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(54) **WRITING INSTRUMENT**

(57) The writing and drawing instrument (1) comprises at least one grip/containment body (2), with a substantially elongated shape, for the grip of said tool (1) by a user and the containment of ink, and at least one tip element (3) associated with one extremity of the grip/containment body (2) for the ink to come out, which comprises:

- a substantially tubular cover body (4), open at its extremities (5) and sliding along the grip/containment body (2);
- opening/closing means (10, 11) associated with the cover body (4) and having at least one movable closing element (10);

and in which the cover body (4) being movable between a closing configuration (12), wherein the cover body (4) is positioned around the tip element (3) and the closing element (10) is positioned substantially transversely inside of the cover body (4), and an opening configuration (13), wherein the cover body (4) is substantially moved away from the tip element (3) and the closing element (10) is substantially aligned with the inner surface (14) of the cover body (4).

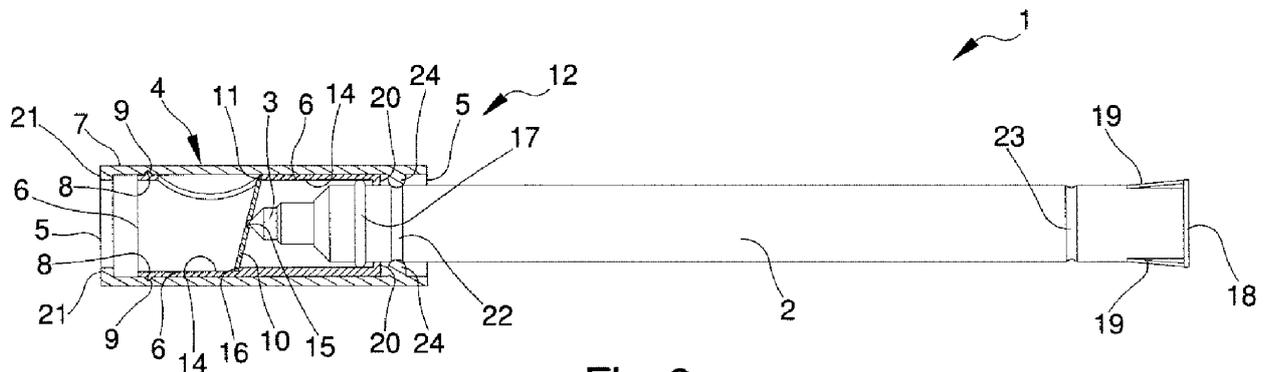


Fig. 2

Description

[0001] The present invention relates to a writing and drawing instrument, particularly of the type of a pen, a felt-tip pen or the like.

[0002] With particular reference to the field of stationery, various types of writing and drawing instruments are known such as pens and felt-tip pens.

[0003] In particular, the felt-tip pens of known type have a grip/containment body generally with an elongated and tubular shape, able to allow a user to grip the felt-tip pen itself and to contain the ink; in detail, the ink generally consists of a mixture of dye products, water and chemical solvents such as, e.g., toluene and xylene.

[0004] The felt-tip pen has a tip element arranged at the extremity of the grip/containment body, able to make the ink come out of the tip element itself by pressure onto a paper support.

[0005] In particular, such tip elements usually consist of porous synthetic material such as felt or nylon able to absorb the ink and release it onto the paper support.

[0006] In addition, the above felt-tip pens have a cover body, the so-called "cap" or "top", able to be fitted around the grip/containment body and able to cover the tip element, and to be removed from same before use.

[0007] In this regard it is useful to point out that the cap is of particular importance as regards the duration of the felt-tip pen, inasmuch as the exposure to the air of the tip element leads to the rapid drying of the ink, forcing the user to replace the felt-tip pen itself before the ink is completely used up.

[0008] It is easy to appreciate how, especially if the felt-tip pen is used by children, the loss of the cap causes the rapid drying of the tip element, resulting in considerable replacement costs and material waste.

[0009] Furthermore, the detachment of the cap from the felt-tip pen could result in the child risking suffocation if he/she tries to swallow the cap.

[0010] To date, to overcome these problems at least in part, felt-tip pens are known having a cap associated with the grip/containment body, not completely removable from the latter and having valves for the exit of the tip element.

[0011] The above types of felt-tip pens are however susceptible of further improvements aimed in particular at increasing their practicality and safety of use.

[0012] The main aim of the present invention is to provide a writing and drawing instrument which allows to eliminate the risk of swallowing the cap by a child.

[0013] Another object of the present invention is to provide a writing and drawing instrument which allows to greatly reduce material waste and replacement costs. A further object of the present invention is to provide a writing and drawing instrument which allows to overcome the mentioned drawbacks of the prior art within the ambit of a simple, rational, easy, effective to use and affordable solution.

