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(54) Self-attachable support for replaceable indicators and box with a surface adapted for the application thereof

(57) It comprises a laminar body (10) that has a base sheet (1) suitable for being releasably attached to a support surface, various housings (4) for releasably housing respective sheet-like indicators (5), and a transparent sheet (3) covering said housing. The laminar body (10) has openings (7a, 7b) associated with corresponding elements linked to the support surface, and the housings (4) are in positions adjacent to the openings (7a, 7b), so that, when placing the laminar body (10) on the support surface, the housings (4) are placed respectively adjacent to the elements linked to the support surface, and each indicator (5) housed in each housing (4) is associated with one of said elements.

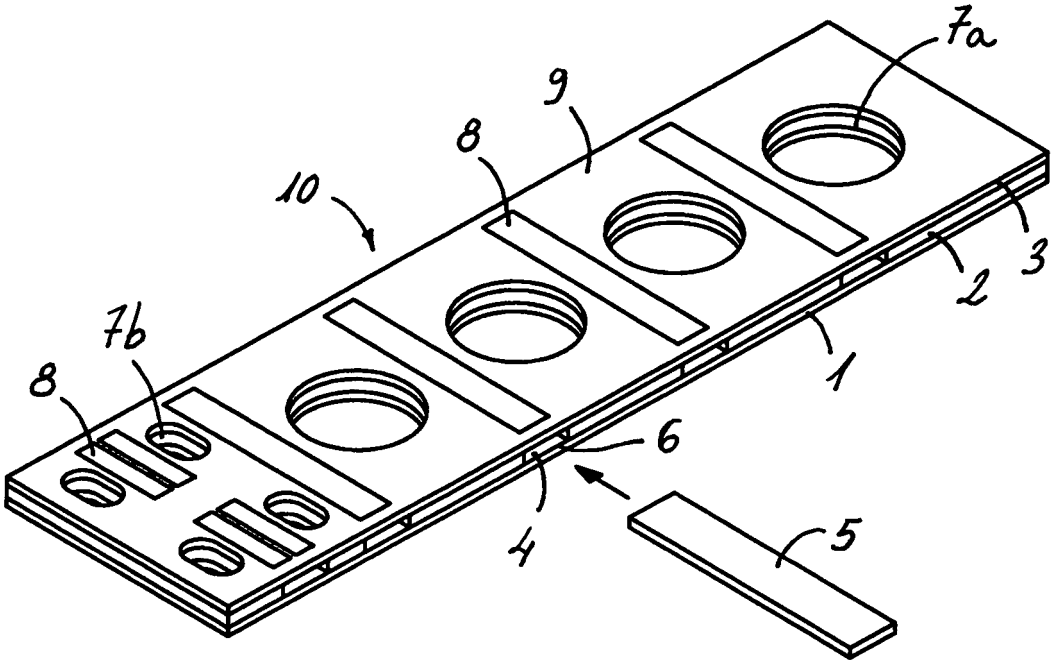

Fig. 1

EP 1 717 779 A1

Description

Technical Field

[0001] This invention relates generally to a self-attachable support for exchangeable indicators, and particularly to a magnetic support, which is employed to associate a set of indicators with predetermined positions, with the indicator associated with each position being easily replaceable by another. This invention also relates to a box, such as, for example, a control box, having, generally, a surface adapted to receive said support, and in particular a ferromagnetic body with a surface adapted to receive the said magnetic support.

Previous state of the art

[0002] There are numerous supports for holding an indicator on different types of surfaces, using various attachment systems, so that the information arranged in them is exposed and easily visible.

[0003] It is known to use a magnetic support to hold an indicator or figure on a surface of a magnetically attracted body, for example, a panel of a fridge door. Some of these supports are made from a flexible sheet material that has magnetic properties. This material generally includes a rubber containing a magnetic material filler.

[0004] Document ES-A-1042423 discloses a magnetic support that comprises a sheet of a magnetic material and a sheet of a transparent material superimposed and joined by two of the edges thereof forming between both sheets a space suitable for receiving a laminar object, for example, a page with writing or a photo. This support is useful, for example, for leaving notes on the fridge door.

[0005] Document ES-A-1034194 describes a magnetic support that defines an envelope similar to the one above, but in which the sheet of magnetic material is covered with a sheet of plastic material that constitutes the inner background surface of the envelope. Documents ES-A-1045659 and ES-A-1053595 describe variants of this type of support that defines an envelope with a rear magnetic sheet and a front transparent sheet. One drawback of this type of supports is that, when it is desired to include several different elements inside the envelope, for example, several signs, these lie in undetermined positions inside the envelope, since the support does not include any means for maintaining each sign in a certain position.

