

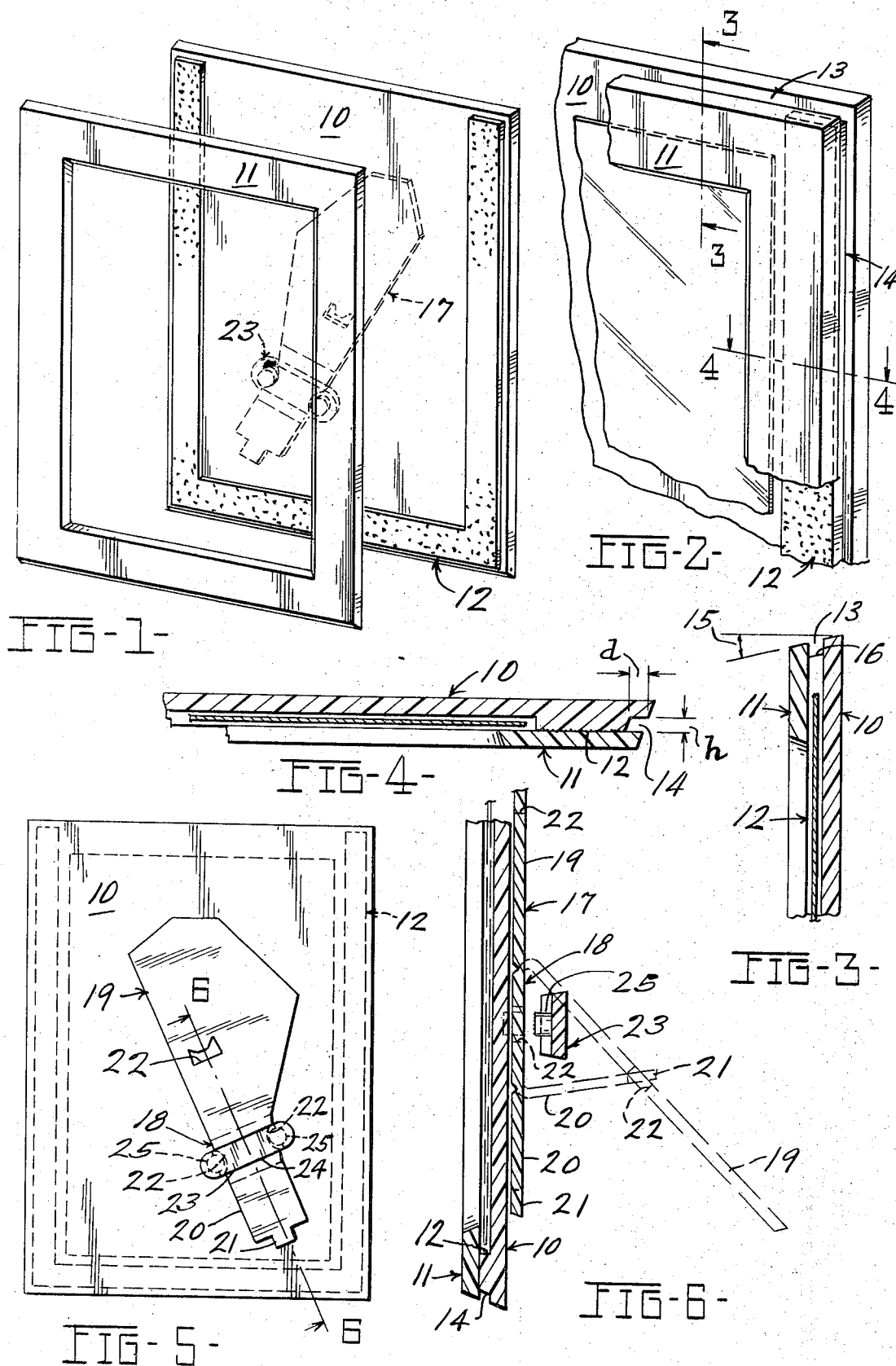
Sept. 24, 1974

M. J. WILLIAMS ET AL

3,837,987

DOCUMENT HOLDER

Filed Dec. 18, 1972



1

3,837,987

DOCUMENT HOLDER

Michael J. Williams, Toledo, Frederick C. Blome, Maumee, and Otto W. Hueter, Toledo, Ohio, assignors to Gross Manufacturing Corporation, Toledo, Ohio
Filed Dec. 18, 1972, Ser. No. 315,925

