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(54) **PORTABLE DISPENSER FOR A CLEANING PRODUCT**

(57) Portable dispenser for dispensing an adjustable quantity at a time of a cleaning product, of a viscous consistency, for use in a hand or dishwashing, which portable dispenser comprising: a housing arranged to store the cleaning product, and having a central opening; a shield having one or more openings to dip into the cleaning product for restricting access into the housing; wherein the housing is arranged to receive the shield; and the shield comprising a resilient element to provide a

return force on the housing; the resilient element is configured to shift between an unpressed state in which the one or more openings overlap the central opening, and a pressed state in which the shield allows to pass the cleaning product, through the one or more openings, under pressure from a user, for dispensing the adjustable quantity at the time of the cleaning product, directly to a sponge or hand.

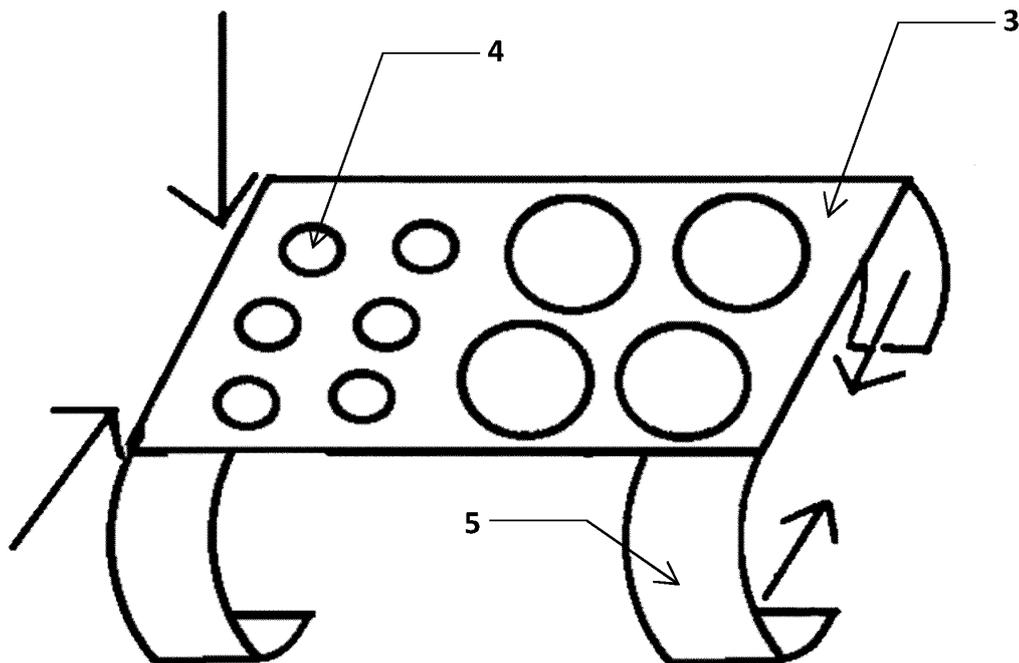


Fig. 3

EP 4 501 190 A1

Description

TECHNICAL FIELD

[0001] The present invention relates to a portable dispenser for a cleaning product, in particular, a soap or other detergent. More specifically, it pertains to a novel device that allows for convenient and hygienic dispensing of soap or detergent in various settings, such as kitchens, bathroom, or travel scenarios.

BACKGROUND

[0002] Figure 1 depicts current offerings are vertical and use as much as 40% more plastic than the present invention (ex: average 30g in today's offerings with 384ml content vs average 20g in the present invention). To dispense liquid soap from the current offerings, one commonly has to use 2 hands: 1 to hold and squeeze the bottle and another to hold the sponge. On the other hand, the invention proposes to sit horizontally where 1 hand can easily reach out and add liquid to a sponge.

[0003] Document WO2020176622A1 relates to exemplary embodiments of pumps, refill units and dispenser systems are disclosed herein. An exemplary refill unit for a soap, sanitizer or lotion includes a container for holding a fluid and a pump secured to the container. The pump includes a housing, a liquid piston, a liquid pump chamber, an air piston, an air pump chamber; and a piston holder. The liquid piston is connected to the air piston. The piston holder is connected to one of the liquid pistons and the air piston. The connection comprises one or more projections and one or more grooves. The volume of the liquid pump chamber and the air pump chamber both change as a function of the engagement of the one or more projections with the one or more grooves.

