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(54) Massaging head for thermal hydraulic massage in combination with pressure massage

(57) Portable massaging head for an apparatus for localised massages for aesthetic use and for health comprising a moveable container (1) for hot (11) and cold (14) water producing means and for controlled circulation means (16;17;18) adapted to convey said liquids to the portable massaging head, said massaging head comprising a plurality of button elements, wherein said button elements (4) are movable by means of compressed air coming from a related compression and distribution system, said portable massaging head (5) further comprising:

- a cup-shaped container (6) , for the alternate circulation of hot and cold water, provided inside which is a plurality of sliding seats (62) for the plurality of button elements (4), the button elements being free of contact with the liquid;
- an intermediate disk (7) adapted for hydraulic sealing of the cup-shaped container (6) and comprising a plurality of holes (71) for the passage of said compressed air for alternate actuation of said button elements (4) and a plurality of holes (72) for supplying said hot and cold water to said cup-shaped container (6);
- a cover (8) overlapped with pneumatic and hydraulic sealing to the abovementioned intermediate disk (7) and provided with hot and cold water inlet/outlet holes (81) and with holes (82) for the introduction of said compressed air, the latter holes communicating with channels (83) related to said passage holes (71) of said intermediate disk (7).

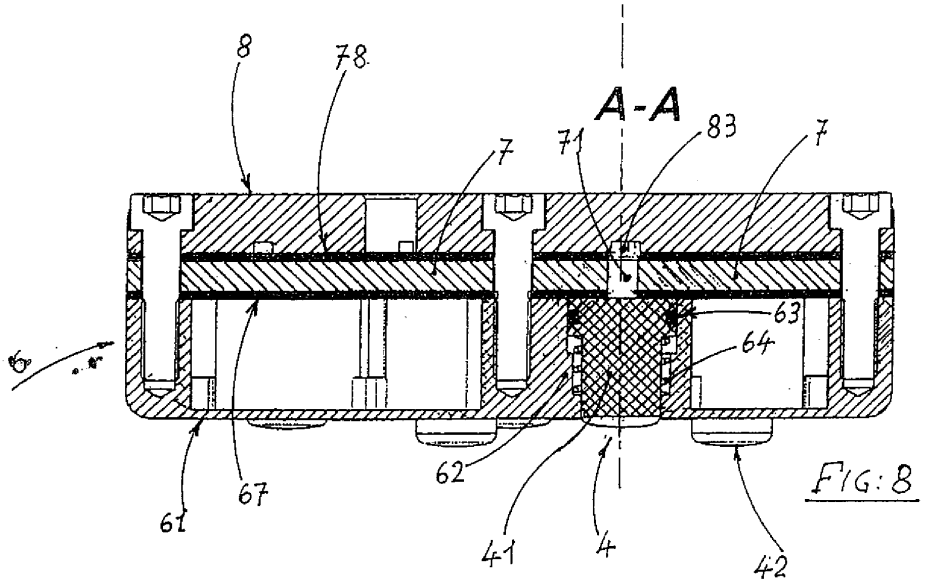

FIG: 8

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Description

[0001] The present finding concerns some improvements for an apparatus for carrying out localised massages for aesthetic use and for a person's health.

[0002] On 13/03/06, the applicant company filed a patent application for the invention n° VI2006A000065 having the title: "APPARATUS FOR LOCALISED MASSAGES FOR AESTHETIC USE AND FOR HEALTH".

[0003] With the aim of highlighting the improvements subject of the new patent application, the two drawings of the previous application - with reference numbers indicated in the figures and in the corresponding description - are attached to the same application.

[0004] In order to outline the problem, it is deemed sufficient to refer to the content of the main claim which states: "Apparatus for localised massages for aesthetic use and for health comprising a mobile container (1) of means for producing hot water (11) and cold water (14) and of controlled circulation means (16; 17; 18) suitable for conveying said liquids to a portable massaging head (3), characterised in that said mobile container (1) comprises a device for exchanging the rapid alternate circulation of hot and cold water, controlled by means of a programmable electronic apparatus, said apparatus also being characterised in that said portable massaging head (3) comprises a plurality of button elements (31) moved by an actuator member (32) inside a chamber (33) for the circulation of the fluids conveyed into the same chamber by said controlled circulation means, said same chamber having the lower surface made with an elastic membrane (34) suitable for being deformed from the inside rhythmically by said button elements (31) and suitable for being covered with an interchangeable cover (35), even soaked with specific products, arranged with its outer surface in contact with the patient's skin.

[0005] The inventive concepts claimed above substantially remain valid regarding the overall structure of the apparatus conceived, while the improvements claimed below essentially concern feasible modifications to the abovementioned portable massaging head (3).

