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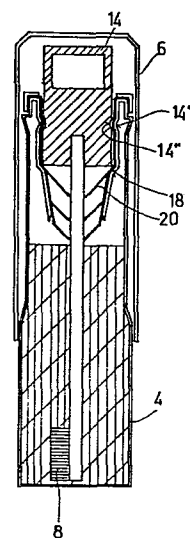
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54 A kit for cleaning the teeth with a toothbrush storable in the toothpaste holder.

57 This invention relates to a reservoir or container for a dentifrice provided with a removable cover, in which container the toothbrush is stored – when not using it – in a position such that it is immersed into the dentifrice. For using the toothbrush this is withdrawn from the container and subsequently fitted by means of a screw or snap fitting at the top end of the container, the latter functioning thus as a handle. The cover having the shape of a cup, is used as a personal mouth-rinser glass.

Fig. 1



A kit for cleaning the teeth with a toothbrush storable into the toothpaste holder

The present invention relates to a device for the mouth and teeth hygiene. It comprises in combination an interchangeable tooth brush and a case in which a dentifrice — to which disinfectant substances may be added — is contained, said case being provided with a fluid-tight cover; the container and cover being intended, as their main function, for keeping
5 the toothbrush in an aseptic environment, a further purpose being that of rendering the toothbrush and the dentifrice holder as a whole more compact and in a single piece when the toothbrush is stored into said holder.

In fact, as well known, several separate items are presently required for the mouth and teeth hygiene, that is a toothpaste tube or a liquid dentifrice bottle; a toothbrush and related case, and a personal mouth rinsing cup. All such items being separate from one another are cumbersome and liable to be mislaid and above all they do not ensure a total
10 aseptic condition of the toothbrush.

For overcoming such inconveniencies, several improvements have been suggested. For instance, a toothbrush recently put on the market by the Swiss firm TRISA under the trade name of RAPIDENT, is provided a replaceable cartridge inserted in the toothbrush handle. The dentifrice, which is in the liquid form, flows from the cartridge to the toothbrush head through a channel along the stem which connects the brush head to that portion of the handle where the cartridge is inserted. The liquid dentifrice outflows from small holes which are provided over the brush head at the base of the bristles.
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The toothbrush as above outlined is in fact a compact single-piece appliance. However it suffers from many deficiencies and, above all, it does not solve the object of maintaining the toothbrush constantly immersed into the dentifrice, that is in an aseptic medium, which is a major object of this invention. In fact any germs collected by the brush during a tooth cleaning operation are liable to grow if the brush is left in the open air with the simple
20 protection of a cover. Furthermore there is no cuplike part for mouth rinsing in the above Swiss device.

It is therefore a main purpose of the present invention to provide a device for cleaning the teeth such that the toothbrush head and a portion of its stem are immersed, when not

in use, into the dentifrice substance contained in a case and thus constantly preserved in an aseptic environment.

A second purpose of the present invention is that of combining in a single device all the equipment which is required for keeping the teeth aseptically clean, in a compact self-contained kit.

The above objects are attained by providing a reservoir or container for a dentifrice which may be medicated or added with disinfectant substances, which container is provided with a removable cover and adapted for receiving a toothbrush thereinto — when not making use of it — in such a position that the brush is sunk into the dentifrice. For using the brush, this is withdrawn from the container and firmly attached on top thereof by means of a screw or a snap fitting. The brush stem which connects the brush head to the container, being shorter than usual, the container itself functions as an handle for the brush.

A wiping element is provided inside of the container neck around the outlet thereof, for metering the amount of dentifrice entrained by the brush when withdrawing it from the container, for preventing any amount of dentifrice from leaking from the container, while cleaning the teeth and for wiping any dentifrice from the brush stem. Such wiping element may have the form of a funnellike elastic membrane with a central hole through which the stem of the brush and the brush head are forced to slide when the toothbrush is withdrawn from the container or inserted thereinto.

According to a further novel feature of this invention a cuplike cover is provided for closing the container, which serves as a personal glass for rinsing the mouth.

Additional features and advantages of the present invention will become apparent from the following description and drawings which illustrate by way of example a preferred embodiment thereof.

In the drawings:

Fig. 1 shows a longitudinal cross-section of the device according to this invention, the toothbrush being shown as sunk into the dentifrice within the container;

Fig. 2 shows the reservoir or container and toothbrush assembled together for the tooth cleaning operation.

With reference to the figures, the device of this invention comprises a cylindrical elongated container or reservoir 4 which in the illustrated embodiment has a larger transverse cross-section at the lower section both for better gripping the container and for readily fitting a cover 6 thereon.

The inner surface of the rim of cover 6 tightly engages the outer surface of container 4 at the beginning of the portion thereof with larger cross-section. Container 4 is filled with dentifrice of proper fluidity in which the brush head 8, that is the brush portion which carries the bristles, is immersed along with a portion of the brush stem 12. The brush as a whole

le is indicated by reference number 10. The brush stem 12 at its end opposite to the brush head 8 is provided with a base 14 which may be integral with stem 12 or bonded thereto. Base 14 projects from the container mouth when the brush is stored into the container and is provided with means for grasping it when the brush is to be withdrawn therefrom.

