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(54) **DISTRIBUTOR FOR SEMI-SOLID PRODUCT**

(57) It is provided a distributor (1) for semi-solid product (10), comprising: a main container (2) defining: an internal cavity (20) extending along a main trajectory (2a) and defining: an extraction opening (21), capable of allowing the semi-solid product (10) to exit, and a support element (3) defining a support base (30) for the semi-solid product (10), the main container (2) comprising an access opening (22) separated from the extraction opening (21), the support element (3) is housed inside the internal cavity (20), is movable along the main trajectory (2a) and can be moved with a pushing action through the access opening (22).

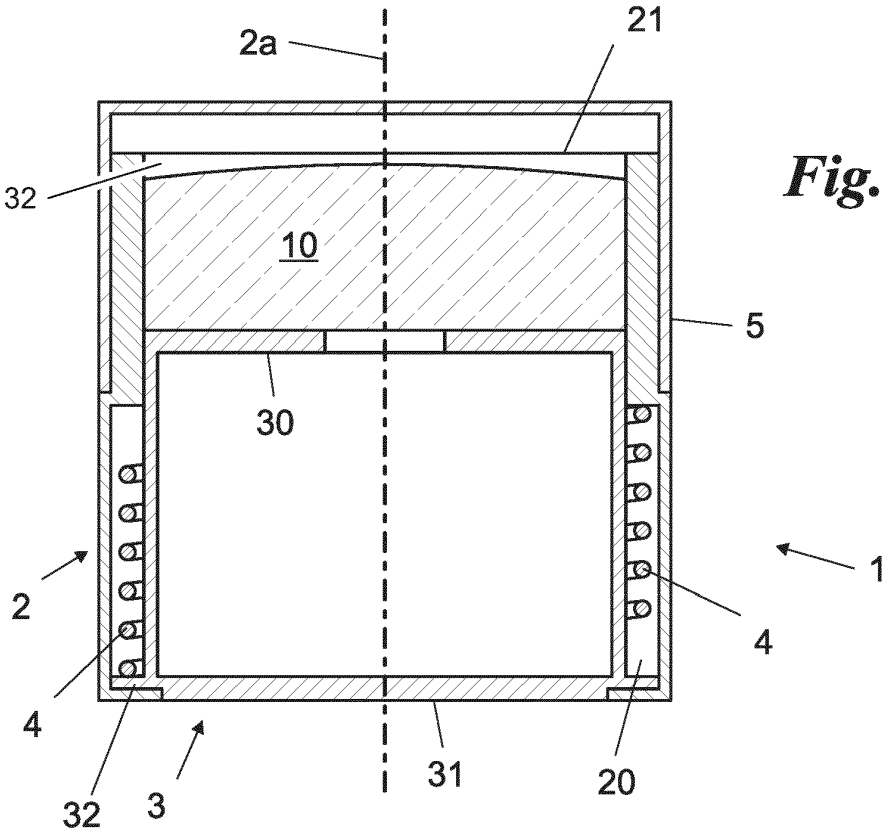

Fig. 1

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Description

[0001] The present invention relates to a semisolid product distributor, such as a cosmetic or the similar, of the type specified in the preamble of the first claim.

[0002] Semi-solid products are currently known, in particular in the field of cosmetics or pharmaceuticals.

[0003] These are protective lip sticks, lipsticks, lip glosses, blushes, foundations and similar products.

[0004] They are generally placed in packaging in which they have a substantially solid consistency. They are, in use, spread on the face or body. During the spreading, due to the mechanical action and the heat of the human body, they assume a substantially creamy or pasty shape which allows the spreading.

[0005] Generally, the packaging of such products includes cylindrical containers, defining an internal cavity and a longitudinal axis.

[0006] In particular, the cylindrical container comprises a movable support, movable along the axis of the cylinder constituting the same base container.

[0007] The cylindrical container generally also comprises a screw mechanism, which can be manually controlled from the outside and adapted to vary the position of the movable support along the axis of the support.

[0008] The semi-solid product, shaped like a rod counter-shaped to the internal surface of the container, is housed inside the base container and supported by the mobile support.

[0009] Consequently, a user, by means of a manual command, can adjust the axial position of the semi-solid product, placing it protruding from the base container for use or housing it entirely inside the base container for its protection, storage or transport.

