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(54) **DEVICE FOR DOMESTIC CLEANING, PARTICULARLY FOR CLEANING SURFACES OF SANITARY FIXTURES**

PUTZVORRICHTUNG FÜR DEN HAUSHALTGEBRAUCH, INSBESONDERE ZUR REINIGUNG VON OBERFLÄCHEN VON SANITÄRVORRICHTUNGEN

DISPOSITIF DE NETTOYAGE DOMESTIQUE, EN PARTICULIER DE NETTOYAGE DES SURFACES D'EQUIPEMENTS SANITAIRES

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(73) Proprietor: **Design Group Italia I.D. S.R.L.**
20122 Milano (IT)

(72) Inventor: **ANGELINI, Edgardo**
I-20122 Milano (IT)

(74) Representative: **Forattini, Amelia**
c/o Internazionale Brevetti
Ingg. ZINI, MARANESI & C. S.r.l.
Piazza Castello 1
20121 Milano (IT)

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Description

[0001] The present invention relates to a device for domestic cleaning, particularly for cleaning the surfaces of sanitary fixtures.

[0002] As is known, a brush or a sponge is normally used to clean the bowl of the toilet.

[0003] The brush is used to clean the siphon and the lower rim of the bowl, after covering them with detergent, while the upper rim of the bowl is normally cleaned by using a sponge or absorbent cloth.

[0004] The sponge is often used to clean the entire bowl, including the siphon.

[0005] All these operations are necessarily performed while wearing rubber gloves, for obvious hygiene reasons and in order to protect one's hands from detergents. In theory, one could use the brush without gloves, but cleaning cannot be completed with the brush alone and in any case the brush must be cleaned at the end of the task.

[0006] In this regard it is also noted that an effective brush must have fine bristles, and therefore is more difficult, if not impossible, to keep it perfectly clean. Certainly it is not sufficient to wash it under a jet of water, for example by using the flushing system itself. There are also brushes with rubber bristles that are easier to clean but are scarcely effective in cleaning the toilet bowl.

[0007] US-322805A discloses a self-wringing mop formed by two separate pieces connected at a hinge member. Such mop, insuitable to clean a toilet bowl, is not cheaply manufactured.

[0008] As regards the use of the sponge, it is noted that at the end of the cleaning operation it has to be wrung, again while wearing rubber gloves, and the problem arises of storing it in an appropriate place.

[0009] Another problem of the use of a generic sponge for cleaning the toilet is the possibility of confusing it with a sponge used to clean other home items.

[0010] The aim of the present invention is to provide a device for domestic cleaning that allows to clean adequately surfaces of various kinds without causing one's hands to make contact with dirt or detergents.

[0011] An object of the invention is to provide a device that is particularly useful for cleaning the toilet bowl.

[0012] Another object of the invention is to provide a device for domestic cleaning that is structurally simple and sturdy but at the same time can be manufactured cheaply.

[0013] Another object is to provide a device that offers the greatest assurances of hygiene in addition to great practicality in use.

[0014] This aim and these and other objects that will become better apparent hereinafter are achieved by a device for domestic cleaning, as defined by claim 1.

[0015] Further characteristics and advantages will become better apparent from the description of preferred but not exclusive embodiments of the invention, illustrated by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a front elevation view of the cleaning device according to the invention, shown in the cleaning position;

Figure 2 is a lateral elevation view of the cleaning device according to the invention, shown in the cleaning position;

Figure 3 is a front elevation view of the cleaning device according to the invention, shown in an open position;

Figure 4 is a lateral elevation view of the cleaning device according to the invention, shown in an open position;

Figure 5 is a lateral elevation view of the cleaning device according to the invention, shown in the wringing position;

Figure 6 is an enlarged-scale lateral elevation view of the cleaning device according to the invention, shown in an open position;

Figure 7 is an enlarged-scale lateral elevation view of the cleaning device according to the invention, shown in the wringing position;

Figure 8 is an enlarged-scale lateral elevation view of the cleaning device according to the invention, shown in the cleaning position.

[0016] With reference to the cited figures, the cleaning device according to the invention, generally designated by the reference numeral 1, comprises two rod members 2 and 3, which are pivoted at a hinge member 4 and are adapted to support a cleaning means 5 that is associated with the rod members at the hinge member 4.

