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Publication number:

0 206 089
A1

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EUROPEAN PATENT APPLICATION

Application number: **86107868.1**

Int. Cl. 4: **A 46 B 9/04, A 46 B 7/04,**
A 46 B 5/00

Date of filing: **10.06.86**

Priority: **11.06.85 PH 32396**

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Date of publication of application: **30.12.86**
Bulletin 86/52

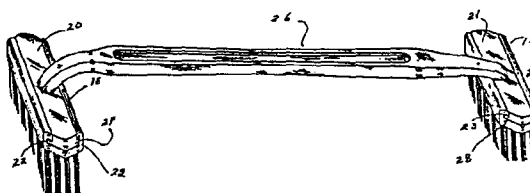
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Designated Contracting States: **AT BE CH DE FR GB IT LI LU NL SE**

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Improved toothbrush.

This invention relates to a toothbrush provided with two brush heads (18, 19) either integrally or slidably disposed perpendicularly at the opposite ends of their common handle (26) said handle made rigidly firm or foldable. One of said brush heads (18) with concave-shaped bristle surface is made longer while the other (19) one with convex-shaped bristle surface is made shorter. Although the two slidable brush heads, when made to slide tight enough along their corresponding brush head holder (20, 21) integrally and perpendicularly disposed at each end of their common handle, may not need interlocking device, the need for such device may, however, be considered, if only for the added assurance that these brush heads and corresponding brush head holders will stay more firmly together when this toothbrush is being used.



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IMPROVED TOOTHBRUSHBACKGROUND OF THE INVENTION

This invention relates to an improved toothbrush
5 for which Patent No. 17574 was issued to me
by the Philippine Patent Office October 1, 1984.
This toothbrush deals with the positioning of two tooth-
brush heads, the longer one with a concave-shaped bristle
surface made longer than the other, which has a convex
10 shaped bristle surface.

One embodiment of this invention permits the two
brush heads to be integrally and perpendicularly connected
at their mid-section to each end of their common handle
made either firm or foldable. The other embodiment permits
15 the longer brush head to be slidably attached to the brush
head holder integrally and perpendicularly attached to the
end of its handle.

While, in the said patent, the shorter brush head is
attached to the bent end of said handle, this time, it is
20 attached to the straight end of the same common handle,
to permit a more convenient and more efficient brushing
of the lingual surface of and the chewing surfaces of the
teeth.

While, in the said patent, only the longer brush head
25 was slidably attached to the brush head holder fixed per-
pendicularly to its handle, this time, the shorter brush

head was also made slidably attached to the brush head holder, likewise, fixed at the straight end of the same handle to readily permit the cleansing of the lingual and chewing surfaces of the teeth.

5 While, in the said patent, the slidable brush head and the brush head holder are not provided with an interlocking device, this time, these two slidable brush heads and their respective brush head holders are correspondingly and integrally provided with such device
10 to prevent these brush heads from being thrown off while being used in brushing the teeth.

PRIOR ART

15 The toothbrushes being used today have their single toothbrush head permanently disposed in line with their handle, so that, their users have the tendency to brush the labial surfaces of their teeth, specially the left and right posterior teeth horizontally or, often times, not in the manner specifically prescribed by dentists.
20 Because of their design or configuration, the cleansing of the lingual surfaces of the teeth is done minimally, if not out-right neglected, specially so, when users are in a hurry. This manner of cleansing their teeth, which has been formed as a habit, is very common to working
25 parents as well as, to school children or students.

OBJECTS OF THE INVENTION

30 The general object of this invention, therefore, is to provide its prospective end-users a new kind of toothbrush that will always make them conveniently and effectively brush up or down, the labial surfaces of the teeth, particularly, the left and right posterior teeth and effectively sweep off tiny food particles that cling to the lingual surfaces of the teeth and

those left in-between them, as well as those that cling to their chewing surfaces.

Another object of this invention is to provide its end-users with a less expensive and yet more convenient
5 and effective toothbrush thru the use of the slidable and economically replaceable toothbrush heads.

Another object of this invention is to provide cigarette smokers with a toothbrush that could conveniently and effectively sweep off the accumulation of
10 blackish nicotine from the lingual surface of their teeth and forthwith prevent its further accumulation thereon thru the use of the shorter brush head.