Int. Cl. B44f 7/00

U.S. Cl. 161—18

7 Claims

ABSTRACT OF THE DISCLOSURE

A document holder such as a photo mount having a rigid frame holder and a folding support is disclosed. The frame body includes a rigid back panel with a complementarily shaped frame over the front surface of the back panel with a spacer element therebetween to form a pocket for the document. The spacer element is a raised portion on the front face of the back panel which extends along three sides to provide a slot on the fourth side extending into the pocket. The spacer element is recessed inwardly from the sides of the adjacent frame and panel on all three sides and on its ends adjacent the fourth side to form a recess which has the external visual appearance of the slot. The folding foot is fabricated from a fatigue resistant thermoplastic and is secured to the back panel by a bridge piece fabricated from a thermoplastic material compatible with the back panel.

BACKGROUND OF THE INVENTION

This invention relates to the design and manufacture of an inexpensive document holder or photo mount. Inexpensive photo mounts fabricated from paper, cardboard or injection molded plastic materials are sold extensively in the trade as novelty items or as frames for small photographs or documents in lieu of more expensive wood-glass-metal frames. Such photo mounts heretofore utilized in the prior art have included a rectangular backing panel, a complementarily shaped open frame secured adjacent the front surface of the backing panel and spaced therefrom by a U-shaped spacer element extending along three sides of the rectangle to leave an open slot extending into the pocket formed by the spacer element and the frame and backing panel. One disadvantage of such prior art constructions is that their appearance has indicated poor workmanship and unpleasing design due to difficulties in mass producing the mounts and in attaching a folding foot of conventional design to the rear surface of the back panel.

U.S. Pat. 2,984,922 discloses a prior art photo mount of the type previously described in which the spacer element on the three sides of the rectangular frame is recessed inwardly from the adjacent edges of the frame and back panel to provide a recess for receiving excess adhesive which is used to join the frame and back panel elements together. Even with the problem of the unsightly appearance of excess adhesive eliminated, frames of this design are unattractive because the open slot on the fourth side of the rectangular frame does not give the same outward visual appearance as the other three sides of the frame. This problem is especially apparent when a rectangular frame is designed for use in either a horizontal or upright position, as more fully explained below.

In addition, particularly with injection molded thermoplastic frames, prior art methods of attaching the collapsible foot to the rear surface of the back panel has presented difficulties. While paper or cardboard frames can readily use adhesives between the back panel and the adjacent portion of the collapsible foot, a special problem is encountered with the use of injection molded thermoplastic materials. It is desirable of course, to fabricate the

2

frame and back panel itself of an inexpensive thermoplastic material, such as polystyrene. However, the folding or collapsible foot element is most advantageously formed of a single injection molded piece, scored in at least one position for folding into foot supporting position by the ultimate user. This means of course that the material selected for use with the folding foot must be fatigue resistant and generally a higher grade of plastic than polystyrene. If a high fatigue resistant plastic, such as dense polyethylene or polypropylene is used, conventional adhesives or thermal bonding cannot be used to attach the dissimilar plastics to one another.

BRIEF DESCRIPTION OF THE INVENTION

It is an object of this invention to provide an inexpensive, mass produced frame of the general type described above which eliminates the disadvantages attendant with prior art frames of this nature. This object is attained by the provision of a document holder of thermoplastic materials in which the rectangular back panel and complementarily shaped frame piece are secured together upon the spacer element extending along three sides of the rectangle which is recessed or undercut from the adjacent edges of the frame and panel and also at the ends thereof which approach the fourth side of the rectangle by an amount sufficient so that the recessed form therein gives the external and visual appearance of the slot which extends through the fourth side into the pocket formed in the frame. This visual appearance may be further improved by beveling or sloping the adjacent edges of the frame and back panel in a common plane to further obscure the slot so that it appears as the recess surrounding the remainder of the frame.

