NESTED PICTURE FRAME ASSEMBLY

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ABSTRACT

The present invention broadly comprises a nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, a first picture frame having a first depth, and a first perimeter; and, a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop the first picture frame, wherein the first depth is larger than the second depth, the first perimeter is larger than the second perimeter; the first perimeter is equal to the perimeter of the nested picture frame assembly, and the first depth is equal to the depth of the nested picture frame assembly, and wherein, when nested, each frame in the nested picture frame assembly is located in its own unique plane.
NESTED PICTURE FRAME ASSEMBLY

FIELD OF THE INVENTION

[0001] The invention relates generally to picture frames, and more particularly to a nested picture frame assembly.

BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to a nested picture frame assembly having a plurality of picture frames. A variety of picture frame assemblies with a plurality of picture frames are known in the art.

[0003] U.S. Pat. No. 4,443,959 (Ackarat) discloses an assembly of stackable, interlocking photograph holders. The bottom stackable holder has a base means with a friction-reducing element. The assembly of photograph holders holds a plurality of photographs and similarly flat pieces of art through a top view display window. The patent discloses an invention that comprises photograph holders that stack atop of one another. There is no disclosure in this reference of a plurality of nested picture frames that nest both within and atop of one another and may be displayed individually or nested together in an aesthetically pleasing manner.

[0004] U.S. Pat. No. 6,354,030 (Harris) discloses a set of nested magnetic picture frame elements from a single flat sheet of magnetic material. The sheet of magnetic material is diced into a plurality of frame elements that nest within each other and supports a printed background or image on the front surface thereof. The patent discloses an invention with a plurality of frames that nest within one another. Every frame is in the same plane. There is no disclosure in this reference of a plurality of nested picture frames that nest both within and atop of one another, nest in unique planes, and may be displayed individually or nested together in an aesthetically pleasing manner.

[0005] What is needed, then, is an assembly of nested picture frames that operatively nest within and atop of one another to display a plurality of pictures in an aesthetically pleasing manner.

SUMMARY OF THE INVENTION

[0006] The present invention broadly comprises a nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, a first picture frame having a first depth, and a first perimeter; and, a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop the first picture frame, wherein the first depth is larger than the second depth, the first perimeter is larger than the second perimeter, the first perimeter is equal to the perimeter of the nested picture frame assembly, and the first depth is equal to the depth of the nested picture frame assembly, and wherein, when nested, each frame in the nested picture frame assembly is located in its own unique plane.

[0007] A primary object of the invention is to provide a nested picture frame assembly which may be efficiently and economically shipped within a single package.

[0008] Another object of the present invention is to provide a nested picture frame assembly comprising a plurality of individual picture frames which nest both within and atop one another.

[0009] These and other objects and advantages of the present invention will be readily appreciable from the following description of the preferred embodiments of the invention and from the accompanying drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The nature and mode of operation of the present invention will now be more fully described in the following detailed description of the invention taken with the accompanying drawing figures, in which:

[0011] FIG. 1 is a perspective view of a first preferred embodiment 10 of a three frame nested picture frame assembly as viewed from the front;

[0012] FIG. 2 is a front view of the nested picture frame assembly 10 shown in FIG. 1;

[0013] FIG. 3 is a front view of first frame 20 of frame assembly 10 shown in FIGS. 1 and 2;

[0014] FIG. 4 is a front view of second frame 30 of frame assembly 10 shown in FIGS. 1 and 2;

[0015] FIG. 5 is a front view of third frame 40 of frame assembly 10 shown in FIGS. 1 and 2;

[0016] FIG. 6 is a perspective partially exploded view of frame assembly 10 showing frames 20, 30 and 40 in an “unnested” configuration;

[0017] FIG. 7 is a perspective view of frames 20, 30 and 40 of frame assembly 10 showing frames 20, 30 and 40 in the process of being nested “within” one another;

[0018] FIG. 8 is a perspective view of frames 20, 30 and 40 of frame assembly 10 showing frames 20, 30 and 40 in the process of being nested “atop” one another;

[0019] FIG. 9 is an exploded view of frame 40;

[0020] FIG. 10 is an end view of frame assembly 10 taken generally along line 8-8 in FIG. 2;

[0021] FIG. 11 rear view of frame assembly 10 shown in FIG. 6;

[0022] FIG. 12 is a perspective view of a second embodiment 110 of a three frame nested picture frame assembly of the invention; and,

[0023] FIG. 13 is an exploded view of frame assembly 110 shown in FIG. 12.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] At the outset, it should be appreciated that like drawing numbers on different drawing figures identify identical structural elements of the invention. While the present invention is described with respect to what is presently considered to be the preferred embodiments, it is understood that the invention is not limited to the disclosed embodiments. In the description below, the terms “top”, “bottom”, “front”, “back”, “left”, “right”, and their derivatives, should be interpreted from the perspective of one viewing the picture frame from the perspective shown in FIG. 2 for the first preferred embodiment and FIG. 12 for the second preferred embodiment. The Cartesian directions and planes
should be interpreted from FIG. 1 for the first preferred embodiment and FIG. 12 for the second preferred embodiment.

