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(54) Exhibitor with magnetic closure

(57) An exhibitor with magnetic closure (1) comprises a frame (2) provided with contoured elements (3a, 3b, 3c, 3d) with first longitudinal slots (4), a closure element (6) made of transparent or semitransparent material, which can be applied to the frame (2) by means of a magnetic coupling (8) arranged on the edges of the frame (2), in which the magnetic coupling is formed by first magnetic bodies (9) that are jointly connected to the frame (2) or to the closure element (6) and by bodies (10) of opposite polarity with respect to the first magnetic bodies (9), which undergo the magnetic attraction of the first magnetic bodies (9), which are jointly connected respectively to the closure element (6) or to the frame (2), the contoured elements (3a, 3b, 3c, 3d) having longitudinal guiding elements (11) for insertion in an undercut arrangement of the first magnetic bodies (9) or of the bodies (10) of opposite polarity.

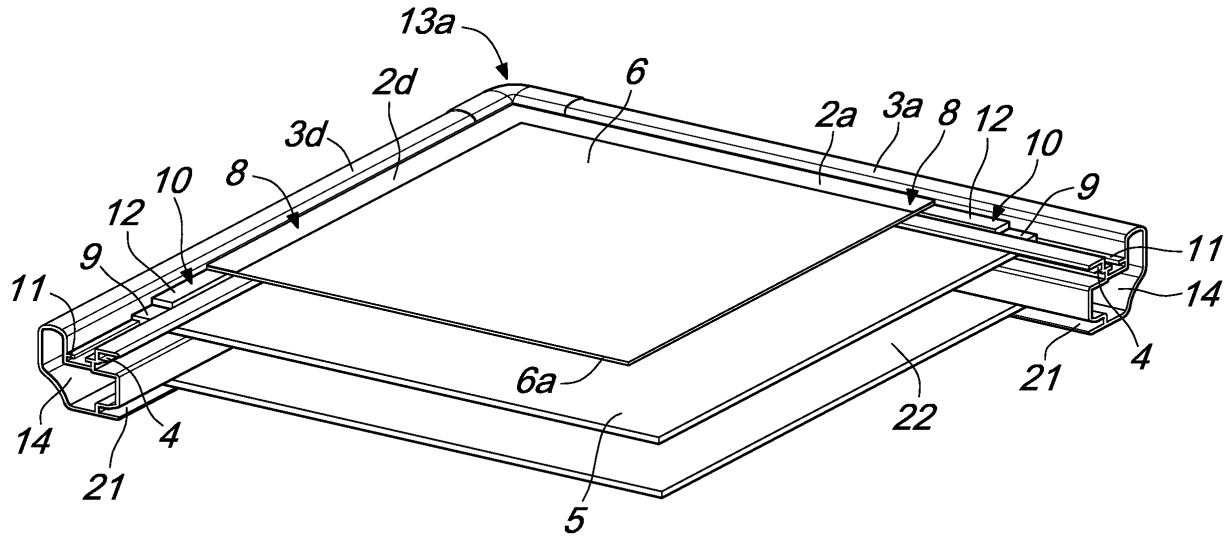

Fig. 6

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Description

[0001] The present invention relates to an exhibitor, particularly for displaying and protecting photographs, posters, leaflets and billboards for advertising and/or the like.

[0002] In the field of exhibitors of photographs, posters, leaflets and billboards for advertising it is known to use exhibitors provided with rigid frames of different dimensions, which comprise a back against which the item to be displayed is rested and a transparent or semitransparent front wall, which is fixed mechanically to the frame so as to enclose the item to be displayed.

[0003] These known exhibitors achieve the task of protecting the item to be displayed against vandalism or the effects of atmospheric agents if the exhibitor is displayed in the open air, but are scarcely practical and awkward to be used by the operator who must perform replacement of the item to be displayed as well as any other maintenance operation.

[0004] Replacement of the item to be displayed in fact requires the disassembly of the front wall of the exhibitor, removing any retainers, clips or other mechanical fixing means of the known device.

[0005] In order to obviate these drawbacks linked to the practicality of the exhibitor during operations for maintenance and/or replacement of its content, exhibitors have been introduced commercially which comprise front wall fixing means of the magnetic type, as disclosed in Canadian patent CA2192830.

[0006] Canadian patent CA2192830 discloses fixing means of the magnetic type, which use permanent magnets that are glued to the outer sides of the frame and other permanent magnets, whose polarity is opposite to the first ones, which are glued to the front wall at the permanent magnets of the frame.

[0007] Despite the improvement introduced, such devices are not devoid of drawbacks, which include in particular the fact that the permanent magnets, fixed by means of adhesive, over time tend to detach due to repeated openings of the exhibitor that are needed in order to replace the item to be displayed or to perform any other maintenance operation. The natural aging process of adhesives further causes a progressive weakening of the cohesion force between the frame and the magnet, with consequent separation of the permanent magnet.

