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(54) **BORDERLESS FRAME FOR PHOTOGRAPHS, PRINTS AND THE LIKE, WITH SIMPLIFIED PACKAGING**

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VEREINFACHTER VERPACKUNG

CADRE SANS BORD POUR PHOTOGRAPHIES, IMPRIMÉS ET ANALOGUES À EMBALLAGE
SIMPLIFIÉ

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Description

Technical Field

[0001] The present invention relates to a borderless frame for photographs, prints and the like, with simplified packaging.

Background Art

[0002] As is known, so-called borderless frames are currently commercially available and generally are provided by means of a panel-like backing element, which is typically made of cellulose-based wood-like material, known commercially by the trade name Masonite®, on which a pane of optically transparent material, which can be made of glass or plastics, is superimposed.

[0003] In order to couple the transparent pane to the panel-like backing element, elastic clips are generally used which have an end that can be coupled to the edge of the transparent pane and another end that enters with a snap action in millings provided parallel to the edge of the panel-like element.

[0004] Such embodiment allows to couple easily the transparent pane and the backing element, but has exposed corners, and therefore during packaging for sale it is necessary to provide blocks made of expanded material that have the function of protecting the corner regions to avoid damage thereto.

[0005] Another drawback of the solution described above further consists in that it is necessary to provide millings, therefore with significant machining times; such millings must be performed with great precision in order to allow correct operation of the elastic clips that retain the glass pane. FR 1 121 210 A discloses another type of borderless frame according to the preamble of claim 1.

Disclosure of the Invention

[0006] The aim of the invention is to solve the problems described above by providing a borderless frame for photographs, prints and the like with simplified packaging, which allows to protect the corners of the frame without having to resort to the use of blocks of expanded material, which are moreover an element that requires subsequent disposal.

[0007] Within this aim, an object of the invention is to provide a frame in which the corners are not accessible, consequently having the advantage of better complying with accident prevention regulations.

[0008] Another object of the present invention is to provide a borderless frame for photographs, prints and the like with simplified packaging which, thanks to its particular constructive characteristics, is capable of giving the greatest assurances of reliability and safety in use.

[0009] Still another object of the present invention is to provide a borderless frame for photographs, prints and the like with simplified packaging that can be obtained

easily starting from commonly commercially available elements and materials and is also competitive from a merely economical standpoint.

[0010] This aim, and these and other objects that will become better apparent hereinafter are achieved by a borderless frame for photographs, prints and the like with simplified packaging according to claim 1.

Brief Description of the Drawings

[0011] Further characteristics and advantages of the present invention will become better apparent from the description of a preferred but not exclusive embodiment of a borderless frame for photographs, prints and the like, with simplified packaging, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is an exploded perspective view of a borderless frame;

Figure 2 is a perspective view of a borderless frame; Figure 3 is a perspective view of the detail of an angular bracket-like body;

Figure 4 is an exploded view, taken from the rear, of the angular bracket-like body;

Figure 5 is a rear perspective view of the angular bracket-like body;

Figure 6 is a schematic perspective view of a large borderless frame with intermediate bracket-like bodies;

Figure 7 is a front perspective view of an intermediate bracket-like body;

Figure 8 is an exploded view of an intermediate bracket-like body, taken from the rear face;

Figure 9 is a perspective view of the intermediate bracket-like body taken from the rear part;

Figure 10 is a top plan view of the intermediate bracket-like body.

Ways of carrying out the Invention

[0012] With reference to the figures, the borderless frame for photographs, prints and the like, generally designated by the reference numeral 1, comprises a panel-like backing element 2, which can be made of any material deemed appropriate and typically is made of a material known commercially as Masonite®, mdf (medium-density fiberboard), and others.

[0013] The size of the panel-like backing element may be any according to the requirements.

[0014] A pane 3 made of optically transparent material is superimposed on the panel-like backing element 2 and can be made of glass, plastics and the like; it is optionally also possible to apply a mirror.

[0015] The peculiarity of the invention consists in that bracket-like bodies are provided which can be arranged so as to straddle the edge of the panel-like element 2 and of the pane 3 so as to firmly fasten together the panel-like element 2 and the pane 3 with the photograph, print

or the like arranged in the frame.

[0016] According to what is shown in Figures 1 to 5, there is at least one angular bracket-like body, generally designated by the reference numeral 10, which has front edges 11 arranged at right angles to each other and superimposed on the outer face of the transparent pane 3.

[0017] The edges 11 are associated with a central portion 12, which is arranged at right angles to the plane formed by the edges 11 and is connected to a rear edge 13, which lies substantially parallel to the edges 11.