Still another object of this invention is to provide those wearing full-dentured false teeth a more
15 functional and, therefore more practical toothbrush they need while holding and cleansing their false teeth.

Other objects, aims, features and advantages of this invention will become apparent from the following description taken in conjunction with the accompanying
20 figures of the drawing, in which:

FIGURE 1 is perspective view of the toothbrush showing the two toothbrush heads integrally and perpendicularly disposed at the opposite ends of their common handle;

25 FIGURE 2 is a cross-sectional view of a toothbrush head taken along line 2-2 of FIGURE 1;

FIGURE 3 is the perspective view of another embodiment of the toothbrush with slidably detachable brush heads;

30 FIGURE 4 is a perspective view of the toothbrush handle with its slidably connected toothbrush heads;

FIGURE 5 is an enlarged perspective bottom view of one of the toothbrush heads showing a pair of channels;

FIGURE 6 is a cross-sectional view of the toothbrush head taken along line 6-6 of FIGURE 5;

FIGURE 7 is a cross-sectional view of a toothbrush head taken along line 7-7 of FIGURE 5 showing also a part of the brush head holder; and

FIGURE 8 is a perspective view of another embodiment showing a foldable toothbrush handle.

BRIEF DESCRIPTION OF THE INVENTION

Referring now to the different views of the drawing wherein like reference numeral designates the same part throughout, there is shown a toothbrush 10 having a handle 11 and brush heads 12 and 13 perpendicularly and integrally connected on opposite ends 14 and 15, respectively. Handle 11 is provided with a bend 16 to which the longer brush head 12 is perpendicularly connected while the other end 15 is made somewhat straight to which the other toothbrush head 13, which is shorter, is integrally and perpendicularly connected to form T-shaped configuration 17. Made long enough to permit either half of it to reach and effectively brush up or down either the left or the right posterior teeth up to their farthest ends, this longer brush head 12 or 18 in another embodiment is provided with concave shaped bristle surface 32 purposely adapted to have the same or more or less the same configuration of labial (outer) surface of the teeth. On the other hand the shorter brush head 13 or 19 made short enough to permit effective and convenient cleansing of the lingual surfaces of the teeth by sweep method, is provided with convex-shaped bristle surface 33 purposely adapted to conform with the curvature of the lingual (inner) surfaces of the teeth and thereby making it conveniently and effectively sweep off the tiny food particles from said lingual surfaces of and in-between the teeth, as well as those from their chewing surfaces.

In the other embodiment shown in FIGURES 3, 4, 5, 6 and 7 these two toothbrush heads 18 and 19 could be detachably or slidably connected to toothbrush head holders 20 and 21 respectively. Each toothbrush head 18 and 19 is provided with a pair of channels 22 and 23, respectively, with a groove 24 disposed along the length at the center and a slot 25 at the mid-section thereof. In the other hand, each toothbrush head holder 20 and 21 which is integrally connected to the handle 26 is provided with a pair of tongues 27 and 28, respectively, with studs 29 and 30, protruding at its centermost section designed to ride along the groove 24 on top of the brush head 18 when said brush holder 20 is inserted into and pushed forward into said brush head 18 thru its pair of channels 22 so that the stud 29 may go over a hump 31 and forthwith drop into the slot 25 to firmly position itself therein. Thus, making toothbrush head and toothbrush holders adequately locked together totally preventing the toothbrush heads from moving or slipping off from its hold on the toothbrush head holder while the toothbrush is being used.

However a tight enough slidability of the toothbrush heads along the pair of tongue of the toothbrush head holder could make the hold on this toothbrush head quite steady or tight enough to warrant the elimination of the interlocking device described above. Figure 3 is the perspective view of the entire toothbrush assembly as described in Figure 4 ready for use in the brushing the teeth.

As shown specially in Figure 8 the toothbrush 34 having separate handles 35 and 36 with their ends 37 and 38 connected pivotally is purposely adapted to make the toothbrush less bulky when stored or not being used.

