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(54) **DEVICE FOR DISPENSING GRANULAR PRODUCTS**

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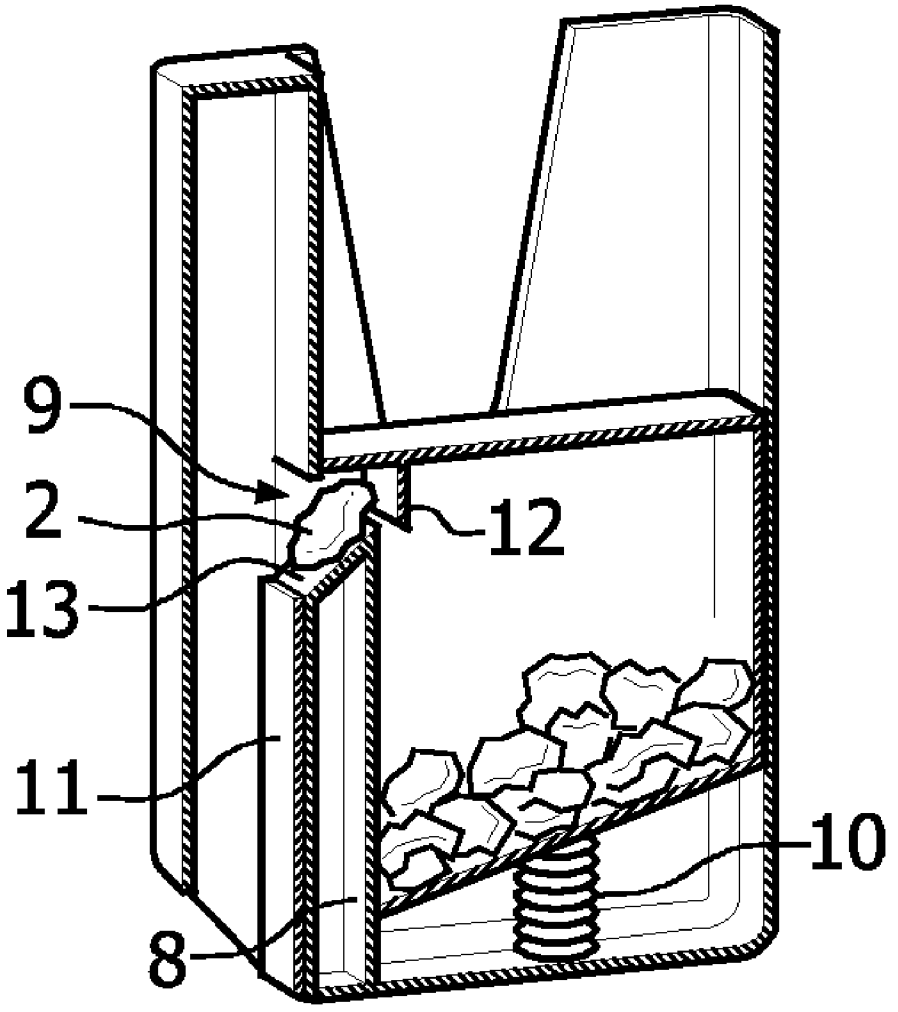
(57) **ABSTRACT**

Dispensers for successive release of tablet-like or pill-like products, such as for instance sweets, sweeteners, medication, lozenges and so on are already known. A drawback of the known dispenser is that only tablet products of the same shape can be successively dispensed. The invention relates to an improved device for dispensing such products.