In the frame of this invention, the collapsible foot portion, fabricated from a fatigue resistant plastic, is secured to the rear surface of the back panel of the frame by a bridging element which is fabricated from a thermoplastic material which is the same as or compatible with the material comprising the back panel. This bridge element extends over a part of the foot and may be adhesively secured or thermally bonded to the rear surface of the back panel. The bridge element has tabs or columns extending into shaped recesses or indentations on the collapsible foot to effectively lock the foot portion in place.

Other objects and advantages of the invention will be apparent to those skilled in the art from the following detailed description of a preferred embodiment of the invention, with reference being made to the drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in perspective of the document holder or frame of this invention, showing the frame member and back panel prior to their assembly;

FIG. 2 is a view in perspective of a portion of the assembled frame of this invention, showing the details of construction at one corner formed by the junction of one side which includes the spacer element separating the frame and back panel and another side which forms the slot extending into the frame;

FIG. 3 is a cross-sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a cross-sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is a view in elevation of the rear surface of the assembled frame of this invention, showing the manner of attaching the collapsible foot and showing the foot in flat, unfolded position; and

FIG. 6 is a cross-sectional view, taken along line 6—6 of FIG. 5 and showing the manner of attaching the collapsible foot to the frame.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to FIGS. 1 and 2, the document holder or photo frame of the preferred embodiment of this invention includes a back panel 10 and an open front frame 11 which are preferably fabricated as two separate pieces. The front surface of the frame 11 may have a wood grain or other decorative effect applied during the molding process. The rectangular back panel 10 has a raised portion or spacer element 12 extending along three sides of its rectangular shape. The outer edge of the spacer 12, along the three sides, is recessed inwardly from the edge of the back panel 10 by a uniform distance d , as indicated in FIG. 4. The inner edge of the spacer 12 must, of course, lie outside of the inner border of the frame member 11 which forms the display area for the document or photograph to be used within the frame. Depending upon the style and type of the frame, the width of the border of the frame 11 and thus the width of the spacer 12 may vary, so long as the spacer 12 does not extend inside of the inner border of the frame member 11 and such that the pocket formed by the U-shaped spacer 12 is large enough to receive the document. For example, if a photograph with a large border is intended for use with the photo mount of this invention, the actual area defined by the inner border of the frame member 11 may be considerably smaller than the width and length of the pocket defined by the spacer member 12, as will be apparent to those skilled in the art.

The height of the spacer 12, indicated by h in FIG. 4 should be such that the pocket or slot formed within the frame is sufficiently deep to receive the photograph or document within the frame but not excessively great so that the document can wrinkle or curl within. Finally, it is to be noted that each end of the spacer element 12 which approaches the top of the back panel 10, as it is seen in FIG. 1, terminates short of the upper edge of the back panel by the same distance d as the edge of the spacer element 12 is recessed from the other three edges of the back panel 10.

The frame member 11 and back panel 18 with its integrally formed spacer element 12 are secured together, as with a suitable adhesive, to provide the frame member with the construction shown in detail in FIG. 2. Referring to FIG. 2, it will be seen that the adjacent top edge of the frame 11 with that of the back panel 10 form a slot, generally indicated by reference numeral 13, which extends into the pocket formed within the frame. Along the other edges of the rectangular frame, as seen in FIG. 2, the adjacent edges of the back panel 10 and frame member 11 define a recess or groove 14 which extends around the periphery of the frame. The depth d of the space between the outer edge of the spacer 12 from that of the back panel 10 is sufficient such that the recess or groove 14 extending around three sides of the frame appears, on external visual examination, to be the same as the slot 13 on the fourth side of the rectangular frame. This feature is especially important, as mentioned above, when a rectangular frame is intended for use either in horizontal or upright position so that the viewer cannot readily determine the position of the slot with respect to the remaining sides of the frame.

