

Description

[0001] The present invention relates to a document display.

[0002] In particular, the invention relates to a display for any kind of paper documents, leaflets, notices, information sheets, delivery notes, or any other kind of support in the form of a sheet containing information, pictures, etc.

[0003] It is known that in order to display documents of various kinds in different environments it is generally necessary to provide displaying devices which protect document from wear and tear and simplify their application onto walls or shelves.

[0004] At the state of the art it is known for instance about more or less traditional frames for fixing documents onto vertical surfaces or walls.

[0005] Said frames substantially consist of a back panel and of a transparent front panel, generally made of glass, between which the document to be displayed is housed, then said two panels are joined by means of fixing elements such as hooks or the like.

[0006] Typically, said frames are then fixed onto vertical walls by introducing into said walls fixing elements, such as for instance nails, and by introducing said nails into hollows in the back panel or into small hooks fixed to said back panel.

[0007] However, the frames described above show some disadvantages.

[0008] First of all, said devices can be applied only to some kinds of brickwork walls, but they are generally not applicable to glass, wood, metal surfaces or other kinds of surfaces.

[0009] Moreover, in order to fix said frames to the walls nails or the like should be applied onto walls, which results in a somehow complex and difficult application, in a deterioration of the wall, thus making it necessary to repeat the whole fixing operation whenever the position of the frame on the wall has to be changed.

[0010] It should be also pointed out that in order to introduce or replace the document in the frame, the latter should always be dismounted, which results in difficult operations consisting in the removal of fixing elements and in the separation of the front panel from the back one.

[0011] In case of wood frames or frames having a relatively complex structure, said devices are also quite expensive and cannot therefore be always used to contain less important or less aesthetically valuable documents.

[0012] It is also known about displaying devices for supporting documents, photos or the like on horizontal surfaces.

[0013] A first type of said displaying devices shows a frame structure which is wholly similar to the one previously described, and a stand fixed to the back panel to support the frame on a horizontal surface.

[0014] Also this kind of frames is quite expensive and is normally used only as photo-holder.

[0015] A second type of display for horizontal surfaces consists of a single moulded element in transparent plastic material.

[0016] These displays are made of two plane portions bent so as to form an acute angle, the first one housing a document within an opening, while the second leans onto the horizontal surface.

[0017] These displays are cheaper, but they can be applied only onto horizontal walls; moreover, they cannot be opened for cleaning or maintenance operations.

[0018] In such conditions the technical task underlying the present invention is to carry out a document display which can substantially avoid the aforesaid disadvantages.

[0019] In particular, the technical aim of the present invention is to provide a document display which can be easily applied, removed and repositioned onto surfaces.

[0020] Another technical aim of the present invention is to provide a document display allowing to replace documents fast and easily, without fully dismounting the display.

[0021] An additional technical aim of the present invention is to provide a document display which can be easily dismounted to enable maintenance and cleaning operations.

[0022] Another technical aim of the present invention is to carry out a display which can be coupled with a plurality of different surfaces made of materials such as glass, bricks, paper, metal, wood, cardboard, etc.

[0023] A further technical aim of the present invention is to provide a document display which is easy to carry out.

[0024] A final technical aim of the present invention is to provide a document display which is particularly cheap, thus allowing it to be used also for documents of little value.

[0025] The technical task and the aims indicated above are substantially reached by a document display whose features are listed in the attached claims.

[0026] Further characteristics and advantages of the present invention will be more evident from the detailed description of some non-exclusive embodiments of a document display, shown in the enclosed drawings in which:

- Figure 1 is a perspective view and an exploded view of a document display according to the invention;
- Figure 2 shows a section view according to line II-II of the display in Figure 1, said display being mounted;
- Figure 3 shows a view, wholly similar to the one in Figure 2, of an execution variant of the device in Figure 1;
- Figure 4 is a perspective exploded view of a second embodiment of a display according to the invention;
- Figure 5 shows a front view of a pair of displays according to the invention coupled one with the other.

[0027] With reference to Figure 1, a document display is generally indicated with reference numeral 1.