[0008] The aim of the present invention is to eliminate the drawbacks noted above by providing an exhibitor, particularly for displaying and protecting photographs, posters, leaflets, billboards for advertising and the like, that maintains the advantages that derive from the use of magnets but ensures maximum strength and reliability without fearing the effects of time and wear.

[0009] Within this aim, an object of the present invention is to provide an exhibitor that is easy and practical to use in the replacement of the item to be displayed and in other maintenance operations, such as cleaning the transparent parts and the like.

[0010] Another object of the present invention is to provide an exhibitor that can display a plurality of items simultaneously on two opposite faces of such device.

[0011] This aim, as well as these and other objects that will become better apparent hereinafter, are achieved by an exhibitor with magnetic closure, particularly for displaying and protecting photographs, posters, leaflets, billboards for advertising and the like, characterized in that it comprises a frame which comprises contoured elements with first longitudinal slots, a closure element made of transparent or semitransparent material, which can be applied to said frame by means of a magnetic coupling arranged on the edges of said frame and formed by first magnetic bodies that are jointly connected to said frame or to said closure element and by bodies of opposite polarity with respect to said first magnetic bodies, which undergo the magnetic attraction of said first magnetic bodies, said bodies of opposite polarity being jointly connected respectively to said closure element or to said frame, said contoured elements having longitudinal guiding elements for insertion, preferably by sliding, in an undercut arrangement, of said first magnetic bodies or of said bodies of opposite polarity.

[0012] Further characteristics and advantages of the present invention will become better apparent from the description of a preferred but not exclusive embodiment of an exhibitor with magnetic closure according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of an exhibitor with magnetic closure according to the invention;

Figure 2 is a plan view of an exhibitor with magnetic closure according to the invention;

Figure 3 is an enlarged-scale sectional view of the exhibitor with magnetic closure of Figure 2, taken along the line III-III;

Figure 4 is an enlarged-scale view of a detail of the exhibitor with magnetic closure shown in Figure 2;

Figure 5 is an exploded view of the detail shown in Figure 4;

Figure 6 is a partially sectional enlarged-scale perspective view of a detail of the exhibitor with magnetic closure shown in Figure 2;

Figure 7 is a perspective view of a corner element of an exhibitor with magnetic closure according to the invention;

Figure 8 is a perspective view of an exhibitor with magnetic closure according to the invention during the opening step.

[0013] With reference to the figures, the exhibitor with magnetic closure, particularly for displaying and protecting photographs, posters, leaflets and billboards for advertising or the like, generally designated by the reference numeral 1, comprises a substantially polygonal frame 2 and four contoured elements 3a, 3b, 3c and 3d, which are parallel and symmetrical in pairs, with first lon-

gitudinal slots 4 for the sliding insertion of at least one supporting wall 5, or of the very item to be displayed, which can be made of transparent or semitransparent material, a closure element 6 made of transparent or semitransparent material that can be applied to the frame 2. Preferably, a partial fixed coupling 7 is provided by way of suitable fixing means, for example a layer of adhesive material arranged on one side 2c of the frame 2 and a magnetic coupling 8 arranged on the other sides 2a, 2b and 2d of the frame 2 so as to enclose the item to be displayed between the closure element 6 and the supporting wall 5.

[0014] The magnetic coupling 8 is formed by first magnetic bodies 9, which are jointly connected to the frame 2, and by bodies 10 of opposite polarity with respect to the first magnetic bodies 9 and jointly connected to the closure element 6, which are affected by the magnetic attraction of the first magnetic bodies 9.

[0015] The first magnetic bodies 9 and the bodies of opposite polarity 10 respectively comprise first permanent magnets and second permanent magnets.

[0016] The contoured elements 3a, 3b, 3c and 3d have longitudinal guiding elements 11, particularly with an H-shaped or inverted T-shaped cross-section, for the sliding insertion with an undercut arrangement of the first magnetic bodies 9, which in turn have guiding elements with an H-shaped or T-shaped cross-section whose dimensions are compatible with the dimensions of the cavity into which they are to be inserted.

[0017] The bodies of opposite polarity 10 comprise, as above said, second permanent magnets 12, which are glued to the closure element 6 on the face 6a that faces the supporting wall 5.

[0018] As an alternative to the second permanent magnets 12, the bodies of opposite polarity 10 can comprise ferromagnetic elements.

[0019] As an alternative, in an embodiment that is not shown, the first magnetic bodies 9 can be jointly connected to the closure element 6 by means of slots formed directly on the closure element 6. In this case also, it is possible to apply advantageously the guiding sections and the magnetic bodies described above, which are H-shaped or T-shaped.

[0020] In this last case, the bodies 10 of opposite polarity may be integrated directly in the contoured elements 3a, 3b, 3c and 3d by making them of a ferromagnetic material, such as for example ductile iron.