[0014] The above mentioned objects are achieved by

the present writing and drawing instrument having the characteristics of claim 1.

[0015] Other characteristics and advantages of the present invention will become better evident from the description of a preferred but not exclusive embodiment of a writing and drawing instrument, illustrated by way of an indicative, but nonlimiting example in the accompanying drawings in which:

10 Figure 1 is an axonometric view of the instrument according to the invention in a first operating configuration;

Figure 2 is a sectional view of the instrument of Figure 1;

15 Figure 3 is an axonometric view of the instrument according to the invention in a second operating configuration;

Figure 4 is a sectional view of the instrument of Figure 3;

20 Figure 5 is an axonometric view of the instrument according to the invention in a third operating configuration;

Figure 6 is a sectional view of the instrument of Figure 5.

[0016] With particular reference to such figures, reference number 1 globally indicates a writing and drawing instrument, particularly of the type of a pen, a felt-tip pen or the like.

30 **[0017]** In detail, in the context of this treatise by "writing and drawing instrument" is meant a felt-tip pen.

[0018] The felt-tip pen 1 comprises a grip/containment body 2 to enable a user to grip the felt-tip pen 1 and to contain ink.

35 **[0019]** The grip/containment body 2 has a substantially elongated shape.

[0020] In detail, the grip/containment body 2 has a substantially cylindrical shape; nevertheless, alternative embodiments cannot be ruled out wherein the grip/containment body 2 has a square profile.

40 **[0021]** The felt-tip pen 1 comprises a tip element 3 associated with an extremity of the grip/containment body 2 for the ink to come out.

45 **[0022]** As is known to the technician in the field, the tip element 3 is made from porous synthetic material such as nylon or felt.

[0023] More in particular, the shape and size of the tip element 3 vary according to the type of felt-tip pen and to the user's requirements; felt-tip pens for precision drawing have e.g. a thin tip element 3, while felt-tip pens for large drawings have a thicker tip element 3.

[0024] With reference to the particular embodiment shown in the illustrations, the tip element 3 has a substantially conical shape.

55 **[0025]** According to the invention, the felt-tip pen 1 comprises a substantially tubular cover body 4, open at its extremities 5 and sliding along the grip/containment body 2.

[0026] Advantageously, the cover body 4 comprises a first covering element 6 substantially tubular and open at its extremities 5, inserted axially sliding on the grip/containment body 2.

[0027] Preferably, the cover body 4 comprises a second covering element 7 substantially tubular and open at its extremities 5, inserted on the first covering element 6 and coupled integral with the first covering element itself.

[0028] In a preferred embodiment shown in the illustrations, the first covering element 6 and the second covering element 7 are coaxial to one another and have a substantially cylindrical shape.

[0029] In detail, the first covering element 6 and the second covering element 7 are associated with each other by interposition of locking means 8, 9.

[0030] The locking means 8, 9 comprise a groove 8 formed on at least one of the first covering element 6 and the second covering element 7 and an abutment protrusion 9 formed on the other of the first covering element 6 and the second covering element 7 and at least partially inserted in the groove 8.

[0031] With reference to the particular embodiment shown in the figures, the groove 8 is formed on the first covering element 6 and the abutment protrusion 9 is formed on the second covering element 7.

[0032] In detail, the groove 8 and the abutment protrusion 9 have a substantially annular shape.

[0033] Alternative embodiments cannot however be ruled out wherein the locking means 8, 9 comprise at least one tooth element insertable into a respective housing seat for the integral locking of the first covering element 6 to the second covering element 7.

[0034] The felt-tip pen 1 comprises opening/closing means 10, 11 having a closing element 10 associated movable with the cover body 4.

[0035] Conveniently, the opening/closing means 10, 11 are arranged on a side portion of the cover body 4.

[0036] Advantageously, the closing element 10 has a substantially circular shape. Alternative embodiments cannot however be ruled out wherein said closing element 10 has different shapes, that is, e.g., a square, a rhomboid shape or alternative polygonal shapes.

[0037] Preferably, the closing element 10 is made from polymeric material.

[0038] In detail, the cover body 4 is movable between a closing configuration 12 (Figures 1 and 2), wherein the cover body 4 is positioned around the tip element 3 and the closing element 10 is positioned substantially transversely inside of the cover body 4, and an opening configuration 13 (Figures 3, 4, 5 and 6), wherein the cover body 4 is substantially moved away from the tip element 3 and the closing element 10 is substantially aligned with the inner surface 14 of the cover body 4.