[0017] More particularly, each rod member is constituted by a handle, designated by the reference numerals 6 and 7 respectively, and by a perforated plate, designated by the reference numerals 8 and 9 respectively, and the rod members are formed monolithically, together with the hinge member 4, for example by injection molding, by using plastic material.

[0018] The cleaning means is preferably constituted by a member made of sponge-like material, of a kind that is commonly commercially available, associated with the perforated plates of the rod members, by adhesive bonding, thermal bonding, or any other system that is known in the art.

[0019] The sponge-like member 5 can also be associated detachably with the rod members so that it can be replaced easily once it has deteriorated due to use.

[0020] The sponge-like member 5 can also be made of a material that contains sanitizing or antibacterial additives.

[0021] The sponge-like member 5 can have two or more differentiated regions, for example a soft one and a harder one for cleaning different types of surface in an optimum manner.

[0022] The rod members are conveniently shaped so as to give the necessary rigidity to the assembly without

using excessive thicknesses for the material, and the hinge member is formed by reducing the thickness of the material in the pivoting region.

[0023] More particularly, the hinge member 4 is constituted by three hinges, a central hinge 10 and two lateral hinges 11, so that in the cleaning position, shown in Figures 2 and 8, the rod members rotate essentially about the central hinge, so that they can be arranged adjacent to each other.

[0024] In the wringing position, shown in Figures 5 and 7, the rod members instead rotate essentially about the lateral hinges, so that they can be arranged parallel to each other but mutually spaced so as to leave at the hinge member 4 a certain volume that is occupied by the sponge-like member 5, in order to avoid early deterioration and breakage of the hinge.

[0025] Moreover, the hinge member can be formed by a reduction of the thickness in an elongated region, so as to leave a distance that is sufficient for wringing.

[0026] The rod members 2 and 3 can be mutually locked in the cleaning position of the device by virtue of a locking means 12, which is constituted for example by a protrusion 13 that is provided in the handle 6 of the rod member 2 and is suitable to engage with a snap action a seat 14 provided in the handle 7 of the other rod member 3.

[0027] The device according to the invention is used in the cleaning position, shown in Figures 1 and 2, in which the sponge-like member 5 lies outside the rod-like members 2 and 3 and the handles 6 and 7 are mutually associated, preferably by means of the locking means 12, so as to constitute a single handle for gripping the tool.

[0028] The dimensions and shapes of the device allow to reach easily all points inside and outside the bowl and the siphon, and it is possible to use the device even without wearing gloves, since the hand that holds the tool is in any case spaced from the surfaces to be clean.

[0029] Once the cleaning operation has been completed, the handle is opened, by rotating one rod member with respect to the other one through 360° about the hinge member 4, so as to compress the sponge-like member between the two rod members in order to wring it and rinse it, for example in the bowl itself.

[0030] It is noted that this wringing and cleaning of the sponge-like member also can be performed without wearing gloves and without the hands making contact with the water or with dirt.

[0031] The device can be stored easily, for example by hanging it on a hook or nail in the wall.

[0032] The device according to the invention is useful for cleaning operations of any kind, including non-domestic ones, allowing to clean surfaces and items of various kinds without the user having to dirty his hands.

[0033] The particular arrangement of the sponge-like member at the hinge allows to wring easily the sponge-like member by virtue of the advantageous lever formed by applying the force at the opposite end of the rod members.

[0034] In practice it has been found that the invention achieves the intended aim and objects, providing a device for domestic cleaning that allows to clean adequately surfaces of various kinds without one's hands making contact with dirt or detergents.

[0035] The device according to the invention is susceptible of numerous modifications and variations, all of which are within the scope of the claims. All the details may be replaced with technically equivalent members.

[0036] The materials used, as well as the dimensions, may be any according to the requirements and the state of the art.

Claims

1. A device for domestic cleaning, comprising two rod members (2,3) that are pivoted at a hinge member (4) and are adapted to support a cleaning means (5) that is associated with said rod members (2,3) at said hinge member (4), so that the rod members define at least two positions: a cleaning position, in which said rod members are arranged adjacent to each other and said cleaning means (5) is substantially external to the rod members, and a wringing position, in which said cleaning means (5) is forced between said rod members (2,3); **characterized in that** each rod member is constituted by a handle (6,7) and a plate (8,9), said rod members (2,3) being formed monolithically with said hinge member (4).

