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(54) **Title**: DISPOSABLE LIQUID HEATING CUP ASSEMBLY AND A LID THEREOF

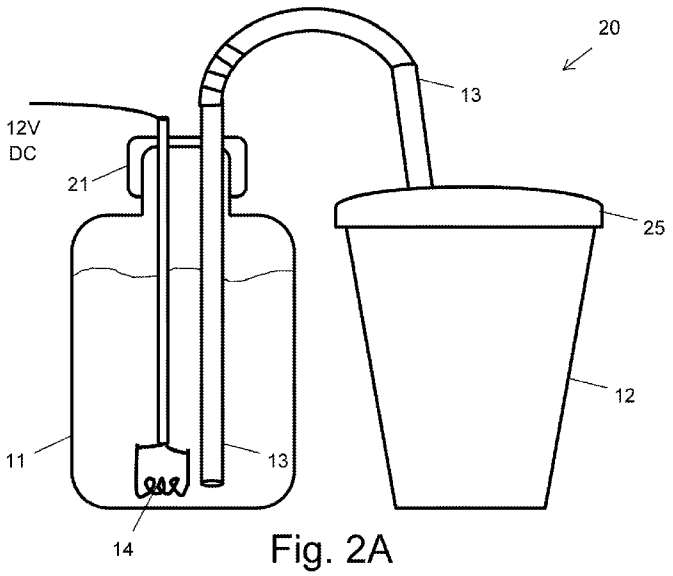


Fig. 2A

(57) **Abstract**: The present invention relates to disposable liquid heating cup assembly, comprising: a) a reservoir cup that serves as a drinking vessel; b) a detachable lid for covering the reservoir cup, wherein the detachable lid having a liquid extracting arrangement at its bottom through which liquid is able to flow into the reservoir cup; c) a closed water heating chamber that includes a heating element for heating liquid stored in the chamber; and d) a transfer tube adapted to transfer heated liquid from the heating chamber into the reservoir cup upon generation of pressure within the chamber due to the heating, wherein the transfer tube having a liquid input section located at the bottom of the chamber and adapted to receive liquid therefrom and a liquid output section directed towards the reservoir cup.

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DISPOSABLE LIQUID HEATING CUP ASSEMBLY AND A LID THEREOF

Field of the Invention

The present invention relates to the field of hot beverage brewing systems. More particularly, the invention relates to an "all inclusive" hot beverage brewing disposable cup systems.

Background of the invention

Although there are several types of hot beverage brewing systems on the market today, none are totally self-contained including the cup & lid, utilize a simple one-step brewing process, and are completely disposable. Presently the brewing of hot beverages, such as coffee, requires the storage and use of fresh water, ground coffee or other drink-making material, measuring scoops, coffee filters, sugar or sweeteners, coffee cups and lids, and drink stirrers or spoons. Furthermore, some type of stand-alone mechanical brewing device is necessary to facilitate the brewing process, such as a percolator or drip coffee maker.

Added to the brewing process are the messy and unwanted tasks of discarding the used coffee grounds and spent materials, cleaning the food preparation areas and coffee pot, and the thorough cleaning and maintenance of the beverage brewing device. These tasks often go undone in many offices, employee lounge areas, and office waiting rooms leaving messy, unsanitary, and unsightly conditions. Moreover, where there is no water supply available, like while waiting in a traffic jam while driving a car, the brewing of hot beverages is presently not possible.

It is an object of the present invention to provide a cup system which is capable of providing a complete self-contained brewing process.

Other objects and advantages of the invention will become apparent as the description proceeds.

Summary of the Invention

The present invention relates to disposable liquid heating cup assembly, comprising:

a) a reservoir cup that serves as a drinking vessel;
b) a detachable lid for covering said reservoir cup, wherein said detachable lid having a liquid extracting arrangement at its bottom through which liquid is able to flow into the reservoir cup;
c) a closed water heating chamber that includes a heating element for heating liquid stored in said chamber; and
d) a transfer tube adapted to transfer heated liquid from the heating chamber into the reservoir cup upon generation of pressure within said chamber due to the heating, wherein said transfer tube having a liquid input section located at the bottom of said chamber and adapted to receive liquid therefrom and a liquid output section directed towards said reservoir cup.

According to an embodiment of the invention, the transfer tube adapted to transfer heated liquid from the heating chamber into the reservoir cup through the lid via the liquid output section.

According to an embodiment of the invention, the detachable lid includes sealed blisters containing a pre-measured charge of beverage-making materials, which are released to the reservoir cup via the liquid extracting arrangement by pressing on each desired blister.

According to an embodiment of the invention, the detachable lid includes an inner chamber adapted to store a packet consisting of a pre-measured

charge of beverage-making material. The packet can be wrapped in a sealed filter material.

According to an embodiment of the invention, the heated liquid fills the inner chamber of the detachable lid and immerses the packet consisting of the pre-measured charge of beverage-making material with the heated liquid infusing the heated water with the beverage-making material, and whenever the liquid fills the inner chamber of the lid, the infused solution is forced to flow through the liquid extracting arrangement and into the reservoir cup.

According to an embodiment of the invention, the liquid extracting arrangement is at least one orifice located at the bottom of the lid. Alternatively, the liquid extracting arrangement is a temperature-sensitive membrane.

According to an embodiment of the invention, the reservoir cup is located within the water heating chamber. According to another embodiment of the invention, the reservoir cup is located on top of the water heating chamber. According to yet another embodiment of the invention, the reservoir cup is located externally to the water heating chamber or under it.

According to an embodiment of the invention, the water heating chamber is sealed with a cover, through which the heating element is being threaded to heat the liquid within said water heating chamber.

According to an embodiment of the invention, the water heating chamber is sealed with a cover, through which one end of the transfer tube is being threaded to transfer heated liquid from said water heating chamber to the reservoir cup.