[0028] The display 1 comprises a base panel 2 preferably made of stiff or semi-stiff material. The display 1 shows a front surface 2a and a back surface 2b opposite said front surface 2a. Advantageously, the base panel 2 shows an outer edge 6 protruding with respect to the front surface 2a, said edge extending on at least three sides of said base panel 2. In particular, the protruding outer rim 6 defines a hollow 7 whose shape substantially corresponds to the peripheral profile of a document to be displayed (not shown in the enclosed figures). For further clearness and understanding the enclosed figure show a base panel 2 with a substantially rectangular profile, whose protruding outer edge 6 is "U"-shaped. In such conditions, said protruding outer edge 6 shows two parallel portions 6a, 6b extending along the longitudinal profile of the base panel 2 and corresponding to the longer sides of said rectangular profile, and a transversal portions 6c corresponding to a shorter side of said rectangular profile. The base panel 2 is further provided with a customizing area 12 placed on at least one side of said base panel 2, said area being arranged beside the document to show pre-established additional information. The customizing area 12 can consist of a recess of the back surface 2b, of a protuberance of the front surface 2a or preferably of a recess of said front surface 2a, arranged on the transversal portion 6c of the protruding perimetral edge 6.

[0029] The base panel can advantageously be made of transparent material, for instance in order to enable the simultaneous display of two documents when the display is applied onto glasses or other transparent surfaces.

[0030] The display 1 further comprises a front panel 3, advantageously made of transparent material.

[0031] Said front panel 3 comprises a front surface 3a and a back surface 3b opposite said front surface 3a. The front panel 3 has a peripheral profile corresponding substantially to the hollow 7 of the base panel 2. Moreover, the display 1 comprises means 4 for coupling the front panel 3 with the base panel 2 in a removable way, said means being advantageously obtained on said front and base panels. In a first embodiment the front panel 3 is coupled with the base panel 2 on the hollow 7, so that the front surface 2a of the base panel 2 and the back surface 3b of the front panel 3 face each other. Thus a housing opening 5 for said document to be displayed is defined between said surfaces 2a and 3b.

[0032] With reference to Figure 1, said means 4 consist of a first coupling seat 8 carried out on a first side of the base panel 2, and of at least a second coupling seat 9 carried out on a second side opposite said first side of the base panel 2. In further detail, the coupling seats 8 and 9 consist of an undercut or groove obtained in the corresponding parallel portions 6a, 6b and are placed on the hollow 7. Preferably, the coupling seats 8 and 9 extend on the whole longitudinal profile of the cor-

responding parallel portions 6a and 6b.

[0033] The means 4 further comprise at least two coupling elements 10, which extend from the front panel 3 to get into the coupling seats 8 and 9. The coupling elements 10 are placed on two opposite sides of the front panel 3 and extend in a direction which is substantially transversal with respect to the longitudinal profile of the front panel 3. In such conditions the front panel 3 is coupled with the base panel 2 by inserting said front panel 3 into a side of the base panel 2 opposite the transversal portion 6c. In particular, said coupling elements 10 slide within said coupling seats 8 and 9 until the front panel occupies the whole width of the hollow 7 of the base panel 2. Advantageously, as can be seen in Figure 1, the coupling means 10 can simply consist of the lateral edges of the front panel 3 getting into the coupling seats 8 and 9.

[0034] As an alternative, in an execution variant which is not shown in the enclosed figures, both coupling seats 8 and 9 can be carried out on the sides of the front panel 3. In such conditions the coupling elements 10 are arranged in the base panel 2 so as to be engaged in the corresponding coupling seats 8 and 9 of the front panel 3.

[0035] As an alternative, in another execution variant which is not shown in the enclosed figures, the hollow 7 can be carried out on the back surface 3b of the front panel 3 instead of the front surface 2a of the base panel 2.

[0036] The document to be displayed is then inserted into an access slot 11 formed on the side of the base panel 2 opposite the transversal portion 6c (as can be better seen in figures 1 and 2). Then the document slides in a direction corresponding to the longitudinal profile of the display 1 until it is entirely within the housing opening 5.

[0037] As an alternative, it can be provided for an execution variant, shown in Figure 3, in which the front surface 2a of the base panel 2 and the back surface 3b of the front panel 3 are substantially one against the other. In such conditions the housing seat 5 between the base panel and the front panel is hardly sufficient to contain the document, which is placed between the front surface 2a of the base panel 2 and the back surface 3b of the front panel 3 and coupled with both surfaces. In this case the front panel 3 is preferably made of deformable material, so that an external operator can detach it from the base panel 2 at least in a portion near the access slot 11. The width of the access slot 11 is thus increased, so as to simplify the introduction of the document into the display.