[0006] During the steps of testing a prototype of the same head made according to the guidelines of the previous patent application, some functional drawbacks were observed. Such drawbacks, without jeopardising the validity of the guidelines themselves, induced to carrying out feasible improvements, on the same massaging head, capable of enhancing its operation.

[0007] In detail and referring to the claim indicated above, it was observed that "..... the button elements (31) moved by an actuator member (32) ....." imply an excessive construction complexity especially regarding the use of the rotary disc (36) moved by the actuator member (32).

[0008] A further drawback was observed in the consequence that arranging "... a plurality of button elements (31) moved by an actuator member (32) inside a chamber (33) for circulating the fluids conveyed into the same chamber by the aforementioned controlled circulation means .....", caused sealing difficulties towards the zone of arrangement of said actuator member (32) operating on the heads of said button elements (31).

[0009] Still referring to the continuation of the abovementioned claim, a further drawback observed regards the fact that, ".... said same chamber (33) has the lower surface made with an elastic membrane (34) suitable for being deformed from the inside rhythmically by the button elements (31).....", are poorly effective at actuating the massaging action on the person, through the same button elements which are not in direct contact with the skin.

[0010] The improvements of the present finding are intended to overcome the abovementioned drawbacks.

[0011] In particular, a first object of the same finding is to solve the problems indicated above in a simple and safe manner.

[0012] A second object of the finding itself is to enhance the effectiveness of the massaging action of the aforementioned button elements, bringing it into direct contact with the patient's skin.

[0013] The abovementioned objects are attained by means of improvements for an apparatus for localised massages for aesthetic use and for health subject of the previous patent application, such improvements, according to the content of the first claim, are characterised in that the abovementioned button elements are moved by means of compressed air coming from a relative compression and distribution system and further characterised in that the portable massaging head comprises:

- a cup-shaped container, for the alternate circulation of hot and cold water, provided inside which is a plurality of sliding seats for the plurality of button elements, free of contact with the liquid;
- an intermediate disk adapted for hydraulic sealing of the cup-shaped container and comprising a plurality of holes for the passage of compressed air and holes for supplying hot and cold water into the cup-shaped container;
- an upper cover overlapped with pneumatic and hydraulic sealing to the abovementioned intermediate disk and provided with hot and cold water inlet/outlet holes and with compressed air introduction holes communicating with the channels related to the abovementioned passage holes of the intermediate disk.

[0014] According to a preferred embodiment of the invention, the portable massaging head comprises the improvements claimed below is round-shaped and comprises a plurality of button elements divided into groups, each of which groups is supplied by the abovementioned system for compressing and distributing compressed air according to a preset sequence.

[0015] The objects stated above shall be outlined better in the subsequent description, referring to such preferred embodiment, provided for exemplifying and non-

limiting purposes and illustrated in the third and fourth attached drawings, wherein:

- Figure 5 shows the massaging head in a transparent perspective view;
- Figure 6 shows the same head from a bottom perspective view ;
- Figure 7 is top plan view of the same head;
- Figure 8 is a diametral section of the head in question.

[0016] The improvements in question lead to providing the portable massaging head shown in all its essential components in the view of figure 5.

[0017] In particular, the perspective view of figure 6 shows how the head itself comprises three essential elements, that is the cup-shaped container 6, the intermediate disk 7 and the cover 8.

[0018] Such essential elements are held together by the plurality of peripheral screws 9 and by the central screw 10, shown better in figure 5.

[0019] Present interposed between the cup-shaped container 6 and the intermediate disk 7 is a first gasket 67 which ensures the upper hydraulic sealing of the cup itself circulating in which is the hot an cold water coming from the container 1 of figure 1 of the previous patent referred to above.

[0020] Analogously, present between the intermediate disk 7 and the cover 8 is the second gasket 78 which respectively ensures, both the hydraulic sealing of the liquid supplied through the inlet/outlet holes 81 of the cover 8, and the pneumatic sealing of the compressed air passing through the passage holes 71, as better specified hereinafter.

[0021] The improved massaging head of figures 5-8 further comprises the plurality of button elements 4, each one of which comprises - as better shown in the section of figure 8 - the cylindrical body 41 associated at the lower part with the skin contact element 42, the latter projecting with respect to the base 61 of the cup-shaped container.

[0022] Figure 8 shows how the cup-shaped container 6 is provided, within it, with a plurality of sliding seats 62 for the abovementioned button elements 4; this occurs without the same button elements 4 coming into contact with the liquid present in the same cup-shaped element in any way whatsoever, due to the presence of the hydraulic sealing gasket 67.

[0023] Each button element 4 comprises the head 43 joined to the cylindrical body 41 and having a circular seat for accommodating the pneumatic sealing ring 63.

