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(72) Inventors:  
• **Hannah, Dylan**  
**Bundeena, 2230 (AU)**  
• **Malys, Gareth**  
**Bundeena, 2230 (AU)**

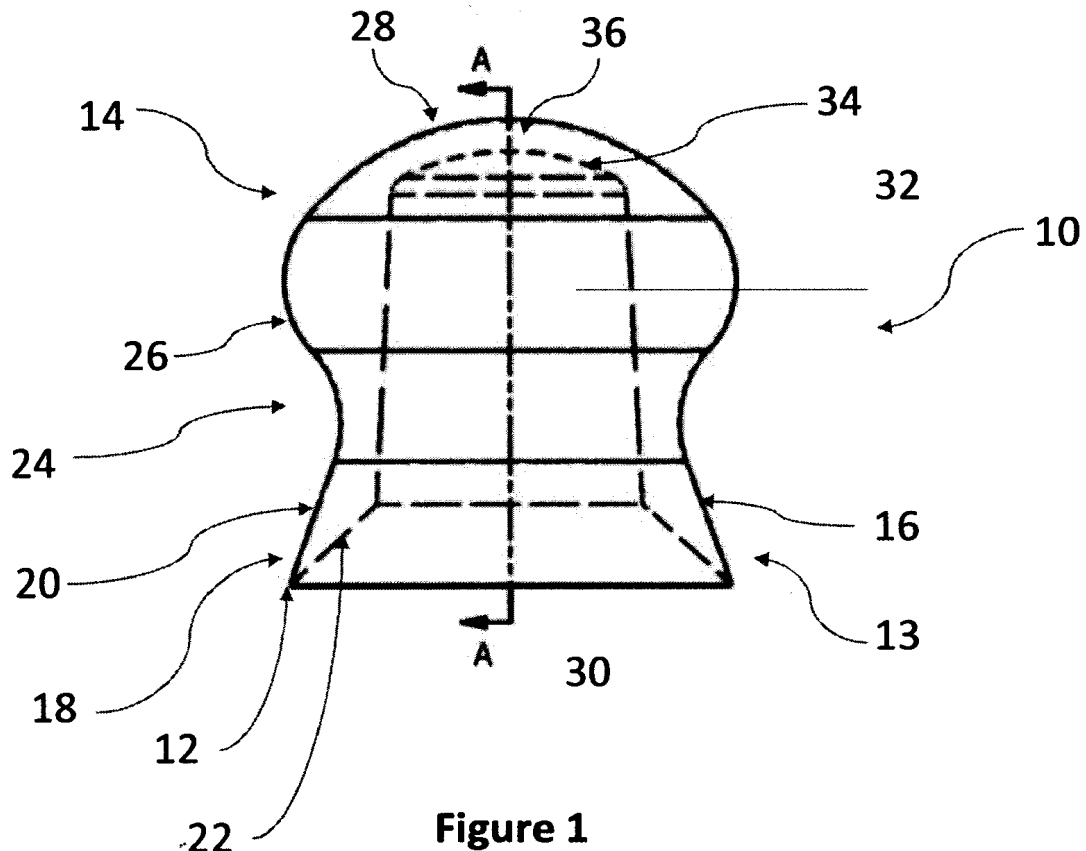
(74) Representative: **Krajnyák, András**  
**Dr. Krajnyák & Partner**  
**Law Office**  
**Logodi u. 3. l/2**  
**1012 Budapest (HU)**

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(71) Applicant: **Wax Fresh Pty Ltd**  
**Bundeena 2230 NSW (AU)**

(54) **SURFBOARD WAX REMOVAL DEVICE**

(57) A surfboard wax removal device, the device comprising a wax-engaging leading edge, the leading edge being outwardly convex.



**Figure 1**

## Description

### Technical Field

**[0001]** This disclosure relates to a surfboard wax removal device.

### Background Art

**[0002]** Surfboards typically use surfboard wax to provide a good grip to the surfer whilst riding the surfboard. This wax deteriorates over time and thus needs to be periodically removed. When the existing coat is removed a new coat of wax can be applied to the surfboard.