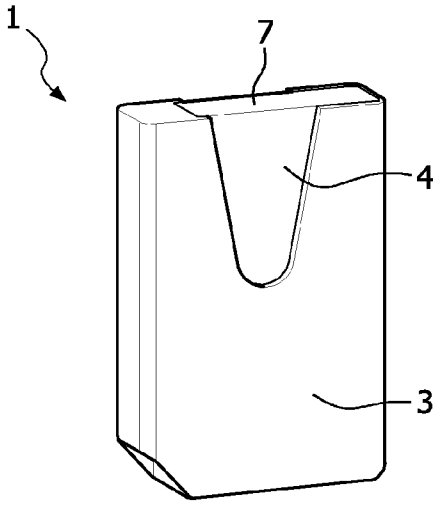


FIG. 1a

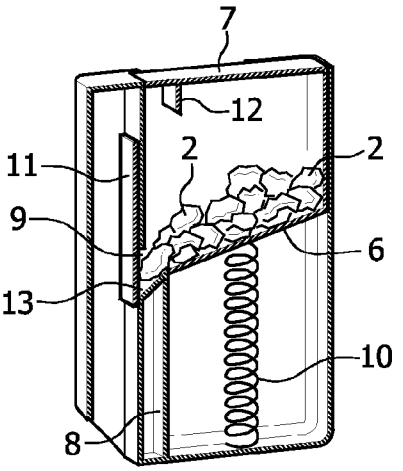


FIG. 1b

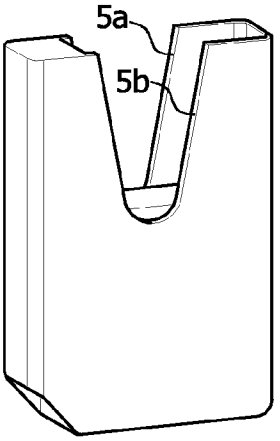


FIG. 1c

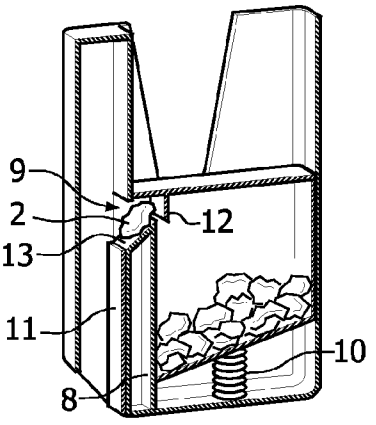


FIG. 1d

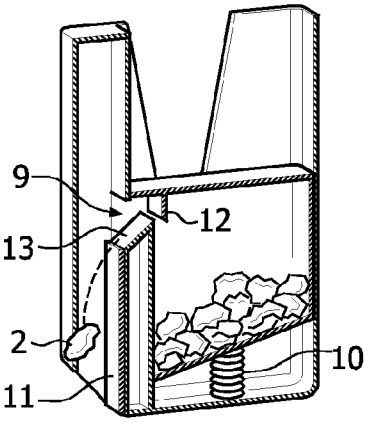


FIG. 1e

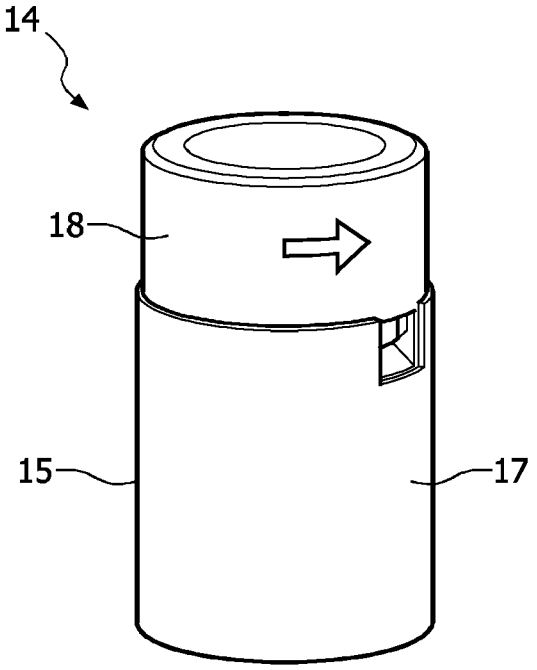


FIG. 2a

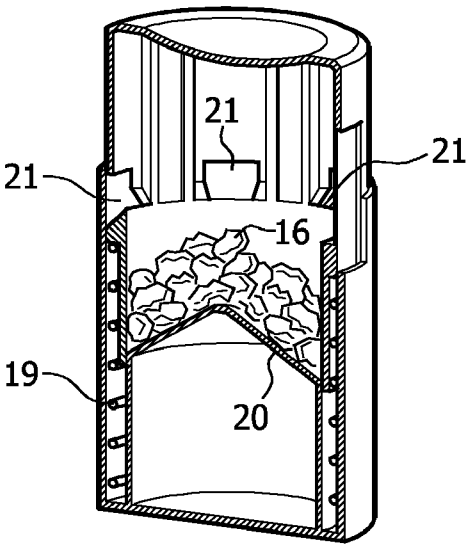


FIG. 2b

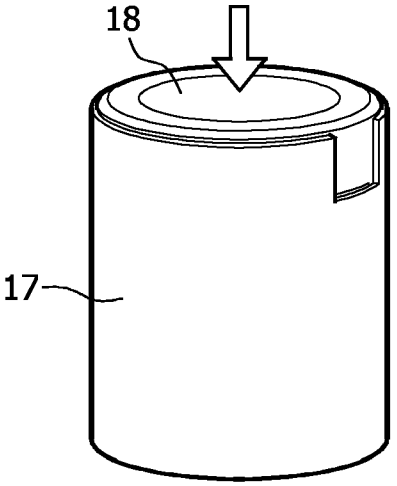


FIG. 2c

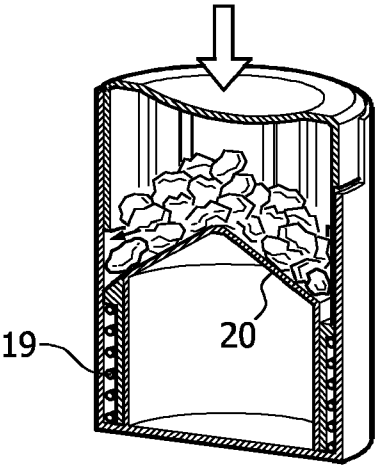


FIG. 2d

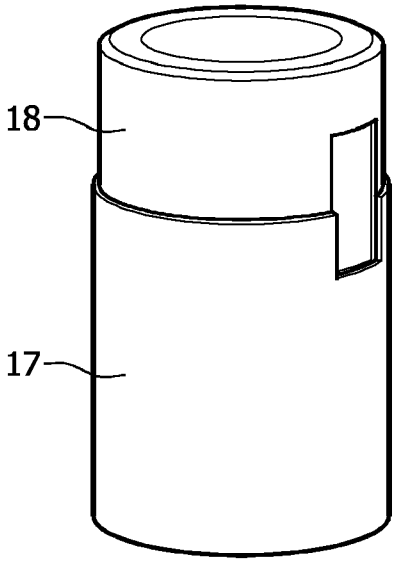


FIG. 2e

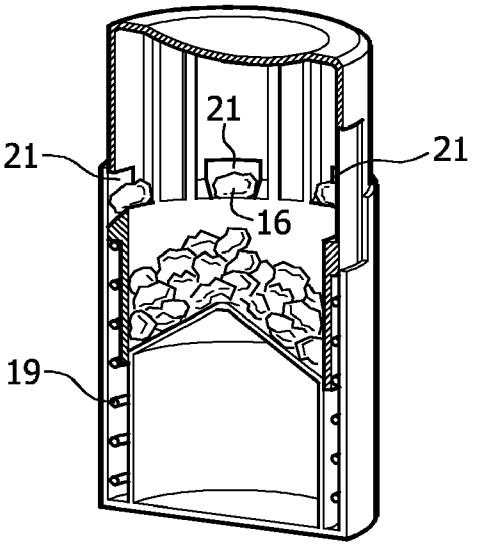


FIG. 2f

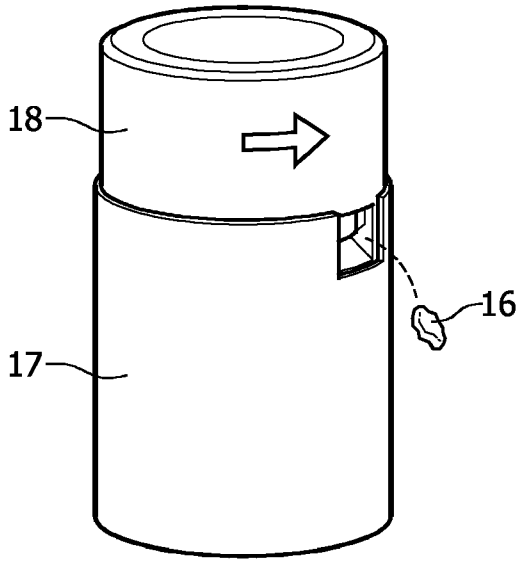


FIG. 2g

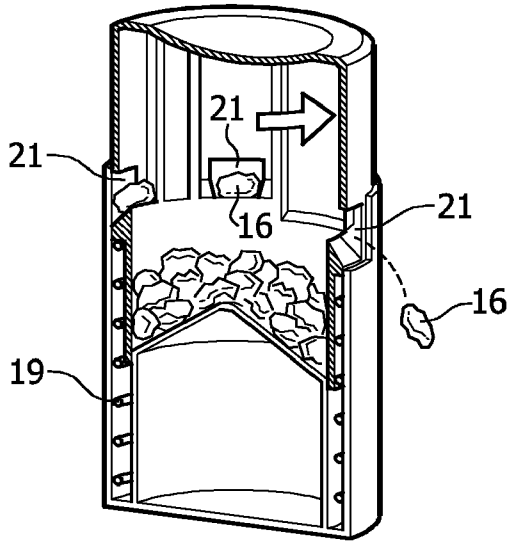


FIG. 2h

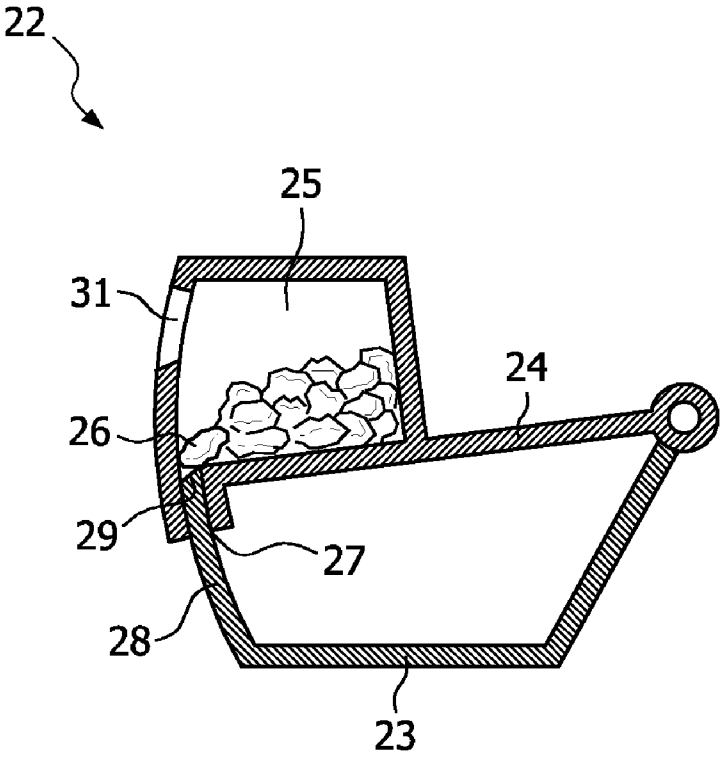


FIG. 3a

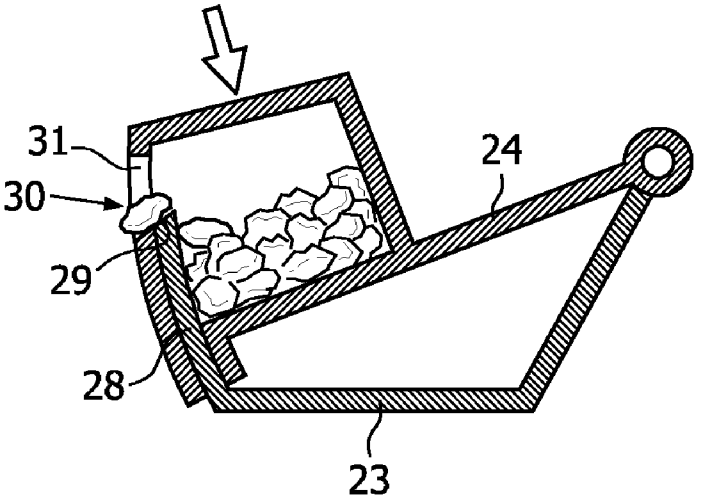


FIG. 3b

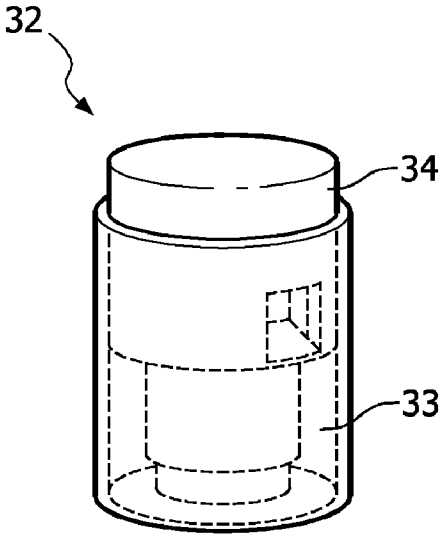


FIG. 4a

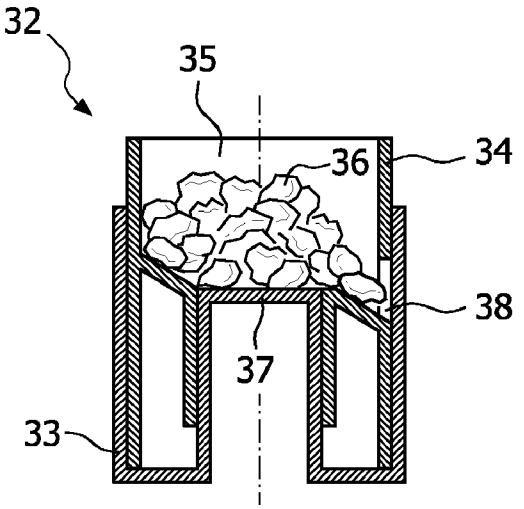


FIG. 4b

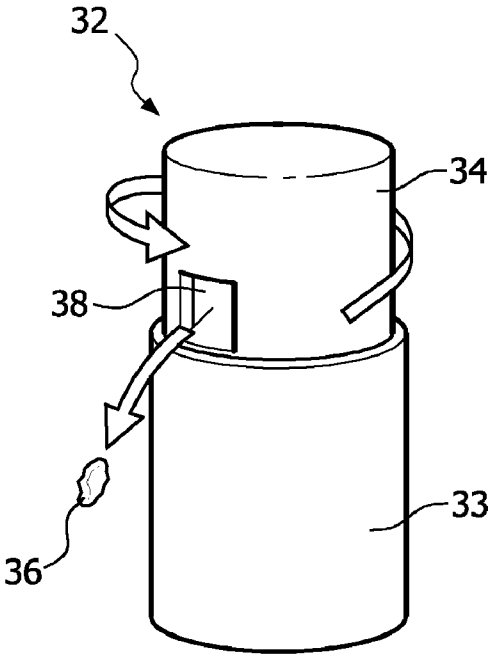


FIG. 4c

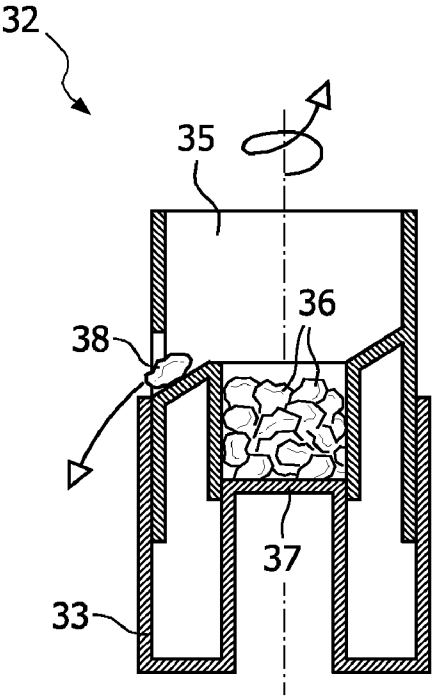


FIG. 4d

DEVICE FOR DISPENSING GRANULAR PRODUCTS

FIELD OF INVENTION

