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(54) **MULTIPLE SPICE DISPENSER DEVICE**

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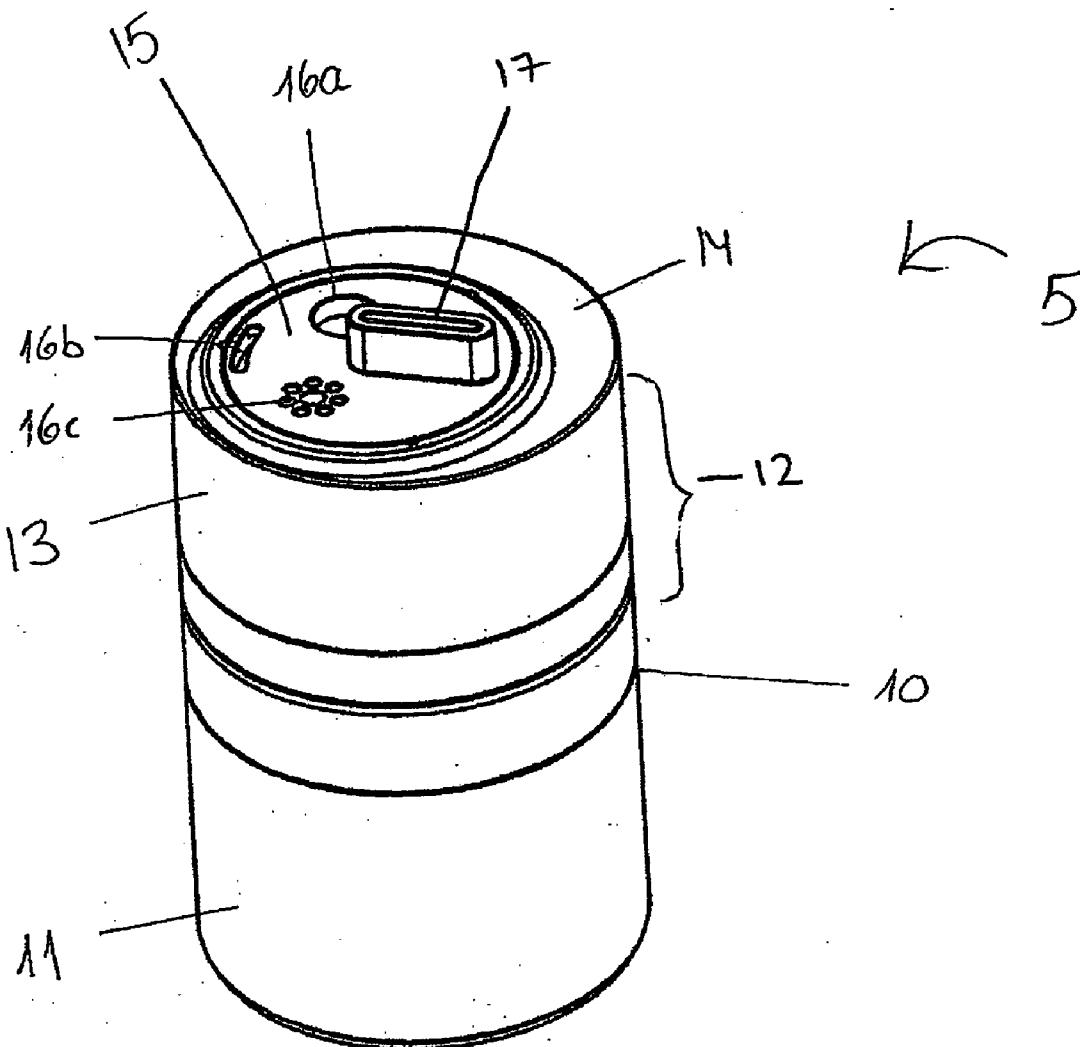
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(57) **ABSTRACT**

A holding and dispensing device may include at least one internal cartridge to hold at least one kind of spice, seasoning, salt or the like. The device may include a rotatable cap to select at least one spice to be poured and a rotatable flow selector to select the preferred flow of the selected spice or seasoning.