[0024] The alternate movement of the button elements 4 occurs, as aforementioned, due to the action of the compressed air operating on the surface of the head 43 and related to the same through the passage holes 71.

[0025] More precisely, the button elements 4 shall be pushed downwards by the compression action of the air and shall return upwards to the idle position due to the reaction of the return spring 64 arranged at the lower part of the abovementioned sliding seat 62 for the same button elements 4.

[0026] The skin contact elements 42, associated with the head 41 of each button element 4, are preferably of the interchangeable type, being advantageous that they take up the most suitable shape for localised treatment and/or suitable for the intended purpose.

[0027] The most commonly used shape shall be the one of a capsule with a convex surface - like the one of the feasible example of the attached drawings - which is suitable for treatments by compression on the different parts of the body.

[0028] Alternatively, a capsule with a concave surface with a suctioning purpose can be used for performing traction treatments on the skin of the patient.

[0029] Other shapes of the skin contact elements 42 shall be used depending on the particular requirements.

[0030] Furthermore, figure 5 shows how suitable it is, for pneumatic supply and massaging action effectiveness purposes, that the plurality of the abovementioned button elements 4 be divided into groups.

[0031] The embodiment of the same figure shows a subdivision into three groups which comprise three button elements each, for example the ones indicated with 4a; 4b; 4c.

[0032] Such button elements are moved by the compressed air coming from the abovementioned compression and distribution system (not shown in the attached figures), relating it in an alternate manner to the different groups, according to a preset sequence; this shall be provided for by a distributor member part of the same supply and distribution system.

[0033] In order to meet this requirement, each group of button elements - like the ones indicated with 4a, 4b and 4c in figure 5 - shall be supplied by the compressed air introduced through one of the introduction holes 82 which pass through the cover 8 and communicate with a corresponding channel 83 provided at the base surface of the cover 8.

[0034] As a matter of fact, such channel 83 develops following a path involving all the button elements of one of the abovementioned groups and communicates at the lower part with the passage holes 71 passing through the intermediate disk 7 and arranged at a translation axis of the corresponding button elements 4.

[0035] In such manner, during the thrust step, the compressed air shall operate on all the button elements of a single group and then, upon depression, it shall allow the return springs 64 to move the same elements back to the idle position.

[0036] The electronic control of the apparatus with which the massaging head conceived is associated establishes the sequence through which the compressed air is delivered to the single button element groups.

[0037] Said portable massaging head may be of different shapes and sizes depending on the part of the human body on which it is required to operate.

[0038] Furthermore, the same portable massaging

head may advantageously be of the type interchangeable on said moveable container, in such a manner to be able to use a single supply and control system for the various types of massaging heads employed.

Claims

1. Improvements for an apparatus for localised massages for aesthetic use and for health comprising a moveable container (1) for hot (11) and cold (14) water producing means and for controlled circulation means (16; 17; 18) adapted to convey said liquids to a portable massaging head comprising a plurality of button elements, said improvements being **characterised in that** said button elements (4) are moved by means of compressed air coming from a relative compression and distribution system and further **characterised in that** said portable massaging head (5) comprises:

   - a cup-shaped container (6) , for the alternate circulation of hot and cold water, provided inside which is a plurality of sliding seats (62) for a plurality of button elements (4), free of contact with the liquid;
   - an intermediate disk (7) adapted for hydraulic sealing of the cup-shaped container (6) and comprising a plurality of holes (71) for the passage of said compressed air for alternate actuation of said button elements (4) and a plurality of holes (72) for supplying said hot and cold water to said cup-shaped container (6);
   - a cover (8) overlapped with pneumatic and hydraulic sealing to the abovementioned intermediate disk (7) and provided with hot and cold water inlet/outlet holes (81) and with holes (82) for the introduction of said compressed air, the latter holes communicating with channels (83) related to said passage holes (71) of said intermediate disk (7).

2. Improvements according to claim 1, **characterised in that** said button elements (4) comprise each a cylindrical body (41) associated at the lower part to a skin contact element (42), projecting with respect to the base (61) of said cup (6).

3. Improvements according to claim 2, **characterised in that** said skin contact element (42) is capsule-shaped with a convex surface and it is interchangeable.

4. Improvements according to claim 2, **characterised in that** said skin contact element (42) is capsule-shaped with a concave surface with suctioning purposes.

5. Improvements according to claim 1, **characterised in that** said cylindrical body (41) of each of said button elements (4) is pressed by a return spring (64) arranged at the lower part of said sliding seat (62) for the same button elements.

6. Improvements according to claim 1, **characterised in that** said button elements (4) comprise each a head (43) joined to said cylindrical body (41), said head having a circular seat for accommodating a pneumatic sealing ring (63).