[0021] According to the invention, the exhibitor with magnetic closure 1 comprises corner elements 13a, 13b, 13c and 13d for the connection of two of the contoured elements 3a, 3b, 3c and 3d that are adjacent by entering by snap action appropriately provided seats 14 formed on the bases 15 of the contoured elements 3a, 3b, 3c, and 3d.

[0022] The corner elements 13a, 13b, 13c and 13d each comprise two end portions 16, which can be inserted in the seats 14, and a central corner portion 17, which is associated with the end portions 16 with abutment elements 18 for locking along the longitudinal direction the contoured elements 3a, 3b, 3c, and 3d and the first magnetic bodies 9.

[0023] The end portions 16 preferably each comprise flexible tabs 19, each of which has means for preventing the extraction of the end portions 16 from the contoured elements 3a, 3b, 3c and 3d, which comprise protrusions 19a that are substantially cylindrical and can engage by snap action in appropriately provided cavities 20 formed on the lateral surfaces of the contoured elements 3a, 3b, 3c and 3d.

[0024] Advantageously, the exhibitor with magnetic closure 1 is provided with grip means in order to be able to hang it from wall-mounted hooks or the like, which comprise second longitudinal slots 21 formed on the contoured elements 3a, 3b, 3c and 3d on the opposite side with respect to the one that faces the closure element 6.

[0025] As an alternative, the second longitudinal slots 21 can be used for the insertion of a rear closure panel 22.

[0026] With reference to the figures, operation of the exhibitor with magnetic closure, particularly for displaying and protecting photographs, posters, leaflets and billboards for advertising and/or the like, according to the invention, is as follows.

[0027] By way of retention means, such as sucker means or any other tool adapted to apply a force for retaining the closure element 6 that is sufficient to overcome the magnetic force of the magnetic coupling, it is possible to separate the second permanent magnets 12 from the first magnetic bodies 9 by flexing the closure element 6, since it is locked on one side by the fixed coupling 7, thus being able to insert the item to be displayed.

[0028] Preferably, the magnetic coupling 8 is absent in the corners of the frame 2, so as to allow insertion of tools below the closure element 6 and allow its separation from the frame 2.

[0029] Once the item to be displayed has been inserted, it is sufficient to let go the closure element 6 which, due to the magnetic coupling 8 and the elastic return of the closure element 6, returns to the initial position.

[0030] If the item to be displayed has two opposite faces to be shown, it is sufficient to use a transparent supporting wall 5, so that the exhibitor with magnetic closure 1 has two faces.

[0031] In practice it has been found that the exhibitor with magnetic closure particularly for displaying and protecting photographs, posters, leaflets and billboards for advertising and/or the like, according to the present invention, fully achieves the intended aim and objects, since it is a product of excellent quality and reliability and does not fear the effects of time and wear, since it uses connections of a mechanical type to fix the permanent magnets to the frame and allows to protect the item to be displayed against the atmospheric agents.

[0032] Another advantage of the exhibitor with magnetic closure according to the present invention is that it is highly practical in use by the technician if it is necessary

to replace the item to be exhibited or to perform any other maintenance operation and/or the like.

[0033] A further advantage of the exhibitor with magnetic closure according to the present invention consists in that it is, if necessary, a two-sided exhibitor with magnetic closure.

[0034] The exhibitor with magnetic closure, particularly for displaying and protecting photographs, posters, leaflets and billboards for advertising and/or the like, thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims; all the details may further be replaced with other technically equivalent elements.

[0035] In practice, the materials used, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to requirements and to the state of the art.

[0036] Likewise, the shapes of the device must not be considered to be limited to the substantially rectangular shape described, since it is obvious that the same inventive concept applies identically to polygonal shapes of any kind and to circular, elliptical and curvilinear shapes in general.

[0037] Therefore, the scope of the protection of the claims must not be limited by the illustrations or by the preferred embodiments presented in the description by way of example, but rather the claims must comprise all the characteristics of patentable novelty that can be deduced from the present invention, including all the characteristics that would be treated as equivalent by the person skilled in the art.

[0038] The disclosures in Italian Patent Application no. MI2007A002140, from which this application claims priority, are incorporated herein by reference.

[0039] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. An exhibitor with magnetic closure, particularly for displaying and protecting photographs, posters, leaflets, billboards for advertising and the like, **characterized in that** it comprises a frame which comprises contoured elements with first longitudinal slots, a closure element made of transparent or semitransparent material, which can be applied to said frame by way of a magnetic coupling arranged on the edges of said frame and formed by first magnetic bodies that are jointly connected to said frame or to said closure element and by bodies of opposite polarity with respect to said first magnetic bodies, which undergo the magnetic attraction of said first magnetic bodies, said bodies of opposite polarity being jointly connected respectively to said closure element or to said frame, said contoured elements having longitudinal guiding elements for insertion in an undercut arrangement of said first magnetic bodies or of said bodies of opposite polarity.

