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(54) **AN EXHIBITION WALL ADD-ON GRAPHICS DISPLAY SYSTEM**

(57) Exhibition wall add-on graphics display system for improved graphics display on existing metal framed exhibition walls (1), said exhibition walls (1) including vertical frame posts (3) joined to upper horizontal frame elements (4) and lower horizontal frame elements (5) and the vertical frame posts (3) are wider than the horizontal frame elements (4, 5) in a direction perpendicular to a main geometrical face plane of the exhibition walls (1). The invention is especially characterized in multiple vertical graphics mounting bars (6) provided with:
- attachment means (7) for graphics display sheets (8) and
- coupling means (9) for releasable attachment to said upper horizontal frame elements (4) and said lower horizontal frame elements (5).

The vertical mounting bars (6) bridge a width gap (G) between the vertical frame posts (3) and the horizontal frame bars (4, 5) in said perpendicular direction, allowing the graphics display sheets (8) to form a flush frameless graphics display surface overlapping the vertical frame posts (3) of the exhibition wall (1).

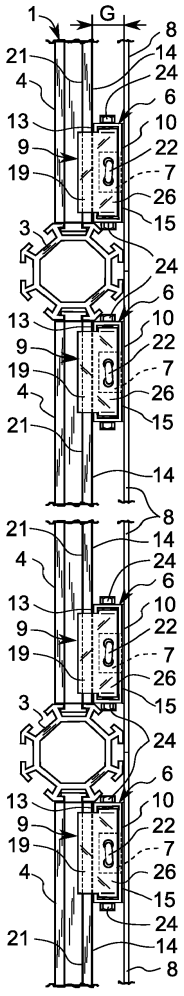


FIG. 5

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## Description

### TECHNICAL FIELD

**[0001]** The invention relates to an exhibition wall add-on graphics display system for improved graphics display on existing metal framed exhibition walls with multiple recessed panels.

### BACKGROUND

**[0002]** Exhibition walls for use at trade shows and international exhibitions come in various designs which may vary substantially depending on regional preferences. A widely used, if not standardized, exhibition wall design has vertical frame posts made of aluminium profiles joined to upper horizontal aluminium frame elements and lower horizontal frame elements. Between the frame elements and posts, panels suitable for printing are inserted in grooves along the frame elements and posts, creating an impression of multiple recessed panels on the exhibition wall. The panels may conveniently be exchanged for obtaining different wall colours or printed graphics containing photo back-drops and company logos etc. These exhibition walls are robust and easy to assemble in a busy trade show environment, hence their great popularity at many international trade shows. However, a problem with this exhibition wall design is that printed graphics are limited - or interrupted - by the "framed" appearance given by several vertical frame posts. This limitation makes it impossible to create a desirable continuous graphics display on these widely used exhibition walls.

### SUMMARY

**[0003]** It is the object of the present invention to alleviate the problem mentioned above and to offer an easily attachable and low cost add-on conversion which enables use of attractive continuous back-drop graphics and avoidance of a limiting "framed" visual appearance on widely used exhibition walls of the described general design. To this end, the invention provides an exhibition wall add-on graphics display system for improved graphics display on existing metal framed exhibition walls. The exhibition walls include vertical frame posts joined to upper horizontal frame elements and lower horizontal frame elements, said vertical frame posts being wider than the horizontal frame elements in a direction perpendicular to a main geometrical face plane of the exhibition walls. The invention is especially characterized in multiple vertical graphics mounting bars provided with:

- attachment means for graphics display sheets and
- coupling means for releasable attachment to said upper horizontal frame elements and said lower horizontal frame elements.

Said vertical mounting bars bridges a width gap between the vertical frame posts and the horizontal frame elements in said perpendicular direction, allowing the graphics display sheets to form a flush frameless graphics display surface overlapping the vertical frame posts of the exhibition wall.

**[0004]** In an advantageous embodiment of the invention, each vertical graphics mounting bar has an inner planar stabilising surface for abutting corresponding side surfaces on the upper horizontal frame elements and said lower horizontal frame elements.

**[0005]** In a favourable embodiment, each vertical graphics mounting bar has an outer planar stabilising surface for abutting and supporting the graphics display sheets.

**[0006]** In one embodiment of the invention, the attachment means include magnets arranged along each vertical graphics mounting bar. The magnets are mounted flush with the outer planar stabilising surface of the vertical graphics mounting bar.

**[0007]** In another embodiment of the invention, the attachment means include magnetic strips arranged along the vertical graphics mounting bars. The magnet strips are mounted flush with the outer planar stabilising surface of the vertical graphics mounting bar.

**[0008]** In yet another embodiment of the invention, the attachment means include hook-and-loop strips arranged along the vertical graphics mounting bars.

**[0009]** In a favourable embodiment, the coupling means include an upper hook member and a lower hook member arranged at the upper end and lower end, respectively, of each vertical graphics mounting bar. These hook members are adapted to engage longitudinal grooves in the upper horizontal frame elements and lower horizontal frame elements. Preferably, the upper hook member is movably arranged and spring-biased at the upper end of the vertical graphics mounting bar in a direction towards the lower end of the same.

**[0010]** In a variant embodiment of the invention, two vertical graphics mounting bars are joined together at a mutual distance from each other corresponding to or exceeding the horizontal width of a vertical frame post by means of a common bridging plate. The bridging plate is arranged to straddle a vertical frame post and provide an extended outer planar stabilising surface for graphics display sheets.