**[0003]** Typically, to remove the wax, the surfboard is positioned in the sun for an initial time period to help soften the wax and make it amenable to scraping and removal. Following this, some type of wax removal tool (home-made or purpose built) is used to scrape off the softened wax.

**[0004]** A known wax comb has a flat edge that is used to scrape off the wax from the surfboard. However, this comb is not very efficient and does not locate comfortably in a user's hand. This makes it difficult to hold and apply pressure. Further, the single flat edge requires the user to change their position and/or the orientation of the surfboard to completely remove all wax. Hence, some time can be spent by the user in removing the wax.

**[0005]** Another known wax comb has a concave scalloped edge, with this edge being used to scrape wax off the curved rails of a surfboard.

**[0006]** It is to be understood that, if any prior art is referred to herein, such reference does not constitute an admission that the prior art forms a part of the common general knowledge in the art, in Australia or any other country.

### Summary

**[0007]** Disclosed herein, in a first aspect, is a surfboard wax removal device. The device comprises a leading edge. The leading edge is configured to be outwardly convex. In comparison to a straight edge, such an outwardly convex edge shape can enable the edge to engage the wax in a manner that may minimize resistance during movement of the edge through the wax. Such an outwardly convex edge shape can also enable the edge to engage the wax from a number of different angles of incidence.

**[0008]** In some embodiments, the leading edge may be formed by a part of the base of the device. The leading edge may be configured to extend around the periphery of the base (which can e.g. help the edge to engage the wax from a number of different angles of incidence).

**[0009]** In some embodiments, the leading edge may be circular and may define a circular periphery at the base. A circular edge can be optimal for contact with the wax and for wax contact in all directions in the plane of

the surfboard.

**[0010]** In some embodiments, an underside of the base of the device may comprise a hollow. The leading edge may be located around the hollow. The hollow can act to reduce the friction between the device and the wax surface to thereby enable smoother operation of the device (i.e. when compared to a base with a flat underside).

**[0011]** In some embodiments, the hollow may extend inwardly of the device. The hollow may extend from the base and into a handle of the device. Such an extent of hollow can reduce the mass of the device, thereby also offering manufacturing cost and handling benefits.

**[0012]** In some embodiments, the handle may be connected to the base as an extension thereof (e.g. directly connected thereto). The handle may be configured with a bulbous external profile for location in a palm of a user's hand. This can result in an ergonomic handle that offers improved grip and maneuverability of the device.

**[0013]** In some embodiments, an external surface of the base may extend in towards a waist of the device. The bulbous external profile of the handle may in part be defined by an external surface that extends out and away from the waist. The waist can provide a section where the fingers (e.g. thumb and fingertips) can be received to wrap around and grip the device, thus further improving the ergonomics of the handle.

**[0014]** In some embodiments, in cross-sectional profile, the leading edge may be defined by a blade. A blade configuration can allow the leading edge to engage the wax in a knife-like manner, thereby improving the efficiency of wax removal.

**[0015]** In some embodiments, the blade forming the leading edge may be defined by an outer surface of the device and by an inner surface that extends inwardly of the device. The inner surface may extend inwardly from the leading edge and in a manner that tapers away from the outer surface of the device. Such a blade construction can provide structural integrity and rigidity to the blade.

**[0016]** In some embodiments, the outer surface may be configured to define a base of the device as a frustoconical portion. Such a frustoconical construction inherently has a wider in-use base portion compared to its in-use top portion which can result in increased stability during usage of the device (i.e. the wider base acts like a stand).

**[0017]** Also disclosed herein, in a second aspect, is a device for surfboard wax removal. The device comprises a wax-engaging leading edge wherein the leading edge is formed by part of a base of the device. The leading edge can extend right around the periphery of the base. As set forth below, such a 'peripheral' leading edge can have a variety of shapes such as square, circular, triangular, elliptical, oval, racecourse, etc. The device of the second aspect may be otherwise as set forth for the first aspect.

**[0018]** Also disclosed herein, in a third aspect, is a surfboard wax removal device. The device comprises a base that is configured for engaging the surfboard wax for re-

removal thereof. The device also comprises a handle extending from the base. The handle can have a bulbous external profile that is configured for location in a palm of a user's hand. The bulbous profile can result in an ergonomic and improved grip of the device by a user's palm and can enable a user to apply more and/or even pressure/force during a wax removal procedure. The device of the third aspect may be otherwise as set forth for the first and second aspects.