[0010] This mechanism is very common for the previously mentioned semi-solid products, in particular for lipsticks, sticks and lip glosses.

[0011] The known art described includes some important drawbacks.

[0012] In particular, the action for extracting the semisolid product from the container is long and complex.

[0013] Furthermore, such an operation is problematic to carry out with only one hand. Finally, known containers are complex and expensive.

[0014] In this situation, the technical task underlying the present invention is to devise a semisolid product distributor capable of substantially obviating at least part of the aforementioned drawbacks.

[0015] Within the scope of said technical task, it is an important object of the invention to obtain a semisolid product dispenser which allows quick access to the product.

[0016] Another important object of the invention is to provide a semisolid product distributor that can also be used with one hand.

[0017] A further important object of the invention is to provide a semisolid product distributor that is simple and economical.

[0018] The technical task and the specified aims are achieved by a semisolid product distributor as claimed in the annexed claim 1.

[0019] Preferred technical solutions are highlighted in the dependent claims.

[0020] The characteristics and advantages of the invention are clarified below by the detailed description of preferred embodiments of the invention, with reference to the accompanying figures, in which:

the Fig. **1** shows a normal section of the semisolid product distributor, according to the invention, in a first configuration;

the Fig. **2** shows a normal section of the semisolid product distributor, according to the invention, in a second configuration;

the Fig. **3** shows an exploded view in normal section of the semisolid product distributor, according to the invention;

the Fig. **4** shows a normal section of the semisolid product distributor, according to the invention, in an alternative embodiment and in a first configuration; and

the Fig. **5** shows a normal section of the semisolid product dispenser, according to the invention, in an alternative embodiment and in a second configuration.

[0021] In the present document, the measurements, values, shapes and geometric references (such as perpendicularity and parallelism), when associated with words like "about" or other similar terms such as "approximately" or "substantially", are to be considered as except for measurement errors or inaccuracies due to production and/or manufacturing errors, and, above all, except for a slight divergence from the value, measurements, shape, or geometric reference with which it is associated. For instance, these terms, if associated with a value, preferably indicate a divergence of not more than 10% of the value.

[0022] Moreover, when used, terms such as "first", "second", "higher", "lower", "main" and "secondary" do not necessarily identify an order, a priority of relationship or a relative position, but can simply be used to clearly distinguish between their different components.

[0023] The measurements and data reported in this text are to be considered, unless otherwise indicated, as performed in the International Standard Atmosphere ICAO (ISO 2533:1975).

[0024] With reference to the figures, the distributor according to the invention is globally indicated with the number **1.**

[0025] It is capable of distributing a semi-solid product **10,** such as for example a product for cosmetic or pharmaceutical use, for example a protective stick for the lips, a lipstick, lip gloss, blush, foundation and similar products. The semi-solid product 10 generally has a substantially solid consistency when placed in the distributor and

assumes, when spread on the face or body due to the mechanical action and heat of the human body, a substantially creamy or pasty shape which allows it to be spread.

[0026] In fact, preferably the semisolid product 10 is poured into a metal mould and then is transferred inside the distributor 1 once the solid state is reached.

[0027] The distributor 1 preferably comprises a main container **2** defining an internal cavity **20** and a support element **3,** suitably defining a support base **30** for the semi-solid product 10.

[0028] In detail, the internal cavity 20 preferably extends along a main trajectory **2a,** preferably straight. Furthermore, preferably, the internal cavity 20 is substantially a cavity passing through the main container 22. Finally, it is preferably substantially cylindrical or prismatic.

[0029] The internal cavity 20 preferably comprises an extraction opening **21,** suitable for allowing the exit of said semi-solid product 10 from the main container 2 for its use. The internal cavity 20 also preferably comprises an access opening **22** separated from the extraction opening 21.

[0030] Preferably, the two openings, extraction 21 and access 22, are arranged on opposite faces of the internal cavity 20. For example, they constitute the bases of the cylinder or prism which constitutes the internal cavity 20.

[0031] Structurally, the main container 2 is preferably made of polymeric material and preferably has a cylindrical or prismatic external shape. It also preferably has a length, along the trajectory 2a, equal to the length of the internal cavity 20.