**[0011]** Further advantages and advantageous features of the invention are disclosed in the following description and in the dependent claims.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0012]** With reference to the appended drawings, below follows a more detailed description of embodiments of the invention cited as examples.

Fig. 1 shows an existing metal framed exhibition wall section with multiple recessed panels before

conversion with the add-on graphics display system according to the invention.

Fig. 2 shows the metal framed exhibition wall section with four releasably attached vertical graphics mounting bars according to the invention.

Fig. 3 shows the metal framed exhibition wall section fully converted with two graphics display sheets magnetically attached to the four vertical graphics mounting bars seen in Fig. 2.

Fig. 4 shows the metal framed exhibition wall section fully converted with a single broad graphics display sheet magnetically attached to the four vertical graphics mounting bars seen in Fig. 2.

Fig. 5 shows a broken top view of a fully converted metal framed exhibition wall with graphics display sheets magnetically attached to the four vertical graphics mounting bars.

Fig. 6 shows a broken cross-sectional view of a vertical graphics mounting bar and a section of graphics display sheet taken along section VI-VI in Fig. 2. The graphics display sheet is attached with attachment means according to a first embodiment of the invention, using multiple magnets applied along the mounting bar.

Fig. 7 shows a broken cross-sectional view of a vertical graphics mounting bar and a section of graphics display sheet attached with magnetic attachment means according to a second embodiment of the invention, using an elongated magnetic strip applied along the mounting bar.

Fig. 8 shows a broken cross-sectional view of a vertical graphics mounting bar with coupling means, taken along section VIII-VIII in Fig. 2.

Fig. 9 Finally shows a broken top view of an alternative embodiment of the invention, where two vertical graphics mounting bars are joined together at a mutual distance from each other corresponding to or exceeding the horizontal width of a vertical frame post by means of a common bridging plate.

## DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS OF THE INVENTION

**[0013]** The invention will now be described with reference to embodiments of the invention and with reference to the appended drawings. As mentioned above the invention concerns an exhibition wall add-on graphics display system for improved graphics display on existing metal framed exhibition walls 1. With initial reference to Fig. 1, this figure shows an example of such an existing metal framed exhibition wall 1 with multiple recessed panels 2 before conversion with the add-on graphics display system according to the invention. By the term "existing" is meant that these exhibition walls are normally already in place or assembled on trade shows or similar exhibitions. Consequently, they do not form part of the invention in themselves. The exhibition wall 1 includes vertical frame posts 3 joined to upper horizontal frame elements 4 and lower horizontal frame elements 5. The vertical frame posts 3 are wider than the horizontal frame elements 4, 5 in a direction perpendicular to a main geometrical face plane of the exhibition walls 1 - i.e. the plane of the drawing sheet in Fig. 1. This will be shown in greater detail with reference to Fig. 5. Typically, the vertical frame posts 3 and the horizontal frame elements 4, 5 are made out of lightweight aluminium profiles suited for easy assembly. As can be seen in Fig. 1, in the existing exhibition wall design, printed graphics are limited - or interrupted - by the "framed" appearance given by several vertical frame posts 3 and the recessed panels 2. This limitation makes it impossible to create a desirable continuous graphics display on these widely used exhibition walls 1. Next, with reference to Fig. 2 through Fig. 9, the existing exhibition wall 1 will be converted by means of the add-on graphics display system for improved graphics display, eliminating said "framed" appearance.

**[0014]** In Fig. 2, four vertical graphics mounting bars 6 have been attached to the metal framed exhibition wall 1. The vertical graphics mounting bars 6 are preferably also made of lightweight aluminium profiles but may alternatively be made of other suitable materials such as steel, wood or plastic. They are provided with attachment means 7 for graphics display sheets 8 (which are not shown in Fig. 2 but are attached in the view shown in Fig. 3). The attachment means 7 will be further described with reference to Figs. 6 and 7 below. In the exemplifying embodiment shown in Fig. 2, the attachment means 7 include three magnets fixed along each vertical graphics mounting bar 6. Of course, the number of magnets may differ depending on specific wall dimensions. In an alternative embodiment, the attachment means 7 may include elongated magnetic strips as shown below with reference to Fig. 7. In yet another embodiment of the invention, the attachment means 7 may include hook-and-loop strips of the widely used Velcro®-type arranged along the vertical graphics mounting bars 6.

**[0015]** With further reference to Fig. 2, the vertical mounting bars 6 are provided with coupling means 9 for releasable attachment to the upper horizontal frame elements 4 and the lower horizontal frame elements 5.

**[0016]** In Fig. 3, the exhibition wall 1 is fully converted with two graphics display sheets 8 magnetically attached to the four vertical graphics mounting bars 6 seen in Fig. 2. Metal patches 10 - shown with hidden contour dotted lines - are placed on the back of the graphics display sheets 8 in positions corresponding to the magnetic attachment means (i.e. the magnets) on the vertical mount-

ing bars 6. As seen in the figure, the two graphics display sheets 8 together share a printed graphical ornamentation 11 - here represented by two jet aircraft by way of example only. The two graphics display sheets 8 may easily be adjusted both vertically and horizontally in order to obtain a perfect match between the two "halves" of the printed graphical ornamentation 11. The exhibition wall 1 now has an attractive, flush appearance with only a discrete dividing line 12 between the two mutually abutting graphics display sheets 8. The original "framed" appearance of the exhibition wall 1, as shown in Fig. 1, has thus been effectively eliminated by using the add-on graphics display system according to the invention.

