A photo holder (42) is described which can be smoothly applied to a page in a photo album (40). The photo holder (42) has a peripheral border (43) that nests inside the opening (44) of a retainer frame (46) while a peripheral holding edge (52) fits beneath the frame (46). In one embodiment the photo holder is formed of a photo mat (54) that is mounted on a backup sheet (58). The backup sheet (58) is shaped and sized to extend past the photo mat (54) to form the peripheral holding edge (52) with angled sides (62) that converge at a corner (64) to form the protruding region. The photo mat (54) is sized to nest inside the retainer frame (46). Various embodiments are shown and described including a photo holder with sides so cut that these form corners to facilitate insertion below the edge of the retainer frame.
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PHOTO HOLDER FOR PHOTO ALBUMS

Field Of The Invention

This invention generally relates to photo albums and more specifically to photo holders used as inserts for pages in photo albums.

Background Of The Invention

In German patent publication DE 34,41,741,Al (priority for which is claimed in U.S. Patent Application 647,128 filed September 4, 1984), a fastening device is described for a photo album. The page is replaceable in a photo album and includes a panel 20 (see Figures 1-4 herein) on to which retainer frames 22 are mounted, each with a square opening 24. A shim margin 26 is affixed around and beneath the perimeter of the panel to provide space to receive a photo mat 28 and capture this mat. A photo opening 30 in mat 28 is provided through which a photo can be viewed. In a commercially available model, the photo mat 28 is made of a single sheet instead of the double-sheet envelope form 28 described in this patent publication.
The disadvantages of such a photo holder are that the photo mat 28 slides underneath the retainer frame 22, creating an overlap which does not accomplish a flush fit as asserted in this patent. The insertion of the photo holder involves difficult guidance along hidden edges 32, 32' of shims 26. An interference problem at the rear edge 34 of retainer frame frequently arises when the front edge 36 of the photo frame is being pushed to fit underneath edge 34. This interference requires one to use a nail or some other device to temporarily lift edge 34 as shown in Figure 4 to enable edge 36 to be slid beneath retainer frame edge 34. This in turn tends to disfigure the visible rear edge 34 as shown at 38 in Figures 1 and 3 creating an unpleasing appearance for photo album pages that are often used to store memorable photos.

U.S. Patent 2,850,294 shows a picture album formed of pages in the form of framed envelopes in which pictures are placed. U.S. Patent 4,145,830 describes an album leaf in which a complex framing structure is employed. U.S. Patent 4,140,565 describes another technique for mounting photos in an album and forming album pages. Other album page constructions are described and shown in U.S. Patents 3,461,585 and 4,378,647.

Summary Of The Invention

In a photo holder in accordance with the invention, the photo holder is conveniently insertable in a retainer frame on a page of a photo album without a tendency to produce defacings on the page. This is achieved by providing the insertable holder with a
protruding region that is so shaped as to slip easily beneath the retainer frame's rear edge as the photo holder is pushed into place.

In accordance with one aspect of the invention as shown in a preferred embodiment, a substantially true flush frame construction is obtained. This is achieved by employing a photo mat that is so-sized that it nests inside the opening of a retainer frame that is a part of an album page. The photo mat in turn is provided with a protruding lip for ease of insertion below the retainer frame. The protruding lip may be a specially-shaped edge of the photo mat, but preferably is made as part of a backup sheet on to which the photo mat is mounted.

The backup sheet is made slightly larger in area than the photo mat so as to provide a peripheral holding edge when the photo mat is generally centrally-affixed to the backup sheet. The peripheral holding edge is shaped to form a protruding region with which the edge can be conveniently slipped below the rear edge of the retainer frame. With such construction, a photo holder can be reliably and readily put in place without defacement of the retainer frame.

The backup sheet can be made of a thickness that is substantially the same as that of a shim employed below the retainer frame, thus enabling the photo mat to be substantially flush with the retainer frame's exposed surface when the photo mat nests inside the retainer frame's opening. This further enables upper and lower inwardly facing edges along the aperture of the retainer frame to serve as visible and actual guides for upper and lower edges of the photo mat during insertion
of the photo holder. The nesting of the photo mat enables it to be cut from the same sheet of which the retainer frame is made.

It is, therefore, an object of the invention to provide a photo holder that is conveniently installed in an album page such as used in professional albums. It is a further object of the invention to provide a photo album page and photo holder that provide a pleasing appearance, yet can be conveniently assembled without defacing of edges and without markings from the handling of the components. It is a further object of the invention to provide a replaceable page holder that uses sheet material in an efficient manner.