[0018] The angular bracket-like body, which advantageously is made of optically transparent material, can be arranged so as to straddle the edge of the panel-like element 2 and of the pane 3 at the corner regions.

[0019] In order to make the coupling stable, there are means for fastening the bracket-like body 10 on the panel-like element 2, which are provided by means of a through seat 20 that is formed on the rear edge 13, in which it is possible to insert a fastening screw 21, which advantageously has an expanded head 22 for manual actuation, optionally provided with a cross-shaped recess 23 for actuation by means of a tool.

[0020] The fastening screw 21 has a tip 24 which in practice engages the panel-like backing element 2, achieving both the locking of the angular bracket-like body on the frame and the mutual fastening between the pane 3 retained by the front edges 11 and the panel-like backing element 2, which is firmly pressed.

[0021] On the rear edge 13 there is at least one contact protrusion 30, which is laterally adjacent to the fastening screw 21 and is designed to define a wall contact plane, such that the head of the screw does not touch the wall.

[0022] This refinement is also useful during packaging, since it is possible to superimpose the borderless frames without danger of damage, because the head of the screw does not protrude.

[0023] With the described arrangement, the angular bracket-like bodies, besides acting as a frame assembly element, also perform a packaging function, since they protect adequately the corner region; therefore, during packaging it is not necessary to use the blocks of expanded material, as typically provided in the solutions of the background art, but a heat-shrink sheet is sufficient to protect the frame adequately.

[0024] It should be added to the above that, in the case of large frames or if one wishes to provide a borderless frame with free corners, it is possible to use intermediate bracket-like bodies, generally designated by the reference numeral 40, which have an elongated shape and a U-shaped transverse cross-section, so as to straddle a straight portion of the edges; the same reference numerals as the body 10 are used for the parts that constitute the body 40.

[0025] In the specific example, Figure 2 shows a frame in which, in addition to the angular bracket-like bodies, two intermediate bracket-like bodies have been arranged on the long sides, but it is of course also possible to provide a frame in which the connection between the panel-

like backing element and the transparent pane is provided by utilizing a plurality of intermediate bracket-like bodies arranged on the respective sides.

[0026] From what has been described above it is evident that the invention achieves the proposed aim and objects, and in particular the fact is stressed that by using the angular bracket-like bodies it becomes possible to provide a borderless frame in which packaging is simplified drastically, since protection of the corners is provided directly by the elements that constitute the connection between the panel-like backing element and the pane made of optically transparent material.

[0027] Another important aspect of the invention further consists in that the frame can be assembled without using tools of any kind.

[0028] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0029] 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. A borderless frame (1) for photographs, prints and the like with simplified packaging, comprising a panel-like backing element (2) on which a pane (3) of optically transparent material is superimposed, at least one angular bracket-like body (10) that can be arranged so as to straddle the edge of said superimposed panel-like backing element (2) and pane (3) made of optically transparent material, means (20, 21) being further provided for fastening said angular bracket-like body (10) on said panel-like backing element (2), said fastening means (20, 21) comprising at least one through seat (20) formed on a rear edge (13) of said bracket-like body (10), the fastening means (20, 21) further comprising a fastening screw (21) being insertable in said through seat (20) and being engageable with said panel-like backing element (2), the tip (24) of the screw engaging the backing element (2), **characterized in that** it comprises, on said rear edge (13), at least one contact protrusion (30) that is laterally adjacent to said fastening screw, said at least contact protrusion (30) forms a wall contact surface that is further spaced from said panel-like backing element (2) than the head (22) of the fastening screw (21).
2. The borderless frame according to claim 1, **characterized in that** said at least one angular bracket-like body (10) is made of optically transparent material.

3. The borderless frame according to claim 1, **characterized in that** said angular bracket-like body (10) comprises front edges (11) which are arranged mutually at right angles and can be superimposed at the corner region on the outer face of said pane (3) made of optically transparent material, said front edges (11) being associated with a central portion (12) arranged at right angles to the plane formed by said front edges (11) and connected to said rear edge (13) that lies substantially parallel to said front edges (11).
4. The borderless frame according to claim 1, **characterized in that** said fastening screw (21) has an enlarged head (22) for manual actuation.
5. The borderless frame according to claim 4, **characterized in that** said head (22) of said fastening screw (21) has a cross-shaped recess (23) for actuation by means of a tool.

