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(54) Title: ORAL HYGIENE CASE WITH DENTAL FLOSS LID COMPARTMENT

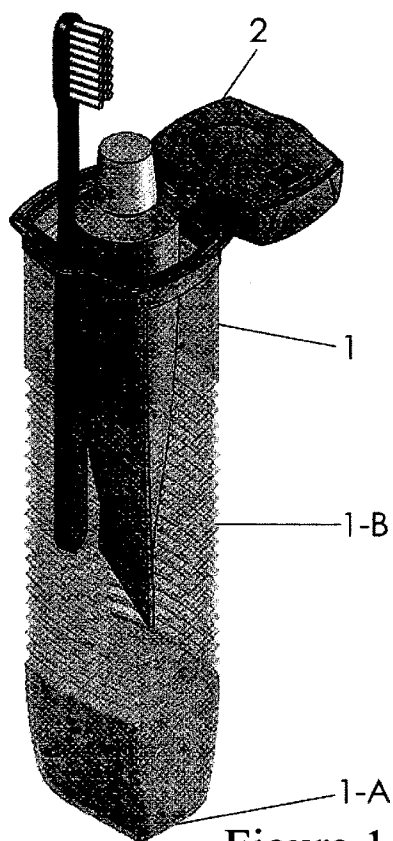


Figura 1

(57) Abstract: Oral hygiene case with dental floss lid compartment, refers to the present invention an improved case with lid compartment to hold dental floss or ribbon, and for keeping a toothbrush or toothpaste in its body that presents constructivity and advanced design with access to the case's body (1) interior concomitant with opening the dental floss lid compartment (2) for use, presents also length and intern volume flexibility, accessories to hang, allowing change of its shape, saving the use of pollutant materials, showing excellent cost-benefit ratio.

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ORAL HYGIENE CASE WITH DENTAL FLOSS LID COMPARTMENT

Refers to the present invention a totally new case with a compartment to hold dental floss or ribbon attached to the lid, and for keeping a toothbrush or toothpaste in its body that presents constructivity and advanced design, the case features an access to the case's interior concomitant with opening the dental floss housing for use, length and intern volume flexibility, accessories to hang, aiming being different on the major concept which is reducing packing size of the dental floss or ribbon, paste and brush products, specially by changing the paradigm that people don't have the habit of carrying those, allowing change of its shape, saving the use of pollutant materials, showing excellent cost-benefit ratio.

As it's of knowledge of the technicians responsible for manufacturing cases for oral hygiene products, the first cases to be developed would hold toothbrush, toothpaste, dental ribbon or floss arranged loose or fit in the case. Among others, the Brazilian patents MU7800574-4, MU8202290-9 and MU8500729-3, of the same inventor of the present invention, revealed improved cases with the same concept of the first cases, but still those bring inconveniences and difficulties of use, using many high priced items that also produce non-biodegradable industrial residues.

After researching, carrying cases were found as shown on the following patents:

a) The US patent Des. 328,978, that presents integrated dental floss on one of the case's extremities, and internal space for toothbrush combined with another lid, with a single lid for

accessing the case's interior, with space only for the toothbrush and the dental floss is fixed on the other end of the case's body;

b) US patent Des. 336,782, that presents carrying case combining toothbrush, toothpaste compartment, dental floss holder and protecting dental floss cover on the same shape as the case, without internal space for accommodating items and with fixed compartment for dental floss on one of the body's extremity;

c) Patent US5078526 presents tube shaped case for accommodating dental paste and brush, with inferior end for fitting dental floss holder and lid together with prismatic square duct for housing the toothpaste, with no internal space for accommodating items and with fixed dental floss on one of the body's extremity;

d) US patent Des, 362,341, presents prismatic rectangular case, with space for accommodating toothbrush with its cover and a compartment for dental floss on the opposite side, with no internal space for accommodating items and with fixed dental floss on one of the case's body extremity;

e) Patent US5415187 presents prismatic rectangular case combining compartment for dental floss on one of its ends, space for toothbrush and its cover in the centre, and room for the toothpaste on the other end of the case, without internal space for accommodating items and with dental floss fixed on one of the body's extremity;