[0032] In addition, the main container 2 can be substantially delimited by side walls having a thickness of between 0.5 mm and 3 mm. Even more conveniently, the side walls can have a thickness of between 1 mm and 2.5 mm. Even more in detail, the side walls can have a thickness between 1.2 mm and 2 mm.

[0033] The main container 2 also preferably comprises a lower internal flange **23,** preferably located in correspondence with the access opening 22.

[0034] The main container 2 also preferably comprises an upper internal flange **24** which can cause a constant narrowing of the diameter of the internal cavity 20.

[0035] Furthermore, structurally, the main container 2 is made in two portions which are then joined together by thread gluing or other. A first portion comprises the upper internal flange 24, the upper portion and preferably also part of the portion below the upper internal flange 24. A second portion comprises the lower internal flange 23 and a portion above the latter which preferably is extends up to the upper internal flange 24.

[0036] The support element 3 defines the support base 30. The latter preferably extends along a plane and, preferably, comprises a series of elements or a perforated surface, so that the semisolid product 10 can bind itself integrally to them, as is known to those skilled in the art.

[0037] The support element 3 also preferably comprises a thrust base **31,** preferably spaced along the trajectory 2a from the support base 20 and able to be easily pushed manually, for example by means of a finger.

[0038] In particular, the support base 30 and the thrust base 31 are mutually spaced by a distance equal to at least 1/3 of the entire length, along the main trajectory 2a, of the main container 2. Even more preferably, the mutual distance between support base 30 and thrust base 31 can be equal to approximately half of the entire length, along the main trajectory 2a, of the main container 2.

[0039] The support element 3 is suitably housed inside the internal cavity 20 so as to be movable along the main trajectory 2a. It is also preferably movable along the main trajectory 2a, with a pushing action through the access opening 22. The pushing action is preferably achievable by means of a finger which takes place, preferably, on the thrust base 31.

[0040] Basically, the support element 3 preferably has an external surface comprising a plurality of counter-shaped points to the walls of the external cavity, so as to be able to exclusively perform translation actions along the main trajectory 2a, without rotating or moving substantially in other directions.

[0041] For example, the support element 3 is cylindrical or prismatic and has the same diameter and shape as the internal cavity 20 in its upper portion after the upper internal flange 24.

[0042] In any case, the support element 3 and the main container 2 define a housing **32** for the semi-solid product 10.

[0043] The housing 32 is nothing more than the volume delimited by the internal walls of the main container 2, the support base 30 and the extraction opening 21. Therefore, the housing 32 is configured to contract and expand according to the position in which the thrust element 3 is located. Furthermore, the housing 32 is a portion of the internal cavity 20.

[0044] In general, when the thrust element 3 is at rest and being in the retracted position, the housing 32 defines a maximum extension.

[0045] Hence, the housing 32 defines dimensions such as to allow housing, when the thrust element 3 is in the rest position, semi-solid product 10 a squat.

[0046] In fact, preferably, the semisolid product 10 defines a squat shape. The term squat means that the diameter of the circumscribed circle at the base of the semisolid product 10 is greater than the height of the semisolid product itself 10.

[0047] Even more generally, the semisolid product 10 defines a ratio between diameter and height between 3/2 and 5/2, in particular approximately equal to 2.

[0048] Practically discoidal defining a diameter, perpendicular to the main trajectory 2a, between 25 mm and 40 mm and a height, along the main trajectory 2a, between 10 mm and 25 mm. Even more in detail, the semisolid product 10 preferably defines a diameter comprised between 30 mm and 35 mm and a height comprised between 15 mm and 20 mm. Even more conveniently, the

semi-solid product 10 can define a diameter of approximately 32 mm and a height of approximately 17 mm. Basically, therefore, the semisolid product 10 preferably and advantageously is not a tapered product, usually present in stick products, such as for example a lipstick, a lead for a pencil or other similar product.

[0049] Therefore, the housing 32 defines, when the thrust element 3 is in the rest position, a volume given by a support base 30 whose diameter of the circle circumscribed thereto is greater than the height given by the internal walls of the main container 2, i.e. the distance between the support base 30 and the extraction opening 21.