[0006] Document ES-A-1048402 discloses a support for replaceable signs, specifically, for signs indicating the nature of a product and its price. The support includes a flattened body of injection moulded plastics in which one or more grooves are formed, each one having an access opening on the edge of said flattened body for inserting a laminar label indicating the nature of the product, which is visible through a window communicating said groove with the outside surface. Another dovetail groove allows a series of cards bearing unit figures indicating the product price to be slid into place. A drawback of this support is that it does not have a magnetic substrate to be releasably attached to a surface of a ferromagnetic body, and instead includes a needle to be pinned, for example, to a vegetable or piece of meat or fish.

[0007] An objective of this invention is to provide a self-attachable, preferably magnetic support, for replaceable indicators that is adapted to support various indicators so that each indicator is associated with an element linked to a surface of a body, preferably ferromagnetic, for which the support is envisaged.

[0008] Another objective of this invention is to provide a box, such as, for example, a control box having a preferably ferromagnetic body with a surface adapted to receive the said self-attachable support.

Exposition of the invention

[0009] In accordance with a first aspect, this invention provides a self-attachable support for replaceable indicators, of the type comprising a laminar body including a base sheet suitable for being releasably attached to a support surface of a body, at least one housing to releasably house a sheet-like indicator, and with a transparent sheet covering said housing. The self-attachable support in accordance with this invention is characterised in that said laminar body comprises one or more of said housings in different positions to house one or more respective indicators, and the laminar body is shaped so that when placed on said support surface the housings are placed respectively adjacent to several elements linked to the surface, in order to associate each indicator housed in each housings to one of said elements.

[0010] To this end, the laminar body comprises one or more intermediate sheets of an equal or slightly greater thickness than the indicators, adhered by one of their surfaces to said base sheet and by the other to said transparent sheet. If there is only one intermediate sheet, it comprises notches extending from the edges thereof, each one of said notches defining one of the housings having an entrance and exit opening on one edge of the laminar body coinciding with said edge of the intermediate sheet. In the event there are various intermediate sheets, separation spaces are provided between them, with each one defining one of the housings having entrance and exit openings on opposite edges of the laminar body. Preferably, the respective edges of the base sheet, the intermediate sheet and the transparent sheet coincide along the whole of the contour of the laminar body expect in said entrance and exit openings.

[0011] In a preferred embodiment example said base sheet is a magnetic sheet and said support surface, to which said magnetic sheet can be attached, belongs to a ferromagnetic body, although an inverse arrangement is also envisaged in this invention, in another embodiment example, so that the base sheet is a ferromagnetic sheet and the support surface belongs to a partially magnetic body.

[0012] In another embodiment example the base sheet is a partially adhesive sheet and the support surface, to which said adhesive sheet can be attached, belongs to a partially smooth body.

[0013] Both the base sheet and the intermediate and transparent sheets can be flexible sheets made from any of the suitable plastics materials available on the market. Therefore, the laminar body is completely flexible, and its shaping process can include die cutting and adhesive attachment operations that are well known in the field of the invention.

[0014] In the preferred embodiment example in which the base sheet is a magnetic sheet, this can be a flexible sheet of plastics material filled with magnetic material, which is available on the market.

[0015] In one embodiment example, the said body which includes the surface for which the support of the invention is envisaged, is a wall of a control box that includes, for example, rotary buttons and/or light indicators, and/or push buttons, and/or sliding buttons, and/or lever buttons, and/or display screens, and/or connectors which constitute the said elements linked to said surface, and the laminar body includes several openings shaped and arranged to respectively surround the said various elements linked to the surface. Each of the housings of the indicators is arranged adjacent to one of said openings.

[0016] With this construction, the self-attachable support of this invention provides well determined, unmistakable positions for the various indicators, with said indicators being adjacent, and therefore associated with, the various elements linked to the surface, such as, for example, the said control buttons. Also, since with some control boxes, for example, sound mixers, the functions associated to each control button can vary depending on the application, the indicators can be easily replaced, by removing them and inserting them through said entrance and exit openings in the housings.

[0017] It is important to mention that the application support in this invention is not limited to a control box, as instead other units can be used, such as, for example, games, display stands, calendars, task programming diagrams, etc.

[0018] In accordance with a second aspect, this invention provides a box having a surface adapted for the application of a self-attachable support in accordance with the first aspect. The box is characterised in that it comprises a body having a support surface to which several elements are linked, with the laminar body being shaped in accordance with at least one of these groups. Said support surface includes a lowered area that covers said group of elements and has its contour conjugated with the contour of the laminar body and a depth substantially equal to the thickness of the laminar body in order to tightly house the laminar body so that some areas of the support surface around the lowered area are substantially level with the top surface of the transparent sheet of the laminar body.

[0019] In a preferred embodiment example of the proposed box, said body is ferromagnetic at least in said lowered area of said support surface, although another embodiment example envisages an inverse arrangement, in other words a body having magnetic properties at least in said lowered area of said support surface, for applying a self-attachable support that is at least partially ferromagnetic.