**[0017]** Fig. 4 shows the exhibition wall section fully converted with a single broad graphics display sheet 8 magnetically attached to the four vertical graphics mounting bars 6 seen in Fig. 2. In this embodiment of the invention, the printed ornamentation 11 may be printed in its entirety on the single broad graphics display sheet 8, eliminating the need for pattern matching and a dividing line as shown in Fig. 3.

**[0018]** In Fig. 5, the invention is illustrated in a broken top view of a fully converted metal framed exhibition wall 1 with graphics display sheets 8 attached to the four vertical graphics mounting bars.6. The vertical mounting bars 6 all bridge a width gap G between the vertical frame posts 3 and the horizontal frame elements 4, 5 in a direction perpendicular to a main geometrical face plane of the exhibition walls 1 as shown in Fig. 5. This feature allow the graphics display sheets 8 to form a flush frameless graphics display surface overlapping the vertical frame posts 3 and the recessed panels 2 of the exhibition wall 1. The recessed panels 2 are not visible in the cross-sectional view of Fig. 5, but they extend centrally along the horizontal frame elements 4, 5. In some cases the recessed panels 2 may not be mounted at all if the add-on graphics display system when the add-on graphics display system according to the invention is used. However, the recessed panels 2 are often left in position in order to be visible on the reverse side of the exhibition wall 1 which is facing another trade show exhibitor. The add-on graphics display system according to the invention is shown in Fig. 5 as applied only on one side of the exhibition wall 1. It may however also be applied on the reverse side of the exhibition wall 1, i.e. on the left side of the exhibition wall in Fig. 5.

**[0019]** Each vertical graphics mounting bar 6 has an inner planar stabilising surface 13 for abutting corresponding side surfaces 14 on the upper horizontal frame elements 4 and said lower horizontal frame elements 5. The purpose of the inner planar stabilising surface 13 is to assure that the vertical graphics mounting bar 6 is securely fixed to the side surfaces 14 without any tendency to twist or rotate sideways, thus avoiding any potential misalignment of the graphics display sheets 8. Furthermore, each vertical graphics mounting bar 6 has an outer planar stabilising surface 15 for abutting and supporting the graphics display sheets 8. This outer planar stabilisation surface 15 ensures a flat alignment of the graphics display sheets 8.

**[0020]** Fig. 6 shows a broken cross-sectional view of a vertical graphics mounting bar 6 and a section of graphics display sheet 8 taken along section VI-VI in Fig. 2. The graphics display sheet 8 is attached with attachment means 7 according to a first exemplifying embodiment of the invention, using multiple magnets applied along the mounting bar 6. In Fig. 6, such an attachment means 7 in the form of a magnet is mounted flush with the outer planar stabilising surface 15 of the vertical graphics mounting bar 6. To this end, the vertical graphics mounting bar 6 has a through-hole 16 for the magnet which allows the magnet to directly contact the metal patch 10 which applied to the graphics display sheet 8, preferably by means of a suitable adhesive. This direct contact is important, since any gap between the magnet and the metal patch 10 results in an undesired decrease in magnetic holding force on the graphics display sheet 8. The magnet is secured to the vertical graphics mounting bar 6 by means of a mounting screw 17 as seen in the figure. Alternatively, the magnet may be attached with rivets or similar fastening means (not shown). The magnets are preferably neodymium magnets or magnets with similar magnetic properties.

**[0021]** Fig. 7 shows a broken cross-sectional view of a vertical graphics mounting bar 6 and a section of graphics display sheet 8 attached with attachment means 7 according to a second embodiment of the invention, using an elongated magnetic strip applied along the mounting bar 6. For the same reason as in the first embodiment described with reference to Fig. 6, the magnetic strips in Fig. 7 are mounted flush with the outer planar stabilising surface 15 of the vertical graphics mounting bar 6. As seen in the figure, the magnetic strips are seated in a longitudinal recess 18 formed in the vertical graphics mounting bar 6, and may be glued in said recess 18 by means of a suitable adhesive.

**[0022]** The embodiments shown in both Fig. 6 and Fig. 7 may be altered by replacing the metal patches 10 with magnet patches or inserts (not shown) and the magnets and magnetic strips with metal inserts or metal strips in order to still obtain a magnetic attraction force between the graphics display sheets 8 and the vertical graphics mounting bars 6.

**[0023]** In yet another embodiment of the invention, the attachment means 7 may instead include hook-and-loop strips of the widely used Velcro®- type arranged along the vertical graphics mounting bars 6. In such an embodiment, one hook strip may replace the magnetic strip in Fig. 6 and a loop-strip mounted on the graphics display sheet 8 may replace the metal patch 10. Alternatively a broad hook-and-loop strip may be applied to the entire outer planar stabilising surface 15 of the vertical graphics mounting bar 6 (not shown).