Patentansprüche

1. Ein randloser Rahmen (1) für Fotografien, Ausdrucke und dergleichen mit vereinfachter Verpackung, der ein tafelfartiges Rückenelement (2) umfasst, auf das eine Scheibe (3) aus optisch durchlässigem Material gelegt wird, mindestens einen winkligen klammerartigen Körper (10), der so angeordnet werden kann, dass er die Kante des darüber gelegten tafelfartigen Brückenelements (2) und die Scheibe (3) aus optisch transparentem Material überspannt, wobei weiter Mittel (20, 21) zur Befestigung des winkligen klammerartigen Körpers (10) an dem tafelfartigen Rückenelement (2) bereitgestellt sind und die Befestigungsmittel (20, 21) mindestens einen durchgehenden Sitz (20) umfassen, der an einer hinteren Kante (13) des klammerartigen Körpers (10) geformt ist, wobei die Befestigungsmittel (20, 21) weiter eine Befestigungsschraube (21) umfassen, die in den durchgehenden Sitz (20) einsetzbar ist und in das tafelfartige Rückenelement (2) eingreifen kann, wobei die Spitze (24) der Schraube in das Brückenelement (2) eingreift, **dadurch gekennzeichnet, dass** er an der hinteren Kante (13) mindestens einen Kontaktvorsprung (30) umfasst, der seitlich an die Befestigungsschraube angrenzt, wobei der mindestens eine Kontaktvorsprung (30) eine wandkontaktfläche bildet, die weiter von dem tafelfartigen Rückenelement (2) beabstandet ist als der Kopf (22) der Befestigungsschraube (21).
2. Der randlose Rahmen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der mindestens eine winklige klammerartige Körper (10) aus optisch durchlässigem Material besteht.

3. Der randlose Rahmen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der winklige klammerartige Körper (10) Vorderkanten (11) umfasst, die in rechten Winkeln zueinander angeordnet sind und über den Eckbereich an der Außenfläche der Scheibe (3) aus optisch durchlässigem Material gelegt werden können, wobei die Vorderkanten (11) mit einem zentralen Anschnitt (12) verbunden sind, der in rechten Winkeln zu der Ebene angeordnet ist, die von den Vorderkanten (11) gebildet wird, und mit der hinteren Kante (13) verbunden ist, die im Wesentlichen parallel zu den Vorderkanten (11) liegt.
4. Der randlose Rahmen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die Befestigungsschraube (21) einen vergrößerten Kopf (22) zur manuellen Betätigung hat.
5. Der randlose Rahmen gemäß Anspruch 4, **dadurch gekennzeichnet, dass** der Knopf (22) der Befestigungsschraube (21) eine kreuzförmige Vertiefung (23) zur Betätigung mit Hilfe eines Werkzeugs hat.

Revendications

1. Cadre sans bord (1) pour photographies, imprimés et analogues à emballage simplifié, comprenant un élément de fond (2) de type panneau sur lequel est superposé un carreau (3) d'un matériau optiquement transparent, au moins un corps (10) de type support d'angle qui peut être disposé de façon à enjamber l'arête desdits élément de fond (2) de type panneau et carreau (3) fait d'un matériau optiquement transparent superposés, des moyens (20, 21) étant en outre prévus pour fixer ledit corps (10) de type support angulaire sur ledit élément de fond (2) de type panneau, lesdits moyens de fixation (20, 21) comprenant au moins une assise traversante (20) formée sur une arête postérieure (13) dudit corps (10) de type support, les moyens de fixation (20, 21) comprenant en outre une vis de fixation (21) qui est apte à être insérée dans ladite assise traversante (20) et qui est apte à être engagée dans ledit élément de fond (2) de type panneau, la pointe (24) de la vis s'engageant dans l'élément de fond (2), **caractérisé en ce qu'il** comprend, sur ladite arête postérieure (13), au moins une protrusion de contact (30) qui est adjacente latéralement à ladite vis de fixation, ladite au moins une protrusion de contact (30) forme une surface de contact de paroi qui est plus espacée dudit élément de fond (2) de type panneau que la tête (22) de la vis d'assemblage (21).
2. Cadre sans bord selon la revendication 1, **caractérisé en ce que** ledit au moins un corps (10) de type support d'angle est fait d'un matériau optiquement transparent.