[0004] US20220248915A1 provides various liquid dispensers are disclosed. Certain embodiments include a portable liquid dispenser configured for consumer use in dispensing soap, sanitizer, or ingestible liquids. The dispenser can comprise a housing, a reservoir having an interior configured to store a liquid, a fluid pathway having an opening in fluid communication with the interior of the reservoir, a pump comprising a plurality of rollers, each of the plurality of rollers being configured to contact a portion of the fluid pathway in a flexible tube such that each of the plurality of rollers compresses a portion of the flexible tube that is in contact with the roller, a nozzle, a fluid damper in communication with the pump and the nozzle, an electronic control unit in electrical communication with the pump, and a rotation-tracking feedback system in electrical communication with the electronic control unit.

[0005] Current dispense liquid soap are not prepared to give the following advantages:

- one hand easy usage;
- less use of packaging material (plastic, metal and

others);

- Less usage of space during transport as this invention can make better use of space in transport boxes specially if on square or rectangular shapes.

[0006] These facts are disclosed in order to illustrate the technical problem addressed by the present disclosure.

10 GENERAL DESCRIPTION

[0007] The invention offers an innovative and easy way to dispense liquid soap when "doing the dishes", ie, washing plates, cups and other kitchen utensils in the sink or when applying soap or liquid onto hands or sponges. Innovative because contrary to current solutions, it sits horizontally on the sync, and requires much less plastic than mass market dispenser bottles. Easy because you only need 1 hand to add soap to a sponge. As is can also come in square or rectangular shapes, it will make better use of space when being transported in boxes thus better for the environment as more can be transported in one cargo or shipment.

[0008] Figure 8 depicts round holes above will let the liquid out on the package and allow it to get in contact with the sponge. Holes can be split in 2 sets (like in Figure 9), or more, of different size holes to allow more or less liquid as per customer's desire (like in Figure 8). Sets of holes can be sealed covered in factory with a thin plastic lid: interior parts and mechanism: Figure 3 with example where legs are round and flexible or Figure 4 with where example of legs are straight and flexible or Figure 5 and Figure 6 examples where legs are "spring" like (round and square) and flexible.

[0009] In an embodiment, a description of the principle of operation that is adjacent to the devices / system can be:

- 1 - Open the lid to expose surface with holes (and remove thin lid(s) for first use)
- 2 - Press down flat surface gently with a sponge so that liquid soap gets in contact with sponge or directly onto hand.

[0010] One of the main advantages is that it allows to:

Convenience: A portable dispenser allows for easy and convenient access to soap or detergent in various settings, such as kitchens, bathrooms, or while traveling. It eliminates the need for bulky or fixed dispensers, providing a compact and portable solution;

Eco-friendly: uses less plastic than current offerings and saves on transport costs Portability: As the name suggests, portable dispensers are lightweight and designed for easy transportation;

Versatility: Portable dispensers often have adaptable designs that can accommodate different types or

sizes of soap or detergent containers;

[0011] The packaging may come in different shapes and sizes. the mechanism the allow the pressing down and coming up, may also have different versions as explained above. As long as the plastics (or other material) used is hard enough as well as flexible enough to allow lowering and "spring" back up motion.

[0012] There are several potential benefits to this:

1 - Current offerings (examples above) are vertical and use as much as 40% or more (example: average 30g vs 20g on a 384ml container) plastic than the invention.

2 - invention allows operation with 1 hand.

[0013] The present disclosure constitutes a portable dispenser for dispensing an adjustable quantity at a time of soap, sanitizer, or other detergent, of a semi-gelatinous and/or a thick and viscous consistency nature, for use in a hand or dish washing, which portable dispenser comprising: a housing arranged to store the soap, sanitizer, or other detergent, and having a central opening; shield means having one or more openings to dip into the soap, sanitizer, or other detergent for restricting access into the housing; wherein the housing is arranged to receive the shield means; and the central opening is configured to fit with the shield means; and the shield means comprising a resilient element to provide a return force on the housing; the resilient element is configured to switch between an unpressed state in which the shield means fits the main opening, and a pressed state in which the shield means receives the soap, sanitizer, or other detergent, through one or more openings, under pressure from a user, for dispensing an adjustable quantity at a time of soap, sanitizer, or other detergent.

