haag.**

(54)

**System and apparatus for preparing a beverage**

(57)

A system for preparing a quantity of beverage suitable for consumption includes a second exchangeable capsule having a second body with a second flange-like rim and a second exit face attached to the second flange-like rim. The system further includes an apparatus for preparing a quantity of beverage suitable for consumption having a first brew chamber part having a cavity for holding the second exchangeable capsule and a second brew chamber part for closing the first brew chamber part around the second exchangeable capsule. The first brew chamber part has a first substantially annular abutment surface in the cavity and further has a second substantially annular abutment surface. A diameter of the second annular abutment surface is larger than a diameter of the first annular abutment surface. The second abutment surface is arranged for abutting the second flange-like rim there against when the cavity holds the second exchangeable capsule.

## System and apparatus for preparing a beverage

### FIELD OF THE INVENTION

The invention generally relates to a system for preparing a beverage. The invention also relates to an apparatus and method for preparing a beverage. More specifically the invention relates to a system for preparing a beverage using a capsule. In particular the invention relates to a system for preparing a quantity of beverage suitable for consumption, including a second exchangeable capsule having a second body with a second flange-like rim and a second exit face attached to the second flange-like rim, and an apparatus for preparing a quantity of beverage suitable for consumption, said apparatus including a first brew chamber part having a cavity for holding the second exchangeable capsule, and a second brew chamber part for closing the first brew chamber part around the second exchangeable capsule, and the first brew chamber part having a first substantially annular abutment surface in the cavity.

### BACKGROUND OF THE INVENTION

Such a system for preparing a beverage suitable for consumption is known from WO-A1-2015/004613. This known system can use prepackaged capsules having different respective axial lengths. The length of a capsule used is recognized mechanically, and the configuration of the brewing chamber is determined accordingly, as a function of the specific shape of the transverse flange of the capsule used on each occasion. In particular the flange-like rim of each capsule has at least one indentation or protrusion having a perimetric dimension which is correlated with the axial length or height of said capsule. As an example, WO-A1-2015/004613 describes capsules having a flange-like rim having indentations with a width that is inversely proportionate to the length of the capsule. Thus a capsule having a shorter length has indentations of a larger width. The brewing unit of the known system comprises a capsule carrier unit having a receiving element including an essentially cup-shaped central part from which a kind of flange extends radially outwards. Two essentially planar appendages, facing one another horizontally, extend vertically upwards from the flange of the receiving element. The appendages extend transversely outwards and are spaced apart from the cup-shaped central portion of the receiving element. Respective projecting

formations in the shape of isosceles triangles extend from the frontally facing surfaces of the appendages, and the arrangement of these appendages is such that two opposed indentations of the flange of a capsule are initially coupled to, and slide along, the oblique sides of the projecting formations of the appendages. As a result of this construction e.g. shorter capsules having wider indentations can penetrate farther between the appendages of the capsule carrier unit before its projecting formations bear on and are stopped by the oblique sides of the projecting formations. The known apparatus is further constructed such that as soon as the protuberances of the flange-like rim of the capsule begin to interfere with the oblique sides of the projecting formations, the capsule starts to drag the receiving element downwards, and that further rotation of a control lever, together with a number of other components of form a brewing chamber with a dimension adapted to the length of the capsule used such that a beverage can be prepared. Although this known system can be used to prepare a beverage using prepackaged capsules having different respective axial lengths, the construction of the brewing chamber of which the length is adaptable to the length of the capsule used is relatively complicated. Further, since the flange-like rim of all the capsules used comprises indentations the surface area of the flange-like rim is reduced. As a result the contact surface area of the flange-like rim with components of the brewing chamber is reduced, in particular for capsules having a shorter length. Since this contact surface area at least partly provides the sealing between the capsule and the brewing chamber during the brewing operation, the sealing of in particular the capsules of shorter length can be insufficient for using an apparatus in which e.g. hot water is supplied to the capsule under relatively high pressures.

#### SUMMARY OF THE INVENTION

It thus is an object of the invention to provide a system for preparing a quantity of beverage suitable for consumption which can use capsules having different dimensions in which the brewing chamber can be constructed in a relatively simple manner. It is a further object of the invention to provide a system for preparing a quantity of beverage suitable for consumption which can use capsules having different dimensions in which for each capsule the sealing is sufficient during brewing even when liquid is supplied to the capsule at relatively high pressures. It is still a further object of the invention to provide an alternative system for preparing a quantity of beverage suitable for consumption which can use capsules having different dimensions.

In order to achieve at least one of the objects identified above the invention provides a system for preparing a quantity of beverage suitable for consumption, including a

second exchangeable capsule having a second body with a second flange-like rim and a second exit face attached to the second flange-like rim, and an apparatus for preparing a quantity of beverage suitable for consumption, said apparatus including a first brew chamber part having a cavity for holding the second exchangeable capsule, and a second brew chamber part for closing the first brew chamber part around the second exchangeable capsule, and the first brew chamber part having a first substantially annular abutment surface in the cavity, characterized in that the first brew chamber part further has a second substantially annular abutment surface, a diameter of the second annular abutment surface being larger than a diameter of the first annular abutment surface, and in that the second abutment surface is arranged for abutting the second flange-like rim there against when the cavity holds the second exchangeable capsule. By using such a first and a second annular abutment surface the system can be constructed in a relatively simple manner to prepare a quantity of beverage suitable for consumption selectively using a first exchangeable capsule having a flange-like rim dimensioned to abut the first annular abutment surface and a second exchangeable capsule having a flange-like rim dimensioned to abut the second annular abutment surface. In a particular embodiment the system then further includes a first exchangeable capsule having a first body with a first flange-like rim and a first exit face attached to the first flange-like rim, wherein the cavity of the first brew chamber part of the apparatus is arranged for selectively holding one of the first and second exchangeable capsules, wherein the second brew chamber part is arranged for closing the first brew chamber part around the first or second exchangeable capsule, wherein the first abutment surface is arranged for abutting the first flange-like rim there against when the cavity holds the first exchangeable capsule, and wherein the second flange-like rim has a larger diameter than the first flange-like rim. Thus exchangeable capsules having different diameters can be used in the inventive system for preparing a quantity of beverage suitable for consumption.

In an advantageous system according to the invention the first substantially annular abutment surface is spaced from the second substantially annular abutment surface in an axial direction of the first brew chamber part. In particular it is then possible in an embodiment of a system according to the invention that an axial length of the second capsule is larger than an axial length of the first capsule. It is thus possible to use exchangeable capsules having different lengths in the inventive system for preparing a quantity of beverage suitable for consumption.

An embodiment of the system according to the invention can be constructed in a relatively simple manner and relatively compact when the second substantially annular abutment surface is arranged at an open end of the cavity.

In a further embodiment of a system according to the invention the system can  
5 be constructed in a relatively simple manner when the first substantially annular abutment surface and the second substantially annular abutment surface are immobile relative to each other. The cavity of the first brew chamber part can be a predetermined cavity arranged for holding the first or second capsule. The cavity can have an invariable shape for holding the first or second capsule. The first brew chamber part can be arranged for holding the first or  
10 second capsule without changing a configuration of the first brew chamber part. The first brew chamber part can be a monolithic part.

Preferably the second brew chamber part has an extraction plate for abutting against the second exit face and optionally the first exit face. It is then advantageous from a constructional point of view when the extraction plate includes a central portion and a  
15 peripheral portion, the central portion being axially movable relative to the peripheral portion. Preferably the peripheral portion is arranged to abut against the second exit face when the cavity holds the second capsule while brewing, which can aid in providing a proper sealing during brewing. The same is valid when the peripheral portion is arranged to abut against the first brew chamber part when the cavity holds the first capsule while brewing. The  
20 central portion can be arranged to abut against the second exit face when the cavity holds the second capsule while brewing, and the central portion can further be arranged to abut against the first exit face when the cavity holds the first capsule while brewing.

When the first and/or second brew chamber part is arranged to seal against the second flange-like rim or optionally the first flange-like rim the system for preparing a  
25 quantity of beverage suitable for consumption which can use capsules having different dimensions in which for each capsule the sealing is sufficient during brewing even when liquid is supplied to the capsule at relatively high pressures. Preferably a liquid supply system is included for supplying liquid to the first brew chamber part, wherein the liquid can enter into an interstice between the first brew chamber part and the second capsule or optionally an  
30 interstice between the first brew chamber part and the first capsule.

The system according to the invention is in particular suitable when first and second exchangeable capsules are used having substantially the same length to diameter ratio.

In a further embodiment of a system according to the invention the first brew chamber part includes centering means at the bottom of the cavity, wherein the second exchangeable capsule and optionally the first exchangeable capsule are arranged for selectively cooperating with the centering means for selectively centering the first and second exchangeable capsules near the bottom of the cavity. In a still further embodiment of a system according to the invention the first brew chamber part and the first exchangeable capsule are adapted to each other such that the first exchangeable capsule centers in the cavity by means of the flange-like rim. In an even still further embodiment of a system according to the invention the first brew chamber part and the second exchangeable capsule are adapted to each other such that an outer part of the second exchangeable capsule engages the inner circumferential wall of the first brew chamber part when loading the second exchangeable capsule into the first brew chamber part, and wherein the first brew chamber part and the second exchangeable capsule are adapted to each other such that the second exchangeable capsule centers in the cavity by means of the outer part. In these manners capsules can be centered accurately in the brew chamber part thereby facilitating correct brewing.

In an embodiment of a system according to the invention in which the first abutment surface provides the cavity with a stepped shape, the first and second exchangeable capsule can be easily and correctly inserted into the brew chamber part.

In a further embodiment of a system according to the invention the second body is a cup-shaped second body including a second bottom and a second circumferential wall, said cup-shaped second body having a second open end, wherein the second flange-like rim is an outwardly extending second rim continuously circumferentially extending along the second open end of the cup-shaped second body, said outwardly extending second rim substantially having a single second width. Preferably, the first body is a cup-shaped first body including a first bottom and a first circumferential wall, said cup-shaped first body having a first open end, wherein the first flange-like rim is an outwardly extending first rim continuously circumferentially extending along the first open end of the cup-shaped first body, said outwardly extending first rim substantially having a single first width. Such continuously circumferentially extending rims having a single width can during brewing provide a sufficient seal even in case liquid under pressure is supplied to the capsules. In case the first width and the second width are identical the brew chamber part can be constructed in a relatively easy manner. In particular the first generally annular abutment surface can then

be continuously annular and the second generally annular abutment surface can then be continuously annular.

The invention further relates to an apparatus for preparing a predetermined quantity of beverage suitable for consumption, the apparatus being arranged for preparing a  
5 predetermined quantity of beverage suitable for consumption using a second exchangeable capsule having a second body and a second flange-like rim, the apparatus including a brew chamber part having a cavity for holding the second exchangeable capsule, the brew chamber part having a first annular abutment surface in the cavity, characterized in that the brew chamber part has a second annular abutment surface, the second abutment surface being  
10 arranged for abutting the second flange-like rim there against when the cavity holds the second exchangeable capsule and in that a diameter of the second annular abutment surface is larger than a diameter of the first annular abutment surface. Preferably the apparatus is further arranged for preparing a predetermined quantity of beverage suitable for consumption using a first exchangeable capsule having a first body and a first flange-like rim, the cavity of  
15 the brew chamber part being arranged cavity for selectively holding one of the first and second exchangeable capsules, the first abutment surface being arranged for abutting the first flange-like rim there against when the cavity holds the first exchangeable capsule. The apparatus is thus suitable for preparing a predetermined quantity of beverage suitable for consumption using a second exchangeable capsule having a second flange-like rim with a  
20 larger diameter than the first flange-like rim. In case the first substantially annular abutment surface is spaced from the second substantially annular abutment surface in an axial direction of the first brew chamber part it is possible for the apparatus to use capsules having different lengths.

The apparatus can be constructed relatively simple when the second  
25 substantially annular abutment surface is arranged at an open end of the cavity. The apparatus can be further constructed relatively simple when the first substantially annular abutment surface and the second substantially annular abutment surface are immobile relative to each other.

Preferably the second brew chamber part has an extraction plate, which then  
30 includes a central portion and a peripheral portion, the central portion being axially movable relative to the peripheral portion.

In an embodiment of an apparatus according to the invention the first brew chamber part includes centering means at the bottom of the cavity for correctly centering the capsule in the brew chamber part.

In a further embodiment of an apparatus according to the invention the first abutment surface provides the cavity with a stepped shape so that capsules of different diameter can be inserted relatively easily. In order to provide a correct sealing even when liquid under pressure is used for brewing the beverage it is preferred that the first generally annular abutment surface is continuously annular and wherein the second generally annular abutment surface is continuously annular.

According to an aspect is provided a method for preparing a quantity of beverage suitable for consumption as described herein.

According to an aspect is provided a capsule, and a set of a first and second capsule as described herein.

It will be appreciated that any of the embodiments, aspects, features and options described in view of the system apply equally to the apparatus, capsules and method. It will also be clear that any one or more of the above embodiments, aspects, features and options can be combined.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The invention will further be elucidated on the basis of exemplary embodiments which are represented in a drawing. The exemplary embodiments are given by way of non-limitative illustration. It is noted that the figures are only schematic representations of embodiments of the invention that are given by way of non-limiting example.

In the drawing:

Figs. 1A and 1B show schematic representations of a system according to the invention;

Figs. 2A and 2B show the first brew chamber part of the system of Figs. 1 A and 1B in more detail;

Figs. 3A and 3B show the functioning of the locking mechanism of the system as shown in Fig. 1A when the cavity holds the first capsule;

Figs. 4A and 4B show the functioning of the locking mechanism of the system as shown in Fig. 1B when the cavity holds the second capsule;

Figs. 5A, 5B and 5C show the functioning of the arresting ring of the system as shown in Fig. 1A when the cavity holds the first capsule;

Figs. 6A and 6B show the first capsule in the brew chamber during extraction and the second capsule in the brew chamber during extraction, respectively;



Figs. 7A and 7B show the first brew chamber part swiveled downwards for ejection of the used first and second capsule, respectively, from the cavity under the effect of gravity; and

5 Figs. 8A and 8B show an example of a first capsule and second capsule, respectively, inserted in the brew chamber formed by the first brew chamber part and the second brew chamber part.

#### DETAILED DESCRIPTION OF THE EMBODIMENTS

10 Figs. 1A and 1B show schematic cross sectional views of a system 1 for preparing a beverage. The system includes an apparatus 2 and an exchangeable capsule. Here the system 1 is arranged for cooperating with a first capsule 4A and a second capsule 4B. The apparatus 2 shown in Figs. 1A and 1B is one and the same apparatus. The apparatus 2 is arranged for selectively cooperating with either the first capsule 4A (see Fig. 1A) or the second capsule 4B (see Fig. 1B). It will be appreciated that the system 1 can include the  
15 apparatus 2, the first capsule 4A and the second capsule 4B.

The first and second capsules 4A, 4B are of a different type. In this example, the second capsule 4B is larger than the first capsule 4A. An axial length LB of the second capsule 4B is larger than an axial length LA of the first capsule 4A. A diameter DB of the second capsule 4B is larger than a diameter DA of the first capsule 4A. Notwithstanding the  
20 differences, in this example the first and second capsules 4A, 4B are designed to make a similar visual impression. The first and second capsules 4A, 4B are designed to have a family look and feel. Here a ratio of the axial length and diameter LA/DA of the first capsule 4A is substantially the same as a ratio of the axial length and diameter LB/DB of the second capsule 4B. Preferably, the length to diameter ratio of the first and second capsules is  
25 identical within 20%, preferably within 10%, e.g. identical.