5 According to the embodiment shown in the drawings, such means comprises a cavity 14' in which the user can insert the finger tips and apply an upward force for pulling the brush out of the container.

Base 14 is further provided with means such as peripheral grooves 14'' adapted for co-operating with corresponding circular ridges 14''' of which the inner surface of the container neck is provided. The engagement of grooves 14'' with ridges 14''' ensures a fluidtight snap fitting which prevents any leakage of dentifrice from the container and of air thereinto.

A funnellike wiping element 18 is fitted into the mouth of container 4. Element 18 comprises a membrane of elastomeric material which may be provided as shown in the drawings with inner circular fins 20 directed downwards; it may also comprise an outer funnellike sheath for backing the membrane and thus preventing it from being reversed upwards when the brush is withdrawn from container 4.

Element 18 is mounted on the mouth rim of container 4 and fastened thereto by clamping ring 22. Each fin 20 defines a center hole having a size less than the toothbrush stem. After using the toothbrush 10, this is stowed into container 4 so that the brush head 8 and a portion of the brush stem are dipped into the dentifrice and the brush base projects from the container mouth.

For using the brush 10, this is pulled out of the container by grasping the base 14 which is free from toothpaste and then not slippery. The brush is then overturned and its base 14 is fitted into the container neck. The container can thus be used as a handle for the brush as shown in fig. 2

When withdrawing the brush from the container, the brush stem being at sliding contact with fins 20 is freed from the tooth paste sticking to it and any exceeding amount of paste collected by the brush head is held back in the container so that no tooth-paste is wasted.

A main feature of the invention is that the cuplike cover of the container can be used as a personal glass for mouth rinsing.

From the above description it clearly appears that by the device of this invention the toothbrush, when not making use of it, is stored in an aseptic environment and that all the equipment required for properly cleaning the teeth and rinsing the mouth are assembled together in a single self-contained compact kit.

It is further to be noted that the reservoir can be refilled when needed with toothpaste

and that all the kit components, the brush excluded, are not subject to wear and thus only the brush is to be replaced from time to time.

What is claimed is:

1. An apparatus for cleaning the teeth and rinsing the mouth in which apparatus several known elements are combined together for attaining a totally novel result that is for preventing any contact of the toothbrush with foreign matter and having the toothbrush constantly aseptic before and after its use characterized by the fact of comprising a reservoir which contains a substance which may be a plain dentifrice or a disinfecting dentifrice; a toothbrush provided with a bristle covered head, with a stem and with a base; which toothbrush is constantly sunk in said substance when stored into said reservoir; the base of the toothbrush being provided with means for connecting it fluidtight with the reservoir either in a position such that said brush head and related stem is received into the reservoir to reach the bottom thereof, or in a position such that the brush head and stem project from the reservoir, whereby the latter can be used as a handle for the toothbrush.
2. An apparatus as claimed in claim 1, wherein said dentifrice containing reservoir is a substantially cylindrical elongated vessel provided at one end with a large opening surrounded by a socketlike structure integral with the vessel wall which socketlike is provided at its inner surface with means for firmly and fluidtight receiving the toothbrush base in either of said two positions.
3. An apparatus as claimed in claim 2, wherein said socketlike structure is provided with a funnellike extension projecting towards the inside of said container and an elastic funnellike membrane is laid on the inner surface of said extension which membrane is provided at its inner surface with at least one circular fin at the center of which a hole is provided having a size smaller than the stem of the toothbrush.
4. An apparatus as claimed in claim 1, which further comprises a cuplike cover for said container, which cover is fitted tightly on a section of larger diameter of said container when the toothbrush is stored thereinto and is adapted for serving as a mouthrinsing glass.
5. An apparatus as claimed in claim 2, wherein the means provided at the outer surface of the base of the toothbrush and at the inner surface of said socketlike structure of the con-

tainer comprise respectively at least one circular groove and at least one circular ridge adapted for making a snap fitting with one another.

6. An apparatus as claimed in claim 2 wherein the means provided at the outer surface of the base of said toothbrush and at the inner surface of said socketlike structure of the container comprise a threading adapted for screwing the base into and out of the socket.
7. An apparatus as claimed in claim 1, wherein said base of the toothbrush is provided with means for grasping it when pulling the toothbrush out of the container and when connecting the toothbrush to the container in a projecting position.
8. An apparatus as claimed in claim 7, wherein said means for grasping the toothbrush base comprises a transverse cavity provided through the base which cavity is accessible by the user's fingers when the toothbrush is fully inserted into said toothpaste containing reservoir.