[0014] It is disclosed a portable dispenser **1** for dispensing an adjustable quantity at a time of a cleaning product, of a viscous consistency, for use in a hand or dish-washing, which portable dispenser **1** comprising: a housing arranged to store the cleaning product, and having a central opening **2**; a shield **3** having one or more openings **4** to dip into the cleaning product for restricting access into the housing; wherein the housing is arranged to receive the shield **3**; and the shield **3** comprising a resilient element **5** to provide a return force on the housing; the resilient element **5** is configured to shift between an unpressed state in which the one or more openings **4** overlap the central opening **2**, and a pressed state in which the shield allows to pass the cleaning product, through the one or more openings **4**, under pressure from a user, for dispensing the adjustable quantity at the time of the cleaning product, directly to a sponge or hand or as intended.

[0015] In an embodiment, the one or more openings can have different sizes.

[0016] In an embodiment, the resilient element is an elastic, an cork, or any flexible element. Even though

flexible material can wear out and returns less to original shape as it is used

[0017] In an embodiment, one or more openings can have between 0.1 - 1 cm, in particular 0.5 - 0.8 cm. The one or more openings can be multiple of the embodiments above, in particular: 0.1; 0.2; 0.3; 0.4; 0.5; 0.6; 0.7; 0.8; 0.9 or 1.0 cm or more.

[0018] In an embodiment, the shield means comprising at least one and/or two groups having one or more openings with different sizes. It can also have multiple groups to allow versatility of options.

[0019] In an embodiment, a portable dispenser can comprise a lid for fitting the central opening and closing said dispenser. The lid can contain a click close mechanism as so to avoid or minimise spillage or liquid evaporation.

[0020] In an embodiment, a dispenser can comprise a fixed or refillable cartridge that may be removably attached to the housing, allowing for convenient replenishment of soap, sanitizer, or other detergent.

[0021] In an embodiment, the housing is or can be transparent or translucent, for allowing the user to monitor the remaining quantity of soap, sanitizer, or other detergent in the housing.

[0022] In an embodiment, a portable dispenser can comprise a nozzle or spout attached to the shield means, enabling precise and controlled dispensing of the soap, sanitizer, or other detergent.

[0023] In an embodiment, a portable dispenser can comprise a locking means for preventing accidental or unauthorized dispensing of the soap, sanitizer, or other detergent during transport or storage.

[0024] In an embodiment, a portable dispenser can comprise a sealing means for preventing leakage or spillage of the soap or detergent, thereby maintaining cleanliness and preventing waste.

[0025] In an embodiment, a portable dispenser can comprise a non-slip surface or grip for handling and preventing accidental dropping or slipping of the dispenser.

[0026] In an embodiment, the shield means is made of low-density polyethylene, plastic, biodegradable materials or combinations thereof.

[0027] In an embodiment, a portable dispenser can have one thin removeable shield (**Figure 9**) to secure content prior to first use.

[0028] In an embodiment, a portable dispenser can have a thin removeable shield (**Figure 9**) which can be split in two or more parts as to allow individual removal of shield and secure content prior to first use and allow the choice of how much of the content can be dispensed.

[0029] In an embodiment, the cleaning product is soap, sanitizer, or other detergent

[0030] In an embodiment, the cleaning product has a semi-gelatinous and/or a thick consistency nature.

[0031] In an embodiment, the central opening is configured to fit with the shield.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] The following figures provide preferred embodiments for illustrating the disclosure and should not be seen as limiting the scope of disclosure.

Figure 1: illustrative representation of portable dispensers of the prior art.

Figure 2: illustrative representation of an embodiment of the portable dispenser of the present disclosure.

Figure 3: illustrative representation of an embodiment of the elastic/flexible element of the present disclosure with rounded feet (arrows showing possible inward motion) with motion.

Figure 4: illustrative representation of an embodiment of the elastic/flexible element of the present disclosure with feet with motion inwards or outwards.

Figure 5: illustrative representation of an embodiment of the elastic/flexible spring (5.5) element of the present disclosure with a square or rectangular shape.

Figure 6: illustrative representation of an embodiment of the elastic/flexible spring (6.5) element of the present disclosure with a round shape.

Figure 7: illustrative representation of an embodiment of the elastic/spring element of the present disclosure, when looking from the side.

Figure 8: illustrative representation of an embodiment of the portable dispenser of the present disclosure with example of different size holes where different quantities of liquid can go through resulting in more control of the flow of content (soap, liquid...).

