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(54) **CAPSULE FOR INFUSING A BEVERAGE**

(57) The capsule comprises a hollow body (1) having a base (1a) and a side wall (1b) with a perimeter flange (2) demarcating a mouth closed by means of a sheet-like cover (3) attached hermetically by means of sealing to the perimeter flange (2) of the hollow body (1). The hollow body (1) comprises at least a first chamber (5) and a second chamber (6) isolated from one another, which are separated by a partitioning wall structure (7) attached to the inner surface of the hollow body (1); wherein the first chamber (5) is configured for housing a first food product (9) and the second chamber is configured for housing a second food product (10). The partitioning wall structure (7) includes an edge (7a) to which the sheet-like cover (3) is hermetically attached by means of sealing.

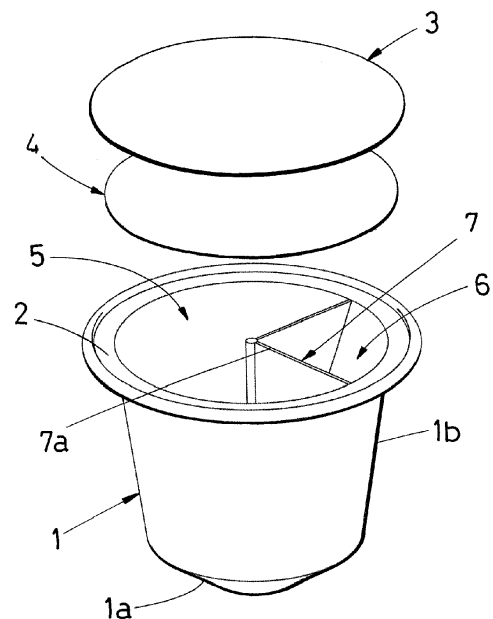


FIG.1a

Description

Object of the invention

[0001] The present invention relates to a capsule for infusing a beverage which is configured for being able to be inserted in a machine prepared for injecting water into the capsule, flooding an inner space of said capsule, in order to finally obtain the beverage formed by at least two different mixtures: a first mixture comprising water with a food product and a second mixture comprising water with a preferably liquid food product.

Background of the invention

[0002] At present, beverage preparation capsules are known in which, after mixing a liquid with a food product such as teas and coffee, said liquid mixture is filtered inside the capsule through a filtering surface.

[0003] Capsules for producing beverages are also known which comprise a filter with a filtering surface in the interior space thereof, through which the liquid mixture passes before being extracted out through a lower opening of the capsule.

[0004] In all cases, the capsules normally comprise a hollow body in the shape of a cup with a mouth hermetically closed by means of a sheet-like cover, which is attached to a perimeter edge demarcating the mouth of the hollow body.

[0005] The food product and the filter are located inside the hollow body, such that in order to extract the beverage, water is injected into the hollow body with a cannula for being mixed with the food product, whereby the liquid mixture generated inside the capsule increases in pressure, passing through the filter and finally through an outlet opening in order to finally obtain the required beverage.

[0006] In some capsules, the outlet opening to allow the exit of the beverage is generated as a result of the controlled tearing of the sheet-like cover due to the increased pressure of the liquid mixture inside the hollow body, such that in these cases, said cover includes a weakening line to facilitate the controlled tearing thereof and therefore the outlet of the beverage.

[0007] In all cases, between the inner surface of the hollow body and the cover there is a single inner chamber in which at least the filter and the food product are housed.

Description of the invention

[0008] In order to achieve the objectives and avoid the drawbacks mentioned in the preceding sections, the invention proposes a capsule for infusing a beverage comprising a hollow body having a base and a side wall with a perimeter flange demarcating a mouth closed by means of a sheet-like cover attached hermetically by means of sealing to the perimeter flange of the hollow body.

[0009] The hollow body comprises at least a first cham-

ber and a second chamber isolated from one another, which are separated by a partitioning wall structure attached to the inner surface of the hollow body; wherein the first chamber is configured for housing a first food product and the second chamber is configured for housing a second food product.

[0010] The partitioning wall structure includes an edge to which the sheet-like cover is hermetically attached by means of sealing.

[0011] In one embodiment of the invention, the capsule further comprises a sheet-like filter which is arranged inside the hollow body and in proximity to the sheet-like cover, while at the same time said sheet-like filter is hermetically attached by means of sealing to the perimeter flange of the hollow body. The sheet-like filter is also hermetically attached by means of sealing to the edge of the partitioning wall structure.