These and other objects and advantages of the invention can be understood from the following detailed description of embodiments described in conjunction with the drawings.

**Brief Description Of Drawings**

Figures 1-4 are sketches of a prior art photo holder and in which Figure 1 is a perspective view of a prior art photo page for use in an album;

Figure 2 is a partial enlarged section view of the prior art photo page and photo holder;

Figure 3 is a top plan partially broken away view of the prior art photo album page;

Figure 4 is an enlarged sectional partial view of the prior art photo album page illustrative of a problem encountered therewith;
Figure 5 is a perspective view of a typical photo album;

Figure 6 is a perspective view of a photo album page in accordance with the invention;

Figure 7 is a perspective view of a photo holder in accordance with the invention

Figure 8 is a perspective exploded view of components used for a photo album page and photo holder in accordance with the invention;

Figure 9 is a perspective view of a photo album page and a photo holder during installation;

Figure 10 is a top plan partially broken away view of the photo album page and photo holder during installation;

Figure 11 is a top plan view of a photo album page in accordance with the invention;

Figure 12 is a section view of the photo album page taken along line 12-12 in Figure 11.

Figure 13 is a partial perspective view of the insertion of a photo holder in accordance with the invention into a photo album page;

Figures 14 and 15 are top plan views of alternative forms for a photo holder in accordance with the invention;
Figure 16 is a partial sectional view of another photo holder in accordance with the invention;

Figure 17 is a partial reduced plan view of still another photo holder in accordance with the invention; and

Figure 18 is a section view of the photo holder of Figure 17 taken along the line 18-18.

**Detailed Description of Drawings**

With reference to Figures 5-8, a photo album page 40 for an album 41 is shown including a photo holder 42 with a border 43 that is shaped to nest inside an opening 44 of a retainer frame 46. A pair of retainer frames 46 are affixed to opposite sides of a panel sheet 48.

The retainer frame 46 is affixed to panel 48 with a suitable adhesive or the like placed between folded-over edges 50 and panel 48. The folded-over edges 50 serve as shims by which a small space is provided to receive a peripheral holding edge 52 that extends outwardly from nesting border 43. Shims 50 could be made of separate sheets. The retainer frame opening 44 is preferably symmetrically-shaped such as square or circular so that the photo holder 42 can be inserted with different orientations.

Photo holder 42 is formed with a separately cut photo mat 54 having a photo opening 56. Mat 54 is sized and shaped so that its border 43 nests inside opening 44 of retainer frame 46. In the embodiment of
Figure 7, the peripheral holding edge 52 is formed by a backup sheet 58 to which photo mat 54 is affixed though as further described herein, an edge 52 can be formed on mat 54. Because of the nesting character of photo mat 54, it can be cut from the same sheet from which the retainer frame 46 is made, thus reducing waste of thicker album sheet material.

The backup sheet 58 is shaped and sized so that when photo mat 54 is placed thereon, peripheral holding edge 52 is formed with a protruding guide region 60. This can be made by cutting the backup sheet into a generally octagonal shape with end edges 62 converging at corners 64 to form the protruding region that extends along a portion of the holding edge 52. The photo mat's nesting border 43 is square shaped with sides 66 which are used to guide the photo holder 42 into place on page 40.

In one example of a photo holder 42 in accordance with the invention, the peripheral holding edge 52 employed end edges 62 that were angled at about two and a half (2.50) degrees relative to the adjacent photo mat border 43 to form a wide angled corner 64 of about 175 degrees. This provided a slight but sufficiently effective protruding portion to facilitate insertion of the corner 64 below the retainer frame. Other angular dimensions can be used. The width of the peripheral holding edge 52 in the above example varied from about .093 inches (2.38 mm.) at the corners of the photo mat 54 to about .250 inches (6.35 mm.) at corners 64. These dimensions also can be changed. For example, the corner 64 may have an angular range between about 160 degrees to about 176 degrees depending upon the acceptable maximum width of peripheral holding edge 52. When
multiple corners 64 are employed on a side, the corner angle can be smaller.

As shown in Figure 7, the photo mat 54 can be adhesively secured to backup sheet by two opposite segments 68, 68' while the other segments 70, 70' are left loose to enable a photo 72 to be inserted between mat 54 and the backup sheet 58 while the photo holder 42 is outside page 40.