Figure 9: illustrative representation of an embodiment of the portable dispenser of the present disclosure where thin removable shield is split in 2 so that one can be removed at a time or both at the same time.

DETAILED DESCRIPTION

[0033] The system according to an embodiment of the present disclosure is typically comprised by: a housing arranged to store the soap, sanitizer, or other detergent, and having a central opening; a shield means having one or more openings to dip into the soap, sanitizer, or other detergent for restricting access into the housing; wherein the housing is arranged to receive the shield means; and the central opening is configured to fit with the shield means; and the shield means comprising a resilient ele-

ment to provide a return force on the housing; the resilient element is configured to switch between an unpressed state in which the shield means fits the main opening, and a pressed state in which the shield means receives the soap, sanitizer, or other detergent, through one or more openings, under pressure from a user, for dispensing an adjustable quantity at a time of soap, sanitizer, or other detergent.

[0034] In one embodiment of the disclosure, illustrated in **Figure 2**, how this invention can look like from outside when in a rectangular shape.

[0035] The term "comprising" whenever used in this document is intended to indicate the presence of stated features, integers, steps, components, but not to preclude the presence or addition of one or more other features, integers, steps, components or groups thereof. The disclosure should not be seen in any way restricted to the embodiments described and a person with ordinary skill in the art will foresee many possibilities to modifications thereof. The above-described embodiments are combinable. The following claims further set out particular embodiments of the disclosure.

Claims

1. Portable dispenser for dispensing an adjustable quantity at a time of a cleaning product, of a viscous consistency, for use in a hand or dishwashing, said portable dispenser comprising:

- a housing arranged to store the cleaning product, and having a central opening;
- a shield having one or more openings to dip into the cleaning product for restricting access into the housing;
- wherein the housing is arranged to receive the shield; and
- the shield comprising a resilient element to provide a return force on the housing;
- the resilient element is configured to shift between an unpressed state in which the one or more openings overlap the central opening, and a pressed state in which the shield allows to pass the cleaning product, through the one or more openings, under pressure from a user, for dispensing the adjustable quantity at the time of the cleaning product, directly to a sponge or hand.

2. Portable dispenser according to the previous claim, wherein the one or more openings having different sizes.

3. Portable dispenser according to any of the previous claims, wherein the resilient element is formed from flexible materials, such as plastic, cork, biodegradable materials which return to original shape.

- | | | |
|--|-----------|---|
| <p>4. Portable dispenser according to any of the previous claims, wherein the resilient element is an elastic, a cork, biodegradable materials and/or flexible element.</p> | <p>5</p> | <p>15. Portable dispenser according to any of the previous claims, wherein the cleaning product is soap, sanitizer, or other detergent and/or has a semi-gelatinous and/or a thick consistency nature.</p> |
| <p>5. Portable dispenser according to any of the previous claims, wherein one or more openings having between 0.1 - 1cm, in particular 0.5 - 0.8 cm.</p> | | |
| <p>6. Portable dispenser according to any of the previous claims, wherein the shield means comprising at least one group having one or more openings with different sizes.</p> | <p>10</p> | |
| <p>7. Portable dispenser according to any of the previous claims, further comprising a lid for fitting the central opening and closing said dispenser.</p> | <p>15</p> | |
| <p>8. Portable dispenser according to any of the previous claims, further comprising a fixed or refillable cartridge that is removably attached to the housing, allowing for convenient replenishment of soap, sanitizer, or other detergent.</p> | <p>20</p> | |
| <p>9. Portable dispenser according to any of the previous claims, wherein the housing is transparent or translucent, for allowing the user to monitor the remaining quantity of soap, sanitizer, or other detergent in the housing.</p> | <p>25</p> | |
| | <p>30</p> | |
| <p>10. Portable dispenser according to any of the previous claims, further comprising a nozzle or spout attached to the shield means, enabling precise and controlled dispensing of the soap, sanitizer, or other detergent.</p> | <p>35</p> | |
| <p>11. Portable dispenser according to any of the previous claims, further comprising a locking means for preventing accidental or unauthorized dispensing of the soap, sanitizer, or other detergent during transport or storage.</p> | <p>40</p> | |
| <p>12. Portable dispenser according to any of the previous claims, further comprising a sealing means for preventing leakage, evaporation or spillage of the soap or detergent, thereby maintaining cleanliness and preventing waste.</p> | <p>45</p> | |
| <p>13. Portable dispenser according to any of the previous claims, further comprising a non-slip surface or grip for handling and preventing accidental dropping or slipping of the dispenser.</p> | <p>50</p> | |
| <p>14. Portable dispenser according to any of the previous claims, wherein the shield means is made of low-density polyethylene, plastic, rubber, fiberglass composite, spring, biodegradable materials or combinations thereof.</p> | <p>55</p> | |