[0039] More precisely, the closing element 10 aligns itself with the inner surface 14, during the transit of the grip/containment body 2, and then remains resting on the outer surface of the latter, during the use of the felt-

tip pen 1. Advantageously, the closing element 10 comprises a housing seat 15 to accommodate the tip element 3 in the closing configuration 12.

[0040] As can be seen in the illustrations, the housing seat 15 is a cavity having a substantially semi-circular cross section and aimed at protecting the tip element 3 from any shocks that could jeopardise its shape and functionality.

[0041] It is easy to understand how the shape and depth of the housing seat 15 vary according to the shape and the thickness of the tip element 3; this means that alternative embodiments cannot be ruled out wherein the tip element 3 is completely housed inside the housing seat 15.

[0042] The opening/closing means 10, 11 comprise elastic return means 11 for recalling the closing element 10 from the closing configuration 12 to the opening configuration 13.

[0043] In this regard it is useful to specify that the elastic return means 11 are of the type of a spring, or a valve and are able to recall the closing element 10 from the closing configuration 12 wherein the closing element itself is positioned transversally resting on the tip element 3, to the opening configuration 13 wherein the tip element itself by pressing on the closing element 10 determines the lifting of the latter.

[0044] To this must be added the fact that the first covering element 6 comprises an abutment edge 16 for the abutment and locking of the closing element 10 in the closing configuration 12.

[0045] More particularly, as shown in Figure 2, the abutment edge 16 is able to close the cover body 4 tightly, thus preventing the passage of air and consequently the drying of the tip element 3.

[0046] The felt-tip pen 1 comprises retaining means 17, 18 associated with the grip/containment body 2 and able to prevent the detachment of the cover body 4 from the grip/containment body 2.

[0047] Advantageously, the retaining means 17, 18 comprise a first abutment element 17 and a second abutment element 18 associated with the grip/containment body 2 and able to abut the cover body 4 during the sliding between the opening configuration 13 and the closing configuration 12, and vice versa.

[0048] Preferably, the first abutment element 17 and the second abutment element 18 have a substantially annular shape.

[0049] In detail, the first abutment element 17 is positioned in the proximity of the tip element 3 and the second abutment element 18 is positioned at the opposite extremity of the tip element 3.

[0050] In the particular embodiment shown in the figures, the first abutment element 17 is made of an annular edge arranged in the proximity of the tip element 3 and able to prevent the cover body 4 from coming out during its sliding along the grip/containment body 2.

[0051] Moreover, the second abutment element 18 is represented in the form of a shoulder inserted at the op-

posite extremity of the tip element 3.

[0052] Preferably, the second abutment element 18 has two locking portions 19 extending towards the tip element 3 and are able to lock the cover body 4 in the opening configuration 13.

[0053] More particularly, the locking portions 19 are of the wedge type and allow the interlocking of the cover body 4, inserting at least partially inside of the second covering element 7.

[0054] Alternative embodiments cannot however be ruled out having a plurality of locking portions 19.

[0055] Similarly, further embodiments cannot be ruled out wherein the first abutment element 17 and the second abutment element 18 have different shapes and arrangements, that is e.g. they are arranged in the proximity of the centre of the grip/containment body 2, or alternatively have the shape of toothed elements or thickenings of the outer surface of the grip/containment body 2.

[0056] Furthermore, the felt-tip pen 1 comprises stop means 22, 23, 24 to stop the cover body 4 in the opening configuration 13 and/or in the closing configuration 12.

[0057] The stop means 22, 23, 24 comprise at least one stop groove 22, 23 in which can be inserted at least in part at least one locking element 24 formed inside of the second covering element 7 to lock the cover body 4 in the closing configuration 12 and/or in the opening configuration 13.

[0058] The locking element 24 has a substantially annular shape and extends cantilevered from the inner surface 14 of the second covering element 7.

[0059] Alternative embodiments cannot however be ruled out wherein there are a plurality of locking elements 24 having different conformations, that is, e.g., can be made in the form of a plurality of locking elements 24 independent of each other, protruding with respect to the inner surface 14 and insertable to measure inside of the stop groove 22, 23.

[0060] With reference to the particular embodiment shown in the figures, the stop means 22, 23, 24 comprise a first stop groove 22 arranged in the proximity of the tip element 3 and in which can be inserted at least in part the locking element 24 formed inside of the second covering element 7 to lock the cover body 4 in the closing configuration 12.

[0061] Advantageously, the first stop groove 22 has a substantially annular shape; in detail, the first stop groove 22 is arranged in the proximity of the first abutment element 17.

[0062] In the closing configuration 12, the locking element 24 is inserted inside of the first stop groove 22, allowing the maintenance in such configuration of the cover body 4 and preventing its accidental movement, e.g., due to the falling of the felt-tip pen 1 (figures 1 and 2).