In view of the similarity, both capsules 4A, 4B will now be described simultaneously. In this example, the capsules 4A, 4B both include a cup-shaped body 6A, 6B. Here the cup-shaped body 6A, 6B includes a bottom 8A, 8B and a circumferential wall 10A, 10B. The bottom 8A, 8B and the circumferential wall 10A, 10B can form a monolithic  
30 part. The capsules 4A, 4B both include a lid 12A, 12B. The lid 12A, 12B closes off an open end of the cup-shaped body 6A, 6B. The lid 12A, 12B includes an exit area 13A, 13B through which beverage can be drained from the capsule as explained below. In this example the lid 12A, 12B is connected to a flange-like rim 14A, 14B of the capsule 4A, 4B. Here the rim 14A, 14B is an outwardly extending rim. The rim 14A, 14B extend continuously

circumferentially along the open end, i.e. do not have interruptions or indentations, and each rim 14A, 14B has one and the same width over its periphery, i.e. the rim has a single, uniform width around its circumference. Although the first width of the rim 14A and the second width of the rim 14B can be different from each other, the widths preferably are identical. The bottom 8A, 8B, the circumferential wall 10A, 10B and the rim 14A, 14B can form a monolithic part. Here the exit area 13A, 13B defines the area of the lid 12A, 12B through which the beverage can potentially exit the capsule 4A, 4B. Hence, an area of the lid 12A, 12B sealed to the rim 14A, 14B does not constitute part of the exit area 13A, 13B. In this example, the capsules 4A, 4B are substantially rotation symmetric around an axis extending from the bottom 8A, 8B to the lid 12A, 12B. The cup-shaped body 6A, 6B and the lid 12A, 12B enclose an inner space 16A, 16B of the capsule. The inner space 16A, 16B includes a quantity of beverage ingredient, such as an extractable or soluble substance. The beverage ingredient can e.g. be roast and ground coffee, tea, or the like. The beverage ingredient can be powdered coffee. The beverage ingredient can be a liquid. In view of the difference in size of the capsules 4A, 4B it will be appreciated that the second capsule 4B can include a larger quantity of beverage ingredient than the first capsule 4A. In this example, the inner space 16B of the second capsule 4B is about twice the inner space 16A of the first capsule 4A. For example, the first capsule 4A may include 4-8 grams, e.g. about 6 grams, of ground coffee. For example, the second capsule 4B may include 8-16 grams, e.g. about 12 grams, of ground coffee.

The cup-shaped body 6A, 6B can be manufactured from a metal foil, such as aluminum foil, a plastics material, such as polypropylene or polyethylene, or a combination thereof. The cup-shaped body 6A, 6B can be manufactured by pressing, deep-drawing, vacuum forming, injection molding or the like. The lid can be manufactured from a metal foil, such as aluminum foil, a plastics material, such as polypropylene or polyethylene, or a combination thereof. In the example the capsules 4A, 4B are so-called closed capsules. This indicates capsules that are hermetically closed prior to insertion into the apparatus. The closed capsules can be opened by the apparatus as described below. Alternatively, non-sealed or refillable capsules could also be used.

The apparatus includes a first brew chamber part 18 and a second brew chamber part 20. The first and second brew chamber parts 18, 20 can be closed against each other to form a brew chamber 22A, 22B (not shown in Figs. 1A, 1B).

The first brew chamber part 18 includes a cavity 24. The cavity 24 is arranged for receiving the first or second capsule 4A, 4B. Here the cavity 24 of the first brew chamber

part 18 is a predetermined cavity 24 arranged for holding the first or second capsule 4A, 4B. Here the cavity 24 has an invariable shape for holding the first or second capsule 4A, 4B. Here the first brew chamber part 18 is arranged for holding the first or second capsule 4A, 4B without changing a configuration of the first brew chamber part 18. In this example the first  
5 brew chamber part 18 is a monolithic part. In this example the first brew chamber part 18 includes a first abutment surface 26. The first abutment surface is positioned inside the cavity 24. Here the first abutment surface 26 is a first generally annular abutment surface. The first generally annular abutment surface 26 can be continuously annular, or it may be interrupted annular, such as comprising a plurality of segments along an annulus. The first abutment  
10 surface 26 may for example take the shape of one or more, e.g. arched, ridges which protrude into cavity 24. Here the first abutment surface 26 provides the cavity 24 with a stepped shape. In this example the first brew chamber part 18 includes a second abutment surface 28. The second abutment surface is positioned near the open end of the cavity 24. The diameter of the second annular abutment surface 28 is larger than the diameter of the first annular abutment  
15 surface 26. Here the second abutment surface 28 is a second generally annular abutment surface. The second generally annular abutment surface 28 can be continuously annular, or it may be interrupted annular, such as comprising a plurality of segments along an annulus. The second abutment surface 28 may for example take the shape of one or more, e.g. arched, ridges. It will be appreciated that the first abutment surface 26 and the second abutment  
20 surface 28 are spaced at a mutual distance in an axial direction of the first brew chamber part 18. The first abutment surface 26 and the second abutment surface 28 are positioned at a fixed spacing. The first abutment surface 26 and the second abutment surface are immobile relative to each other. Here, the first brew chamber part 18 includes an ejector 38. In this  
25 example the ejector 38 includes a conical ring and/or a resilient element 42, here a helical spring. The first brew chamber part 18 includes piercing means 44 for piercing the bottom of the capsule. Here the piercing means includes a plurality of knives, such as three knives.

The second brew chamber part 20 includes an extraction plate 30. In this example, the extraction plate 30 includes a central portion 32 and a peripheral portion 34. The central portion 32 is movable relative to the peripheral portion 34. Here the central  
30 portion 32 is movable in an axial direction of the second brew chamber part 20.

The system 1 as described thus far can be used for preparing a beverage as follows. Further features of the system 1 will be explained along the way.

In the example of Figs. 1A and 1B the apparatus 2 is in a state ready for receiving a capsule. In Figs. 1A and 1B the capsule 4A, 4B has just been inserted into the

cavity of the first brew chamber part 18. The first brew chamber part 18 is in an inclined position. The open end of the cavity 24 points upwards.

As shown in Fig. 1A, the first capsule 4A can fall into the cavity 24 under the influence of gravity. Herein the rim 14A of the first capsule 4A is guided by an inner surface 36 of the first brew chamber part 18. The bottom 8A of the first capsule 4A lowers into the cavity 24 until it abuts against the ejector 38. Here the bottom 8A of the first capsule 4A centers on the ejector 38. It will be appreciated that the rim 14A of the first capsule 4A is positioned between the first abutment surface 26 and the second abutment surface 28. The bottom 8A of the first capsule 4A is not yet pierced in this state.

As shown in Fig. 1B, the second capsule 4B can also fall into the cavity 24 under the influence of gravity. Herein the circumferential wall 10B of the second capsule 4B is guided by an inner surface 46 of the first brew chamber part 18. The bottom 8B of the second capsule 4B lowers into the cavity 24 until it abuts against the ejector 38. Here the bottom 8B of the second capsule 4B centers on the ejector 38. It will be appreciated that the rim 14B of the second capsule 4B is positioned beyond the second abutment surface 28 when seen from the piercing means 44. The bottom 8B of the second capsule 4B is not yet pierced in this state.

Once the capsule 4A, 4B is inserted into the cavity 24 as shown in Figs. 1A and 1B, the first brew chamber part 18 can be moved towards the second brew chamber part 20 for closing the brew chamber around the capsule 4A, 4B. The first brew chamber part 18 is guided in a frame 48 of the apparatus.

In this example the first brew chamber part 18 includes first bosses 50 and second bosses 52 as shown in Figs. 2A and 2B. The first bosses 50 are guided in a first groove 54 of the frame 48. The second bosses 52 are guided in a second groove 56 of the frame 48. It will be appreciated that the bosses 50, 52 and grooves 54, 56 determine the path that will be followed by the first brew chamber part 18. Here the first groove 54 and the second groove 56 are provided in a side wall 57 of the frame 48. The first groove 54 extends into the side wall 57 to a first depth. The second groove 56 extends into the side wall to a second depth. The second depth is larger than the first depth. The first boss 50 has a larger diameter than the second boss 52. The first groove 54 has a larger width than the second groove 56. The width of the first groove 54 corresponds to the diameter of the first boss 50. The width of the second groove 56 corresponds to the width of the second boss 52. It will be appreciated that the first groove 54 extends along a different trajectory than the second groove 56. The different widths and depths of the grooves allow the first and second bosses

50, 52 to follow different trajectories. This construction allows a very compact construction for guiding the first and second bosses 50, 52.

The apparatus 2 includes a lever 58. The lever can be actuated manually by a user. The lever is pivotally connected to the frame 48 around a lever axis 60. The first brew chamber part 18 is connected to the frame 48 via a knee joint 62. The knee joint 62 includes a push rod 64 and a crank 66. The push rod 64 is pivotally connected to the crank 66 at a knee axis 68. The crank 66 is pivotally connected to the frame 48 at a crank axis 70. The lever 58 is connected to the knee joint 62 for actuating the first brew chamber part 18 in motion. Here the lever 58 is connected to the knee joint 62 through a lever link 74. The lever link 74 is pivotally connected to the lever 58 at a lever link axis 76. The lever link 74 is pivotally connected to the push rod 74 at a knee link axis 78.

An arresting ring 80 is arranged surrounding the first brew chamber part 18. The arresting ring 80 is axially movable relative to the first brew chamber part 18. Here, the arresting ring 80 is guided by an external surface of the first brew chamber part 18. The arresting ring is connected to the first brew chamber part via one or more resilient elements 82, here helical springs. The push rod is pivotally connected to the arresting ring 80 at a push rod axis 72. Hence, here the knee joint 62 is indirectly connected to the first brew chamber part 18, viz. via the arresting ring 80 and one or more resilient elements 82. The function of the arresting ring will be set out below.

When the lever 58 is moved in a downward direction the knee joint 62 will push the first brew chamber part 18 towards the second brew chamber part 20. Simultaneously, due to the shape of the first and second grooves 54, 56, the first brew chamber part 18 will be rotated from the upwards inclined orientation into an aligned orientation in which an axial direction of the first brew chamber part 18 is aligned with an axial direction of the second brew chamber part 20.

As mentioned above, the apparatus 2 is arranged for selectively cooperating with either the first capsule 4A or the second capsule 4B. Here, the system 1 is arranged for automatically adjusting the brew chamber depending on whether the first or the second capsule has been inserted. This provides the advantage that no user input is required for selecting proper handling of the first or second capsule. Hence, the risk of errors is greatly reduced.

As mentioned, the second brew chamber part 20 includes an extraction plate 30 with a central portion 32 and a peripheral portion 34. Here the central portion 32 is movable in an axial direction of the second brew chamber part 20. The central portion 32 in

this example includes a shaft 32' axially slidably movable with respect to the frame 48. The central portion 32 is connected to the frame 48 via a resilient member 84, here a helical spring. The resilient member 84 biases the central portion 32 into a ready position in Figs. 1A and 1B. The ready position is an extended position in this example. The central portion 32  
 5 can be positioned in a first brewing position for cooperating with the first capsule 4A. The central portion 32 can be positioned in a second brewing position for cooperating with the second capsule 4B. In this example, the system 1 includes a locking mechanism 86 arranged for locking the central portion 32 in or near the first brewing position when the cavity 24 holds the first capsule 4A.

10 The locking mechanism 86 includes a locker 88. Here the locker 88 is designed as a pivotable finger, pivotable around a pivoting axis 90. The locker 88 is biased into a position pivoted away from the shaft 32'. The locker could also be biased into any other suitable position. The locking mechanism 86 further includes a pusher 92. The pusher is slidably guided in a body 94 of the second brew part 20. The pusher 92 is connected to the  
 15 body 94 via a resilient member 96, here a helical spring. The resilient member 96 biases the pusher in an extended position. The first brew chamber part 18 includes an actuator 98. Here the actuator is formed by a frontal surface of the first brew chamber part 18.

Figs. 3A and 3B show functioning of the locking mechanism 86 when the cavity 24 holds the first capsule 4A. In this example, an outermost part of the first capsule  
 20 4A, here formed by the lid 12A, exit area 13A and/or rim 14A, is positioned rearwardly, i.e. more towards the piercing means 44, relative to the actuator 98. As a result, when advancing the first capsule 4A towards the second brew chamber part 20, the actuator 98 will touch the pusher 92 before the outermost part of the first capsule 4A will touch the central portion 32. The pusher is pushed against the biasing force of the resilient member 96. A lip 100 of the  
 25 pusher 92 will slide along a sloping surface 102 of the locker 88, causing the locker 88 to pivot towards the shaft 32'. As a result, a thumb 104 of the locker 88 is placed in a path of movement of part 106 of the central portion 32 (see Fig. 3B). When the first capsule 4A is advanced further towards the second brew chamber part 20 the first capsule 4A will abut against the central portion 32. This can cause the central portion 32 to be pushed against the  
 30 biasing force of the resilient member 84. The pivoted locker 88 prevents travel of the central portion 32 beyond a position where the part 106 abuts against the thumb 104. This is herein defined as the first brewing position. Hence, the first capsule 4A is arranged for moving the central portion 32 from the ready position to the first brewing position. The first capsule 4A

is held between the first and second brew chamber parts 18, 20 while brewing, wherein the central portion 32 is in the first brewing position.

Figs. 4A and 4B show functioning of the locking mechanism 86 when the cavity 24 holds the second capsule 4B. In this example, an outermost part of the second capsule 4B, here formed by the lid 12B, exit area 13B and/or rim 14B, is positioned forwardly, i.e. more towards the second brew chamber part 20, relative to the actuator 98. As a result, when advancing the second capsule 4B towards the second brew chamber part 20, the outermost part of the second capsule 4B will abut against the central portion 32 before the actuator 98 will touch the pusher 92. The central portion 32 is pushed against the biasing force of the resilient member 84 while the locker 88 is still pivoted away from the shaft 32'. As a result, the part 106 passed underneath the thumb 104. Only after the part 106 has passed the thumb 104 the pusher is pushed against the biasing force of the resilient member 96 by the actuator 98. The lip 100 of the pusher 92 will still slide along the sloping surface 102 of the locker 88, causing the locker 88 to pivot towards the shaft 32'. However, the part 106 has already passed the thumb 104 at that moment. In this example, the second capsule 4B pushes the central portion 32 in abutment with the body 94. This is herein defined as the second brewing position. Hence, the second capsule 4B is arranged for moving the central portion 32 from the ready position to the second brewing position. The second capsule 4B is held between the first and second brew chamber parts 18, 20 while brewing, wherein the central portion 32 is in the second brewing position.

Thus, the locking mechanism 86 is arranged for locking the central portion 32 in the first brewing position when the cavity 24 holds the first capsule 4A. It is noted that the locking may be single-sided, viz. the locking mechanism may prevent the central portion 32 from being moved beyond the first brewing position when the cavity 24 holds the first capsule 4A. However movement of the central portion 32 from the first brewing position to the ready position may be not prevented. The locking unit 86 is arranged for selectively preventing the central portion 32 being locked in or near the first brewing position when the second capsule 4B is included in the brew chamber. The locking unit 86 is arranged for selectively allowing the central portion 32 being moved into the second brewing position when the second capsule is included in the brew chamber.

When comparing Figs. 3A and 4A it will be appreciated that while advancing the first brew chamber part 18 towards the second brew chamber part 20 the first capsule 4A is recessed further into the first brew chamber part than the second capsule 4B. Then the first

lid 12A, exit area 13A and/or rim 14B is recessed further into the first brew chamber part 18 than the second lid 12B, exit area 13B and/or rim 14B.

When comparing Figs. 3B and 4B it will be appreciated that when the brew chamber holds the first capsule 4A, the central portion 32 extends into the cavity 24. The  
 5 central portion 32 extends into the first brew chamber part 18 beyond a position where the lid 12B, exit area 13B and/or rim 14B of the second capsule 4B would have been, had the second capsule been included in the first brew chamber part 18.