#### Brief Description Of The Drawings

**[0019]** Embodiments will now be described by way of example only, with reference to the accompanying drawings in which

Fig. 1 shows a side view of the device, with internal features of the device shown in dotted outline,

Fig. 2 shows a cross-sectional side view of the device of Fig. 1, taken on the line A-A shown in Fig. 1,

Fig. 3 shows a 3D (perspective) view of the device of Figs. 1 and 2,

Fig. 4 shows an underside view of the device.

#### Detailed Description

**[0020]** In the following detailed description, reference is made to accompanying drawings which form a part of the detailed description. The illustrative embodiments described in the detailed description, depicted in the drawings and defined in the claims, are not intended to be limiting. Other embodiments may be utilized and other changes may be made without departing from the spirit or scope of the subject matter presented. It will be readily understood that the aspects of the present disclosure, as generally described herein and illustrated in the drawings can be arranged, substituted, combined, separated and designed in a wide variety of different configurations, all of which are contemplated in this disclosure.

**[0021]** In the following detailed description, a surfboard wax removal device will be described in the form of a wax-removal tool 10. The tool 10 is shown with a specific configuration but, as explained below, the tool 10 can have a number of other configurations. The tool 10 can provide a highly effective means for removal of wax from e.g. a surfboard. The tool 10 is not limited to use with surfboards.

**[0022]** Referring to Figures 1 to 4, the tool 10 as disclosed herein comprises a wax engaging leading edge 12. In accordance with the present disclosure, and as shown in Fig. 3, the leading edge 12 can be outwardly convex. The outwardly convex shape of edge 12 can enable the edge to engage the wax in such a way that resistance during movement of the edge through the wax is minimized (e.g. an arc portion only of the leading edge

12 need engage the wax at any given removal stroke). The outwardly convex edge shape can also enable the edge 12 to engage the wax from a number of different angles of incidence (e.g. during a push forward stroke, a pull back stroke, a side-to-side stroke, etc.).

**[0023]** The leading edge 12 can be formed by part of a base 13 of the tool 10. In accordance with the present disclosure, the leading edge 12 can extend right around the periphery of the base 13. Whilst an outwardly convex shape of edge 12 is favored, when the edge 12 extends right around the periphery of the base 13, the edge profile can instead have a variety of other different shapes such as square, circular, triangular, elliptical, oval, racecourse, etc.

**[0024]** In the embodiment of Figs. 1 to 4, a blade 18 is a circular blade that extends around the base 13 (i.e. to define the periphery thereof). Whilst, in general, a circular leading edge 12 is optimal, as it results in the edge 12 being able to engage the wax in all directions on the plane of the surfboard at any given time, nevertheless, other shapes of the peripheral edge also provide user flexibility, allowing for moving of the tool 10 in any direction to remove the wax (i.e. the user can use any combination of strokes in any desired direction to effectively remove the wax in an overall shorter time period than existing wax removal tools). For example, side-to-side, back-and-forth, etc. stroking movements can be employed to effectively remove the wax in a shorter time. By way of comparison, when using a tool with a single, straight leading edge, the user would need to change orientation of that leading edge after it has been moved in one direction. This can require the user having to shift their position or needing to turn the surfboard around so that the orientation is right for the edge 12 to engage the wax completely. This can be cumbersome especially for larger surfboard types.

**[0025]** In the Figures, it will be seen that the base 13 is directly connected to a handle 14. The base 13 is configured such that its outer surface 16 is frustoconical in shape. This means that the base is wider at its in-use lower portion which can improve the stability of the tool 10 during wax removal from a surface (i.e. the base 13 can act as a stand for the tool 10).

