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(54) **Toothbrushes**

Zahnbürsten

Brosses à dents

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## Description

**[0001]** The present invention relates to novel handles for toothbrushes.

**[0002]** The handle configurations have as their primary (but not sole) objective the provision of a toothbrush which is easier for the user to manipulate.

**[0003]** A toothbrush handle may have a head portion carrying or adapted to carry a bristle configuration, an end portion, a waist, a shoulder portion and a neck connecting the shoulder to the head, the waist being narrower at least in plan view than the end portion or the shoulder, the end portion preferably being rounded, and a grip enhancing unitary mat as known from US 5 398 369 A.

**[0004]** The handle is preferably curvilinear in plan view and in elevation. The end portion is preferably wider in plan view than the shoulder. The ratio of the maximum width of the end portion in plan view to the minimum width of the waist in plan view is preferably in the range 1.1:1 to 1.8:1. The ratio of the maximum width of the end portion in plan view to the maximum width of the shoulder in plan view is preferably in the range 1.2:1 to 1.5:1. The ratio of the maximum width of the shoulder in plan view to the minimum width of the waist in plan view is preferably in the range 1.05:1 to 1.5:1. The end portion is preferably thicker in side elevation than the waist. The ratio of the maximum thickness of the end portion in side elevation to the minimum thickness of the waist in side elevation is preferably in the range 1.2:1 to 2.0:1. The end portion is preferably thicker in side elevation than is the shoulder. The ratio of the maximum thickness of the end portion in side elevation to the maximum thickness of the shoulder in side elevation is preferably in the range 1.1:1 to 1.7:1. The shoulder is preferably thicker in side elevation than the waist. The ratio of the maximum thickness of the shoulder viewed in side elevation to the minimum thickness of the waist viewed in side elevation is preferably in the range 1.01:1 to 1.5:1.

**[0005]** The ratio of the length from the free end of the end portion to the location of the minimum width of the waist viewed in side elevation to the maximum width of the end portion viewed in side elevation is preferably not more than 10:1 and is more preferably in the range 4:1 to 7:1 e.g. about 5:1 to 6:1, especially about 5.6:1.

**[0006]** According to the present invention there is provided a toothbrush handle according to claim 1.

**[0007]** The grip enhancing surfaces of the mat may also afford grip enhancing configurations, for example ribs, preferably inclined diagonally to the handle.

**[0008]** The invention has a number of aspects and may be put into practice in various ways and a number of specific embodiments will be described to illustrate the inventive aspects with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a first embodiment of a toothbrush embodying aspects of the present invention in respect of the handle;

Figure 2 is a plan view of the embodiment of Figure 1 from the bristle side;

Figure 3 is a plan view of the embodiment of Figure 1 from the other side;

Figures 4 and 5 are side elevations from either side of the embodiment of Figure 1.

**[0009]** There follows a general discussion of the embodiment after which it will be described in detail.

**[0010]** The handles embody the inventive aspect of the mat wrapped around the handle.

**[0011]** Figure 1 shows a toothbrush having a handle 35 and a bristle head 50.

**[0012]** The handle has a body portion having a palm engaging end portion 36 with a rounded free end 47, a waist 37, a finger engagable shoulder 38, a neck 39 and a head 40 for receiving the bristles of the bristle configuration 50, in a surface 46. A mat 41 of rubber like material (for example the rubber like material may be that sold under Trade Mark SANTOPRENE) (to give a good wet grip for the user's fingers) is attached to the handle so as to wrap around the waist and provide a grip surface 42 on the shoulder 38 on the bristle face of the handle as well as a grip surface 43 on the back face of the shoulder of the handle and a grip surface 44 on the back face of the palm engaging end portion 36 of the handle.

**[0013]** Each of the surfaces 42, 43 and 44 have ribs 45 moulded into their surfaces in such a way as to lie diagonally across the said surfaces when located on the handle. This wrapped unitary mat arrangement facilitates placement of the gripping surfaces of the handle

**[0014]** The ratio of the maximum transverse width in plan view of the portion 36 (indicated by the line 36) to the minimum transverse width in plan view of the waist 37 (indicated by the line 37) is 1.4:0.9 i.e. 1.55:1 or more broadly 1.1:1 to 1.8:1 e.g. 1.2:1 to 1.7:1 more preferably 1.3:1 to 1.6:1. The ratio of the widest transverse width in plan view of the shoulder 38 (indicated by the line 38) to the minimum transverse width in plan view of the waist 37 is 1.1:0.9 i.e. 1.2:1 or more broadly 1.05:1 to 1.5:1 e.g. 1.1:1 to 1.3:1. The ratio of the widest transverse width in plan view of the end 36 to the shoulder 38 is 1.4:1.1 i.e. 1.25:1 or more broadly greater than 1:1 e.g. 1.2:1 to 1.5:1.