[0063] As can be seen from the illustrations, the stop means 22, 23, 24 comprise a second stop groove 23 arranged in the proximity of the second abutment element 18 and in which is insertable at least in part the locking element 24 to lock the cover body 4 in the opening

configuration 13 (figures 3 and 4). Advantageously, the second stop groove 23 has a substantially annular shape; in detail, the second stop groove 23 is arranged in the proximity of the second abutment element 18.

[0064] In the opening configuration 13, the locking element 24 is inserted inside of the second stop groove 23 to lock the cover body 4 in the opening configuration 13. With reference to the particular embodiment shown in the illustrations, the second covering element 7 comprises reduction edges 20 for the reduction of the inner extremal diameter, in such a way that the latter is less than the diameter of the first abutment element 17 and of the second abutment element 18.

[0065] In other words, the reduction edges 20 are an aid in avoiding the coming out of the cover body 4; this means they reduce the risk of swallowing and choking by children, greatly increasing the functional value of the present invention and the relevant safety level.

[0066] The cover body 4 comprises a safety element 21 made on at least one of the extremities 5 and able to reduce the inner extremal diameter of the cover body itself.

[0067] The above inner extremal diameter is smaller than the length of the closing element 10.

[0068] As can be seen from the illustrations, the safety element 21 is made on the second covering element 7 at the extremity 5 opposite to the reduction edges 20. Preferably, the safety element 21 has a substantially annular shape.

[0069] In the present case, the inner diameter of the second covering element 7, at the extremity 5, is slightly greater than the diameter of the first abutment element 17 in such a way as to allow its coming out during the sliding between the closing configuration 12 and the opening configuration 13.

[0070] Furthermore, it is best to point out that in case of breakage of the elastic return means 11, with consequent detachment of the closing element 10, the latter is retained inside of the second covering element 7, preventing it from coming out, and avoiding the danger of swallowing by children.

[0071] The operation of the present invention is the following.

[0072] A user holds the felt-tip pen 1 through the grip/containment body 2.

[0073] The felt-tip pen is in the closing configuration 12, that is, the cover body 4 is arranged around the tip element 3 and the locking element 24 is inserted inside of the first stop groove 22. Subsequently, the user slides the cover body 4 as far as the second stop groove 23 in which the locking element 24 is inserted, retaining the cover body itself in the opening configuration 13.

[0074] Alternatively, in the event of the locking element 24 coming out of the second stop groove 23, the second abutment element 18 locks the cover body 4 by means of the interlocking of the locking element itself on the locking portions 19 (Figures 5 and 6).

[0075] In detail, the pressure applied by the tip element

3, during sliding of the cover body 4, determines the lifting of the closing element 10 that aligns with the inner surface 14 of the first covering element 6, and then remains resting on the outer surface of the grip/containment body 2.

[0076] Once finished using the felt-tip pen 1, the user slides the cover body 4 towards the tip element 3, repositioning it to the initial closing configuration 12.

[0077] It has been found in practice that the described invention achieves the intended objects.

[0078] Moreover, the fact is underlined that the particular solution of providing a cover body sliding on the grip/containment body allows providing a writing and drawing instrument able to eliminate the risk of swallowing and choking and, furthermore, also able to greatly reduce material waste and replacement costs.

Claims

1. Writing and drawing instrument (1), comprising at least one grip/containment body (2), with a substantially elongated shape, for the grip of said tool (1) by a user and the containment of ink, and at least one tip element (3) associated with one extremity of the grip/containment body (2) for said ink to come out, **characterized in that** it comprises:

- at least one substantially tubular cover body (4), open at its extremities (5) and sliding along said grip/containment body (2);
- opening/closing means (10, 11) associated with said cover body (4) and having at least one movable closing element (10);

said cover body (4) being movable between a closing configuration (12), wherein said cover body (4) is positioned around said tip element (3) and said closing element (10) is positioned substantially transversely inside of said cover body (4), and an opening configuration (13), wherein said cover body (4) is substantially moved away from said tip element (3) and said closing element (10) is substantially aligned with the inner surface (14) of said cover body (4).

2. Instrument (1) according to claim 1, **characterized in that** said cover body (4) comprises:

- at least a first covering element (6) substantially tubular and open at the extremities (5), inserted axially sliding on said grip/containment body (2);
- at least a second covering element (7) substantially tubular and open at the extremities (5), inserted on said first covering element (6) and coupled integral with the first covering element itself.

3. Instrument (1) according to one or more of the preceding claims, **characterized in that** it comprises

retaining means (17, 18) associated with said grip/containment body (2) and able to prevent the detachment of said cover body (4) from said grip/containment body (2).