[0038] Advantageously, a recess (not shown in the figures) can also be carried out on the front panel, said recess being arranged on the access slot 11 in order to simplify the seizing of the sheet and therefore the operations of introduction and extraction of said sheet from the display.

[0039] In a second embodiment, shown in Figure 4,

the first and second coupling seat 8, 9 are substantially "L"-shaped.

[0040] In particular, each seat 8, 9 shows a first portion 8a, 9a which is transversal with respect to the longitudinal profile of the display 1, and a second portion 8b, 9b which is parallel to said longitudinal profile.

[0041] Besides that, the coupling means 10 consist of two pins 13, 13' which are coaxial one to the other and extend from the front panel 3 in a transversal direction with respect to the longitudinal profile of said front panel 3. The pins 13, 13' are positioned on two corresponding opposite sides of the front panel 3 and can be engaged in the coupling seats 8, 9 of the base panel 2.

[0042] In this execution variant the base panel 2 is further provided with at least a third coupling seat 14 which can be coupled with at least a connecting element 15 engaged in said front panel 3. In further detail, two coupling seats 14, 14' are provided, each of them consisting of a hollow obtained in each parallel portion 6a, 6b near the access slot 11. Said coupling seats 14, 14' develop along the longitudinal profile of said parallel portions 6a and 6b. Two additional connecting elements 15, 15' are provided, each of them consisting of a lateral extension of the front panel 3 with a shape corresponding to its coupling seat 14, 14'. Each connecting element 15, 15' extends on every side on which the pins 13, 13' are positioned, in a direction which is transversal to the longitudinal profile of the front panel 3 and near said slot 11.

[0043] Thus, the front panel 3 is coupled with the base panel 2 by inserting first each pin 13, 13' into the first portions 8a and 9a. Then the document is introduced into its housing seat 5 provided between the front panel 3 and the base panel 2, and the front panel 3 is rotated around the central longitudinal axis of said pins 13, 13' so as to position said front panel 3 on the same plane of the base panel 2. Now the pins 13, 13' are inserted within the second portions 8b, 9b and the connecting elements 15, 15' slide within the third portions 14, 14'.

[0044] Advantageously, in the above described embodiments it can be provided for a covering raised edge (not shown in the enclosed figures) placed on the access slot 11 to prevent the penetration of water or other substances into the display. Thus the display can be made impermeable and can be used also in rainy weather. It can also be provided for a third embodiment not shown in the figures, in which the protruding outer edge 6 extend on the whole peripheral profile of the base panel 2, thus describing a substantially rectangular shape. In this case, the protruding outer edge 6 shows an undercut seat developing on the whole profile of said edge on the hollow 7.

[0045] Advantageously, the front panel 3 can be introduced into the base panel 2 by inserting edges of the base panel 2 into said seat of the protruding outer edge 6. Moreover, the front panel 3 can show a handle extending on the front surface 3a so as to simplify its detachment from the base panel 2. In this embodiment the display 1 is impermeable since there are no slots allow-

ing the penetration of water from outside.

[0046] As can be seen from Figure 5, the base panel 2 can be further provided with interconnecting means 16 arranged on the sides of the base panel 2, thus allowing several adjacent displays 1 to be joined one to the other.

[0047] In particular, the interconnecting means 16 consist of a connecting extension 16a extending transversally with respect to the longitudinal profile of the base panel 2 and placed on one side. A connecting seat 16b extends on the opposite side, said seat having a shape corresponding to said connecting extension 16a and engaging with said extension 16a.

[0048] Advantageously, the connecting extension 16a can be mounted with possibility of translation or hinged onto the base panel so as to move from a rest position within the base panel and an operating position in which it is extracted out of it and cooperates with a corresponding connecting seat 16b.

[0049] The display 1 further comprises fixing means 17, schematically shown in the figures, which are mounted onto the back surface 2b of the base panel 2 to couple the display 1 with a plane, typically vertical, surface in a removable way. The fixing means 17 are placed on housing seats 18, arranged for instance in the figures on the corners of the back surface 2b.

[0050] The fixing means can consist of at least a suction cup mounted onto the housing seats 18, so as to couple the display 1 with a smooth vertical surface. In this case the housing seats 18 are carried out for instance by means of a hole into which the suction cup can be introduced.