With reference to Figures 9-13, the ease of placing photo holder 42 in a page 40 can be appreciated. The photo holder 42 is initially inserted between the front segment 76 of the retainer frame 46 and panel 48 in such a manner that borders 66 of the photo mat 54 are guided by inner edges 78 bordering opening 44 in retainer frame 46 towards its rear segment 80. A protruding corner 64 first makes contact with segment 80 as shown in Figure 13. The protruding corner 64 of the relatively thin backup sheet easily slips underneath segment 80. Once the corner 64 is under segment 80, the rest of the adjoining peripheral holding edge 52 at this corner smoothly slides beneath segment 80 until the leading border 66 seats against edge 82.

Once photo holder 42 is seated in page 40, the nesting border 43 fits within the retainer frame 46 and is captured therein while the peripheral holding edge 52 is held by retainer frame 46. As shown in Figure 12, the exposed surface of photo mat 54 can be substantially flush with the adjoining surface of the retainer frame with but a slight off-set if the thickness of shim 50 is greater than the thickness of backup sheet 58 as may occur when backup sheet 58 is made of different thinner stock than the turned-over edge-shim 50.
The resulting page has a pleasing appearance of a frame within a frame. Insertion of the photo holder further is facilitated because the shims 50 are sufficiently spaced from the retainer frame opening 44 and the peripheral holding edge 52 is so sized as to provide a clearance 86. This assures that during insertion of the photo holder 42, no obscured sliding guidance is needed between the edge 52 and shims 50 but that visible slide guidance is obtained between the retainer frame edges 78 and photo holder border 43.

Figures 14 and 15 illustrate alternate peripheral holding edges 52', 52" respectively. In Figure 14, edge 52' is formed with protruding rounded lips 88 and in Figure 15 the holding edge 52" is in the shape of a square that is slightly larger in area than photo mat 54 which is mounted in a slightly skewed relationship to form protruding corners 90.

Figure 16 illustrates an alternate photo holder 42' formed of a single sheet of material of desired thickness and whose peripheral holding edge 92 is formed by compressing the sheet around its edges. The compression results in a nesting border 43' from which edge 92 extends with a protruding region as described herein. Attachment of a photo 72 to mat 43' can be done using conventional techniques such as an adhesive strip applied to the back of mat 42' and whose adhesive can contact a photo through a hole in the mat.

Figures 17 and 18 illustrate still another photo holder 42" in accordance with the invention and which does not nest within a retainer frame 46 but fits beneath it in the manner as shown in prior art Figures 2 and 4. Photo holder 42", however, is cut into a
shape to have protruding regions 60', of the type described with respect to holder 42 in Figure 7. The sides of photo holder 42" are cut along angles to form corners 64' that are more convenient to slide underneath a retainer frame 46 even though, as shown in Figure 18, the thickness at the corner 64' is generally the same as that of the rest of the photo holder sheet. The protruding region may be shaped into a lip or such other shapes as appear effective to easily insert the photo holder.

Having thus described several embodiments of the invention, its advantages can be appreciated. Variations from the illustrated forms can be made without departing from the scope of the invention. For example, the retainer frame, can be made thicker than the photo mat to create the accentuated appearance of a double off-set mat.

What is claimed is:
1. A photo insert for use in a photo album having a plurality of pages for receiving and retaining the photo inserts that can be viewed through apertures in retention frames attached to the pages, comprising:

   a photo holder having a peripheral holding edge which is shaped to fit beneath the retainer frame;

   said peripheral holding edge being selectively shaped to have a protruding guide portion so as to facilitate sliding of the photo holder peripheral holding edge beneath a retention frame when the photo holder is installed in a page.

2. The photo insert as claimed in claim 1 wherein the peripheral holding edge has end edges which are oriented at an angle relative to each other to form corner shaped protruding regions on sides of the photo holder.

3. The photo insert as claimed in claim 2 wherein the photo holder corner angle is in the range from about 160 degrees to about 176 degrees.

4. The photo insert as claimed in claim 3 wherein the photo holder has the shape of an octagon.

5. A photo insert for use in a photo album having a plurality of pages for receiving and retaining the photo inserts that can be viewed through apertures in retention frames attached to the pages, comprising:

   a photo holder having a nesting border that is sized and shaped to nest inside the apertures of the retainer frames, said photo holder having a peripheral holding edge that extends outwardly from the nesting border and which is shaped to fit beneath the retainer frame;
said peripheral holding edge being so shaped so as to have a protruding region of reduced thickness relative to that of the photo holder within its border so as to facilitate sliding of the photo holder peripheral holding edge beneath a retention frame to nest the photo holder in an aperture when the photo holder is installed in a page.