4. Instrument (1) according to one or more of the preceding claims, **characterized in that** said closing element (10) comprises at least one housing seat (15) to accommodate said tip element (3) in said closing configuration (12).

5. Instrument (1) according to one or more of the preceding claims, **characterized in that** said opening/closing means (10, 11) comprise elastic return means (11) for recalling said closing element (10) from said closing configuration (12) to said opening configuration (13).

6. Instrument (1) according to one or more of the preceding claims, **characterized in that** said first covering element (6) comprises at least one abutment edge (16) for the abutment and locking of said closing element (10) in said closing configuration (12).

7. Instrument (1) according to one or more of the preceding claims, **characterized in that** said first covering element (6) and said second covering element (7) are coaxial to one another and have a substantially cylindrical shape.

8. Instrument (1) according to one or more of the preceding claims, **characterized in that** said retaining means (17, 18) comprise a first abutment element (17) and a second abutment element (18) associated with said grip/containment body (2) and able to abut said cover body (4) during the sliding between said opening configuration (13) and said closing configuration (12).

9. Instrument (1) according to one or more of the preceding claims, **characterized in that** said first abutment element (17) is positioned in the proximity of said tip element (3) and said second abutment element (18) is positioned at the opposite extremity of said tip element (3).

10. Instrument (1) according to one or more of the preceding claims, **characterized in that** said second covering element (7) comprises reduction edges (20) for the reduction of the inner extremal diameter, said inner extremal diameter being less than the diameter of said first abutment element (17) and of said second abutment element (18).

11. Instrument (1) according to one or more of the preceding claims, **characterized in that** said cover body (4) comprises at least one safety element (21) made on at least one of the extremities (5) and able

to reduce the inner extremal diameter of said cover body (4), said inner extremal diameter being smaller than the length of said closing element (10).

12. Instrument (1) according to one or more of the preceding claims, **characterized in that** it comprises stop means (22, 23, 24) to stop said cover body (4) in said opening configuration (13) and/or in said closing configuration (12).

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13. Instrument (1) according to one or more of the preceding claims, **characterized in that** said stop means (22, 23, 24) comprise at least one stop groove (22, 23) in which can be inserted at least in part at least one locking element (24) formed inside of said second covering element (7) to lock said cover body (4) in said closing configuration (12) and/or in said opening configuration (13).

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14. Instrument (1) according to one or more of the preceding claims, **characterized in that** said first covering element (6) and said second covering element (7) are associated with each other by interposition of locking means (8, 9).

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15. Instrument (1) according to one or more of the preceding claims, **characterized in that** said locking means (8, 9) comprise one groove (8) formed on at least one of said first covering element (6) and said second covering element (7) and at least one abutment protrusion (9) formed on the other of said first covering element (6) and said second covering element (7) and at least partially inserted in said groove (8).

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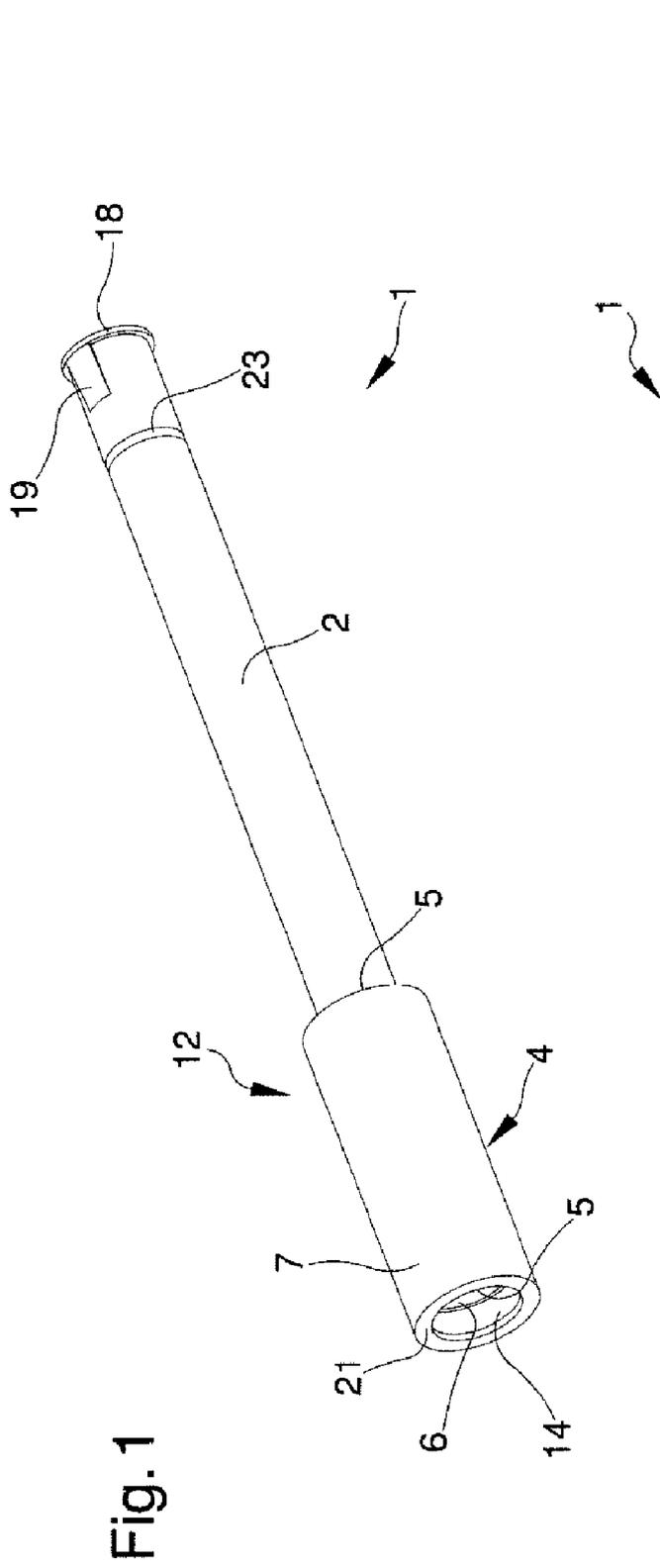