2. The exhibitor with magnetic closure according to claim 1, **characterized in that** said first magnetic bodies comprise first permanent magnets and said bodies of opposite polarity comprise second permanent magnets or ferromagnetic elements arranged on said closure element or on said frame at said first permanent magnets.

3. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** it comprises a fixed coupling between said frame and said closure element which is arranged on at least one side of said frame.

4. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said fixed coupling comprises a layer of adhesive material that is interposed between said at least one side of said frame and said closure element.

5. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said frame is rectangular and comprises four contoured elements that are parallel and symmetrical in pairs.

6. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** it comprises a wall for supporting the item to be displayed, which can be inserted in said first slots.

7. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** it comprises corner elements for connecting two of said adjacent contoured elements by inserting with a snap action in appropriately provided seats formed on the bases of said contoured elements.

8. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said corner elements each comprise two end portions, which can be inserted in said seats, and a central corner portion, which is associated with said end portions with abutment elements for the locking along the longitudinal direction of said contoured elements and of said first magnetic bodies or of said bodies of opposite polarity.

9. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** each of said end portions comprises flexible

tabs, each of which has means for preventing the extraction of said end portions from said contoured elements.

10. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said extraction preventing means comprise substantially cylindrical protrusions that can engage by snap action provided cavities formed on lateral surfaces of said contoured elements.

11. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said bodies of opposite polarity comprise second permanent magnets, which are glued to said closure element on the face that faces said supporting wall.

12. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said supporting wall is made of transparent or semitransparent material.

13. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** it comprises grip means in order to be able to hang said exhibitor from wall-mounted hooks or the like.

14. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** said grip means comprise second longitudinal slots provided on said contoured elements on the opposite side with respect to the one that faces said closure element.

15. The exhibitor with magnetic closure according to one or more of the preceding claims, **characterized in that** it comprises a rear closure panel that can be inserted in said second longitudinal slots.

