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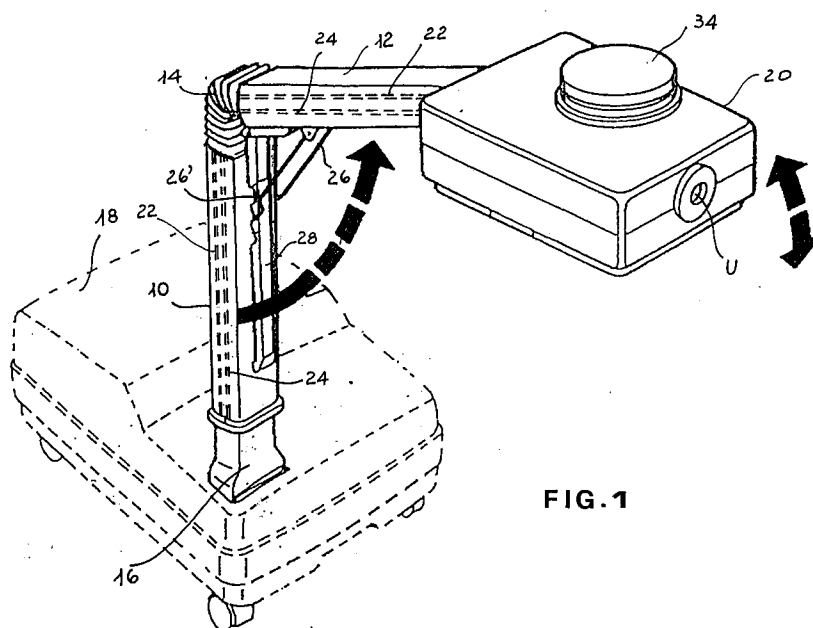
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via Pascoli, 9/B(54) **Device for conducting pressurised vapour to the skin.**

(57) The device has one or more arms (10, 12), articulatably tied to one another, which incorporate a duct (22) connected on the one end to a pressurized vapour generator (18), while on the opposite end said duct engages in a vaporization group, placed at the upper end of arm (12), composed by a container (30), at whose base a metal plate (40) is attached which surmounts a resistor (42). The container (30) has, on the front opposite to the engagement point

of the duct (22), a nozzle (38) for letting flow out the vapour which has passed through the heated chamber (30'). The vaporization group incorporates a chamber (46), closed by a removable cap (34), communicating with said chamber (30'). Near nozzle (38) a quartz ozonizing lamp (52) is preferably placed. The vaporization group and lamp (52) are housed in a box integral with arm (12).

**FIG. 1****EP 0 575 756 A2**

The invention refers to a device for the transfer of vapour from a pressurized boiler, especially suitable for treatments of personal cleanness and hygiene.

More in detail, this invention refers to a device fit for being connected to a pressurized vapour generator, of a known type, to transfer the flow, conveying it orientatably towards the utilization point.

As known, in the field of cosmetic treatments, equipments are used that create a vaporization which is orientated towards specific parts of the body, especially the face.

This operation permits to obtain an accurate cleaning and hydration of the skin, made easier by the dilation of the pores that are enveloped by the vapour.

The traditional apparatuses utilized in this field have a container for the fluid, in general water, which is heated up to the boiling-point; the vapour which generates is conveyed into a duct along which it goes upwards by force of inertia. At the end of said duct, the vapour comes out through a mouth-piece, before which stays the person who receives, on the part of the body to be treated, the gaseous flow. Special substances, the so-called essential oils, which promote the treatment of specific skin alterations, are sometimes added to the water to be vaporized; the essential oils, placed in an independent container, yield up to the vapour which envelope them part of these active substances and come out of the duct to envelope the exposed portion of skin tissue.

The apparatuses known to prior art show some functional drawbacks.

The section of the delivery duct, in the first place, has to be large, to let the vapour go upwards and outwards.

Besides, as the vapour goes upwards by force of inertia along said duct, the apparatus has to be placed near the utilization point: actually, too long a duct would lead to the dispersion of much of the gaseous flow, which would therefore arrive outside in a very small amount and be therefore scarcely effective.

A further drawback of the known apparatuses of this kind lies in that the essential oils that are sometimes used, are exploited to a very limited amount; in fact, the vapour envelopes this substances without being in condition of taking from them the active ingredients, as it goes upwards along the duct by force of inertia, with no pressure at all. An object of this invention is that of obviating the above mentioned drawbacks.