[0001] The invention relates to a device for dispensing grain-like products.

BACKGROUND OF INVENTION

[0002] Dispensers for successive release of tablet-like or pill-like products, such as for instance sweets, sweeteners, medication, lozenges and so on are already known. An example of a known dispenser is described in the international patent application WO2006/116370. The dispenser described in this patent publication comprises a housing incorporating a supply container for products in tablet form. The supply container comprises a separate resilient bottom element which connects to the dispensing channel for the products in tablet form. The dispensing channel is provided with a dispensing opening on an outer end remote from the supply container. Because the dispensing channel tapers in the direction of the dispensing opening, wherein the dimensioning of the dispensing channel is such that the tablets can only be transported successively through the dispensing channel, it is possible to bring about successive dispensing of the tablets. Dispensing of the tablets takes place by pressing an upper wall of the supply container relative to the enclosing housing, whereby the bottom element, and thereby the dispensing channel, can be deformed such that the dispensing opening is formed and a single tablet can be dispensed. A drawback of the known dispenser is that only tablet products of the same shape can be successively dispensed. It has been found that products of differing shape, such as for instance coarse grains of sugar, in particular sprinkling sugar or lumps of sugar candy, are not suitable for orderly transport in the direction of the dispensing opening. If products of differing shape were to be arranged in the supply container, a reliable dispensing of these products is then generally not possible because the products of differing shape are usually jumbled together, which prevents or at least considerably impedes dosed dispensing of the products by the dispenser.

SUMMARY OF THE INVENTION

[0003] The invention has for its object to provide an improved dispenser, using which grain-like products of differing shape can also be dispensed in dosed manner.