2. The device according to claim 1, **characterized in that** said cleaning means comprises a member (5) made of sponge-like material.

3. The device according to claim 2, **characterized in that** said sponge-like member (5) is associated with said plates (8,9) of the rod members (2,3) by adhesive bonding, thermal bonding or the like.

4. The device according to one or more of the preceding claims, **characterized in** said sponge-like member (5) is detachably associated with said rod members (2,3) so that it can be replaced once it has been deteriorated by use.

5. The device according to one or more of the preceding claims, **characterized in that** said sponge-like member (5) has two or more differentiated regions, for example a soft one and a harder one, so as to clean various types of surface in an optimum manner.

6. The device according to one or more of the preceding claims, **characterized in that** said rod members (2,3) are shaped so as to give the necessary rigidity to the assembly without using excessive thicknesses for the material.

7. The device according to one or more of the preceding claims, **characterized in that** said hinge member (4) is provided by a reduction in the thickness of the material in the pivoting region.

8. The device according to one or more of the preceding claims, **characterized in that** said hinge member (4) is constituted by three hinges, a central hinge (10) and two lateral hinges (11), so that, in the cleaning position, the rod members essentially rotate about the central hinge (10), so that they can arrange themselves adjacent to each other, and in the wringing position said rod members instead rotate essentially about the lateral hinges (11) so that they can arrange themselves parallel to each other but mutually spaced, so as to leave a certain volume at the hinge member, said volume being occupied by the sponge-like member (5).

9. The device according to one or more of the preceding claims, **characterized in that** said rod members (2,3) can be mutually locked, at least in the cleaning position of the device, by means of a locking means (12).

10. The device according to one or more of the preceding claims, **characterized in that** said locking means (12) is constituted by a protrusion (13) that is formed in the handle (6) of a rod member (2) and is suitable to engage by snap action a seat (14) that is formed in the handle (7) of the other rod member (3).

Patentansprüche

1. Putzvorrichtung für den Haushaltsgebrauch, die zwei an einem Scharnierelement (4) angelenkte Stabelemente (2,3) aufweist, die zum Tragen eines Reinigungsmittels (5) vorgesehen sind, das mit den Stabelementen (2,3) an dem Scharnierelement (4) verbunden ist, so daß die Stabelemente wenigstens zwei Stellungen definieren:

eine Reinigungsstellung, in der die Stabelemente zueinander benachbart angeordnet sind und das Reinigungsmittel (5) sich im wesentlichen außerhalb der Stabelemente befindet, und
eine auswringende Stellung, in der das Reinigungsmittel (5) zwischen den Stabelementen (2,3) eingezwängt wird, **dadurch gekennzeichnet, daß** jedes Stabelement mittels eines Griffs (6,7) und einer Platte (8,9) ausgebildet ist, wobei die Stabelemente (2,3) einteilig mit dem Schamierelement (4) ausgebildet sind.

2. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, daß** das Reinigungsmittel ein Element (5) umfaßt, welches aus einem schwammartigen Material besteht.

3. Vorrichtung nach Anspruch 2, **dadurch** gekennzelchnet, daß das schwammartige Element 5 mit den Platten (8,9) der Stabelemente (2,3) durch eine klebende Verbindung, eine thermische Verbindung oder dergleichen verbunden ist.

4. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** das schwammartige Element (5) lösbar mit den Stabelementen (2,3) verbunden ist, so daß es ersetzt werden kann, wenn es durch den Gebrauch verschlissen wurde.

5. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** das schwammartige Element (5) zwei oder mehr unterschiedliche Bereiche, beispielsweise einen weichen und einen härteren aufweist, um verschiedene Oberflächenarten in einer optimalen Weise zu reinigen.

6. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** die Stabelemente (2,3) so geformt sind, daß der Einheit die notwendige Festigkeit gegeben wird, ohne eine übermäßige Materialstärke zu verwenden.

7. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** das Scharnierelement (4) durch eine Verminderung der Stärke des Materials im Drehbereich geschaffen wird.

8. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** das Scharnierelement (4) durch drei Scharniere, ein zentrales Scharnier (10) und zwei seitliche Scharniere (11), ausgebildet ist, so daß die Stabelemente in der Reinigungsstellung im wesentlichen um das Zentralscharnier (10) rotieren, so daß sie sich selbst benachbart zueinander anordnen können, und die Stabelemente statt dessen In der auswringenden Stellung im wesentlichen um die seitlichen Scharnieren (11) rotieren, so daß sie sich selbst zueinander parallel, aber voneinander beabstandet anordnen können, um so ein bestimmtes Volumen an dem Schamierelement zu belassen, das durch das schwammartige Element (5) eingenommen wird.

9. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** die Stabelemente (2,3) mittels eines Schließmittels (12) wenigstens in der Reinigungsstellung der Vorrichtung einander gegenüber verriegelt werden können.

10. Vorrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** das Riegelmittel (12) durch einen Vorsprung (13) ausgebildet ist, der in dem Griff (6) eines Stabelementes (2) ausgebildet und dazu geeignet ist, mittels einer Rastbetätigung in einen Sitz (14) einzugreifen, der an dem Griff (7) des anderen Stabelementes (3) ausgebildet ist.

Revendications

1. Dispositif pour le nettoyage domestique, comprenant deux éléments de tige (2, 3) qui sont amenés à pivoter au niveau d'un élément d'articulation (4), et sont adaptés pour supporter un moyen de nettoyage (5) qui est associé auxdits éléments de tige (2, 3) au niveau dudit élément d'articulation (4), de telle sorte que les éléments de tige définissent au moins deux positions : une position de nettoyage, dans laquelle lesdits éléments de tige sont disposés de manière adjacente l'un à l'autre et ledit moyen de nettoyage (5) est sensiblement externe aux éléments de tige, et une position de torsion, dans laquelle ledit élément de nettoyage (5) est forcé entre lesdits éléments de tige (2, 3) ; **caractérisé en ce que** chaque élément de tige est constitué d'une poignée (6, 7) et d'une plaque (8, 9), lesdits éléments de tige (2, 3) étant formés de manière monolithe avec ledit élément d'articulation (4).

2. Dispositif selon la revendication 1, **caractérisé en ce que** ledit moyen de nettoyage comprend un élément (5) en matériau de type éponge.

3. Dispositif selon la revendication 2, **caractérisé en ce que** ledit élément de type éponge (5) est associé auxdites plaques (8, 9) des éléments de tige (2, 3) par une liaison adhésive, une liaison thermique ou similaire.

4. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément de type éponge (5) est associé de manière détachable auxdits éléments de tige (2, 3), de telle sorte qu'il peut être remplacé une fois qu'il a été détérioré sous l'effet de son utilisation.

5. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément de type éponge (5) a deux régions différenciées ou plus, par exemple une région souple et une région plus rigide, de manière à nettoyer différents types de surface d'une manière optimale.

6. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** lesdits éléments de tige (2, 3) sont conformés de manière à conférer la rigidité nécessaire à l'ensemble sans utiliser des épaisseurs excessives de matériau.

7. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément d'articulation (4) est obtenu en réduisant l'épaisseur du matériau dans la région pivotante.

8. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit élément d'articulation (4) est constitué de trois articulations, à savoir une articulation centrale (10) et deux articulations latérales (11), de telle sorte que, dans la position de nettoyage, les éléments de tige tournent sensiblement autour de l'articulation centrale (10) de manière à pouvoir se placer de manière adjacente les uns par rapport aux autres et, dans la position de torsion, en revanche, lesdits éléments de tige tournent sensiblement autour des articulations latérales (11), de manière à pouvoir se placer parallèlement les uns aux autres, mais en étant mutuellement espacés, afin de laisser un certain volume au niveau de l'élément d'articulation, ledit volume étant occupé par l'élément de type éponge (5).

9. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** lesdits éléments de tige (2, 3) peuvent être bloqués mutuellement, au moins dans la position de nettoyage du dispositif, à l'aide d'un moyen de blocage (12).

10. Dispositif selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit moyen de blocage (12) est constitué d'une saillie (13) qui est formée dans la poignée (6) d'un élément de tige (2), et est appropriée pour venir en prise par une action d'enclenchement dans un siège (14) qui est formé dans la poignée (7) de l'autre élément de tige (3).

