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

Massagekopf zur thermalen hydraulischen Massage in Kombination mit Druckmassage

Tête de massage pour massage thermique hydraulique combiné à un massage à pression

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Description

[0001] The present invention concerns a portable massaging head for an apparatus for carrying out localised massages for aesthetic use and for a person's health.

[0002] On 13.03.06 the same applicant of the present application filed a patent application for the invention n° VI2006A000065 having the title: "APPARATUS FOR LOCALISED MASSAGES FOR AESTHETIC USE AND FOR HEALTH". (see also the corresponding european document EP-A-1834621).

[0003] With the aim of highlighting the improvements subject of the present 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 present application, see Figs. 1-4.

[0004] In order to outline the problem, it is deemed sufficient to refer to the content of the main claim of EP-A-1834621 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 invention are intended to overcome the abovementioned drawbacks.

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

[0012] A second object of the present invention 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 a portable massaging head according to claim 1.

[0014] According to a preferred embodiment of the invention, the portable massaging head is round-shaped and comprises the 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. Portable massaging head for an apparatus for localised massages for aesthetic use and for health, the apparatus 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, the portable massaging head comprising a plurality of button elements comprising skin contact elements for direct contact with the patient skin , wherein said button elements (4) are movable by means of compressed air coming from a 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 passage 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. Portable massaging head 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. Portable massaging head according to claim 2, **characterised in that** said skin contact element (42) is capsule-shaped with a convex surface and it is interchangeable.

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

5. Portable massaging head 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. Portable massaging head according 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. Portable massaging head according to claim 1, **characterised in that** said button elements (4) are divided into three groups of button elements, each of the group comprising three button elements (4a, 4b,4c), the button elements being moved by the compressed air coming from the said compression and distribution system.

8. Portable massaging head according to claim 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.

Patentansprüche

1. Portabler Massagekopf für eine Vorrichtung zum örtlichen Massieren zu ästhetischen und gesundheitlichen Zwecken, wobei die Vorrichtung einen beweglichen Behälter (1) für Mittel zum Erzeugen von heißem (11) und kaltem (14) Wasser und für Mittel zum kontrollierten Zirkulieren (16; 17; 18) umfasst, der dazu ist, dem portablen Massagekopf die genannten Flüssigkeiten zuzuführen, wobei der portable Massagekopf eine Mehrzahl von Knopfelementen mit Hautkontaktelementen zum direkten Kontakt mit der Haut des Patienten umfasst, die Knopfelemente (4) mittels aus einem Druckerzeugungs- und Verteilungssystem stammender Druckluft bewegbar sind, wobei der portable Massagekopf (5) weiterhin umfasst:

   einen becherförmigen Behälter (6) für die abwechselnde Zirkulation heißen und kalten Wassers, in welchem eine Mehrzahl gleitender Halterungen (62) für die Mehrzahl von Knopfelementen (4) vorgesehen ist, wobei die Knopfelemente keinen Kontakt zu der Flüssigkeit haben;
   - eine zum hydraulischen Abdichten des becherförmigen Behälters (6) angepasste Zwischenscheibe (7) mit einer Mehrzahl von Durchflusslöchem (71) zum Durchfluss der Druckluft zur abwechselnden Betätigung der Knopfelemente (4) und einer Mehrzahl von Löchern (72) zum Zuführen des heißen und kalten Wassers in den becherförmigen Behälter (6);
   - einen mit pneumatischer und hydraulischer Dichtung zur vorbezeichneten Zwischenscheibe (7) überlappten Deckel (8) mit Einlass-/Auslass-Löchern (81) für heißes und kaltes Wasser und mit Löchern für das Einbringen der Druckluft, wobei die letzteren Löcher mit Kanälen (83) kommunizieren, die den Durchflusslöchem (71) der Zwischenscheibe (7) zugeordnet sind.

2. Portabler Massagekopf nach Anspruch 1, **dadurch gekennzeichnet, dass** die Knopfelemente (4) jeweils einen zylindrschen Korpus (41) der am unteren Teil einem Hautkontaktelement (42) zugeordnet ist, das in Bezug auf die Basis (61) des Bechers (6) herausragt.