7. Improvements according to claim 1, **characterised in that** said button elements (4) are divided into groups of button elements and they are moved by the compressed air coming from the said compression and distribution system, alternatively to groups according to an established sequence.

8. Improvements according to claim 7, **characterised in that** said groups of button elements are three and they each comprise three button elements (4a; 4b; 4c).

9. Improvements according to claims 1 and 7, **characterised in that** each of said channels (83) relates to said passage holes (71) according to a path involving all the button elements of each of said button groups of button elements.

10. Improvements according to any one of the preceding claims, **characterised in that** said portable massaging head (5) has different shapes and dimensions depending on the part of human body on which it is intended to operate.

11. Improvements according to any one of the preceding claims, **characterised in that** said portable massaging head is also interchangeable on said moveable container (1).

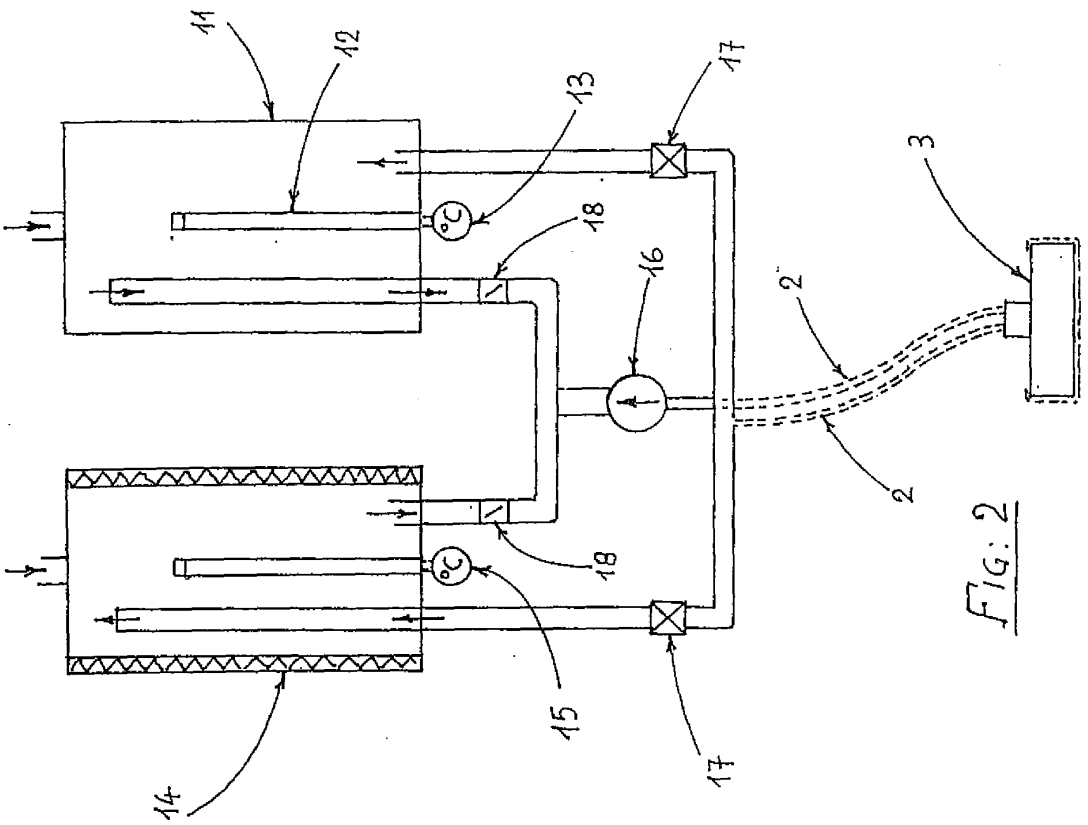

FIG: 2

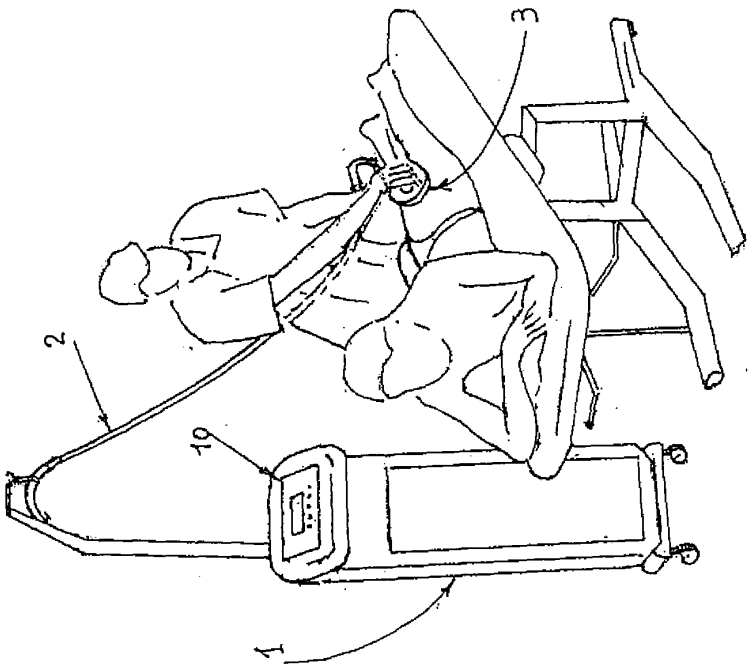

FIG: 1

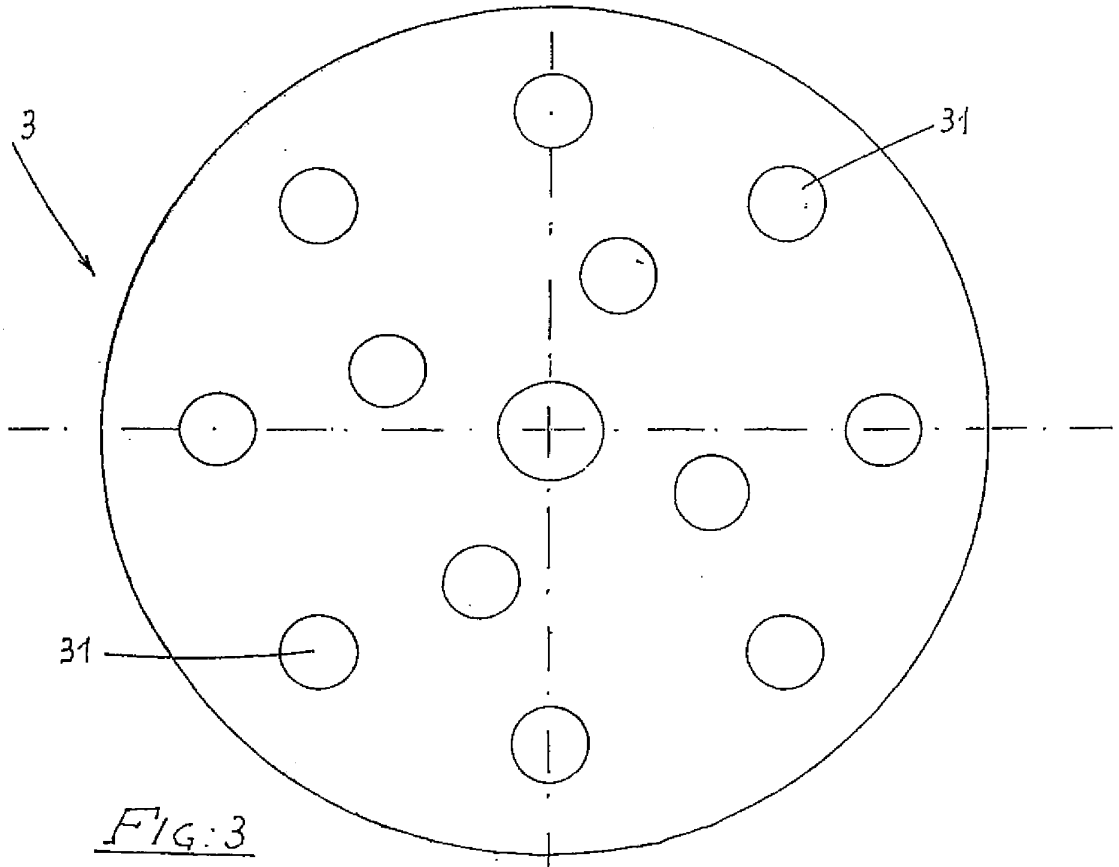

FIG: 3

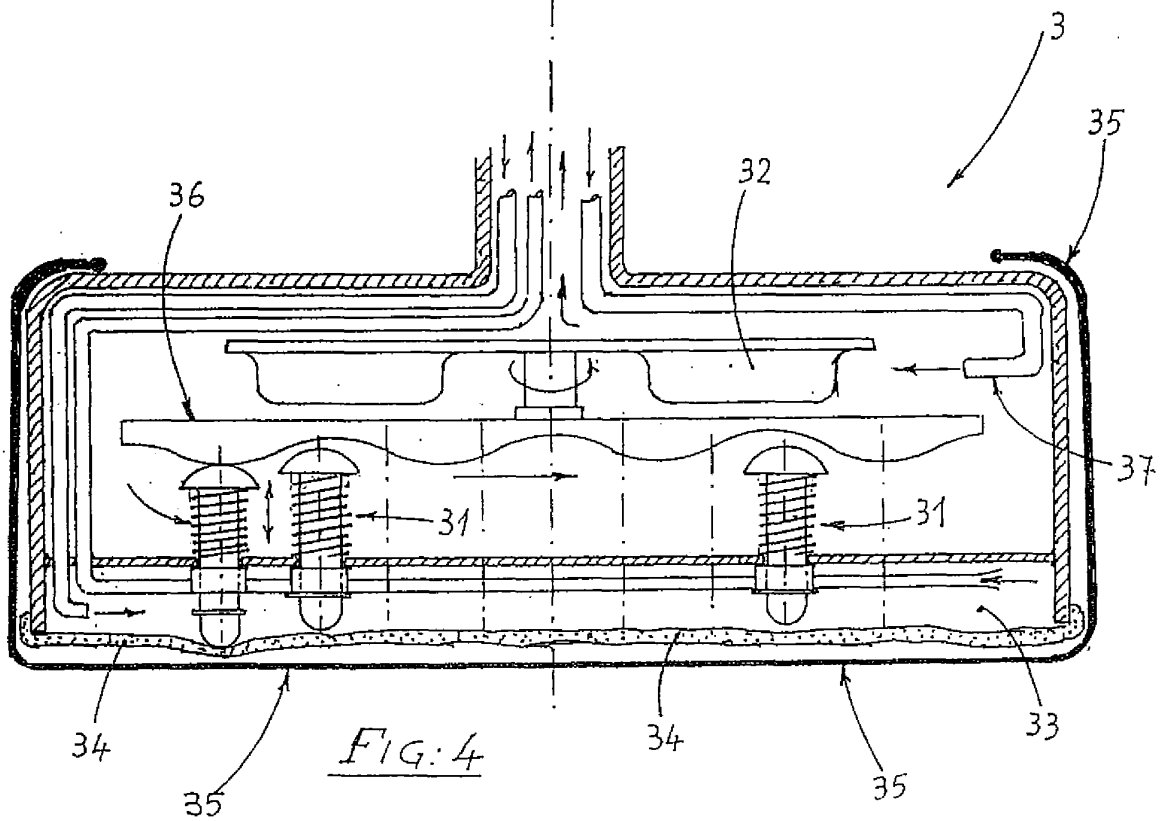

FIG: 4

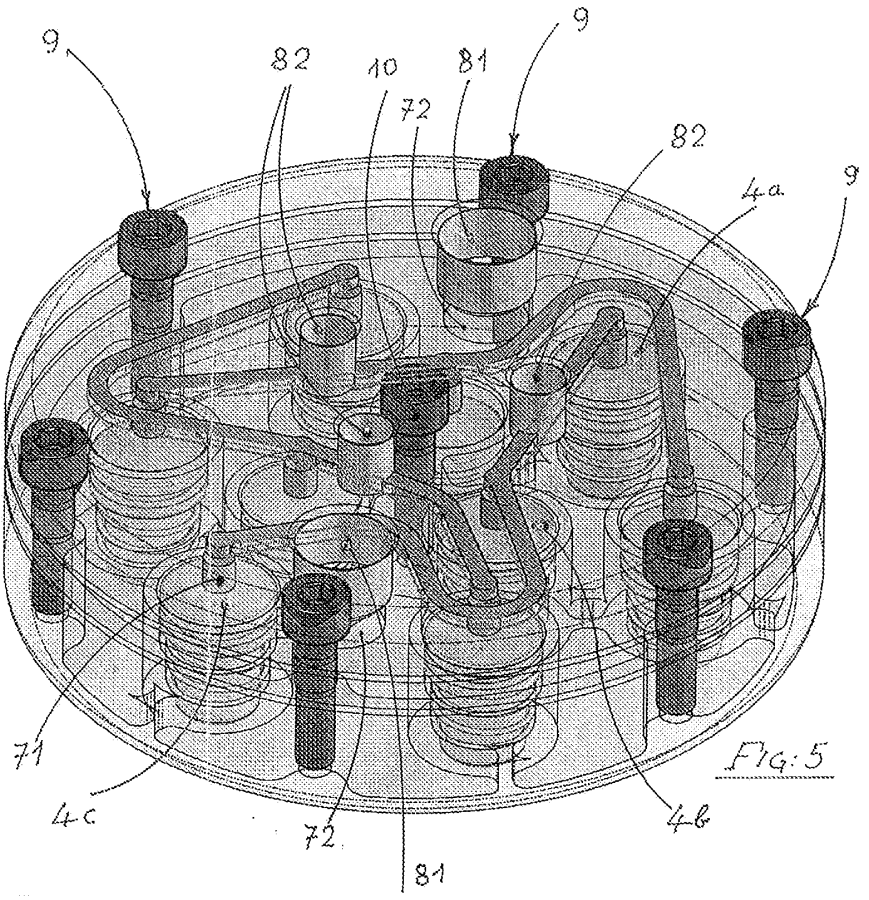

FIG: 5