CLAIMS

1. An improved toothbrush having brush heads integrally disposed perpendicularly on opposite ends of their common handle (26), one brush head (12, 18) with
5 concave-shaped bristle surface connected to a bent end (16) of said handle while the other brush head (13, 19) with convex-shaped bristle surface is connected at the opposite straight end (17) of the handle to form a T-shaped configuration.
- 10 2. An improved toothbrush wherein both brush heads (18, 19) are made to slide tight enough, along the pair of tongues of the brush head holders (20, 21) integrally and perpendicularly attached to each end of the common handle (26) permitting these toothbrush
15 heads to steadily stay in position while being used.
3. An improved toothbrush as in claim 2 wherein both brush heads (18, 19) are provided with a pair of channels (22, 23) at their sides and a groove (24) at their center along their length with a slot (25)
20 at the center thereof thereby making them slidably connected to their corresponding brush head holders (20, 21) integrally and perpendicularly connected at their mid-section to their common handle (26), said holder having a pair of tongues (27, 28) to which the pair
25 of channels are interconnected and a stud (29) that rides along the said groove firmly positioning itself in the slot provided for locking the said brush heads to the said brush head holders thereby totally preventing these brush heads from slipping off while the
30 said toothbrush is being used.
4. An improved toothbrush as in claims 1 and 2, wherein each brush head has a separate handle (35, 36) which are connected pivotally at their opposite ends (37, 38) making said handle (34) foldable.

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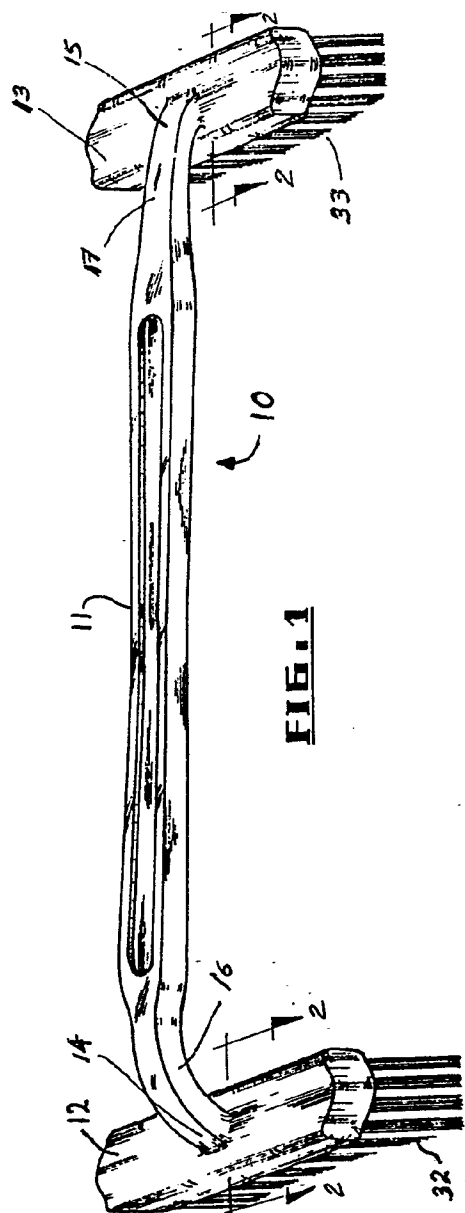