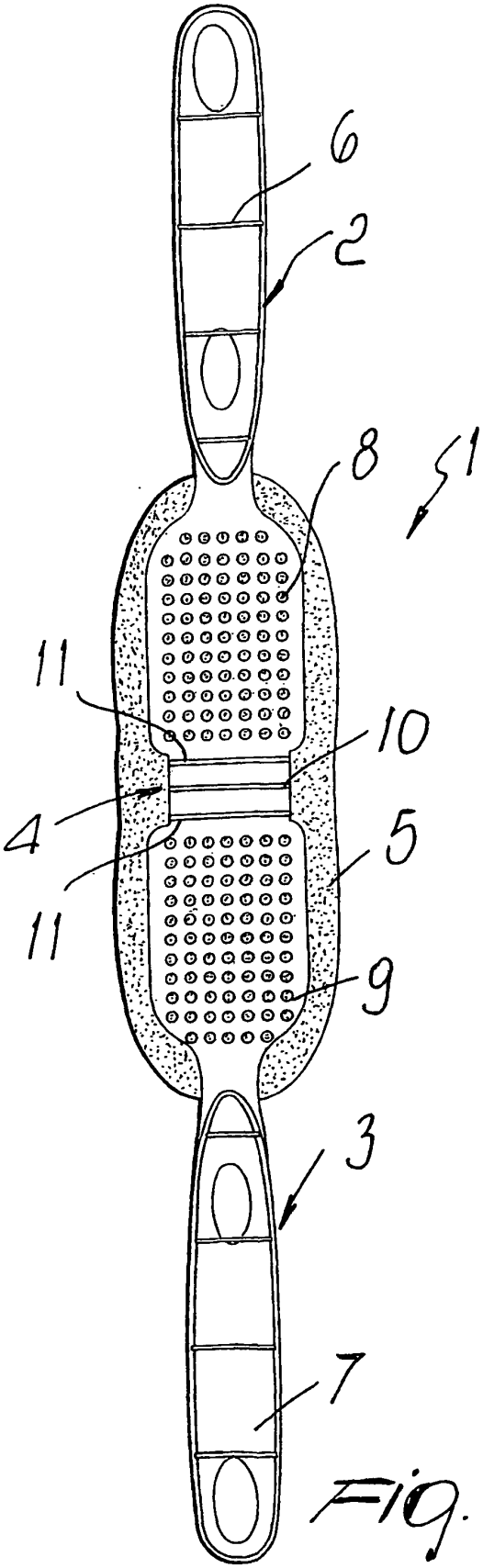

Fig. 3

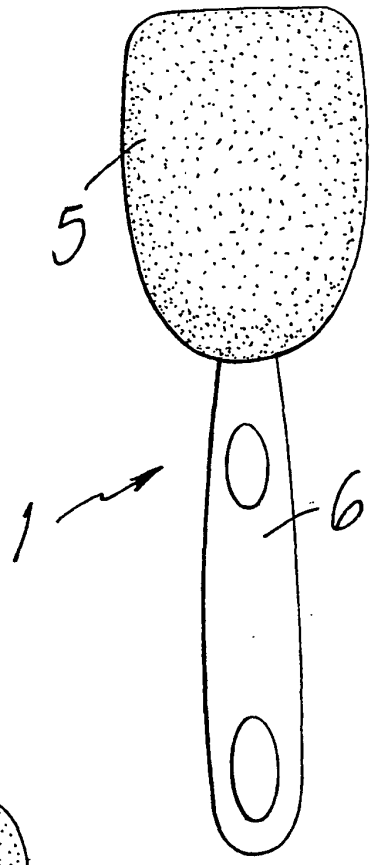

Fig. 1