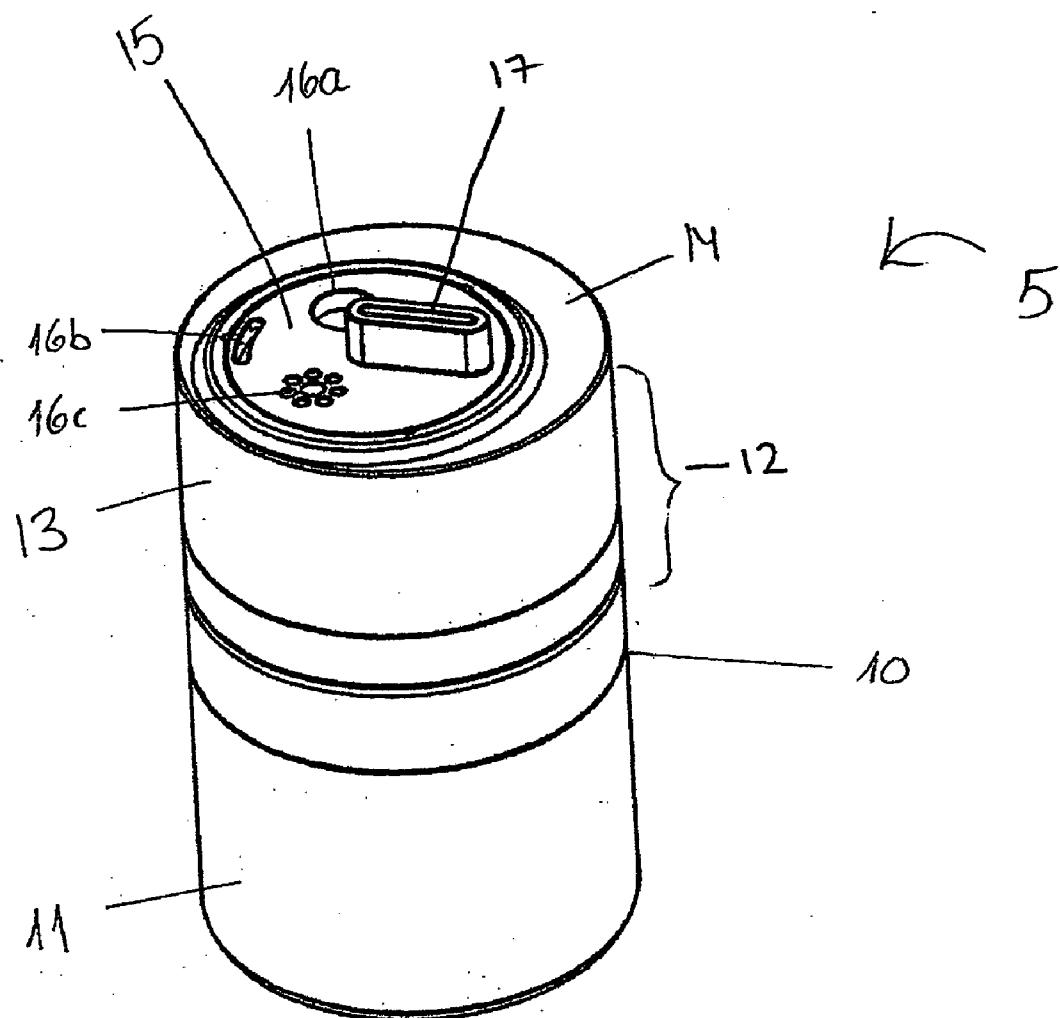


Fig. 1

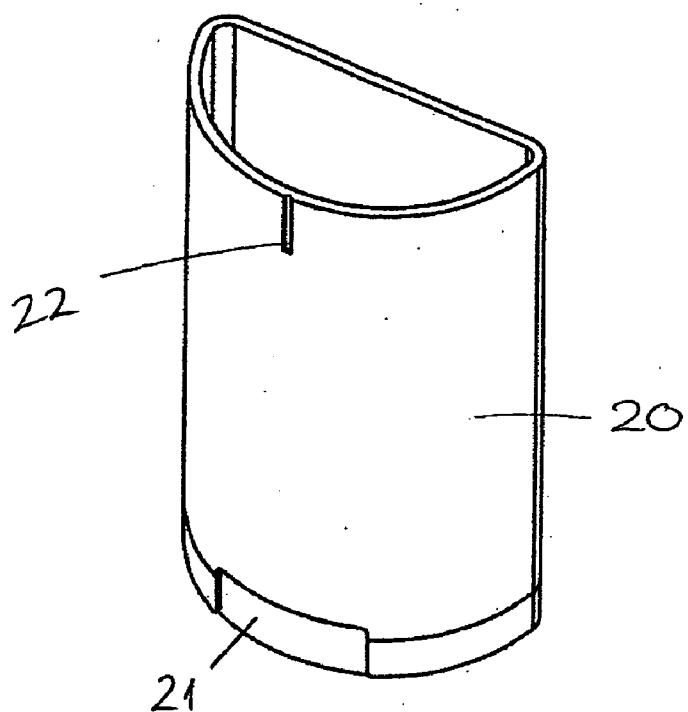


Fig. 2a