**[0015]** The end portion 36 is wider than the shoulder 38 which is wider than the waist 37.

**[0016]** The ratio of the maximum thickness in side elevation of the end portion 36 (see Figures 4 and 5) indicated by the line 80 in Figure 4 including the ribs 45 on the mat, namely 1.5 units to the minimum width of the waist 37 indicated by the line 81 namely 0.9 units is 1.7:1 or more broadly 1.3:1 to 2.0:1 or 1.5:1 to 1.9:1. The ratio of the maximum thickness in side elevation of the shoulder 38 indicated by the line 82 including the ribs 45 on the mat, namely 1.1 units to the minimum width of the waist 37 namely 0.9 units is 1.2:1 or more broadly 1.05:1 to 1.5:1 or 1.1:1 to 1.3:1.

**[0017]** The ratio of the maximum thickness of the end

portion 36 to the shoulder 38 is 1.35:1 or more broadly 1.0:1 to 1.7:1 or 1.2:1 to 1.6:1.

## Claims

1. A toothbrush handle (35) having a head portion (40) carrying or adapted to carry a bristle configuration (50) and a grip enhancing unitary mat (41) made of a rubber-like material, wherein the handle has a body portion having a palm engaging end portion (36) with a rounded free end (47), a waist (37), a finger engageable shoulder (38), a neck (39) and the head portion (40) for receiving bristles of the bristle configuration (50) in a surface (46), the end portion (36) being wider than the shoulder (38) which is wider than the waist (37), the grip enhancing unitary mat (41) comprises grip enhancing surfaces (42, 43, 44) arranged continuously around four adjacent surfaces of the handle (35), the four adjacent surfaces comprising a front surface, a back surface and respective side surfaces therebetween, the grip enhancing unitary mat (41) being entwined around the handle (35) so as to wrap around the waist (37) and provide a first grip enhancing surface (42) on the shoulder (38) on a front bristle face of the handle as well as a second grip enhancing surface (43) on a back face of the shoulder of the handle and a third grip enhancing surface (44) on a back face of the palm engaging end portion (36) of the handle, and the grip enhancing unitary mat (41) being substantially elongated along the longitudinal axis of the handle (35).
2. A toothbrush handle (35) as claimed in claim 1, **characterised in that** the grip enhancing surfaces of the mat also afford grip enhancing configurations, for example ribs, preferably inclined diagonally to the handle.

## Patentansprüche

1. Zahnbürsten-Handgriff (35) mit einem Kopfbereich (40), an dem eine Borstenkonfiguration (50) gehalten oder adaptiert ist, und ein das Greifen verbessernder unitärer Belag (41) aus gummiartigem Material, wobei der Handgriff einen Körperabschnitt hat, der einen die Handfläche aufnehmenden Endabschnitt (36) hat, mit einem abgerundeten freien Ende (47), einem Mittelteil (37), ein die Finger aufnehmende Schulter (38), einen Hals (39) und den Kopfabchnitt (40) zur Aufnahme von Borsten der Borstenkonfiguration (50) in einer Fläche (46) hat, wobei der Endabschnitt (36) breiter als die Schulter (38) ist, die wiederum breiter als das Mittelteil (37) ist, und ein das Greifen verbessernder unitärer Belag (41), der die das Greifen verbessernde Flächen (42, 43, 44) umfasst, die kontinuierlich um vier angren-

zende Flächen des Handgriffs (35) angeordnet sind, wobei die vier angrenzende Flächen, die eine Vorderfläche, eine Hinterfläche und jeweils Seitenflächen dazwischen umfassen, wobei der das Greifen verbessernde unitäre Belag (41) um den Handgriff (35) geschlungen wird, sodass das Mittelteil (37) umwickelt wird, und eine das Greifen verbessernde Fläche (42) an der Schulter (38) an einer vorderen Borstenfläche des Handgriffs, sowie eine zweite das Greifen verbessernde Fläche (43) auf einer Rückfläche der Schulter des Handgriffs hat, und eine dritte das Greifen verbessernde Fläche (44) auf einer Rückfläche der einen die Handfläche aufnehmenden Endabschnitt (36) des Handgriffs, und einen das Greifen verbessernden unitären Belag (41) entlang der Längsachse des Handgriffs (35) im Wesentlichen länglich ist.