According to an embodiment of the invention, the water heating chamber having a cylindrical from, wherein at the top it is sealed with a cover, through which the heating element is being threaded to heat the liquid within said water heating chamber, and wherein the liquid stored within said chamber are confined by a first sliding piston adapted to be perforated/punctured by a second sliding piston being located under said first piston, such that whenever pressure is build up inside the water heating chamber, due to the heating, it causes the first piston to move towards the second piston until they contact each other, wherein said second piston includes a through hole having an upper end adapted to perforate the first piston and a lower end adapted to perforate the bottom of said chamber, thereby allowing liquid to flow from the water heating chamber to the reservoir cup.

According to an embodiment of the invention, the water heating chamber includes a packet consisting of a pre-measured charge of beverage-making material located between the second piston and the bottom of said chamber, such that lower end of said second piston is able to perforate the upper surface of the packet, allowing heated liquid to fill the packet, and wherein the bottom of said chamber includes a liquid extracting arrangement.

In another aspect, the present invention relates to a detachable lid that includes an inner chamber adapted to store a packet consisting of a pre-measured charge of beverage-making material.

Brief Description of the Drawings

In the drawings:

- Fig. 1 schematically illustrates a self-contained cup assembly, according to an embodiment of the present invention;

- Figs. 2A and 2B schematically illustrate a self-contained cup assembly, according to another embodiment of the present invention;
- Fig. 3 schematically illustrates a self-contained cup assembly, according to a further embodiment of the present invention;
- Figs. 4-6 schematically illustrate variety implementation of lids for the self-contained cup assembly, according to some embodiments of the invention;
- Fig. 7 schematically illustrates a self-contained cup assembly, according to an embodiment of the present invention.

Detailed Description of the Invention

Throughout this description the term "lid" refers as the cover or seal, usually one that completely closes a corresponding cup, excluding an opening for drinking. This term does not imply any particular shape, construction material or geometry, and invention is applicable to all suitable covers.

In the following detailed description, references are made to the accompanying drawings that form a part hereof, and in which are shown by way of illustrations specific embodiments or examples. These embodiments may be combined, other embodiments may be utilized, and structural changes may be made without departing from the spirit or scope of the present invention. The following detailed description is therefore not to be taken in a limiting sense and the scope of the present invention is defined by the appended claims and their equivalents. Wherever practicable similar or like reference numbers may be used in the figures and may indicate similar or like functionality.

The present invention is a self-contained single-serve beverage brewing cup assembly that consists of the following items: a lid; a water heating chamber with a pre-measured water supply (e.g., the water volume in the

chamber can be about 160cc suitable for making a standard cup of coffee); a heating element; and a water transfer assembly (e.g., a transfer tube or drip spout). According to some embodiments of the present invention, a cup that serves as a drinking vessel is also provided either as an integral part of the cup system (e.g., as an inner cup that is located within the water heating chamber as will be described in further details hereinafter with respect to Fig. 1) or as an external device adapted to receive liquid through the transfer tube (as shown in Fig. 2). The lid is used as a container adapted to hold particulate beverage ingredients, and upon receiving heated water from the water heating chamber, to brew hot beverage into a drinking vessel.

These elements are connected as follows: the lid is attached to the water heating chamber, the heating element is immersed within the water heating chamber or attached/embedded/integrated to the housing of the water heating chamber to heat the water (e.g., the heating element can be attached to the inside bottom of the inner water heating chamber or it can heat the housing in case it made of material such as metal), the beverage-making material charge is wrapped within a filter material and located within the brew chamber of the lid. Attached within the water heating chamber and into the brewing chamber is the water transfer assembly consisting of a conduit or a tube adapted to transfer heated water from the water heating chamber into the brewing chamber. The lid comprises a discharge hole through which hot water or brewed beverage are able to be dripped into the drinking vessel.

Fig. 1 schematically illustrates a self-contained cup assembly 10, according to an embodiment of the present invention. The cup assembly 10 may comprise four parts. The first part includes a detachable lid 15, the second part includes a top reservoir cup 12 that serves as the drinking vessel, the third part is a bottom reservoir water heating chamber 11 that includes a heating element 14, and the fourth part is a transfer tube 13

adapted to transfer liquid (e.g., water heated by heating element 14) from the heating chamber 11 into the drinking vessel (i.e., top reservoir cup 12) via lid 15. The bottom end of the lid 15 includes an internal thread 151 such that it mated to a corresponding end 131 of the upper end of the transfer tube 13. The detachable lid 15 is fastened to the top of the top chamber 11, providing a watertight seal to the liquid contents of the cup assembly 10. At the initial stage (i.e., prior to the heating process of the liquid by heating element 14), the liquid resides within chamber 11. During the heating process the liquid (i.e., heated liquid) flows to the top reservoir cup 12 (through the transfer tube 13 and the lid 15).

In this embodiment, the lid 15 includes an inner brew chamber containing a packet consisting of a pre-measured charge of beverage-making material, such as ground coffee, tea, soup, or any other material suitable for making a hot beverage and the like, wrapped in a sealed filter material. Of course, the lid may include additional or other type of charges such as sweeteners, milk powder, etc. For example, the packet can be in form of conventional coffee capsules such as the "Nespresso®" capsules by Nestlé®. Figs. 4-6 schematically illustrate cross-sectional views of variety of lids 15 implementations that include a packet 150 consisting of a pre-measured charge of beverage-making material.