More in detail, an object of this invention is the realization of a device for the transfer of vapour from a pressurized boiler, utilizable especially for treatments of personal cleanness and hygiene,

from which the gaseous flow develops in great quantity and under pressure, so as to accelerate and optimize the treatment stages.

Another object of this invention is the realization of a device as defined above, capable of largely exploiting the active substances of the essential oils.

A not least object of this invention is the realization of a device for the transfer of vapour in which the size of the duct for the transfer of vapour is such as to be easily placeable, orientable and utilizable.

These and still other objects are obtained with the device subject matter of this invention, which is basically characterized by the fact of being constituted by a device for the transfer of vapour from a pressurized boiler, especially suitable for treatments of personal cleanness and hygiene, and characterized by the fact of being constituted by at least a tubular element 10 or 12 inside which a flexible duct 22 is placed for conveying the vapour coming from a pressurized generator 18, a vaporization group being placed at the top end of said tubular element and incorporated in a box 20, made up by a chamber 30' at whose basis an electrically heated plate 40 is provided.

Further characteristics and still other advantages of this invention shall be more clearly stressed by the following description of one preferred, non limitative, embodiment, made with reference to the attached drawings, wherein:

Fig. 1 is a prospective scheme of the device subject matter of this invention, connected to a pressurized vapour generator;

Fig. 2 is a detailed scheme of the vapour-expansion group, placed at the end of the device;

Fig. 3 is a scheme of the same group of the preceding drawing, to which an ozoning lamp is associated.

With reference, to begin, to Fig. 1, the device for the transfer of vapour from a pressurized boiler subject matter of this invention, comprises two basically tubular elements or arms 10, 12, articulatably connected to one another by a bellows 14 of flexible material. The lower end of element 10 is provided with a plug 16 for the connection of the device with a pressurized vapour generator, of a known type, indicated with 18 on the dotted line. The top end of element 12 is connected to a box 20 which incorporates the vaporization head of which we shall speak further on.

Said arms 10, 12 and box 20 are preferably made of plastic material, and constituted by complementary shells snap-tied and/or connected by common screws to one another, and incorporate a flexible duct 22 for the transfer of vapour and a plurality of electric cables 24.

Said arms are connected to one another in lower position from a frame which permits them to take different and stable orientations.

Said frame is constituted by a fork 26, connected to arm 12, whose opposite end is engaged under a cross member 28, which being provided with an indentation, is integral with arm 10. The vaporization group shown on drawings 2 and 3 is placed in box 20.

Said group is constituted by a container 30, preferably made of plastic material, surmounted by a tight cover 32 on which the removable cap 34 is placed.

Container 30 shows on the opposite heads the protruding clutches 36, 38, which connect chamber 30', circumscribed by said container and the cover, with the outside.

On mouth-piece 36 is placed the top end of the flexible duct 22, which conveys the vapour coming from generator 18; on the contrary, from mouth 38 the vapour comes out that has passed through chamber 30'.

At the basis of chamber 30' is fixed a metal plate 40, preferably made of stainless steel, which surmounts a resistor 42, under which a second plate 44 is provided, advantageously made of aluminium.

In correspondence with cap 34, which protrudes from box 20, the container 30 has a chamber having a form for instance cylindrical 46, with wall and bottom provided with slots and/or holes.

A thermostat 48 and a safety thermofuse 50 are provided on the external lower front of container 30.

The active substances, or essential oils, in form of leaves included in permeable bags or possibly of fluids impregnating said bags, are advantageously placed in chamber 46, communicating with chamber 30' through said slots and holes.

According to a preferred embodiment, a quartz ozonizing lamp, horseshoe-shaped, having the function of sterilizing the vapour before its coming out, is placed within box 20.

The working of the device is now described.

The pressurized vapour produced by generator 18 is conveyed along the flexible duct 20, articulated into arms 10, 12 and flows into chamber 30'; the condensate which forms unavoidably as the vapour is pressurized, is eliminated in said chamber through the effect of resistor 42, which heats plate 40. The possible water drops, in fact, fall on said overheated plate and vaporize anew.

Coming out from mouth 38, the vapour is submitted to the action of the quartz lamp 52, which sterilizes it.

Within chamber 30', the vapour, being pressurized, hits energetically the substances placed in chamber 46, taking out from the essential oils the

active principles useful for the treatment.

As can be inferred from the above, the many advantages offered by the invention are evident.

The device permits to have at own disposal a remarkable amount of pressurized vapour which optimizes the skin treatment; in the presence of essential oils placed in the special container, the vapour flow is notably enriched by the active ingredients they contain and transfer them outside in large amounts.