3. Massagekopf nach Anspruch 2, **dadurch gekennzeichnet, dass** das Hautkontaktelement (42) wie eine Kapsel mit einer konvexen Oberfläche geformt und austauschbar ist.

4. Portabler Massagekopf nach Anspruch 2, **dadurch gekennzeichnet, dass** das Hautkontaktelement (42) wie eine Kapsel mit einer konkaven Oberfläche mit Saugfunktion ist.

5. Massagekopf nach Anspruch 1, **dadurch gekennzeichnet, dass** der zylindrische Korpus (41) sämtlicher Knopfelemente (4) von einer Rückstellfeder (64) beaufschlagt ist, die am unteren Teil der gleitenden Halterung (62) für das nämliche Knopfelement angeordnet ist.

6. Portabler Massagekopf nach Anspruch 1, **dadurch gekennzeichnet, dass** die Knopfelemente (4) jeweils einen mit dem zylindrischen Korpus (41) verbundenen Kopf (43) umfassen, Welcher eine kreisförmige Halterung zur Aufnahme eines pneumatischen Dichtungsrings (63) aufweist.

7. Portabler Massagekopf nach Anspruch 1, **dadurch gekennzeichnet, dass** die Knopfelemente (4) in drei Gruppen von Knopfelementen unterteilt sind, wobei jede der Gruppen drei Knopfelemente (4a, 4b, 4c) umfasst und die Knopfelemente durch die aus dem Druckerzeugungs- und Verteilungssystem stammender kommende Druckluft bewegt werden,

8. Portabler Massagekopf nach Anspruch 7, **dadurch gekennzeichnet, dass** sämtliche Kanäle (83) den Durchflussöfnungen (71) zugeordnet sind, entsprechend einem Wog, der alle Knopfelemente jeder der Knopfgruppen von Knopfelementen einbezieht.

Revendications

1. Tête de massage portable pour un appareil destiné à faire des massages localisés à usage esthétique, et pour la santé, l'appareil comprenant un récipient mobile (1) pour des moyens de production d'eau chaude (11) et d'eau froide (14) et pour des moyens de circulation contrôlée (16 ; 17 ; 18) adaptés pour transporter lesdits liquides jusqu'à la tête de massage portable, la tête de massage portable comprenant une pluralité d'éléments de bouton comprenant des éléments de contact avec la peau pour le contact direct avec la peau du patient, dans laquelle lesdits éléments de bouton (4) sont mobiles au moyen d'air comprimé provenant d'un système due compression et de distribution, ladite tête de massage portable (5) comprenant en outre :

   un récipient en forme de coupelle (6), pour la circulation alternée de l'eau chaude et de l'eau froide, à l'intérieur duquel on trouve une pluralité de sièges coulissants (62) pour la pluralité d'éléments de bouton (4), les éléments de bouton étant dépourvus de contact avec le liquide ;

   un disque intermédiaire (7) adapté pour l'étanchéité hydraulique du récipient en forme de coupelle (6) et comprenant une pluralité de trous de passage (71) pour le passage dudit air comprimé pour l'actionnement alterné desdits éléments de bouton (4) et une pluralité de trous (72) pour alimenter ladite eau chaude et ladite eau froide audit récipient en forme de coupelle (6) ;

   un couvercle (8) superposé avec une étanchéité pneumatique et hydraulique sur le disque intermédiaire (7) susmentionné et doté de trous d'entrée / sortie d'eau chaude et eau froide (81) et de trous (82) pour l'introduction dudit air comprimé, ces derniers trous communiquant avec des canaux (83) reliés auxdits trous de passage (71) dudit disque intermédiaire (7).

2. Tête de massage portable selon la revendication 1, **caractérisée en ce que** lesdits éléments de bouton (4) comprennent chacun un corps cylindrique 41 associé au niveau de la partie inférieure à un élément de contact avec la peau (42), faisant saillie par rapport à la base (61) de ladite coupelle (6),

3. Tête de massage portable selon la revendication 2, **caractérisée en ce que** ledit élément de contact, avec la peau (42) a la forme d'une capsule avec une surface convexe et il est interchangeable.