**[0026]** As shown in Figs. 1 and 2, two surfaces extend away from the leading edge 12 in a direction generally inwards of the tool 10 to define a blade 18 of the tool 10. One of the blade surfaces is defined as an external surface 20 of the base 13. Further, external surface 20 extends towards and so as to partially define a waist 24 of the tool 10 (described further below). The other blade surface is defined as an internal surface 22 of the tool 10 that extends into the tool in a manner that tapers away from the external surface 20. The resultant blade 18 allows a much better engagement of the leading edge 12 with the wax. In this regard, the structure of the blade 18 provides structural support to the leading edge 12 and allows the force/pressure applied by the user to the tool to be directed to the leading edge 12. Because of its

configuration, the leading edge 12 can in effect 'cut through' the wax, right through to the surface of the surfboard, in a 'knife-like' manner. Once the leading edge 12 is moved across the surface of the surfboard, the wax removed is caused to travel along the external surface 20 of the base 13, to thereby be directed up and away from the surface and generally away from the tool 10. Thus, when the tool 10 is moved by a user in use, it can remove the wax much more effectively/efficiently.

**[0027]** As shown in Figs. 1 to 3, the tool 10 comprises a handle 14 that extends from the base 13. In accordance with the present disclosure, the handle 14 can have a bulbous external profile that is configured for location in a palm of a user's hand (e.g. closely or snugly therein). In the tool 10 shown in the drawings, the bulbous profile results in a dome-like configuration of the handle 14. However, as explained below, the handle 14 can have a number of other external configurations.

**[0028]** The bulbous profile of handle 14 can result in an ergonomic and improved grip of the tool 10 by a user's palm and hand, making the tool more comfortable and easier to hold/grasp in use. In this regard, a top portion 28 of the handle 14 is able to locate in the palm of the user's hand. Further, the bulbous profile of handle 14 can enable the user to apply more pressure/force and/or an even pressure/force during a wax removal procedure.

**[0029]** As best shown in Figs. 1 to 3, in the tool 10, the connection between the handle 14 and the base 13 is configured as a waist 24. The waist 24 is defined at an intermediate location between the base 13 and handle 14. More specifically, the external surface 20 of base 13 extends into the waist 24 and an underside portion 26 of the external surface of the bulbous profile extends in towards to at least partially define the waist 24. In use, the waist 24 provides a region into and around which a user's fingers and thumb can locate and grip when the top portion 28 of handle 14 is located in the user's palm.

**[0030]** In Figs. 1 and 2, it will be seen that the base 13 comprises a first frustoconical hollow 30 that extends inwardly of the base from the leading edge 12. In cross-sectional profile (see Fig. 2), the first hollow 30 is trapezoidal. The internal surface waist 24 surrounds and thus defines the first hollow 30. The first hollow 30 can allow the tool to adjust for wax-surface nonuniformities. For example, if there is an uneven wax surface, this can be accommodated by the first hollow 30.

**[0031]** If the base 13 had a flat underside, the leading edge 12 may not properly engage the wax. A flat base underside would also give rise to increased friction with underlying wax, whereas the first hollow 30 serves to minimize friction between the tool 10 and the wax as it produces a leading edge 12 only that interacts with the wax.

**[0032]** The first hollow 30 opens onto a second frustoconical hollow 32 that is defined within the handle 14. The second hollow 32 serves to reduce the overall mass of the tool 10 thus making it lighter and easier to use. Similarly, because of the reduction in the amount of ma-

terial used, the costs associated with raw material will also be reduced, thus making the tool 10 economical to manufacture and sell.

**[0033]** The second hollow 32 opens onto a spherical cap hollow 34 that is defined within the handle 14. The spherical cap hollow 34 is closed off by an inner wall 36 located at the distal end of the tool, within the handle 14.

**[0034]** In use, a user grasps the tool 10, locating the top portion 28 of handle 14 in their palm and with the user's thumb and finger tips locating in the waist 24. The user is thus able to have a firm grip on the tool 10 and to thereby apply their body weight to the tool when moving across the surface of a wax-covered surfboard.

**[0035]** The tool 10 can be injection molded, 3D-printed, CNC-machined, etc. from a strong and/or tough plastics material. The plastics material may have additives thereto (e.g. glass or resin fibres) to increase its overall strength and durability.

**[0036]** The tool 10 can also be prepared from a variety of other materials such as polymer composites, ceramics, metals etc. The different portions of the tool can be composed of different materials. For example, the leading edge may use a fiber-reinforced polymer or a tough plastic that is relatively more wear resistant compared to the handle.