Brief description of the drawings

[0020] The above advantages and characteristics and others will be more fully understood from the following detailed description of an embodiment example with reference to the attached drawings, in which:

Fig. 1 is a perspective view of a self-attachable support for replaceable indicators in accordance with an embodiment example of this invention, with an indicator about to be introduced in the housing;

Fig. 2 is a perspective view of the self-attachable support in Fig. 1 applied to a control box;

Fig. 3 is an exploded perspective view of the self-attachable support in Fig. 1;

Fig. 4 is a partially sectioned view of the self-attachable support in Fig. 1, showing a housing with an indicator;

Fig. 5 is an exploded perspective view of a self-attachable support for replaceable indicators in accordance with another embodiment example of this invention; and

Fig. 6 is a perspective view of a control box adapted for the application of the self-attachable support in Fig. 3 or in Fig. 5.

Detailed description of some embodiment examples

[0021] Although the embodiment examples described below refer to a self-attachable support with a magnetic base sheet, obviously most of the description will be the same for another kind of base sheet, such as those explained above in the invention explanation section.

[0022] With reference first of all to Figs. 1 to 4, a magnetic self-attachable support is described for replaceable indicators in accordance with an embodiment example of this invention that comprises a laminar body 10, which is shown assembled in its operational format in Fig. 1 and the components of which are shown separately in Fig. 3 and 5. Said laminar body 10 includes a magnetic sheet 1 suitable for being releasably attached to a support surface S of a ferromagnetic body (see, for example, Fig. 2), several intermediate sheets 2 adhered by one of their surfaces to said magnetic sheet 1 and by the other surface to a transparent sheet 3. Between said intermediate sheets 2 separation spaces 2a are provided, and each one of said separation spaces 2a defines a housing 4 for releasably housing an indicator 5 in the form of a small substantially rectangular sheet, shown in Fig. 1.

[0023] It is important to bear in mind that in the draw-

ings the thickness of the various sheets 1, 2, 3 making up the laminar body 10 have been exaggerated, as well as the that of indicator 5, in the interest of the clarity of the drawings.

[0024] Fig. 4 shows a cross section of one of said housings 4 formed by a separation space 2a between two of the intermediate sheets 2 and covered by the transparent sheet 3, and an indicator 5 housed in the housing 4, which is visible through the transparent sheet 3. The intermediate sheets 2 are as thick as or slightly thicker that the indicators 5, and the opposed edges of the adjacent intermediate sheets 2 that define each housing 4 are preferably rectilinear and parallel, and they are separated by a distance that is equal or slightly greater than the width of said small, substantially rectangular sheet forming the indicator 5. Obviously, the various housings 4 can have different dimensions adapted to different sized indicators 5.

[0025] Each housing 4 has entrance and exit openings 6 (Fig. 1) on opposed edges of the laminar body 10 through which the indicator 5 can be inserted or removed. This way, the laminar body 10 comprises several of said housings 4 in different positions, covered.by said transparent sheet 3 and accessible through said entrance and exit openings 6. The magnetic sheet 1, the intermediate sheets 2 and the transparent sheet 3 have coinciding edges along the whole of the contour of the laminar body 10 expect in said entrance and exit openings 6 of the housings. In the embodiment examples shown, the general contour of the laminar body 10 is substantially rectangular, although it could be any other shape. Also, although it is not essential, the magnetic sheet 1, the intermediate sheets 2 and the transparent sheet 3 are flexible, and therefore the laminar body 10 is flexible overall.

[0026] One feature of the magnetic support of this invention is that the laminar body 10 is shaped so that, when placed on said support surface S, the housings 4 are placed respectively adjacent to various elements B, L linked to the support surface S, in order to associate each indicator 5 housed in each housing 4 to one of said elements B, L. The laminar body 10 of the embodiment examples shown in Figs. 1 to 3 is adapted to be attached to a support surface S of a ferromagnetic body that forms a wall of a control box M, such as, for example, a sound mixer M.

[0027] Fig. 2 shows said sound mixer M in dotted lines, which comprises various elements B, L linked to the support surface S. In the sound mixer M in the illustrated example, the elements B, L linked to the support surface S include rotary buttons B, keys or light buttons L, and sliding buttons D, although for the purpose of this invention it could also include lever buttons, display screens, LEDs, connectors, etc.. It is known that, in some types of sound mixers M, the functions assigned to the elements B, L can be determined and varied electronically. Therefore, there is the need to mark each element B, L with an associated indicator that indicates the function assigned at all times, and these indicators must be easily replaceable to update the marking each time the functions are varied.

[0028] In order to satisfy this need, the laminar body 10 forming the magnetic support in the embodiment example shown includes several openings 7a, 7b shaped and arranged to respectively surround several of the same elements B, L linked to the support surfaces S. More particularly, the laminar body 10 has four circular openings 7a suitable for being arranged around a group of four of said aligned rotary buttons B, and four elongated openings 7b, smaller, suitable for letting four of said light buttons L pass therethrough. Adjacent to each of said openings 7a, 7b, a housing 4 is provided to associate an easily replaceable indicator 5 to each element B, L. Evidently, the openings 7a, 7b could be arranged to surround different groups of elements B, L including optionally said sliding buttons D, with the same result. Also, the openings 7a, 7b could be replaced with other shapes, for example, notches, wavy shapes, etc. with the same result. Obviously, the openings 7a, 7b are made in all the sheets 1, 2, 3 making up the laminar body 10, as can be seen in Fig. 3.