4. Tête de massage portable selon la revendication 2, **caractérisée en ce que** l'dément de contact avec la peau (42) a une forme de capsule avec une surface concave à des tins d'aspiration.

5. Tête de massage portable selon la revendication 1, **caractérisée en ce que** ledit corps cylindrique (41) de chacun desdits éléments de bouton (4) est comprime par un ressort de rappel (64) agencé an niveau de La partie inférieure dudit siège coulissant (62) pour les mêmes éléments de bouton.

6. Tête de massage portable selon la revendication 1, **caractérisée en ce que** lesdits éléments de bouton (4) comprennent chacun une tête (43) assemblée audit corps cylindrique (41), ladite tête ayant un siège circulaire pour loger une bague d'étanchéité pneumatique (63).

7. Tête de massage portable selon la revendication 1, **caractérisée en ce que** lesdits éléments de bouton (4) sont divisés eu trois groupes d'éléments de bouton, chacun des groupes comprenant trois éléments de bouton (4a, 4b, 4c), les éléments de bouton étant déplacés par l'air comprimé provenant dudit système de compression et de distribution,

8. Tête de massage portable selon la revendication 7,

caractérisée en ce que chacun desdits canaux (83) est relié auxdits trous de passage (71) selon une trajectoire impliquant tous les éléments de bouton de chacun desdits groupes de bouton d'éléments de bouton.

