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(54) PROCESS AND SYSTEM FOR THE PREPARATION OF CUSTOMISED POST-MIX DRINKS

(57) System for preparing post-mix drinks with different compositions comprising: three different beverages, three tanks, three dosing pumps, three lines connecting each of said three tanks with one of said three dosing pumps, a dosing star for filling a bottle, three connection lines of each of said three dosing pumps with the dosing star, a bottle, a printer, wherein the three dosing pumps, the dosing star and a printer are electrically connected to a control unit, wherein said control unit stores software configured to prepare drinks having different compositions.

EP 4 534 473 A1

Description

Tecnical field

[0001] The present invention falls in the field of drinks and processes and apparatus for their preparation.

State of the art

[0002] Unlike what happened at the time of the industrial revolution in which the efforts of technological development went in the direction of creating identical products from one another, nowadays the need is felt to be able to have products and services unique, that is, products and services that we can enjoy exclusively, especially if they are tailored to people's tastes, so that we can always try new experiences.

[0003] This sentiment is also perceived on a food level, both in terms of gastronomy, seeing the success of the famous sheffs, as well as on a sensorial level offered by drinks. However, for the latter, it is nowadays only possible to choose between different drinks available today, those of the well-known drink brands, while it is not possible to have slight variations of the same type of drink. Consider, for example, orangeade. It is supplied with a very precise and constant composition, therefore two bottles of orangeade presenting the same composition provide the same taste and therefore the same gustatory emotion.

[0004] Conversely, nowadays the need is felt to provide unique drinks or drinks having a unique composition, different from that of drinks, even though they are of the same type. This need allows us to satisfy the need to always have different emotions, so as to be able to have, for example, similar orange drinks that are able to offer consumers such a surprise.

Summary of the invention

[0005] The problem addressed by the present invention is therefore that of making drinks available having different compositions, preferably through mass production.

[0006] Furthermore, as an additional problem it is desired that the composition of the single prepared drink is exactly determined, that is, it is necessary that the three components that go into making the drink are exactly dosed, thus avoiding situations of possible mixing.

[0007] These problems are solved by the process and system of the present invention, as outlined in the attached claims, the definitions of which are an integral part of the present description.

[0008] Further characteristics and advantages of the process and system of the invention will result from the description of the invention, provided as an indication of the invention itself.

Detailed description of the invention

[0009] As used herein, the term "and/or", when used in a list of two or more items, means that any of the listed items may be employed alone, or in any combination of two or more of the listed items.

[0010] For example, if a composition is described as containing components A, B and/or C, the composition may only contain A; B only; C only; A and B in combination; A and C in combination; B and C in combination; or A, B and C in combination.

[0011] The terms "includes", "including" or any variation thereof, are intended to cover a non-exclusive inclusion, such that a process, system or use which includes a list of elements does not include only those elements but may include other elements not expressly listed or inherent in such process, system or use.

[0012] An element followed by "includes...a..." does not prevent, without further constraints, the existence of further identical elements in the process, system or use that includes the element.

[0013] An object of the present invention is a process for preparing soft drinks having different compositions comprising the following steps:

a) making available three different drinks in three different tanks, wherein said tanks are each connected respectively to a dosing pump, wherein said dosing pumps are connected to a dosing star suitable for filling a bottle to make the drink of the present method and wherein the three dosing pumps, the dosing star and a printer are electrically connected to a control unit, wherein said control unit includes a software, wherein said software is configured to prepare drinks having different compositions,

b) determining, by means of the software from step a), the composition of the drink to be made as a combination of different quantities of the three different drinks from step a),

c) dosing, by means of the first dosing pump, a quantity of the first drink referred to in step a) into the bottle,

d) dosing, by means of the second dosing pump, a quantity of the second drink referred to in step a) into the bottle,

e) dosing, by means of the third dosing pump, a quantity of the third drink referred to in step a) into the bottle,

f) print the drink label with the specific composition determined in step b) and apply it to the bottle containing the drink,

wherein the determination of the composition of the drink referred to in step b) is such as to guarantee always different compositions of said drink through the dosage of always different quantities of the three drinks referred to in step a).

[0014] It has in fact been surprisingly found that the

process described above allows drinks to be prepared, even in mass production, having different compositions.

[0015] Furthermore, at the same time, it has been found that the composition of the single drink prepared with said process and system is exactly determined, as the three components that make the drink are exactly dosed, simultaneously avoiding situations of possible mixing, even small ones, which would necessarily lead to drinks not having an exact predetermined composition,

[0016] With this process it is possible to make drinks whose composition, and therefore the content of the individual ingredients, understood as the qualitative and/or quantitative content of the individual ingredients and/or chemical compounds that compose them, taste, colour, differs from that of similar drinks, present, for example, in the previous and/or subsequent bottle prepared with the same method.

[0017] The process of the present invention allows similar drinks with a slightly different taste from bottle to bottle of the same drink to be made available to the consumer, thus providing a new, unrepeatable and exclusive taste element.