**[0037]** Whilst the tool 10 has been primarily described for use with wax-removal from a surfboard, it should be understood that it can be used to remove other substances (e.g. soft adhesives, coatings, etc.) from other surfaces.

**[0038]** Variations and modifications may be made to the parts previously described without departing from the spirit or ambit of the disclosure.

**[0039]** For example, the leading edge 12 of the tool 10 can also be configured to take shapes other than a circle. For example, the profile of the leading edge can be rectangular, triangular, oval, elliptical, racecourse, polygonal, arc, etc. In all these cases, the leading edge can extend around the periphery of the base of the tool 10. The first hollow 30 can be correspondingly modified to maintain the configuration of the blade (i.e. two surfaces defining the leading edge and extending and tapering away from each other) to preserve the benefits associated with such a configuration. Optionally, the bulbous profile of the handle can be maintained to retain the benefits associated therewith.

**[0040]** The tool 10 can have other configurations than that shown in Figs. 1 to 4. For example, the tool could include handle and base portions that are detachable from each other. Such an arrangement would facilitate exchange of a base containing a worn out leading edge with a base containing a new leading edge. As the handle would encounter far less wear compared to the leading edge, it can be reused. The detachable handle and the base portions can have engagement portions that interlock with each other to facilitate such an arrangement. Alternatively, the handle and the base portions can be affixed together using an adhesive. The adhesive can be

carefully chosen such that it can be separated using a commercially available adhesive remover when a need arises to replace a base with a worn out leading edge.

[0041] The handle 14 can have a roughened or textured surface or coating in the form of knurls/patterns/beads etc. engraved into or coated or applied on its external surface (like the patterns available on a bicycle handle bar grip or an anti-slip mat). Such a roughened or textured surface may cover partly or fully cover the bulbous profile of the handle. Such a surface can provide an improved grip to the user and prevent slippage for example during usage. The handle external surface can also be provided with a soft-grip (e.g. molded into or affixed thereto).

[0042] Whilst the tool 10 is typically manufactured (e.g. molded, printed or CNC machined) as a single unitary piece, it can be manufactured in multiple pieces (e.g. the handle and the base) which can be fabricated separately and attached together using suitable methods (e.g. bonding using adhesives).

[0043] Additionally, the handle 14 can have a number of other external configurations. In this regard, instead of having a bulbous profile and dome-like appearance, the handle 14 can, for example, have a profile that is bulbous at one end and elongated at the opposite end. Such a profile can allow the user to grip the handle by wrapping all the fingers around the handle with the palm wrapping around the bulbous middle portion. While this handle may result in a slight reduction of the force applied by the user through the tool, the nature of the grip involving all the fingers would make it more comfortable and ergonomic to use. The handle could instead be cylindrical. In a further variation, the handle could be a ring-like grip, optionally provided with finger-receiving scallops along an inside edge thereof.