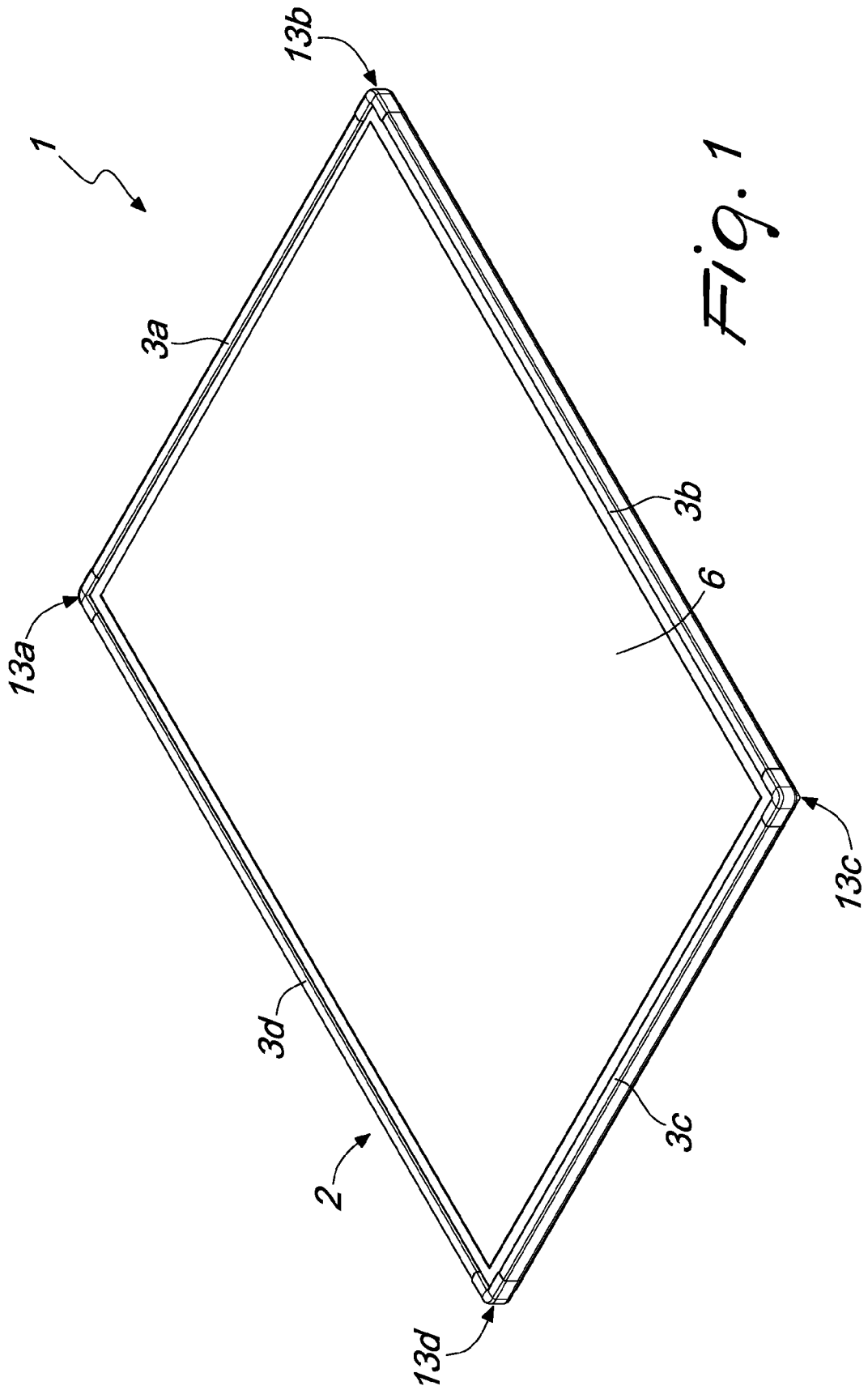


Fig. 1

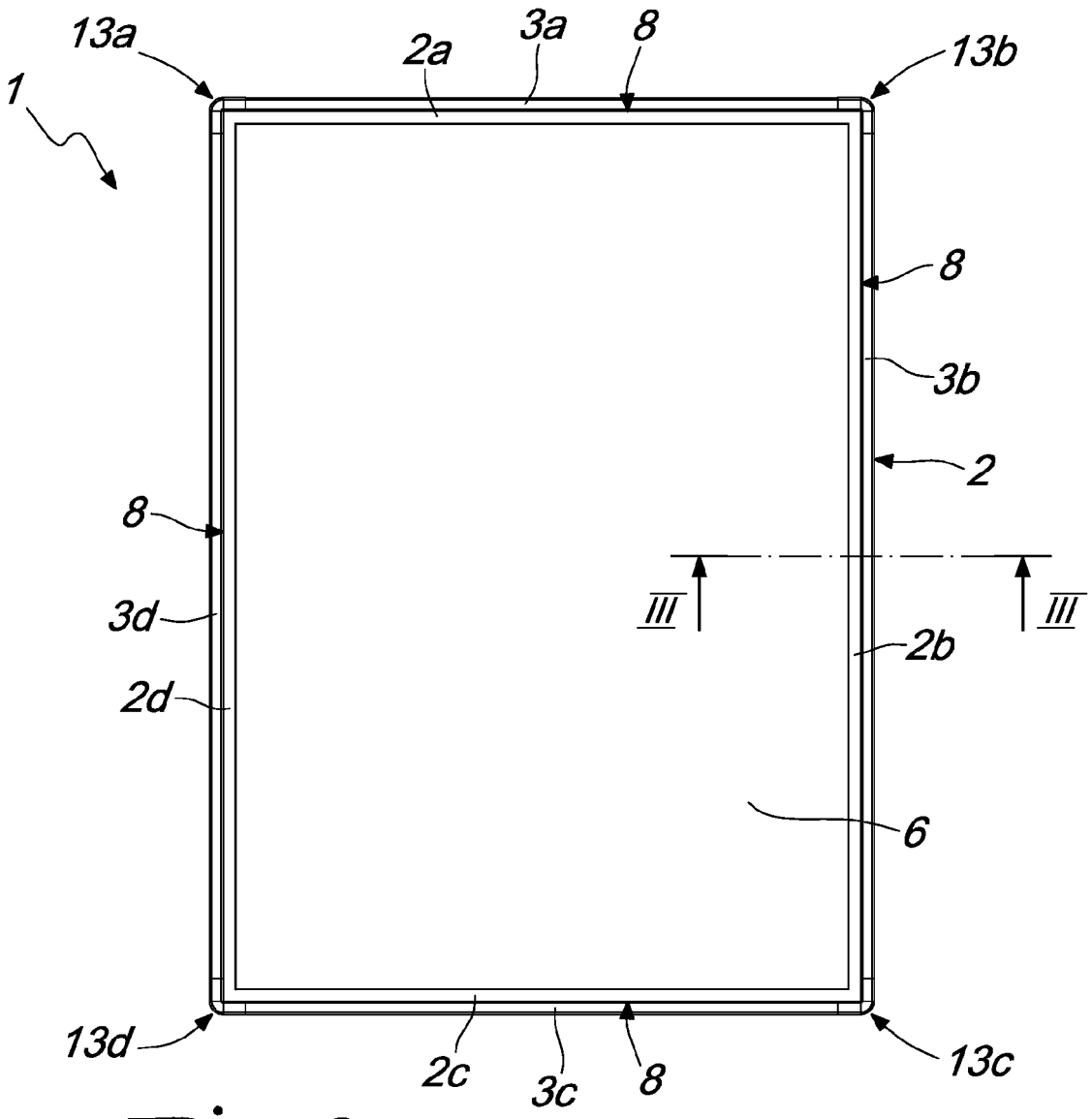

13a
2a
3a
8
13b
1
8
3b
2
8
III
III
3d
2b
2d
6
13d
2c
3c
8
13c

Fig. 2

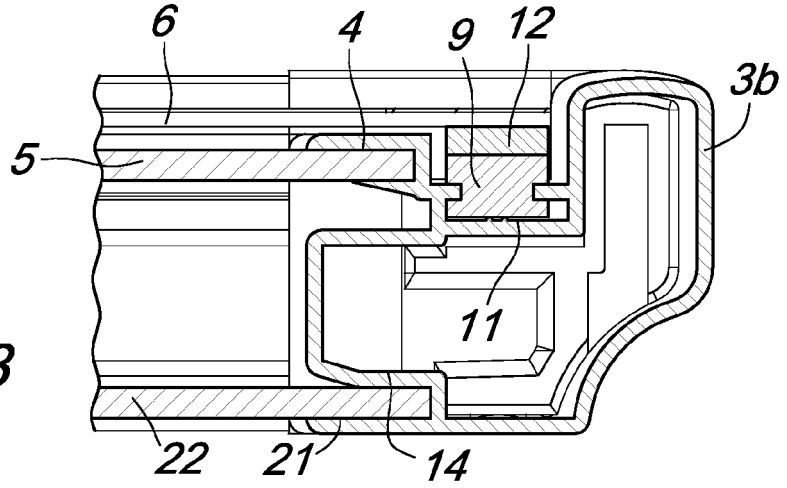