**[0024]** Fig. 8 shows a broken cross-sectional view of a vertical graphics mounting bar 6 with coupling means 9, taken along section VIII-VIII in Fig. 2. The coupling

means 9 include an upper hook member 19 and a lower hook member 20 arranged at the upper end and lower end, respectively, of each vertical graphics mounting bar 6. The lower hook member 20 is not shown in Fig. 8. The hook members 19, 20 are adapted to engage longitudinal grooves 21 in the upper horizontal frame elements 4 and lower horizontal frame elements 5. The longitudinal grooves 21 are shown in the top view of Fig. 5. In the shown exemplifying embodiment, the upper hook member 19 is movably arranged and spring-biased by means of a helical spring 22 at the upper end of the vertical graphics mounting bar 6 in a direction towards the lower end of the same, i.e. towards the bottom end of the drawing sheet of Fig. 8. The corresponding lower hook member 20, which is not shown in Fig. 8, is in this embodiment fixedly attached to the lower end of the vertical graphics bar 6. The helical spring 22 is attached at its lower end to a tappet 23 extending through the hollow vertical graphics bar 6 and secured by nuts 24, as seen in Fig. 5. Alternatively, the tappet 23 may be part of a bolt which is secured by a single nut 24 (not shown). At its upper end, the helical spring 22 is attached to spring attachment holes 25 formed in a sliding frame 26 which is integrated with the upper hook member 19. The sliding frame 26 is movably arranged within the vertical graphics bar 6 and is provided with longitudinal slots 27 for the tappet 23. The longitudinal slots 27 also limit the maximum extension of the sliding frame 26. In Fig. 8, the hook member 19 is shown in a retracted position, held by the helical spring 22. When mounted to the horizontal frame elements 4 as shown in Fig. 5, the upper hook member 19 is extended upwardly in the direction of the arrow 28 in Fig. 8 to an engaged position illustrated by dash-dotted lines, biased in the opposite direction by the helical spring 22, i. e. downwards in the figure.

**[0025]** In an alternative, not shown embodiment of the invention, the lower hook member 20 may instead be movably arranged and spring biased in a direction towards the upper end of the vertical graphics bar 6. In such an alternative embodiment, the upper hook member 19 would instead be fixedly attached to the upper end of the vertical graphics bar 6.

**[0026]** Fig 9, finally shows a broken top view of an alternative embodiment of the invention, where two vertical graphics mounting bars 6 are joined together at a mutual distance from each other corresponding to or exceeding the horizontal width W of a vertical frame post by means of a common bridging plate 29. The common bridging plate 29 is fixedly attached to the vertical graphics bars 6 and arranged to straddle a vertical frame post 3 and provide an extended outer planar stabilising surface 30 for graphics display sheets 8.

**[0027]** It is to be understood that the present invention is not limited to the embodiments described above and illustrated in the drawings and a skilled person will recognize that many changes and modifications may be made within the scope of the appended claims. For example, the attachment means 7 for the graphics display sheets 8 may include other fastening means than the magnets and hook-and-loop examples described above. The attachment means may thus include other fastening solutions such as fastening plugs, plug-and key-hole solutions or simple double-sided adhesive strips, only to mention a few examples.

LIST OF REFERENCE NUMERALS USED IN THE DESCRIPTION AND IN THE ACCOMPANYING DRAWINGS:

**[0028]**

1. Existing metal framed exhibition wall
2. Multiple recessed panels
3. Vertical frame posts
4. Upper horizontal frame elements
5. Lower horizontal frame elements
6. Vertical graphics mounting bars
7. Attachment means for graphics display sheets
8. Graphics display sheets
9. Coupling means for releasable attachment to the horizontal frame elements
10. Metal patches
11. Printed graphical ornamentation
12. Dividing line between two mutually abutting graphics display sheets
13. Inner planar stabilising surface
14. Side surfaces on the horizontal frame elements
15. Outer planar stabilising surface supporting the graphics display sheets
16. Through-hole for magnet
17. Mounting screw for magnet
18. Longitudinal recess for mounting magnetic strip
19. Upper hook member
20. Lower hook member
21. Longitudinal groove in horizontal frame elements
22. Helical spring
23. Tappet
24. Nuts
25. Spring attachment holes
26. Sliding frame
27. Longitudinal slot in sliding frame
28. Directional arrow
29. Common bridging plate between two vertical graphics bars
30. Extended outer planar stabilising surface

W: Width of a vertical frame post

G: Width gap between the vertical frame posts and the horizontal frame bars

## Claims

1. Exhibition wall add-on graphics display system for improved graphics display on existing metal framed exhibition walls (1), said exhibition walls (1) including vertical frame posts (3) joined to upper horizontal

frame elements (4) and lower horizontal frame elements (5), said vertical frame posts (3) being wider than the horizontal frame elements (4, 5) in a direction perpendicular to a main geometrical face plane of the exhibition walls (1), **characterized in** multiple vertical graphics mounting bars (6) provided with:

- attachment means (7) for graphics display sheets (8) and
- coupling means (9) for releasable attachment to said upper horizontal frame elements (4) and said lower horizontal frame elements (5),

said vertical mounting bars (6) bridging a width gap (G) between the vertical frame posts (3) and the horizontal frame elements (4, 5) in said perpendicular direction, allowing the graphics display sheets (8) to form a flush frameless graphics display surface overlapping the vertical frame posts (3) of the exhibition wall (1).

**2.** Exhibition wall add-on graphics display system according to claim 1, **characterized in that** each vertical graphics mounting bar (6) has an inner planar stabilising surface (13) for abutting corresponding side surfaces (14) on the upper horizontal frame elements (4) and the lower horizontal frame elements (5).

**3.** Exhibition wall add-on graphics display system according to claim 1 or 2, **characterized in that** each vertical graphics mounting bar (6) has an outer planar stabilising surface (15) for abutting and supporting the graphics display sheets (8).