[0051] As an alternative, the fixing means can consist of a magnetic element mounted onto the housing seats 18 to couple the display 1 with a metal vertical surface.

[0052] More to the point, the fixing means can consist of a bi-adhesive element or a mechanical fixing element such as nails, screws or the like, which are mounted for instance onto a further housing seat 18' in order to couple the display 1 with any vertical surface.

[0053] As an alternative, the fixing means can comprise at least a first textile portion and a second portion having a plurality of small hooks cooperating with the first portion to connect the first and second portion in a removable way. One of the surfaces is mounted onto the back panel and the other one is mounted onto the vertical wall, for instance by means of a common bi-adhesive tape. Said fixing means are commonly known with the commercial name VELCRO.

[0054] It can further be provided for other solutions to engage the display 1 with different plane vertical surfaces according to the physical features of said surfaces.

[0055] Advantageously, the fixing means 17 can be interchangeable and easily replaced in the housing seats 18 according to the kind of wall onto which the display has to be applied. The fixing means 17 can further comprise a support element, not shown in the enclosed figures, to couple the display 1 with a horizontal

surface.

[0056] Said support element can consist for instance of an elongated element having a first end engaged with the back surface 2b of the base panel 2, and a second end, opposite the first one, to be laid onto the ground. Moreover, the size and shape of the display 1 can vary according to standard document sizes, such as for instance A3, A4, A5 and A6.

[0057] In particular A5 and A6 sizes can be used for instance for delivery documents (UNI norms), the display being coupled with transport boxes by means of suitable hooks for cardboard.

[0058] A display 1 in A3 size can be used to contain leaflets or notices, whereas in A4 size such display can be used for documents of various kinds or standard forms.

[0059] Moreover, the display 1 can be carried out in several different colors according to the environment in which it is arranged or according to the importance of the notice contained in it.

[0060] Preferably, the display is made of plastic material, such as PMMA (polymethylmetacrylate) or polycarbonate, but it could also be carried out in other suitable materials, such as glass.

[0061] The invention allows to obtain important advantages.

[0062] First of all, the invention allows to carry out a document display which is easy to apply, to remove and to reposition on application surfaces.

[0063] The invention also allows to replace the document fast and easily, without dismounting the display completely.

[0064] Moreover, a document display according to the present invention can be easily dismounted for maintenance and cleaning operations.

[0065] It should also be pointed out that a document display according to the present invention, thanks also to the interchangeability of fixing means for vertical walls, can be used for a plurality of surfaces and in several different environments such as offices, factories, hospitals, theatres, stations, and in general in any work or transit place.

[0066] Finally, it should be pointed out that the present invention is easy to carry out and that its costs are also very low, thus enabling its use also for documents with low value and in a plurality of situations.

[0067] The invention as described above can undergo several changes and variants within its characterizing framework. All details can be replaced by other technically equivalent elements, and in practice it will be possible to use any materials and sizes according to specific needs.

Claims

1. Document display **characterized in that** it comprises:

a base panel (2) having a front surface (2a) and a back surface (2b);

a transparent front panel (3) having a front surface (3a) and a back surface (3b), on said front panel (3) and on said base panel (2) means (4) being provided to couple the front panel (3) with the base panel (2) in a removable way, said means defining a housing opening (5) for a document between the front surface (2a) of said base panel (2) and the back surface (3b) of said front panel (3), and

fixing means (17) mounted onto the back surface (2b) of the base panel (2) to couple the display (1) to a plane surface in a removable way.

2. Display according to claim 1, **characterized in that** said means (4) for coupling the front panel (3) with the base panel (2) in a removable way comprise:

at least a first coupling seat (8) carried out on a first side of said base panel (2) and at least a second coupling seat (9) carried out on a second side of said base panel (2); and
at least two coupling elements (10) extending from said front panel (3) and engaging respectively in said coupling seats (8, 9) of the base panel (2).

3. Display according to claim 1, **characterized in that** said means (4) for coupling the front panel (3) with the base panel (2) in a removable way comprise:

at least a first coupling seat (8) carried out on a first side of said front panel (3) and at least a second coupling seat (9) carried out on a second side of said front panel (3); and
at least two coupling elements (10) extending from said base panel (2) and engaging respectively in said coupling seats (8, 9) of the front panel (3).