2. Zahnbürsten-Handgriff (35) nach Anspruch 1, **dadurch gekennzeichnet, dass** die das Greifen verbessernde Flächen des Belags außerdem das Greifen verbessernde Konfigurationen bieten, beispielsweise Rippen, die vorzugsweise diagonal zum Handgriff schräg verlaufend angeordnet sind.

## Revendications

1. Manche de brosse à dents (35) comportant une tête (40) portant ou conçue pour porter une configuration de soies (50) et une section unitaire texturée améliorant la prise (41), dans lequel le manche est constitué d'une partie principale dotée d'une portion terminale s'engageant sur la paume (36) à l'extrémité arrondie libre (47), d'une portion centrale amincie (37), d'un épaulement pouvant s'engager sur un doigt (38), d'un col (39) et de la tête (40) destinée à recevoir les soies de la configuration de soies (50) sur une surface (46), la portion terminale (36) étant plus large que l'épaulement (38) qui est plus large que la portion centrale amincie (37), la section unitaire texturée améliorant la prise (41) comportant des surfaces qui améliorent la prise (42, 43, 44) disposées en continu sur les quatre surfaces adjacentes du manche (35), les quatre surfaces adjacentes comportant une face avant, une face arrière et des faces latérales situées entre les deux faces précédentes, respectivement, la section unitaire texturée améliorant la prise (41) étant entrelacée autour du manche (35) de façon à envelopper la portion centrale amincie (37) et à fournir une première surface d'amélioration de la prise (42) sur l'épaulement (38) sur le côté du manche où sont situées les soies de devant ainsi qu'une seconde surface d'amélioration de la prise (43) sur la face arrière de l'épaulement du manche et une troisième surface d'amélioration de la prise (44) sur la face arrière de la portion terminale s'engageant sur la paume (36) du manche,

la section unitaire texturée améliorant la prise (41) s'étendant essentiellement le long de l'axe longitudinal du manche (35).

2. Manche de brosse à dents (35) selon la revendication 1, **caractérisé en ce que** les surfaces améliorant la prise comportent aussi des configurations améliorant la prise, par exemple des nervures, de préférence inclinées diagonalement par rapport au manche.

