13) of the cap with the vibrator and the upper part of the base, ~~and~~

Fig. 15 shows a section of the cap with the vibrator of the battery compartment of the device, and

Fig. 16 shows a circuit for controlling a vibrator motor.

Reference is first made to Fig. 1. As shown in the three views in Fig. 1, the device 1 according to the invention is approximately as large as the palm of a hand and has a flat, rectangular design. It comprises a base 2 and a cap 3 fitted thereon. A compartment 4 for accommodating batteries, which in this exemplary embodiment serve as the energy source to operate the device 1, is located at the lower, short end of the base 2.

The exchangeable cap 3 is fitted on the opposite, upper short end of the base 2, this end being narrower than the lower end. A button 5 for selecting a treatment program is arranged on the front side of the base 2, the selected treatment program being shown on a display 6 positioned there above. A first electrode 7 having a large surface area is located on the rear side and, above this, a press key 8 for actuating a catch, by means of which the cap 3 is held on the base 2.

Different cap designs are illustrated in Fig. 2 in longitudinal section. Fig. 2a shows the cap 3 already illustrated in Fig. 1, this cap having a rounded upper edge.

The cap 3a according to Fig. 2b has a comb-like structure and is therefore particularly suitable for treating the scalp. Fig. 2c shows a cap 3b having an undulating edge,

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arranged with the cam 17 vertical to the upper edge of the cap 9 and therefore extends between the lower area of the cap 9, which is plugged onto the base 2, and the upper area of the cap 9, which forms ~~thea~~ second outer electrode 20.

As can be seen from Fig. 2a to Fig. 2c, two metal pins 18, 19 are located inside the cap 3, 3a, 3b, whereby one of the pins 18 is electrically connected to the cap 3, and the other pin 19 is insulated with respect to the cap 3, 3a, 3b. The caps 3, 3a, 3b consist of a conductive material or have at least a coating made of a conductive material, this material forming ~~a~~the second electrode 20. The first pin 18 is thus connected to this material, whereas the second pin 19 is insulated with respect thereto.

The cap 9 according to Fig. 3 is similarly provided with pins, although this is not shown.

As can be seen from Fig. 5, two spring-mounted metal counter-pins 21, 22 are fixed on the upper edge of the base 2 and are oriented in line with the pins 18, 19 in the base 2. The counter-pins 21, 22 are each pressed against a stop by a spring 23, 24 arranged in a shoulder 25, so that they protrude slightly beyond the upper edge of the shoulder 25. If the cap 3a, 3b, 3c, 9 is fitted onto the shoulder 25 of the base 2, two closed electrical contacts are thus produced.

As illustrated in Fig. 2, a slot 26 for a catch is located in each of the caps 3a, 3b, 3c. The cap 9 of Fig. 3 is formed accordingly. As shown in Fig. 6, such a catch 27 is located on the end of a lever 28, which is mounted rotatably on the base 2 and of which the outer end is connected to the press key 8 so that the catch 27 is

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pushed out of the slot 26 when the press key 8 is actuated.

As can be seen from Fig. 5a and Fig. 5b, the counter-pins 21, 22 are spring-mounted on the base so that they exert a pressure onto the pins 18, 19 in the cap 3, 9. If the press key 8 is actuated, the counter-pins 21, 22 press the cap 3, 3a, 3b, 9 slightly away from the base ~~3~~2 so that the cap can be easily removed.

A circuit diagram is illustrated schematically in Fig. 7. The drive of the vibrator, that is to say the electric motor 16 in the exemplary embodiment, is connected between the two pins 18, 19 in the cap 3, 9, whereas the first pin 18 is merely connected to the second electrode 20 on the cap 3, 9.

The two counter-pins 21, 22, which are connected to a power source 30 (batteries) by a switching device in the form of a changeover switch 29, are located on the base 2. The counter-pin 21, which contacts the insulated pin 18 in the cap 3, 9, has a connection to the first electrode 7 on the base 2.

If the cap 3, 9 is then fitted onto the base 2 - as indicated in Fig. 7 - (a coding prevents the contacts from being swapped), a first electric circuit comprising the power source 30 and the electric motor 16 is produced and runs through the two pairs of pins, and a second electric circuit, which runs through the first contact of the second electrode 20, to the first electrode 7 via the user's body, and back to the power source 30, is produced during operation.