**4.** Exhibition wall add-on graphics display system according to claim 3, **characterized in that** the attachment means (7) include magnets arranged along each vertical graphics mounting bar (6), said magnets being mounted flush with the outer planar stabilising surface (15) of the vertical graphics mounting bar (6).

**5.** Exhibition wall add-on graphics display system according to claim 3, **characterized in that** the attachment means (7) include magnetic strips arranged along the vertical graphics mounting bars (6).

**6.** Exhibition wall add-on graphics display system according to claim 5, **characterized in that** the magnet strips are mounted flush with the outer planar stabilising surface (15) of the vertical graphics mounting bar (6).

**7.** Exhibition wall add-on graphics display system according to claim 3, **characterized in that** the attachment means (7) include hook-and-loop strips arranged along the vertical graphics mounting bars (6).

**8.** Exhibition wall add-on graphics display system according to any of the preceding claims, **characterized in that** the coupling means (9) include an upper hook member (19) and a lower hook member (20) arranged at the upper end and lower end, respectively, of each vertical graphics mounting bar (6), said hook members (19, 20) being adapted to engage longitudinal grooves (21) in the upper horizontal frame elements (4) and lower horizontal frame elements (5).

**9.** Exhibition wall add-on graphics display system according to claim 8, **characterized in that** the upper hook member (19) is movably arranged and spring-biased at the upper end of the vertical graphics mounting bar (6) in a direction towards the lower end of the same.

**10.** Exhibition wall add-on graphics display system according to any of the preceding claims, **characterized in that** two vertical graphics mounting bars (6) are joined together at a mutual distance from each other corresponding to or exceeding the horizontal width (W) of a vertical frame post (3) by means of a common bridging plate (29) arranged to straddle a vertical frame post (3) and provide an extended outer planar stabilising surface (29) for graphics display sheets (8).