Fig. 1

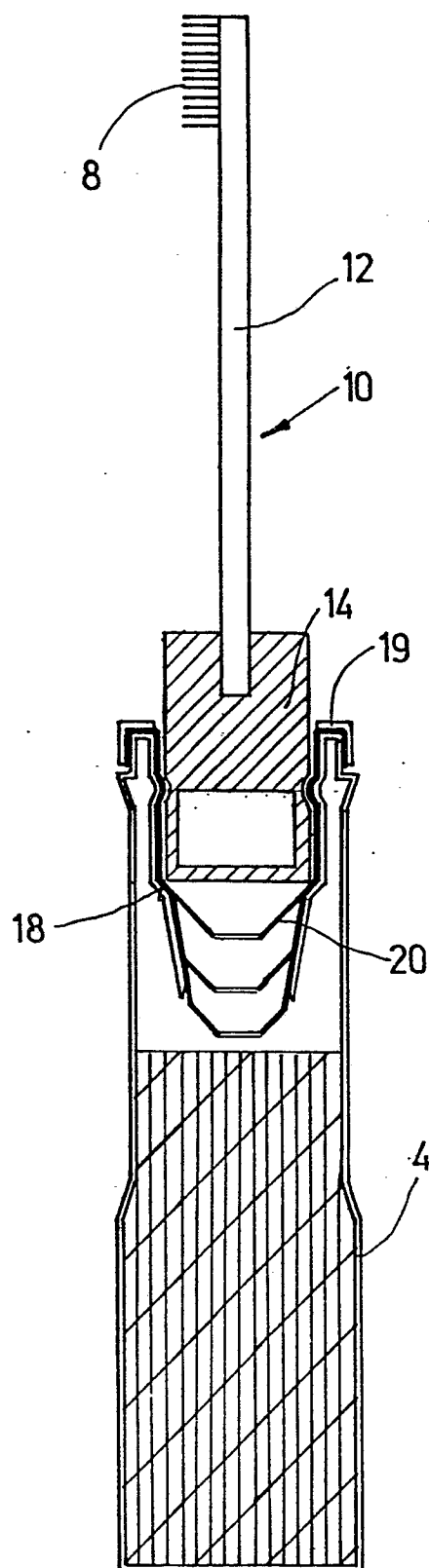
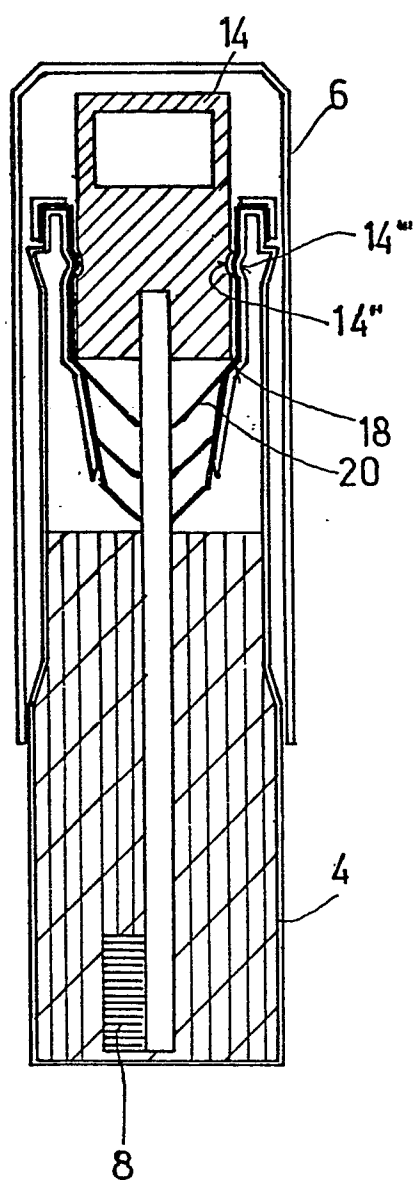


Fig. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application number

EP 81 83 0198

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	FR - A - 2 322 567 (DE FOURNY) * The whole document *	1-3	A 46 B 11/00 17/04 15/00
Y	FR - A - 915 045 (MERCANTON) * The whole document *	1,2,5- 7	
A	GB - A - 2 052 964 (CAGNAZZI) * The whole document *	1,2,5, 7	
A	CH - A - 193 182 (NEUENSCHWANDER) * The whole document *	1,2,4	TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
A	US - A - 2 701 381 (LODEWICK et al.) * Claims; figures *	1,2,5, 7,8	A 46 B
A	US - A - 3 755 848 (MUTRIE) * Column 2, lines 43-47; column 3, lines 14-19, 39-44; column 4, lines 33-36; figures 1-3,5 *	1,2,5- 7	
A	FR - A - 2 315 238 (MANDIER) * The whole document *	1,4	CATEGORY OF CITED DOCUMENTS
			X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons
<input checked="" type="checkbox"/> The present search report has been drawn up for all claims			&: member of the same patent family, corresponding document
Place of search		Date of completion of the search	Examiner
The Hague		17-02-1982	BOURSEAU