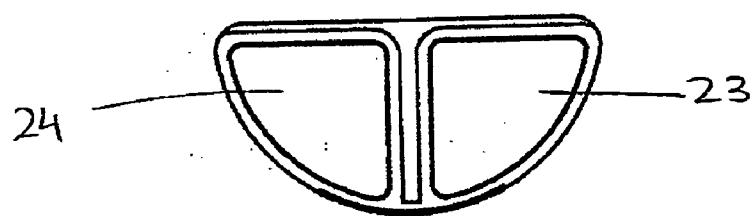
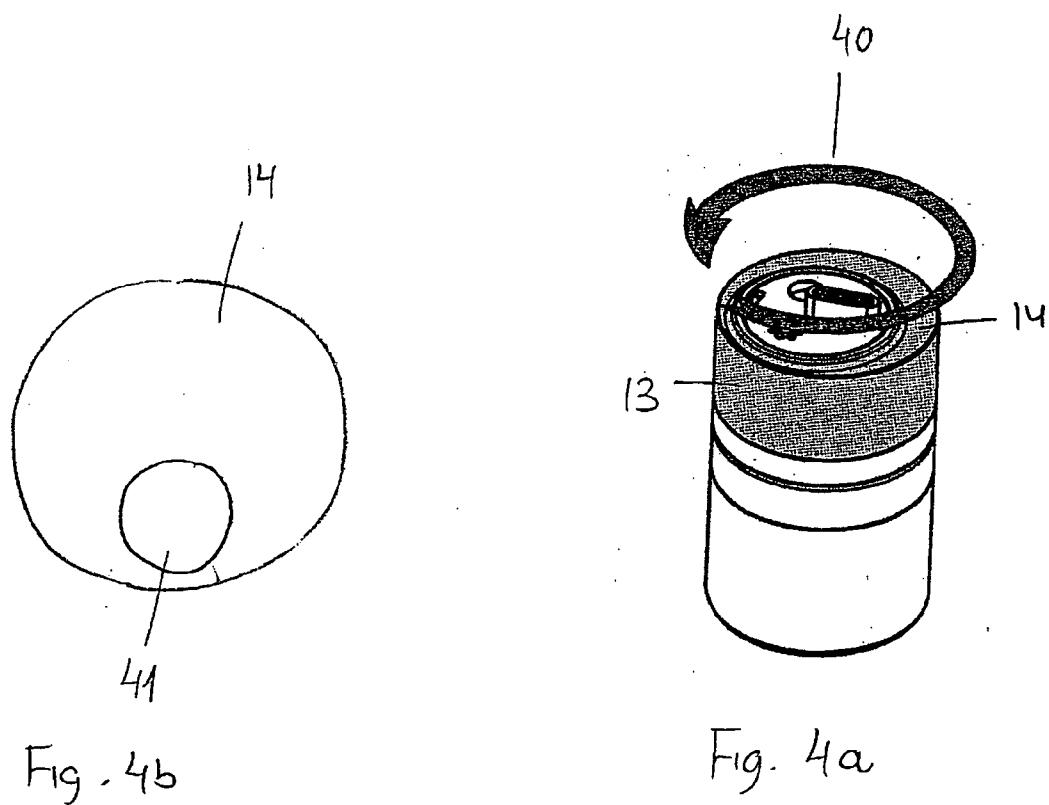
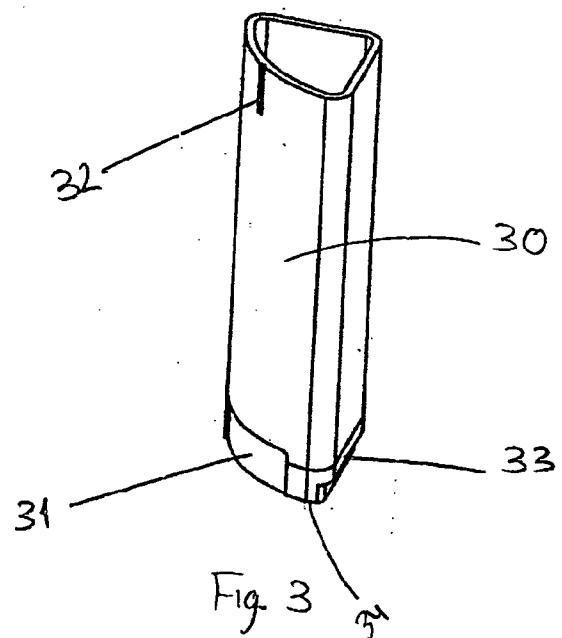