f) Patent US2002088474 shows prismatic case accommodating the dental floss on one of its ends, space for toothbrush and its cover in the centre and the toothpaste on the other end, with no internal space for accommodating items and with a fixed dental floss on one of the body's end;

g) Patent US2005211263 presents toothbrush container with torsion and ventilating cover integrated with the dental floss compartment, with room for toothbrush with dental paste compartment and with a lid on one of its ends and with fixed dental floss section on the other end, with no internal space for accommodating items and with fixed dental floss on one of its body's extremity;

h) Patent US2006260635 presents case combining toothbrush, and dental floss compartment on its opposite end, with no internal space for accommodating items and with dental floss compartment on one of the case's body extremity;

i) Patent US2006280548 presents a lid with dental floss compartment on its toothbrush's extremity, without internal space for accommodating items and with fixed dental floss compartment on one of the case's body extremity;

j) Patent US2007110503 shows a case including space for toothbrush and accommodation of dental floss on the opposite side, with no internal space for accommodating items and with dental floss compartment on one of the case's body extremity.

The carrying cases revealed previously show disadvantages and limitations of having restrict space and only accommodating toothbrush with or without dental paste compartment, and of using a single access lid to the case's interior and also the fact that the dental floss compartment does not open and give access the case's interior.

ORAL HYGIENE CASE WITH LID COMPARTMENT FOR DENTAL FLOSS OR RIBBON, object of the present patent was developed to overcome the limitations and disadvantages of the current kits, due to its totally new constructivity and design, with

access to the case's interior concomitant with the opening of the dental floss compartment for use, length and internal volume case's flexibility, with accessories to hang, allowing change of its shape, saving the use of pollutant materials, showing excellent cost-benefit ratio. Additionally, presents the advantages of flexibility to store brush and pastes of all sizes and weights, adopting packing size reduction for transport and sales, providing consequent environment control, minimizing the use of contaminating materials for the environment and, of being able to carry advertisements on the case's body.

Obtaining the optimized carrying case of the present patent demanded incessant technical research and searches for technologies, aiming being different on the major concept which is reducing packing size of the dental floss or ribbon, paste and brush products specially by changing the paradigm that people don't have the habit of carrying those. Therefore this invention intends to facilitate the creation of such habit, of carrying their dental supplies in a practical way, reducing packing which contaminates the environment.

For better understanding of the present patent, the following figures were attached containing one of the possible constructive forms:

FIGURE 1., shows the case's frontal section perspective of the present patent, with the compartment for dental floss opened, and with the toothbrush and paste being taken off the case;

FIGURE 2., shows the case's frontal section perspective of the present patent, with the dental floss compartment closed and the toothbrush and paste placed in its interior;

FIGURA 3., shows a frontal perspective of the lid compartment of the present patent, when closed, when opened for use of the dental floss and opened for use of the case's interior, and also of the lid compartment when disassembled for switching the dental floss roll;

FIGURE 4., shows a frontal view of the case's body of the present patent, with the dental floss lid compartment opened, with no dental floss roll in it;

FIGURA 5., shows a transversal section view of the case of the present patent with detailed connection of body and lid compartment;

FIGURA 6., shows a side view of the case's body of the present patent with the possibility to vary the volume by locks and by lowering height.

According to the referred figures, the improved case of the present patent includes body (1) of polygonal prismatic shape or cylindrical, or mixed, with lower part (1-A) closed or with conventional lid, central part with room for advertising and with folding (1-B) and the superior part with spread mouth (1-C) and with compatible dimension and section with the body (1), dental floss lid compartment (2) of compatible dimension and section with the case's body (1) with a frame (2-A) with compatible shape, that fits the mouth (1-C) by means of the lock (2-A-4) and containing ring (2-A-1) with handle (2-A-1-A) and flap (2-A-2) with opening (2-A-3) to make a hinge with flap (2-B-2), base (2-B) of polygonal prismatic shape or cylindrical or mixed, with its bottom closed and the top opened including a fitting spool tube (2-B-1) fixed on its centre, flap (2-B-2) to make a hinge with the flap (2-A-2), flap (2-B-3) connected to flap (2-C-1), opening for dental floss crossing (2-B-4) and opening (2-B-5)

for fitting the knife (4), lid (2-C) with compatible shape with the base (2-B) with flap (2-C-1) connected to flap (2-B-3), two guides (2-C-2) laterally placed inside the case, conventional spool (3) and conventional knife (4).

