THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A hand-held device for electrically powered skin treatment, comprising:

a base which is designed to be grasped by a hand,

a first outer electrode which is in contact with the hand when the device is held in the user's hand for use, said first outer electrode being provided on the base,

a second outer electrode which can be placed on the area of skin to be treated,

an electrical energy source, the poles of which are electrically connected to the electrodes during operation of the device, said source being arranged in the base, and

a cap to be fitted detachably on the base,

said cap comprising the second outer electrode which can be placed on the area of skin to be treated,

wherein an electrically operated vibrator is fixed in or on the cap and is adapted to vibrate the part of the device located on the area of skin to be treated so that, during operation, the device produces an intensified massaging effect on the skin to be treated, whereby the skin pores are widened.

2. A hand-held device for electrically powered skin treatment, comprising:

a housing, which is designed to be grasped by a hand,

a first outer electrode which is in contact with the hand when the device is held in the user's hand for use, said first outer electrode being provided on the housing,

a second outer electrode which can be placed on the area of skin to be treated, and

an electrical energy source, the poles of which are electrically connected to the electrodes during operation of the device, said source being arranged in the housing,

wherein the second outer electrode is located on one side of the housing, and

wherein an electrically operated vibrator is fixed by a socket on the side wall of the housing and is adapted to vibrate the side wall of the housing together with the second electrode when operated, so that, during operation, the device produces an intensified massaging effect on the skin to be treated, whereby the skin pores are widened.

3. The device according to claim 1 or 2, wherein the vibrator is fixed in the vicinity of the second outer electrode.

4. The device according to claim 1, wherein contact means on the cap and on the base, which serve to establish an electrical connection between the second electrode and the electrical energy source, are designed and arranged in such a manner that they are brought into contact when the cap is placed on the base, and wherein the vibrator is in switchable electrically conducting contact with the electrical energy source in the base.

5. The device according to claim 4, wherein a first and a second electrical contact are provided between the base and the cap, both electrical contacts comprising a base contact element and a cap contact element, the base contact element being arranged in the base and the cap contact element being arranged in the cap in such a way that the contacts are closed when the cap is placed on the base, the electrical connection between the energy source and the second electrode being produced by the first contact, and the

electric circuit, which supplies power to the vibrator, running through the first and second contacts.

6. The device according to claim 5, wherein the contact elements comprise pins, the end faces of which contact one another when the cap is attached, one of the contact elements of each contact being spring-mounted in axial direction, and wherein the cap is held on the base by means of a releasable catch.

7. The device according to claim 5 or 6, wherein the cap consists entirely of an electrically conductive material, or an outer layer of the cap consists of an electrically conductive material, wherein the cap contact element of the first electrical contact is connected to the material in an electrically conductive manner, and wherein the cap contact element of the second electrical contact is electrically insulated with respect to the conductive material.

8. The device according to any one of the preceding claims, wherein the vibrator comprises an electric motor, a cam being fastened to the shaft of said electric motor.

9. The device according to claim 8, wherein, on its lower end, the cap has a plug-on region which can be plugged onto the base, and on its upper end, it forms the second outer electrode, and wherein the axle and the shaft of the electric motor extend essentially parallel to a virtual line between the plug-on region and the second outer electrode.

10. The device according to claim 8, wherein, on its lower end, the cap has a plug-on region which can be plugged onto the base, and, on its upper end, it forms the second outer electrode, and wherein the axle and the shaft of the

electric motor 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, wherein in the cap a bottom is inserted which on its upper side facing the cap comprises a retainer for the vibrator.

12. The device according to claim 11, wherein on the bottom a circumferential rubber seal is arranged.

13. The device according to claim 11 or 12, wherein two tabs project from the underside of the bottom, with one of these tabs comprising a slot.

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

15. The device according to claim 14, wherein in the cap a connector socket is formed, the inside of which is in electrically conductive contact with the second electrode, whereby the connector socket is aligned in such a manner that one pin is inserted in the connector socket when the bottom is inserted in the cap.

16. The device according to claim 14 or 15, wherein on the ends of the pins soldering lugs that project on the upper side of the bottom are attached.

17. The device according to any one of claims 11 to 16, wherein the bottom is penetrated by two retaining pins that project

towards the upper side, whereby in the cap there are retaining bushes into which the retaining pins are inserted or screwed when the bottom is inserted in the cap.

18. The device according to claim 17, pillars that emanate from the peak of the cap are arranged in the cap, whereby the retaining bushes are formed in the pillars and their openings lead to the end faces of the pillars.

19. The device according to any one of the preceding claims, wherein a switching device, which can be adjusted by the user of the device, is provided in the base and produces the electrical connections between the energy source and the electrodes, and wherein the vibrator is also connected to the electrical energy source by the switching device.

20. The device according to claim 19, wherein the switching device is provided with an electronic memory, in which the parameters of operating states to be selected are stored and can be selected by the user by means of a button, one of the parameters relating to the polarity of the electrodes, and wherein the vibrator is of the kind that operates independently of the polarity of the applied voltage.

21. The device according to any one of the preceding claims, wherein the cap has two laterally protruding tongues on its end distanced from the base, 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, wherein a plurality of inter-changeable and different caps are provided which are designed for the treatment of

different parts of the skin, and wherein at least one of the caps does not comprise a vibrator.