Fig. 2b



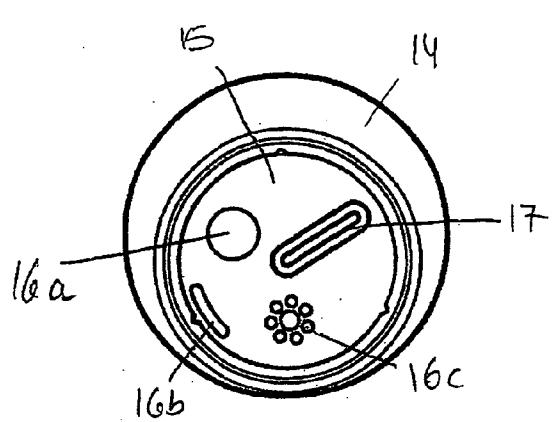


Fig. 4d

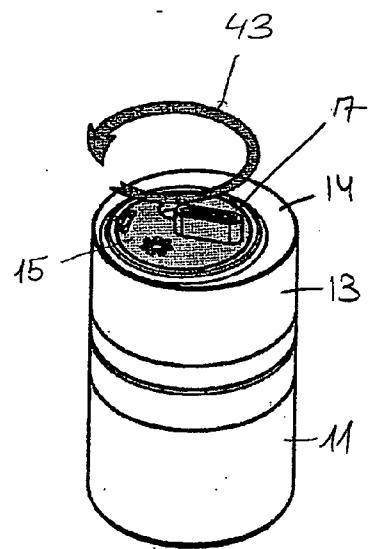


Fig. 4c

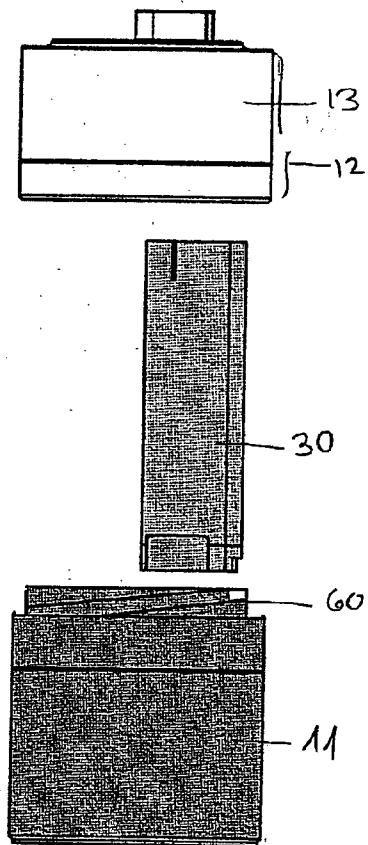


Fig. 6

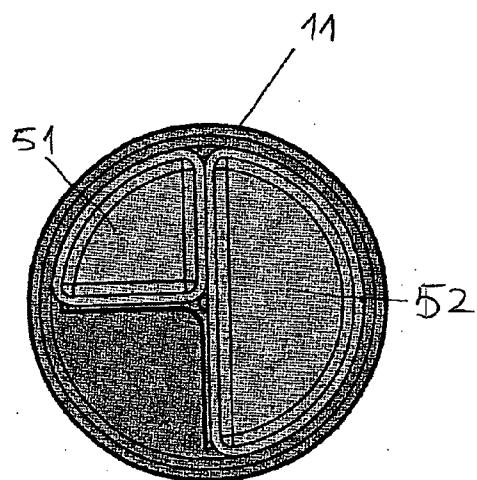


Fig. 5

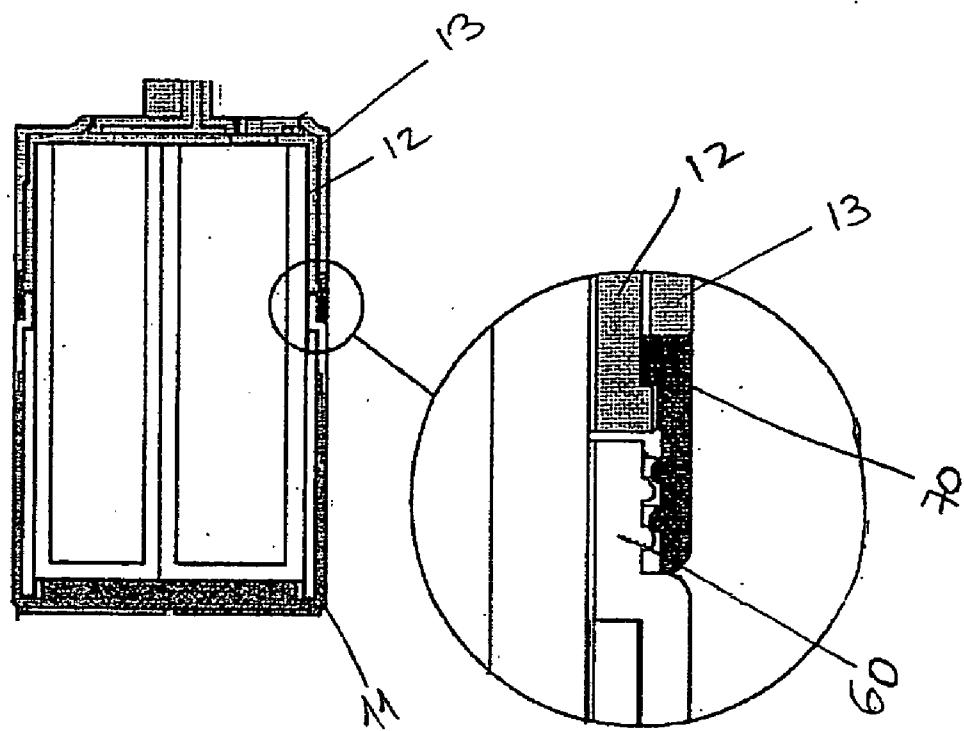


Fig. 7

**MULTIPLE SPICE DISPENSER DEVICE****FIELD OF THE INVENTION**

[0001] The present invention relates to devices for holding and dispensing powders or seasonings such as, for example, salt, pepper, spices and the like; other powders or substances may be held.