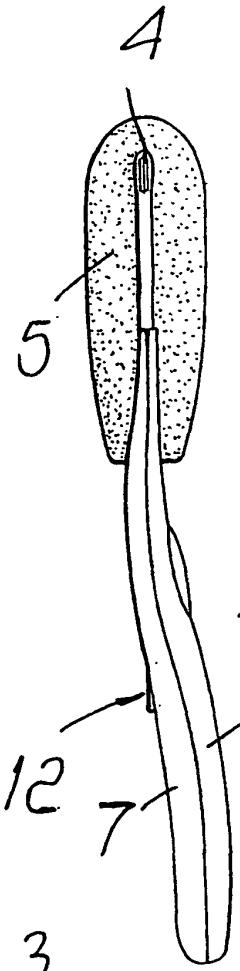

Fig. 2

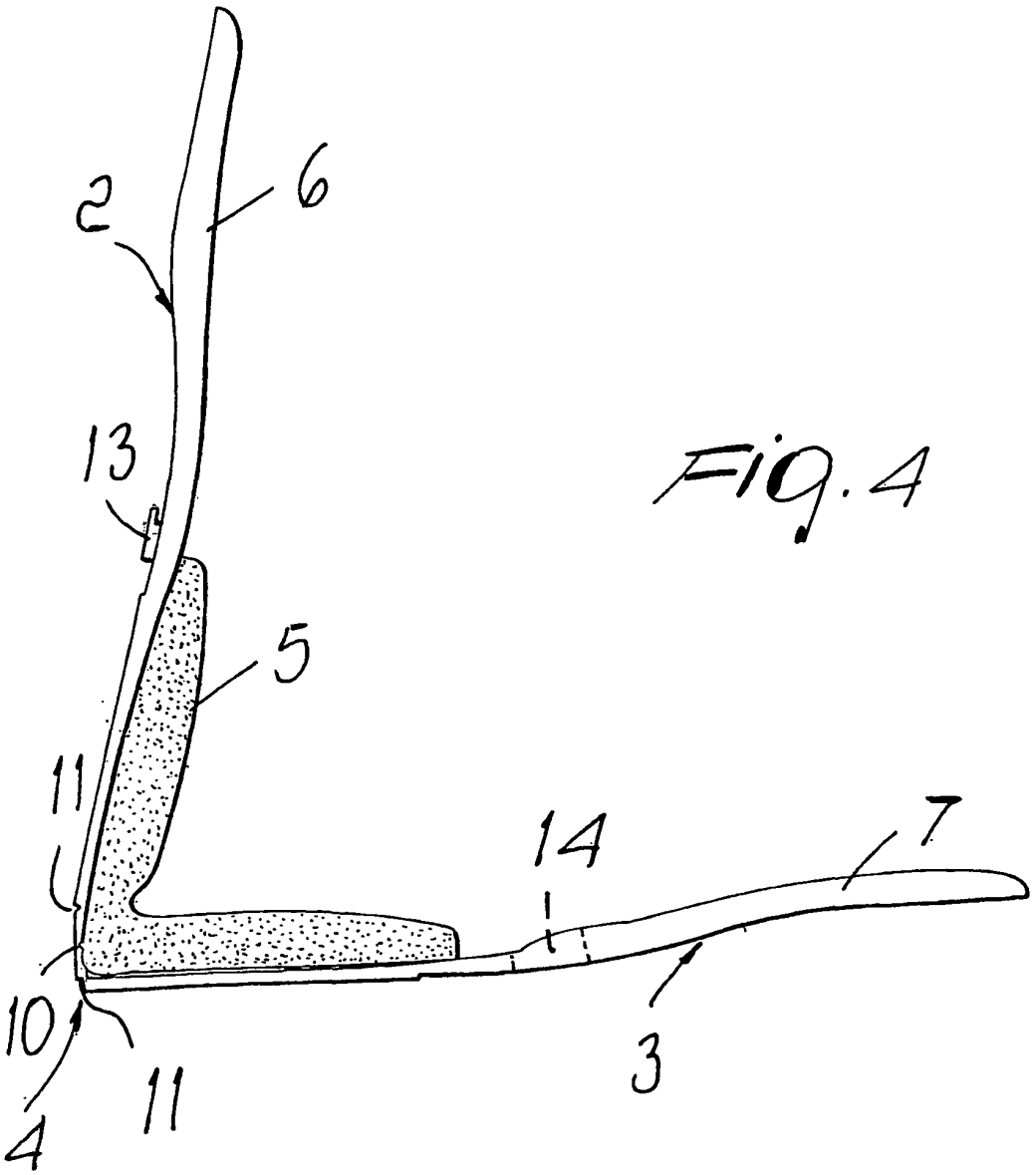

Fig. 4

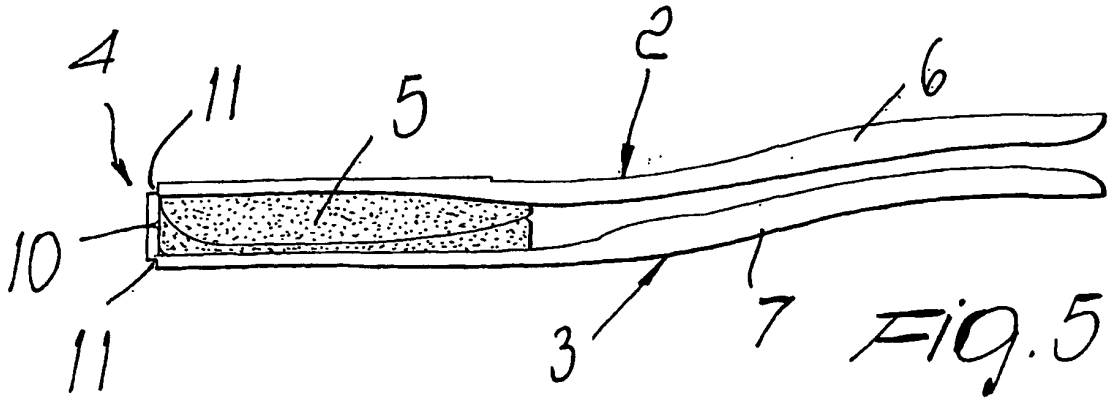