3. Cadre sans bord selon la revendication 1, **caracté-
risé en ce que** ledit au moins un corps (10) de type
support d'angle comprend des arêtes antérieures
(11) qui sont disposées mutuellement à angle droit
et peuvent être superposées dans la région de coin
sur la face externe dudit carreau (3) fait d'un matériau
optiquement transparent, lesdites arêtes antérieu-
res (11) étant associées à une portion centrale (12)
disposée à angle droit par rapport au plan formé par
lesdites arêtes antérieures (11) et reliée à ladite arê-
te postérieure (13) qui s'étend substantiellement pa-
rallèlement par rapport auxdites arêtes antérieures
(11). 5 10
4. Cadre sans bord selon la revendication 1, **caracté-
risé en ce que** ladite vis de fixation (21) présente
une tête élargie (22) pour un actionnement manuel. 15
5. Cadre sans bord selon la revendication 4, **caracté-
risé en ce que** ladite tête (22) de ladite vis de fixation
(21) présente un évidement en croix (23) pour l'ac-
tionnement au moyen d'un outil. 20

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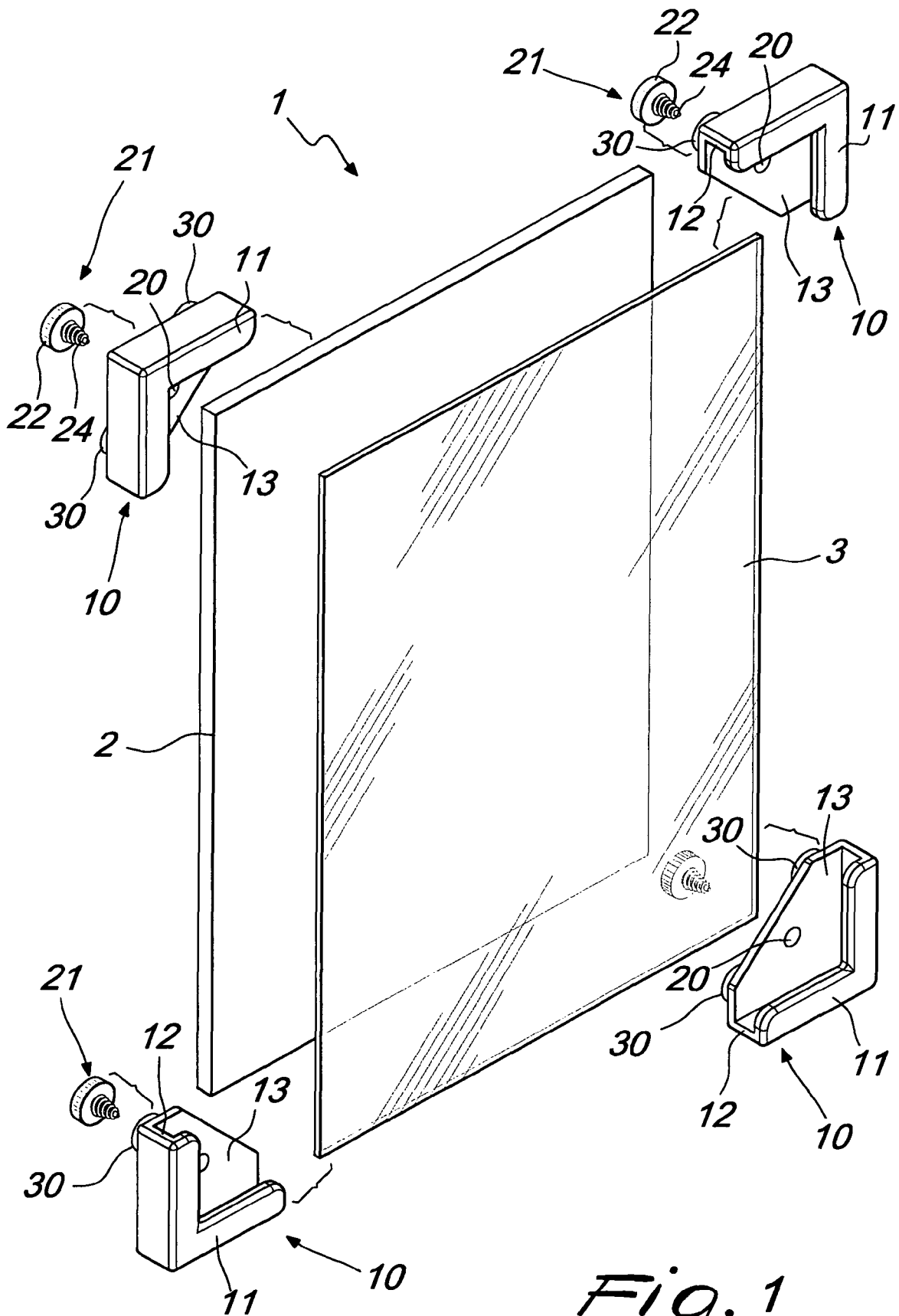
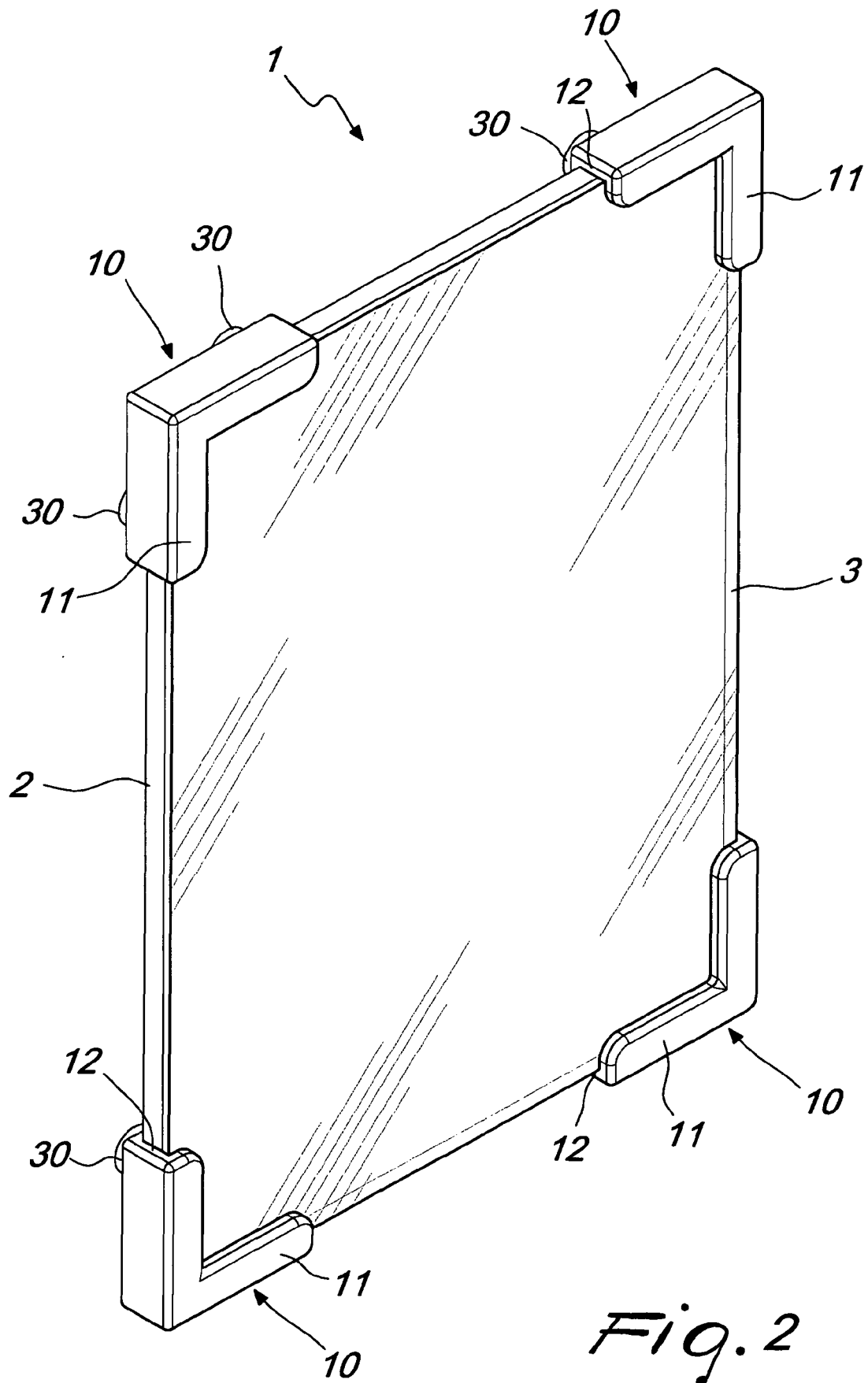