Fig. 1

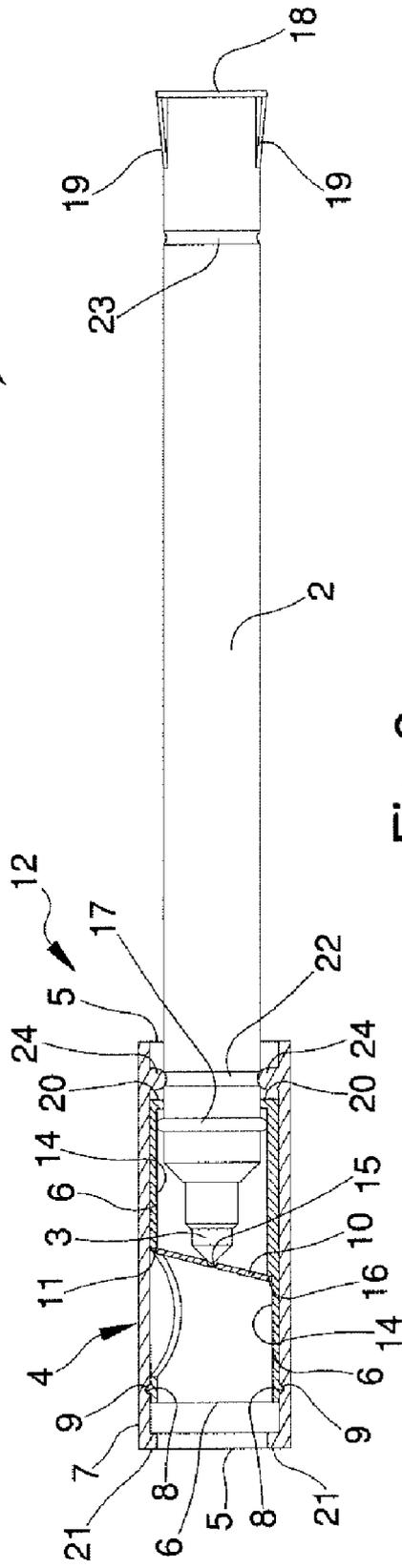


Fig. 2