It has been found that the external visual appearance of the slot 13 and recess 14 are further made indistinguishable if the external edges of the frame member 11 and back panel 10 are tapered or sloped towards the front of the photo mount in a common plane at an angle to the normal edge, as indicated by reference numeral 15 in FIG. 3. Furthermore, slopping the outer edge of the spacer element 12 by a similar slope, as indicated by reference numeral 16 in FIG. 3, further helps to disguise the location of the slot. Thus, as seen in FIG. 3, the open slot 13 at the edge of the frame is similar in visual appearance to the recess 14 at the other edges of the frame as seen in FIG. 4. This effect can also be enhanced by making the external size of the frame member 11 slightly smaller than

that of the back panel 10, with or without the sloping edges previously described. As the depth d of the recess 14 becomes larger in relation to the height h of the spacer element 12, the slot becomes virtually indistinguishable from the recess on the other portions of the frame. In general, it is to be found that a distance d of one-half of the distance h gives a satisfactory appearance.

Referring now to FIG. 5, the rear surface of the back panel 10 is shown with a collapsible support 17 attached thereto. The collapsible support 17 includes a central flat web 18 with a folding foot 19 integrally formed therewith and a folding strut 20 integrally formed on the other edge of the flat web 18. The extreme edges 21 and 22 of the folding foot 19 are shaped to support a frame in either vertical or horizontal position when the folding foot is opened and secured in open position by the folding strut 20, as shown in broken line position in FIG. 6. The alternate use of these two shaped surfaces 21 and 22 is well known in the art and does not form a part of this invention. The folding strut 20 has a tab 21 which is shaped to be received in a shaped aperture 22 to lock these members in an open position as seen in FIG. 6.

As previously explained, the frame member 11 and backing panel 10 are preferably fabricated from inexpensive thermoplastic materials, such as polystyrene, while the collapsible support 17, because of the nature of its intended function, must be fabricated from a fatigue resistant material, such as polypropylene or high density polyethylene. This means that conventional adhesives or thermal autogenous bonding methods cannot be used to attach the adjacent face of the flat web 18 to the rear surface of the back panel 10. While staples or rivets could be used, their appearance on the front surface of the back panel 10, in the middle of the document space, is undesirable, especially when the frames are being displayed for sales purposes without a photo positioned therein. To alleviate this attachment problem, the flat web 18 is provided with a pair of opposed recesses or indentations 22 which extend into the lateral edges of the flat web 18 or as apertures through the flat web 18. A bridge piece 23 fabricated of a material the same as or compatible with the material on the back panel 10 is provided for adhesive or thermal attachment to the back panel. The bridge piece 23 includes an elongate span 24 and a pair of feet 25 which extend through the recesses 22 in the flat web 18 towards the back panel 10. In attaching the collapsible support 17 to the rear surface of the back panel 10, the flat web 18 is placed in its desired position on the rear surface of the back panel 10, and the feet 25 of the bridge piece 23 are placed with the recesses 22 and their ends are adhesively or thermally bonded to the adjacent surface of the back panel. This locks the collapsible support 17 in place and eliminates the problems attendant with use of rivets or adhesives on non-similar materials described above.

As is best seen in FIG. 6, with the bridge piece 23 thermally or adhesively secured in place spanning across the flat web 18 of the collapsible support 17, the frame is now completely fabricated and ready for shipment with the collapsible support 17 in flat position. As is well known to those skilled in the art, the ultimate user or displaymer merely folds the foot 19 and strut 20 to the dotted line positions shown in FIG. 6 at which they attach to one another as described above to provide the frame with an upright support.

It will be seen from the above detailed description of a preferred embodiment that the construction of the frame of this invention provides an inexpensive photo mount or other document holder which completely disguises the slot extending into the open pocket and which eliminates the other disadvantages of the prior art constructions described above. It will also be seen that the advantages of this invention may be used with frame shapes other than rectangular, such as oval or round shapes or other desired geometries. Various other ad-

vantages of the present invention will be apparent to those skilled in the art and various modifications may be made without departing from the scope and spirit of the attached claims.