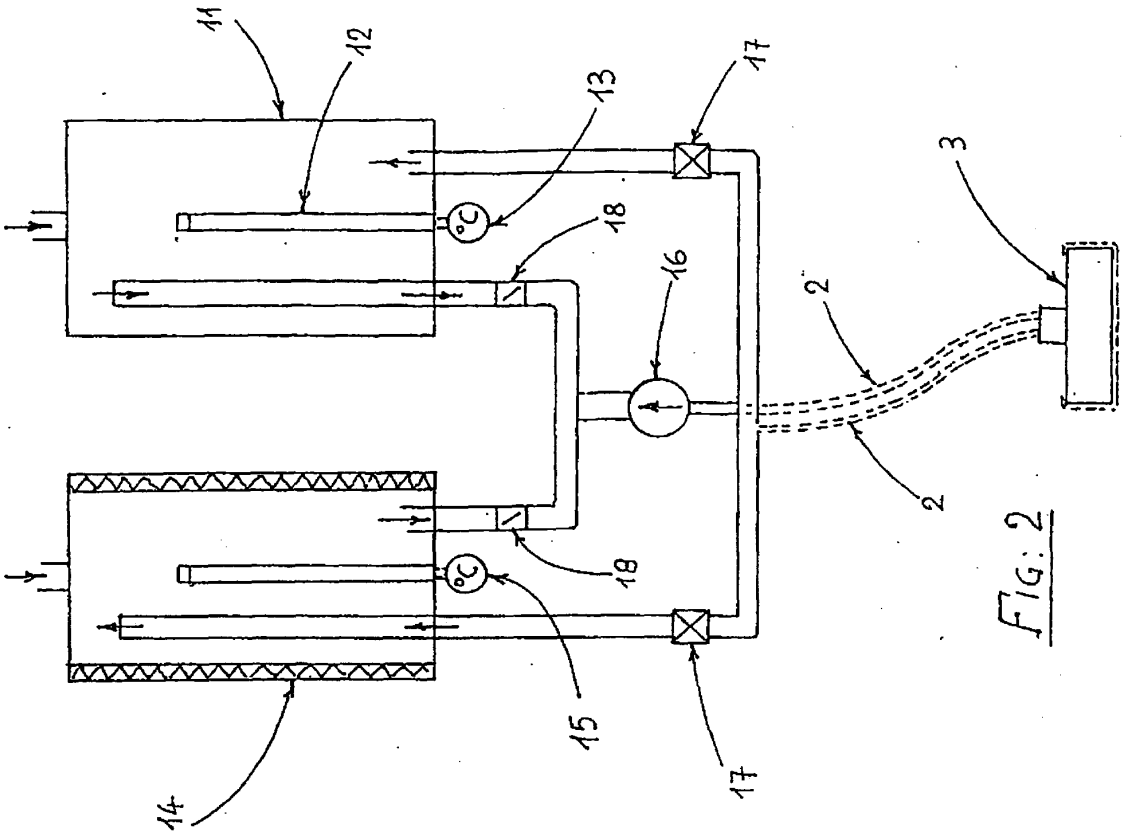


FIG: 2

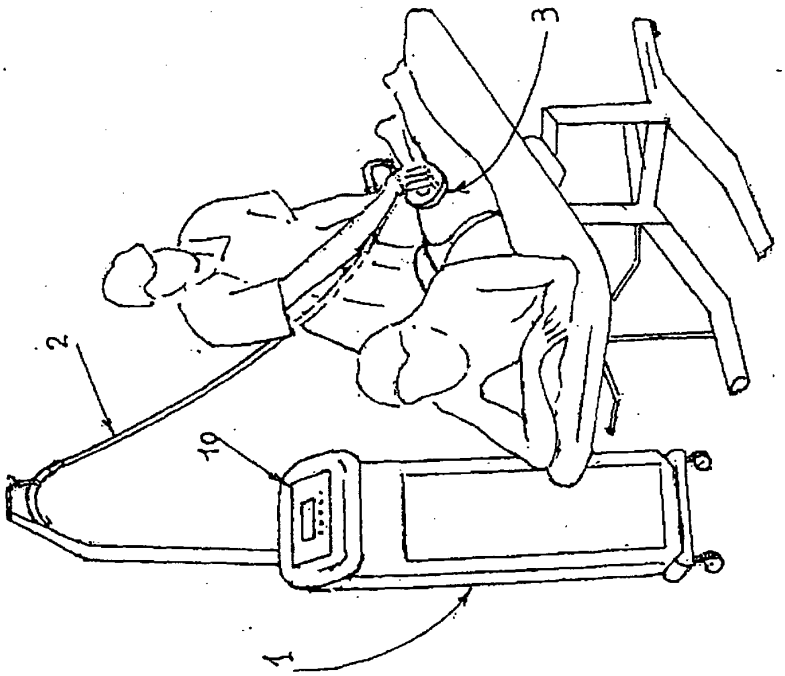


FIG: 1