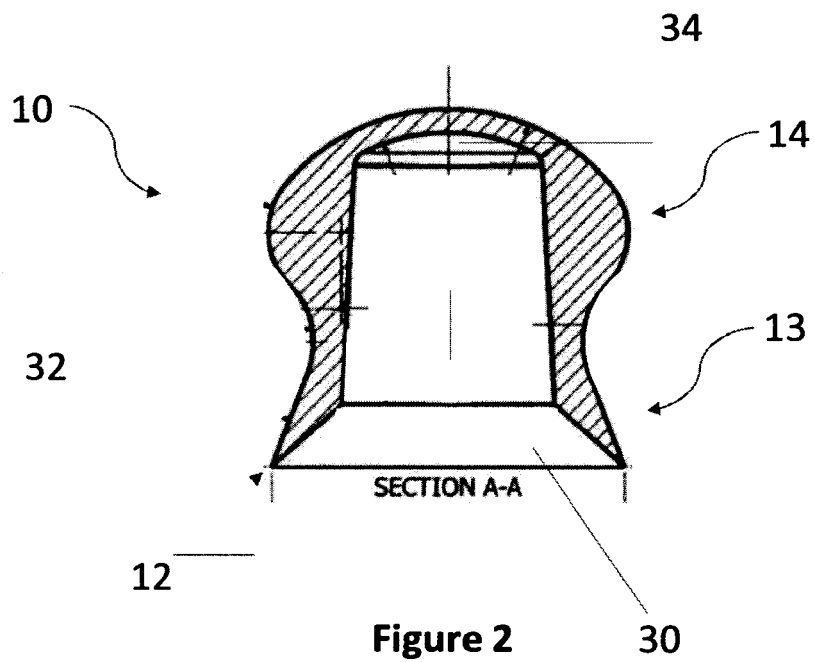
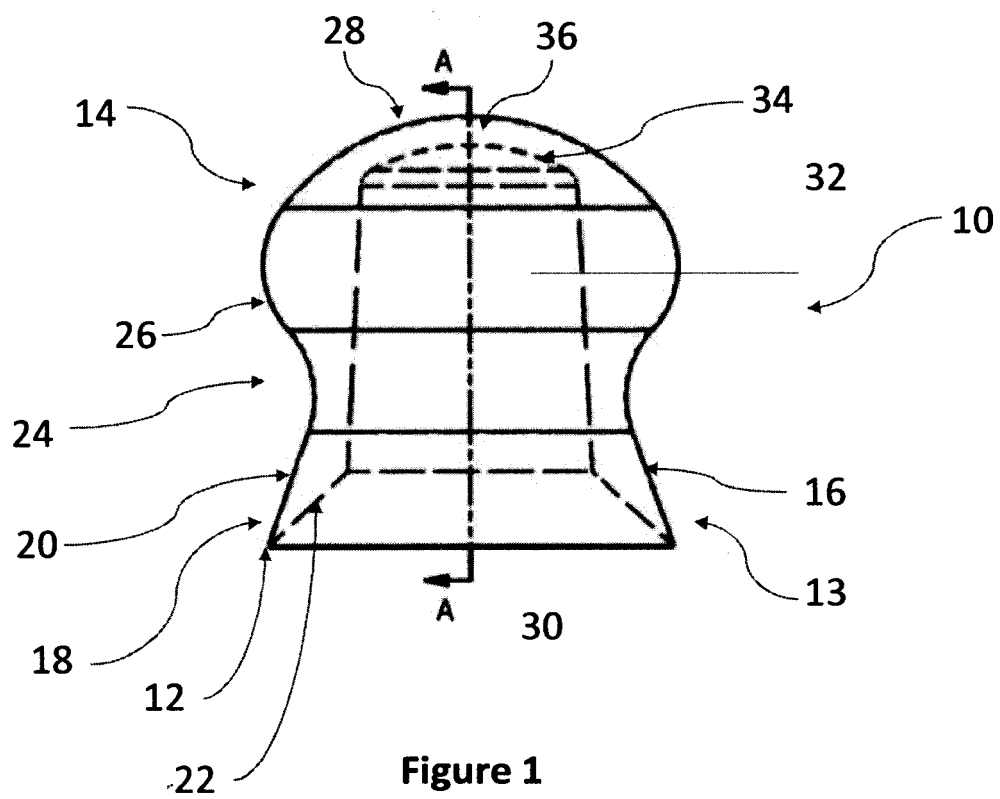
[0044] In the claims which follow and in the preceding description, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the device.

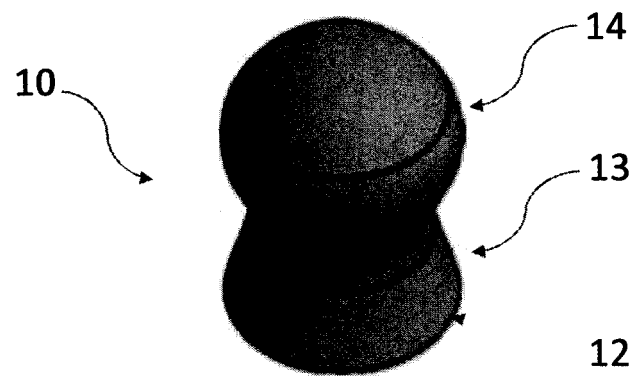
## Claims

1. A surfboard wax removal device, **characterized in that** the device comprising a wax-engaging leading edge, the leading edge being outwardly convex.
2. A device as claimed in claim 1, wherein the leading edge is formed by part of a base of the device, the leading edge extending right around the periphery of the base.
3. A device as claimed in claim 2, wherein the leading edge is circular to thereby define a circular periphery