As an alternative, the body (1) can be divided in two parts: anterior part (1-D) with bigger transversal section than the transversal section of the posterior part (1-E) containing a lock (1-D-1) and posterior part (1-E) containing height adjusters (1-E-1) that fit each other, allowing variation of the case's internal volume.

The case can be used as described bellow:

1. For keeping objects:

1.a. The dental floss lid compartment (2) is opened allowing the access to the case's body interior (1);

1.b. The length of the case can be regulated by the folding (1-B) in order to keep the toothbrush, paste or another objects;

1.c. The dental floss lid compartment is closed.

2. For taking objects off it and using them:

2.a. The dental floss lid compartment (2) is opened, accessing the case's body interior (1);

2.b. The dental floss can be pulled from the dental floss lid compartment (2) and cut for use;

2.c. The toothbrush, paste or any other object can be taken off the case for use;

2.d. Once finished using them, the objects can be kept in the case, the dental floss lid compartment (2) can be closed, and hanged or not by its handle (2-A-1-A) or by the opening (2-A-3);

CLAIMS

1. ORAL HYGIENE CASE WITH DENTAL FLOSS LID COMPARTMENT, characterized by, body (1) of polygonal prismatic shape or cylindrical or mixed with lower part (1-A) closed or with conventional lid, central part with room for advertising and with folding (1-B) and the superior part with spread mouth (1-C) with dimension and section compatible with the body (1), and dental floss lid compartment (2) of dimension and section compatible with the case's body (1) with a frame (2-A) with compatible shape, that fits the mouth (1-C) by means of the lock (2-A-4) and containing ring (2-A-1) with handle (2-A-1-A) and flap (2-A-2) with opening (2-A-3) to make a hinge with the flap (2-B-2), base (2-B) of polygonal prismatic shape or cylindrical or mixed, with its bottom closed and opened top including a fitting spool tube (2-B-1) fixed on its centre, flap (2-B-2) to make a hinge with the flap (2-A-2), flap (2-B-3) connected to flap (2-C-1), opening for dental floss crossing (2-B-4) and opening (2-B-5) for fitting the knife (4), lid (2-C) with compatible shape with the base (2-B) with flap (2-C-1) connected to flap (2-B-3), two guides (2-C-2) laterally placed inside the case, conventional spool (3);

2. ORAL HYGIENE CASE WITH DENTAL FLOSS LID COMPARTMENT, according to claim 1, characterized by, body (1) alternatively can be divided into two parts: anterior part (1-D) with bigger transversal section than the transversal section of the posterior part (1-E), containing a lock (1-D-1) and the superior part (1-E) containing height adjusters (1-E-1), that fit each other.