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

and a compartment for accommodating the batteries, whereby the compartment is covered by a shell-like housing cover whose outside forms a section of the exterior area of the device housing,

whereby a charging circuit is provided, and

the compartment is covered by a removable compartment cover whose inner side is directed to the batteries in the compartment and on whose outer side a connector socket with at least two poles is arranged, and

the compartment cover is arranged within the housing cover.

25. The device according to claim 24, wherein the connector socket is a connector socket according to the USB standard.

Claims

1. A hand-held device for electrically powered skin treatment, comprising:

   a first outer electrode (7) which is in contact with the hand when the device is held in the user's hand for use,

   a second outer electrode (20) which can be placed on the area of skin to be treated, and

   an electrical energy source, the poles of which are electrically connected to the electrodes (7, 20) during operation of the device,

   characterised in that

   an electrically operated vibrator (15) is fixed in or on the device.

2. The device according to claim 1, **characterised in that** the vibrator (15) is fixed in the vicinity of the second outer electrode (20).

3. The device according to claim 1 or 2 **characterised in that** it comprises:

   a base (2), which is designed to be grasped by a hand, the first outer electrode (7) being provided on the base (2),

   a cap (3, 9) to be placed detachably on the base (2), said cap comprising the second outer elec-

trode (20) which can be placed on the area of skin to be treated,

whereby the electrical energy source is arranged in the base (2),

and in that the electrically operated vibrator (15) is fixed in or on the cap (3, 9).

4. The device according to claim 3, characterised in that contact means on the cap and on the base, which serve to establish an electrical connection between the second electrode and the electrical energy source, are designed and arranged in such a manner that they are brought into contact when the cap is placed on the base, and in that the vibrator (15) is in switchable electrically conducting contact with the electrical energy source in the base (2).

5. The device according to claim 4, **characterised in that** a first and a second electrical contact are provided between the base (2) and the cap (3, 9), both electrical contacts comprising a base contact element and a cap contact element, the base contact element being arranged in the base (2) and the cap contact element being arranged in the cap (3) in such a way that the contacts are closed when the cap (3) is placed on the base (2), the electrical connection between the energy source and the second electrode (20) being produced by the first contact, and the electric circuit, which supplies power to the vibrator (15), running through the first and second contacts.

6. The device according to claim 5, **characterised in that** the contact elements comprise pins (18, 19; 21,

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22), the end faces of which contact one another when the cap (3, 9) is attached, one of the contact elements of each contact being spring-mounted in axial direction, and in that the cap (3, 9) is held on the base (2) by means of a releasable catch (27).

7. The device according to claim 5 or 6, **characterised in that** the cap (3) consists entirely of an electrically conductive material, or an outer layer of the cap (3) consists of an electrically conductive material, in that the cap contact element of the first electrical contact is connected to the material in an electrically conductive manner, and in that the cap contact element of the second electrical contact is electrically insulated with respect to the conductive material.

8. The device according to any one of the preceding claims, **characterised in that** the vibrator (15) comprises an electric motor (16), a cam (17) being fastened to the shaft of said electric motor.

9. The device according to claim 8, **characterised in that**, on its lower end, the cap has a plug-on region which can be plugged onto the base, and on its upper end, it forms the second outer electrode, and that the axle and the shaft of the electric motor (16) extend essentially parallel to a virtual line between the plug-on region and the second outer electrode.

10. The device according to claim 8, **characterised in that**, on its lower end, the cap has a plug-on region which can be plugged onto the base, and, on its upper end, it forms the second outer electrode, and that the axle and the shaft of the electric motor

(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).

16. The device according to claim 14 or 15, **characterised in that** on the ends of the pins (18, 19) soldering lugs (58) that project on the upper side of the bottom (50) are attached.

17. The device according to any one of claims 11 to 16, **characterised in that** the bottom is penetrated by two retaining pins (56) that project towards the upper side, whereby in the cap (3) there are retaining bushes (62) into which the retaining pins (56) are inserted or screwed when the bottom (50) is inserted in the cap (3).

18. The device according to claim 17, **characterised in that** pillars (60) that emanate from the peak of the cap are arranged in the cap (3), whereby the retaining bushes (62) are formed in the pillars (60) and their openings lead to the end faces of the pillars (60).

19. The device according to any one of the preceding claims, **characterised in that** a switching device, which can be adjusted by the user of the device, is provided in the base (2) and produces the electrical connections between the energy source and the electrodes (7, 20), and in that the vibrator (15) is also connected to the electrical energy source by the switching device.

20. The device according to claim 19, **characterised in that** the switching device is provided with an electronic memory, in which the parameters of operating states to be selected are stored and can be selected by the user by means of a button (5), one of the parameters relating to the polarity of the electrodes, and in that the vibrator (15) is of the kind that

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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-

like housing cover (75) whose outside forms a section of the exterior area of the device housing,

whereby a charging circuit is provided, and

the compartment (72) is covered by a removable compartment cover (77) whose inner side is directed to the batteries (73) in the compartment and on whose outer side a connector socket with at least two poles is arranged, and

the compartment cover (77) is arranged within the housing cover (75).

25. The device according to claim 1, **characterised in that** the connector socket is a connector socket according to the USB standard.