[0004] The invention provides for this purpose a device of the type stated in the preamble, comprising: at least one supply container for granular products, which supply container is provided with a bottom element for supporting the granular products, at least one dosing compartment adapted to receive at least one grain, which dosing compartment is provided with at least one dosing element for supporting the at least one grain and which dosing compartment is provided with at least one dispensing opening for dispensing the at least one grain, and at least one first closing element for closing the dispensing opening, which first closing element is displaceable between an opened position, in which the dispensing opening is left substantially clear, and a closed position in which the dispensing opening is substantially blocked, wherein the relative orientation between the bottom element and the dosing compartment can be changed between an active position, in which the bottom element connects to the dosing compartment such that displacement to the dosing compartment of at least one grain supported by the bottom element is possible and in which the first closing element is in the closed position, and a non-active position in which the bottom element is located at a distance from the dosing compartment such that displacement of one or more grains supported by the bottom element is not possible. By accommodating the dosing compartment, in particular the dosing element, and the bottom element in mutually displaceable manner, in particular slidable manner, in the device according to the invention as specified above a dosed dispensing of grain-like products of differing shape can be realized and guaranteed. By first positioning a grain-like product on the dosing element in the active position in the dosing compartment and then displacing the bottom element in a direction away from the dosing element, the grain-like product can be isolated from other products present in the supply container. Obstruction of the dosing compartment, functioning in fact as dispensing channel, can be prevented in that the at least one grain-like product situated in the dosing compartment is first isolated from other grain-like products carried by the bottom element, whereby bridging between products or other jumbling together of a product situated in the dosing compartment and an adjacent product carried by the bottom element can be prevented, or at least optionally reversed. After isolating of the grain-like product, the product can then be dispensed by the device. The dosing compartment can be designed in various ways and can be adapted for multilateral enclosure of a grain-like product. It is however also possible to envisage the dosing compartment comprising only the dosing element. The bottom element of the supply container will in general substantially connect to the dosing element of the dosing compartment in the active position of the device, although it is possible to envisage some distance between the two, on condition that it is made possible for the grains to move from the bottom element to the dosing element in the active position, after which the separation of the bottom element and the dosing element can be realized. As a result of the mutual displacement of the bottom element relative to the dosing compartment, the dosing compartment in fact functions as a dosing scoop for the purpose of isolating one or more grains which can be dispensed via the dispensing opening. Owing to the mutual displacement of the bottom element relative to the dosing element, no additional separating elements, such as for instance a separating finger, are required for the purpose of separating a dosed quantity of grains in the dosing compartment, which makes the construction of the device according to the invention particularly efficient.

[0005] In order to enable a controlled dispensing of products, the device comprises at least one first closing element for closing the dispensing opening, which first closing element is displaceable between an opened position, in which the dispensing opening is left substantially clear, and a closed position in which the dispensing opening is substantially blocked, wherein the first closing element is positioned in the closed position in the active position of the device. In this manner it is possible to prevent a plurality of products being (simultaneously) dispensed in unwanted manner by the device in the active position of the device. In a particular preferred embodiment the first closing element is coupled to the bottom element such that the first closing element is oriented in the closed position in the case the bottom element is oriented in the active position. By coupling the closing element to the bottom element a synchronous movement of the two components, and thereby simultaneously reaching the active posi-

tion and the closed position (and vice versa), can be ensured in relatively simple manner. Depending on the size of the dosing compartment, the dosing compartment can be adapted to (simultaneously) receive one grain-like product or a plurality of grain-like products. The grain-like products can herein be coarse-grained. It is however also possible to envisage dispensing fine-grained products and even products in powder form using the device according to the invention. The device according to the invention is suitable for dosed dispensing of products of substantially the same shape as well as products of differing shape. Examples of products of substantially the same shape are sweets, sweeteners, medication (in pill form), lozenges, bath pearls and so on. Examples of products of substantially differing shape are coarse grains of sugar, coarse grains of (sea) salt, sweets and so on. It is noted that the dimensioning of the grain-like products must preferably be such here that the products are adapted to enable dosed distribution using the device according to the invention. In the context of this patent publication, granular products are deemed identical to grain-like products, and grains are deemed identical to product grains of the at least one granular product.

[0006] The first closing element is preferably coupled to the bottom element such that the first closing element is oriented in the opened position in the case the bottom element is oriented in the non-active position, whereby a dosed distribution of at least one product arranged isolated in the dosing compartment can take place. In a preferred embodiment the device comprises operating means coupled to the first closing element for operating the first closing element between the opened position and the closed position. The operating means can for instance be formed by an upper wall or top element of the supply container. It is however also possible to envisage applying other types of operating means. It will generally be of importance however that at least a part of the operating means is positioned in accessible manner so as to facilitate operation by a user.

[0007] In a preferred embodiment, during the displacement from the active position to the non-active position, the bottom element and the dosing compartment are mutually displaceable over a distance corresponding to at least three times, preferably at least five times, the average diameter of the granular products received in the device. Making the displacement of the bottom element relative to the dosing compartment sufficiently large can ensure a relatively accurate dosing of one or more grains in the dosing compartment and a subsequent dosed dispensing of these grains via the dispensing opening, wherein the risk of grains supported by the bottom element in the non-active position being displaced to the dosing compartment can be prevented or at least be minimized.

[0008] It is also particularly advantageous that the shortest distance between the bottom element, at the position of the dosing compartment in the active position of the device, and an upper wall of the supply container opposite the bottom element corresponds to at least four times the average diameter of the granular products received in the device. By maintaining sufficient distance between the bottom element and the upper wall a substantially unimpeded displacement of grains from the bottom element in the direction of the dosing compartment can be ensured, wherein the chance of grains carried by the bottom element becoming jumbled together and consequently blocking each other can be prevented as far as possible. This preferred embodiment is particularly advantageous when grain-like products of differing shape are or will be received in the device according to the invention. It is further also advantageous when the shortest distance between the dosing element, in the active position of the device, and a bounding element situated above the dosing element corresponds to at least four times the average diameter of the granular products received in the device. The bounding element will generally be formed by an upper wall of the dosing compartment. By keeping the distance between the dosing element and the (first) overlying bounding element sufficiently great a substantially free (unimpeded) displacement of the grain-like products from the bottom element to the dosing compartment can be ensured as far as possible in the active position of the device, wherein the risk that the bounding element will function as an obstacle to the above stated desired substantially free displacement of the grains can be prevented as far as possible. In order to minimize to further extent the formation of obstacles in the active position, there is preferably no intermediate bounding element situated between the dosing element and an upper wall of the dosing compartment situated above the dosing element.