Fig. 1



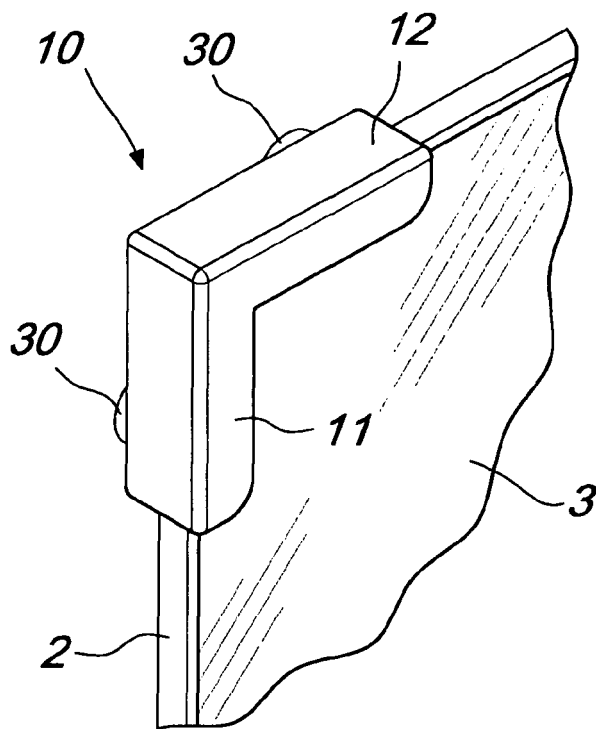


Fig. 3

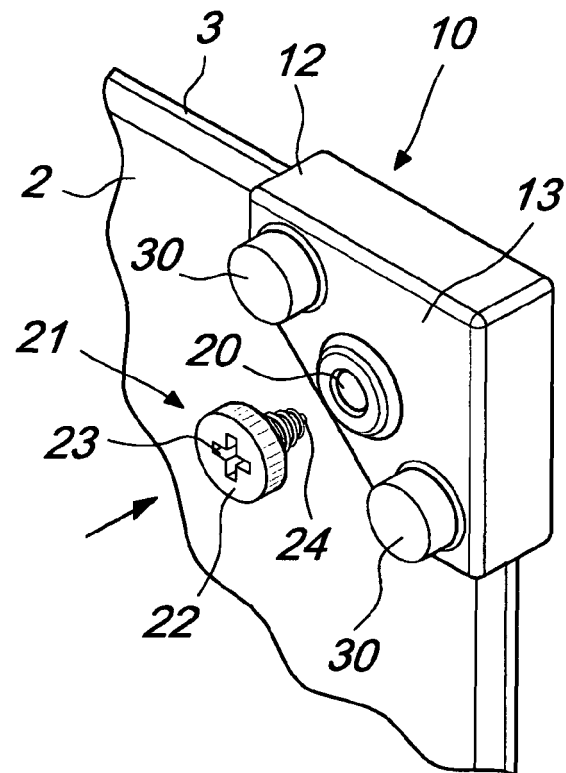