4. Display according to claims 2 or 3, **characterized in that** said base panel (2) is provided with at least a third coupling seat (14) and **in that** said front panel (3) is provided with a connecting element (15) which can be coupled with said third coupling seat (14).

5. Display according to any of the preceding claims, **characterized in that** said base panel (2) has an outer edge (6) protruding with respect to said front surface (2a) of the base panel (2) and extends on at least three sides of said base panel (2), said protruding outer edge (6) extending on the lateral profile of said front panel (3) when the front panel (3) is coupled with the base panel (2), and defining a hollow (7) having a shape substantially corresponding to the document to be housed in the display (1).

6. Display according to any of the preceding claims, **characterized in that** at least said front panel (3) is made of deformable material to enable the introduction of a sheet into said housing opening (5), when the front panel (3) is coupled with the base panel (2), by means of an access slot (11) carried out on one side of the base panel (2). 5

7. Display according to any of the preceding claims, **characterized in that** the base panel (2) is provided, on at least one side, with a customizing area (12) placed beside said document to show pre-established additional information. 10

8. Display according to any of the preceding claims, **characterized in that** it further comprises interconnecting means (16) arranged on the sides of the base panel (2) to allow several adjacent displays (1) to be joined one to the other, said interconnecting means (16) comprising at least a connecting seat (16b) carried out on one of said sides of the base panel (2) and a corresponding connecting extension (16a) carried out on one side of the base panel (2) of an adjacent display (1). 15
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9. Display according to any of the preceding claims, **characterized in that** said fixing means (17) comprise at least a suction cup mounted onto the back surface (2b) of the base panel (2) to couple the display (1) with a smooth vertical plane surface. 30

10. Display according to any of the preceding claims, **characterized in that** said fixing means (17) comprise at least a magnetic element mounted onto the back surface (2b) of the base panel (2) to couple the display (1) with a metal vertical plane surface. 35

11. Display according to any of the preceding claims, **characterized in that** said fixing means (17) comprise a bi-adhesive element mounted onto the back surface (2b) of the base panel (2) to couple the display (1) with a vertical plane surface. 40

12. Display according to any of the preceding claims, **characterized in that** said fixing means (17) comprise at least a first textile portion and a second portion having a plurality of small hooks cooperating with the first textile portion to connect the first and second portion in a removable way, said portions being coupled with the back surface of the base panel and with said plane surface respectively. 45
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13. Display according to any of the preceding claims, **characterized in that** said fixing means (17) comprise at least a mechanical fixing element mounted onto the back surface (2b) of the base panel (2) to couple the display (1) with a vertical plane surface. 55

14. Display according to any of the preceding claims, **characterized in that** housing seats (18) for said fixing means (17) are provided on said back surface (2b) of said base panel (2), said fixing means (17) being mounted in a removable way onto said housing seats (18) so as to be interchangeable according to the plane surface the display is coupled with.