According to an embodiment of the invention, the lid 15 includes one or more sealed blisters (as indicated by numeral 41 in Figs. 4-6) each containing a pre-measured charge of beverage-making materials (e.g., packet 150), which are released to the reservoir cup by pressing on the corresponding blister to add the desired material to the cup. In Fig. 4, blister 41 is located on top of a compartment 44, in which packet 150 is situated. An upper puncturing element 42 located in the inner volume of blister 41 is adapted to puncture the packet 150 at top and a lower puncturing element 43 (e.g., can be part of a corresponding cup) is adapted to puncture the packet 150 at bottom, to release the beverage-making

materials into the cup upon pressing on the blister 41. In Fig. 5, the packet 150 is situated in a compartment 54 that includes a membrane mechanism 52 adapted to generate pressure on packet 150 by changing the inner volume of compartment 54. Mechanism 52 comprises an upper slideable wall 52' and a lower wall 52' that defines the high of compartment 54. Upon pressing on blister 41, the slideable wall 52' slides towards wall 52", until a sealing membrane located at the bottom of compartment 54 under wall 52" is being tear to release the beverage-making materials into the cup. In Fig. 6, blister 41 is located on top of a compartment 64, in which packet 150 is situated. An upper puncturing element 65 located in the inner volume of blister 41 is adapted to puncture a sealing member 63 located at the upper portion of the transfer tube 13, to release the heated water to fill the compartment 64 upon pressing on the blister 41. The beverage-making materials drips into the cup via one or more openings located at the bottom compartment 64 as indicated by numerals 61 and 62.

According to an embodiment of the invention, the lid 15 comprises a temperature-sensitive membrane that can be made of various materials, such as but not limited to a polymer, thermoplastic, or lined paper that "melts away" or splits open when the liquid in the water heating chamber 11 reaches the proper brewing temperature (approximately 95 degrees Celsius for coffee) and flows into the lid 15.

As further illustrated in Fig. 1, the top reservoir cup 12 includes a sidewall enclosure 122 and a bottom surface 121 that are located or immersed within the water heating chamber 11. The top reservoir cup 12 is generally cylindrical in shape with an upper open end 120 and the bottom surface 121 connected to the sidewall enclosure 122 forming the top reservoir cup 12.

In practice, the transfer tube 13 may be made of a non-corrosive metal, non-toxic, durable plastic or rubberized material that is suitable for high temperature applications. In another implementation, multiple transfer tubes may replace the single transfer tube 13 design as to increase the transfer of volume of liquid from the heating chamber 11 to the reservoir cup 12.

Materials used to form the interior and exterior of the cup assembly may include but is not limited to stainless steel, plastic, ceramic, glass or other durable, non-porous, non-corrosive, non-toxic material. In addition, methods of forming the self-contained cup assembly 10 include but are not limited to injection molding, robotic molding, CNC machining, or any other suitable technique.

Figs. 2A and 2B schematically illustrate a self-contained cup assembly 20, according to another embodiment of the present invention. In this embodiment, the reservoir cup 12 is located externally to the water heating chamber 11. The cup assembly 20 comprises a sealing cover 21 through which the heating element 14 and the transfer tube 13 are being threaded to a reservoir that used as the water heating chamber 11, and a reservoir cup 12 that serves as the drinking vessel. The transfer tube 13 transfers water heated by the heating element 14 from the heating chamber 11 into reservoir cup 12 via a lid 25 (Fig. 2A) or lid 15 (Fig. 2B). Of course, in such embodiment the transfer tube 13 should be flexible. In this embodiment, the lid 15 includes an inner brew chamber containing a packet consisting of a pre-measured charge of beverage-making material, such as ground coffee, tea, or the like, wrapped in a sealed filter material (as indicated by numeral 150 in Fig. 2B), while the lid 25 is a common cup cover (with no pre-measured charge of beverage-making material).

Fig. 3 schematically illustrates a self-contained cup assembly 30, according to an embodiment of the present invention. In this embodiment,

the reservoir cup 12 is located on top of the water heating chamber 11. The cup assembly 30 comprises a sealing cover 21 having a supporting base 31 adapted to hold the reservoir cup 12 and through which the heating element 14 and the transfer tube 13 are being threaded to the water heating chamber 11. In this embodiment, the supporting base 31 includes a supporting cradle 32 for routing the transfer tube to reservoir cup 12 rested by the cradle 32.

According to some embodiments of the invention, the water heating chamber 11 shown in Figs. 2A and 3 can be a reusable bottle or other form of vessel that is resistive to heat.

The heating element 14 can be powered by an external power source via any suitable connector assembly (not shown), such as car's lighter socket plug or any other suitable form of electrical plug or socket. In one implementation, the heating element 14 may be formed using a coil having an electrical input/output end. The heating element 14 may be made of a resistive alloy such that the coil will heat up sufficiently to boil water when a voltage is applied. However, other types and shapes of heating elements may be used so long as the material is non-corrosive, non-toxic, and water resistant. Both the input end and the output end are located in and electrically connected to a connector adapted to be connected to the external power source. For example, as shown in Fig. 3, a connector 33 is attached to the sealing cover 31 and is insulated from any liquid. The connector penetrates through the side wall of the sealing cover 31 and is sealed so no liquid will leak out of the cover 31. The connector 33 may act as a switch for shutting power off to the heating element 14. A 12V DC connector assembly specifically designed to mate with the connector 31 can be used to power the heating element. The 12 volt DC connector assembly can be designed to plug into a vehicle's cigarette lighter or a 12 volt power outlet, for example. Other power

sources include solar and battery sources, for example, which may be used to supply the 12V DC power to the cup assembly, can also be used.

When water, or any other liquid, is added to the water heating chamber 11 and power is applied to heating element 14, the water is heated to boil and pressure builds up inside the water heating chamber 11. The boiling water is forced up the inside of the transfer tube 13. The boiling water fills the lid 15 (Figs. 1 and 2B) and immerses the packet consisting of the pre-measured charge of beverage-making material in the boiling water infusing the boiling water with the substance, such as coffee. The water flow direction is indicated by the thick arrows in Fig. 1. As the water fully fills the lid 15, the infused solution is forced through orifice in the bottom of the lid 15 and into the reservoir cup 12. Notably, the infused liquid is delivered to the reservoir cup 12 in a single pass, unlike percolator brewing devices that recycle the infused liquid over and over again, providing a quick, convenient, and efficient means for brewing any sort of consumable beverage.