Fig. 4

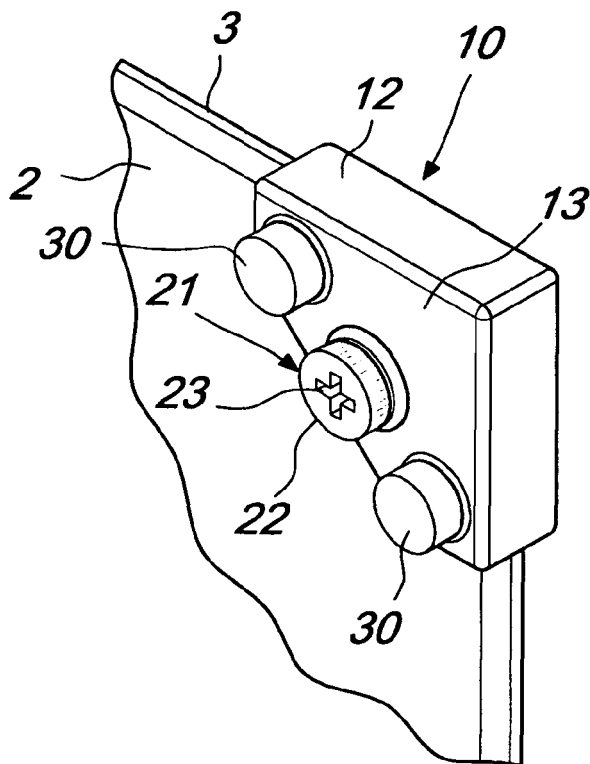
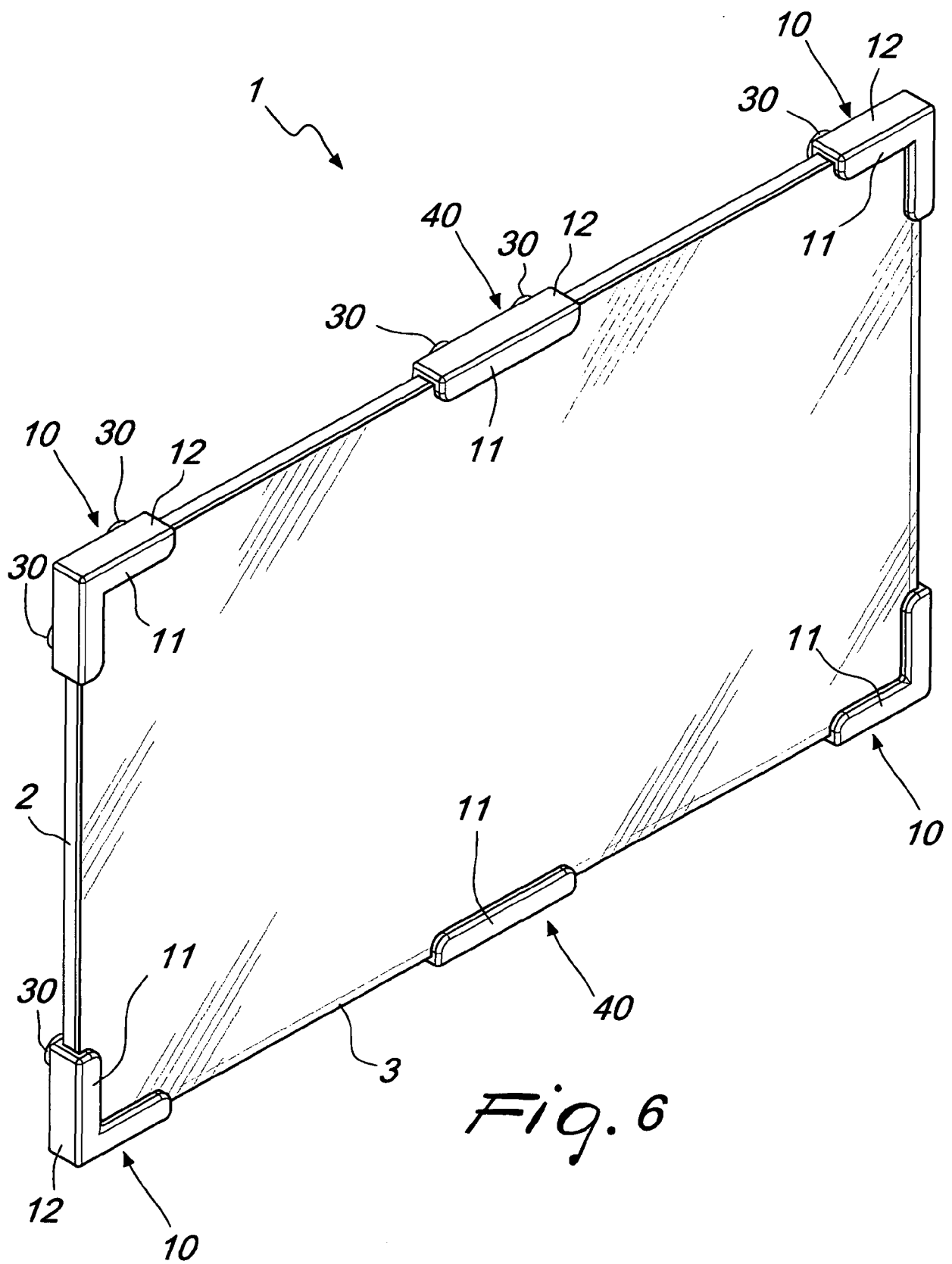