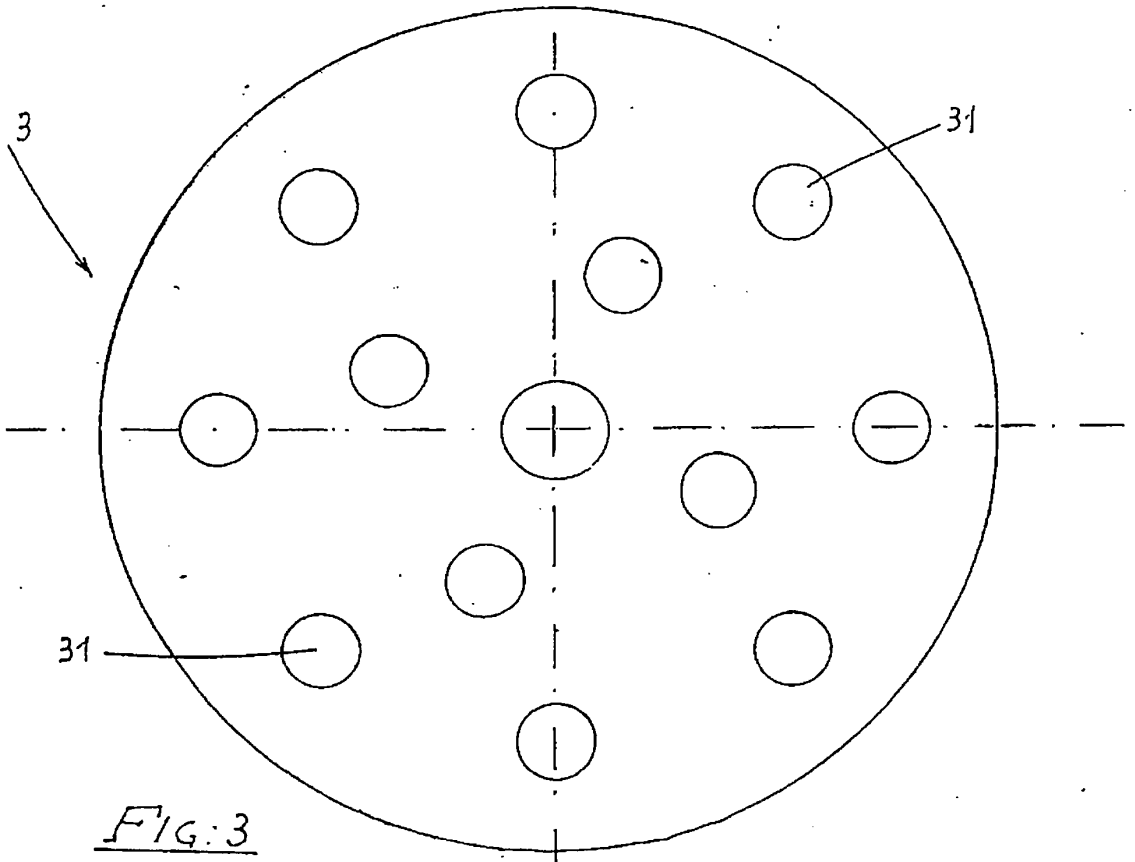


FIG: 3

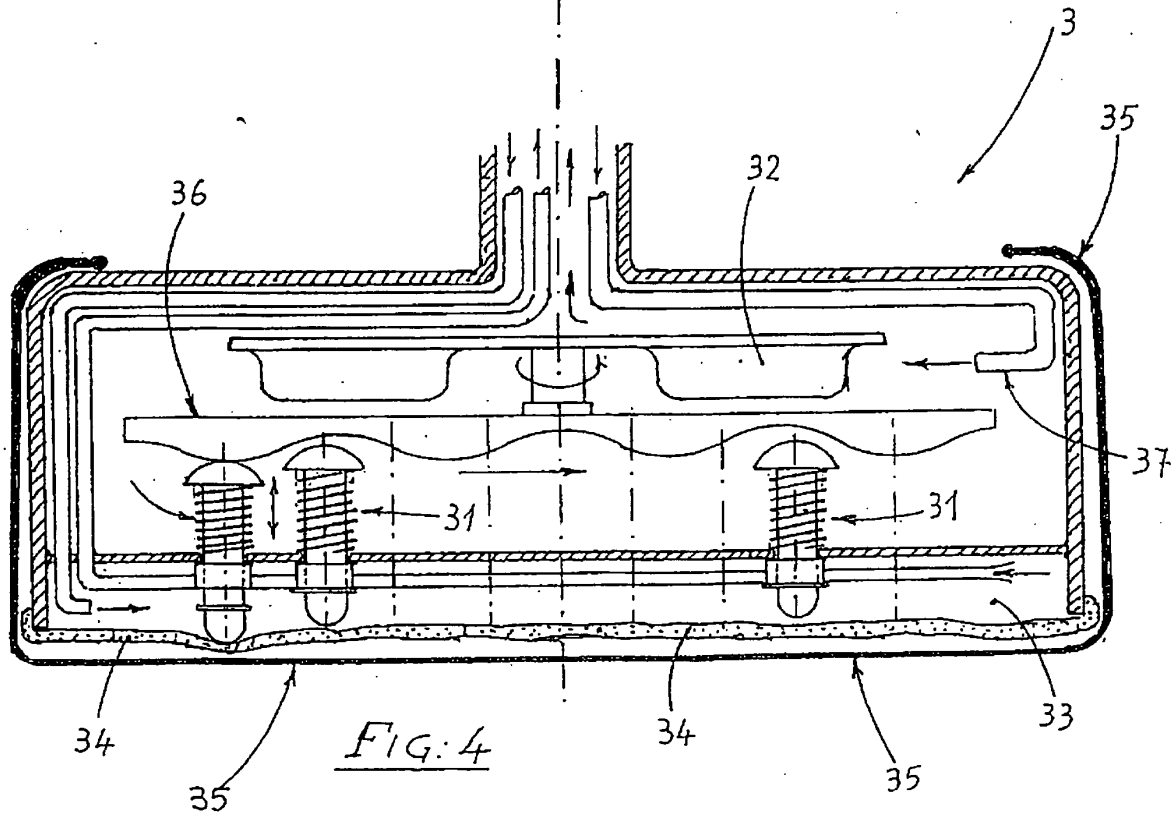