[0029] The transparent sheet 3 preferably includes an opaque coating 9, internal or external, on the whole of its surface, except in areas forming windows 8 opposite the housings 4 (see also Fig. 4). This means that, for example where the light buttons L are very close together on the support surface S shown, a single transverse housing 4 can be arranged on the laminar body 10 between the four openings 7b intended for the light buttons L in order to house a single indicator 5, and four of said separated windows 8 can be defined by means of said opaque coating 9 of the transparent sheet 3, each one of said windows being associated with a respective opening 7b, to show four different areas of said indicator 5 in which the relevant signs are arranged. The transparent sheet 3 can also include graphic and/or written information on its internal or external surface, and this graphic and/or written information can be printed or serigraphed in a way that is well known in the art. Similarly, the indicators 5 can include printed, serigraphed or hand made signs, and can be made from transparent or opaque plastics material, paper or card, or from any other flexible sheet material suitable as a support for such signs.

[0030] Fig. 5 shows another embodiment example of the magnetic support of this invention where the laminar body 10 has a single intermediate sheet 2 that is the same thickness or slightly thicker than the indicators 5, adhered by one of its surfaces to said magnetic sheet 1 and by its other surface to said transparent sheet 3. In this case, said intermediate sheet 2 has notches 2b extending from some edges thereof, each one of said notches 2b defining one of the housings 4, which has a single entrance and exit opening 6 on one edge of the laminar body 10 coinciding with said edge of the intermediate sheet 2 from which the notch 2b extends. As for the rest, this embodiment example is similar to that described in connection with Figs. 1 to 3 and its application is identical.

[0031] Fig. 6 shows a control box M that constitutes the second aspect of this invention, on which the above-described laminar body 10 is applied. The control box M can be, for example, a sound mixer M similar to the one described above in connection with Fig. 2. However, here the support surface S includes a lowered area R covering the site of the rotary buttons B and light buttons L for which the laminar body 10 is provided. The contour of said lowered area R is conjugated with the contour of the laminar body 10 and the depth of the lowered area R is substantially equal to the thickness of the laminar body 10. Therefore, the laminar body 10 attached by magnetic force to the support surface S around said rotary buttons B and light buttons L is housed inside the lowered area R, and with the top surface of the transparent sheet 3 being substantially level with surrounding areas of the support surface S. The fact that the laminar body 10 is housed and contained inside the lowered area R prevents the indicators 5 placed inside the housings 4 from coming out of the entrance and exit openings 6. To make it easier to remove the laminar body 10 from the lowered area R, said lowered area R has a notch E, for example, in a crescent shape, for inserting a finger.

[0032] A person skilled in the art will be able to introduce variations and modifications to the embodiment examples shown and described without departing from the scope of this invention as it is defined in the attached claims.

Claims

1. Self-attachable support for replaceable indicators, of the type comprising a laminar body (10) that has a base sheet (1) suitable for being releasably attached to a support surface (S), at least one housing (4) for releasably housing an indicator (5) in sheet form, and a transparent sheet (3), covering said housing, **characterised in that** said laminar body (10) includes one or more of said housings (4) in different positions to house one or more respective indicators (5), and the laminar body (10) is shaped so that when placed on said support surface (S) the housings (4) are placed respectively adjacent to various elements (B, L) linked to the support surface (S), in order to associate each indicator (5) housed in each housing (4) to one of said elements (B,L) or to a group thereof.

2. Support, in accordance with claim 1, **characterised in that** said base sheet (1) is a magnetic sheet (1) and said support surface (S) to which said magnetic sheet (1) can be attached, belongs to a ferromagnetic body.

3. Support, in accordance with claim 1, **characterised in that** said base sheet (1) is a ferromagnetic sheet (1) and said support surface (S), to which said ferromagnetic sheet (1) can be attached, belongs to a body with at least partially magnetic properties.

4. Support, in accordance with claim 1, **characterised in that** base sheet (1) is at least a partially adhesive sheet (1) and said support surface (S), to which said adhesive sheet (1) can be attached, belongs to a body that is partially smooth.

5. Support, in accordance with claims 1 to 4, **characterised in that** the laminar body (10) includes various intermediate sheets (2) as thick as or slightly thicker than the indicators (5), adhered by one of their surfaces to said base sheet (1) and by their other surface to said transparent sheet (3), with separation spaces (2a) being provided between said intermediate sheets (2), with each one of said separation spaces (2a) defining one of the housings (4) with entrance and exit openings (6) on opposed edges of the laminar body (10).