Fig. 5



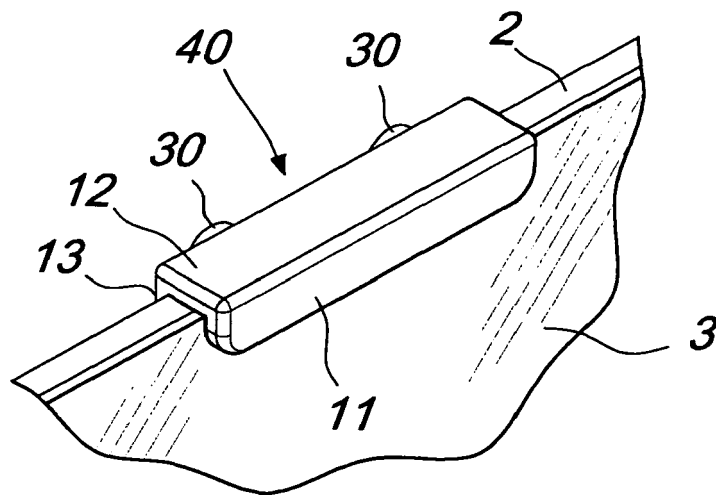


Fig. 7

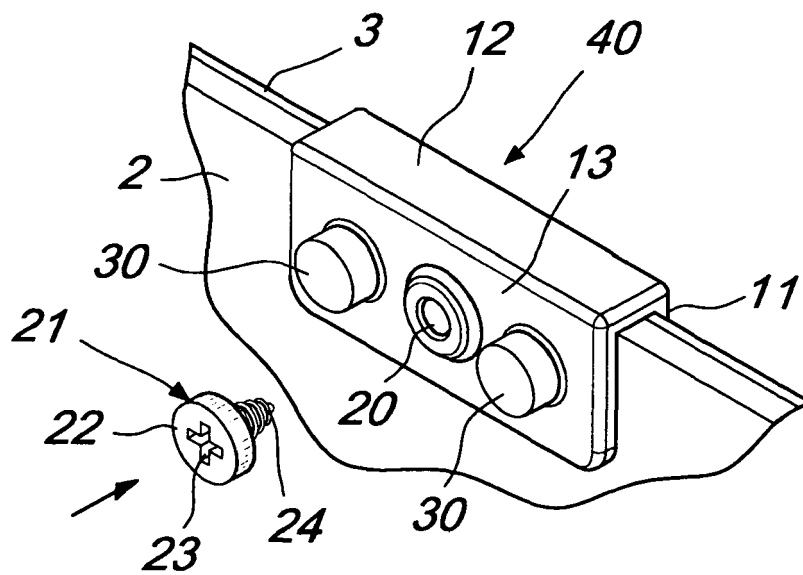


Fig. 8

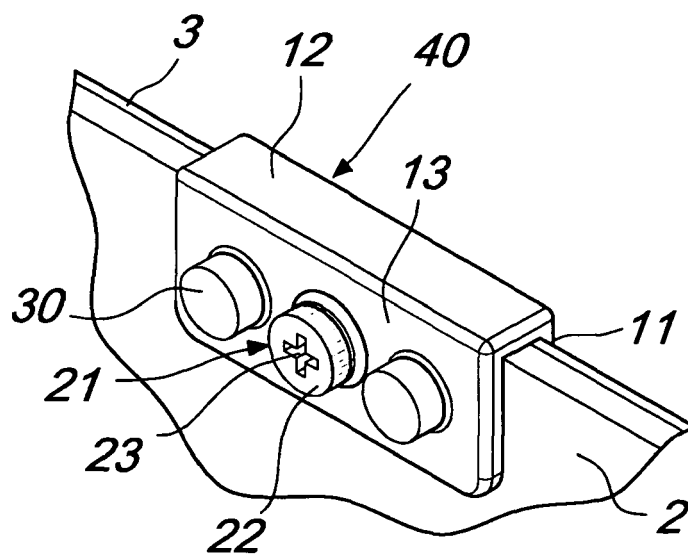


Fig. 9

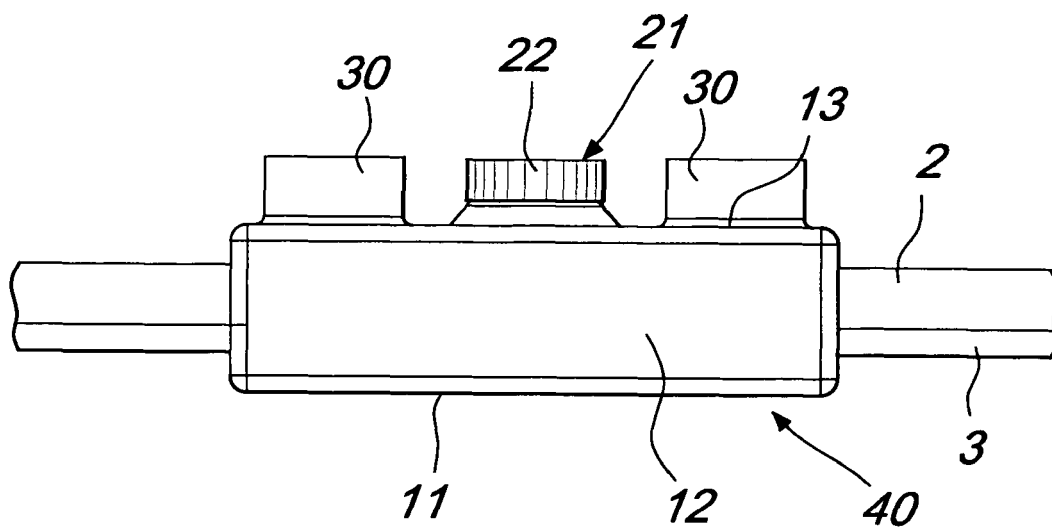


Fig. 10

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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