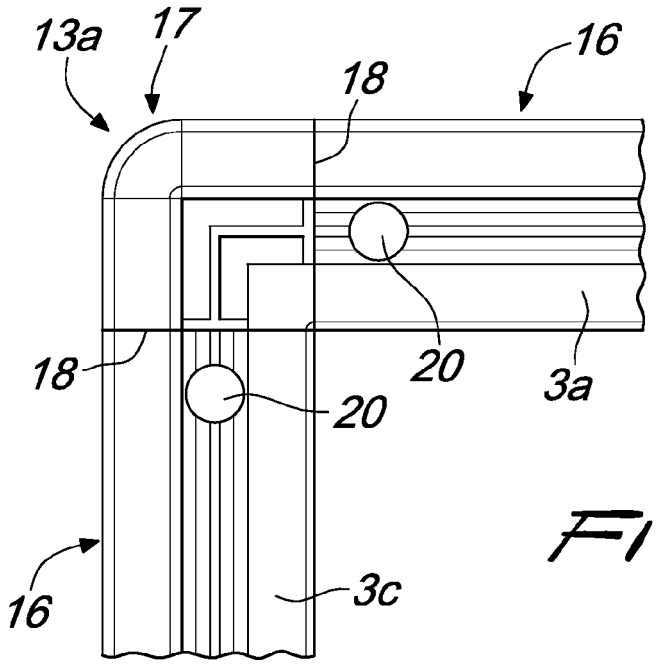

6
4
9
12
3b
5
11
22
21
14

Fig. 3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17
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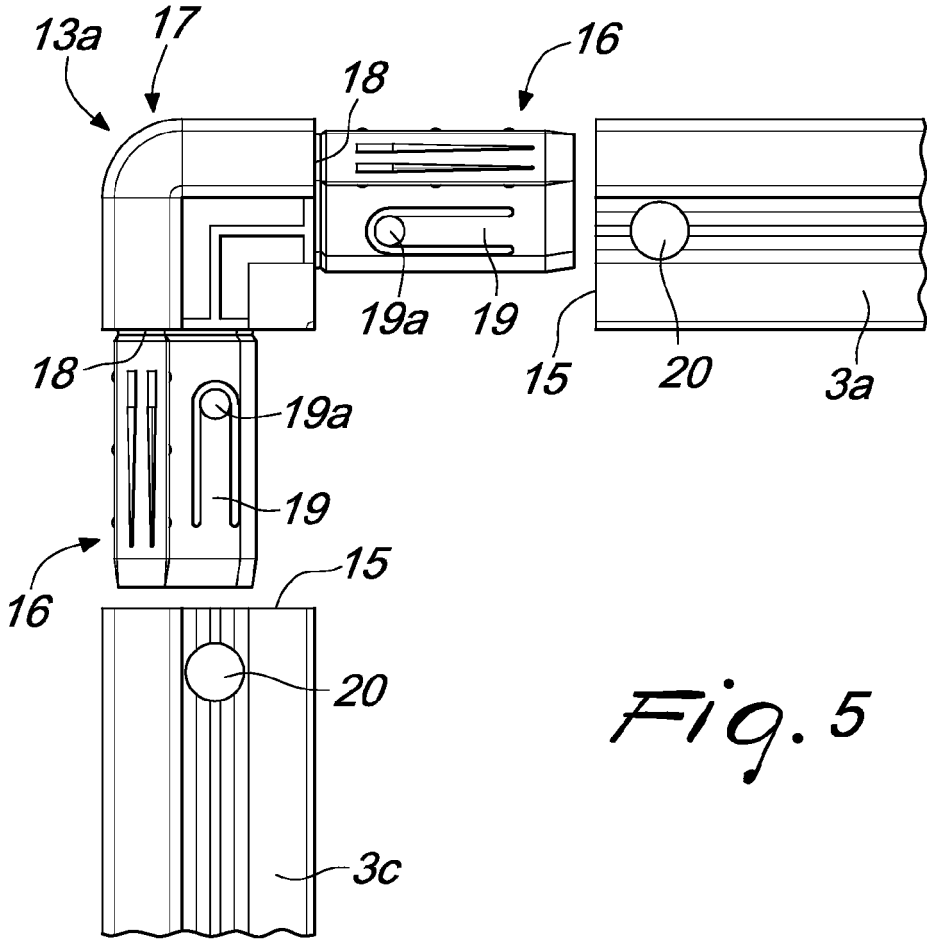
18
18
20
20
3a
16
3c