[0050] In any case, thanks to the spacing of the support base 30 and the thrust base 31, the support element 3 can advantageously be used to manipulate, inside the main container 2, a semisolid product 10 defining a squat shape. By squat shape it is generally meant that the main diameter of the circumscribed circle at the base of the semisolid product 10 is greater than the height of the semisolid product 10 itself.

[0051] The support element 3 also preferably comprises an internal flange **32.** The internal flange 32 is preferably aligned with the thrust base 31.

[0052] The support element 3 is therefore preferably able to move exclusively along a segment of the main trajectory 2a.

[0053] Said limitation is preferably defined by the interaction between the internal flange 32 and the upper internal flange 24 on the one hand and the lower internal flange 23 on the other.

[0054] Said limitation also defines a lower position at the ends (Fig. 1), in which the semi-solid product 10 is maximally inside the cavity 20 and, preferably, the thrust base 31 is aligned with the base of the main container 2, and an upper position (Fig. 2), in which the semi-solid product 10 protrudes at most from the main container 2 through the extraction opening 21.

[0055] The distributor 1, further comprising, preferably, a return element **4** capable of arranging, in the absence of other forces and constraints, the main container 2 and the support element 3 in a predetermined position, preferably in said lower position (Fig. 1). The return element 4 is preferably an elastic element, such as a helical spring or the like, or a magnetic element or other.

[0056] In an alternative embodiment, shown in Figs. 4-5, the distributor 1 could be devoid of some characteristics previously described as preferable, but not essential.

[0057] As shown, the distributor 1 could not include a lower internal flange 23 and an internal flange 32. In fact, the return element 4 could be dimensioned in such a way as to autonomously define the different positions of the semi-solid product 10, i.e. being dimensioned so such as to bring the thrust base 31 fully towards the access opening 22 when at rest.

[0058] In other words, the limitation of the lower position (Fig. 4) is preferably given by the maximum extension at rest of the return element 4 and the upper position (Fig. 5) is given by the compression of the return element impressed by a user and/or the upper internal flange 24.

[0059] In addition, it is important to note that the support element 3 can be made in one piece, or it can include a plurality of different elements connected to each other, as in the example of Figs. 4-5, for example at least two components that can be fixed by interlocking, or other equivalent constraint, and respectively defining the support base 30 and the thrust base 31.

[0060] The distributor 1, finally comprising, preferably, a plug **5,** capable of closing the main container 2.

[0061] The operation of the distributor 1 previously described in structural terms is as follows.

[0062] It is preferably filled with the semi-solid product 10 described, constrained to the support base 30.

[0063] In rest conditions, preferably, the return element 4 keeps the support element 3 in a lower position (Fig. 1). In this position the semi-solid product 10 is preferably entirely inside the cavity 20 and the return element 4 holds the support element 3 with the internal flange 32 pressing against the lower internal flange 23. The plug 5 can further protect the semi-solid product 10.

[0064] To use the product it is sufficient to remove the plug 5 and press the support element 3 with a finger, preferably in correspondence with the thrust base 31 and passing through the access opening 22. It is necessary to overcome the force of the return element 4 and the support element 3, including the thrust base 31, slides until the internal flange 32 presses against the upper internal flange 24. The device 1 is therefore in the upper position (Fig. 2) and the semi-solid product 10 protrudes at most from the main container 2 and can be spread according to its use and needs. By simply removing the finger from the support element 3, in particular from the thrust base 31, the distributor returns to its lower position (Fig. 1).

[0065] The distributor 1 according to the invention achieves important advantages.

[0066] In fact, the semi-solid product 10 distributor 1 allows rapid access to the product 10, with a simple gesture which can also be achieved with one hand.

[0067] In particular, the introduction of the distance between the thrust base 31 and the support base 30 makes it possible to make the distributor 1 easy to handle for a semisolid product 10 which is substantially squat and with a solid consistency. In fact, the distributors of the known art would be unwieldy if equipped with such a semi-solid product 10.

[0068] In addition, the thinning of the side walls of the main container 2 also facilitates the use of the semi-solid product 10 since they have a very limited impact on the distribution of the product on the user's skin.

[0069] Furthermore, the semi-solid product dispenser is simple and economical, because it consists of a few pieces without complex connections.