Fig. 7 schematically illustrates a self-contained cup assembly 40, according to an embodiment of the present invention. In this embodiment, the water heating chamber 11 is located on top of the reservoir cup 12, such that the bottom section (indicated by numeral 76) of the water heating chamber 11 is attached to the top of the reservoir cup 12 by any suitable connecting means such as screwing (as indicated by numeral 74). Upon connecting the water heating chamber 11 to the reservoir cup 12, a perforation transfer tube 75 punches the bottom surface 76 of the water heating chamber 11 (& the bottom of packet 150 – as a result of pistons 71 & 73 movement) resulting in an orifice suitable for brewing. The cup assembly 40 comprises a sealing cover 21 through which the heating element 14 is being threaded to the water heating chamber 11.

In this embodiment, the water heating chamber 11 further comprises a sealing piston 71 which includes a water passage 77 that used as the transfer tube (the water passage is blocked by a sealing element 72), a perforation & water passage piston 73 having perforation elements 73' and 73" that vertically extended from its upper and lower surface, respectively, and the packet 150 that consist of a pre-measured charge of beverage-making material. The sealing piston 71 buffers between the water stored in the water heating chamber 11 and the packet 150.

Upon heating the water, the pressure within the water heating chamber 11 increases, this causes the sealing piston 71 to slide down towards the perforation & water passage piston 73. When the bottom surface of the sealing piston 71 is in contact with the upper surface of the perforation piston 73, the perforation element 73' tears the sealing element 72. At this point, both of the pistons 71 and 73 slide together toward the packet 150, until the bottom surface of the perforation piston 73 contacts the upper surface of the packet 150. At this point, the packet 150 slides as well towards the bottom section 76 of the heating chamber 11, and being punched by transfer tube 75 & blocks the sliding of the pistons 71 & 73, and packet 150, and the perforation & water passage element 73" tears the sealing element 151 located on the upper surface of the packet 150. As a result, heated water fills the packet 150. The water flows from the water heating chamber 11 through the water passage 77 & 73 into the packet 150. The boiling water fills the packet 150 and immerses the packet consisting of the pre-measured charge of beverage-making material in the boiling water infusing the boiling water with the substance, such as coffee. As the water fully fills the packet 150, the infused solution is forced through the orifice in the bottom 76 of the water heating chamber and into the reservoir cup 12.

In a practical mobile user scenario, the self-contained mobile brewer cup assembly 10 as shown in Fig. 1 is designed to fit into a standard cup

holder accessory found in most vehicles or other flat surface housing structure that prevents the cup assembly 10 from tipping over, making it convenient for the user to brew, heat, and drink any desired beverage in the single self-contained cup.

It should be noted that the lid can be made of various materials, such as but not limited to plastic or lined paper or a combination of such; the outer cup can be made of various materials, such as but not limited to plastic, Styrofoam, or lined paper. Optionally, the cup assembly can be made of an eco-friendly bio-degradable product.

The lid is attached to the reservoir cup or to the water heating chamber by various means, such as but not limited to the use of various adhesives, friction or other tightening means to seal the two together to prevent leakage of the water supply.

The invention is a completely disposable self-contained beverage brewing machine integrated within a cap, capable of fresh brewing a serving of hot coffee, or other hot beverage, without the need to add any other ingredient and without the need to use any type of standalone coffee making device.

The invention can be purchased individually through vending machines or in multi-packs for home, workplace, waiting room, and commercial use.

The consumer gets a freshly brewed cup of coffee or other hot beverage in minutes without the need to stock, measure or assemble any ingredients and with absolutely no cleanup necessary. The consumer no longer has to take the time to assemble the ingredients and mechanical parts necessary to prepare a cup of coffee or other hot beverage at home, or fight for a parking space and wait in long lines at the local coffee shop to purchase their morning beverage on the way to work. The invention is a real time saver easing the average consumer's hectic morning routine. Also different

beverages would be available for different family members who desire other types of hot drinks instead of the present need to make an entire pot of a certain type of coffee which may go mostly unused.

It should be further noted that by using the invention, businesses can offer their workers and clients a way to have hot coffee or other hot beverage, without the need to purchase and store coffee, cream, sweeteners, filters, cups, lids, and stirrers, without the need for water, without the mess of coffee preparation and disposal of used grounds and paraphernalia, and without the unwanted necessity of cleaning coffee pots and coffee making machines.

The invention have built-in temperature-sensitive indicators on the outside to notify the consumer when the water has reached the proper brewing temperature, when the beverage is brewing, and when the beverage has completed the brewing process and is ready for consumption, including the disconnection of the power.

All the above description and examples have been given for the purpose of illustration and are not intended to limit the invention in any way. Many different mechanisms can be employed, all without exceeding the scope of the invention.

CLAIMS

1. A disposable liquid heating cup assembly, comprising:
   a) a reservoir cup that serves as a drinking vessel;
   b) a detachable lid for covering said reservoir cup, wherein said detachable lid having a liquid extracting arrangement at its bottom through which liquid is able to flow into the reservoir cup;
   c) a closed water heating chamber that includes a heating element for heating liquid stored in said chamber; and
   d) a transfer tube adapted to transfer heated liquid from the heating chamber into the reservoir cup upon generation of pressure within said chamber due to the heating, wherein said transfer tube having a liquid input section located at the bottom of said chamber and adapted to receive liquid therefrom and a liquid output section directed towards said reservoir cup.

2. A disposable water heating cup assembly according to claim 1, in which the transfer tube adapted to transfer heated liquid from the heating chamber into the reservoir cup through the lid via the liquid output section.

3. A disposable water heating cup assembly according to claim 1, in which the detachable lid includes sealed blisters containing a pre-measured charge of beverage-making materials, which are released to the reservoir cup via the liquid extracting arrangement by pressing on each desired blister.

4. A disposable water heating cup assembly according to claim 2, in which the detachable lid includes an inner chamber adapted to store a packet consisting of a pre-measured charge of beverage-making material.

5. A disposable water heating cup assembly according to claim 4, in which the packet is wrapped in a sealed filter material.