FIG. 1

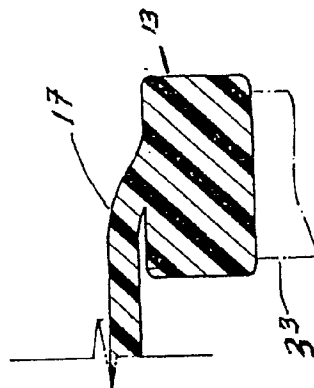
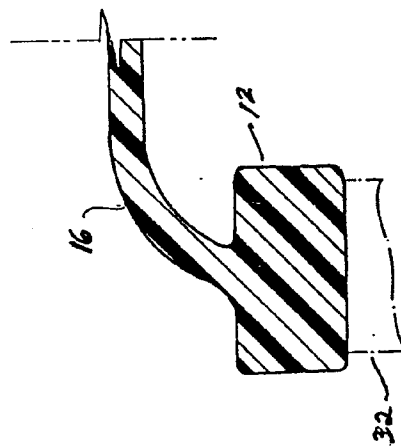
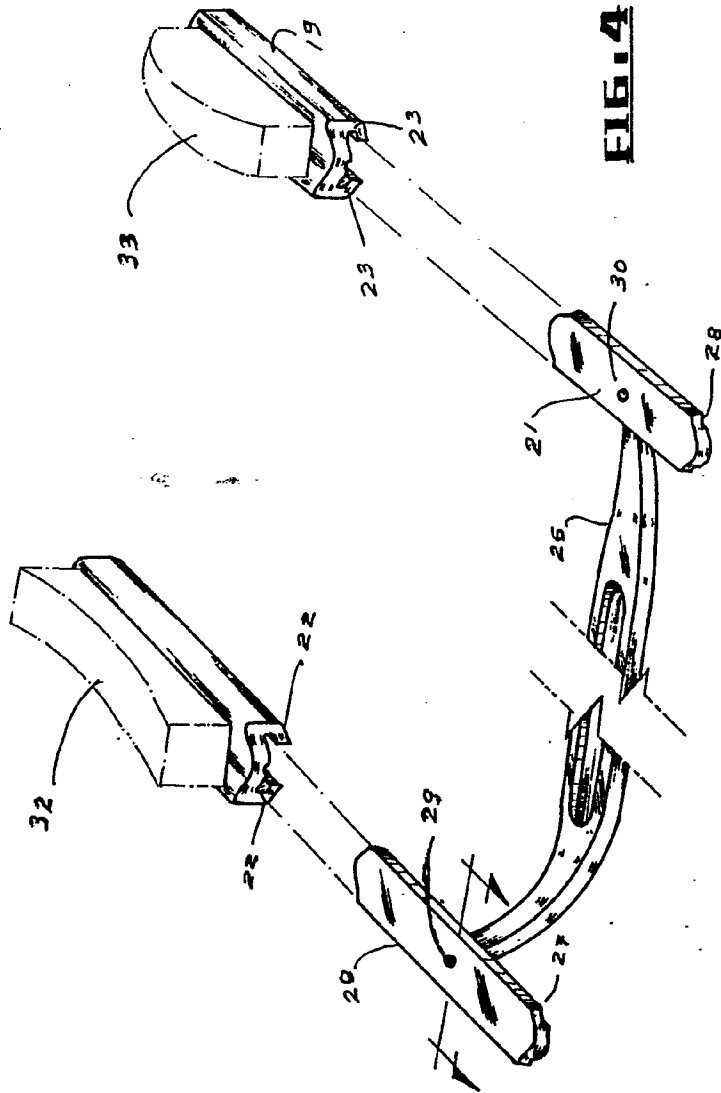
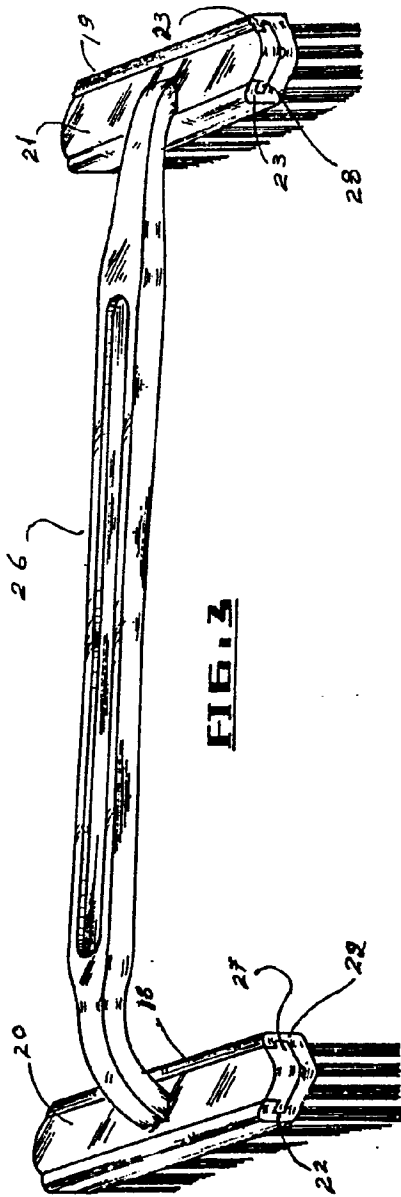
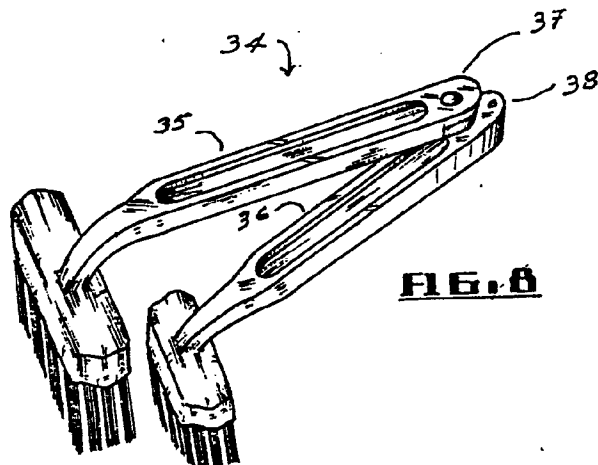
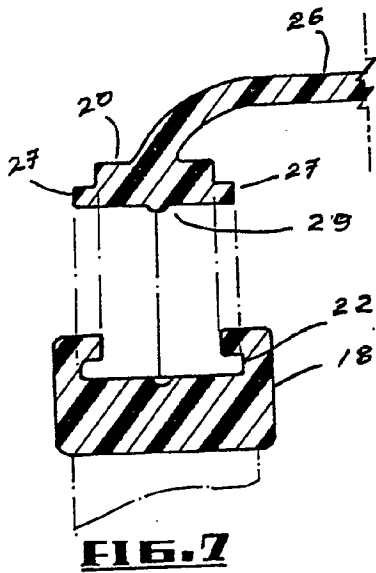
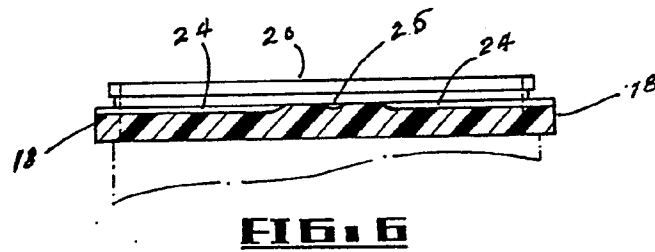
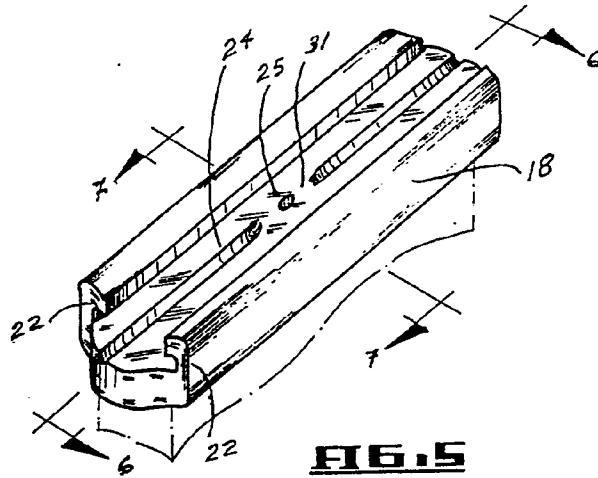


FIG. 2



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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	DE-C- 500 597 (BUCK) * Page 1, lines 32-46; claim; figures *	1-4	A 46 B 9/04 A 46 B 7/04 A 46 B 5/00
Y	DE-U-8 402 521 (SCHOELLER) * Claims 1,2; page 4, last para- graph; page 5, first paragraph; figure 1 *	1,4	
Y	GB-A- 350 769 (PADGETT) * Page 1, lines 61-97; figures *	2	
Y	GB-A- 331 126 (MATZ) * Page 4, lines 60-86; figures 6,7 *	3	
A	GB-A- 4 549 (BELL)(AD 1909) * Page 1, line 44 - page 2, line 18; figures 1-4 *	1-4	TECHNICAL FIELDS SEARCHED (Int. Cl.4) A 46 B
A	FR-A-1 306 697 (MICHAUD)		
A	FR-A- 443 435 (MENDELOVICI DEL VINCI)		
A	US-A-2 214 407 (DEUTSCH)		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-09-1986	Examiner BOURSEAU A.M.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 & : member of the same patent family, corresponding document</p>			