Especially advantageous is the possibility of eliminating the condensate through the vaporization group placed at the end of the top arm. Due to the availability of large quantities of pressurized vapour, it is also advantageously possible to provide for different sizes of the device with respect to the length of the arms, not to oblige the user to take on uncomfortable positions during the treatment.

The invention, as above described and as claimed further on, is however proposed as a mere example, as the same may undergo many modifications and variants, all of which falling however within the concept of the invention.

Besides, the device subject matter of this invention, while being proposed in particular for treatments of personal cleanness and hygiene, can obviously be utilized in other fields and with other aims, as for instance the humidification or aromatization of rooms.

Claims

1. A device for the transfer of vapour from a pressurized boiler, especially suitable for treatments of personal cleanness and hygiene, characterized in that it is constituted by at least a tubular element (10) or (12) inside which a flexible duct (22) is placed to convey the vapour coming from a pressurized generator (18), a vaporization group incorporated in a box (20) being placed at the top end of said tubular element, said vaporization group comprising a chamber (30') at whose basis an electrically heated plate (40) is provided.
2. A device according to claim 1, characterized in that it comprises two tubular elements or arms (10) (20), articulatably tied to one another by a flexible bellows (14), said arms being connected to one another by a frame made up by a fork (26), integral with one of the arms, and whose end engages under an indented cross element (28) integral with the other arm.
3. A device according to the above claims, characterized in that the vaporization group incorporates a chamber (46) closed by a cap (34) protruding from box (20), communicating with

chamber (30') wherein the vapour flows in which comes from generator (18) through duct (12) and flows out through an opposite duct (38).

4. A device according to one or more of the above claims, characterized in that the metal plate (40) is made of stainless steel and heated by a resistor (42) under which a plate (44) of a material having a high thermal conductivity is provided. 5 10
5. A device according to one or more of the above claims, characterized in that the lower end of arm (10) is provided with a plug (16) for the connection with generator (18). 15
6. A device according to one or more of the above claims, characterized in that a quartz ozonizing lamp (52) is placed in box (20), near the mouth from which the vapour flows out. 20
7. A device according to one or more of the above claims, characterized in that arms (10) (12) incorporate the cables feeding said resistor (42) and said lamp (52). 25
8. A device according to one or more of the above claims, characterized in that the vaporization group is provided with a thermostat (48) for the regulation of the temperature of resistor (42) and a safety thermofuse (50). 30