[0009] To enable a change in the orientation of the bottom element and the dosing compartment the bottom element and the dosing compartment are formed by mutually separate components, wherein the bottom element is not integrally connected to the dosing compartment. It is however possible to envisage a mutual mechanical coupling between the bottom element and the dosing compartment. The bottom element and the dosing compartment are preferably mutually slidable, in particular according to a predefined path. The path can take both a linear form and a non-linear form, such for instance curved or angular. The predefined path can be realized by applying guide means along which the bottom element and/or the dosing compartment are displaceable, in particular slidable.

[0010] The dosing compartment preferably forms part of a housing at least partially enclosing the bottom element. In this manner a relatively strong device can be obtained, wherein the bottom element is accommodated at least partially in the housing. At least the dosing element of the dosing compartment is preferably connected in stationary (fixed) manner to the housing, and at least the bottom element of the supply container is accommodated displaceably in the housing. In a preferred embodiment a part of the supply container forms part of the housing. It is possible here to envisage that side walls forming part of the supply container for instance form an integral part of the housing. In an alternative embodiment the supply container is accommodated displaceably in the housing as a separate component. The dosing compartment preferably becomes bounded multilaterally by the housing permanently, so in both the active position and in the non-active position. The side walls serve to stabilize the at least one grain received in the dosing compartment, whereby undesired return (dropping back) of the grain from the dosing compartment to the supply container can be prevented as far as possible.

[0011] The supply container will generally be manufactured from one or more substantially rigid materials, preferably a polymer or metal. The distance between (opposite) walls bounding the supply container will moreover generally also be substantially constant, whereby the supply container will have a substantially constant volume during normal use.

[0012] In order to enable a relatively simple displacement of products from the supply container to the dosing compart-

ment, it is advantageous if the bottom element and a horizontal surface enclose a mutual angle in at least the active position of the device. The inclining orientation of the bottom element will generally be permanent and, although conceivable, will generally not depend on the position of the bottom element. In order to be able to bring about a reliable displacement of grain-like products from the supply container to the dosing compartment, the bottom element and a horizontal surface enclose a mutual angle which is greater than or equal to 5°. At such an angle of inclination products will tend to slide in the direction of the dosing compartment under the influence of the force of gravity, which facilitates the dosed dispensing of products by the device. In another preferred embodiment the dosing element and a horizontal surface enclose a mutual angle at least in the non-active position of the bottom element. Dispensing of the grain received in the dosing compartment can be facilitated by having the dosing element enclose an angle with a horizontal surface. The dosing element herein tapers in a direction away from the bottom element. It is particularly advantageous here when the bottom element and a horizontal surface enclose a mutual angle greater than 5°, preferably greater than 10°.

[0013] The dosing compartment is preferably positioned in the device such that grains present in the dosing compartment can leave the device by falling via the dispensing opening and after displacement of the first closing element to the opened position. Allowing a dosed quantity of grains to drop out of the device is generally exceptionally practical since in this way the grain can be removed from the device with one hand and in a single hand movement. Furthermore, the granule need in this way not be removed from the device by hand, which is also particularly advantageous from a hygienic viewpoint.

[0014] In a preferred embodiment the device comprises a second closing element for blocking a passage from the supply container to the dosing compartment in the non-active position of the bottom element. Applying the second closing element can prevent an already isolated grain-like product (or a plurality of simultaneously isolated products) being able to move back to the supply container or being able to leave the dosing compartment in other inappropriate manner than via the dispensing opening. The second closing element will be arranged displaceably in the device in order to nevertheless enable transport of one or more grain-like products from the supply container to the dosing compartment in the active position of the bottom element. For this purpose the second closing element is preferably coupled to an upper wall of the supply container. During displacement of the upper wall, and thereby the lower wall generally coupled to the upper wall, between the active position and the non-active position the second closing element can be co-displaced correspondingly so as to respectively enable leaving clear and blocking of the passage. The dosing compartment will usually be defined by the dosing element, two side walls forming part of the housing, the first closing element (in the active position of the device), and—if applied—the second closing element (in the non-active position of the device).

[0015] The device preferably comprises biasing means for urging the bottom element to a determined starting position. The bottom element can only be displaced to another position when a (greater) bias is applied to the biasing means. In the rest position the bottom element is preferably urged into the active position by the biasing means, whereby the dosing compartment can be filled with a product initially held in the supply container, whereby the dispensing of the product can be accelerated for a user. In another embodiment it is however also possible to envisage the bottom element in the rest position being urged into the non-active position by the biasing means so as to enable the longest possible conservation of the products in the supply container during non-use of the device, which can be advantageous from a hygiene viewpoint. The biasing means preferably comprise at least one spring, in particular a compression spring or a resilient tongue.

[0016] The device will usually comprise only a single dosing compartment. In an alternative preferred embodiment however, the device comprises a plurality of dosing compartments. In this way simultaneous, successive and/or selective dispensing of products can be facilitated. The dosing compartments can for instance here be oriented around the supply container in a carrousel configuration. In a particular preferred embodiment it is also possible to envisage the device comprising a plurality of supply containers, wherein each supply container is adapted to be connected to a (separate) dosing compartment.