6. Support, in accordance with claims 1 to 4, **characterised in that** the laminar body (10) includes one intermediate sheet (2) as thick or slightly thicker than the indicators (5), adhered by one of its surfaces to said base sheet (1) and by its other surface to the transparent sheet (3), said intermediate sheet (2) having notches (2b) extending from one of the edges thereof, each one of said notches (2b) defining one of the housings (4) with an entrance and exit opening (6) on one edge of the laminar body (10) that coincides with said edge of the intermediate sheet (2).

7. Support, in accordance with claim 5 or 6, **characterised in that** the base sheet (1), the intermediate sheet (2) and the transparent sheet (3) have coinciding edges along the whole of the contour of the laminar body (10) except in the entrance and exit openings (6).

8. Support, in accordance with any of the claims 1 to 7, **characterised in that** the transparent sheet (3) has an opaque coating (9), internal or external, on the whole of its surface except in some areas that form windows (8) opposite the housings (4).

9. Support, in accordance with claim 8, **characterised in that** the transparent sheet (3) includes graphic and/or written information on its internal or external surface.

10. Support, in accordance with any of the above claims, **characterised in that** the laminar body (10) includes various openings (7a, 7b) shaped and arranged to respectively surround said various elements (B, L) linked to the support surface (S), with a housing (4) being arranged adjacent to each one of said openings (7a, 7b).

11. Support, in accordance with claim 10 when dependent on claim 2, 3 or 4, **characterised in that** said body which includes said support surface (S) is a wall of a control box (M), and said elements (B, L) linked to the support surface (S) are selected from a group including rotary buttons (B), light indicators, sliding buttons (D), push buttons (L), lever buttons, display screens, and connectors.

12. Support, in accordance with any of the above claims, **characterised in that** the laminar body (10) is flexible.

13. Support, in accordance with any of the above claims, **characterised in that** its perimeter contour is adapted to be tightly housed inside a lowered area (R) on said support surface (S), with the thickness of the laminar body (10) being substantially equal to the depth of said lowered area (R).

14. Box with a surface adapted for the application of a self-attachable support in accordance with any of the above claims, **characterised in that** it comprises a body that has a support surface (S) to which various elements (B, L) are linked with the laminar body (10) being shaped in accordance with at least one of these groups, said support surface (S) including a lowered area (R) that covers said group of elements (B, L) and has a contour conjugated with the contour of the laminar body (10) and a depth substantially equal to the thickness of the laminar body (10) to tightly house the laminar body (10) so that some areas of the support surface (S) around the lowered area (R) are substantially level with the top surface of the transparent sheet (3) of the laminar body (10).

15. Box, in accordance with claim 14, **characterised in that** said body is ferromagnetic at least in said lowered area (R) of said support surface (S), for the application of a self-attachable support having at least partially magnetic properties.

16. Box, in accordance with claim 14, **characterised in that** said body is magnetic at least in said lowered area (R) of said support surface (S), for the application of a self-attachable support that is partially ferromagnetic.

17. Box, in accordance with claim 14, 15 or 16, **characterised in that** the contour of the lowered area (R) includes a notch (E) for inserting a finger.