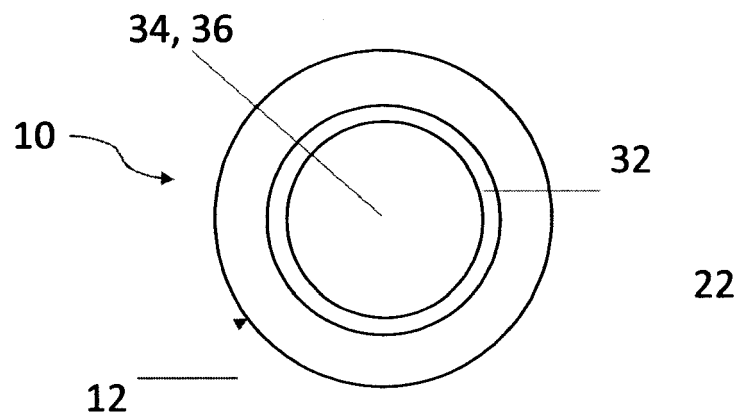
at the base.

4. A device as claimed in claim 2 or 3, wherein an underside of the base of the device comprises a hollow, with the leading edge located around the hollow.
5. A device as claimed in claim 4, wherein the hollow extends inwardly of the device, from the base and into a handle of the device.
6. A device as claimed in claim 5, wherein the handle is connected to the base as an extension thereof, the handle being configured with a bulbous external profile for location in a palm of a user's hand.
7. A device as claimed in claim 6, wherein an external surface of the base extends in towards a waist of the device, with the bulbous external profile of the handle being in part defined by an external surface that extends out and away from the waist.
8. A device as claimed in any one of the preceding claims, wherein in cross-sectional profile, the leading edge is defined by a blade.
9. A device as claimed in claim 8, wherein the blade forming the leading edge is defined by an outer surface of the device and by an inner surface that extends inwardly of the device.
10. A device as claimed in claim 9, wherein the inner surface extends inwardly from the leading edge and in a manner that tapers away from the outer surface of the device.
11. A device as claimed in claim 9 or 10, wherein the outer surface is configured to define a base of the device as a frustoconical portion.
12. A surfboard wax removal device, the device comprising a wax-engaging leading edge wherein the leading edge is formed by part of a base of the device, the leading edge extending right around the periphery of the base.
13. A device as claimed in claim 12, the device being otherwise as defined in any one of claims 1 or 3 to 11.
14. A surfboard wax removal device, the device comprising a base that is configured for engaging the surfboard wax for removal thereof, and a handle extending from the base, the handle having a bulbous external profile that is configured for location in a palm of a user's hand.
15. A device as claimed in claim 14, the device being otherwise as defined in any one of claims 1 to 12.





**Figure 3**



**Figure 4**



## EUROPEAN SEARCH REPORT

Application Number

EP 21 19 6574

## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2006/248792 A1 (HUXLEY CHRISTOPHER D [US]) 9 November 2006 (2006-11-09)	1-5, 8, 12, 13	INV. A46B3/00
Y	* paragraphs [0023], [0024]; figures 2, 6a, 6C *	6, 7, 14, 15	A47L13/08 B05C11/04
A	-----	9-11	B63B32/70 A63C11/18
X	US 4 905 338 A (MASCIA MICHAEL B [US]) 6 March 1990 (1990-03-06)	1-5, 8-13	A63C11/14
A	* column 3, line 54 - column 5, line 68; figures 1, 2, 3 *	6, 7, 14, 15	
Y	----- US 2 373 829 A (HICKS SR TIP A) 17 April 1945 (1945-04-17) * column 1, line 31 - column 2, line 32; figures 1, 3 *	6, 7, 14, 15	
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			TECHNICAL FIELDS SEARCHED (IPC)
			A46B A61D A47L B63J B05C B63B A63C
1	The present search report has been drawn up for all claims		
Place of search <b>Munich</b>		Date of completion of the search <b>1 March 2022</b>	Examiner <b>Murer, Michael</b>
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 & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 21 19 6574

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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01-03-2022

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82