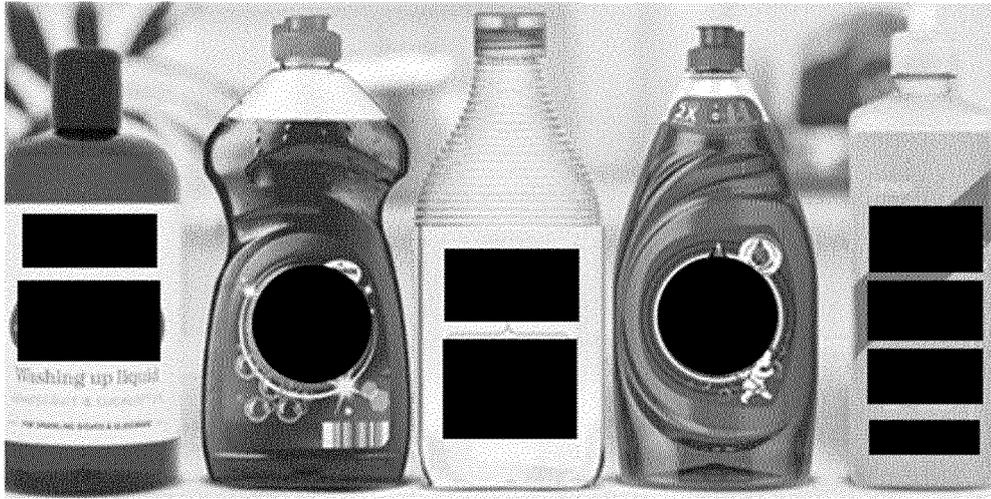


Fig. 1

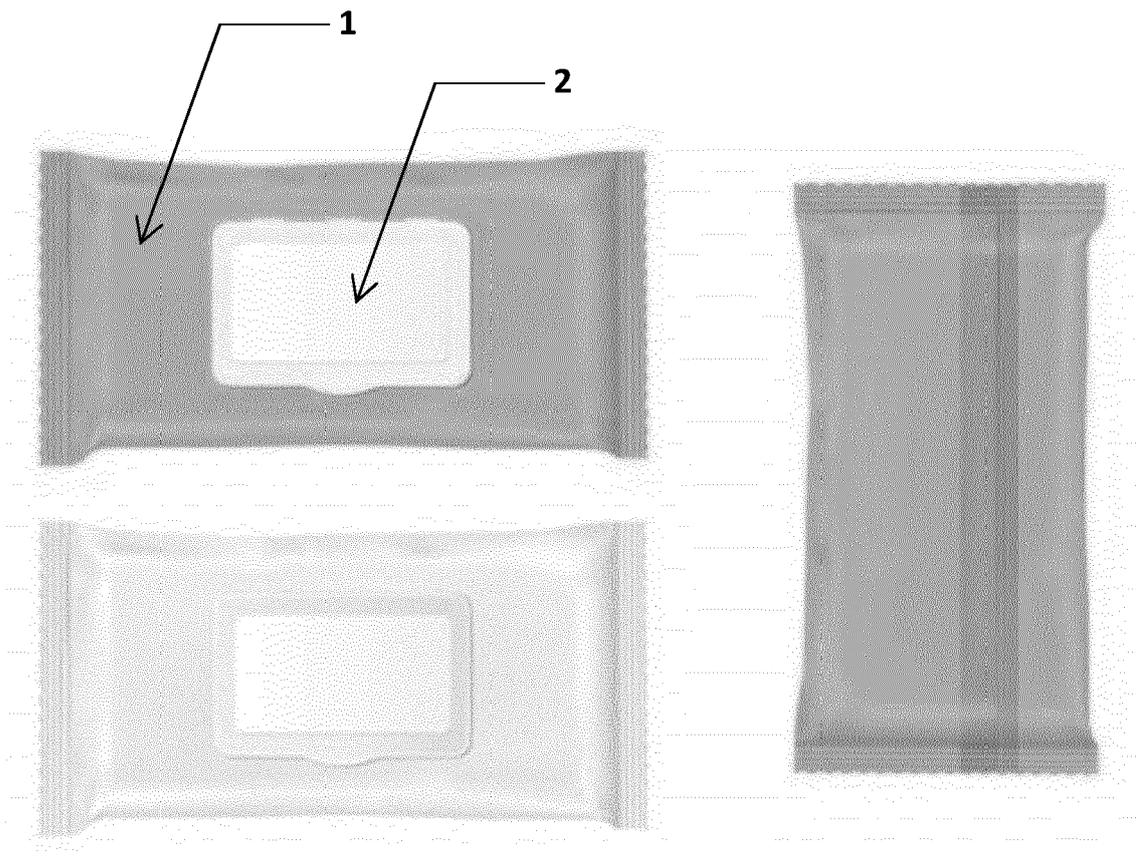


Fig. 2

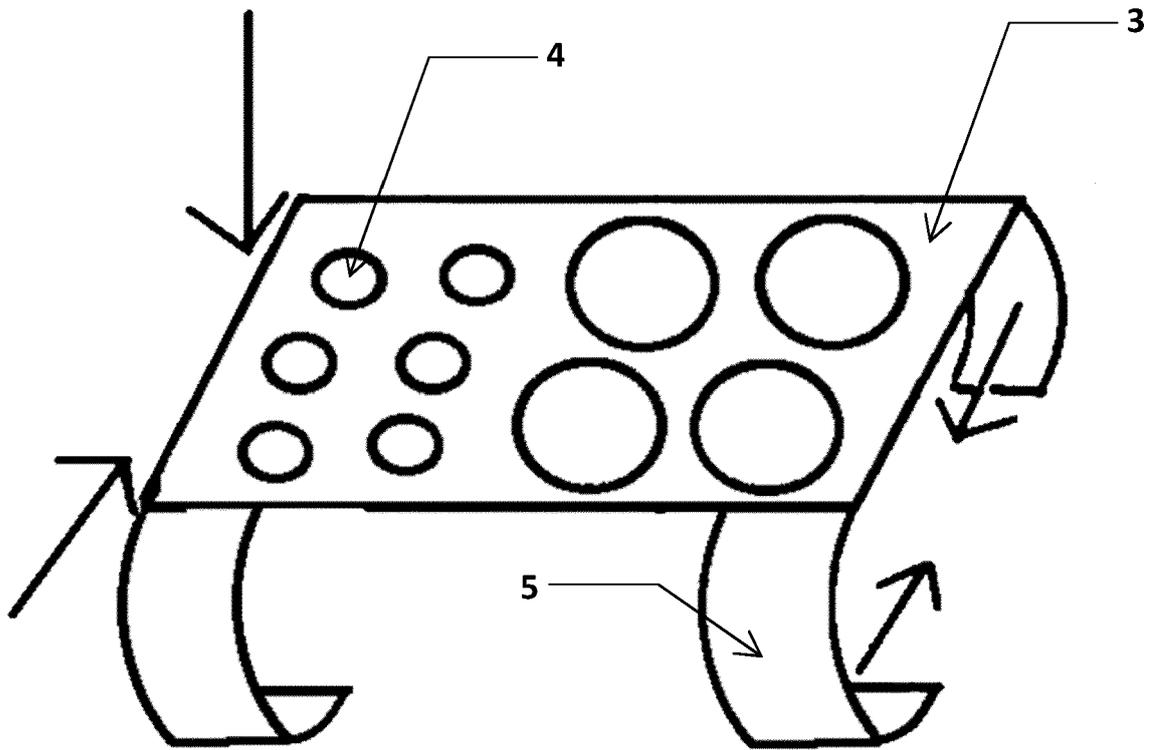


Fig. 3

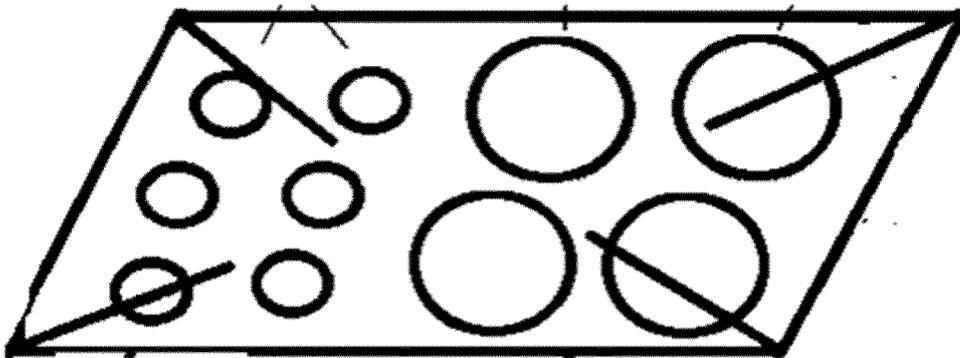


Fig. 4

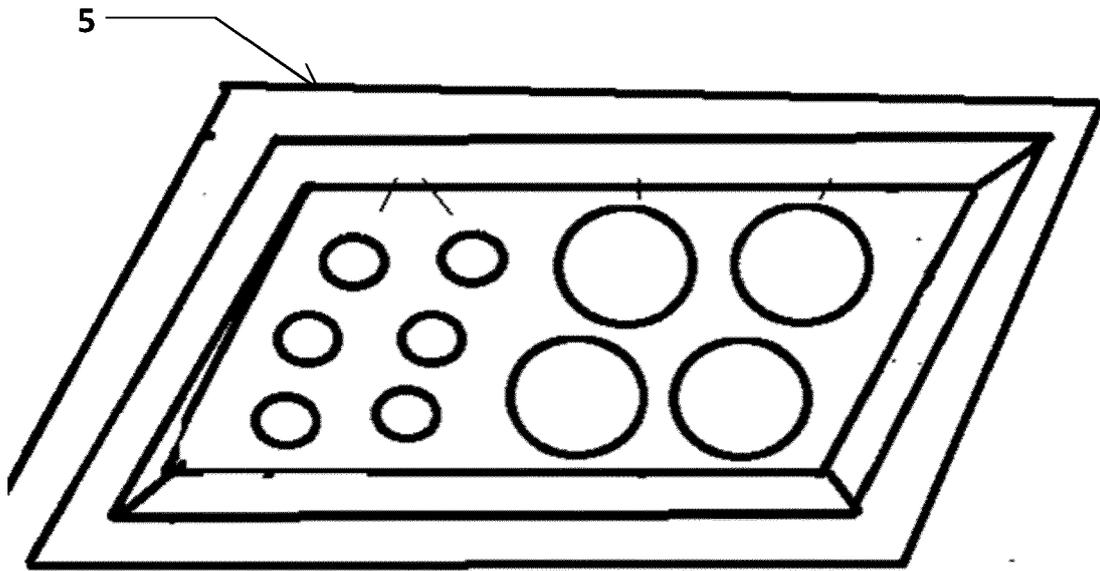


Fig. 5

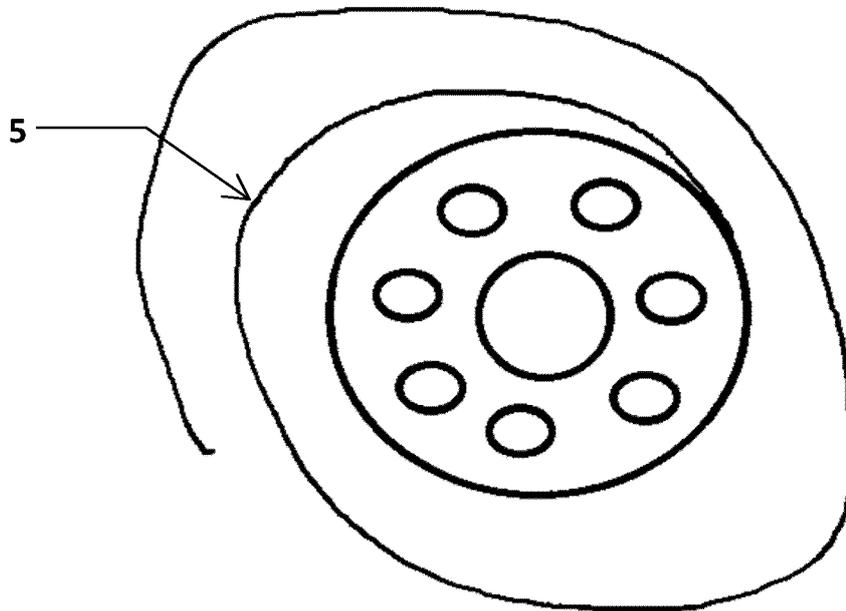


Fig. 6