**BACKGROUND OF THE INVENTION**

[0002] Devices for holding and dispensing powders or seasonings such as, for example, salt, pepper, spices and the like are known. However, present devices are not capable of efficiently and easily holding and containing plurality of spices or seasonings in a single device, and allowing simple selection of a single spice.

**SUMMARY OF THE INVENTION**

[0003] In one embodiment of the present invention, a holding and dispensing device may include at least two internal holders or cartridges to hold at least two kinds of spices, seasonings, salt or the like. Powders or materials other than spices may be held. The device may include a rotatable cap or disk to select at least one spice to be poured and a rotatable flow selector to select the preferred flow of the selected spice or seasoning.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0004] The subject matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The invention, however, both as to organization and method of operation, together with objects, features and advantages thereof, may best be understood by reference to the following detailed description when read with the accompanied drawings in which:

[0005] FIG. 1 depicts a multi-spice dispensing device, according to one embodiment of the present invention;

[0006] FIG. 2a depicts a half cartridge of a multi-spice dispensing device, according to one embodiment of the present invention;

[0007] FIG. 2b depicts a bottom view of a half cartridge of a multi-spice dispensing device, according to one embodiment of the present invention;

[0008] FIG. 3 depicts a quarter cartridge of a multi-spice dispensing device, according to one embodiment of the present invention;

[0009] FIG. 4a depicts a rotation direction of a multi-spice dispensing device cap, according to one embodiment of the present invention;

[0010] FIG. 4b depicts a top view of a multi-spice dispensing device cap, according to one embodiment of the present invention;

[0011] FIG. 4c depicts a rotation direction of a multi-spice dispensing device flow selector, according to one embodiment of the present invention;

[0012] FIG. 4d depicts a top view of a multi-spice dispensing device, according to one embodiment of the present invention;

[0013] FIG. 5 depicts top view of a quarter cartridge and a half cartridge located inside a multi-spice dispensing device, according to one embodiment of the invention;

[0014] FIG. 6 depicts a cap a cartridge and a base of a multi-spice dispensing device, according to some embodiments of the invention; and

[0015] FIG. 7 depicts a connection between a base and a top portion of a multi-spice dispensing device, according to some embodiments of the invention.

[0016] It will be appreciated that for simplicity and clarity of illustration, elements shown in the figures have not necessarily been drawn to scale. For example, the dimensions of some of the elements may be exaggerated relative to other elements for clarity. Further, where considered appropriate, reference numerals may be repeated among the figures to indicate corresponding or analogous elements.

**DETAILED DESCRIPTION OF THE INVENTION**

[0017] In the following description, various aspects of the invention will be described. For purposes of explanation, specific configurations and details are set forth in order to provide a thorough understanding of the invention. However, it will also be apparent to one skilled in the art that the invention may be practiced without the specific details presented herein. Furthermore, well known features may be omitted or simplified in order not to obscure the invention.

[0018] FIG. 1 depicts a multi-spice dispensing device, according to one embodiment of the present invention. Referring to FIG. 1 device 5 may include outer shell, container or housing 10 which may be used for holding and dispensing at least two seasonings such as spice, salt and the like. Powders or materials other than spices may be held. Device 5 may include a outer container or a housing 10 having a base 11 and a top portion 12 which may be connected to each other, for example, by placing top portion 12 on base 11 and applying pressure on top portion 12, e.g., snap mechanism, by a screwing mechanism or any other suitable connection mechanism. When top portion 12 and base 11 are connected the housing 10 may have a shape of a cylinder (as shown), oval cross section, box or any other shape. Top portion 12 and base 11 may move or rotate around the same axis.

[0019] Top portion 12 may include a rotatable cap or rotatable inner cap 13 with an upper disk 14. Upper disk 14 may be fixed to or integral with upper portion or rotatable cap 13 of top portion 12. Device 5 may contain plurality of internal cartridges, reservoirs or sub-containers, shown more clearly in FIGS. 2a, 3 and 6. Upper disk 14 may include an opening, not shown in FIG. 1 but shown in FIG. 4b, that is used to select one of the internal cartridges or containers. For example, inner cap 13 may select an internal cartridge for dispensing. Device 5 may include a rotatable perforated top or flow selector 15. Rotatable inner cap 13 and flow selector or rotatable outer cap 15 may move or rotate around a shared axis which may be the center of device 5. Alternately, as shown in FIG. 1, the axis of flow selector or rotatable selection disk 15 may be different from that of top portion 12 or cap 13; for example flow selector 15 may be off-center. Flow selector 15 may include a knob, bulge or handle 17 which may be used to move or rotate flow selector 15 to for

example select a pour or dispensing mode or method, such as pour, sift, small flow, large flow, etc. Rotatable selection disk, flow selector or rotatable outer cap **15** may include one or more holes, openings or groups of holes or openings, e.g., groups or holes **16a**, **16b** and **16c** to enable selection of the desired spice flow rate, mode or type, for example, to select among round hole **16a**, half moon shape hole **16b** or plurality of small, perforated holes **16c**. An opening **16a**, **16b** or **16c** may be considered a group of openings, and may include a plurality of sub-openings, e.g., a set of sifting holes. In one embodiment at least one of the plurality of outer cap openings **16c** comprises a plurality of perforated holes, and at least a second of the plurality of outer cap openings **16a** may comprise one opening, where the area of the second opening **16a** may be more than the combined area of the perforated holes **16c**.