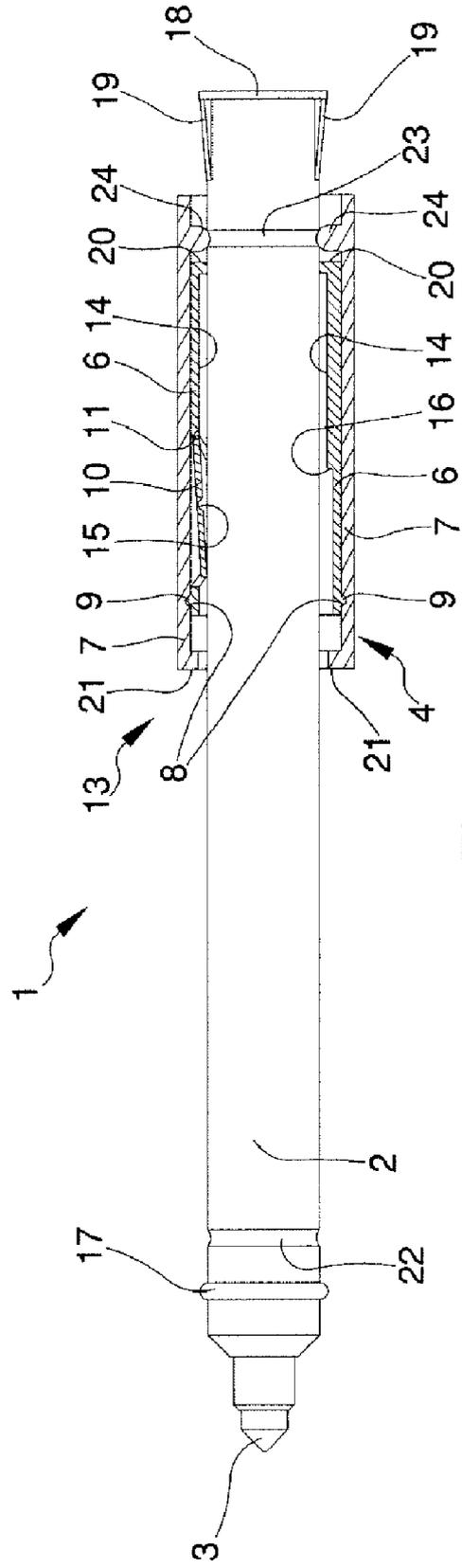
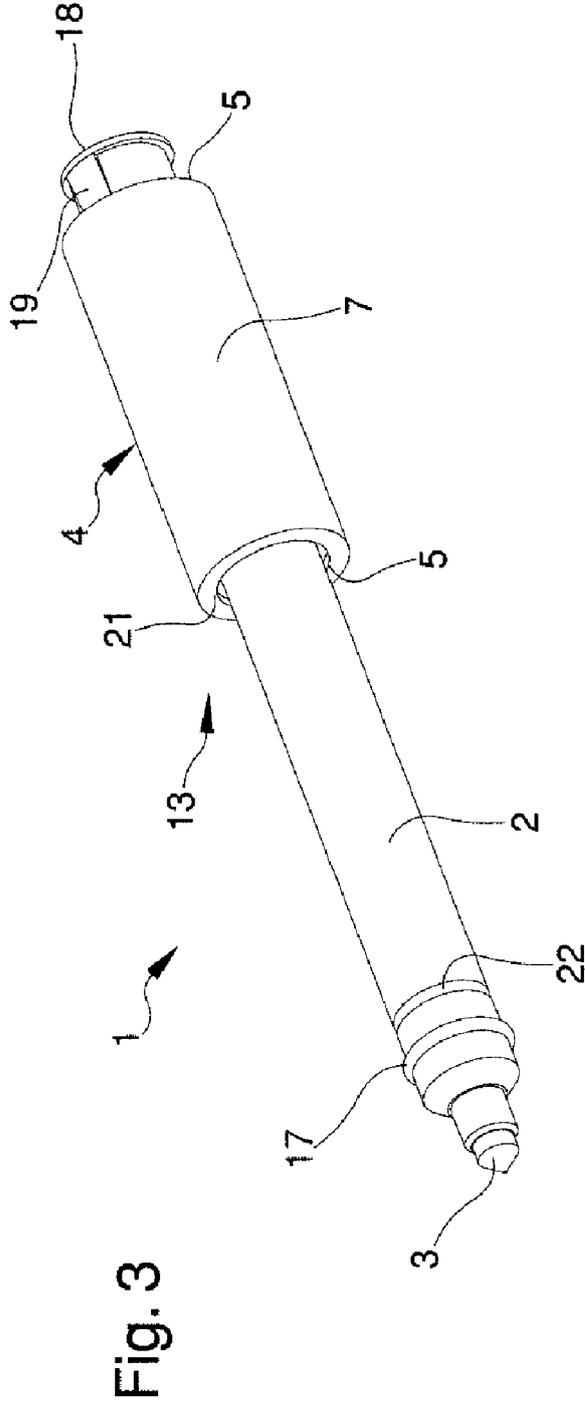