We claim:

1. A document holder comprising a rigid back panel having an outer periphery and front and rear planar surfaces, a frame member having an interior opening to display such document and an outer periphery shaped to generally coincide with that of said back panel with the adjacent portions of the outer peripheries of said frame and back panel beveled in a common plane sloping towards said frame member, and a spacer element positioned between said frame member and the front surface of said back panel, said spacer element extending alongside but spaced inwardly from the adjacent outer peripheries of said frame and back panel throughout the major extent of said peripheries to form a pocket for such document with an open slot extending into said pocket along a minor portion of said adjacent peripheries, said spacer element being spaced inwardly a distance sufficient to form a recessed groove extending throughout said major extent of said outer peripheries whereby said recessed groove lying between the adjacent portions of the outer peripheries of said frame and back panel over a major portion thereof has the visual appearance of said slot extending over a minor portion thereof.

2. The document holder of claim 1 wherein the outer periphery of said frame member is slightly smaller than that of said back panel such that adjacent portions of the frame are spaced slightly inwardly from adjacent portions of the latter.

3. The document holder of claim 1 which further includes a collapsible support member secured to said rear surface of said back panel, said support member including a flat web positioned parallel to and adjacent said back panel and supporting a folding foot, said flat web having a recessed area and a bridge securing piece extending over said flat web and into said recessed area and bonded to said rear surface of said back panel.

4. A rectangular document holder comprising a rigid rectangular back panel having a planar front and rear surfaces, a rectangular frame member having an interior opening to display such document and an outer periphery shaped to generally coincide with that of said back panel, with adjacent portions of the outer edges of said frame member and said back panel beveled in a common plane sloping towards said frame member, and a spacer element positioned between said frame and back panel and extending along three sides of said rectangular holder to provide a document pocket therein with an open slot extending into said pocket between said frame member and said back panel on the fourth side thereof, said spacer element spaced inwardly from the adjacent outer edges of said frame member and back panel on said three sides and at its terminal ends adjacent said fourth side to provide

a recessed groove extending therearound whereby said recessed groove lying between the adjacent portions of said frame and back panel on three sides of said holder has the visual appearance of said slot lying between the adjacent portions of said frame and back panel on the fourth side of said holder.

5. The rectangular document holder of claim 4 wherein the dimensions of said rectangular frame member are slightly smaller than those of said rectangular back panel such that outer edges of said frame member are spaced slightly inwardly from adjacent portions of said back panel.

6. The document holder of claim 4 which further includes a collapsible support member secured to the rear surface of said back panel, said support member including a flat web positioned parallel to and adjacent said back panel and supporting a folding foot, said flat web having a recessed area and a bridge securing piece extending over said flat web and into said recessed area and bonded to said rear surface of said back panel.

7. A document holder comprising a rigid back panel having an outer periphery and front and rear planar surfaces, a frame member having an interior opening to display such document and an outer periphery shaped to generally coincide with that of said back panel, with adjacent portions of the outer peripheries of said frame and back panel extending generally parallel to each other to appear to define a common surface over the outer periphery of said holder and a spacer element positioned between said frame member and the front surface of said back panel, said spacer element extending alongside but spaced inwardly from the adjacent outer peripheries of said frame and back panel throughout the major extent of said peripheries to form a pocket for such document with an open slot extending into said pocket along a minor portion of said adjacent peripheries, said spacer element being spaced inwardly a distance sufficient to form a recessed groove extending throughout said major extent of said outer peripheries whereby said recessed groove lying between the adjacent portions of the outer peripheries of said frame and back panel over a major portion thereof has the visual appearance of said slot extending over a minor portion thereof.

References Cited

UNITED STATES PATENTS

2,984,922 5/1961 Ladenburger et al. 161—18UX
3,707,791 1/1973 Levy 40—152.1

WILLIAM E. SCHULTZ, Primary Examiner

U.S. Cl. X.R.

40—159