[0020] The plurality of rotatable outer cap openings **16** may correspond to the rotatable inner cap or upper disk **13** opening when move or rotated above inner cap opening (e.g., container selection opening **41** of FIG. **4b**). Any other shape of hole and any other number of holes may be used. Methods or turning or operating flow selector **15** other than using handle **17** may be used. For example, a user may simply rotate flow selector **15** without a handle being needed, a depression or grip portion may be provided, or a handle may, for example, extend laterally out of the side of top portion **12**. When a selected one of the groups of holes or holes **16** is aligned with or corresponds to the opening in disk **14**, and the opening in disk **14** is above an internal cartridge, the spice or powder selected by the position of the disk **14** may be dispensed in the mode or method selected by the specific hole **16**.

[0021] FIG. **2a** depicts a half cartridge of a multi-spice dispensing device, according to one embodiment of the present invention. In one embodiment of the invention housing **10** may contain one or two half cartridges or reservoirs **20**. Half cartridge **20** may have the size, volume and capacity of approximately half of the multi-spice dispensing device housing **10**. Half cartridge **20** may contain a spice, seasoning, salt or the like. For example, housing **10** may contain two half cartridges **20** which may hold or contain two different spices and may enable the selection of spreading one spice out of the two. Half cartridge **20** may be designed in such a way to properly fit into housing **10**, e.g., base **11** and top portion **12** when in connected configuration (as shown in FIG. **1**).

[0022] Housing **10** may be designed to stabilize or hold the sub-containers such as, for example, half cartridge **20**. The matching or connection between half cartridge **20** and base **11** may be performed for example by a sink, slot or slit **21** in half cartridge **20** and/or a corresponding protrusion, bump or bulge in the inner part of base **11** (not shown). The matching or connection between half cartridge **20** and top portion **12** may be done by an indentation or slit **22** in half cartridge **20** and a corresponding protrusion, bump or bulge in the inner part of top portion **12** (not shown).

[0023] FIG. **2b** depicts a bottom view of a half cartridge of a multi-spice dispensing device, according to one embodiment of the present invention. In one embodiment of the invention the bottom of half cartridge **20** may have one or more protrusions or feet **23** and **24** which correspond to indents or receiving portions in the bottom of device **5**, to

hold the cartridge **20**. Two or more protrusions or feet **23** and **24** may be used so that if instead of a half cartridge **20** a quarter cartridge (e.g., quarter cartridge **30** of FIG. **3**) is used, each quarter cartridge may include only one protrusion or foot. Any other division of device **5** may be used and any other number of internal cartridges or sub-containers may be used. For example, in one embodiment of the invention device **5** may contain sixth, eights or other portions of a circle in any suitable combination.

[0024] Such indentations, slits, feet, etc, may allow the cartridge to move with the bottom portion **11** and rotate within the top portion **12**, so that when the top portion **12** or a part of top portion **12** is turned, an opening can select a spice or powder to be dispensed. Each cartridge may be attached to or temporarily or permanently fixed to the lower portion or base **11**, and may rotate relative a selection cap or disk.

[0025] FIG. **3** depicts a quarter cartridge of a multi-spice dispensing device, according to one embodiment of the present invention. Housing **10** may contain plurality of internal cartridges, reservoirs or sub-containers. In one embodiment of the invention device **5** may contain up to four quarter cartridges **30**. Quarter cartridge **30** may have the size, volume and capacity of approximately one quarter of a multi-spice dispensing device housing **10**. Quarter cartridge **30** may contain a spice, seasoning, salt or the like. For example, device **5** which contains four quarter cartridges **30** may hold up to four different spices or seasonings and may enable the selection of one spice or seasoning out of the four. Quarter cartridge **30** may be designed in such a way to properly fit into housing **10**, e.g., base **11** and top portion **12** when in connected position (as shown in FIG. **1**). In addition housing **10** may be designed as to stabilize or hold the sub-containers such as, for example, quarter cartridge **30**. The matching or connection between quarter cartridge **30** and base **11** may be similar to that of the half cartridge, for example using sinks, slots or slits **31** and **33** in quarter cartridge **30**, sink, slot or slit **32**, or foot or protrusion **34**. Each cartridge may be fixed to the base and may rotate relative to the rotatable inner cap **13**.

[0026] Indentations or slits **22** or **32** may match a protrusion or bump on the inner portion of cap **13** or upper portion **12**, such that when upper portion **12** or cap **13** is turned to select a certain container or cartridge, the protrusion or bump connects into slit **22** or **32**, to loosely hold the upper portion **12** or cap **13** in place and to indicate to a user that a spice or powder has been selected. In this manner opening **41** may be properly aligned with a cartridge or container.