[0017] The device according to the invention is intended to be held in the hand. It is also possible to envisage the device being adapted to be stationed on a table or other surface, whereby the device according to the invention can be embodied as a hand-held device or as a table-top device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The invention will be elucidated on the basis of non-limitative exemplary embodiments shown in the following figures. Herein:

[0019] FIGS. **1***a*-**1***e* show different perspective views of a first preferred embodiment of a device according to the invention,

[0020] FIGS. **2***a*-**2***h* show different perspective views of a second preferred embodiment of a device according to the invention,

[0021] FIGS. **3***a* and **3***b* show different perspective views of a third preferred embodiment of a device according to the invention, and

[0022] FIGS. **4***a* and **4***b* show different views of a fourth preferred embodiment of a device according to the invention.

DETAILED DESCRIPTION

[0023] FIG. **1***a* shows a perspective view of a first preferred embodiment of a device **1** according to the invention. Device **1** is adapted for dosed dispensing of individual products **2**, in particular grain-like products. Device **1** comprises for this purpose a housing **3** and a supply container **4** for the grain-like products accommodated partially in housing **3**. Supply container **4** is received slidably in housing **3**, wherein supply container **4** is specifically displaceable between a (rest) position (see FIGS. **1***a* and **1***b*) and an active position (see FIGS. **1***c* and **1***d*). In order to be able to facilitate displacement of supply container **4** for a user, housing **3** is provided with recesses **5***a*, **5***b*. In the cross-section shown in FIG. **1***b* it can be seen that supply container **4** comprises a bottom element **6** and an upper wall **7**. The shortest distance between bottom element **6** and upper wall **7** amounts in this embodiment to about six times the average diameter of grains **2**, whereby grains **2** can displace substantially free and unimpeded in supply container **4**. Bottom element **6** is adapted to carry products **2**, which may or may not be of uniform shape. Housing **3** comprises a separating wall **8** bounding supply

container **4**, which separating wall **8** functions as guide for supply container **4** during the displacement of supply container **4** between the passive position and the active position. Separating wall **8** takes an interrupted form and is provided at the position of the interruption with a dosing compartment **9** which is adapted to receive one grain-like product **2**. As shown in FIG. **1***b*, supply container **4** is urged into the uppermost position (rest position) by the presence of a compression spring **10**, which engages on housing **3** on one side and engages on bottom element **6** on the other. Bottom element **6** has an inclining orientation, whereby products **2** tend to be displaced in the direction of dosing compartment **9**. In the shown situation dosing compartment **9** is closed by a closing element **11**, which closing element **11** is connected to at least bottom element **6**. In the shown rest position at least one product **2** will be displaced from supply container **4** to dosing compartment **9**. By pressing supply container **4** relative to housing **3** (see FIGS. **1***c*, **1***d* and **1***e*) the product received in dosing compartment **9** will be isolated from the other products present in supply container **4**. The relative displacement of bottom element **6** relative to dosing compartment **9** is sufficiently large here, and in the present exemplary embodiment is about six times the average diameter of grains **2**, whereby sufficient separation can be ensured between the grains **2** situated in dosing compartment **9** and the other grains **2** still situated in supply container **4**. Because upper wall **7** of supply container **4** is provided with a partition **12** it is possible to prevent the product isolated in dosing compartment **9** moving back into supply container **4**. During the displacement of supply container **4** in downward direction closing element **11** will also be displaced in downward direction, such that the product received in dosing compartment **9** can leave dosing compartment **9** and can thereby be dispensed by device **1**. In order to be able to facilitate this dispensing the dosing compartment **9** also comprises an inclining bottom element **13**. The shortest distance between inclining bottom element **13**, also referred to as dosing element, and upper wall **7** amounts to about seven times the average diameter of grains **2**, whereby upper wall **7** will not form an obstacle during displacement of grains **2** from supply container **4** to dosing compartment **9**.

[0024] FIGS. **2***a*-**2***h* show different perspective views of a second preferred embodiment of a device **14** according to the invention. Device **14** comprises a housing **15** in which grain-like products **16** are received. The housing comprises a base structure **17** and a top structure **18** co-acting with base structure **17**. Top structure **18** is urged in a direction away from base structure **17** by a compression spring **19**. Base structure **17** is provided with a conically shaped bottom element **20** adapted to support products **16**. Top structure **18** is provided with a plurality of dosing compartments **21** which are distributed substantially uniformly over the peripheral side of top structure **18**. By pressing top structure **18** in the direction of base structure **17** counter to the spring tension (see FIGS. **2***c* and **2***d*) dosing compartments **21** will be filled with at least one product **16**. By then (partly) relieving the pressure on top structure **18**, top structure **18** will once again be oriented in the starting position (see FIGS. **2***e* and **2***f*). In this situation dosing compartments **21** are still filled with products **16**. Dosing compartments **21** can be opened by then axially rotating top structure **18** (see FIGS. **2***g* and **2***h*), after which dispensing of products **16** received in dosing compartments **21** is possible.

[0025] FIGS. **3***a* and **3***b* show different perspective views of a third preferred embodiment of a device **22** according to the invention. Device **22** comprises a base structure **23** and a top structure **24** pivotally connected to base structure **23**. The top structure is provided with a supply container **25** for granular products **26**. Supply container **25** is provided with a receiving space **27** for a wall part **28** of base structure **23**. An upper side of this wall part **28** forms a bottom element **29** of a dosing compartment **30** for receiving a product **26**. Supply container **25** is provided with a passage opening **31** for products **26**. In an uppermost position of top structure **24** at least one product will be positioned in dosing compartment **30**. By then pivoting top structure **24** in downward direction the product **26** present in dosing compartment **30** will be isolated from other products **26** still present in supply container **25**. In this isolated position of product **26** the passage opening **31** of top structure **24** can be placed in line with dosing compartment **30**, after which dispensing of the isolated product **26** can take place (see FIG. **3***b*).