6. The photo insert as claimed in claim 5 wherein the retainer frame apertures are square shaped and wherein the nesting border is correspondingly shaped so that nesting border edges of the photo holder are guided by adjacent juxtaposed aperture edges of the retainer frame during installation of the photo holder in a page.

7. The photo insert as claimed in claim 6 wherein the peripheral holding edge has end edges which are oriented at an angle relative to the nesting border to form said protruding regions on sides on the square-shaped nesting border.

8. The photo insert as claimed in claim 7 wherein each side of the nesting border has a peripheral holding edge formed of at least first and second end edges that intersect each other at a corner to form said protruding region.

9. The photo insert as claimed in claim 6 wherein said peripheral holding edge protruding region is in the form of a protruding lip.

10. The photo insert as claimed in claim 5 wherein the photo holder comprises a backup sheet and a photo mat generally centrally placed on the backup sheet, the
photo mat being so sized that its perimeter forms said nesting border, said backup sheet being sized and shaped so as to extend past the nesting border and provide said peripheral holding edge with a protruding region.

11. A photo insert for use in a photo album having a plurality of pages for receiving and retaining the photo inserts that can be viewed through apertures in retention frames attached to the pages, comprising:

- a backup sheet and a photo mat affixed thereto, said backup sheet being sized and the photo mat being so located thereon that the backup sheet extends past the perimeter of the photo mat to form a holding edge;
- said holding edge of the backup sheet being shaped so as to have a protruding guide portion that facilitates sliding of the holding edge of the backup sheet beneath a retention frame when the backup sheet and photo mat are installed on a page.

12. The photo insert as claimed in claim 11 wherein said photo mat is sized so as to nest inside the aperture of a retention frame while the holding edge fits beneath the retention frame.

13. The photo insert as claimed in claim 12 wherein the thicknesses of said retention frame and photo mat are selected so that their exposed surfaces are substantially flush with each other.

14. The photo insert as claimed in claim 11 wherein said backup sheet further is symmetrically-shaped so as to provide like-sized holding edge segments past respective sides of the photo mat;
having a protruding guide portion that is shaped to enable the holding edge portion to slip beneath the retention frame to nest the photo mat inside an aperture of the retention frame when the backup sheet and photo mat are installed on a page.

15. The photo insert as claimed in claim 14 wherein said backup sheet has the shape of an octagon with corners formed between adjoining edges, said corners being generally midway of respective holding edge segments.

16. The photo insert as claimed in claim 15 wherein said backup sheet has the shape of a square that is larger in area than the photo mat and wherein the photo mat is mounted in skewed relationship on the backup sheet to form said protruding guide portions at corners of the backup sheet.

17. The photo insert as claimed in claim 14 wherein said retention frames have square-shaped apertures and said photo mat has a border with a shape and size that corresponds with that of the square-shaped aperture to nest within it so that upper and lower perimeter edges of the photo mat are visibly guided by adjacent juxtaposed edges of the aperture in the retention frame during installation of the photo holder in the retention frame.

18. A page for a photo album comprising:
   a panel;
   a retainer frame having a substantially symmetrically-shaped opening, a shim placed between the retainer frame and the panel, said shim being attached to
the panel and the retainer frame at a location that is spaced from the opening;

a generally symmetrically-shaped backup sheet and a photo mat that is generally centrally affixed to the backup sheet, with edge portions of the backup sheet protruding past a peripheral border of the photo mat;
said photo mat having an external shape and size selected so as to enable the photo mat to nest inside the opening of the retainer frame with exposed surfaces of the photo mat and the retainer frame being substantially flush with each other while said edge portions of the backup sheet extend beneath the retainer frame to prevent the photo mat from falling out of the retainer frame.

19. The page for a photo album is claimed in claim 18 wherein said shim is formed from folded-over edges of said retainer frame.
International Application No. PCT/US89/02357

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) 6
According to International Patent Classification (IPC) or to both National Classification and IPC
U.S. Cl. 40/159 IPC(4) G09F 1/10

II. FIELDS SEARCHED
Minimum Documentation Searched 7

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III. DOCUMENTS CONSIDERED TO BE RELEVANT 9

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IV. CERTIFICATION
Date of the Actual Completion of the International Search: 08 August 1989
Date of Mailing of this International Search Report: 14 SEP 1989
International Searching Authority: ISA/US
Signature of Authorized Officer: [Signature]

Form PCT/ISA210 (second sheet) (Rev.11-87)