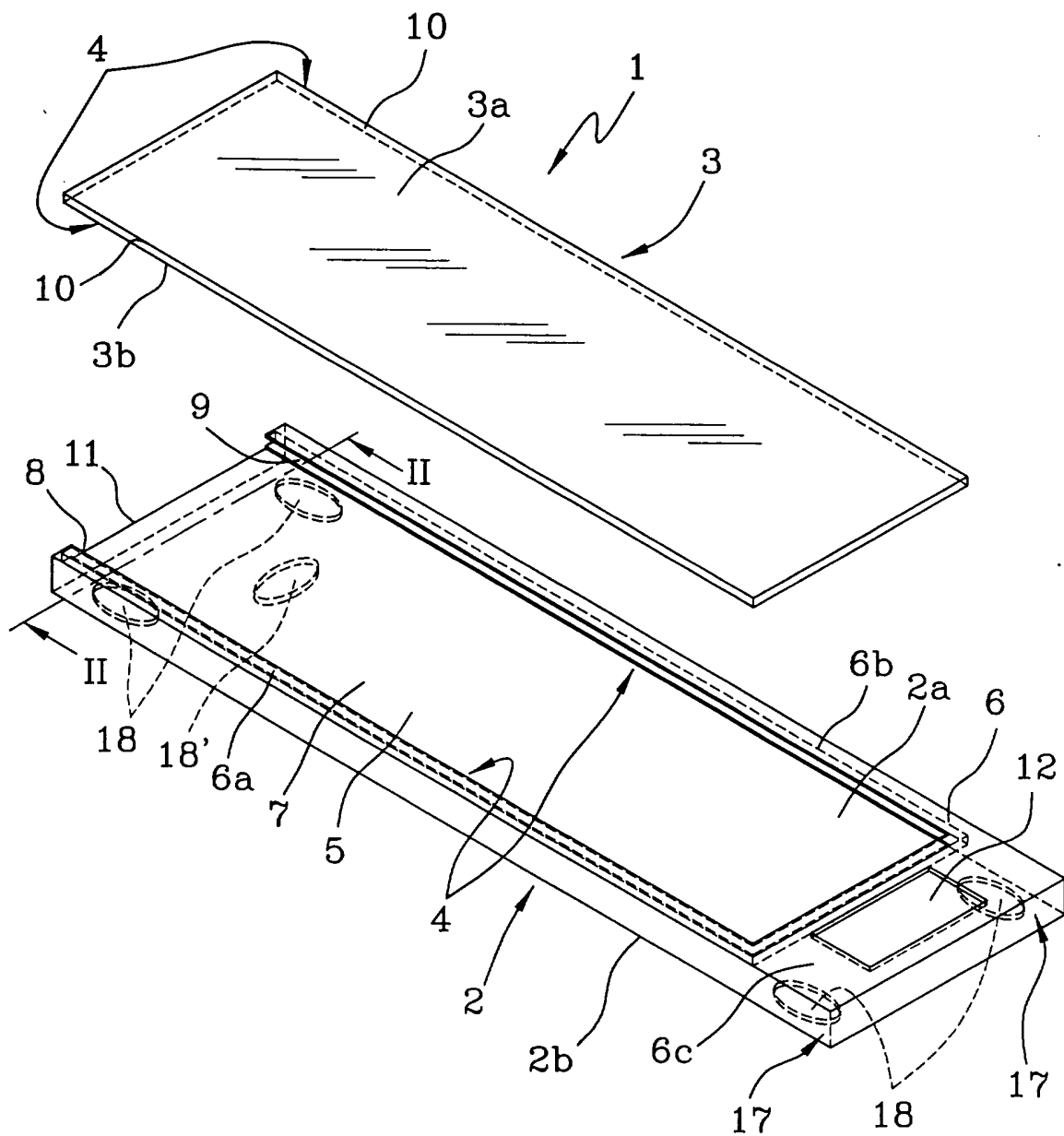


FIG 1

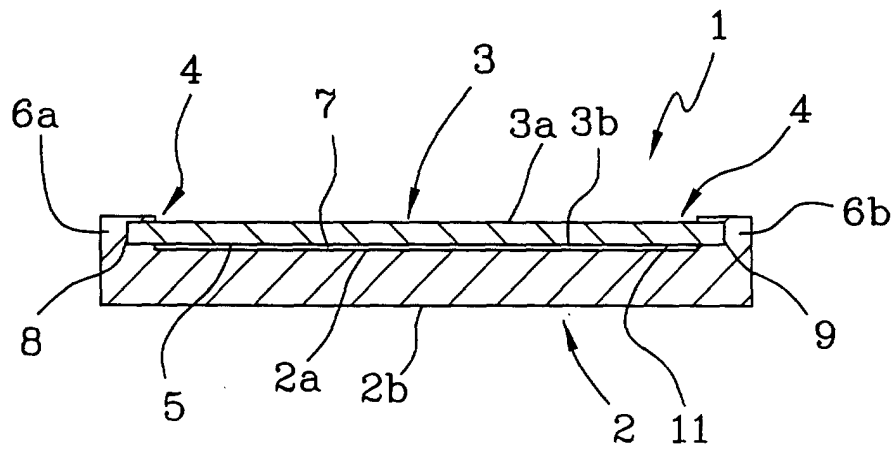


FIG 2

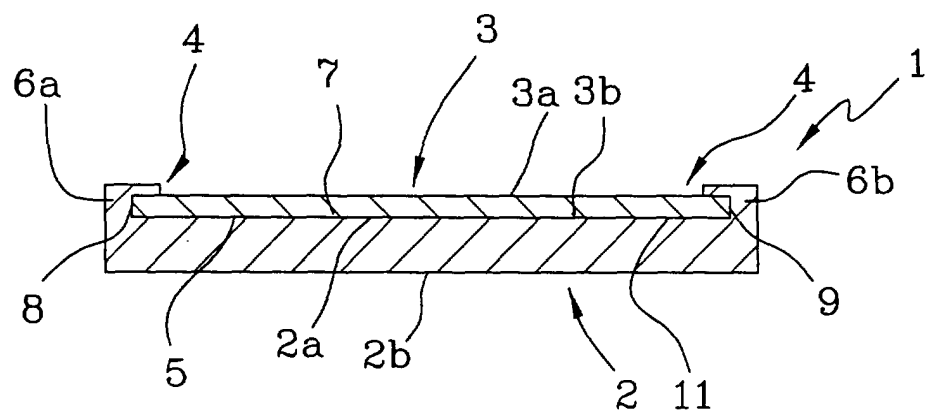


FIG 3

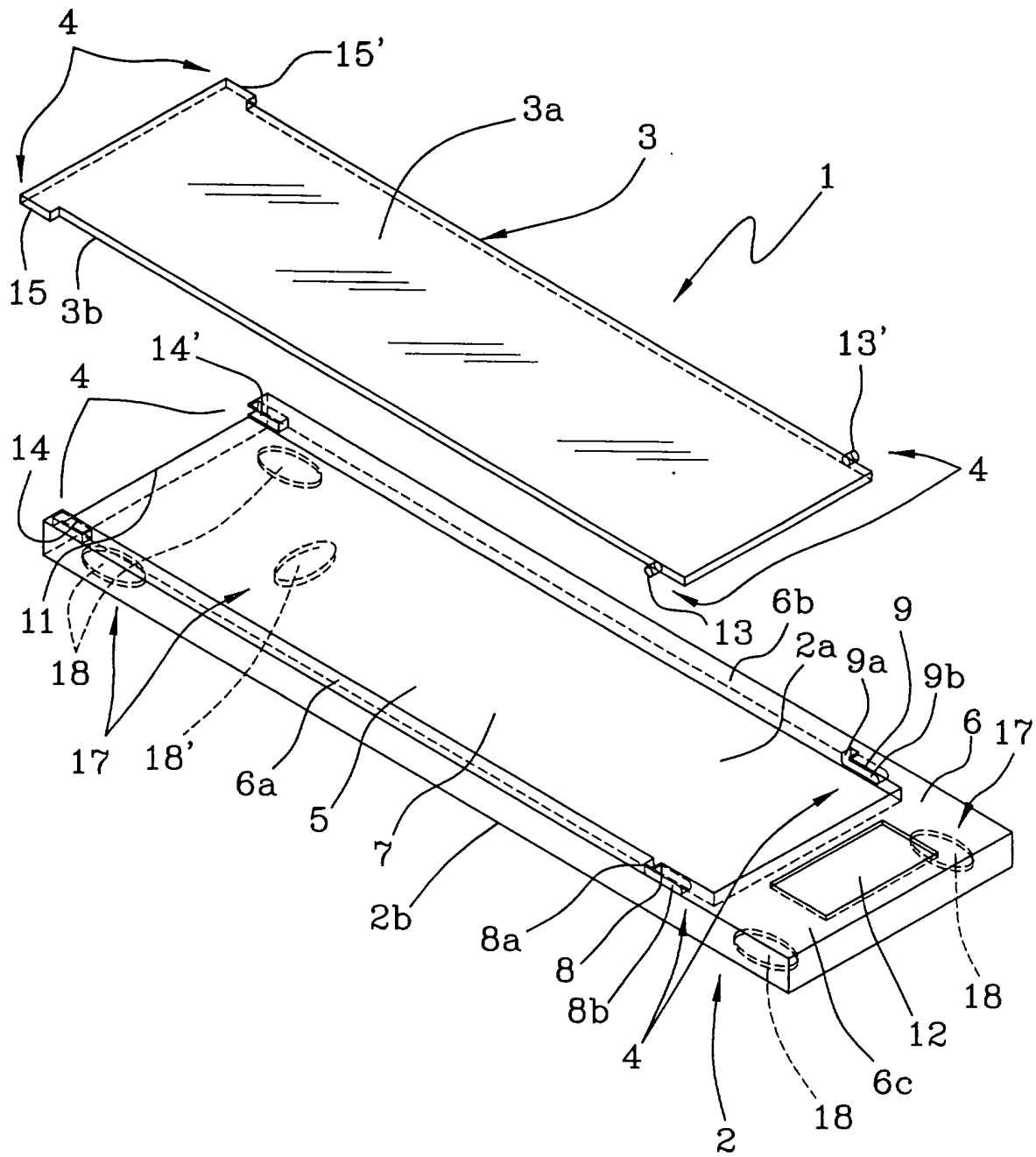