[0070] The invention is susceptible of variants falling within the scope of the inventive concept defined by the

claims. In this context, all the details can be replaced by equivalent elements and the materials, shapes and dimensions can be any.

Claims

1. Distributor (1) for semi-solid product (10), comprising:

- a main container (2) defining:
  - an internal cavity (20) extending along a main trajectory (2a) and defining:
    - an extraction opening (21), capable of allowing the exit of said semi-solid product (10), and
    - an access opening (22) separated from said extraction opening (21), and
- a support element (3) movable along said main trajectory (2a), movable with a pushing action through said access opening (22) and defining:
  - a support base (30) for said semi-solid product (10) housed inside said internal cavity (20), and
  - a thrust base (31) spaced along said main trajectory (2a) from said support base (30) and able to be easily pushed manually, for example by means of a finger, through said access opening (22),
  - a housing (32) for said delimited semi-solid product (10), when said support element (3) is in rest position, by the internal walls of said main container (2), said support base (30) and said extraction opening (21), and
- is **characterized by** that:
  - said housing (32) defines, when said thrust element (3) is in rest position, a diameter of a circle circumscribed to said support base (30) greater than the distance between said support base (30) and said extraction opening (21), and
  - said support base (30) and said thrust base (31) are mutually spaced by a distance equal to at least 1/3 of the entire length, along said main trajectory (2a), of said main container (2).

2. Distributor (1) according to the preceding claim, wherein said an internal cavity (20) is a through cavity and said main trajectory (2a) is rectilinear.

3. Distributor (1) according to any preceding claim, wherein said extraction opening (21) and said access opening (22) are on opposite faces of said inner cavity (20).

4. Distributor (1) according to any preceding claim, wherein said pushing action through said access opening (22) is achievable by means of a finger.

5. Distributor (1) according to any preceding claim, comprising a return element (4) adapted to arrange, in the absence of other efforts and constraints, said main container (2) and said support element (3) in a predetermined position.

6. Machine (1) according to the preceding claim, wherein said return element (4) is an elastic element.

7. Machine (1) according to claim 5 or 6, wherein in said predetermined position the semisolid product (10) is maximally inside said cavity (20).

8. Distributor (1) according to any preceding claim, wherein said support element (3) is capable of moving exclusively along a segment of said main trajectory (2a).

9. Distributor (1) according to any preceding claim, wherein said internal cavity (20) is cylindrical.

10. Machine (1) according to any preceding claim, including said semi-solid product (10) constituted by a cosmetic product.