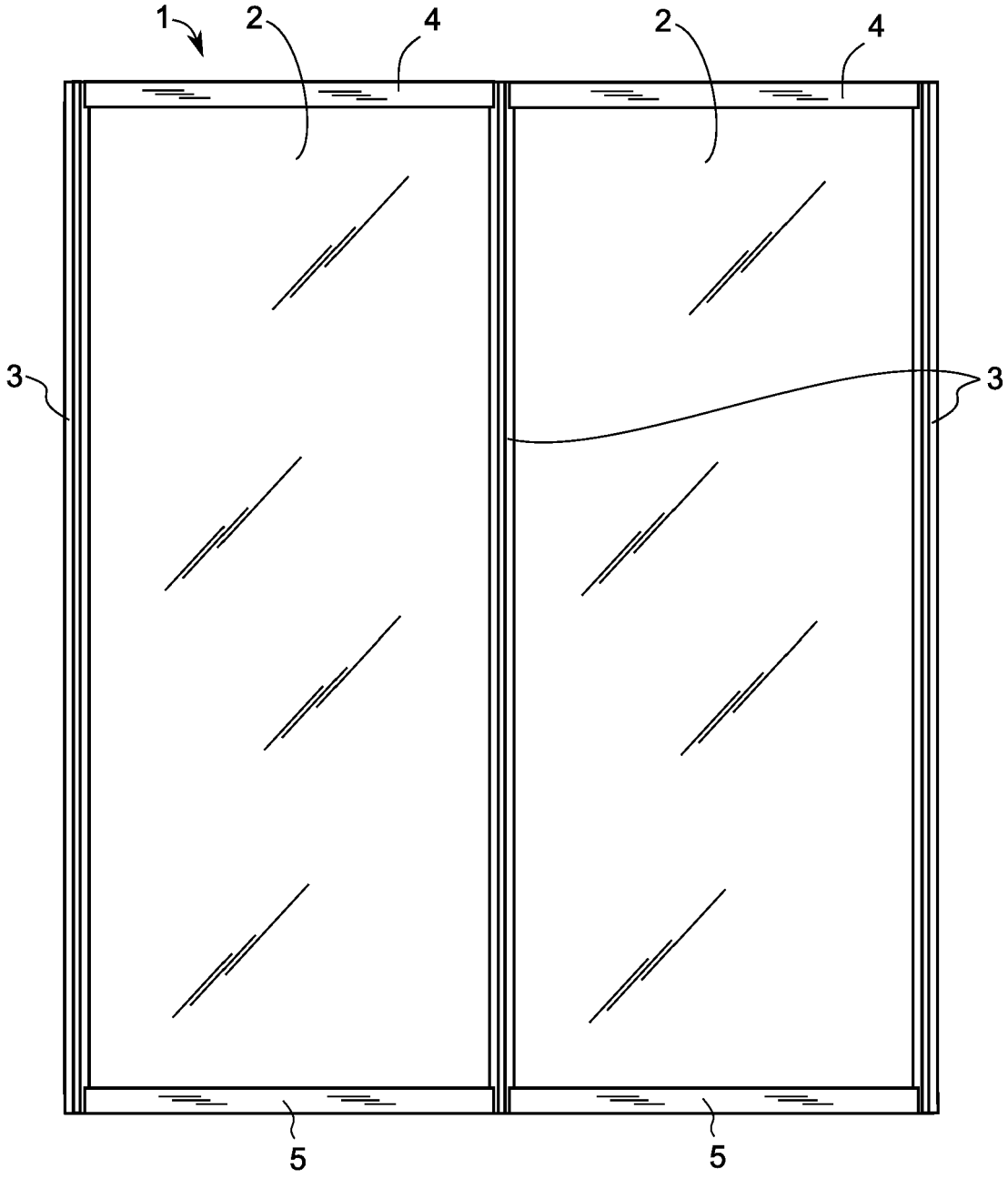


FIG. 1

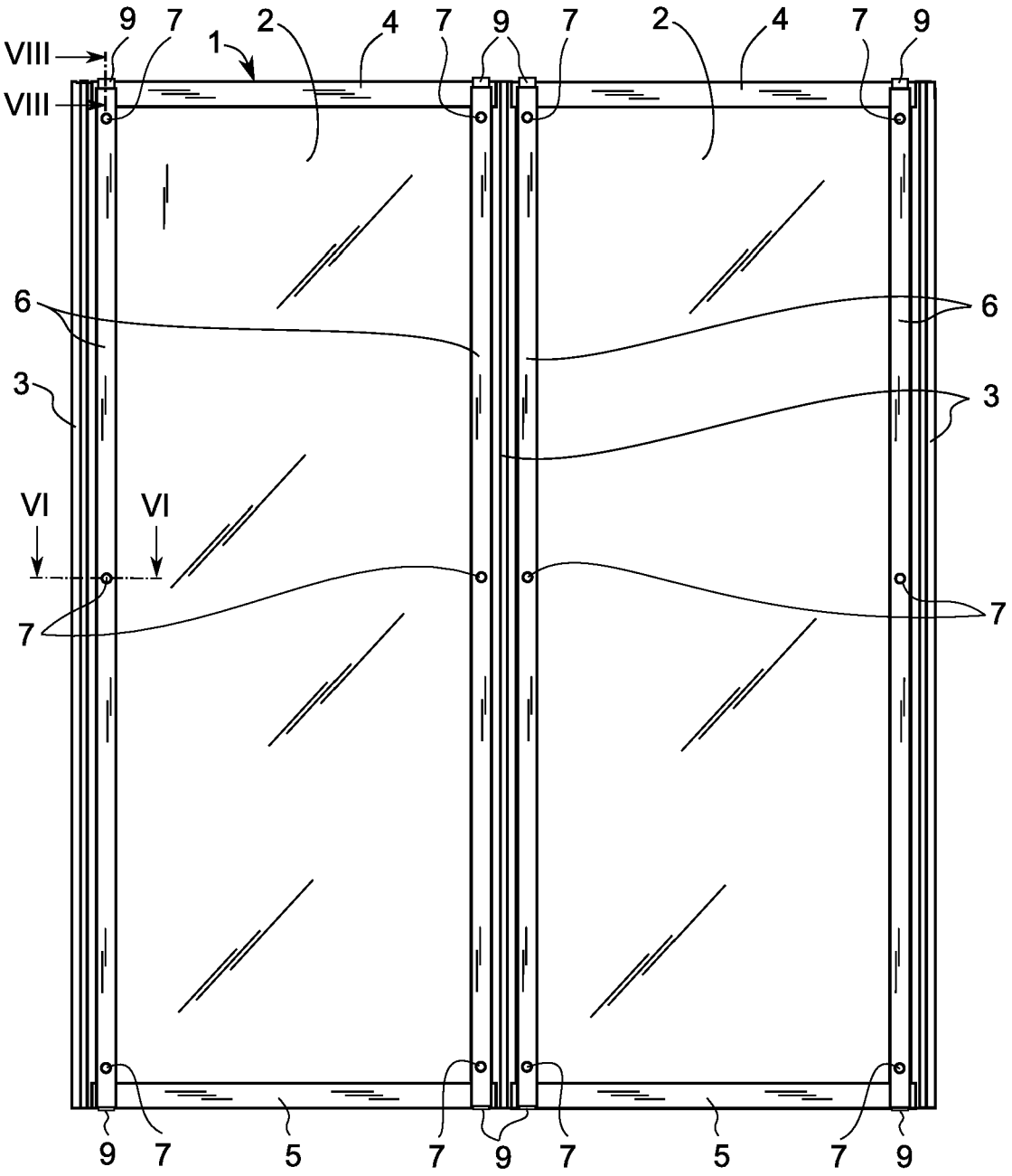


FIG. 2

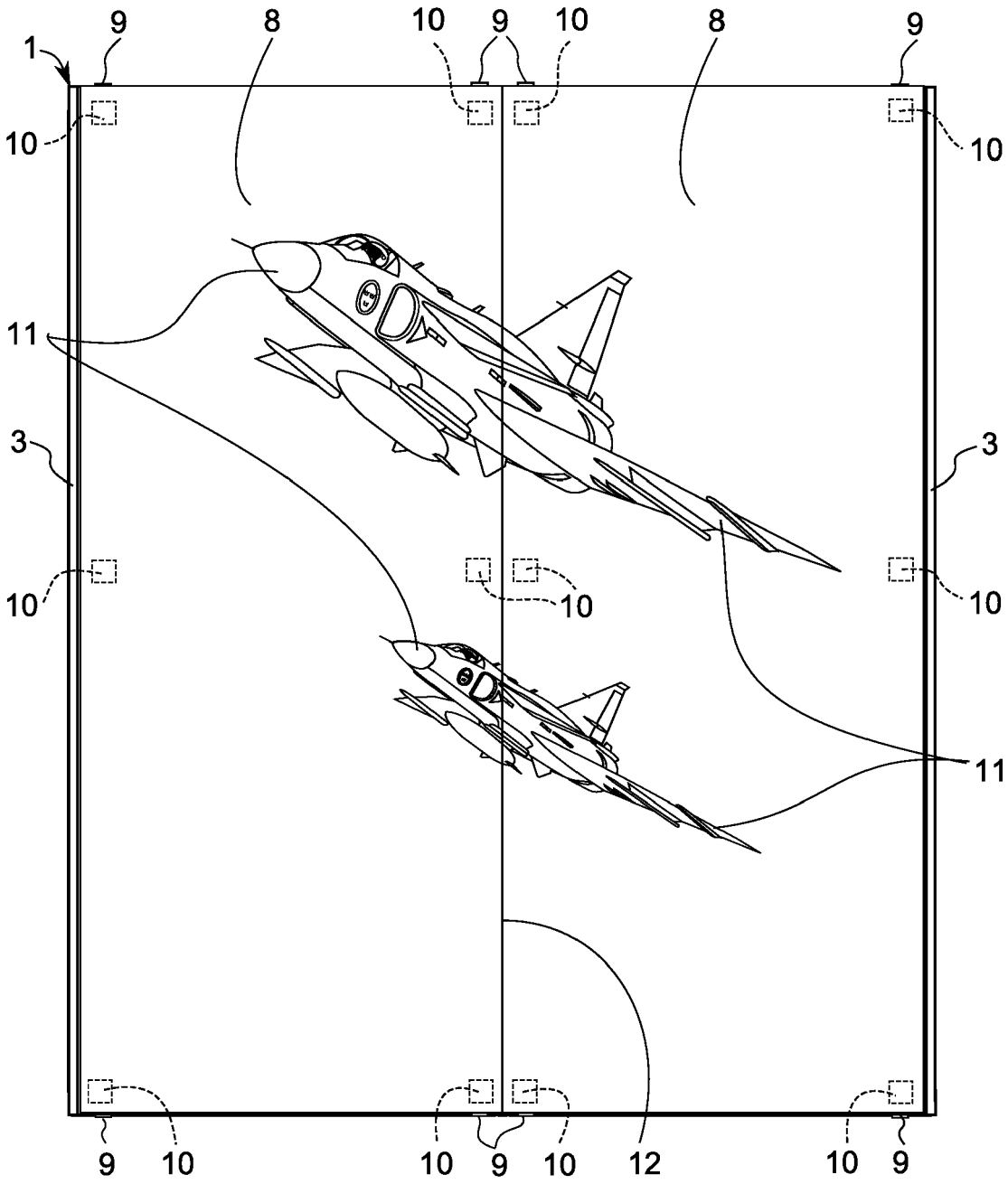


FIG. 3

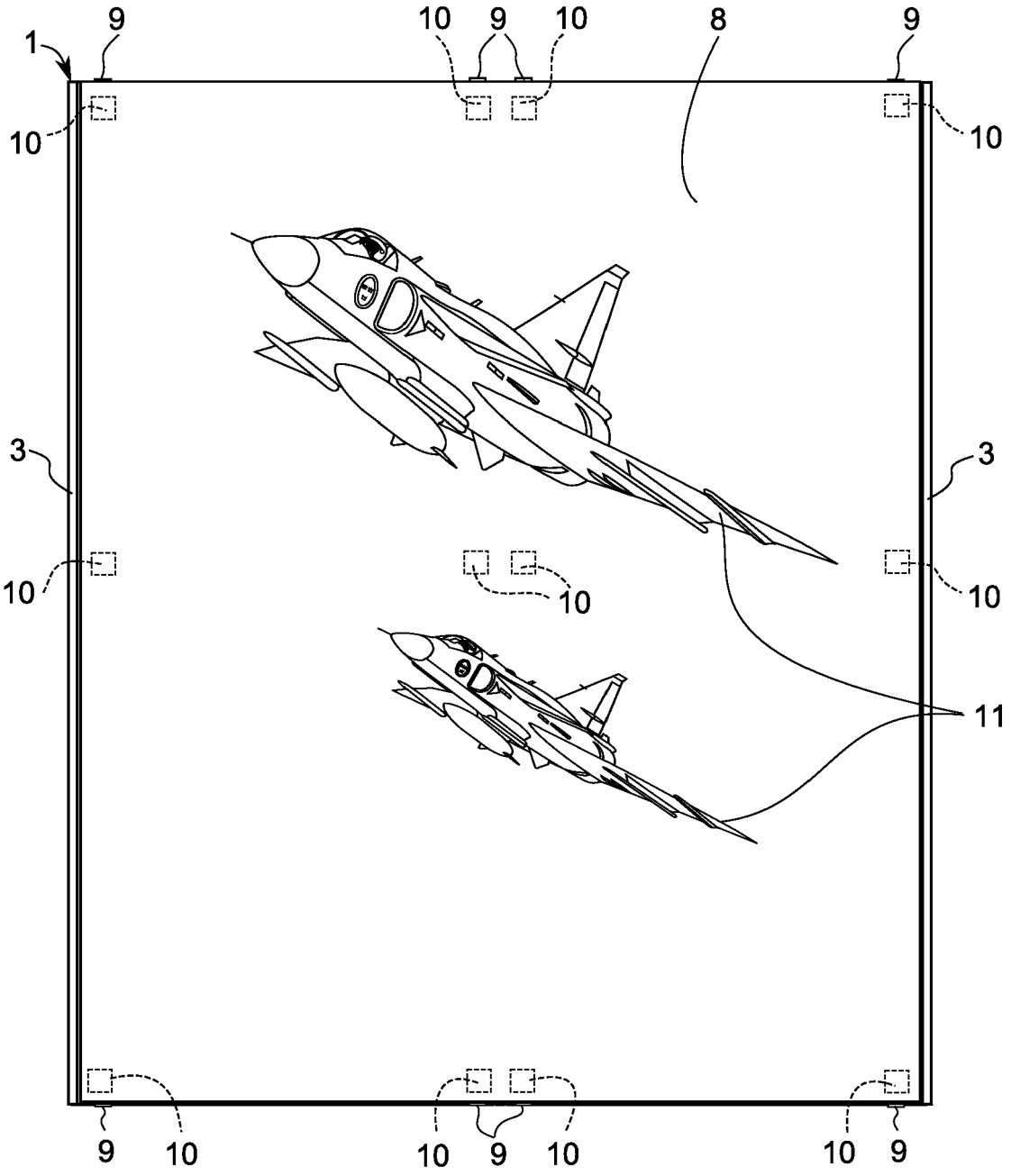


FIG. 4

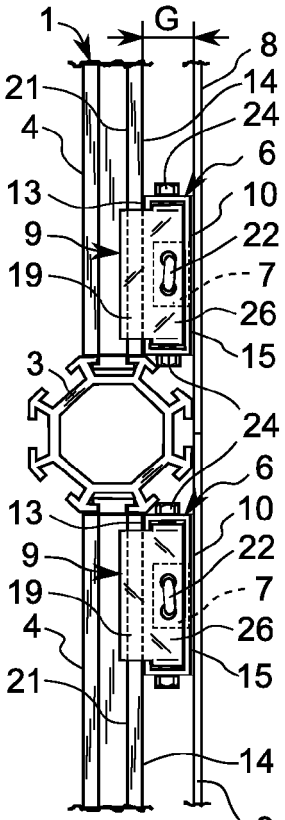


FIG. 5

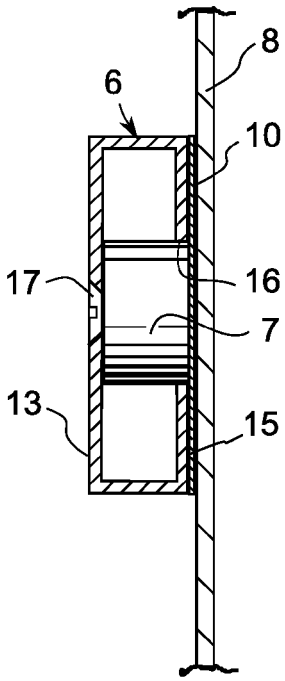


FIG. 6

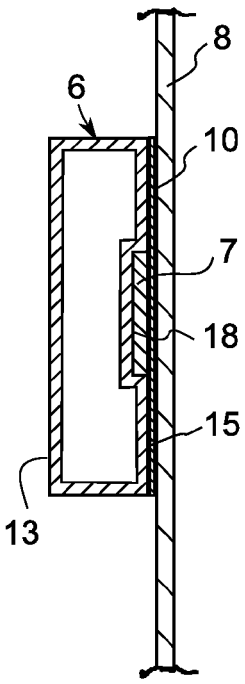


FIG. 7