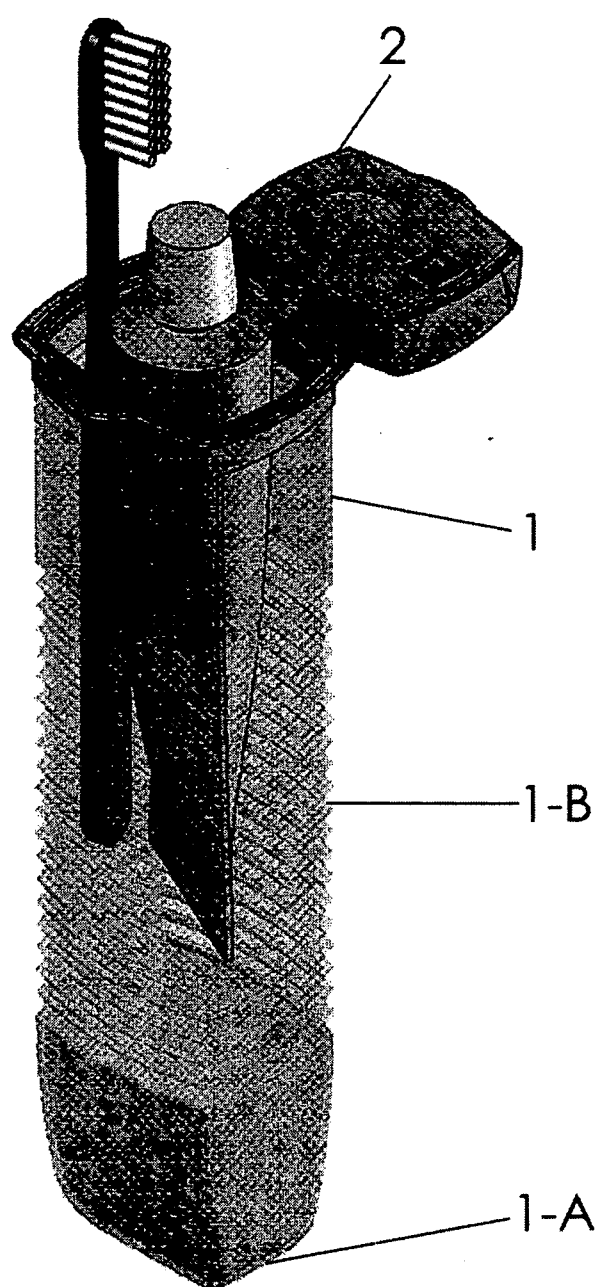


Figura 1

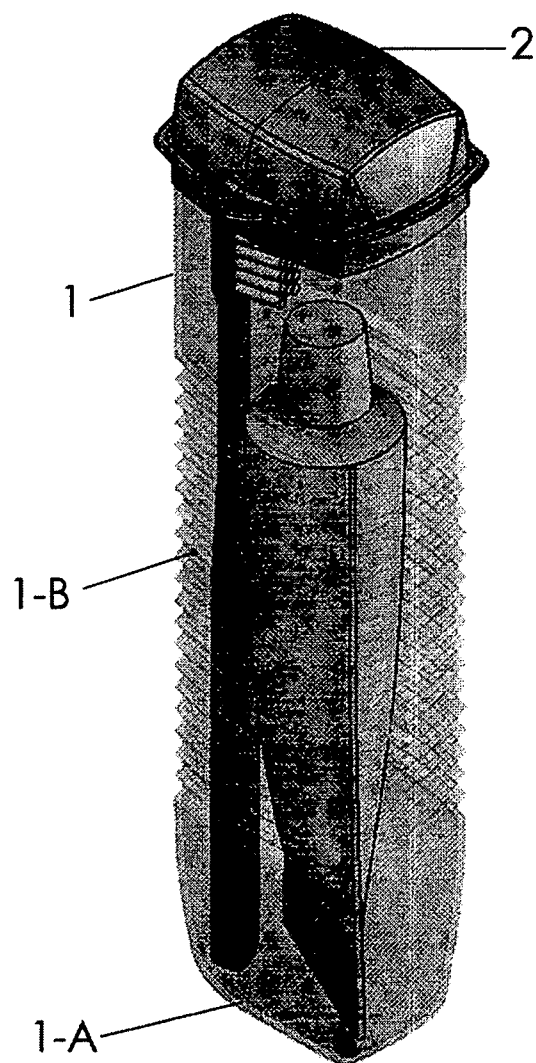


Figura 2

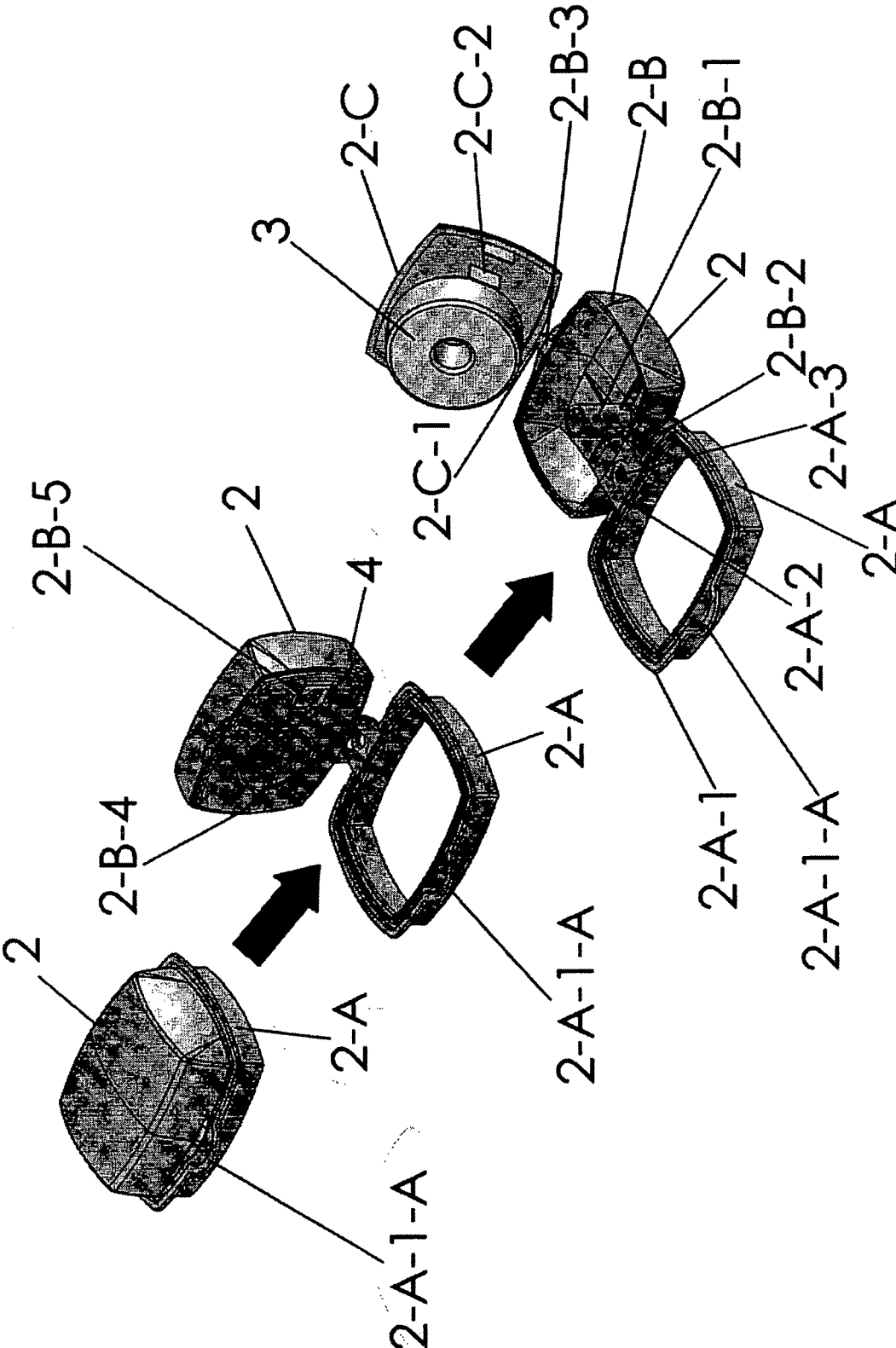


Figura 3

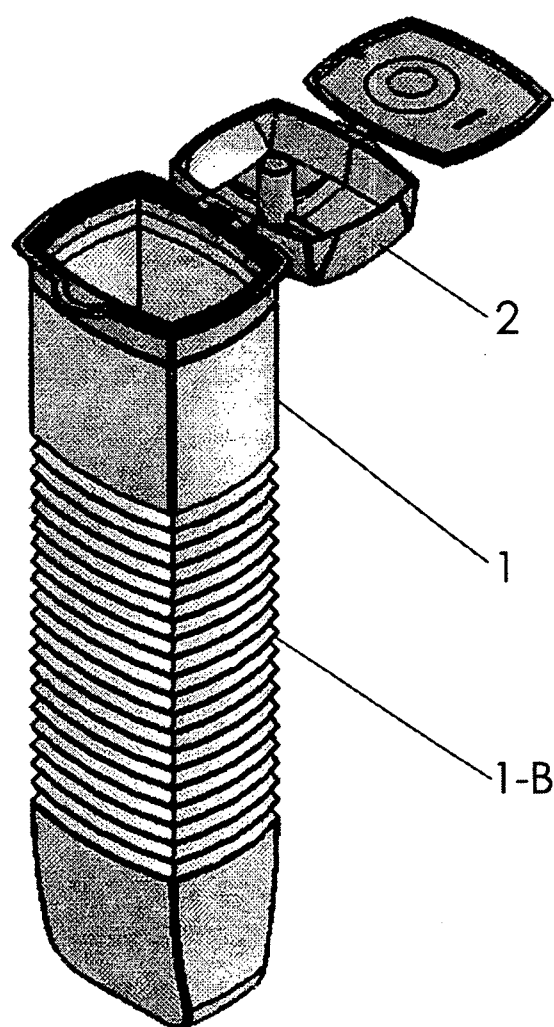


Figura 4

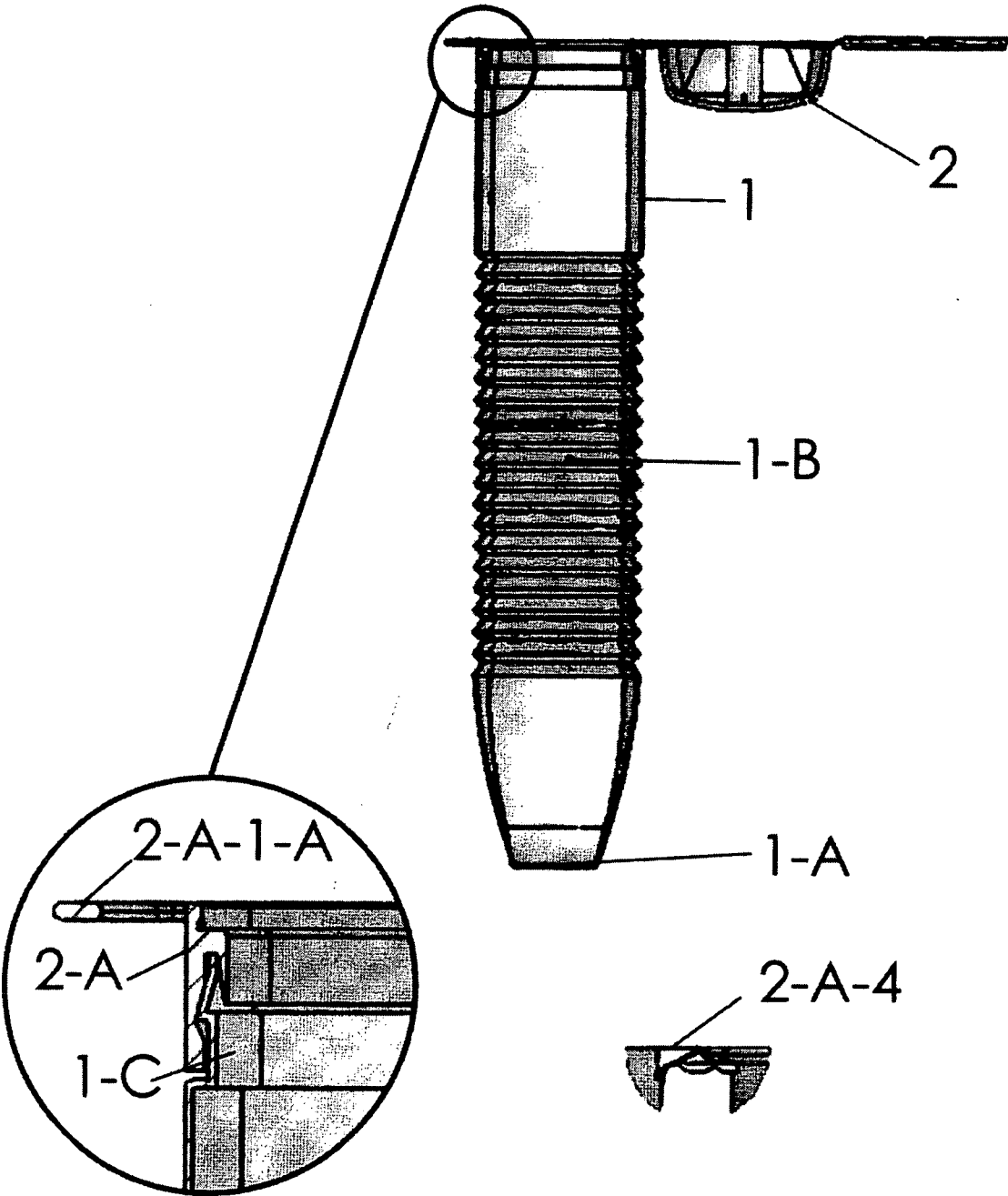


Figura 5

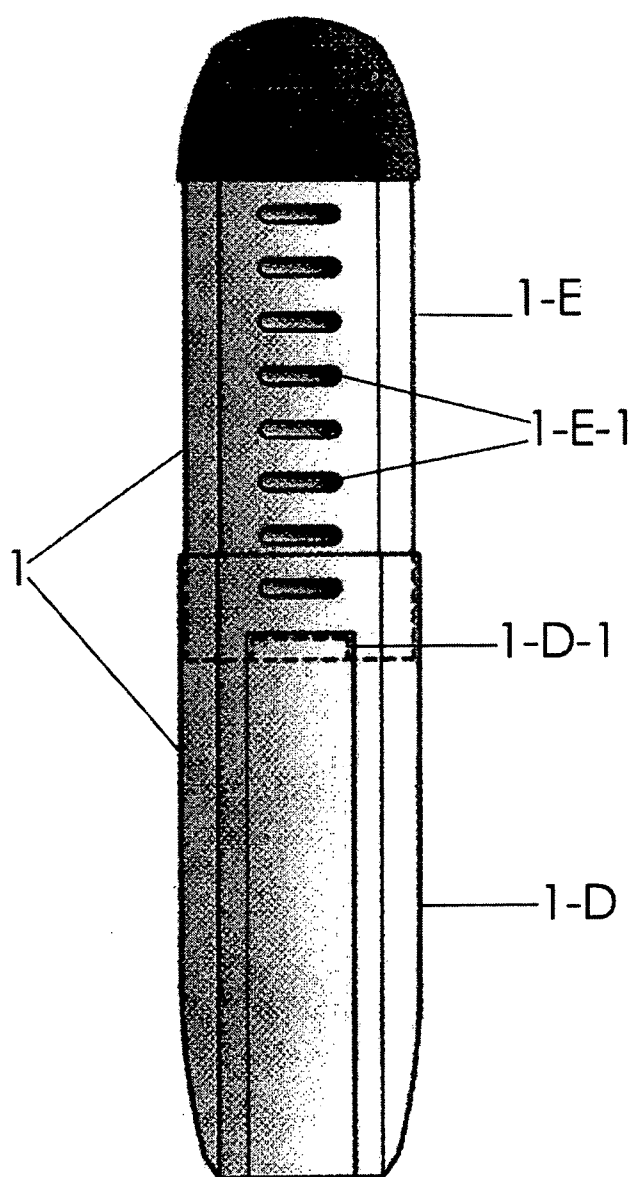


Figura 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR 2008/000350

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁸: **A46B 11/00** (2006.01); **A46B 17/00** (2006.01); **A61C 