Fig. 4

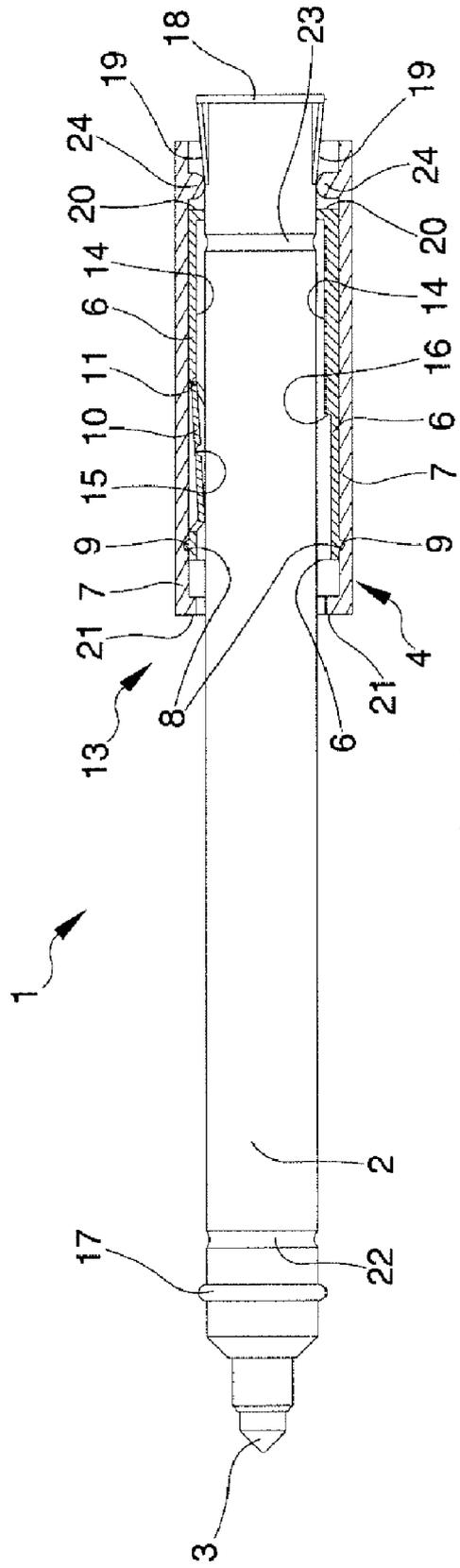
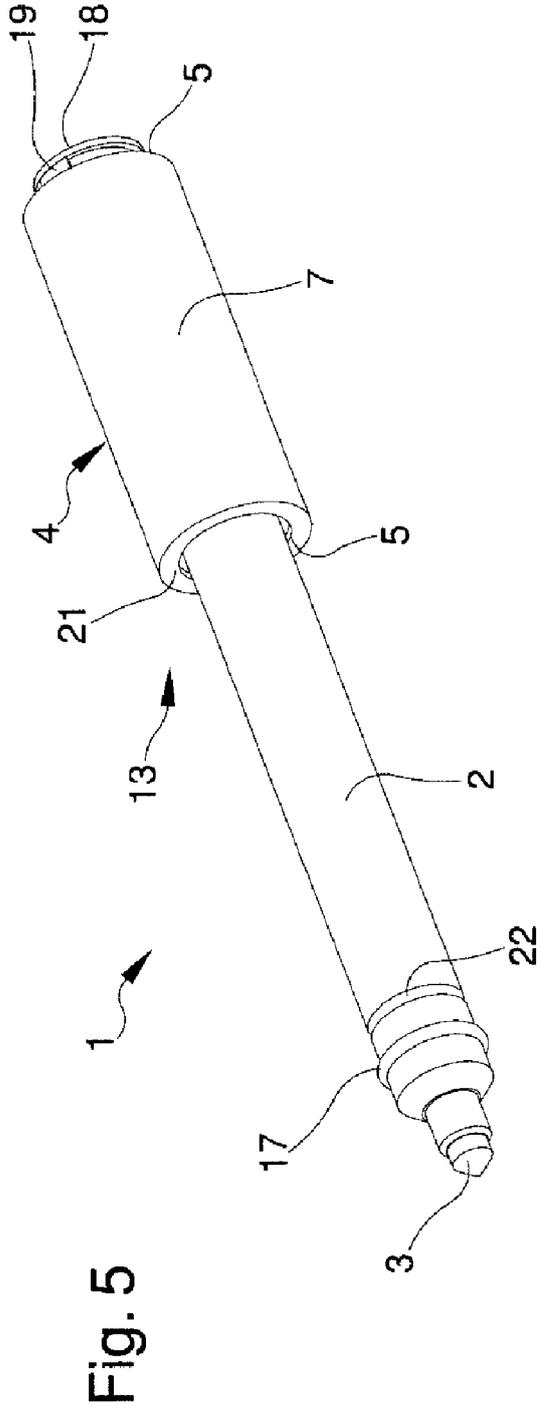


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 15 19 5706

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 October 2016	Examiner Björklund, Sofie
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 15 19 5706

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