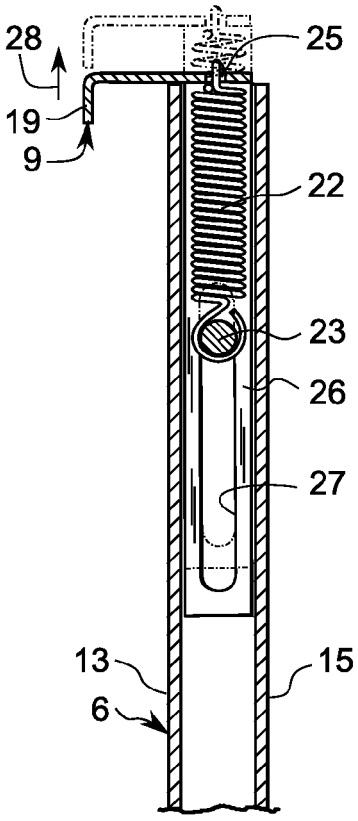


FIG. 8

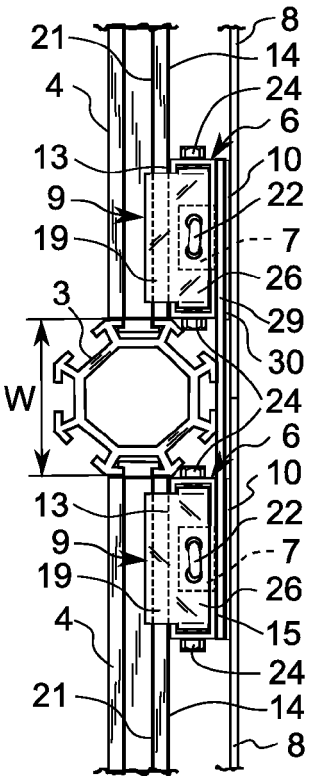


FIG. 9

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# EUROPEAN SEARCH REPORT

Application Number
EP 18 15 7289

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
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| Y | * paragraphs [0001], [0142] - [0147], | 7,10 | |
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TECHNICAL FIELDS SEARCHED (IPC)

G09F

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| The Hague | 19 June 2018 | Zanna, Argini |

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 15 7289

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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