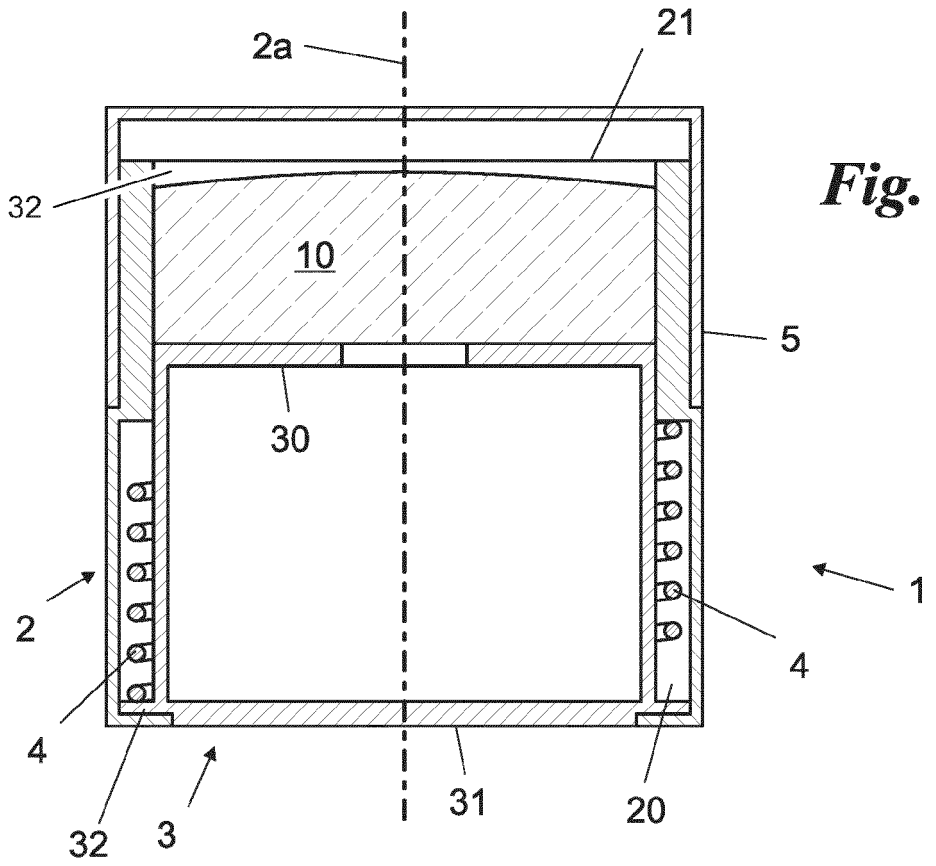

Fig. 1

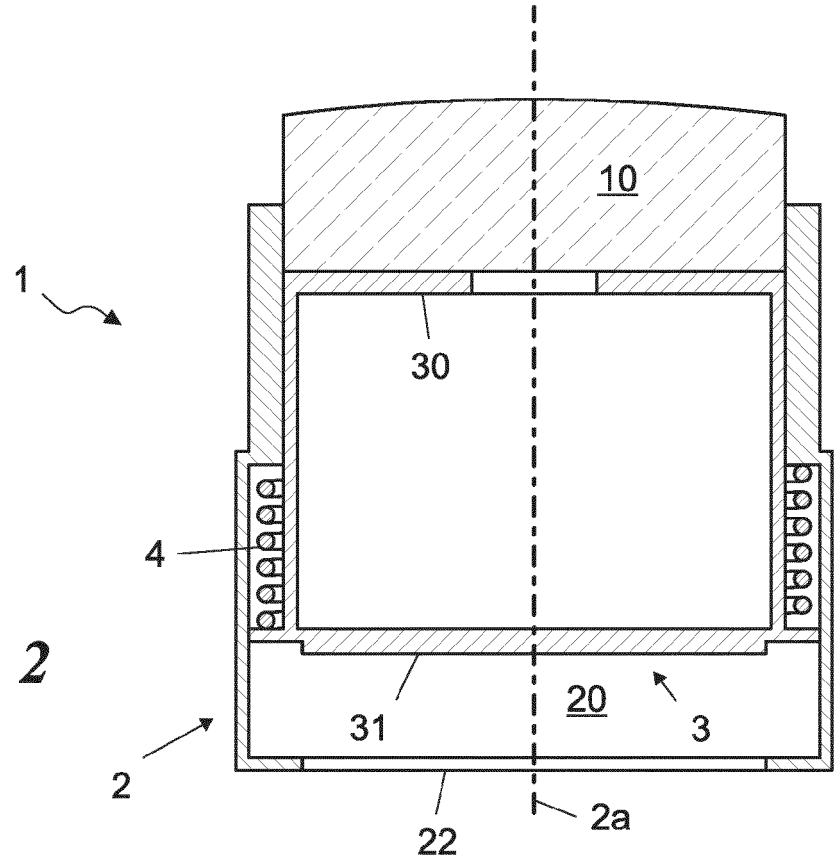

Fig. 2

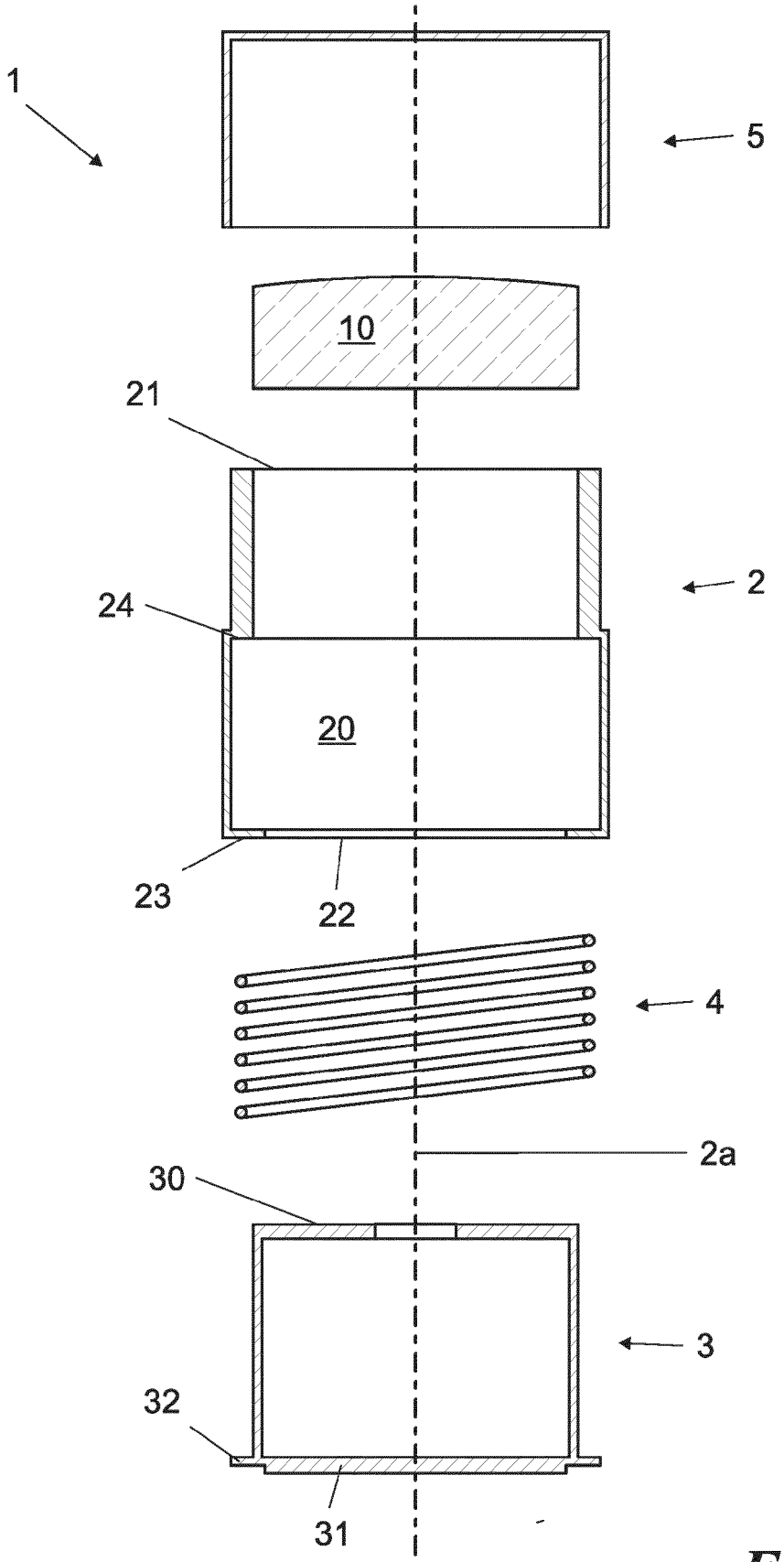

Fig. 3

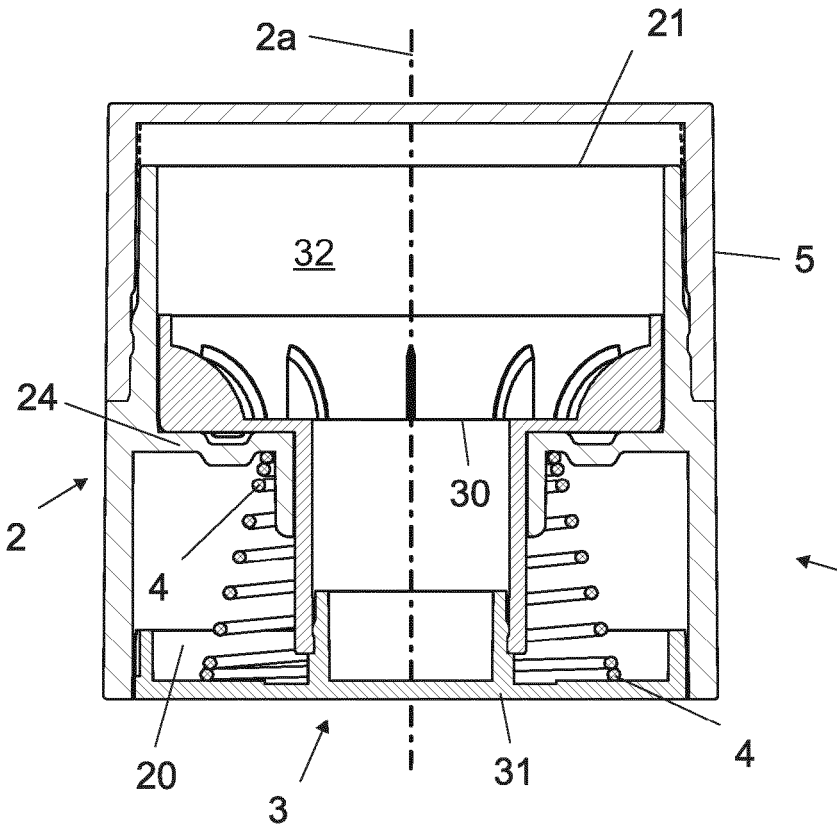

Fig. 4

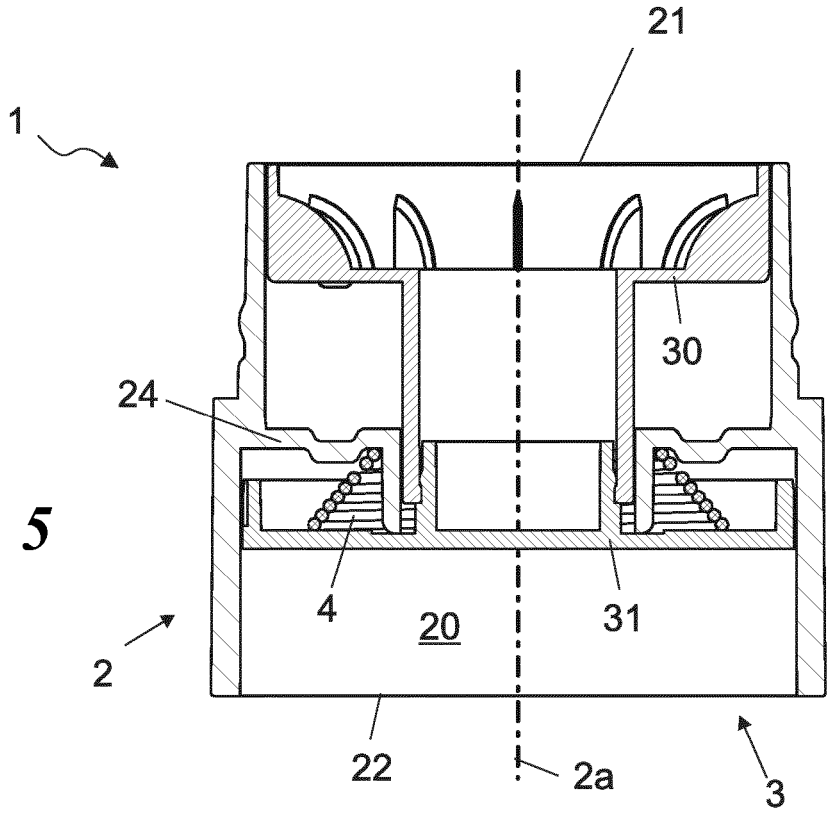

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 21 17 2234

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	JP 2017 023198 A (MITSUBISHI PENCIL CO) 2 February 2017 (2017-02-02) * abstract * * paragraphs [0020], [0029], [0031] * * figures *	1-10	INV. A45D40/02 A45D40/10
X	US 3 032 180 A (VICTOR GRISEL YVAN) 1 May 1962 (1962-05-01) * figures * * page 2, line 3 - page 4, line 2 *	1-10	
A	GB 593 203 A (CLAUDE FREDERICK BARRETT) 10 October 1947 (1947-10-10) * page 2, line 50 - line 103 * * figures 1, 2 *	1	

TECHNICAL FIELDS SEARCHED (IPC)

A45D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	28 August 2021	Zetzsche, Brigitta

CATEGORY OF CITED DOCUMENTS

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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