As mentioned above, the knee joint 62 is indirectly connected to the first brew chamber part 18, viz. via the arresting ring 80 and one or more resilient elements 82. Figs.  
 10 5A-5C demonstrate functioning of the arresting ring 80.

In Fig. 5A the first capsule 4A abuts against the central portion 32 with the central portion 32 in the first brewing position. The arresting ring 80 is still in the rearward position. It will be appreciated that the lever 58 will not yet have reached its end position. The first brew chamber part 18 includes a protrusion 108. Here the protrusion 108 is a  
 15 substantially annular protrusion. The protrusion 108 extends outwardly. Here the protrusion 108 forms an outermost edge of the first brew chamber part 18. The second brew chamber part 20 includes a retainer 110. Here the retainer 110 is designed as a circumferential ring of retainer lips. The retainer 110 is pivotally connected to the body 94. Here the retainer 110 is resiliently pivotally connected to the body 94. The retainer 110 includes a tooth 112. The  
 20 tooth here has a first inclined surface 114 and a second inclined surface 116.

When lowering the lever 58, the arresting ring 80 will be advanced towards the second brew chamber part 20. The one or more resilient elements 82 will push the first brew chamber part 18 ahead of the arresting ring 80 until the first brew chamber part abuts against the second brew chamber 20 part, e.g. with the capsule 4A, 4B clamped in between.  
 25 During this movement, the protrusion 108 will advance against the first inclined surface 114. This causes the retainer 110 to be pivoted outwardly (see Fig. 5A). Further advancing causes the protrusion 108 to pass beyond the second inclined surface 116, causing the retainer 110 to pivot inwardly (see Fig. 5B). Further lowering of the lever 58 first brew chamber part abuts against the second brew chamber 20 part will cause the one or more resilient elements 82 to  
 30 be compressed. As a result, the arresting ring 80 will advance towards the second brew chamber part 20. Fully lowering the lever 58 will cause the arresting ring 80 to be interposed between the retainer 110 and a locking ring 118 (see Fig. 5C). The arresting ring 80 surrounding the retainer 110 prevents the retainer 110 from pivoting outwardly. Hence, the



first brew chamber part is locked with respect to the second brew chamber part 20. The first brew chamber part is locked onto the second brew chamber part 20.

The apparatus can include a fluid supply system for supplying a fluid, e.g. a liquid, such as hot water under pressure, to the first brew chamber part 18. When the brew chamber is pressurized with the fluid for brewing a beverage, the first and second brew chamber parts 18, 20 will be pushed away from each other by the fluid pressure. The retainer 110 and arresting ring 80, and optionally the locking ring 118, will bear all, or part of, the force exerted by the fluid pressure. The arresting ring 80 interposed between the retainer 110 and the locking ring 118 increases mechanical stability. The arresting ring 80 does not have to bear all forces exerted onto it by the retainer 110, since it can abut against the locking ring 118 and transmit at least part of the forces to the locking ring 118. The locking ring 118 can be immobile, and hence can easily be reinforced. Since the first brew chamber part is locked onto the second brew chamber part 20 the frame 48 and the actuation mechanism, e.g. the knee joint, do not have to bear this force, or at least a smaller part thereof. Hence the frame and/or the actuation mechanism can be designed weaker and/or cheaper.

Although the functioning of the arresting ring 80 has been shown in Figs. 5A-5C with respect to the first capsule 4A, it will be appreciated that the arresting ring 80 can function identically with respect to the second capsule 4B.

Fig. 6A shows the first capsule 4A in the brew chamber during extraction.

Fig. 6B shows the second capsule 4B in the brew chamber during extraction.

The piercing member 44 is arranged for piercing the bottom 8A, 8B of the capsule 4A, 4B. As can also be seen in Figs. 5A-5C, in this example the piercing member 44 does not pierce the bottom 8A, 8B until the lid 12A, 12B of the capsule 4A, 4B abuts against the central portion 32 in the first or second brewing position. Thereto, stiffnesses of the resilient element 42 and the resilient member 84 can be chosen. In this example, the stiffness of the resilient element 42 is chosen to be larger than the stiffness of the resilient member 84. However, it will be appreciated that it is also possible that the stiffness of the resilient element 42 is equal to the stiffness of the resilient member 84 or that the stiffness of the resilient element 42 is smaller than the stiffness of the resilient member 84.

Once the capsule 4A, 4B is included in the brew chamber, and the bottom 8A, 8B has been pierced, a fluid, in this example hot water under pressure, can be supplied to the brew chamber. Therefore it is desired that the brew chamber is leak tight. Thereto the central portion 32 is provided with a first sealing member 120. The peripheral portion 34 is provided with a second sealing member 122. The beverage preparation apparatus 2 is arranged for

preparing a quantity of a beverage, suitable for consumption, using either a first capsule 4A or a second capsule 4B. The quantity can be a predetermined quantity. The quantity can also be a user selectable, user settable, or user programmable quantity.

Referring to Fig. 3B sealing in view of the first capsule 4A is described. The first sealing member 120 is arranged for providing a fluid sealing engagement between the central portion 32 and the first brew chamber 18 part when forming the brew chamber 22A for holding the first capsule 4A. In this example, the first sealing member 120 abuts against the first brew chamber part 18 when the first capsule 4A is included in the brew chamber. This provides a seal for water being present in the cavity 24 outside the capsule 4A. This way, brewing fluid injected into the brew chamber 22A, is prevented from bypassing around the outside of the capsule 4A. In the example of Fig. 3B the first sealing member 120 includes a resilient lip 121. The resilient lip 121 is arranged to provide a self-reinforcing sealing engagement between the central portion 32 and the first brew chamber part 18 under the effect of fluid pressure in the brew chamber. In this example the first sealing member 120 abuts against the rim 14A of the first capsule 4A. The rim 14A is pressed against the first sealing member 120 by the first abutment surface 26. This provides a sealing engagement between the central portion 32 and the capsule 4A against beverage exiting the capsule 4A via the exit area 13A. It will be appreciated that here the side of the rim 14A facing away from the cup-shaped body 6A is sealed against the second brew chamber part 20. Alternatively, or additionally, the side of the rim 14A facing towards the cup-shaped body 6A can be sealed against the first brew chamber part 18. Thereto an additional seal can be provided on the first brew chamber part 18, e.g. on the first abutment surface 26, and/or on the capsule 4A, e.g. on the rim 14A. It will be clear that a seal on the capsule may be additional to the seal between the first brew chamber part 18 and the second brew chamber part 20. This may reduce the sealing effort by the first sealing member 120.

Referring to Fig. 4B sealing in view of the second capsule 4B is described. The second sealing member 122 is arranged for providing a fluid sealing engagement between the peripheral portion 34 and the first brew chamber 18 part when forming the brew chamber 22B for holding the second capsule 4B. In this example, the second sealing member 122 abuts against the first brew chamber part 18 when the second capsule 4B is included in the brew chamber. This provides a seal for water being present in the cavity 24 outside the capsule 4B. In the example of Fig. 4B the second sealing member 122 includes a resilient lip 123. The resilient lip 123 is arranged to provide a self-reinforcing sealing engagement between the peripheral portion 34 and the first brew chamber part 18 under the effect of fluid

pressure in the brew chamber. In this example the second sealing member 122 abuts against the rim 14B of the second capsule 4B. The rim 14B is pressed against the second sealing member 122 by the second abutment surface 28. This may provide a sealing engagement between the peripheral portion 34 and the capsule 4B against beverage exiting the capsule 4B via the exit area 13B. In Fig. 4B the first sealing member 120 provides a sealing engagement between the central portion 32 and the peripheral portion 34 when forming the brew chamber 22B for holding the second capsule 4B. This sealing engagement between the central portion 32 and the peripheral portion 34 can be self-reinforcing. Thereto the engagement between peripheral portion 34 and the second capsule 4B may allow brewing fluid to pass to the first sealing member 120. Hence, the first sealing member 120 provides a sealing engagement between the central portion 32 and the capsule 4B against beverage exiting the capsule 4B via the exit area 13B. It will be appreciated that here the side of the rim 14B facing away from the cup-shaped body 6B, which rim may or may not be covered by a lid, for example by a foil, is sealed against the second brew chamber part 20. Alternatively, or additionally, the side of the rim 14B facing towards the cup-shaped body 6B can be sealed against the first brew chamber part 18. Thereto an additional seal can be provided on the first brew chamber part 18, e.g. on the second abutment surface 28, and/or on the capsule 4B, e.g. on the rim 14B. It will be clear that a seal on the capsule may be additional to the seal between the first brew chamber part 18 and the second brew chamber part 20. This may reduce the sealing effort by the second sealing member 122.

When the fluid under pressure is supplied to the capsule 4A, 4B in the brew chamber, the exit area 13A, 13B may open against the extraction plate 30. The extraction plate 30 in this example includes a plurality of relief elements 124. Here the relief elements 124 are truncated pyramids. A rise in pressure inside the capsule 4A, 4B can cause the exit area 13A, 13B to tear against the relief elements allowing beverage to exit the capsule 4A, 4B.

The beverage can pass through the extraction plate 30 via apertures in the extraction plate. Next the beverage can flow to an outlet 126. From the outlet 126 the beverage can flow into a receptacle, such as a cup.

Once the beverage has been brewed, the lever 58 can be moved upwardly. This causes the arresting ring 80 to be moved away from the retainer 110. Next, the first brew chamber part 18 will be moved rearwardly. The second inclined surface 116 of the retainer 110 can allow the retainer to pass the projection 108. The first brew chamber 18 part will move away from the second brew chamber part 20. The central portion 32 will return to the

ready position. The bosses 50, 52 and grooves 54, 56 determine the path that will be followed by the first brew chamber part 18. As shown in Figs. 7A and 7B the first brew chamber part will swivel downwardly. This promotes ejection of the used capsule 4A, 4B from the cavity 24 under the effect of gravity. The ejector 38 can assist in pushing the capsule 4A, 4B off the  
5 piercing member 44 and out of the cavity 24. The used capsule 4A, 4B can fall into a waste basket of the apparatus 2.

In this example the first and second capsules 4A, 4B are designed to make a similar visual impression. Fig. 8A shows an example of a first capsule 4A inserted in the brew chamber 22A formed by the first brew chamber part 18 and the second brew chamber  
10 part 20. It will be appreciated that the circumferential wall 10A is narrower than the cavity 24 at that location. As a result there is a first volume 126 surrounding the first capsule 4A inside the cavity 24. Fig. 8B shows an example of a second capsule 4B inserted in the brew chamber 22B formed by the first brew chamber part 18 and the second brew chamber part 20. It will be appreciated that a part 128 of the circumferential wall 10B is narrower than the  
15 cavity 24 at that location. This part 128 is formed by the part of the circumferential wall 10B extending beyond the first abutment surface 26. As a result there is a second volume 130 surrounding the second capsule 4B inside the cavity 24.

It is noted that the first volume 126 is not occupied by the first capsule 4A when the brew chamber 22A holds the first capsule 4A. However, this first volume 126 is  
20 occupied by part of the second capsule 4B when the brew chamber 22B holds the second capsule 4B. The second volume 130 is not occupied by the second capsule 4B when the brew chamber holds the second capsule 4B. This second volume 130 receives the central portion 32 of the extraction plate 30 when the brew chamber holds the first capsule 4A.

When brewing a beverage using the first capsule 4A, the first volume 126 will  
25 fill with fluid, such as water, which fluid is not used for brewing the beverage. This fluid can be drained to the waste basket after brewing. When brewing a beverage using the second capsule 4B, the second volume 130 will fill with fluid, such as water, which fluid is not used for brewing the beverage. This fluid can be drained to a container, e.g. the waste basket, after brewing. In this example the first volume 126 is substantially equal to the second volume  
30 130. Hence, the volume of fluid directed to the waste basket is substantially equal when brewing a beverage using a first capsule 4A and when brewing a beverage using a second capsule 4B.

Herein, the invention is described with reference to specific examples of embodiments of the invention. It will, however, be evident that various modifications and

changes may be made therein, without departing from the essence of the invention. For the purpose of clarity and a concise description features are described herein as part of the same or separate embodiments, however, alternative embodiments having combinations of all or some of the features described in these separate embodiments are also envisaged.

5               In the examples, the central portion of the extraction plate includes a plurality of relief elements. The peripheral portion includes no relief elements. However, it will be appreciated that the peripheral portion may also include relief elements. The extraction plate and the second exit area can be adapted to each other such that a flow resistance of the second exit area when opened is less than a flow resistance of the first exit area when opened.

10       The extraction plate and the second exit area may be adapted to each other such that the second exit area tears on the extraction plate over a larger surface area than the first exit area. The extraction plate and the second exit area may be adapted to each other such that the second exit area tears on the extraction plate on more locations than the first exit area. Outer relief elements may be designed for tearing both the first and second exit area wherein the

15       second exit area tears on the outer relief elements over a larger surface area than the first exit area. The extraction plate can include relief elements of a first type and at least one relief element of a second type, wherein the relief elements of the first type are arranged within an area corresponding to the first exit area, and the at least one relief element of the second type being arranged within an area corresponding to the second exit area and outside the area

20       corresponding to the first exit area. The relief element of the second type may have a sharper edge than the relief elements of the first type. The second exit area may include a weakened zone. The weakened zone may be located in a peripheral area of the second exit area.

              In the examples, the first and second capsules have substantially the same shape. It is also possible to provide a third capsule having a different shape. The third capsule

25       can e.g. be shaped to substantially fill the brew chamber when the central portion is in the first brewing position. It is also possible to provide a fourth capsule having a different shape. The fourth capsule can e.g. be shaped to substantially fill the brew chamber when the central portion is in the second extraction position.

              In the examples, the capsule body and lid are made of aluminum foil,

30       preferable polymer coated aluminum foil to allow easy welding of the lid to the body. It will be appreciated that the capsule body and/or lid can be made of a wide variety of materials considered suitable by the skilled person and capable of being processed into a sheet, film or foil using techniques conventionally known in the art such as extrusion, co-extrusion, injection molding, blow molding, vacuum forming etc. Suitable materials for the capsule

body and/or lid include, without being limited thereto, plastic materials, in particular thermoplastic materials, for example a polyolefin polymer, for example polyethylene or polypropylene, PVC, polyesters for example polyethylene terephthalate (PET); metal foils such as aluminum, stainless steel, metal alloys etc.; or sheets of a woven or a non-woven or  
5 otherwise processed fibrous material, like paper, polyester, etc.; or combinations thereof, e.g. multilayers. The material for the capsule can be a biodegradable polymer or another biodegradable material. The skilled person will be capable of selecting the appropriate material taking into account the envisaged use with food material and any other relevant circumstances during use of the capsule. The thickness of the sheet or foil may be chosen  
10 such that a form stable capsule is provided. The thickness of the sheet or foil may vary with the nature of the material.

In the examples, the capsules are closed capsules. It is also possible to provide the system with an open capsule. The open capsule is open prior to insertion into the apparatus. The open capsule can be pre-perforated. The open capsule can be packaged in a  
15 hermetically sealed package which has to be removed before inserting the open capsule in the apparatus. In the examples, the capsules are pierced by the piercing means. It is also possible to provide the system with a capsule that is not pierced by the piercing means. Such capsule can e.g. include an entrance filter. In the examples, the capsules open against the extraction plate. It is also possible to provide the system with a capsule that does not open against the  
20 extraction plate. Such capsule can e.g. include an exit filter.

In the examples, the capsules themselves do not include a sealing member. It will be appreciated that it is possible to provide the capsule with a sealing member, e.g. a resilient sealing member. The sealing member can e.g. be placed on the rim, e.g. on the side facing towards the cup-shaped body or on the side facing away from the cup-shaped body.  
25 Alternatively, or additionally, a sealing member can be provided on the circumferential wall and/or on the bottom.