[0012] In one embodiment of the invention, the partitioning wall structure is attached to the base and to the side wall of the hollow body.

[0013] The edge of the partitioning wall structure is flush with the perimeter flange of the hollow body, while at the same time the partitioning wall structure comprises at least two dividers converging in a central region of the hollow body.

[0014] The first chamber of the hollow body is configured for housing the first food product in the form of powder or particles such as, for example, coffee, whereas the second chamber is configured for housing the second food product in liquid state; wherein both products are housed inside their respective chambers without being in contact with one another and obviously without mixing inside the capsule.

[0015] As long as the capsule is closed, these two products remain without contact with one another due to the existence of the partitioning wall structure, preferably formed by inner dividers which split the interior space of the hollow body of the capsule into at least two partitions (first and second chambers); where they will, typically and as a particular example of the invention, occupy 1/4 (second chamber) and 3/4 (first chamber) of the interior space of the hollow body.

[0016] Said inner dividers of the hollow body will therefore hermetically divide the interior space of said hollow body into two or more regions, preventing the mixing of the food products contained therein, and said inner dividers will have a height equal to the height of the hollow body, being flush with the perimeter flange thereof, so that the sheet-like cover of the capsule as a whole allows the complete separation of the chambers created with said inner dividers.

[0017] When water is injected into the two chambers, the water wets and soaks the first food product forming a first liquid mixture simultaneously with the formation of a second mixture of water together with the second liquid food product, such that pressure inside the hollow body of the capsule gradually increases due to the continuous injection of water.

[0018] In this situation with the pressure inside the hollow body, cuts are made at a given moment on the sheet-like cover allowing the exit through same of the combination of the two described liquid mixtures which will flow out like a stream into a container placed beforehand below the sheet-like cover. The sheet-like cover is part of the capsule. Both liquid mixtures flow out separately.

[0019] As a preferred embodiment of the invention, the capsule comprises the partitioning wall structure formed by two partitioning dividers which allow containing a powder part (coffee) and a liquid part (cognac, etc., or any type of alcoholic beverage), which are only mixed once the capsule is introduced into the machine which supplies pressurized water through the injector, configuring a beverage that is a mixture of both food products such as, for example, the beverage commonly known as coffee with a shot of liquor.

[0020] The materials used for manufacturing the capsule of the invention are the same as those used in other conventional capsules of the state of the art.

[0021] Next, to help better understand this specification and as an integral part thereof, a series of figures is attached in which the object of the invention is depicted in an illustrative and non-limiting manner.

Brief description of the figures

[0022]

Figure 1a shows an exploded perspective view of the capsule for infusing a beverage, object of the invention. The capsule comprises a hollow body with two inner chambers.

Figure 1b shows a view similar to Figure 1a, in which the hollow body includes three inner chambers.

Figure 2 shows a sectioned elevation view of the capsule of the invention during use.

Figure 3 shows another sectioned elevation view of a part of the capsule also during use, in which cuts in a sheet-like cover through which the beverage exits are highlighted.

Figure 4 shows a plan view of the capsule of the invention, in which the distribution of the cuts on the sheet-like cover is highlighted.

Description of an exemplary embodiment of the invention

[0023] Considering the numbering used in the figures, the capsule for infusing a beverage comprises a hollow body 1 in the shape of a cup having a base 1a and a side wall 1b with a perimeter flange 2 demarcating a mouth closed by means of a sheet-like cover 3 hermetically attached by means of sealing to the perimeter flange 2.

[0024] In the embodiment shown in the figures, the hollow body 1 comprises a truncated cone configuration, without ruling out other configurations.

[0025] Moreover, in one embodiment of the invention, the capsule includes a sheet-like filter 4, whereas in another embodiment of the invention, the capsule does not include said sheet-like filter 4.

[0026] There is located inside the hollow body 1 the sheet-like filter 4 which is located parallel and in proximity to the sheet-like cover 3, while at the same time said sheet-like filter 4 is hermetically attached, also by means of sealing, to the perimeter flange 2 of the hollow body 1. The sheet-like filter 4 is usually in contact with an inner face of the sheet-like cover 3.