6. A disposable water heating cup assembly according to claim 4, in which the heated liquid fills the inner chamber of the detachable lid and immerses the packet consisting of the pre-measured charge of beverage-making material with the heated liquid infusing the heated water with the beverage-making material, and whenever the liquid fills the inner chamber of the lid, the infused solution is forced to flow through the liquid extracting arrangement and into the reservoir cup.

7. A disposable water heating cup assembly according to claim 1, in which the liquid extracting arrangement are one or more orifices located at the bottom of the lid.

8. A disposable water heating cup assembly according to claim 1, in which the liquid extracting arrangement is a temperature-sensitive membrane.

9. A disposable water heating cup assembly according to claim 1, in which the reservoir cup is located within the water heating chamber.

10. A disposable water heating cup assembly according to claim 1, in which the reservoir cup is located on top of the water heating chamber.

11. A disposable water heating cup assembly according to claim 1, in which the reservoir cup is located externally to the water heating chamber.

12. A disposable water heating cup assembly according to claim 1, in which the water heating chamber is sealed with a cover, through which the heating element is being threaded to heat the liquid within said water heating chamber.

13. A disposable water heating cup assembly according to claim 1, in which the water heating chamber is sealed with a cover, through which one end of the transfer tube is being threaded to transfer heated liquid from said water heating chamber to the reservoir cup.

14. A disposable water heating cup assembly according to claim 1, in which the water heating chamber having a cylindrical from, wherein at the top it is sealed with a cover, through which the heating element is being threaded to heat the liquid within said water heating chamber, and wherein the liquid stored within said chamber are confined by a first sliding piston adapted to be perforated/punctured by a second sliding piston being located under said first piston, such that whenever pressure is build up inside the water heating chamber, due to the heating, it causes the first piston to move towards the second piston until they contact each other, wherein said second piston includes a through hole having an upper end adapted to perforate the first piston and a lower end adapted to perforate the bottom of said chamber, thereby allowing liquid to flow from the water heating chamber to the reservoir cup.

15. A disposable water heating cup assembly according to claim 14, in which the water heating chamber includes a packet consisting of a pre-measured charge of beverage-making material located between the second piston and the bottom of said chamber, such that lower end of said second piston is able to perforate the upper surface of the packet, allowing heated liquid to fill the packet, and wherein

the bottom of said chamber includes a liquid extracting arrangement.