[0027] Device **5** may contain any suitable combination of half cartridges and quarter cartridges, for example, one half cartridge **20** and two quarter cartridges **30**. Any other division of device **5** may be used and any other number of internal cartridges or sub-containers may be used. For example, in one embodiment of the invention device **5** may contain sixth, eights or other portions of a circle in any suitable combination.

[0028] FIG. **4a** depicts a rotation direction of a multi-spice dispensing device cap, according to one embodiment of the present invention. FIG. **4b** depicts a top view of a multi-spice dispensing device cap, according to one embodiment of the present invention. Referring to FIG. **4a**, device **5** may include an upper part or rotatable cap **13**. Rotatable cap **13**

may be rotated up to 360° in order to select a single spice or seasoning from device 5 as is shown in arrow 43. Narrower ranges of rotation may be used. In one embodiment the rotatable inner cap 13 which may be fixed to housing 10 may be turned by turning housing 10. Cap 13 may include an upper disk or top 14. Referring to FIG. 4b, cap 13 may be rotated until an opening 41 in upper disk 14 is located over a desired spice, e.g., over a preferred internal cartridge or sub-container. In some embodiments rotatable inner cap 13 may be made (completely or partially) of a transparent material, or may include a transparent or open window of such material, such as glass, plastic or any other transparent material in order for a user to see over which internal cartridge the cartridge or container selection opening 41 is located. In some embodiments the internal cartridges (or portions thereof) and/or base 11 (or portions thereof) may be made of a transparent material, such as glass, plastic or any other transparent material in order for a user to see over which internal cartridge opening 41 is located, or may include transparent or open (e.g., cutaway) windows. Opening 41 may have other shapes and sizes, for example, a round hole, a square or a sector of a circle. In some embodiments the size of opening 41 may be correlated to the internal cartridges size, e.g., if two half cartridge are used, opening 41 may be larger than if four quarter cartridges are used. In some embodiments only a portion of cap 13 may be made of transparent material, e.g., cap 13 may have a transparent window to enable selection of spices by a user.

[0029] FIG. 4c depicts a rotation direction of a multi-spice dispensing device flow selector, according to one embodiment of the present invention. FIG. 4d depicts a top view of a multi-spice dispensing device, according to one embodiment of the present invention. Referring to FIG. 4c housing 10 may include a rotatable perforated top or a flow selector 15. Flow selector 15 may be rotated up to 360° in order to select a spice flow rate as is shown in arrow 43. A user may choose which spice to dispense, e.g., which internal cartridge may release material from the dispensing device, by turning cap 13 and locating opening 41 over the chosen spice. In addition a user may choose a preferred way or mode to dispense the spice, e.g., by rotating flow selector 15 until the chosen hole or opening, e.g., one of holes 16a, 16b or 16c is located above opening 41. The rotation of rotatable perforated top or a flow selector 15 may be done by holding or grabbing knob 17. Flow selector or outer cap 15 may be turned by turning the outer cap 15 or a handle attached to the outer cap 15. Referring to FIG. 4d knob 17 may have any shape and size, for example, round button, square button, bulge, handle, stub or bump. Any other shape and size may be used. Flow selector 15 may include one or more holes or perforated openings, e.g., holes 16a, 16b and perforated opening 16c to enable selection of the desired flow rate, for example, a user may select to use hole 16a to pour a large amount of spice or when the selected spice's particles are large, a user may select hole 16b to pour a large amount of spice having small particles or to pour a small amount of spice having large particles, a user may select perforated opening 16c to sift or to sprinkle small amount of a selectable spice. Flow selector or outer cap 15 may select a method of dispensing among a plurality of methods or dispensing modes, e.g., pour or sift. Flow selector 15 may include other number of openings which may have other shapes and other numbers of perforated holes.

[0030] FIG. 5 depicts top view of a quarter cartridge and a half cartridge located inside a multi-spice dispensing device, according to one embodiment of the invention. Base 11 may contain any suitable composition of plurality of inner cartridges or containers which may fill the internal volume, but need not. Referring to FIG. 5 one half cartridge 52 and one quarter cartridge 51 may be located inside housing 10 which may be in use when is not completely full, for example, when less spices than the maximum number need to be in use, when for example one of the internal cartridge is being filled or washed. The structure of base 11 may stabilize or hold cartridges 51 and 52 inside, e.g., the matching or connection between cartridges 51, 52 and base 11 may be done by a sinks, slots or slits, e.g., slots 31 and 33 of FIG. 3, slot 21 of FIG. 2a and a protrusion, bump or bulge in the inner part of base 11. Any other connection or attachment means may be used.

[0031] FIG. 6 depicts a cap, a cartridge and a base of a multi-spice dispensing device, according to some embodiments of the invention. Referring to FIG. 6 a lateral view of quarter cartridge 30 and its position relative to top portion 12 and base 11 is shown. Base 11 may include an inner wall 60 with a circumference, e.g., diameter which may be smaller than the circumference of the outer housing of base 11. Inner wall 60 may have a screw or thread mechanism to allow top portion 12 to be attached or connected to base 11. Top portion 12 may have a matched screwing mechanism to allow the connection. Any other attaching method such as snap may be used. In one embodiment top portion 12 may be attached to base 11 and rotatable cap 13 may rotate separate from top portion 12 e.g., rotatable cap 13 and bottom part 11 may rotate one against the other, while in other embodiments top portion 12 may turn relative to the bottom part 11, e.g., top portion 12 and bottom part 11 may rotate one against the other.