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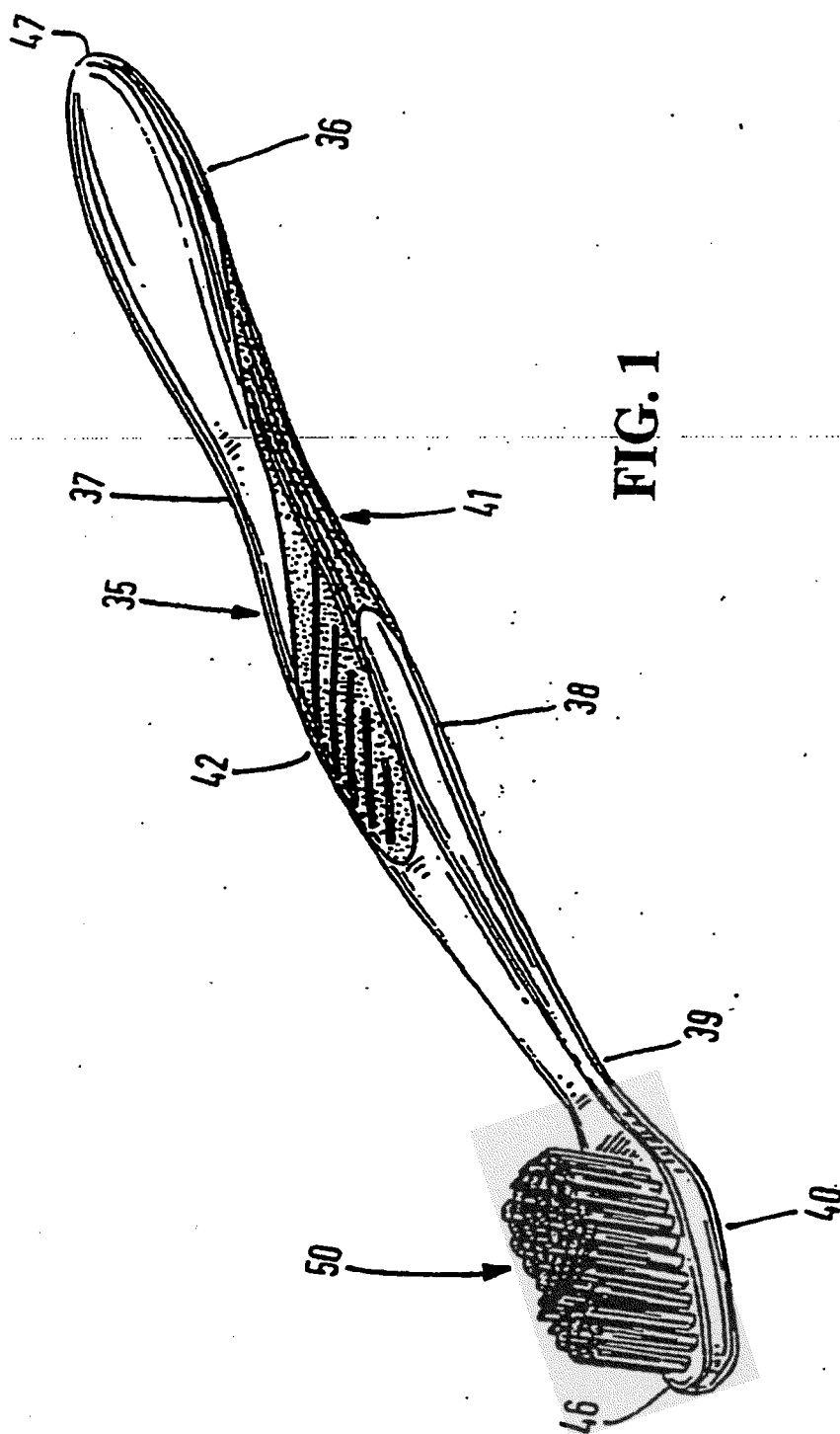
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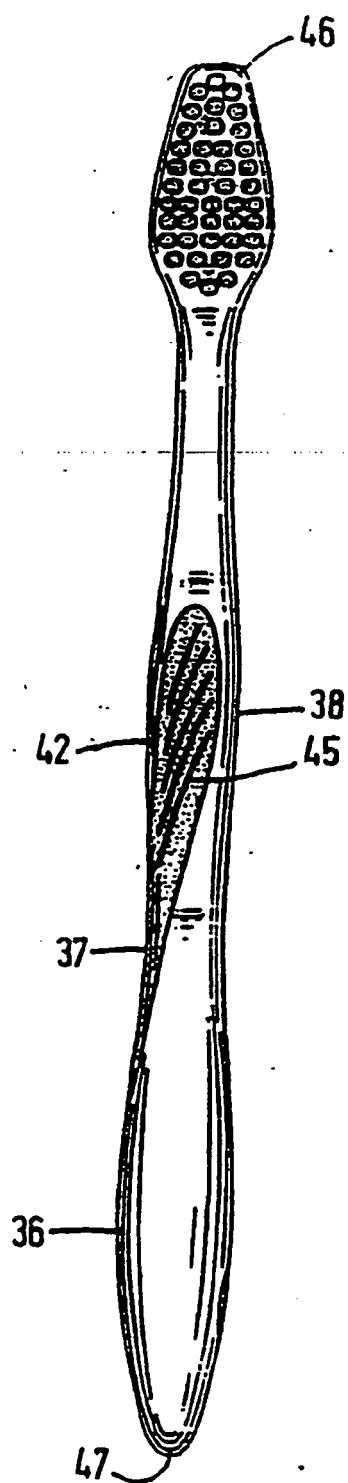
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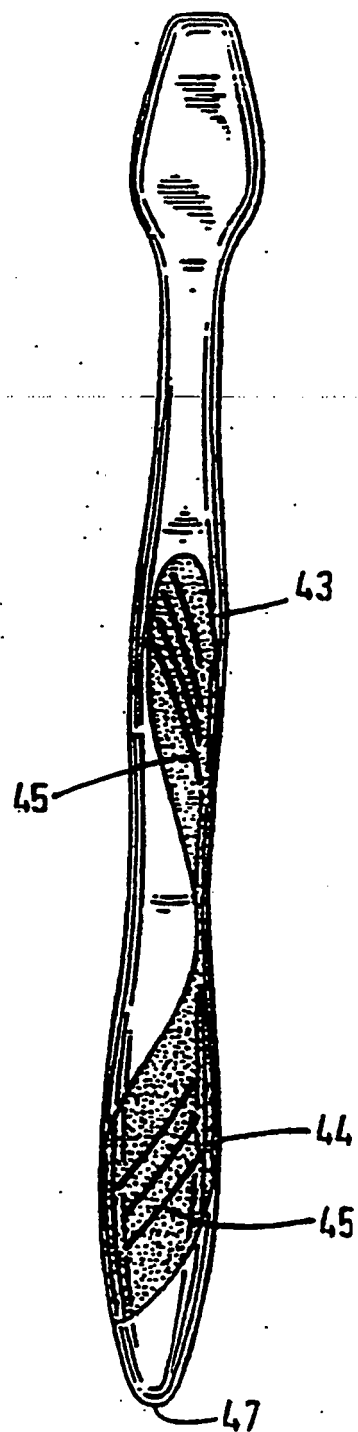
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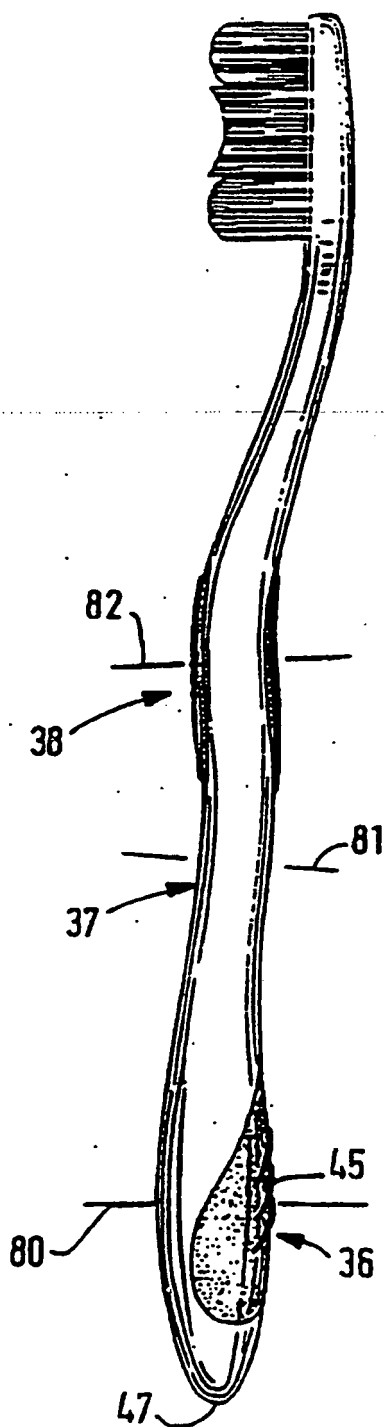