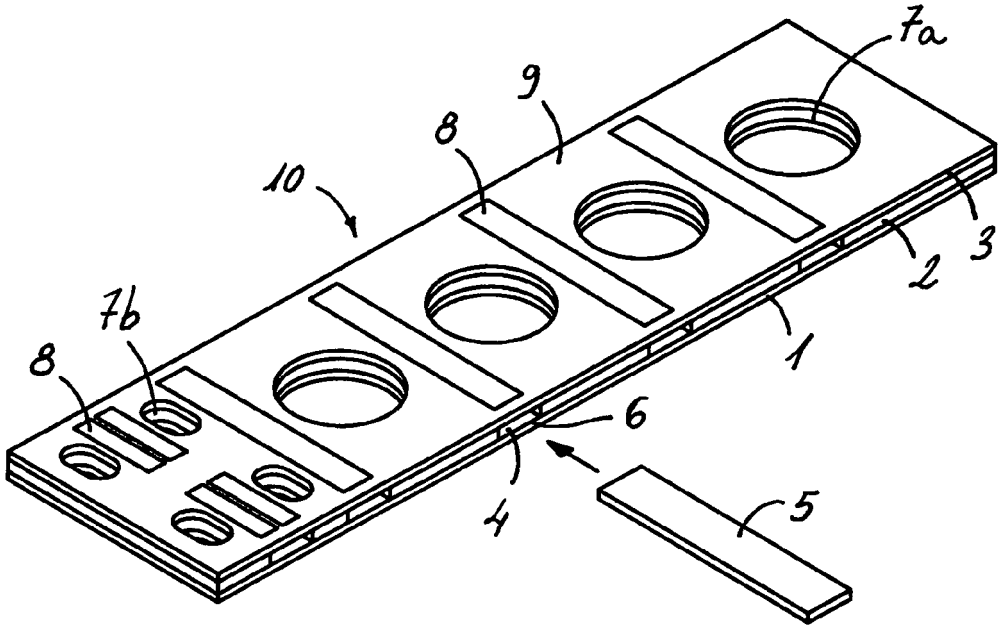

Fig. 1

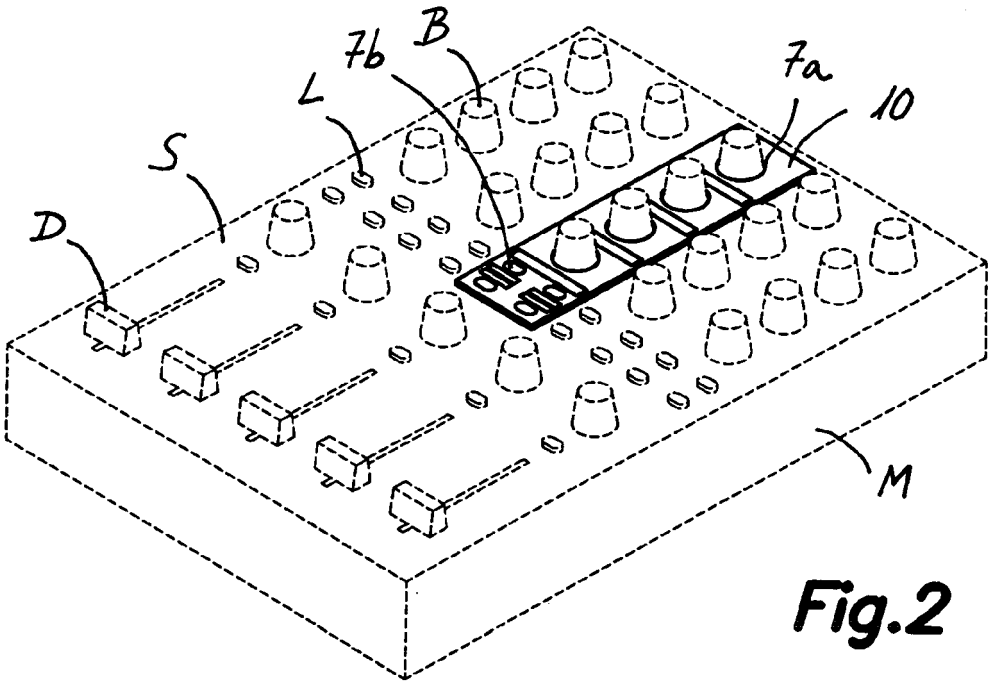

Fig.2

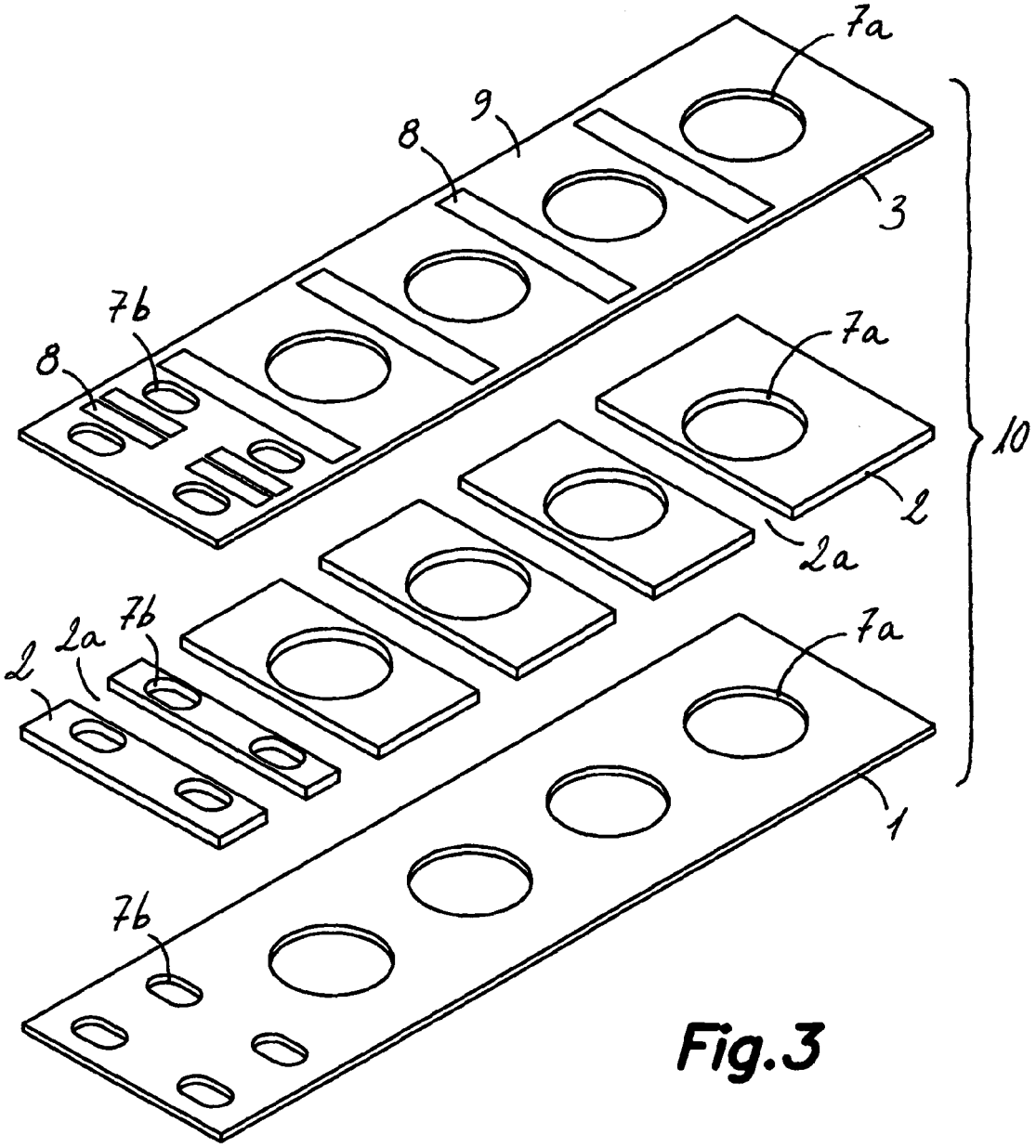

Fig.3

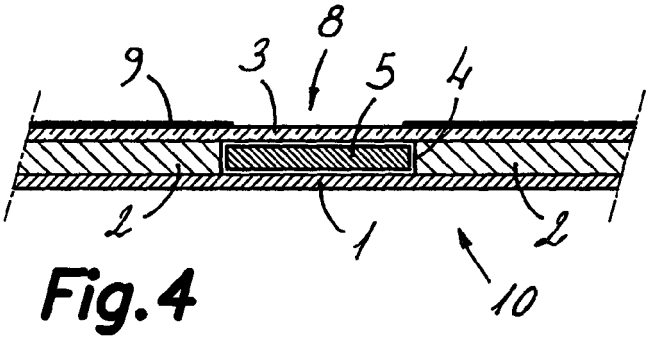

Fig.4

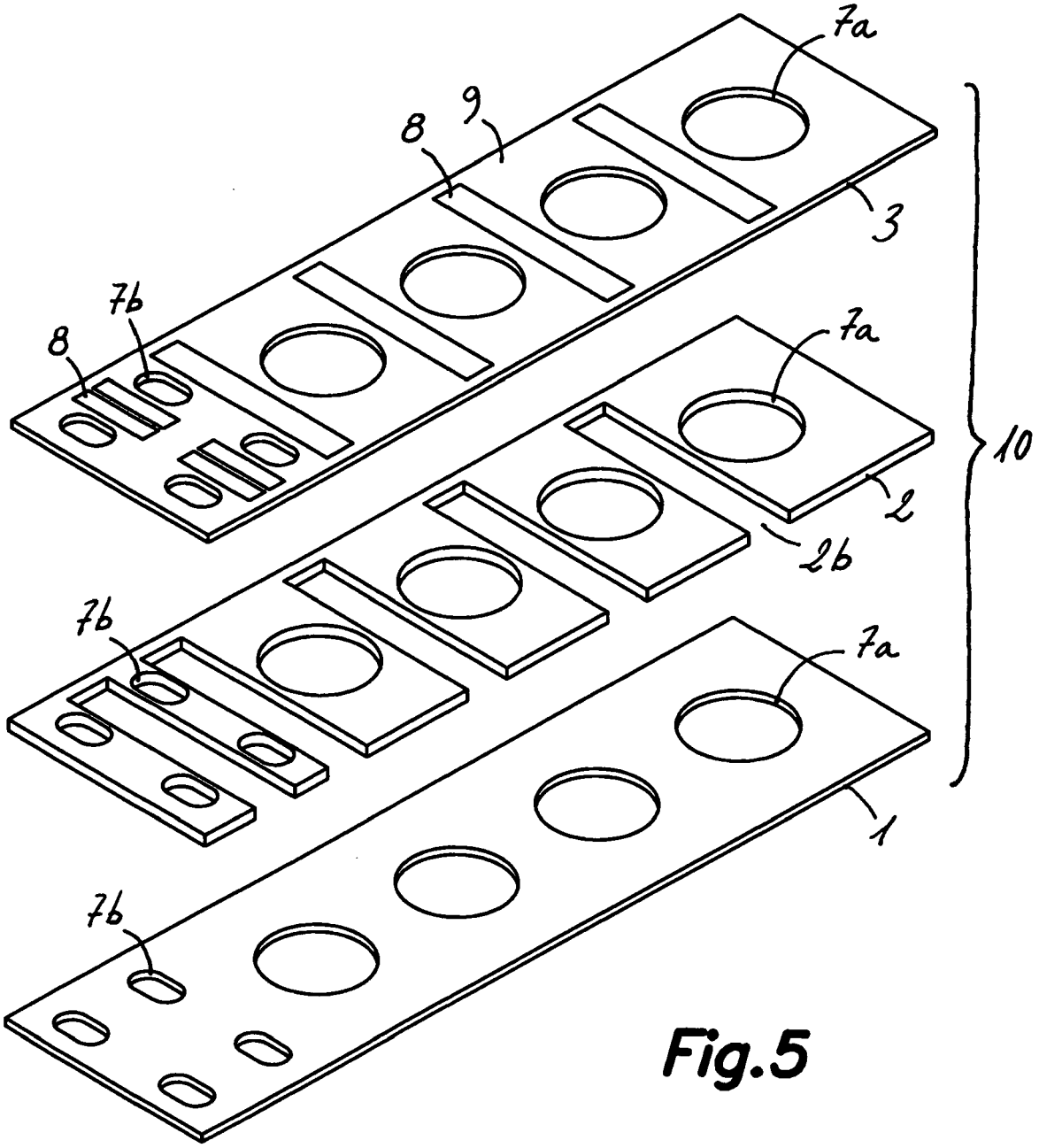