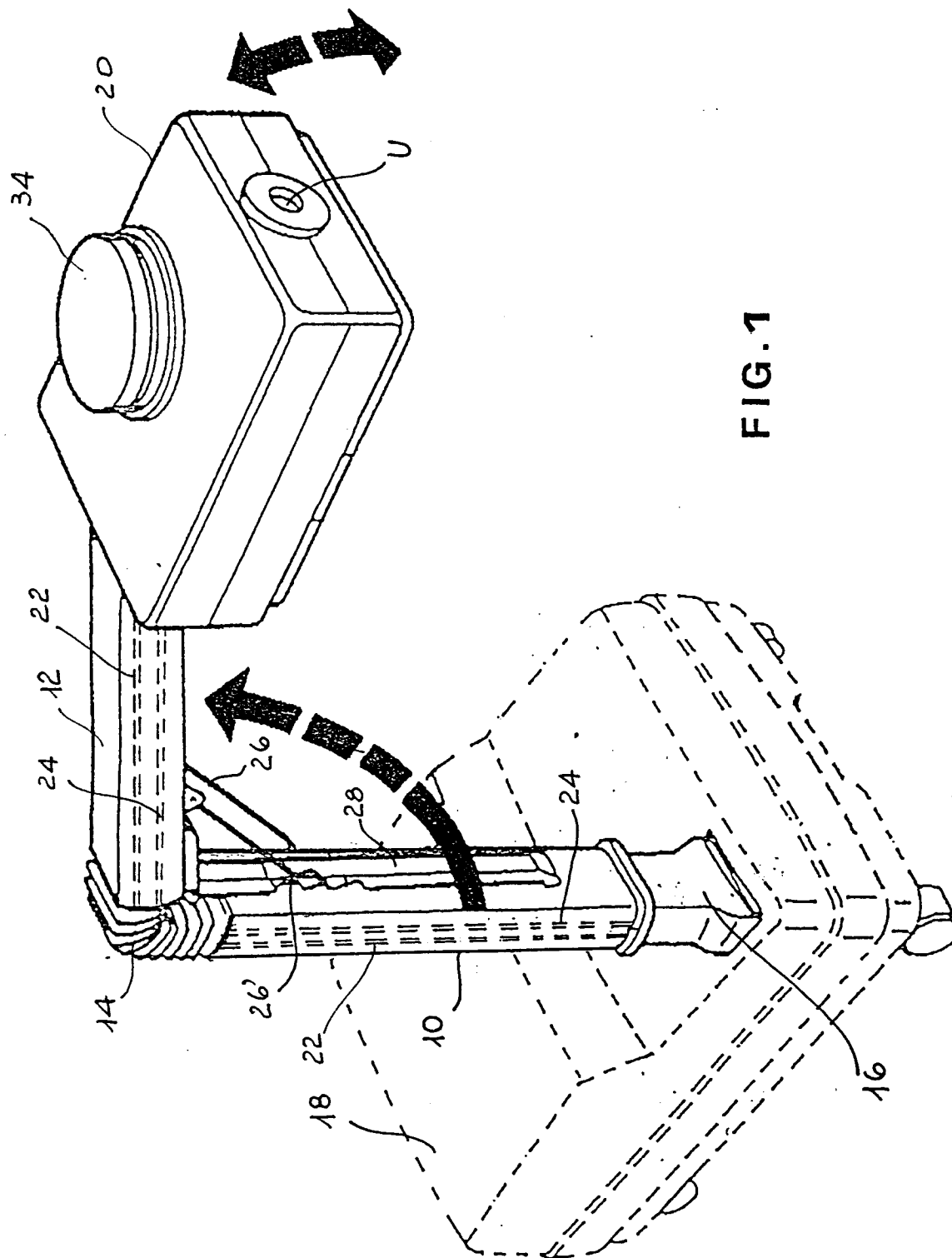
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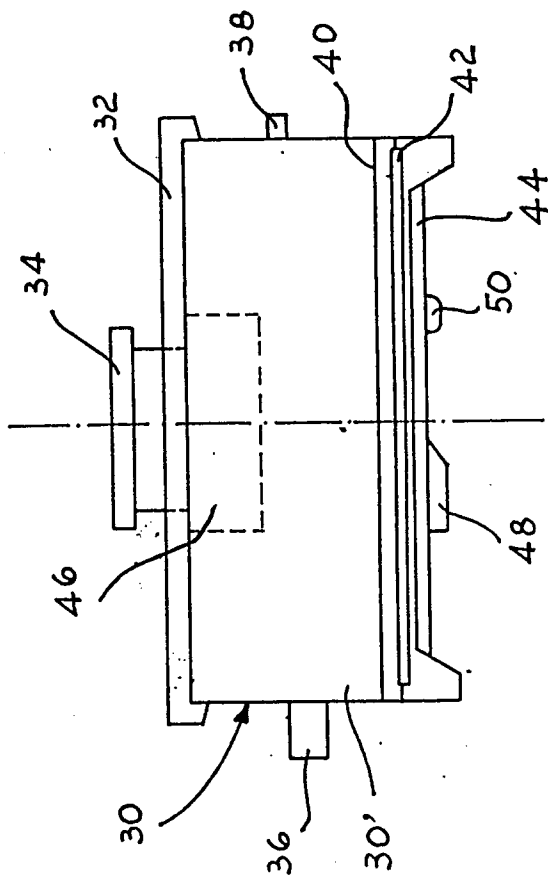


FIG. 2

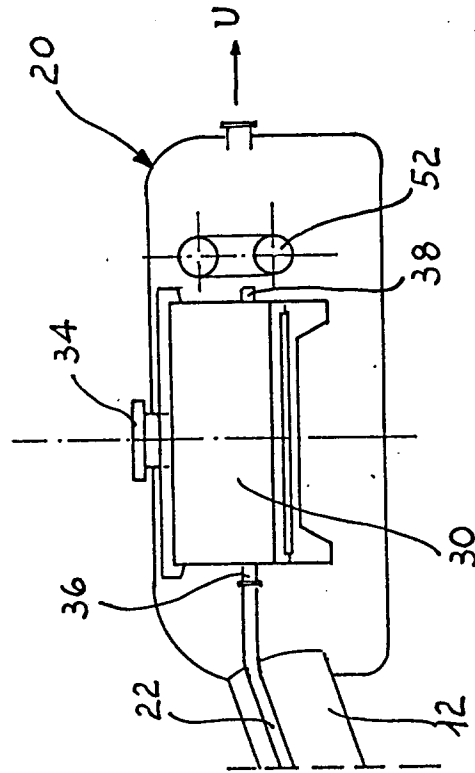


FIG. 3