[0032] FIG. 7 depicts a connection between a base and a top portion of a multi-spice dispensing device, according to some embodiments of the invention. Referring to FIG. 6a cross section of the connection between inner wall 60 of base 11 and the top portion 12 by a hidden screw 70 is shown. In some embodiments of the invention top portion 12 may include a hidden screw or thread 70 which may be connected or screwed to inner wall or screw part 60 of base 11. This connection or bond between top portion 12 and base 11 may allow the rotation or movement of the rotatable inner cap 13 in relation to base 11, top portion 12 and housing 10. Other methods of connection may be used.

[0033] It should be noted that although a portion of the discussion may relate to holding and dispensing of seasoning and spices, the present invention is not limited in this regard, and embodiments of the present invention may be used to hold and dispense other suitable materials.

[0034] While certain features of the invention have been illustrated and described herein, many modifications, substitutions, changes, and equivalents may occur to those of ordinary skill in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.

1. A dispensing device comprising:  
a housing including at least a base;  
a plurality of internal cartridges;

a rotatable inner cap having an opening to be placed above an internal cartridge; and

a rotatable outer cap including at least plurality of openings.

**2.** The device of claim 1, wherein the housing comprises transparent material and the internal cartridges comprise transparent material.

**3.** The device of claim 1, wherein the rotatable outer cap and the plurality of internal cartridges comprise transparent material.

**4.** The device of claim 1, wherein the plurality of outer cap openings correspond to the inner cap opening when rotated above the inner cap opening.

**5.** The device of claim 1, wherein the inner cap and outer cap are rotated around a shared axis.

**6.** The device of claim 1, wherein at least one of the plurality of outer cap openings comprises a plurality of perforated holes, and at least a second of the plurality of outer cap openings comprises one opening, where the area of the second opening is more than the combined area of the first opening.

**7.** The device of claim 1, wherein the inner cap is fixed to the housing.

**8.** The device of claim 1, wherein the inner cap is turned by turning the housing and wherein the outer cap is turned by turning the outer cap or a handle attached to the outer cap.

**9.** The device of claim 1, wherein the inner cap selects an internal cartridge for dispensing and wherein the outer cap selects a method of dispensing among a plurality of methods.

**10.** The device of claim 9, wherein the plurality of methods include at least pour and sift.

**11.** The device of claim 1, wherein when the inner cap opening is positioned over a first internal cartridge and an outer cap opening is positioned over the inner cap opening, only the first internal cartridge may release material from the dispensing device.

**12.** The device of claim 1, wherein each cartridge is fixed to the base and may rotate relative to the inner cap.

**13.** A powder dispensing device for dispensing powder from a selected one of a plurality of internal reservoirs at any one time, the dispensing performed in one of a selected set of modes, the device comprising:

an outer container;

a plurality of internal reservoirs;

a first rotatable selection disk comprising an opening, the opening to select

a reservoir; and

a second rotatable selection disk comprising a plurality of openings corresponding to dispensing modes.

**14.** The device of claim 13, wherein the outer container and the internal reservoirs comprise transparent material.

**15.** The device of claim 13, wherein the first rotatable selection disk comprises transparent material.

**16.** The device of claim 13, wherein the plurality of second rotatable selection disk openings correspond to the first rotatable selection disk opening when rotated above the first rotatable selection disk opening.

**17.** The device of claim 13, wherein the first rotatable selection disk and second rotatable selection disk are rotated around a shared axis.

**18.** The device of claim 13, wherein at least one of the plurality of second rotatable selection disk openings comprises a plurality of perforated holes, and at least a second of the plurality of outer cap openings comprises one opening, where the area of the second opening is more than the combined area of the first opening.

**19.** The device of claim 13, wherein the first rotatable selection disk is fixed to the outer container.

**20.** The device of claim 13, wherein the first rotatable selection disk is turned by turning the outer container and wherein the second rotatable selection disk is turned by turning the second rotatable selection disk or a handle attached to the second rotatable selection disk.

**21.** The device of claim 13, wherein the first rotatable selection disk selects an internal reservoir for dispensing and wherein the second rotatable selection disk selects a method of dispensing among a plurality of methods.

**22.** A dispensing device comprising:

an outer shell;

a plurality of internal reservoirs attached to a lower portion of the outer shell and moveable within an upper portion of the outer shell;

a selection disk moveably attached to the upper portion of the outer shell,

the selection disk comprising a plurality of opening groups.

**23.** The device of claim 22, comprising a container selection opening disposed on the upper portion of the outer shell, the selection opening aligned with a selected one of the opening groups when the selection disk is moved.

\* \* \* \* \*