Fig. 4


13a
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19a
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3a
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16
15
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3c

Fig. 5

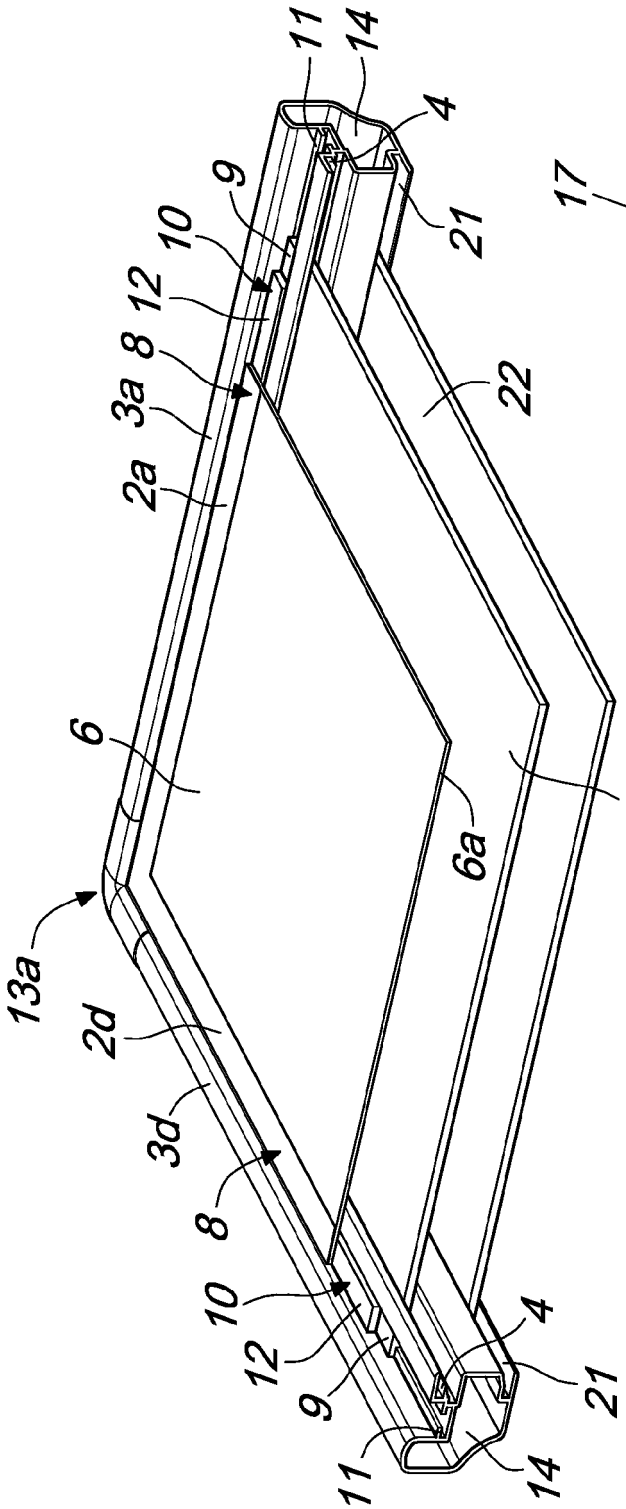
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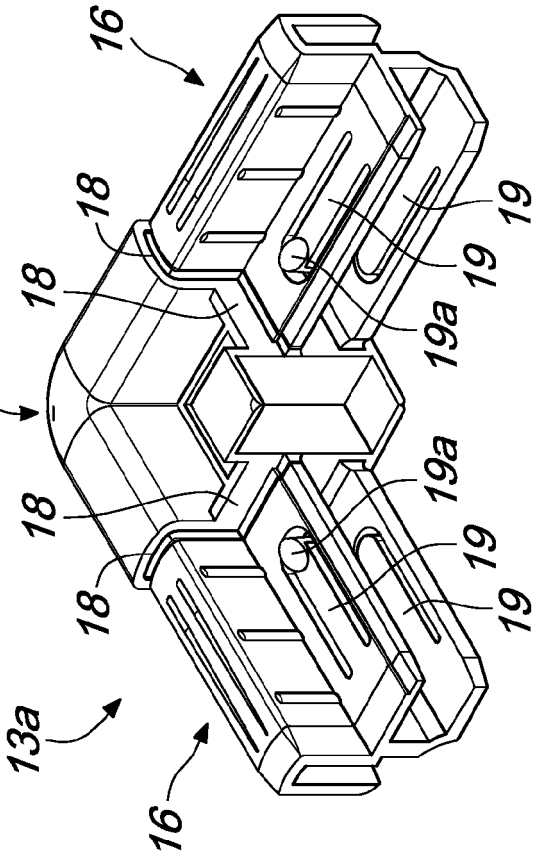
Fig. 6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19a
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18
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13a
16