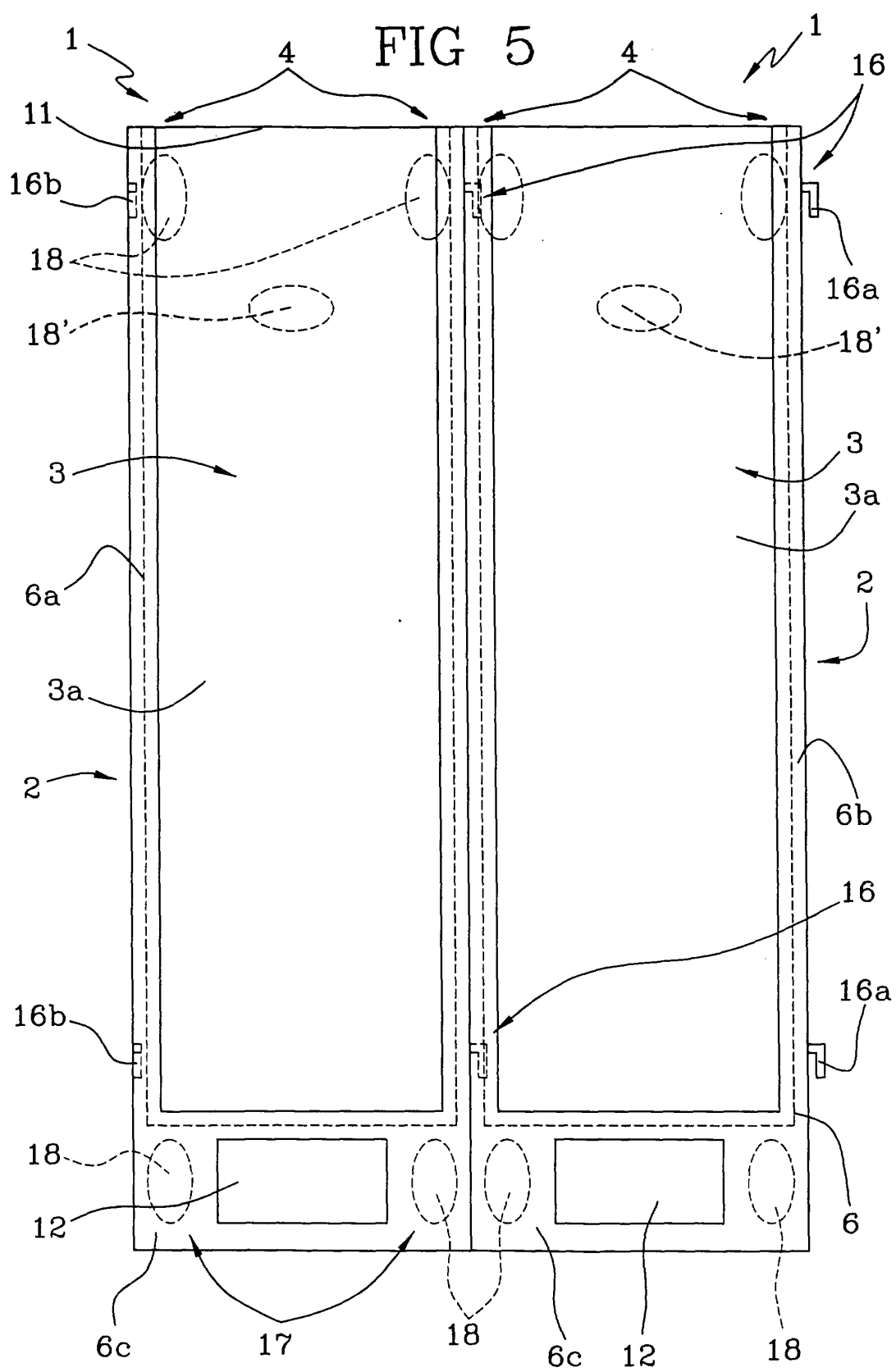


FIG 4





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0020

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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 May 2001	Examiner Puhl, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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