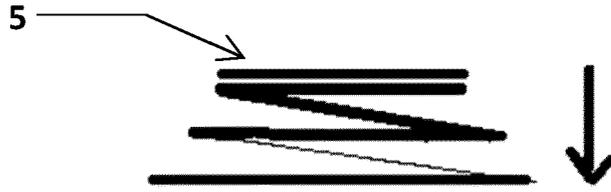


Fig. 7

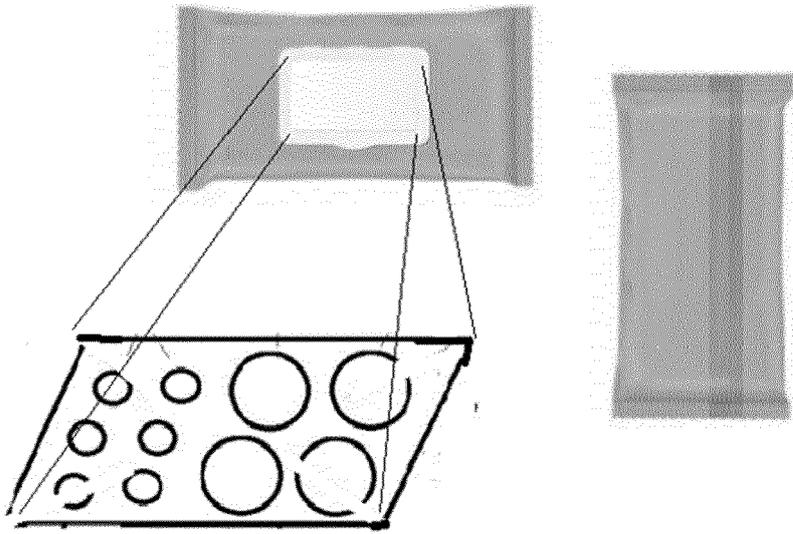


Fig. 8

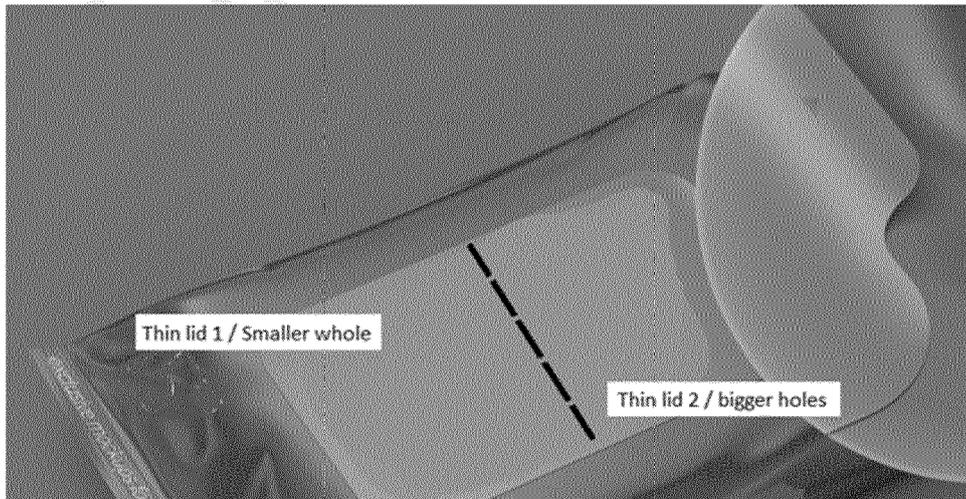


Fig. 9



EUROPEAN SEARCH REPORT

Application Number
EP 23 19 3873

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2008/067193 A1 (POWERS JEFFREY L [US] ET AL) 20 March 2008 (2008-03-20) * paragraph [0030] - paragraph [0036]; claim 1; figures 4,5 *	1-15	INV. A47K5/12
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			TECHNICAL FIELDS SEARCHED (IPC)
			A47K A47L B65D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 January 2024	Examiner Zuurveld, Gerben
CATEGORY OF CITED DOCUMENTS		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	
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 23 19 3873

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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22-01-2024

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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