In the examples the arresting ring and retainer extend along substantially the entire perimeter of the first and second brew chamber parts. This provides particular good locking of the two brew chamber parts onto each other. However, it will be appreciated that it  
30 is also possible that the arresting ring and retainer include arresting means and retaining means at one or more discrete positions along the perimeter, e.g. at two, three, four, six or eight positions.

It will be appreciated that it is also possible to provide a first apparatus arranged for brewing a beverage using a first capsule, but incapable of brewing a beverage

using a second capsule. Such first apparatus can be included in a system with the apparatus as described in relation to the figures and a first capsule and optionally a second capsule.

It will be appreciated that it is also possible to provide a second apparatus arranged for brewing a beverage using a second capsule, but incapable of brewing a beverage using a first capsule. Such second apparatus can be included in a system with the apparatus as described in relation to the figures and a second capsule and optionally a first capsule.

However, other modifications, variations, and alternatives are also possible. The specifications, drawings and examples are, accordingly, to be regarded in an illustrative sense rather than in a restrictive sense.

For the purpose of clarity and a concise description features are described herein as part of the same or separate embodiments, however, it will be appreciated that the scope of the invention may include embodiments having combinations of all or some of the features described.

In the claims, any reference signs placed between parentheses shall not be construed as limiting the claim. The word 'comprising' does not exclude the presence of other features or steps than those listed in a claim. Furthermore, the words 'a' and 'an' shall not be construed as limited to 'only one', but instead are used to mean 'at least one', and do not exclude a plurality. The mere fact that certain measures are recited in mutually different claims does not indicate that a combination of these measures cannot be used to an advantage.

## Conclusies

1.       Systeem voor het bereiden van een hoeveelheid voor consumptie geschikte drank, omvattende:

          een tweede uitwisselbare capsule welke een tweede lichaam met een tweede flensachtige rand en een tweede uittreevlak bevestigd aan de tweede  
5 flensachtige rand heeft, en

          een inrichting voor het bereiden van een hoeveelheid voor consumptie geschikte drank, waarbij de inrichting omvat een eerste bereidingskamerdeel welke een holte voor het houden van de tweede uitwisselbare capsule heeft, en een tweede bereidingskamerdeel voor het  
10 sluiten van het eerste bereidingskamerdeel rond de tweede uitwisselbare capsule, en

          waarbij het eerste bereidingskamerdeel een eerste in hoofdzaak ringvormig aanligvlak in de holte heeft, met het kenmerk, dat

          het eerste bereidingskamerdeel verder een tweede in hoofdzaak  
15 ringvormig aanligvlak heeft,

          waarbij een diameter van het tweede ringvormige aanligvlak groter is dan een diameter van het eerste ringvormige aanligvlak, en

          dat het tweede aanligvlak is ingericht om de tweede flensachtige rand daartegen te laten liggen wanneer de holte de tweede uitwisselbare capsule  
20 houdt.

2.       Systeem volgens conclusie 1, waarbij het systeem verder een eerste uitwisselbare capsule omvat welke een eerste lichaam met een eerste flensachtige rand en een eerste uittreevlak bevestigd aan het eerste  
25 flensachtige rand heeft, waarbij de holte van het eerste bereidingskamerdeel van de inrichting is ingericht voor het selectief houden



van één van de eerste en tweede uitwisselbare capsules, waarbij het tweede bereidingskamerdeel is ingericht voor het sluiten van het eerste bereidingskamerdeel rond de eerste of tweede uitwisselbare capsule, waarbij het eerste aanligvlak is ingericht om de eerste flensachtige rand daartegen  
5 te laten liggen wanneer de holte de eerste uitwisselbare capsule houdt, en waarbij de tweede flensachtige rand een grotere diameter heeft dan het eerste flensachtige rand.

3.           Systeem volgens conclusie 1 of 2, waarbij het eerste in hoofdzaak  
10 ringvormige aanligvlak op afstand is van het tweede in hoofdzaak ringvormige aanligvlak in een axiale richting van het eerste bereidingskamerdeel.

4.           Systeem volgens conclusie 2 of conclusie 3 wanneer afhankelijk  
15 van conclusie 2, waarbij een axiale lengte van de tweede capsule groter is dan een axiale lengte van de eerste capsule.

5.           Systeem volgens één der conclusies 1 - 4, waarbij het tweede in hoofdzaak ringvormige aanligvlak aan een open einde van de holte is  
20 ingericht.

6.           Systeem volgens één der conclusies 1 - 5, waarbij het eerste in hoofdzaak ringvormige aanligvlak en het tweede in hoofdzaak ringvormige aanligvlak onbeweeglijk ten opzichte van elkaar zijn.

25

7.           Systeem volgens één der conclusies 1 - 6, waarbij het tweede bereidingskamerdeel een extractieplaat heeft voor het tegen het tweede uittreevlak en optioneel het eerste uittreevlak aanliggen.

8.           Systeem volgens conclusie 7, waarbij de extractieplaat een centraal gedeelte en een perifeer gedeelte omvat, waarbij het centrale gedeelte axiaal beweegbaar is ten opzichte van het perifere gedeelte.
- 5   9.           Systeem volgens conclusie 8, waarbij het perifere gedeelte is ingericht om tegen het tweede uittreevlak aan te liggen wanneer de holte de tweede capsule houdt tijdens het brouwen.
- 10   10.          Systeem volgens conclusie 8 of 9 wanneer afhankelijk van conclusie 2, waarbij het perifere gedeelte is ingericht om tegen het eerste bereidingskamerdeel aan te liggen wanneer de holte de eerste capsule houdt tijdens het brouwen.
- 15   11.          Systeem volgens conclusie 8, 9 of 10, waarbij het centrale gedeelte is ingericht om tegen het tweede uittreevlak aan te liggen wanneer de holte de tweede capsule houdt tijdens het brouwen.
- 20   12.          Systeem volgens één der conclusies 8 - 11 wanneer afhankelijk van conclusie 2, waarbij het centrale gedeelte is ingericht om tegen het eerste uittreevlak aan te liggen wanneer de holte de eerste capsule houdt tijdens het brouwen.
- 25   13.          Systeem volgens één der conclusies 1 - 12, waarbij het eerste en/of tweede bereidingskamerdeel is ingericht om tegen de tweede flensachtige rand of optioneel de eerste flensachtige rand af te dichten.
14.          Systeem volgens conclusie 13, omvattende een vloeistoftoevoersysteem voor het toevoeren van vloeistof aan het eerste

bereidingskamerdeel, waarbij de vloeistof in een tussenruimte tussen het eerste bereidingskamerdeel en de tweede capsule of optioneel een tussenruimte tussen het eerste bereidingskamerdeel en de eerste capsule kan binnengaan.

5

15.       Systeem volgens conclusie 4 of één der conclusies 5 - 14 wanneer afhankelijk van conclusie 4, waarbij de eerste en tweede uitwisselbare capsule in hoofdzaak dezelfde lengte-diameter verhouding hebben.

10   16.       Systeem volgens één der conclusies 1 - 15, waarbij het eerste bereidingskamerdeel centreermiddelen aan de onderzijde van de holte omvat, waarbij de tweede uitwisselbare capsule en optioneel de eerste uitwisselbare capsule zijn ingericht om selectief samen te werken met de centreermiddelen voor het selectief centreren van de eerste en tweede  
15   uitwisselbare capsules nabij de onderzijde van de holte.

17.       Systeem volgens één der conclusies 1 - 16 wanneer afhankelijk van conclusie 2, waarbij het eerste bereidingskamerdeel en de eerste uitwisselbare capsule zodanig aan elkaar zijn aangepast dat de eerste  
20   uitwisselbare capsule in de holte centreert door middel van de flensachtige rand.

18.       Systeem volgens één der conclusies 1 - 17, waarbij het eerste bereidingskamerdeel en de tweede uitwisselbare capsule zodanig aan elkaar  
25   zijn aangepast dat een buitendeel van de tweede uitwisselbare capsule de binnenomtrekswand van het eerste bereidingskamerdeel aangrijpt bij het laden van de tweede uitwisselbare capsule in het eerste bereidingskamerdeel, en waarbij het eerste bereidingskamerdeel en de tweede uitwisselbare

capsule zodanig aan elkaar zijn aangepast dat de tweede uitwisselbare capsule in de holte centreert door middel van het buitendeel.

19.       Systeem volgens één der conclusies 1 - 18, waarbij het eerste  
5   aanligvlak de holte van een getrapte vorm voorziet.

20.       Systeem volgens één der conclusies 1 - 19, waarbij het tweede  
lichaam een komvormig tweede lichaam is omvattende een tweede  
onderzijde en tweede omtrekswand, waarbij het komvormige tweede  
10   lichaam een tweede open einde heeft, waarbij de tweede flensachtige rand  
een zich buitenwaarts uitstrekkende tweede rand is welke zich continu  
langs de omtrek uitstrekt langs het tweede open einde van het komvormige  
tweede lichaam, waarbij de zich buitenwaarts uitstrekkende tweede rand in  
hoofdzaak een enkele tweede breedte heeft.

15

21.       Systeem volgens conclusie 2 of één der conclusies 3 - 20 wanneer  
afhankelijk van conclusie 2, waarbij het eerste lichaam een komvormig  
eerste lichaam is omvattende een eerste onderzijde en eerste omtrekswand,  
waarbij het komvormige eerste lichaam een eerste open einde heeft, waarbij  
20   de eerste flensachtige rand een zich buitenwaarts uitstrekkende eerste rand  
is welke zich continu langs de omtrek uitstrekt langs het eerste open einde  
van het komvormige eerste lichaam, waarbij de zich buitenwaarts  
uitstrekkende eerste rand in hoofdzaak een enkele eerste breedte heeft.

25   22.       Systeem volgens conclusie 21, waarbij de eerste breedte en de  
tweede breedte identiek zijn.

23.       Systeem volgens één der conclusies 1 - 22, waarbij het eerste in hoofdzaak ringvormige aanligvlak continu ringvormig is en waarbij het tweede in hoofdzaak ringvormige aanligvlak continu ringvormig is.

5    24.       Inrichting voor het bereiden van een vooraf bepaalde hoeveelheid voor consumptie geschikte drank, waarbij de inrichting is ingericht voor het bereiden van een vooraf bepaalde hoeveelheid voor consumptie geschikte drank gebruik makende van een tweede uitwisselbare capsule met een tweede lichaam en een tweede flensachtige rand, waarbij de inrichting een  
10   bereidingskamerdeel omvat met een holte voor het houden van de tweede uitwisselbare capsule, waarbij het bereidingskamerdeel een eerste ringvormig aanligvlak in de holte heeft, met het kenmerk, dat het bereidingskamerdeel een tweede ringvormig aanligvlak heeft, waarbij het tweede aanligvlak is ingericht voor het daartegen laten aanliggen van de  
15   tweede flensachtige rand wanneer de holte de tweede uitwisselbare capsule houdt, en dat een diameter van het tweede ringvormige aanligvlak groter is dan een diameter van het eerste ringvormige aanligvlak.

25.       Inrichting volgens conclusie 24, waarbij de inrichting verder is  
20   ingericht voor het bereiden van een vooraf bepaalde hoeveelheid voor consumptie geschikte drank gebruik makende van een eerste uitwisselbare capsule met een eerste lichaam en een eerste flensachtige rand, waarbij de holte van het bereidingskamerdeel is ingericht voor het selectief houden van één van de eerste en tweede uitwisselbare capsules, waarbij het eerste  
25   aanligvlak is ingericht voor het daartegen te laten aanliggen van de eerste flensachtige rand wanneer de holte de eerste uitwisselbare capsule houdt.

26. Inrichting volgens conclusie 24 of 25, waarbij het eerste in hoofdzaak ringvormige aanligvlak op afstand is van het tweede in hoofdzaak ringvormige aanligvlak in een axiale richting van het eerste bereidingskamerdeel.

5

27. Inrichting volgens conclusie 24, 25 of 26, waarbij het tweede in hoofdzaak ringvormige aanligvlak is ingericht aan een open einde van de holte.

10 28. Inrichting volgens één der conclusies 24 - 27, waarbij het eerste in hoofdzaak ringvormige aanligvlak en het tweede in hoofdzaak ringvormige aanligvlak onbeweeglijk ten opzichte van elkaar zijn.

15 29. Inrichting volgens één der conclusies 24 - 28, waarbij het tweede bereidingskamerdeel een extractieplaat heeft.

30. Inrichting volgens conclusie 29, waarbij de extractieplaat een centraal gedeelte en een perifeer gedeelte omvat, waarbij het centrale gedeelte axiaal beweegbaar is ten opzichte van het perifere gedeelte.

20

31. Inrichting volgens één der conclusies 24 - 30, waarbij het eerste bereidingskamerdeel centreermiddelen aan de onderzijde van de holte omvat.

25 32. Inrichting volgens één der conclusies 24 - 31, waarbij het eerste aanligvlak de holte van een getrapte vorm voorziet.

33. Inrichting volgens één der conclusies 24 - 32, waarbij het eerste in hoofdzaak ringvormige aanligvlak continu ringvormig is en waarbij het tweede in hoofdzaak ringvormige aanligvlak continu ringvormig is.