FIG: 4

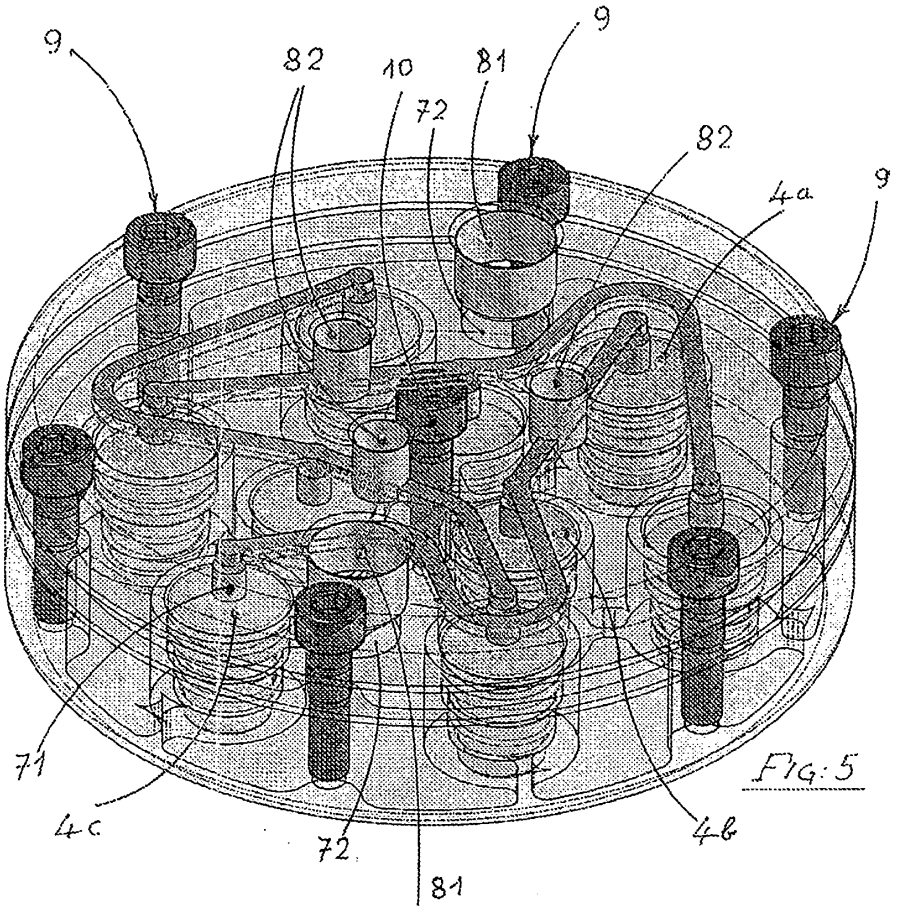


FIG. 5

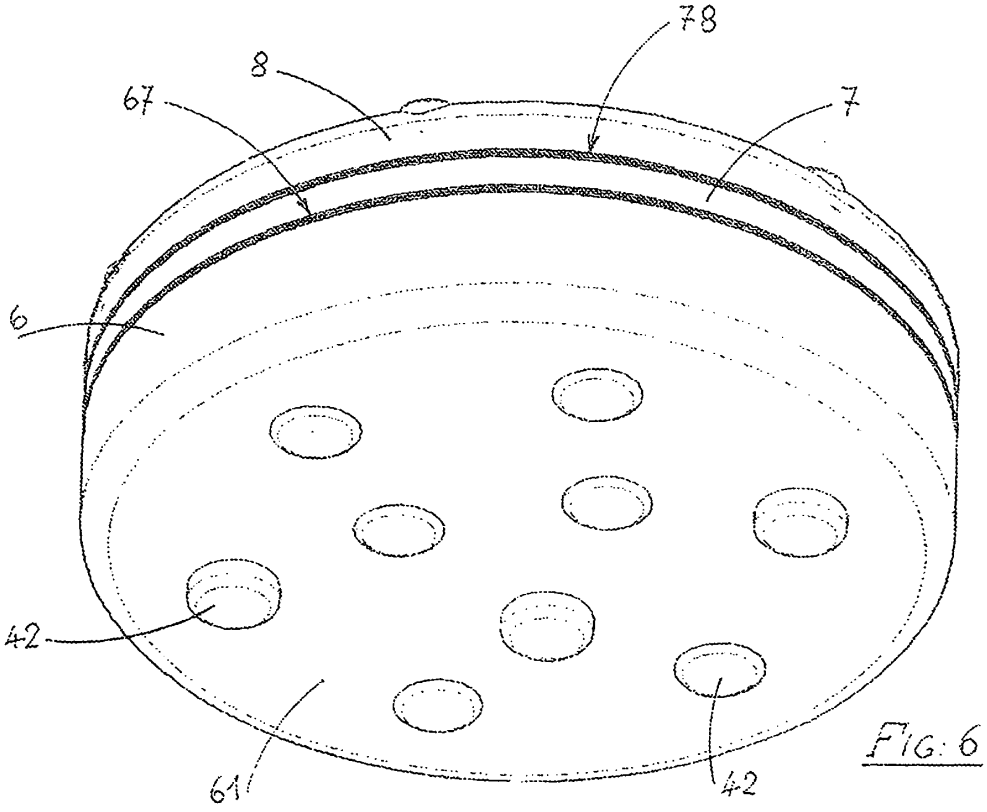