17/00** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁸: A46B, A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, X-FULL, IPDL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7011467 B1 (Fiore (the younger) et al.) 14 March 2006 (14.03.2006) <i>Abstract; Description, col. 7, l. 32 - 40, col. 9, l. 14 - 67, col. 10, l. 1 - 39, col. 12, l. 56 - 62; Fig. 1, 3, 4b.; Claims 1, 5, 7, 9, 16, 18</i>	1 - 2
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A	US 6129090 A1 (Pillar et al.) 10 October 2000 (10.10.2000) <i>Abstract; Description, col. 2, l. 64 - 67, col. 3, l. 1 - 15, col. 4, l. 41 - 48; Fig. 1 - 2; Claims 1 - 7</i>	1 - 2
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A	US 3890986 A1 (Gerlich) 24 June 1975 (24.06.1975) <i>Abstract; Description, col. 1, l. 40 - 67, col. 2, l. 1 - 27; Fig. 1 - 6; Claims 1 - 5</i>	1 - 2

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
11 February 2009 (11.02.2009)Date of mailing of the international search report
24 February 2009 (24.02.2009)Name and mailing address of the ISA/ AT
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Dresdner Straße 87, A-1200 ViennaAuthorized officer
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Telephone No. +43 / 1 / 534 24 / 458

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/BR 2008/000350

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
US	A	7011467		US	B1	7011467	2006-03-14
US	A	6129090		US	A	6129090	2000-10-10
US	A	3890986		US	A	3890986	1975-06-24