Fig. 5

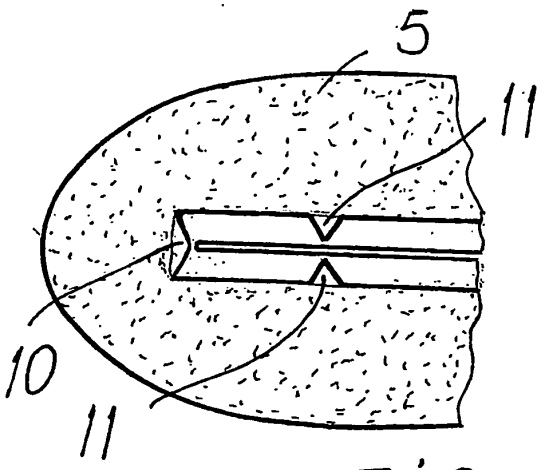

Fig. 8

Fig. 6

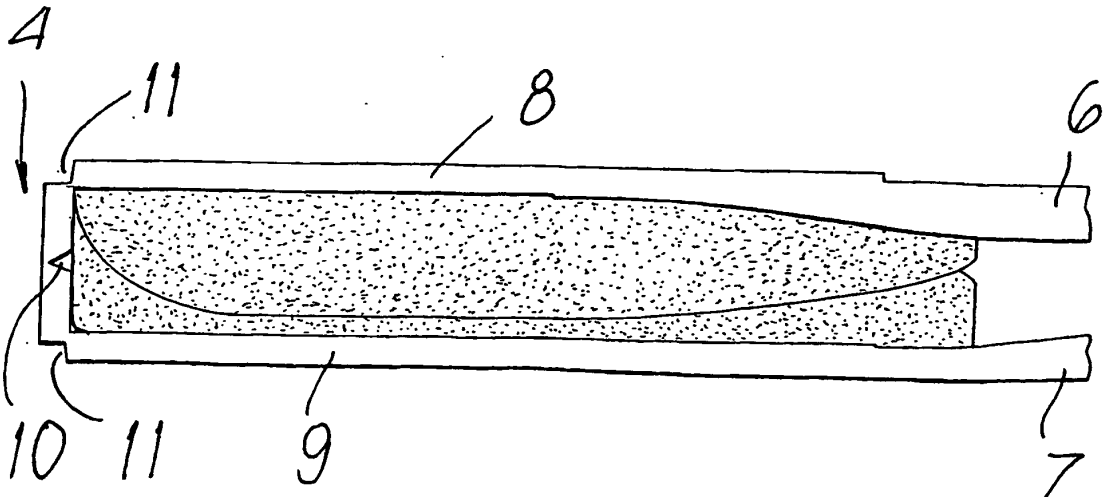

Fig. 7