The changeover switch is provided in the form of a transistor circuit which is controlled by a control device

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are inserted. The compartment 72 is formed by a circumferential web 74 on the edge section of the half shell 70. In the compartment 72, the batteries 73 are situated side-by-side and antiparallel to each other.

A half-shell-shaped housing cover 75 covers the compartment 72. For this purpose, said housing cover 75 on its inner side also comprises a circumferential counter-web 76 which is fixed onto the web 74 on the half shell 70. In this arrangement, the outside contour of the housing cover 75 is shaped in such a manner that a smooth transition to the outer contours of the half shells 70, 71 is formed.

In the compartment 72 itself, a compartment cover 77 is also provided that rests against the batteries 73 and for this purpose on its inner side comprises a trough-shaped indentation 78 and which on its outer side comprises a recess that forms a connector casing 79. The connector casing 79 rests against the inner side of the housing cover 75 so that in this manner a retaining force is exerted on the batteries 73 when the housing cover 75 with its counter-web 76 is fixed onto the circumferential web 74.

The connector casing 79 is hollow and is open towards the underside of the compartment cover 77. On one wall of the connector casing 79 there is a housing opening 80. A connector board (not shown in the drawing) with a USB connector socket is inserted in the connector casing 79 in such a manner that the opening for the connector is situated in front of the housing opening 80.

As can be derived from Fig. 16, the drive 90 of a vibrator is connected in series with the collector/emitter/ path of a transistor 91. A control voltage is applied to

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28 Lever
29 Changeover switch
30 Power source

31 Control device
32 Recess

40 Device
41 Housing
50 Bottom

51 Chamber
52a Arm
52b Arm
53 Tab
54 Tab
55 Rubber seal

56 Retaining pin
57 Sealing sheet
58 Soldering lug
59 Step
60 Pillar

61 Channel
62 Retaining bush
63 Head
64 Indentation
65 Connector socket
~~57 Sealing sheet~~
~~58 Soldering lug~~
~~59 Step~~
~~60 Pillar~~

~~61 Channel~~
~~62 Retaining bush~~

...

(16) extend essentially transverse to a virtual line between the plug-on region and the second outer electrode.

11. The device according to any one of the preceding claims, **characterised in that** in the cap (3) a bottom (50) is inserted which on its upper side facing the cap (3) comprises a retainer for the vibrator (15).

12. The device according to claim 11, **characterised in that** on the bottom (50) a circumferential rubber seal (55) is arranged.

13. The device according to claim 11 or 12, **characterised in that** two tabs (53, 54) project from the underside of the bottom (50), with one of these tabs comprising a slot (26).

14. The device according to claim 11, **characterised in that** two pins (18, 19) that form the cap contact elements penetrate the bottom (50), whereby the pins project both towards the upper side and towards the underside of the bottom (50), whereby one of the pins (18) is in electrically conductive contact with the second electrode (20).

15. The device according to claim 14, **characterised in that** in the cap (3) a connector socket (65) is formed, the inside of which is in electrically conductive contact with the second electrode (20), whereby the connector socket is aligned in such a manner that one pin (18) is inserted in the connector socket (65) when the bottom (50) is inserted in the cap (3).

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operates independently of the polarity of the applied voltage.

21. The device according to any one of the preceding claims, **characterised in that** the cap (3, 9) has two laterally protruding tongues (10, 11) on its end distanced from the base (2), the upper faces of said tongues forming a continuous surface which can be brought into contact with the skin to be treated.

22. The device according to any one of the preceding claims, **characterised in that** a plurality of interchangeable and different caps (3, 3a, 3b, 9) are provided which are designed for the treatment of different parts of the skin, and in that at least one of the caps (3, 3a, 3b, 9) does not comprise a vibrator (15).

23. The device according to any one of the preceding claims, **characterised in that** a device for detecting a current flow through the second electrode, a switch in the connection of the drive of the vibrator, and a control device are provided, whereby the control device is designed in such a manner that the switch is only closed when a current flows through the second electrode.

24. The device according to any one of the preceding claims, **characterised in that** it comprises rechargeable batteries whose poles during operation of the device are in electrical connection with the electrodes,

and a compartment (72) for accommodating the batteries, whereby the compartment is covered by a shell-

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