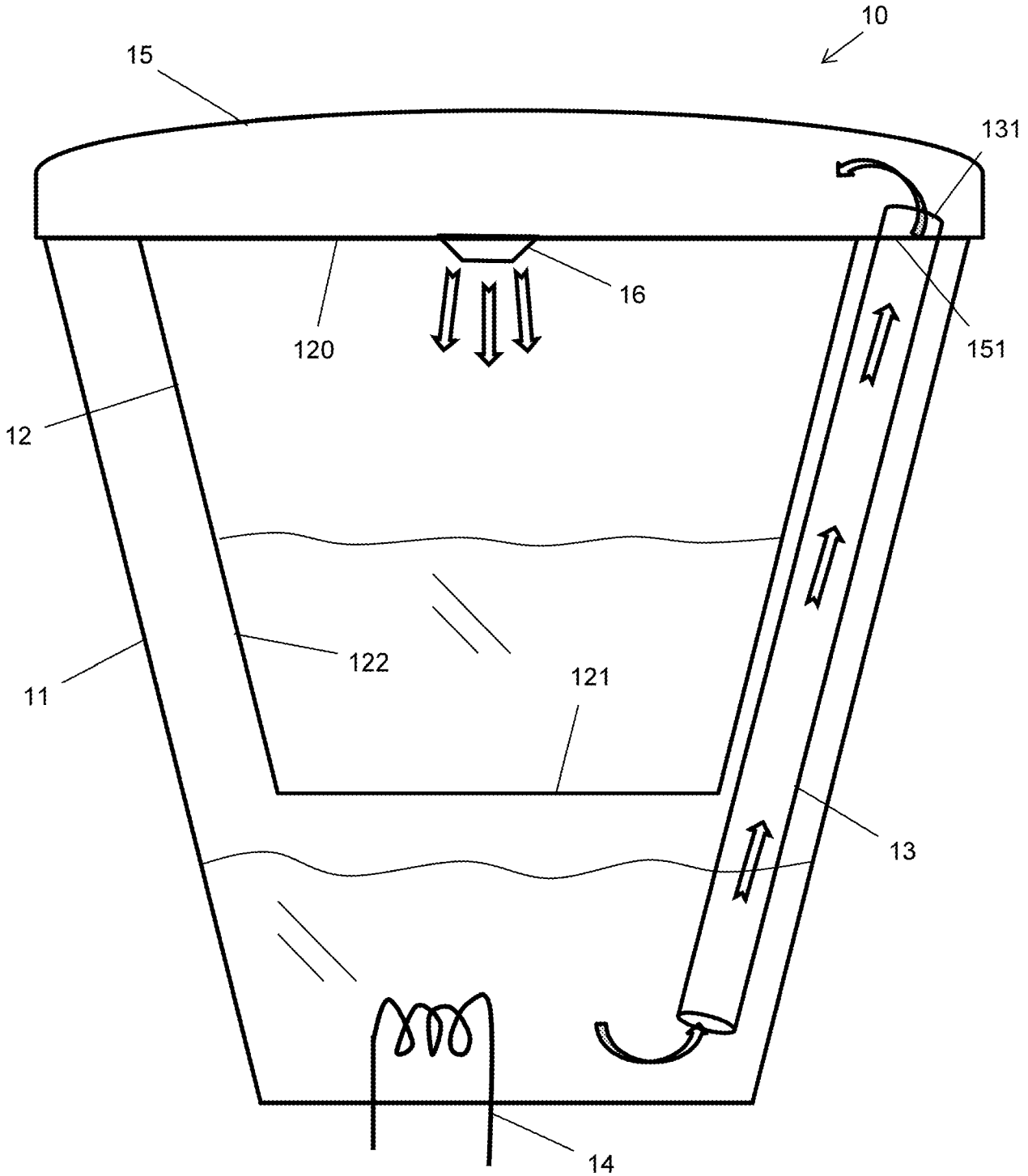


Fig. 1

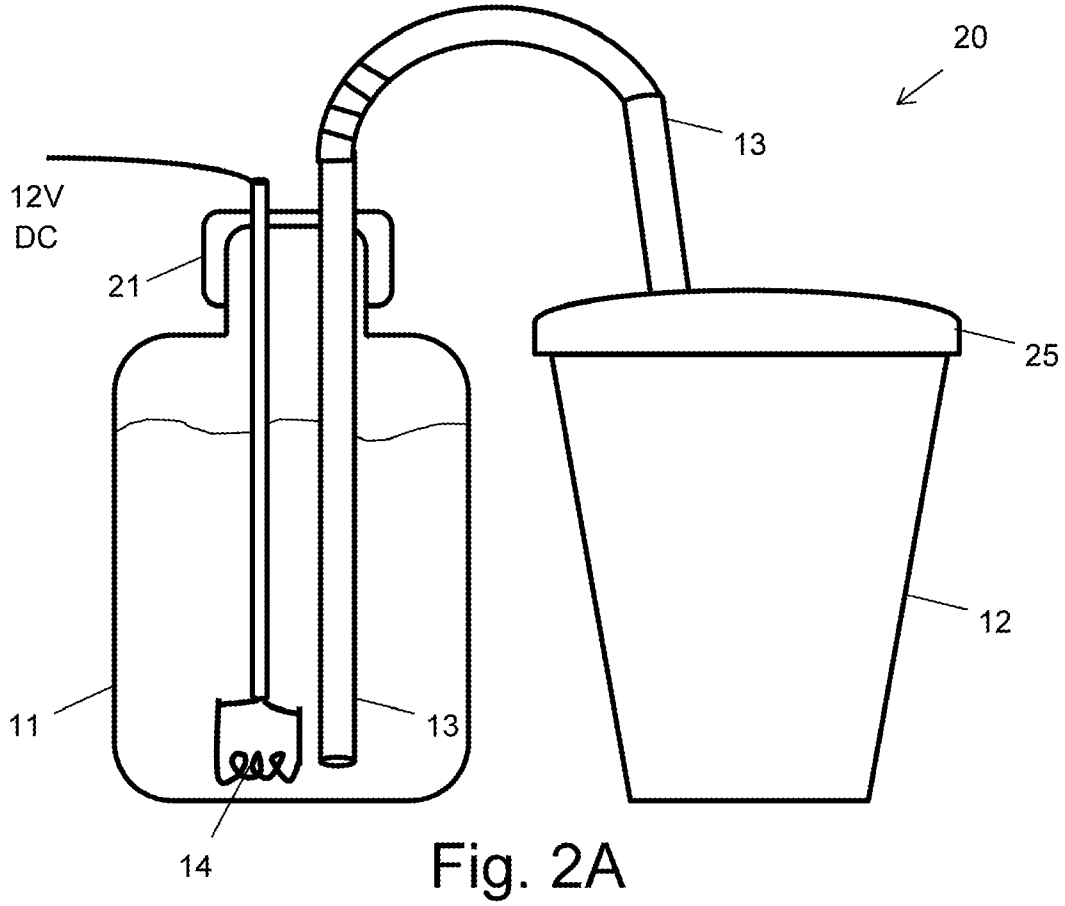


Fig. 2A

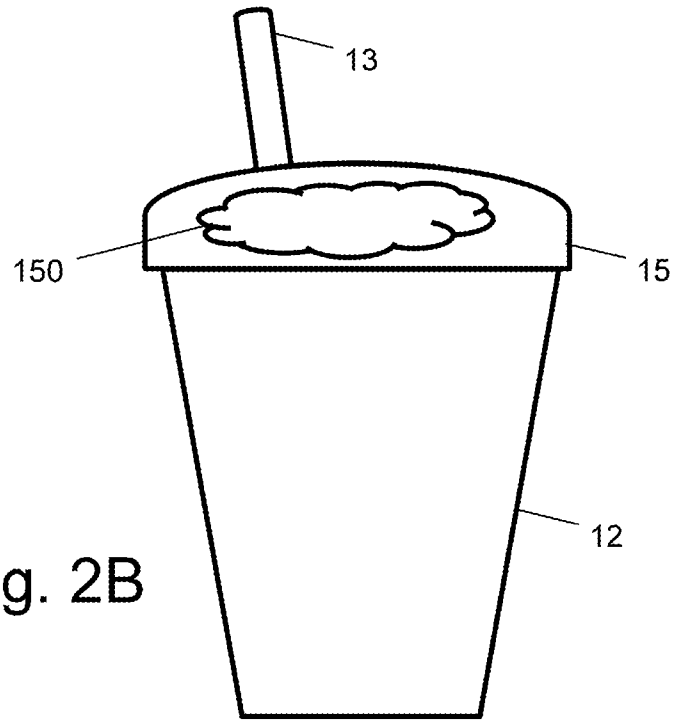


Fig. 2B

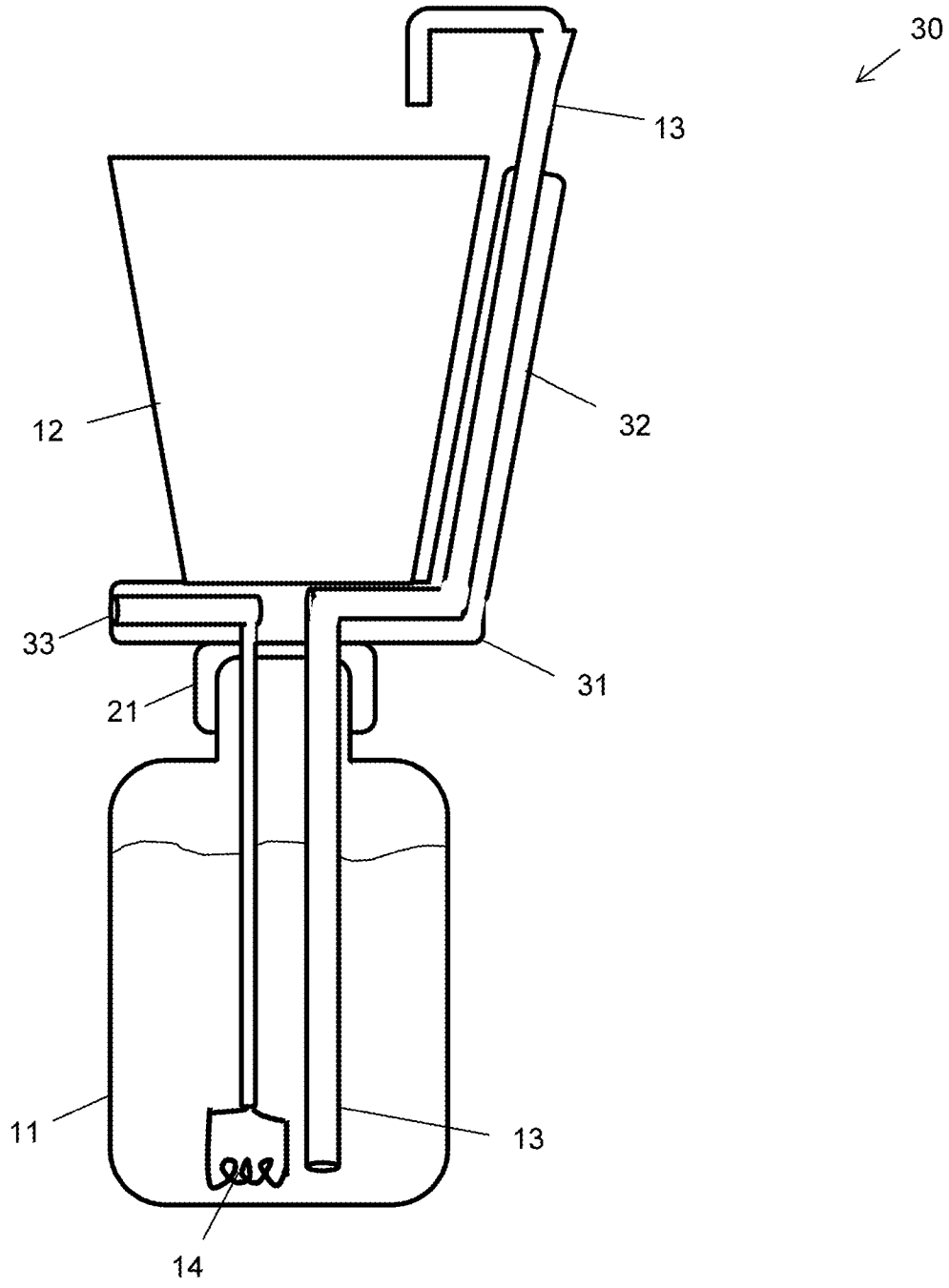


Fig. 3

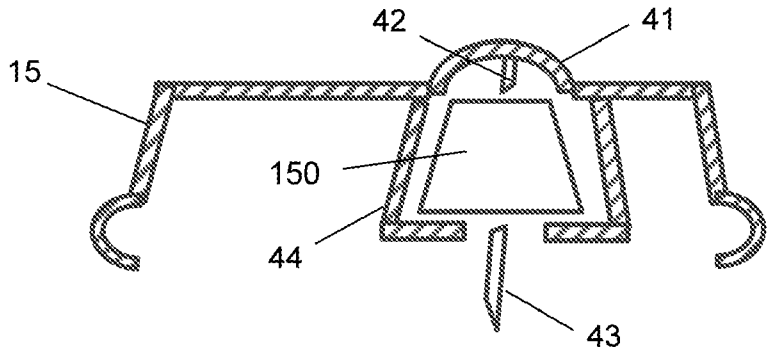


Fig. 4

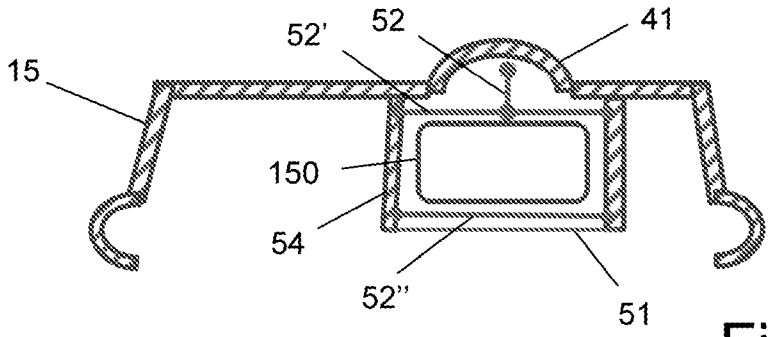


Fig. 5

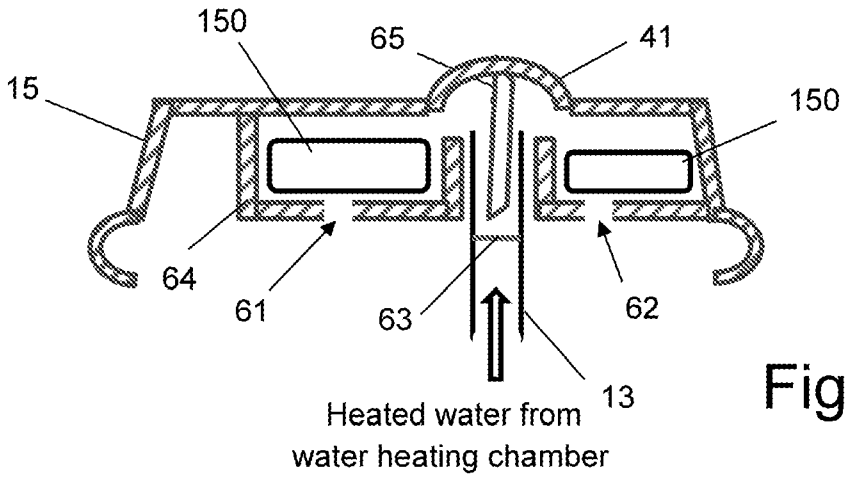


Fig. 6

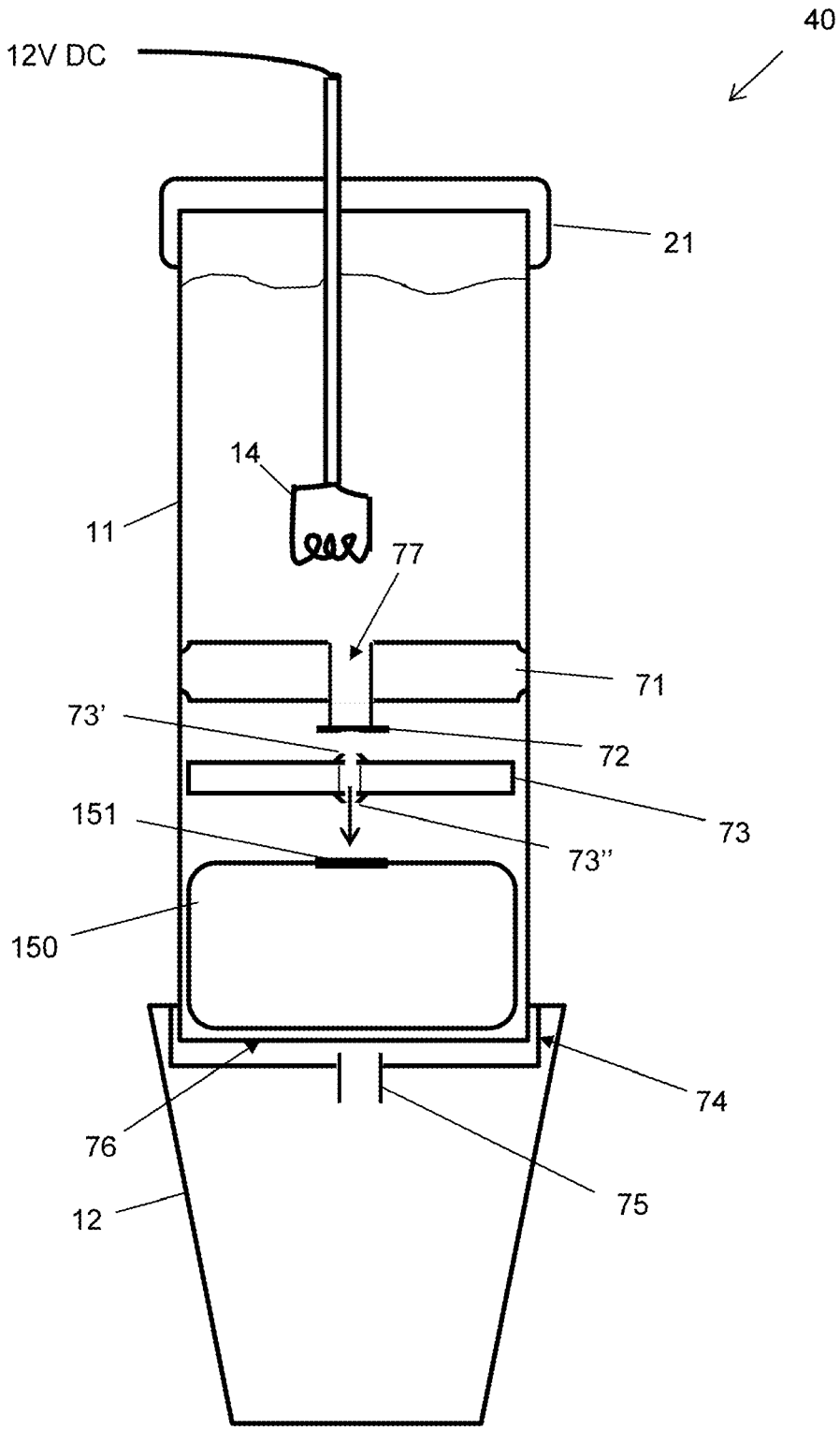


Fig. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2015/050712

A. CLASSIFICATION OF SUBJECT MATTER
IPC (2015.01) A47J 31/00, B65D 85/804

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC (2015.01) A47J, B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Databases consulted: THOMSON INNOVATION, Google Patents