Fig. 1A

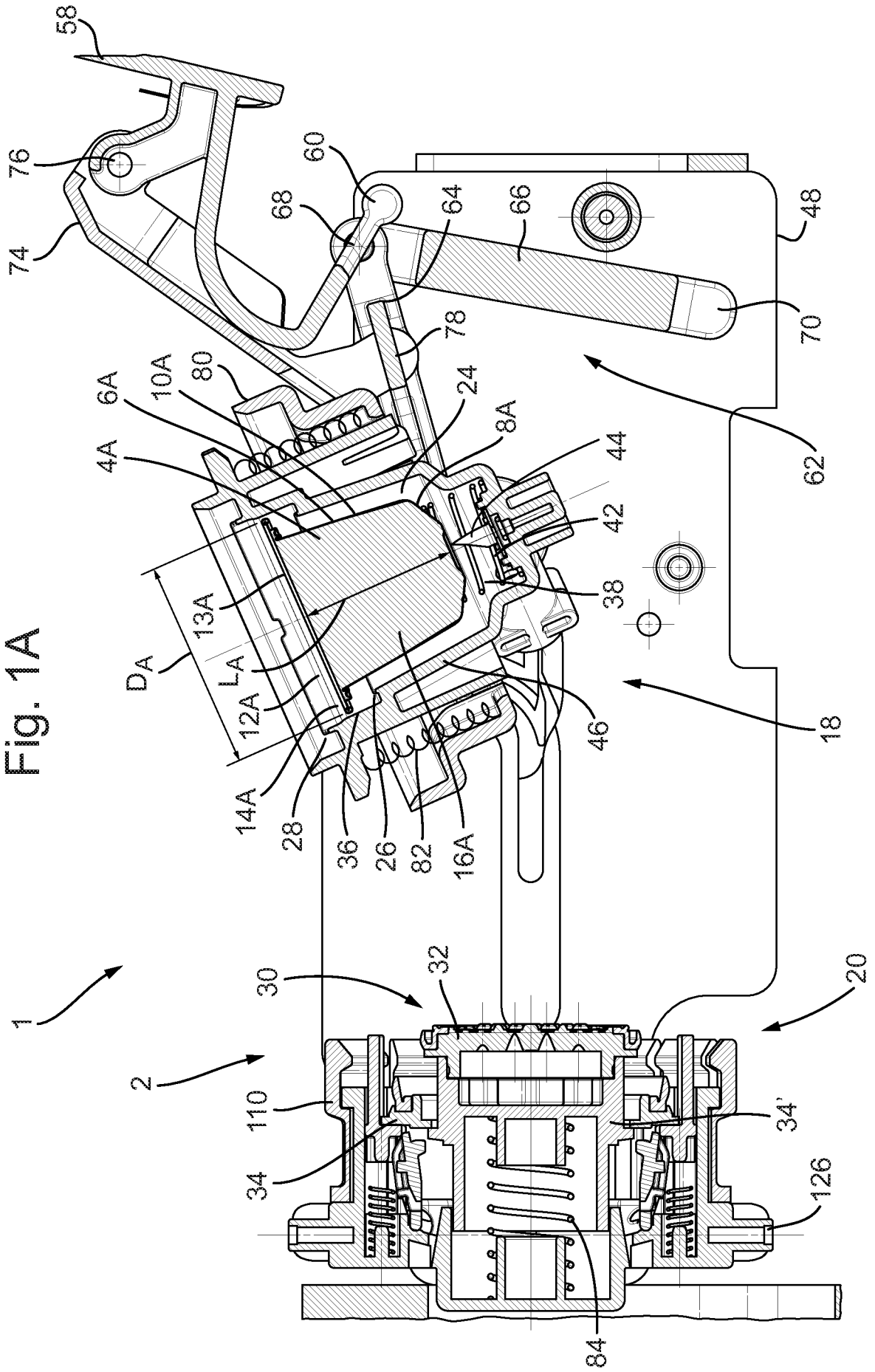




Fig. 1B

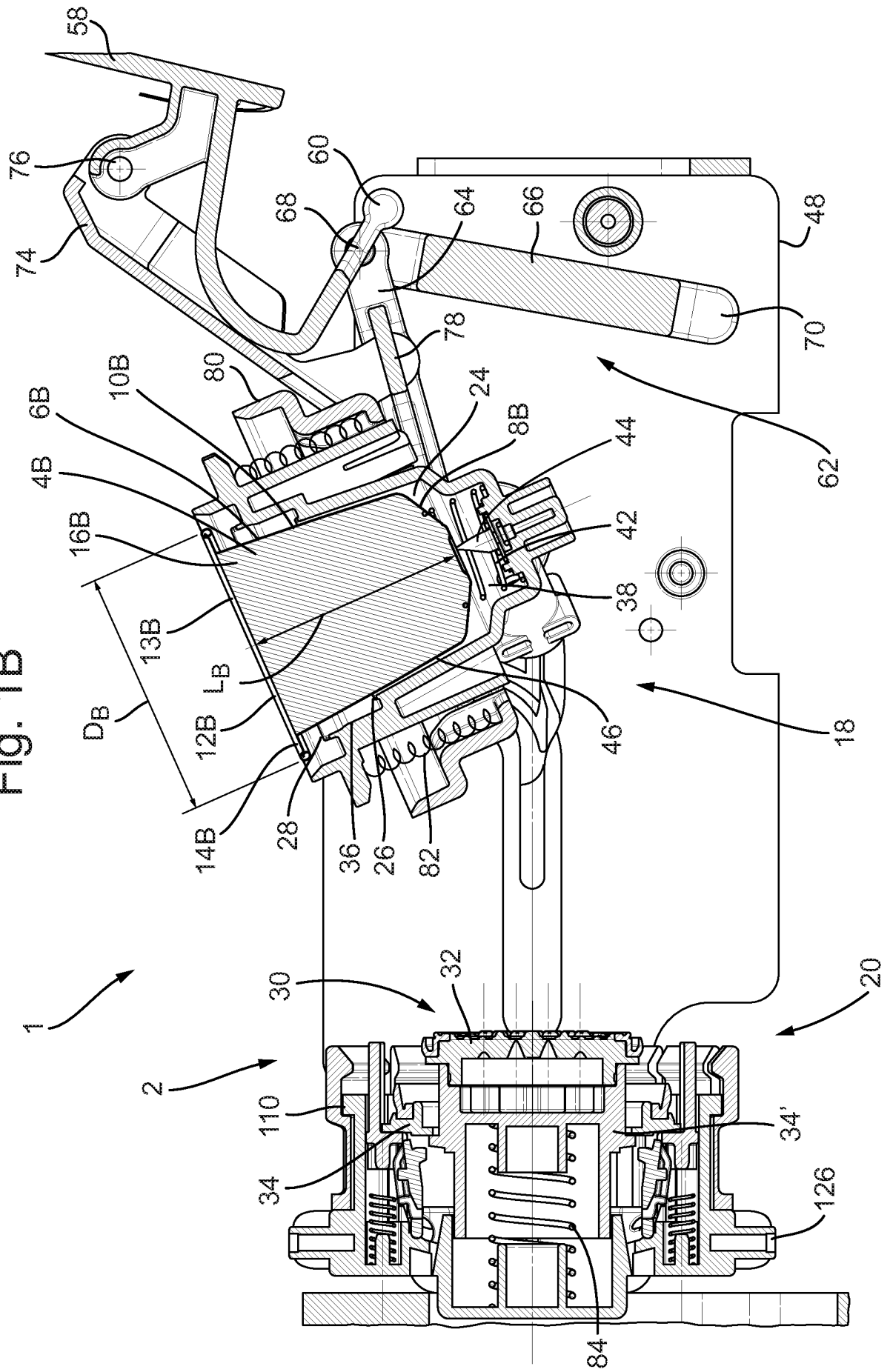
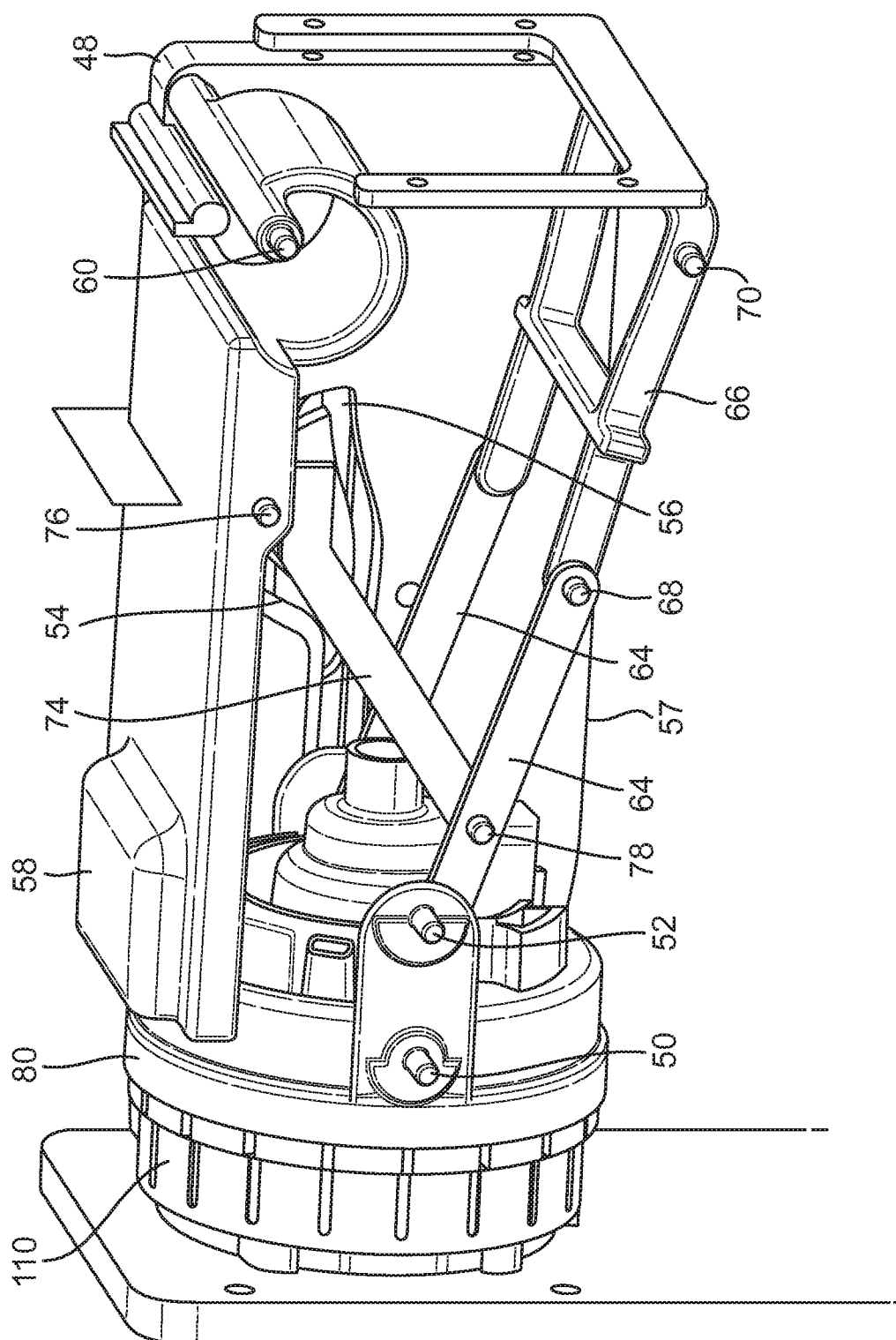