[0018] The determination of the composition of the drink referred to in step b) is such as to guarantee always different compositions of said drink through the dosage of always different quantities of the three drinks referred to in step a), in particular, the always different compositions of said drink is made in different bottles. Therefore, for example, if a bottle of a drink has a certain composition, the previous and subsequent bottles contain drinks that have a different composition, meaning that said different composition can be a different qualitative composition and/or quantitative composition. Preferably, it is a different quantitative composition.

[0019] Therefore by drinks having different compositions means that the composition of the drink contained in the bottle compared to the composition of the drink contained in the bottle prepared before or that of the drink contained in the bottle prepared after compared to the drink in question.

[0020] Preferably, the drinks having different compositions prepared by the present process are drinks having similar compositions, that is, the various bottles of said drink contain drinks having different but similar compositions.

[0021] Everything is achieved by mixing different quantities of three different drinks.

[0022] The three different drinks in three different tanks are three drinks having different compositions between them. For example, the three different drinks can be three different variations of the same drink. The three different variations of the same drink have different compositions. By different composition we mean different chemical composition, meaning different qualitative and/or quantitative chemical composition.

[0023] Examples of three different drinks can, for example, be three different orange drinks, three different wines, or three different drinks such as, for example, wine, water and Aperol.

[0024] The consumer is thus given a slightly different taste, a new, unrepeatable and exclusive taste element, thus departing from a standard product, while preferably carrying out mass production.

[0025] Preferably, steps c), d) and e) are carried out by means of a dosage having a precision ranging from +/- 0.5 milliliters to +/-1 milliliter.

[0026] The dosing star includes a shaft arranged vertically, where said shaft is capable of rotating on itself and where said shaft has a flat disk arranged horizontally whose center is fixed on the upper part of the shaft arranged vertically and where the outlets of the three pipes that connect the three metering pumps to the metering star are positioned on the flat disk at 120 degrees from each other.

[0027] The dosing star includes a motor capable of rotating the vertically arranged shaft of the dosing star itself.

[0028] Preferably, the outlets of the three pipes that connect the three metering pumps to the metering star are positioned on the external perimeter of the flat disk at 120 degrees from each other.

[0029] The 120 degree rotation of the dosing star shaft allows you to fill the bottle with a different drink, therefore the 240 degree rotation of the dosing star shaft allows you to fill the bottle with the three different drinks.

[0030] Therefore between steps c) and d) of the present invention the dosing star rotates through 120 degrees to allow the second drink to fill the bottle.

[0031] Therefore between step d) and e) of the present invention the dosing star performs a further rotation of 120 degrees to allow the third drink to fill the bottle.

[0032] Preferably, the dosing star rotates 120 degrees each time, upon command from the control unit, so as to allow dosing of the quantity of each of the three drinks inside the bottle.

[0033] Preferably, the process carries out mass production of drinks.

[0034] An other object is a system for preparing drinks with different compositions comprising the following items:

- three different beverages,
- three tanks,
- three dosing pumps,
- three lines connecting each of said three tanks with one of said three dosing pumps,
- a dosing star for filling a bottle,
- three connection lines of each of said three dosing pumps with the dosing star,
- a bottle,
- a printer, wherein the three dosing pumps, the dosing star and a printer are electrically connected to a control unit, where said control unit comprises software configured to prepare drinks having different compositions.

[0035] The software comprises an algorithm that sends commands to three dosing pumps and the dosing star.

[0036] The software is configured to control the dispensing of the beverages to make the beverage of the invention.

[0037] Preferably, the software comprises a three-dimensional matrix capable of providing combinations of the quantities of the three beverages that are always different.

[0038] Software comprises an algorithm comprising a matrix which, given ranges, preferably from 1 to 999 ml of each composition, with a range of 0.5 ml, controls, via the control unit, the dosing pumps and the dosing star.

[0039] An example of a drink composition may be 333 ml of the first drink, 333 ml of the second drink and 334 ml of the third drink. The drink prepared subsequently plus having composition, for example, 332 ml of the first drink, 333 ml of the second drink and 335 ml of the third drink, or, 333 ml of the first drink, 332 ml of the second drink and 335 ml of the third drink, etc..

[0040] The dosing star comprises a vertically arranged shaft, wherein said shaft is capable of rotating on itself and wherein said shaft has a horizontally arranged flat disc whose centre is fixed on the upper part of the vertically arranged shaft and wherein the outlets of the three tubes connecting the three dosing pumps to the dosing star are positioned on the flat disc at 120 degrees from each other.

[0041] The 120-degree measurement is made with respect to the centre of the plane disc, and subtends precisely a 120-degree arc between the pipe outlets connected to the pumps.

[0042] Preferably, the outlets of the three pipes connecting the three dosing pumps to the dosing star are positioned on the outer perimeter disk plane at 120 degrees from each other.

[0043] Another object is the use of the system according to the above-described for the preparation of beverages having different compositions.

[0044] Preferred is the use in which the preparation of the beverages takes place in a serial manner.