Search terms used: hot, beverage, brew, disposable, cup, heat, element, unit, signel-serve, mobile, warm, liquid, drink, mix, mug, vessel, standalone, lid, cover, cap, top, portable.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007039477 A1 VISTEON GLOBAL TECH INC. 22 Feb 2007 (2007/02/22) Para. 0024, Fig. 1, Fig. 5.	1-13
A	Whole document.	14,15
Y	US 6619188 B1 MEADOR KEITH JOSEPH 16 Sep 2003 (2003/09/16) Figs. 1, 3.	1-13
A	Whole document.	14,15
Y	EP 1539594 B1 CONCEPT & DESIGN LTD. 09 May 2012 (2012/05/09) Para. 0027, 0028.	3
Y	US 8225711 B1 ANDRE RICHARD ANTHONY 24 Jul 2012 (2012/07/24) Fig. 4.	8

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 Nov 2015	15 Nov 2015
Name and mailing address of the ISA: Israel Patent Office Technology Park, Bldg.5, Malcha, Jerusalem, 9695101, Israel Facsimile No. 972-2-5651616	Authorized officer AGMAIL Waleed Ibrahim Ramadan Telephone No. 972-2-5651626

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2015/050712

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 3589272 A BATTELLE MEMORIAL INSTITUTE 29 Jun 1971 (1971/06/29) Fig. 1.	14,15

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International application No.
PCT/IL2015/050712

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