Fig. 2A



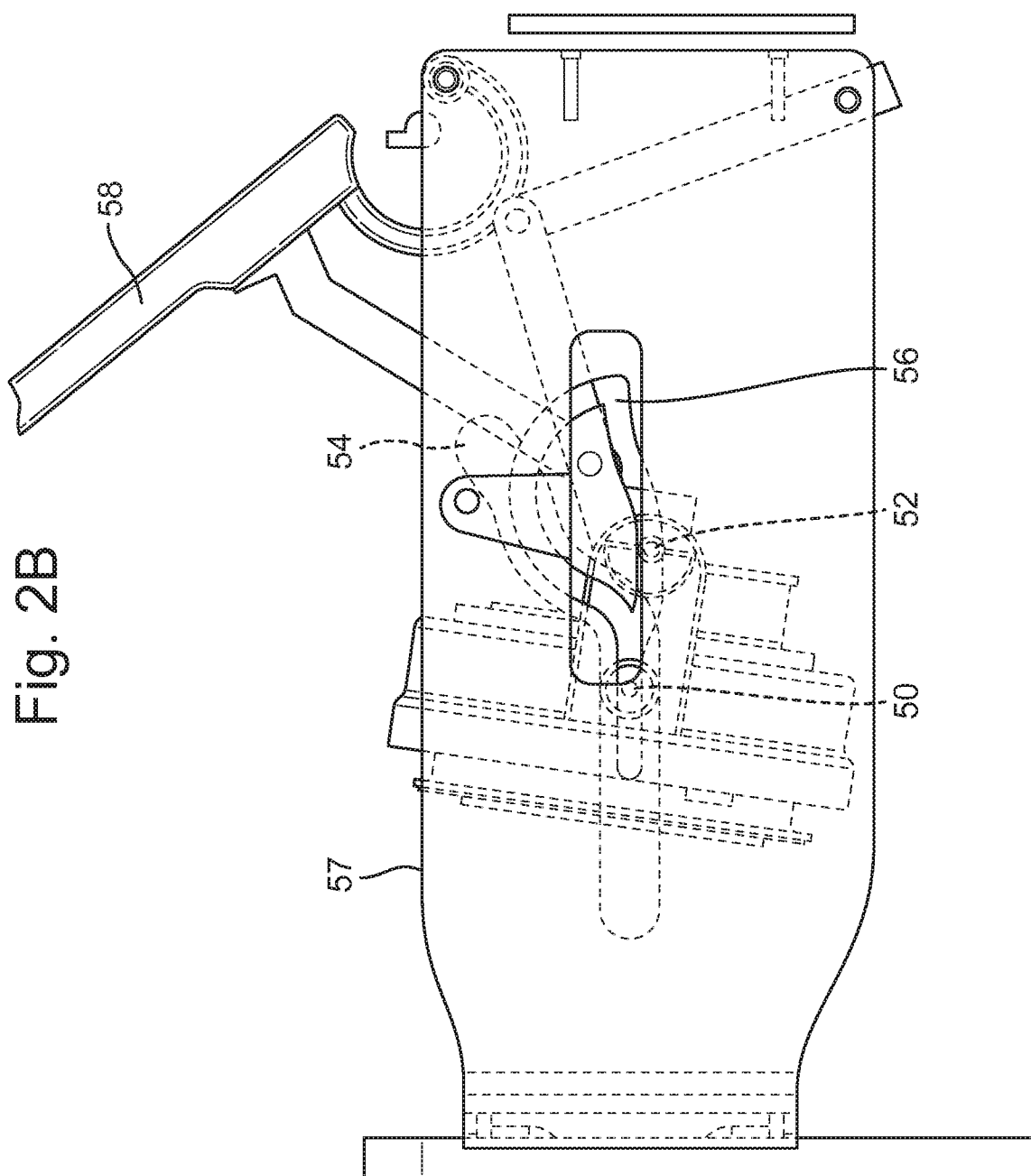


Fig. 3A

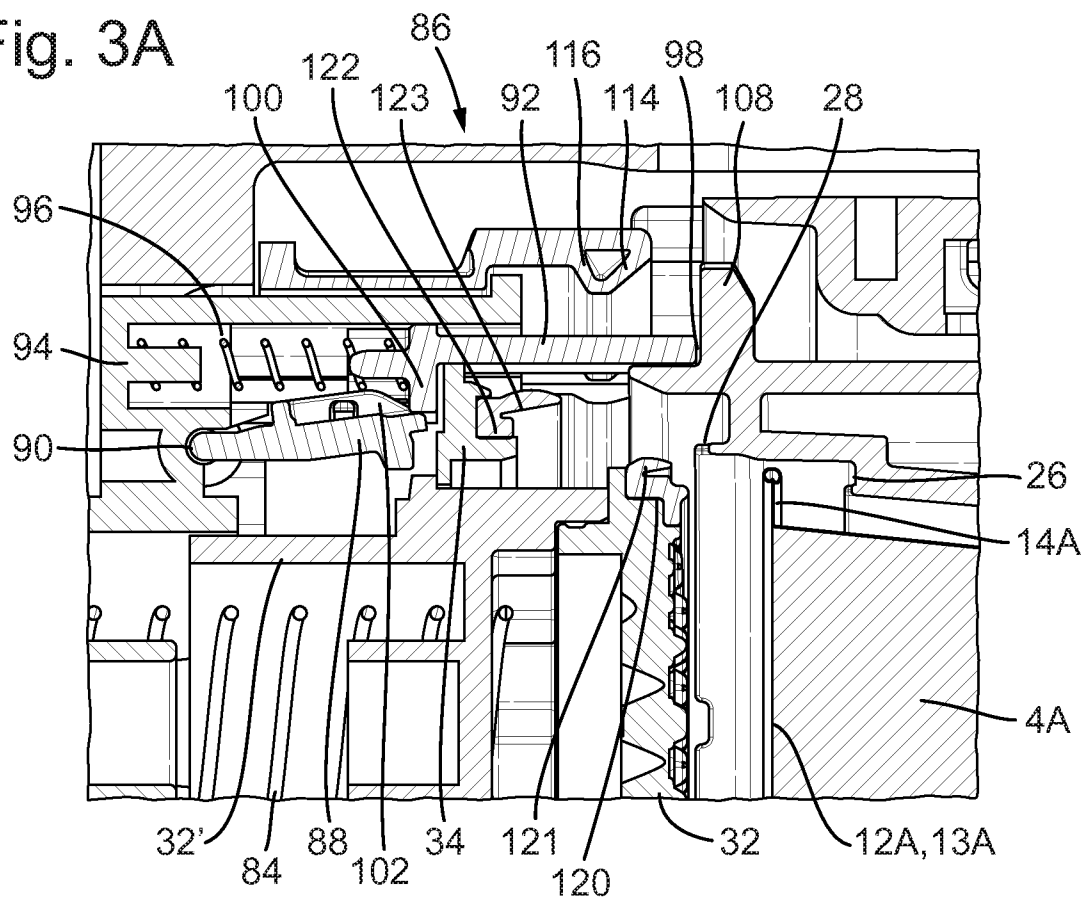


Fig. 3B

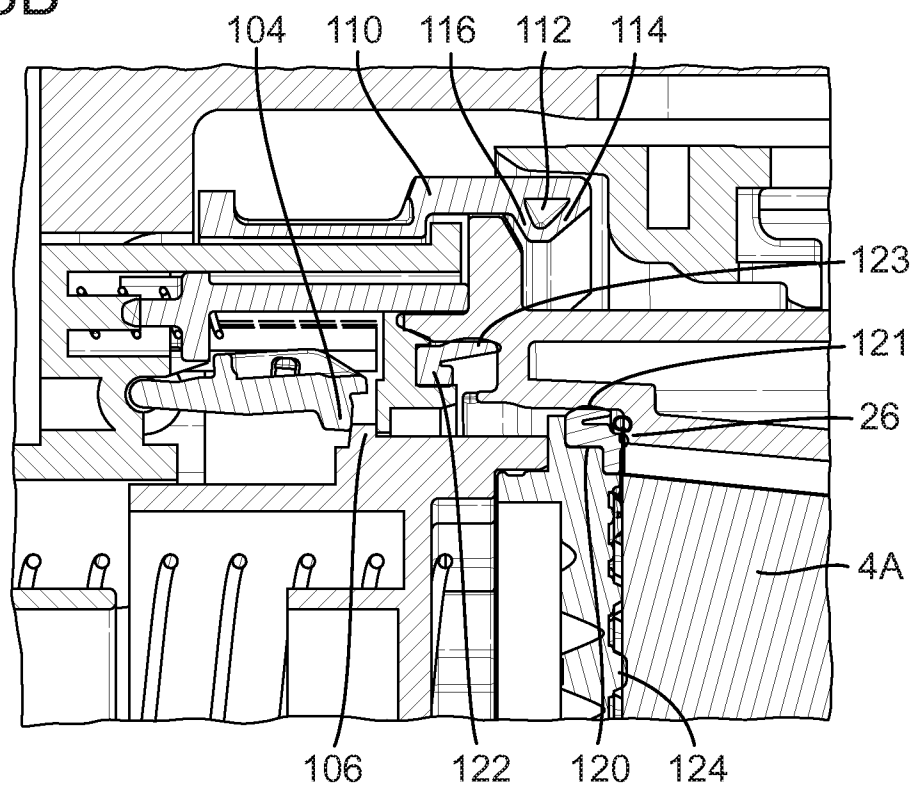


Fig. 4A

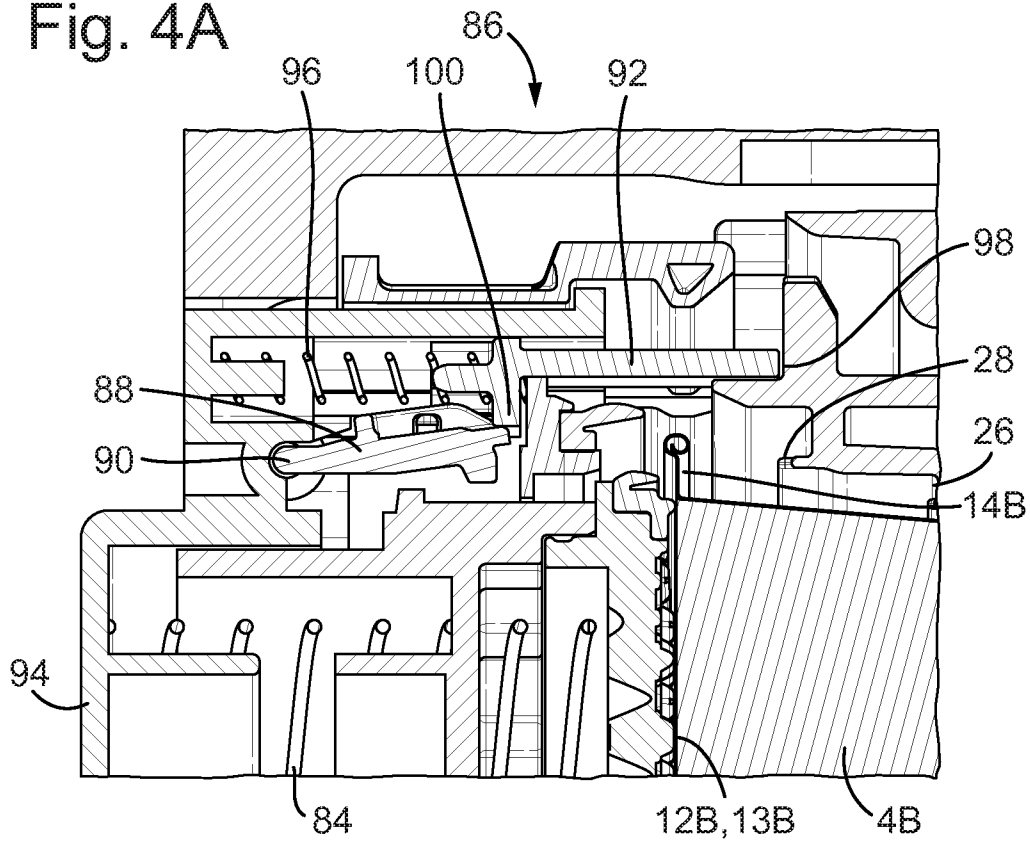


Fig. 4B

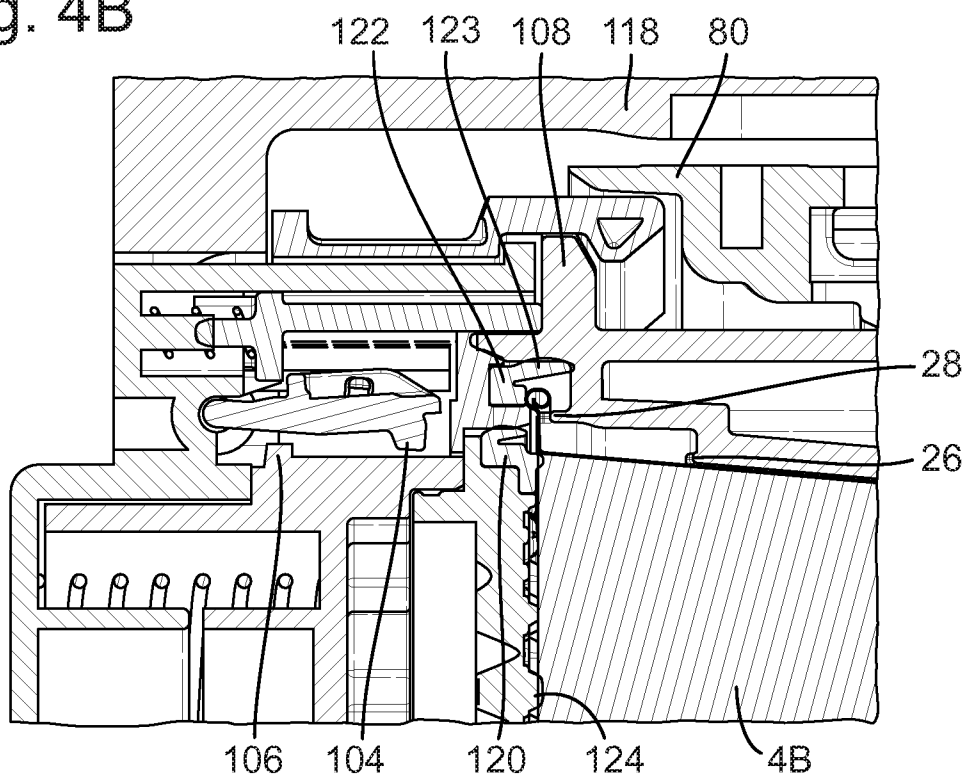


Fig. 5A

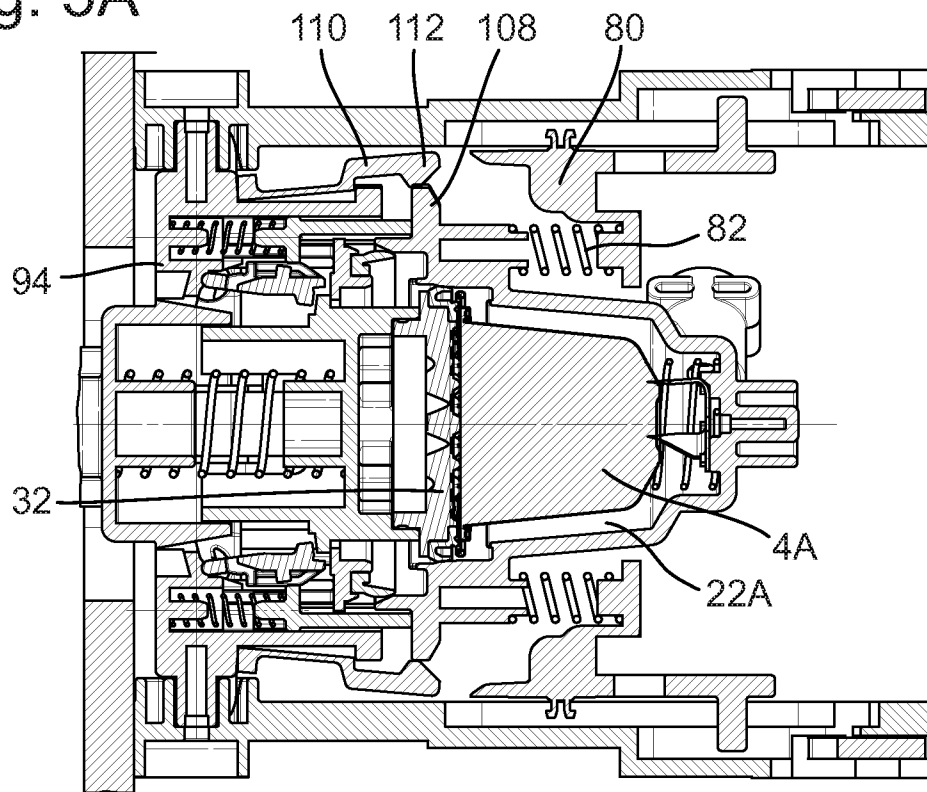


Fig. 5B

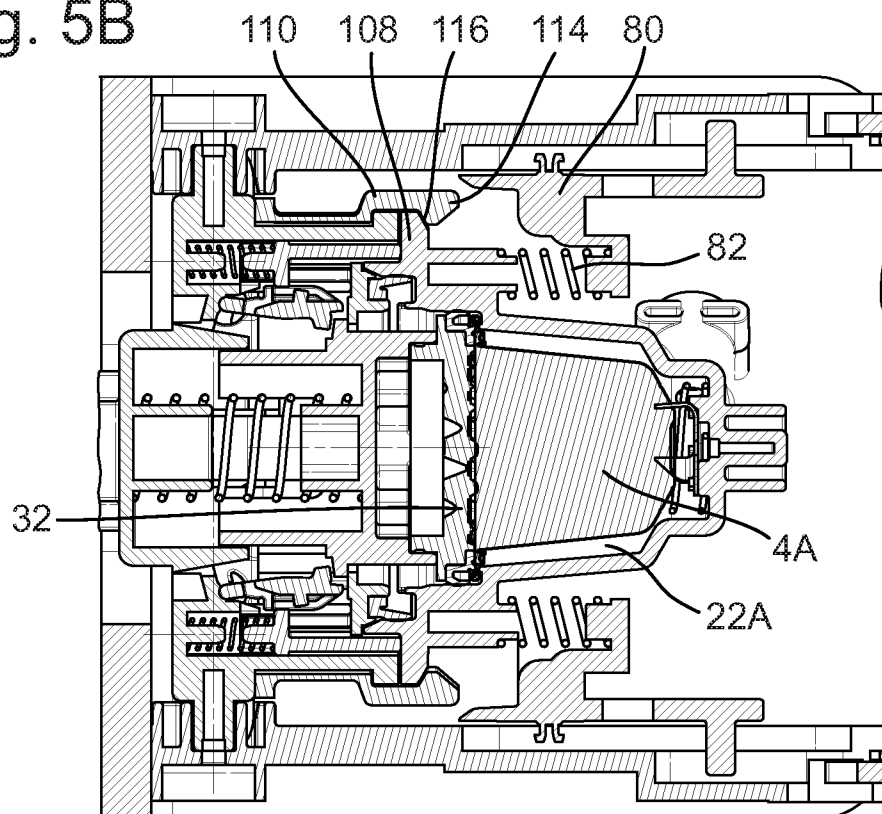


Fig. 5C

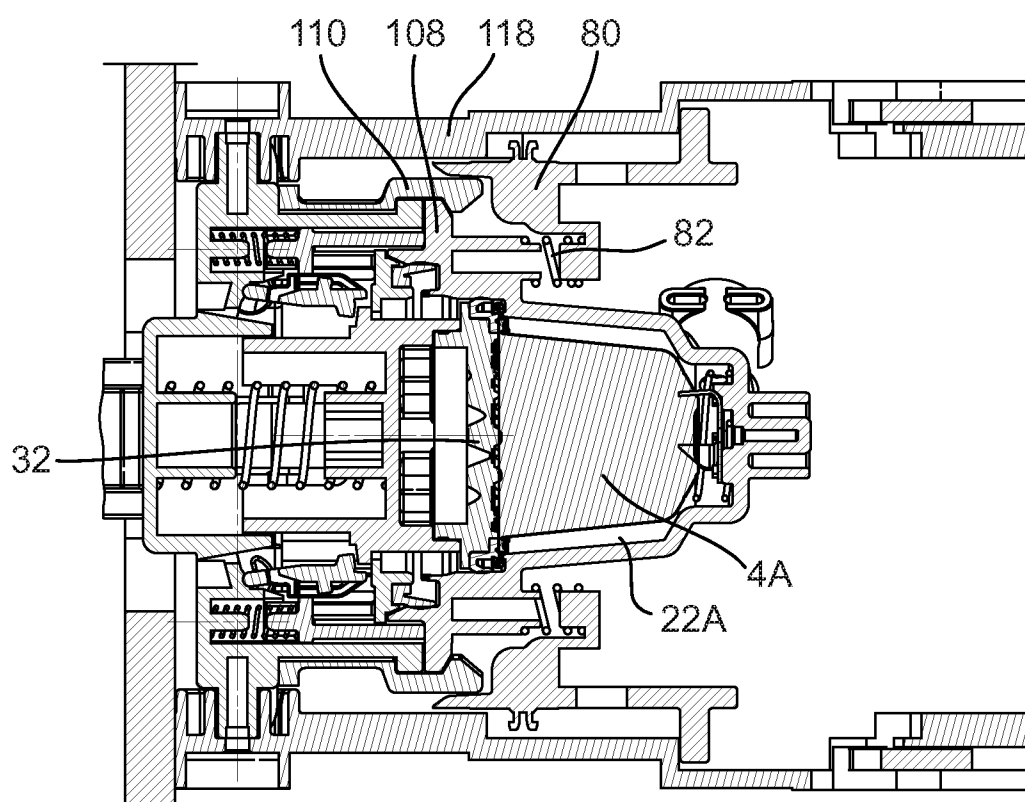


Fig. 6A

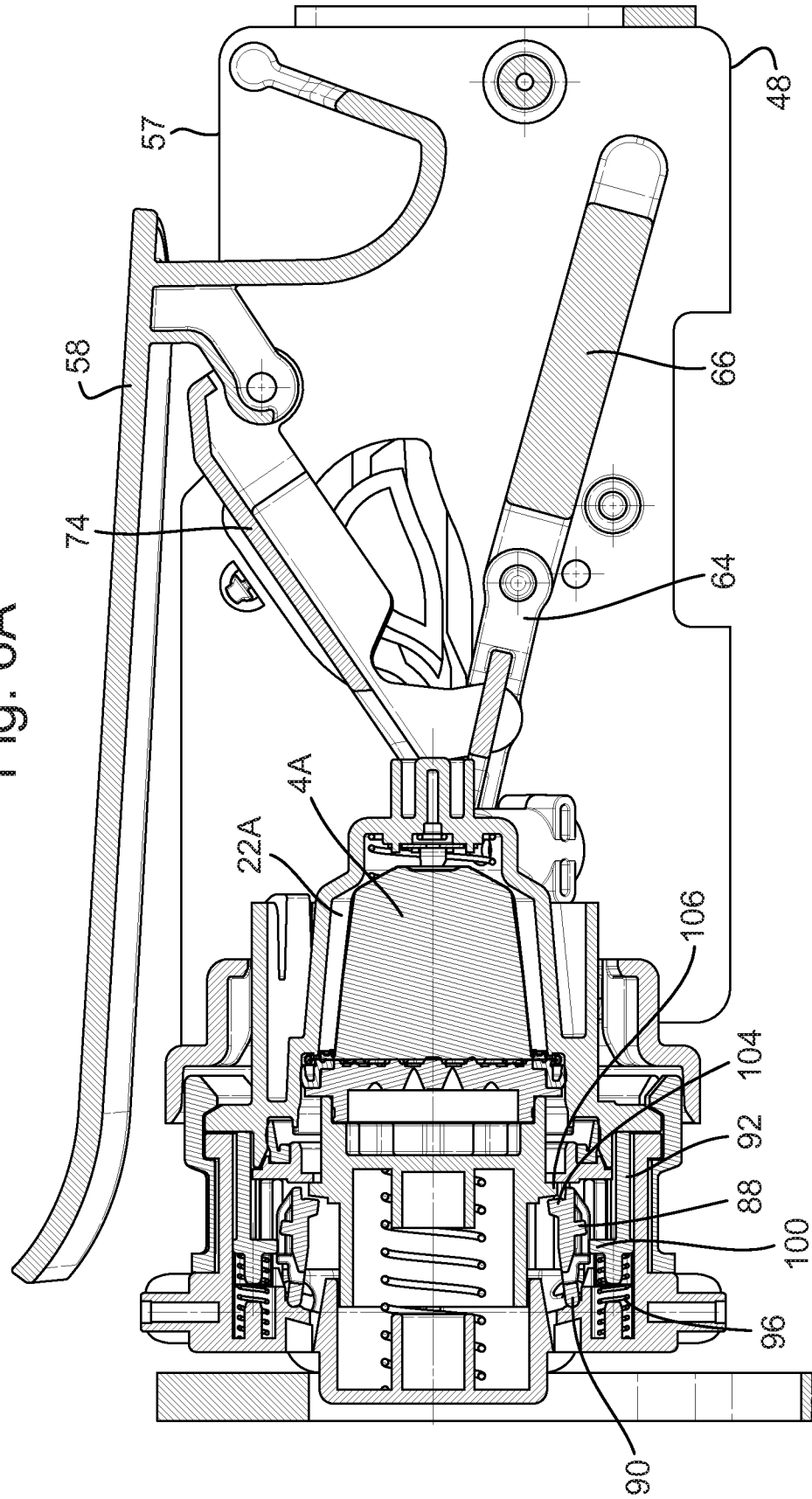




Fig. 6B

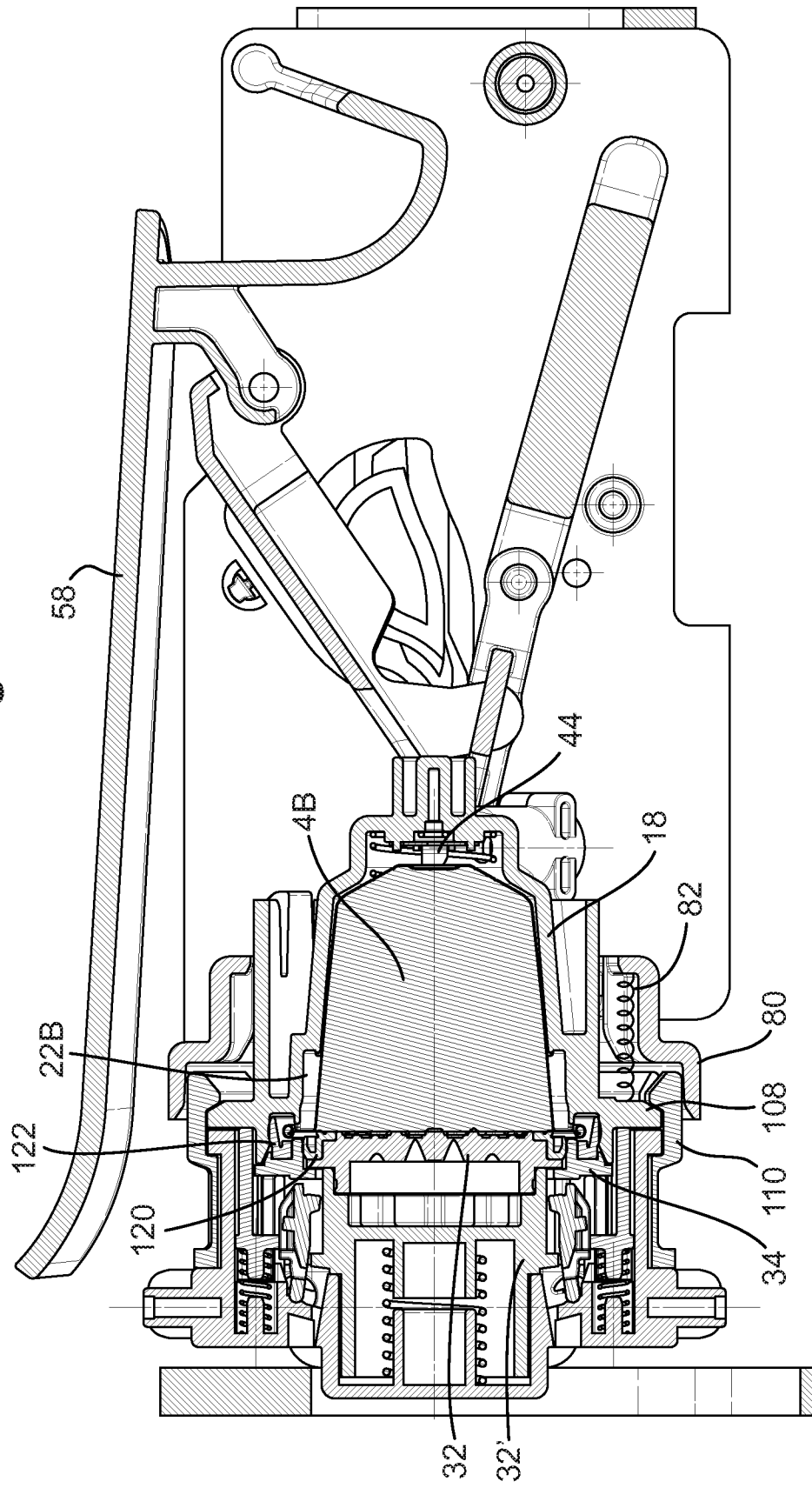


Fig. 7A

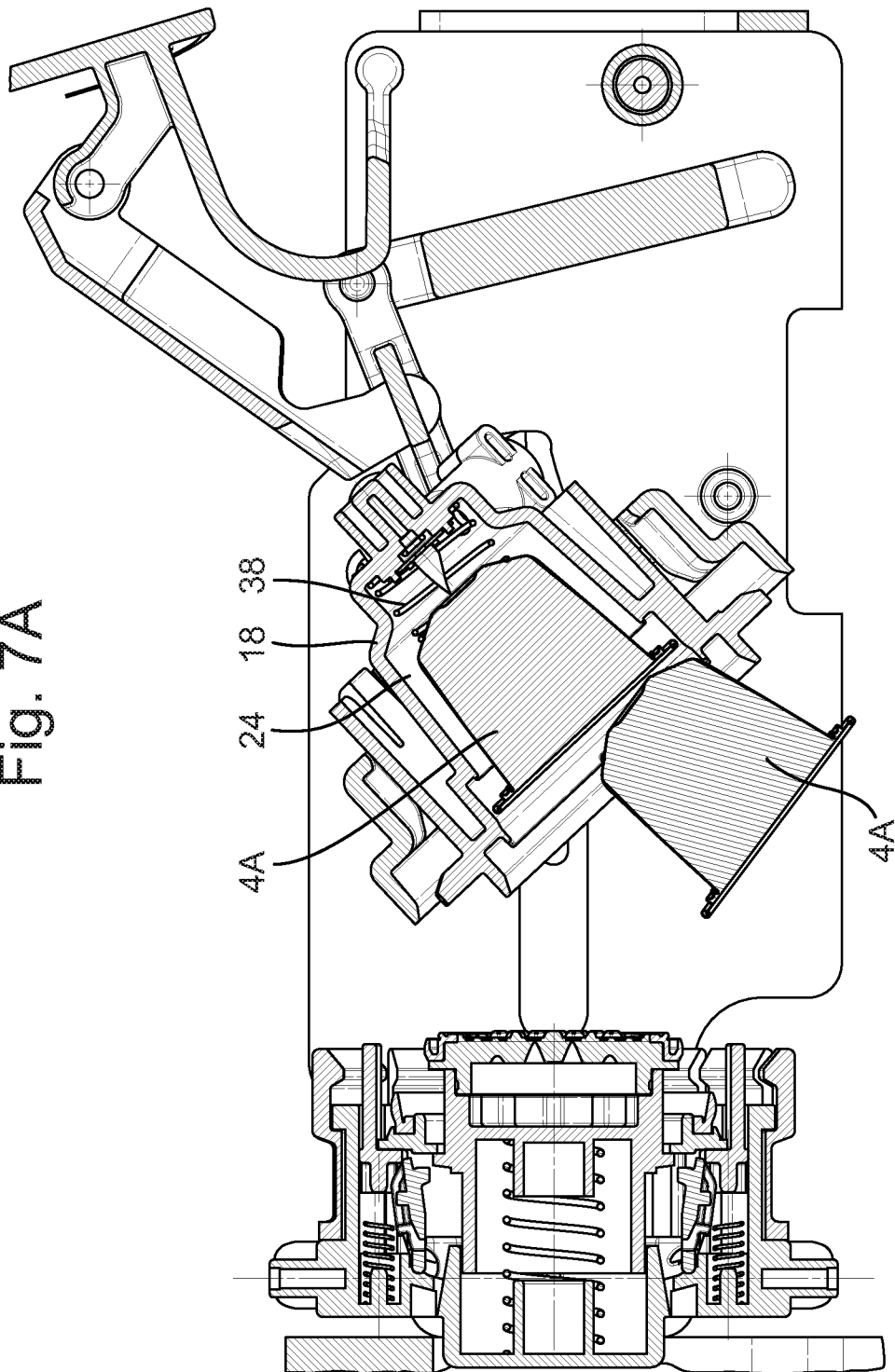


Fig. 7B

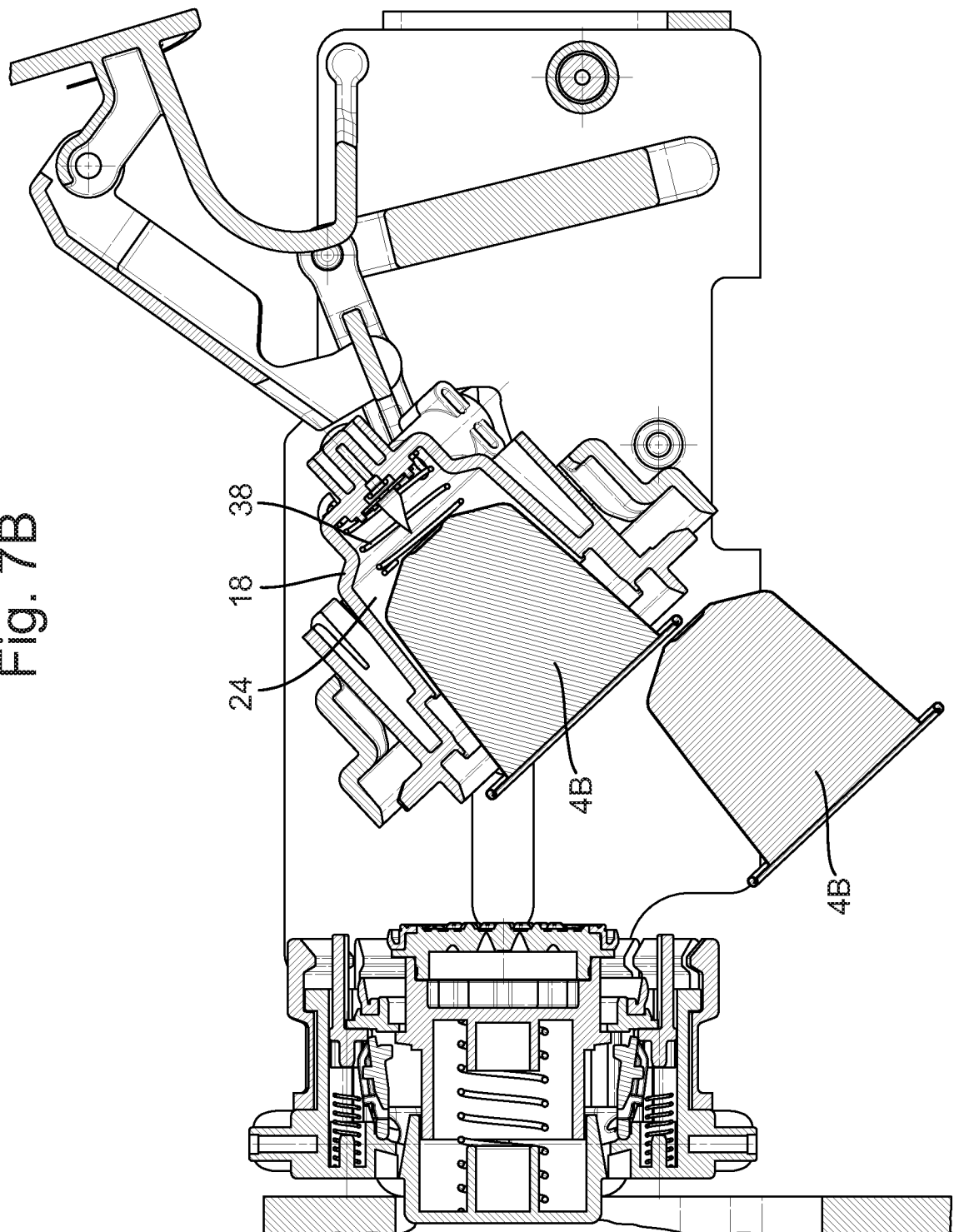


Fig. 8A

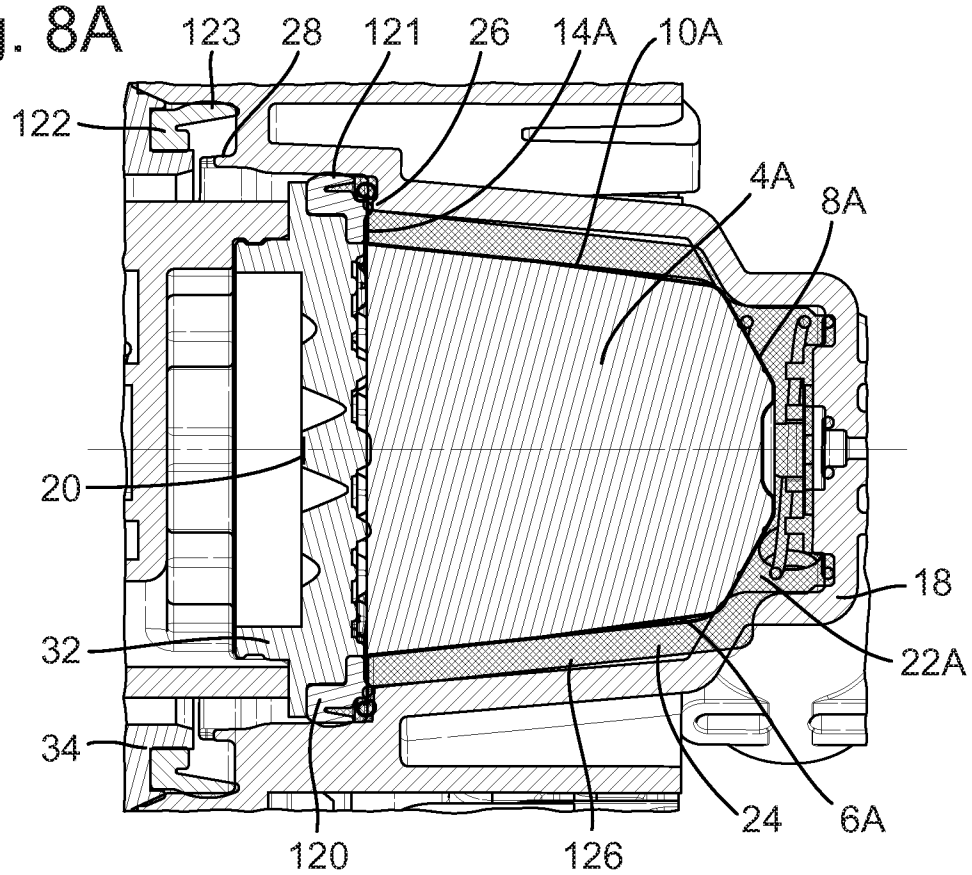
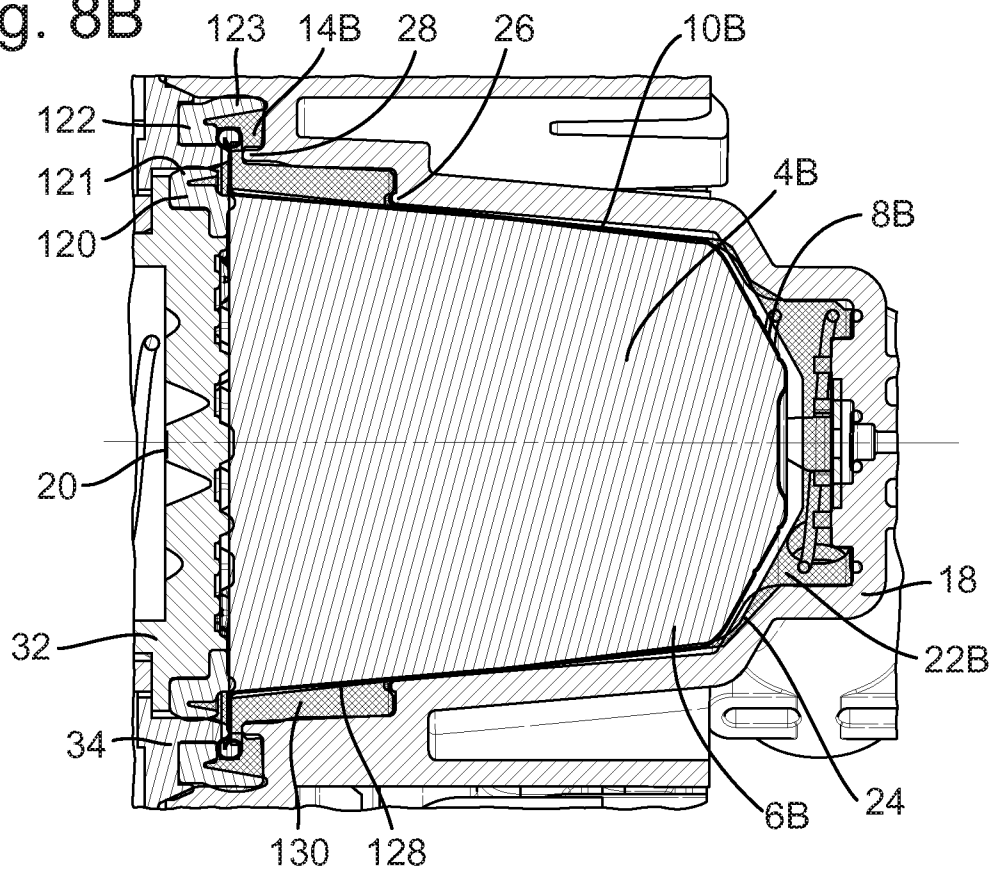


Fig. 8B



## ABSTRACT:

A system for preparing a quantity of beverage suitable for consumption includes a second exchangeable capsule having a second body with a second flange-like rim and a second exit face attached to the second flange-like rim. The system further includes an apparatus for preparing a quantity of beverage suitable for consumption having a first brew  
5 chamber part having a cavity for holding the second exchangeable capsule and a second brew chamber part for closing the first brew chamber part around the second exchangeable capsule. The first brew chamber part has a first substantially annular abutment surface in the cavity and further has a second substantially annular abutment surface. A diameter of the second annular abutment surface is larger than a diameter of the first annular abutment  
10 surface. The second abutment surface is arranged for abutting the second flange-like rim there against when the cavity holds the second exchangeable capsule.

Figs. 1A and 1B

## SAMENWERKINGSVERDRAG (PCT)

### RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE  <div style="text-align: center;"><b>2016P00746NL</b></div>		
Nederlands aanvraag nr.  <div style="text-align: center;"><b>2017283</b></div>	Indieningsdatum  <div style="text-align: center;"><b>03-08-2016</b></div>		
	Ingeroepen voorrangsdatum		
Aanvrager (Naam)  <div style="text-align: center;"><b>Koninklijke Philips N.V.</b></div>			
Datum van het verzoek voor een onderzoek van internationaal type  <div style="text-align: center;"><b>24-12-2016</b></div>	Door de instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr.  <div style="text-align: center;"><b>SN68041</b></div>		
<b>I. CLASSIFICATIE VAN HET ONDERWERP</b> (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)			
Volgens de internationale classificatie (IPC)  <div style="text-align: center;"><b>A47J31/36;A47J31/06</b></div>			
<b>II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK</b>			
Onderzochte minimumdocumentatie			
Classificatiesysteem	Classificatiesymbolen		
<b>IPC</b>	<b>A47J</b>		
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen  <div style="height: 40px;"></div>			
III.	<input type="checkbox"/>	<b>GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES</b>	(opmerkingen op aanvullingsblad)
IV.	<input type="checkbox"/>	<b>GEBREK AAN EENHEID VAN UITVINDING</b>	(opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2017283

A. CLASSIFICATIE VAN HET ONDERWERP  
INV. A47J31/36 A47J31/06  
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

**B. ONDERZOCHETE GEBIEDEN VAN DE TECHNIEK**

Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen)

A47J

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)

EPO-Internal, WPI Data

**C. VAN BELANG GEACHTE DOCUMENTEN**

Categorie *	Geïsoleerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	US 2015/272375 A1 (FLICK JEAN-MARC [CH] ET AL) 1 oktober 2015 (2015-10-01)	1-5,7, 13-15, 18-27, 29,32,33 9-12
A	* alineas [0040] - [0043], [0046], [0049], [0050], [0052], [0053], [0060], [0081] - [0084], [0094] - [0096]; figuren 1a, 1b, 4, 5 *	
X	EP 1 208 782 A1 (NESTLE SA [CH]) 29 mei 2002 (2002-05-29)	1-5,7, 13,16, 18-21, 23-28, 31-33 9-12,14, 15,22
A	* alineas [0025] - [0033]; figuren 3-11 *	
	----- -/-	



Verdere documenten worden vermeld in het vervolg van vak C.



Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

\* Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvraag vermeld

"E" eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geïsoleerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"Z" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

2 mei 2017

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

Naam en adres van de instantie

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040  
Fax: (+31-70) 340-3016

De bevoegde ambtenaar

Novelli, Bruno

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2017283

**C.(Vervolg). VAN BELANG GEACHTTE DOCUMENTEN**

Categorie *	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X   A	<p>US 2016/150907 A1 (BOLOGNESE DANILO [IT] ET AL) 2 juni 2016 (2016-06-02)</p> <p>* alíneas [0046], [0053], [0058] - [0060], [0063], [0065], [0067], [0070] - [0074], [0088], [0090], [0091] *</p> <p>* alíneas [0099] - [0101], [0103] - [0110], [0123], [0124], [0129], [0132], [0134], [0141]; figuren 2a, 3a, 5, 10, 12, 15, 16 *</p> <p>-----</p>	<p>1,3,5, 13,19, 20,23, 24,26, 27,32,33 4,21,22, 25</p>
X	<p>US 2015/059587 A1 (COLLEONI PAOLO [IT]) 5 maart 2015 (2015-03-05)</p> <p>* alíneas [0015], [0018], [0019]; figuren 1-3 *</p> <p>-----</p>	<p>1,5-9, 11,13, 18-20, 23,24, 26-30, 32,33</p>



**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2017283

In het rapport genoemd octrooigescrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
US 2015272375	A1	01-10-2015	AR 092961 A1 06-05-2015
		AU 2013328863 A1 16-04-2015	
		CA 2889979 A1 17-04-2014	
		CN 104869874 A 26-08-2015	
		EP 2906092 A1 19-08-2015	
		JP 2015533565 A 26-11-2015	
		RU 2015116639 A 10-12-2016	
		US 2015272375 A1 01-10-2015	
		WO 2014056862 A1 17-04-2014	
EP 1208782	A1	29-05-2002	AR 032484 A1 12-11-2003
		AT 274321 T 15-09-2004	
		AU 3163602 A 11-06-2002	
		BR 0115620 A 16-09-2003	
		CA 2429631 A1 06-06-2002	
		CN 1476304 A 18-02-2004	
		CZ 20031827 A3 18-02-2004	
		DE 60013305 D1 30-09-2004	
		DE 60013305 T2 24-03-2005	
		DK 1208782 T3 13-12-2004	
		EA 200300615 A1 25-12-2003	
		EP 1208782 A1 29-05-2002	
		ES 2224998 T3 16-03-2005	
		HU 0302453 A2 28-11-2003	
		IL 156036 A 04-07-2007	
		JP 3899314 B2 28-03-2007	
		JP 2004514488 A 20-05-2004	
		MA 25860 A1 01-07-2003	
		MX PA03004710 A 19-08-2003	
		NO 20032325 A 16-07-2003	
		PL 362479 A1 02-11-2004	
		PT 1208782 E 29-10-2004	
		SI 21168 A 31-10-2003	
		SK 6462003 A3 07-10-2003	
		TR 200300758 T2 21-12-2004	
		TR 200402491 T4 21-12-2004	
		TW 576724 B 21-02-2004	
		US 2004031394 A1 19-02-2004	
		US 2007104837 A1 10-05-2007	
		WO 0243541 A1 06-06-2002	
US 2016150907	A1	02-06-2016	AU 2014288834 A1 21-01-2016
		CA 2917110 A1 15-01-2015	
		CN 105530842 A 27-04-2016	
		EP 3019056 A1 18-05-2016	
		US 2016150907 A1 02-06-2016	
		WO 2015004613 A1 15-01-2015	
US 2015059587	A1	05-03-2015	CN 104271012 A 07-01-2015
		EP 2833766 A1 11-02-2015	
		ES 2564949 T3 30-03-2016	
		US 2015059587 A1 05-03-2015	
		WO 2013144922 A1 03-10-2013	

## WRITTEN OPINION

File No. SN68041	Filing date (day/month/year) 03.08.2016	Priority date (day/month/year)	Application No. NL2017283
International Patent Classification (IPC) INV. A47J31/36 A47J31/06			
Applicant Koninklijke Philips N.V.			

This opinion contains indications relating to the following items:

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☐ Box No. VII      Certain defects in the application
- ☒ Box No. VIII      Certain observations on the application

	Examiner Novelli, Bruno
--	----------------------------

## WRITTEN OPINION

Application number

NL2017283

---

### Box No. I Basis of this opinion

---

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the application as filed.
    - ☐ filed together with the application in electronic form.
    - ☐ furnished subsequently for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

---

### Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

---

#### 1. Statement

Novelty	Yes: Claims	10, 12, 17
	No: Claims	1-9, 11, 13-16, 18-33
Inventive step	Yes: Claims	
	No: Claims	1-33
Industrial applicability	Yes: Claims	1-33
	No: Claims	

#### 2. Citations and explanations

**see separate sheet**

## WRITTEN OPINION

Application number