Fig. 7

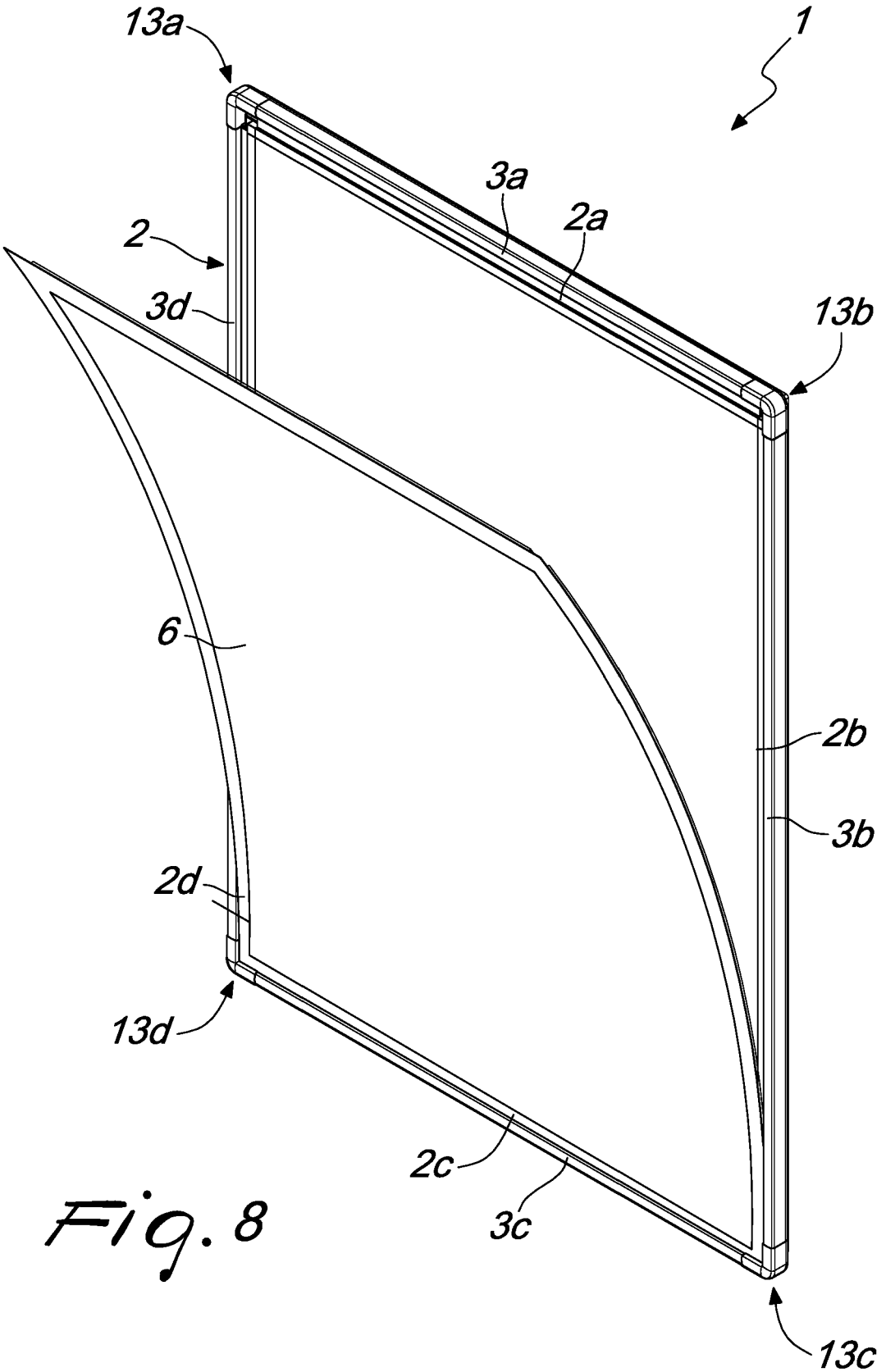

Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CA 2192830 **[0005] [0006]**
- IT MI20072140 A **[0038]**