[0027] The hollow body 1 includes at least a first chamber 5 and a second chamber 6 separated by a partitioning wall structure 7 attached to the base 1a and to the side wall 1b of the hollow body 1, wherein said partitioning wall structure 7 comprises two dividers converging in the diametric center of the truncated cone configuration of the hollow body 1.

[0028] The partitioning wall structure 7 includes an edge 7a to which there are hermetically attached by means of sealing both the sheet-like filter 4 and the sheet-like cover 3, such that in the embodiment which does not include the sheet-like filter 4, the edge 7a of the partitioning wall 7 is attached directly to the sheet-like cover 3.

[0029] The two chambers 5 and 6 demarcate isolated and completely leak-tight interior spaces, such that the first chamber 5 is configured for housing a first food product 9 in the form of powder or particles such as, for example, coffee, and the second chamber 6 is configured for housing a second liquid food product 10 such as, for example, cognac, to thereby enable directly obtaining a beverage made up of coffee and cognac, which is commonly known as "coffee with a shot of liquor".

[0030] Both the first food product 9 and the second liquid food product 10 are in contact with the inner surface of the hollow body 1 and also with the sheet-like filter 4 itself, or with the sheet-like cover 3 in the embodiment which does not include the sheet-like filter 4.

[0031] When water is injected into the two chambers 5 and 6, the water wets and soaks the first food product 9 forming a first liquid mixture simultaneously with the formation of a second mixture of water together with the second liquid food product 10, such that pressure inside the hollow body 1 of the capsule gradually increases due to the continuous injection of water.

[0032] In this situation with the pressure inside the hollow body 1, cuts 12 are made at a given moment on the sheet-like cover 3 allowing the exit through same of the combination of the two described liquid mixtures which will flow out like a stream 11 into a container placed beforehand below the sheet-like cover 3. Both liquid mixtures flow out separately.

[0033] The cuts 12 go through the sheet-like cover 3 communicating the interior space of the hollow body 1 with the outside. Furthermore, it should be mentioned

that the cuts 12 are made by means of sharp elements of a machine in which the capsule for infusing a beverage is introduced.

[0034] In the embodiment which includes the sheet-like filter 4, both liquid mixtures go through the sheet-like filter 4 separately until coming into contact with the inner face of the sheet-like cover 3.

[0035] Water is injected into the first chamber 5 and the second chamber 6 by means of an injector 13 having several branches 13a going through the base 1a of the hollow body 1; wherein the injector 13 has at least the same number of branches 13a as the number of inner chambers for housing the different food products.

[0036] Figure 1a shows a hollow body 1 with the first chamber 5 and the second chamber 6, whereas Figure 1b shows a hollow body 1 with the first chamber 5, the second chamber 6, and a third chamber 8.

(7a) of the partitioning wall structure (7) is flush with the perimeter flange (2) of the hollow body (1).

5. The capsule for infusing a beverage according to any one of the preceding claims, wherein the partitioning wall structure (7) comprises at least two dividers converging in a central region of the hollow body (1).

Claims

1. A capsule for infusing a beverage, comprising a hollow body (1) having a base (1a) and a side wall (1b) with a perimeter flange (2) demarcating a mouth closed by means of a sheet-like cover (3) attached hermetically by means of sealing to the perimeter flange (2) of the hollow body (1); **characterized in that:**
 - the hollow body (1) comprises at least a first chamber (5) and a second chamber (6) isolated from one another, which are separated by a partitioning wall structure (7) attached to the inner surface of the hollow body (1); wherein the first chamber (5) is configured for housing a first food product (9) and the second chamber is configured for housing a second food product (10);
 - the partitioning wall structure (7) comprises an edge (7a) to which the sheet-like cover (3) is hermetically attached by means of sealing.
2. The capsule for infusing a beverage according to claim 1, wherein it further comprises a sheet-like filter (4) which is arranged inside the hollow body (1) and in proximity to the sheet-like cover (3); wherein the sheet-like filter (4) is hermetically attached by means of sealing to the perimeter flange (2) of the hollow body (1); and wherein the sheet-like filter (4) is hermetically attached by means of sealing to the edge (7a) of the partitioning wall structure (7).
3. The capsule for infusing a beverage according to any one of the preceding claims, wherein the partitioning wall structure (7) is attached to the base (1a) and to the side wall (1b) of the hollow body (1).
4. The capsule for infusing a beverage according to any one of the preceding claims, wherein the edge