[0026] FIGS. **4***a* and **4***b* show different views of a fourth preferred embodiment of a device **32** according to the invention. FIG. **4***a* shows a perspective view of a device **32**, wherein the device comprises a base structure **33** and a top structure **34**. Top structure **34** is partially accommodated in base structure **33**. Top structure **34** can be displaced along a helical path relative to base structure **33** (see FIG. **4***c*). In the cross-section shown in FIG. **4***b* it can be seen that grain-like products **36** are arranged in a supply space **35** enclosed by the top structure. Products **36** are herein supported by a bottom element **37** forming part of base structure **33**. The top structure is provided with a laterally positioned dosing compartment **38** in which at least one product can be arranged. In the shown (lowermost) position of top structure **34** at least one product **36** will de displaced into dosing compartment **38**. Dispensing of product **36** from device **32** is prevented in this position in that base structure **33** covers dosing compartment **38**. By then rotating top structure **34** relative to base structure **33** (see FIG. **4***c*) the relevant product **36** can be isolated and dosing compartment **38** will no longer be covered, whereby product **36** can be dispensed (see FIG. **4***d*).

[0027] It will be apparent that the invention is not limited to the exemplary embodiments shown and described here, but that within the scope of the appended claims numerous variants are possible which will be self-evident to the skilled person in the field.

1. Device for dispensing granular products, comprising:

at least one supply container for granular products, which supply container is provided with a bottom element for supporting the granular products,

at least one dosing compartment adapted to receive at least one grain, which dosing compartment is provided with at least one dosing element for supporting the at least one grain and which dosing compartment is provided with at least one dispensing opening for dispensing the at least one grain, and

at least one first closing element for closing the dispensing opening, which first closing element is displaceable between an opened position, in which the dispensing opening is left substantially clear, and a closed position in which the dispensing opening is substantially blocked,

wherein the relative orientation between the bottom element and the dosing compartment can be changed between an active position, in which the bottom element connects to the dosing compartment such that displacement to the dosing compartment of at least one grain

supported by the bottom element is possible and in which the first closing element is in the closed position, and a non-active position in which the bottom element is located at a distance from the dosing compartment such that displacement of one or more grains supported by the bottom element is not possible.

2. Device as claimed in claim **1**, characterized in that the first closing element is coupled to the bottom element such that the first closing element is oriented in the closed position in the case the bottom element is oriented in the active position.

3. Device as claimed in claim **1**, characterized in that the first closing element is coupled to the bottom element such that the first closing element is oriented in the opened position in the case the bottom element is oriented in the non-active position.

4. Device as claimed in claim **1**, characterized in that the device comprises operating means coupled to the first closing element for operating the first closing element between the opened position and the closed position.

5. Device as claimed in claim **1**, characterized in that during the displacement from the active position to the non-active position, the bottom element and the dosing compartment are mutually displaceable over a distance corresponding to at least three times the average diameter of the granular products received in the device.

6. Device as claimed in claim **1**, characterized in that the shortest distance between the bottom element, at the position of the dosing compartment in the active position of the device, and an upper wall of the supply container opposite the bottom element corresponds to at least four times the average diameter of the granular products received in the device.

7. Device as claimed in claim **1**, characterized in that the shortest distance between the dosing element, in the active position of the device, and a bounding element situated above the dosing element corresponds to at least four times the average diameter of the granular products received in the device.

8. Device as claimed in claim **1**, characterized in that the dosing compartment forms part of a housing at least partially enclosing the bottom element.

9. Device as claimed in claim **8**, characterized in that the dosing element is connected in stationary manner to the housing.

10. Device as claimed in claim **8**, characterized in that a part of the supply container forms part of the housing.

11. Device as claimed in claim **10**, characterized in that at least one side wall of the supply container forms part of the housing.

12. Device as claimed in claim **8**, characterized in that at least a part of the supply container is accommodated displaceably in the housing.

13. Device as claimed in claim **8**, characterized in that the dosing compartment is bounded multilaterally by the housing in the active position of the device.

14. Device as claimed in claim **8**, characterized in that the dosing compartment is bounded multilaterally by the housing in the non-active position of the device.

15. Device as claimed in claim **1**, characterized in that the bottom element and the dosing compartment are mutually displaceable according to a substantially linear path.

16. Device as claimed in claim **1**, characterized in that the supply container has a substantially constant volume.

17. Device as claimed in claim **1**, characterized in that the bottom element and a horizontal surface enclose a mutual angle in at least the active position of the bottom element.

18. Device as claimed in claim **17**, characterized in that the bottom element and a horizontal surface enclose a mutual angle which is greater than 5°.

19. Device as claimed in claim **1**, characterized in that the dosing element and a horizontal surface enclose a mutual angle at least in the non-active position of the bottom element.

20. Device as claimed in claim **19**, characterized in that the bottom element and a horizontal surface enclose a mutual angle greater than 5°.

21. Device as claimed in claim **1**, characterized in that the dosing compartment is positioned in the device such that grains present in the dosing compartment can leave the device by falling via the dispensing opening and after displacement of the first closing element to the opened position.

22. Device as claimed in claim **1**, characterized in that the device comprises a second closing element for blocking a passage from the supply container to the dosing compartment in the non-active position of the bottom element.

23. Device as claimed in claim **22**, characterized in that the second closing element is coupled to an upper wall of the supply container.

24. Device as claimed in claim **1**, characterized in that the device comprises biasing means for urging the bottom element to the active position.

25. Device as claimed in claim **24**, characterized in that the biasing means comprise at least one spring.

26. Device as claimed in claim **1**, characterized in that the device comprises a plurality of dosing compartments.

27. Device as claimed in claim **26**, characterized in that the dosing compartments can be filled simultaneously with at least one grain in the active position of the bottom element.

28. Device as claimed in claim **26**, characterized in that the dosing compartments can be filled selectively with at least one grain in the active position of the bottom element.

29. Device as claimed in claim **1**, characterized in that the device is a hand-held device.

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