Fig.5

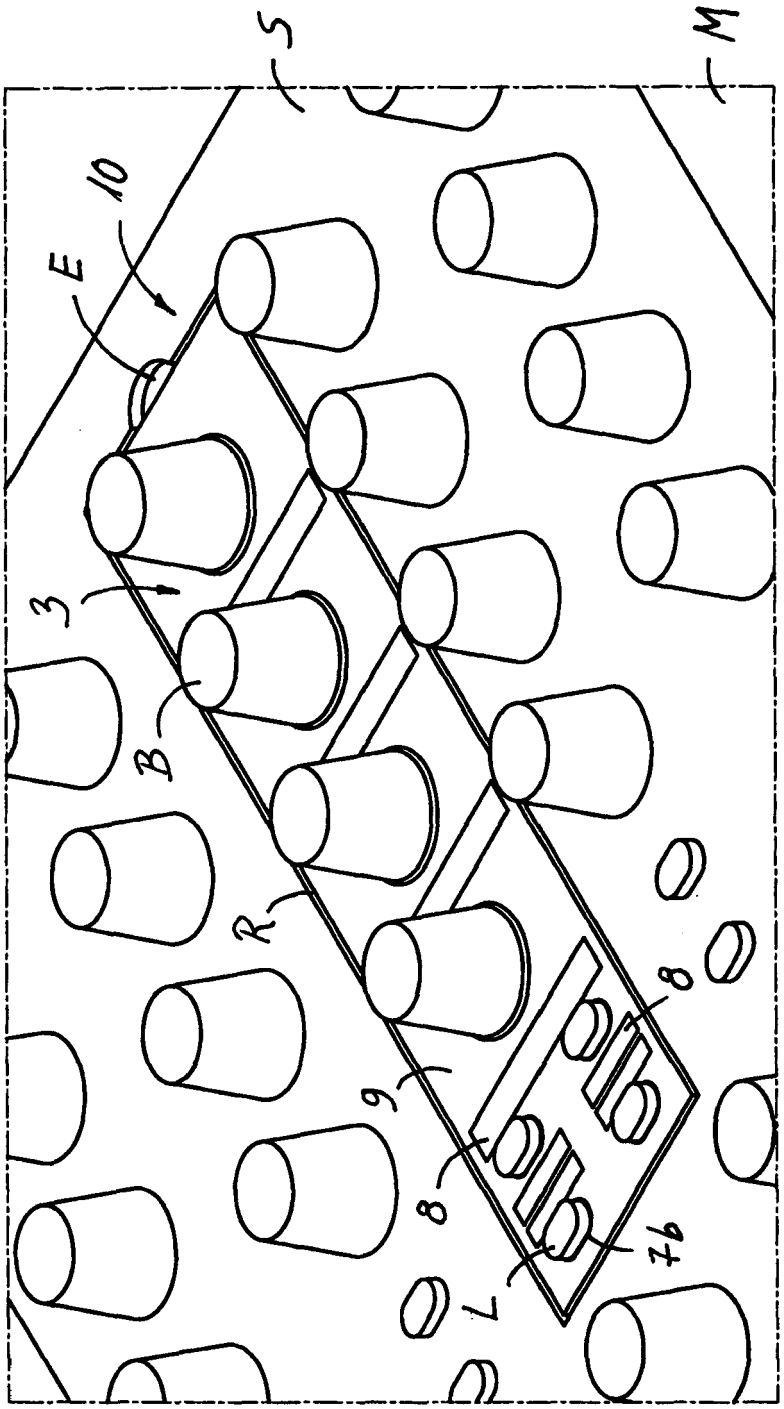

Fig.6

European Patent Office

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Application Number
EP 05 07 5843

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	30 August 2005	Pierron, C

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 07 5843

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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