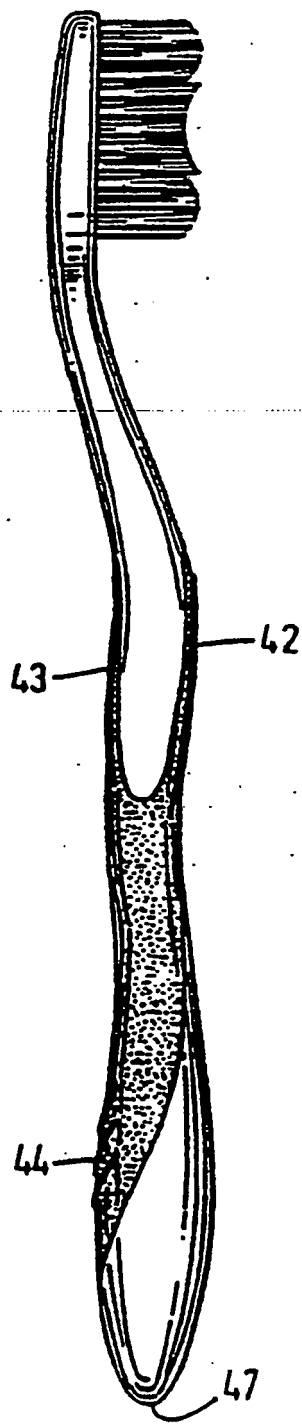
**FIG. 2**



**FIG. 3**



**FIG. 4**



**FIG. 5**

**REFERENCES CITED IN THE DESCRIPTION**

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