FIG. 6

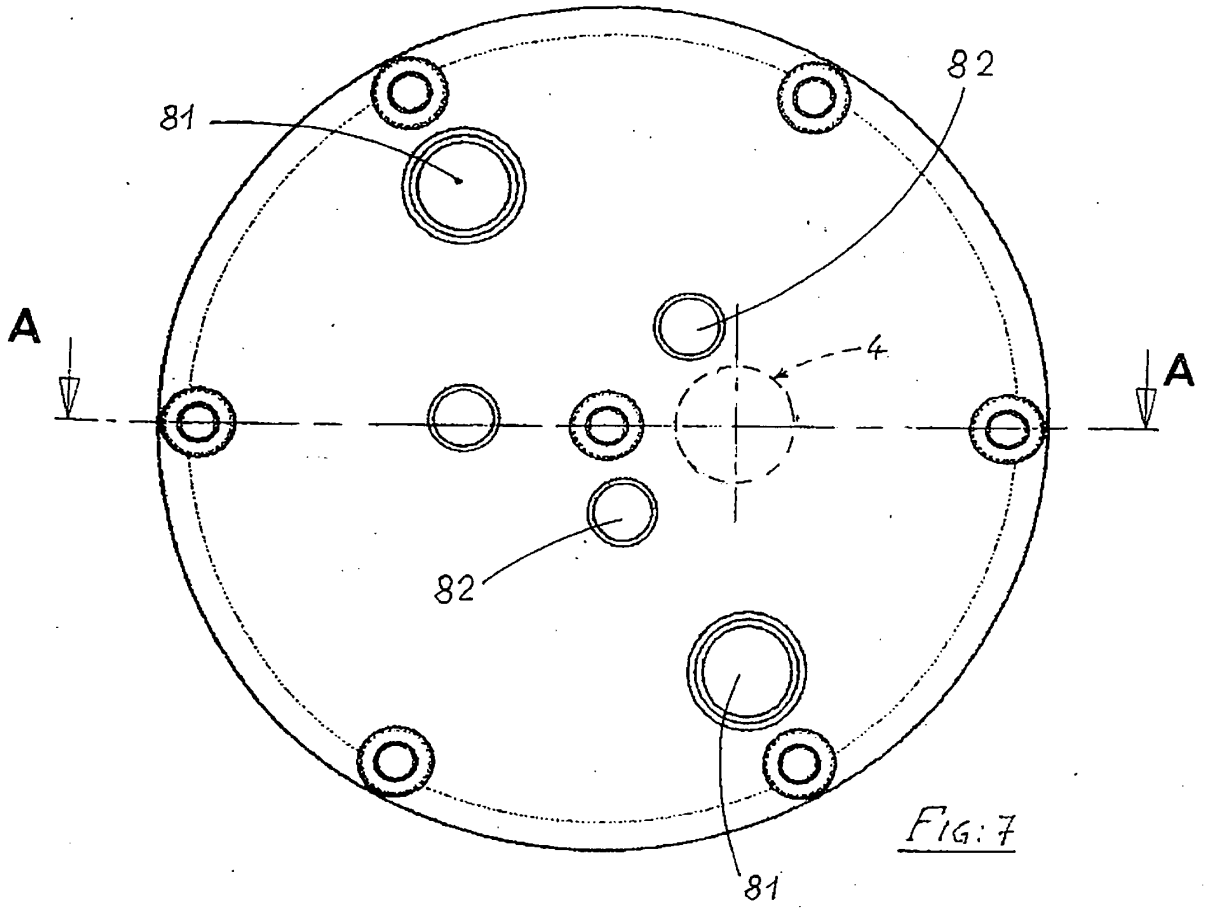


FIG: 7

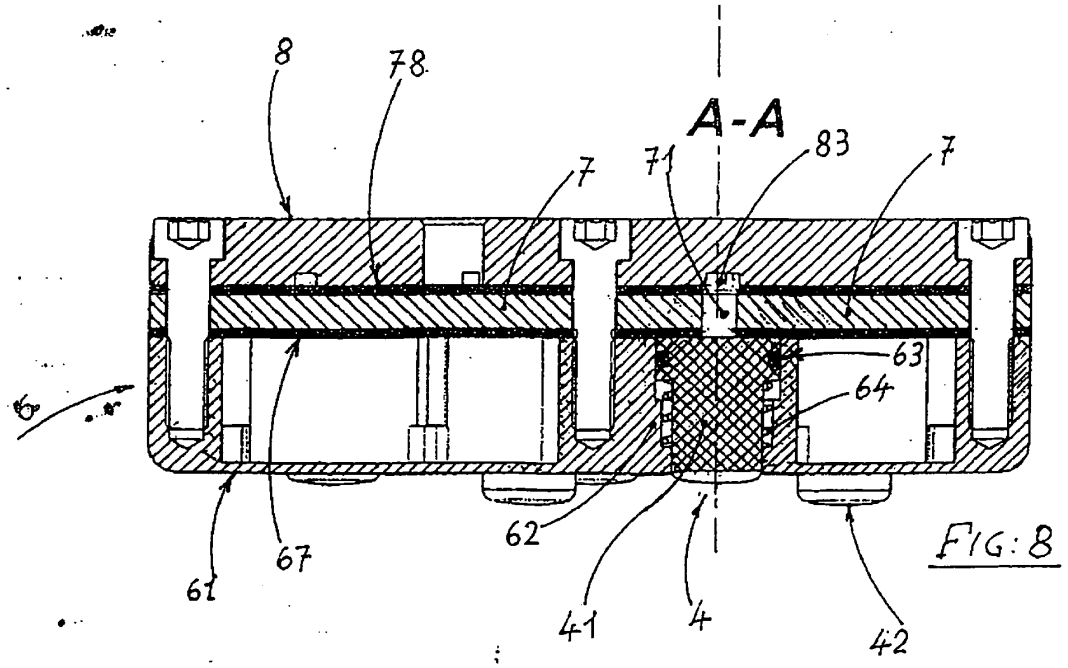


FIG: 8

REFERENCES CITED IN THE DESCRIPTION

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