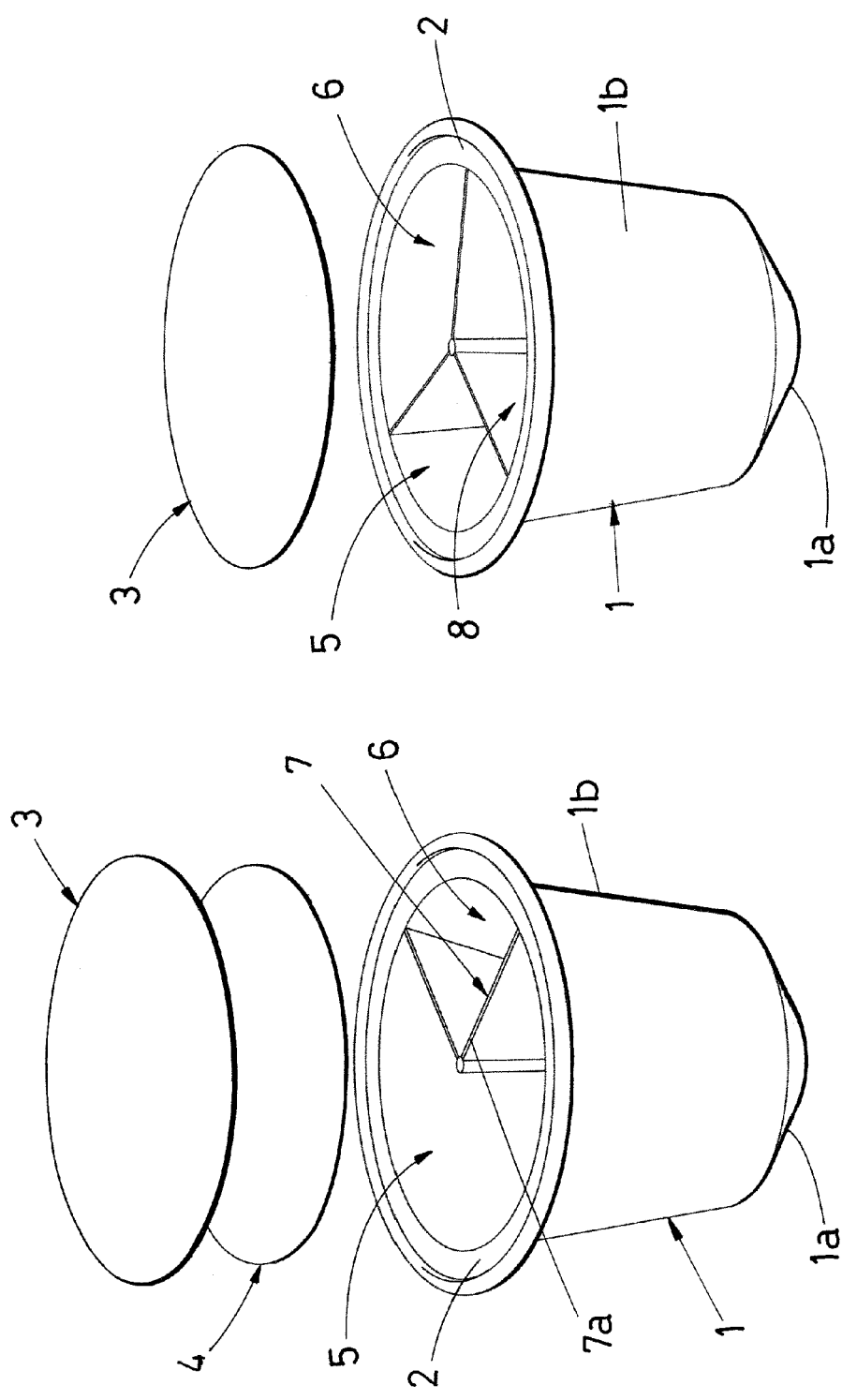


FIG.1b

FIG.1a

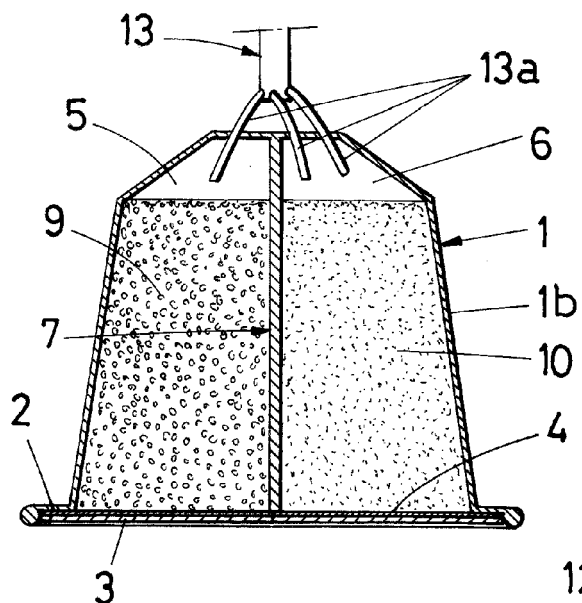


FIG. 2

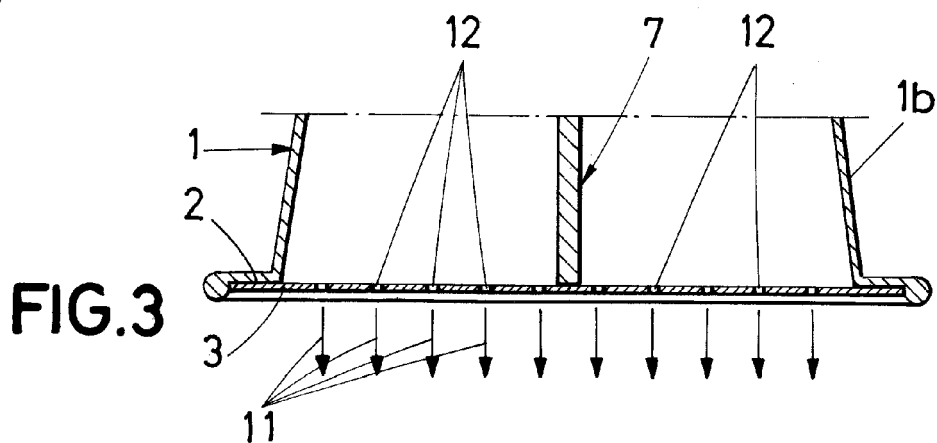


FIG. 3

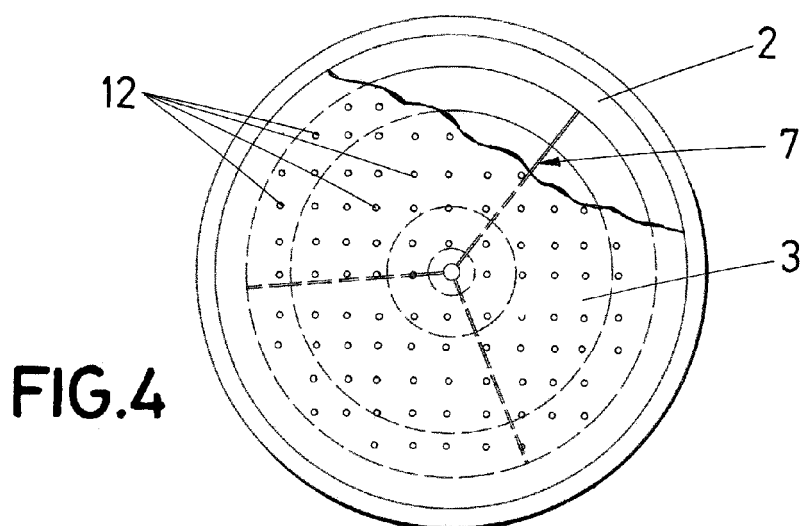


FIG. 4



EUROPEAN SEARCH REPORT

Application Number

EP 22 18 9860

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EPO FORM 1503 03.82 (P04C01)

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X	WO 2020/064887 A1 (FAVRE ERIC [CH]) 2 April 2020 (2020-04-02)	1	INV. B65D85/804
A	* claims 1-11; figures 4,5 * -----	2-5	
X	WO 2020/157592 A1 (IMPER SPA [IT]) 6 August 2020 (2020-08-06)	1	
A	* claims 1-21; figure 2 * -----	2-5	
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A	WO 2012/055751 A2 (NESTEC SA [CH]; DOGAN NIHAN [CH]; GOUX SAMUEL [FR]) 3 May 2012 (2012-05-03)	1-5	TECHNICAL FIELDS SEARCHED (IPC) B65D
	* figure 1 * -----		
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 May 2023	Examiner Brochado Garganta, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 22 18 9860

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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