Claims

1. Process for the preparation of drinks having different compositions comprising the following steps:

   a) making available three different drinks in three different tanks, wherein said tanks are each connected respectively to a dosing pump, wherein said dosing pumps are connected to a dosing star suitable for filling a bottle to make the drink of the present method and wherein the three dosing pumps, the dosing star and a printer are electrically connected to a control unit, wherein said control unit includes a software, wherein said software is configured to prepare drinks having different compositions,
   b) determining, by means of the software from step a), the composition of the drink to be made as a combination of different quantities of the three different drinks from step a),
   c) dosing, by means of the first dosing pump, a quantity of the first drink referred to in step a) into the bottle,
   d) dosing, by means of the second dosing pump, a quantity of the second drink referred to in step a) into the bottle,
   e) dosing, by means of the third dosing pump, a quantity of the third drink referred to in step a) into the bottle,
   f) print the drink label with the specific composition determined in step b) and apply it to the bottle containing the drink,

   wherein the determination of the composition of the drink referred to in step b) is such as to guarantee always different compositions of said drink through the dosage of always different quantities of the three drinks referred to in step a).

2. Process according to claim 1, wherein steps c), d) and e) are carried out by means of a dosage having an accuracy comprised from +/- 0.5 millilitres to +/-1 millilitre.

3. Process according to any one of claims 1 to 2, wherein the dosing star comprises a shaft arranged vertically, where said shaft is capable of rotating on itself and wherein said shaft has a flat disk arranged horizontally whose center is fixed on the upper part of the vertically arranged shaft and wherein the outlets of the three tubes that connect the three dosing pumps to the dosing star are positioned on the flat disk at 120 degrees from each other.

4. Process according to claim 3, in which the dosing star rotates 120 degrees each time, upon command from the control unit, so as to allow dosing of the quantity of each of the three drinks inside the bottle.

5. Process according to any one of claims 1 to 4, wherein the process performs a series production of beverages.

6. System for preparing drinks with different compositions comprising the following items:

   - three different beverages,
   - three tanks,
   - three dosing pumps,
   - three lines connecting each of said three tanks with one of said three dosing pumps,
   - a dosing star for filling a bottle,

- three connection lines of each of said three dosing pumps with the dosing star,
- a bottle,
- a printer,

wherein the three dosing pumps, the dosing star and a printer are electrically connected to a control unit, where said control unit comprises software configured to prepare drinks having different compositions.

7. System according to claim 6, wherein the software comprises a three-dimensional matrix capable of providing combinations of the quantities of the three beverages that are always different.

8. System according to any one of the claim from 6 to 7, wherein the dosing star comprises a shaft arranged vertically, where said shaft is capable of rotating on itself and where said shaft has a flat disk arranged horizontally whose center is fixed on the upper part of the vertically arranged shaft and where the outlets of the three tubes that connect the three metering pumps to the metering star are positioned on the flat disk at 120 degrees from each other.

9. Use of the system according to any one of claims 6 to 8, for preparing beverages having different compositions.

10. Use according to claim 9, wherein the preparation of the drinks takes place in series.

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EUROPEAN SEARCH REPORT

Application Number
EP 24 20 4038

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	DE 10 2019 125708 A1 (NAJJARI HICHAM [DE]) 25 March 2021 (2021-03-25) * paragraphs [0011], [0017], [0023], [0024], [0029], [0034] - [0037], [0049] *	1-10	INV. B67D1/00 B67C3/00 B67C3/02 B67C3/20
Y	US 8 386 072 B1 (MIHALIK MICHAEL [US] ET AL) 26 February 2013 (2013-02-26) * column 5, line 9 - line 40; figure 10 *	1-10	
Y	EP 3 178 781 A1 (NESTEC SA [CH]) 14 June 2017 (2017-06-14) * paragraph [0042] - paragraph [0045] *	3,4,8	
A	US 11 130 667 B2 (KRONES AG [DE]) 28 September 2021 (2021-09-28) * page 7, line 16 - page 8, line 30 *	1,2,4-8	
A	US 2022/177291 A1 (CHU CHIEN-JUNG [TW] ET AL) 9 June 2022 (2022-06-09) * paragraphs [0030], [0033], [00037], [0042], [0060], [0061] *	1,2,4-8	

TECHNICAL FIELDS SEARCHED (IPC)

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B65C
B67C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 January 2025	Desittere, Michiel

CATEGORY OF CITED DOCUMENTS

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16-01-2025

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 102019125708 A1	25-03-2021	NONE	
US 8386072 B1	26-02-2013	NONE	
EP 3178781 A1	14-06-2017	EP 3178781 A1	14-06-2017
		US 2017158478 A1	08-06-2017
US 11130667 B2	28-09-2021	CN 111511673 A	07-08-2020
		DE 102017120324 A1	07-03-2019
		EP 3678981 A1	15-07-2020
		JP 7341983 B2	11-09-2023
		JP 2020532468 A	12-11-2020
		US 2020239295 A1	30-07-2020
		WO 2019043237 A1	07-03-2019
US 2022177291 A1	09-06-2022	JP 7202035 B2	11-01-2023
		JP 2022090622 A	17-06-2022
		TW 202222231 A	16-06-2022
		US 2022177291 A1	09-06-2022

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