NL2017283

---

---

**Box No. VIII** Certain observations on the application

---

see separate sheet

**Box V**

1.1) Document **US-A-2015/0272375** discloses (cf. paragraphs [0040] - [0043], [0046], [0049], [0050], [0052], [0053], [0060], [0081] - [0084], [0094] - [0096]; figures 1a, 1b, 4, 5) a

*System for preparing a quantity of beverage suitable for consumption, including:*

*- a second exchangeable capsule (1b) having a second body (2b) with a second flange-like rim (5b) and a second exit face (4b) attached to the second flange-like rim, and*

*- an apparatus (10) for preparing a quantity of beverage suitable for consumption, the apparatus including a first brew chamber part (20) having a cavity for holding the second exchangeable capsule (1b), and a second brew chamber part (14) for closing the first brew chamber part around the second exchangeable capsule, wherein the first brew chamber part (20) having a first substantially annular abutment surface (34) in the cavity, and the first brew chamber part further has a second substantially annular abutment surface (32), a diameter of the second annular abutment surface being larger than a diameter of the first annular abutment surface, and the second abutment surface (32) is arranged for abutting the second flange-like rim (5b) there against when the cavity holds the second exchangeable capsule (1b).*

Thus, said document discloses all the features of independent claim **1**. Similarly said claim discloses all the features of independent claim **24**, directed to the correspondent apparatus.

Said claim further discloses the features of dependent claims **2-5, 7, 13-15, 18-23, 25-27, 29, 32, 33**.

1.2) Document **EP-A-1208782** discloses (cf. paragraphs [0025] - [0033]; figures 3-11) a system according to independent claim **1** and an apparatus according to independent claim **24**. Said claim further discloses the features of dependent claims **2-5, 7, 13, 16, 18-21, 23, 25-28, 31-33**.

1.3) Document **US-A-2016/0150907** discloses (cf. paragraphs [0046], [0053], [0058] - [0060], [0063], [0065], [0067], [0070] - [0074], [0088], [0090], [0091], [0099] - [0101], [0103] - [0110], [0123], [0124], [0129], [0132], [0134], [0141]; figures 2a, 3a, 5, 10, 12,

15, 16) a system according to independent claim **1** and an apparatus according to independent claim **24**. Said claim further discloses the features of dependent claims **3, 5, 13, 19, 20, 23, 26, 27, 32, 33**.

1.4) Document **US-A-2015/0059587** discloses (cf. paragraphs [0015], [0018], [0019]; figures 1-3) a system according to independent claim **1** and an apparatus according to independent claim **24**. Said claim further discloses the features of dependent claims **5-9, 11, 13, 18-20, 23, 26-30, 32, 33**. The attention of the applicant is drawn to the fact that the capsule disclosed in said cited document can be considered as being "*a second exchangeable capsule*" according to independent claims **1, 24** of the present application, as in said claims no first capsule is defined.

1.5) The present application does not meet the criteria of patentability, because the subject-matter of claims **1-9, 11, 13-16, 18-33** is not new.

2) Dependent claims **10, 12, 17** do not appear to contain any additional features which, in combination with the features of any claim to which it refers, meet the requirements of inventive step: the additional features disclosed in said dependent claims seem to relate merely to constructional measures coming within the scope of the customary practice followed by persons skilled in the art.

### Box VIII

1) In independent claims **1** and **24** a "*second exchangeable capsule*" is disclosed, but no first capsule is mentioned in said claims, whereby a lack of clarity results.

2) In dependent claim **29** "*the second brew chamber*" is mentioned. However, said second brew chamber has not been defined before.

3) In dependent claim **31** "*the first brew chamber*" is mentioned. However, said first brew chamber has not been defined before.