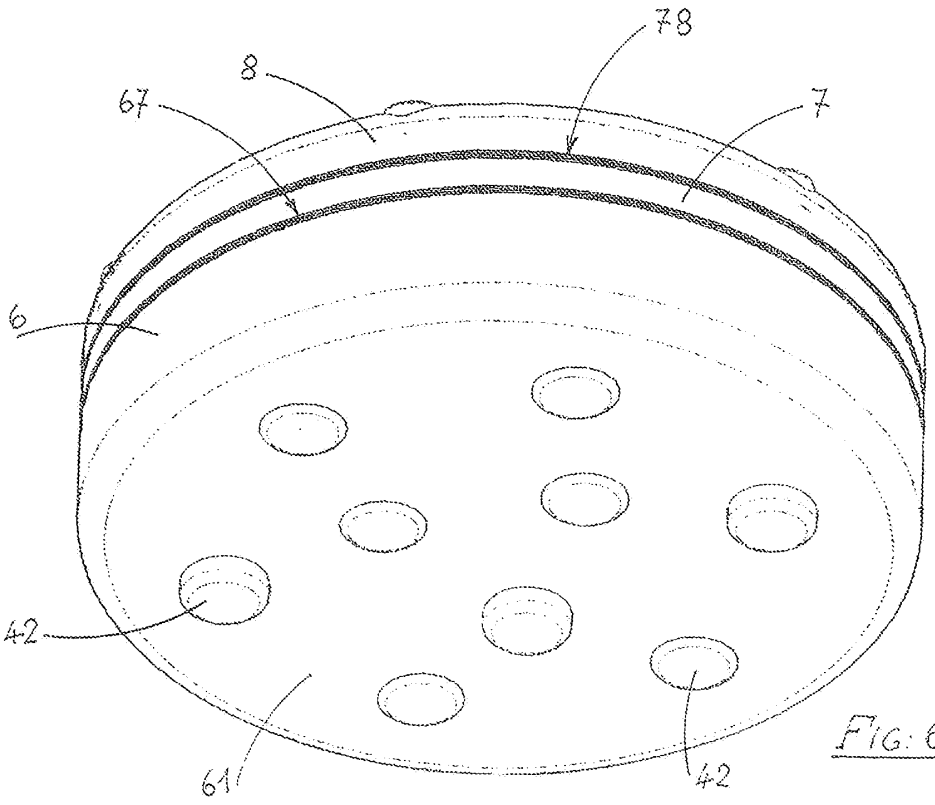

FIG: 6

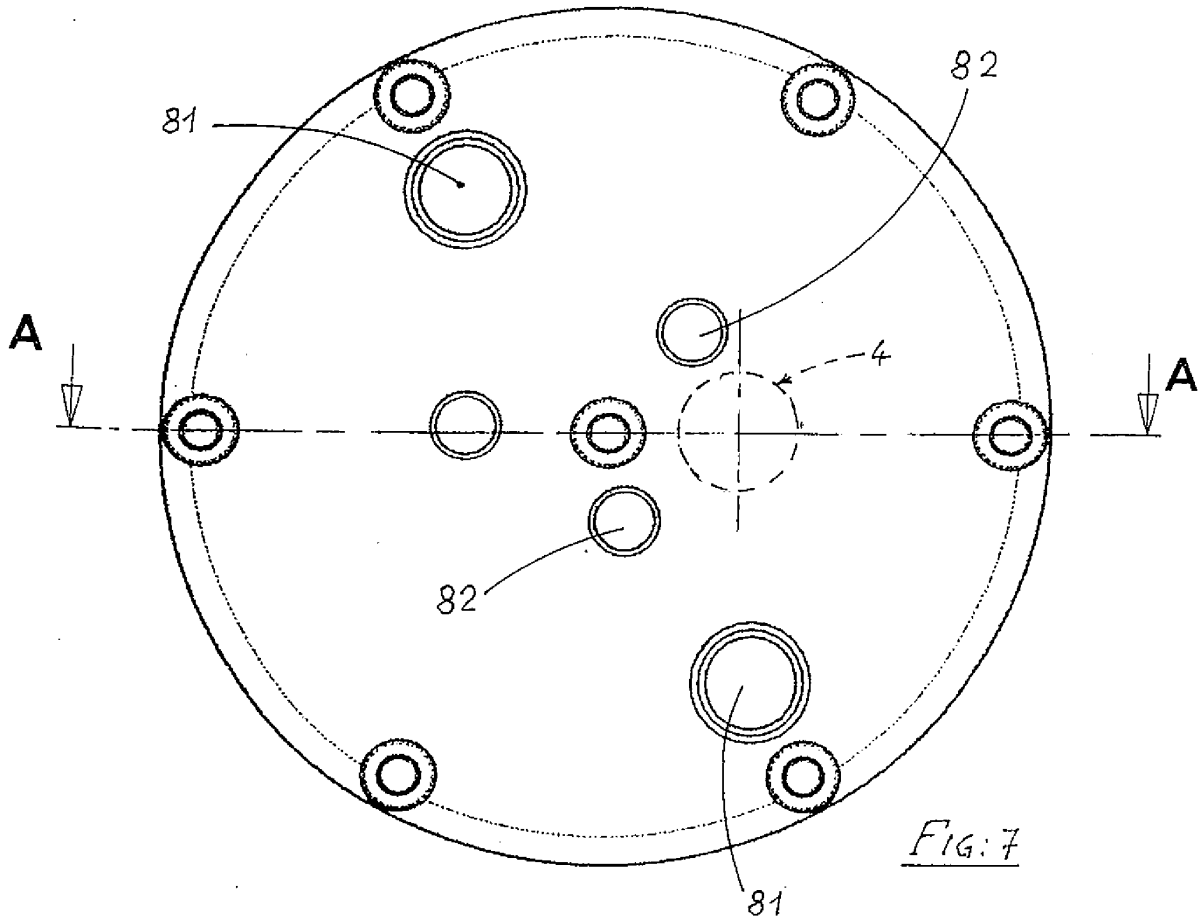

FIG: 7

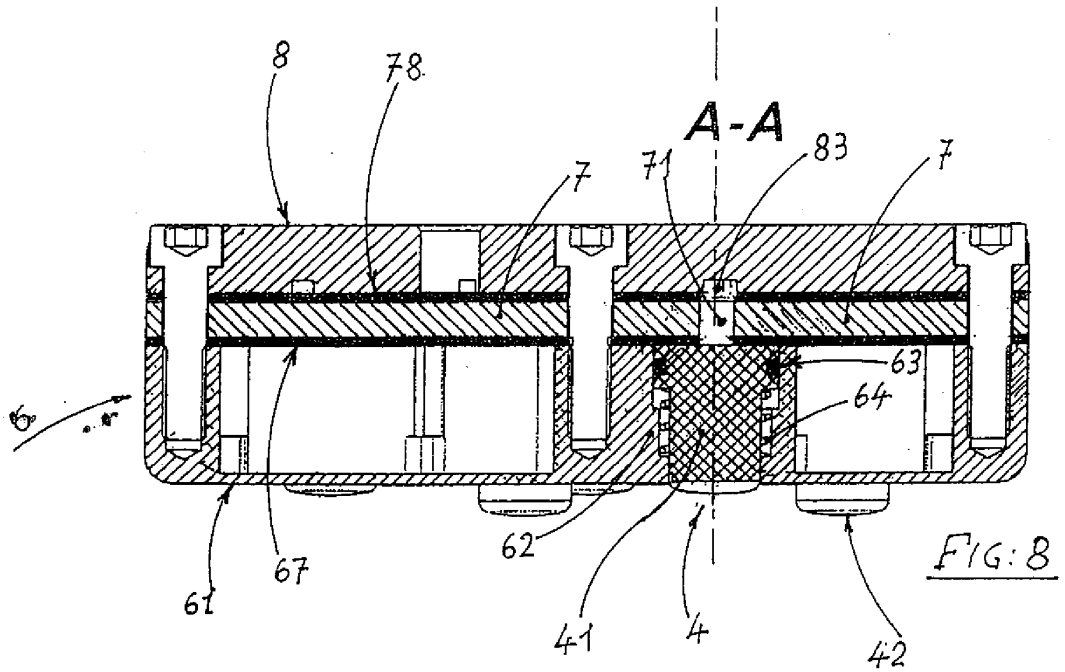

FIG: 8

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EUROPEAN SEARCH REPORT

Application Number
EP 08 10 5287

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 1 834 621 A (PERON GIUSEPPE [IT]) 19 September 2007 (2007-09-19) * paragraphs [0023] - [0029]; figures *	1-11	INV. A61H23/04 A61H9/00 A61H7/00
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A	GB 2 436 064 A (STOBART MATTHEW [GB]; HERMAN PETER [GB]) 19 September 2007 (2007-09-19) * the whole document *	1-11	

TECHNICAL FIELDS SEARCHED (IPC)

A61H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	18 December 2008	Fischer, Elmar

CATEGORY OF CITED DOCUMENTS

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18-12-2008

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