Furthermore, it is understood that this invention is not limited to the particular methodology, materials and modifications described and as such may, of course, vary. The two preferred embodiments each comprise three frames, although it should be understood that the invention as claimed is not limited to a nested assembly comprising three frames but, rather, to a nested assembly comprising a plurality of frames. That is, the present invention as claimed is directed to a nested frame assembly having at least two frames. It is also understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention.

Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood to one of ordinary skill in the art to which this invention belongs. Although any methods, devices or materials similar or equivalent to those described herein can be used in the practice or testing of the invention, the preferred methods, devices, and materials are now described.

Structure of the First Preferred Embodiment

Adverting to FIG. 1, the nested picture frame assembly of the first preferred embodiment 10 is shown to comprise three frames 20, 30 and 40. In a preferred embodiment, frames 20, 30, and 40, respectively, are each "L-shaped", although one having ordinary skill in the art can readily imagine the individual frames in the assembly as being of other shapes. In the embodiment shown, frame 20 is seen as being smaller than frame 30, and frame 30 in turn smaller then frame 40, such that each respective smaller frame is arranged to nest within the adjacent next larger frame.

Frame 20 is seen to comprise vertical member 21, horizontal member 22, and back member 24. Similarly, frame 30 is seen to comprise vertical member 31, horizontal member 32, and back member 34. Similarly, frame 40 is seen to comprise vertical member 41, horizontal member 42, and back member 44. The individual L-shaped frames may be made of a single piece of material or assembled from multiple component parts. In the embodiment shown in FIG. 1, each of frames 20, 30 and 40 include a faceplate 23, 33 and 43, respectively. For purposes of this written description, these face plates are coplanar with front surfaces 26, 36, 46, respectively, of frames 20, 30 and 40. Frame 20 is seen to comprise rightward surface 28; frame 30 is seen to comprise rightward surface 38; and frame 40 is seen to comprise rightward surface 48. Frame 20 is seen to comprise top surface 29; frame 30 is seen to comprise top surface 39; and frame 40 is seen to comprise top surface 49. When nested, the front, right, and top surfaces of frames 20, 30 and 40 are flush and in the same x-y, y-z and x-z planes, respectively. This coplanar “flush” relationship of the respective surfaces of the individual frames is advantageous in packaging the frame assembly for shipment from manufacturer to wholesaler to retailer. It should be appreciated, however, that this coplanar “flush” relationship of the front, right, and top surfaces of the nested frames is not absolutely necessary. For example, the depths of the respective frames may form a stepped appearance, i.e., a set of descending steps from the outer frame to the inner, or vice versa.

FIG. 2 is a front view of frame assembly 10. Frame assembly 10 is seen to have a perimeter P10, defined by the sum of the lengths (W) and widths (W) of the assembly as a whole (e.g., 2L10+W10). Perimeters P20, P30 and P40 are also shown, but are more clearly defined in FIGS. 3, 4 and 5, respectively.

FIG. 3 illustrates a front view of frame 20. The perimeter of frame 20 is defined as the bold outline perimeter P20, which is a linear outline of frame 20 restricted to the x-y plane. Perimeter P20 is determined by adding the sum of the lengths and widths of the four sides of the frame 2L20+2W20.

FIG. 4 illustrates a front view of frame 30. The perimeter of frame 30 is defined as the bold outline perimeter P30, which is a linear outline of frame 30 restricted to the x-y plane. Perimeter P30 is determined by adding the sum of the lengths and widths of the four sides of the frame 2L30+2W30.

FIG. 5 illustrates a front view of frame 40. The perimeter of frame 40 is defined as the bold outline perimeter P40, which is a linear outline of frame 40 restricted to the x-y plane. Perimeter P40 is determined by adding the sum of the lengths and widths of the four sides of the frame 2L40+2W40.

One important distinction of the present invention over known prior art devices is that the individual frames in the frame assembly of the present invention nest both atop and within one another. By “apart”, and with reference to FIG. 1, we mean that the individual frames, when nested, are in contact with one another and adjacent one another with opposing surfaces of nested frames in contact with one another in the Z-direction. For example, the rear surface of frame 20, when nested, is in contact with a front surface of frame 30; and a rear surface of frame 30, when nested, is in contact with a front surface of frame 40. By “within”, and with reference to FIG. 1, we mean that the individual frames, when nested, are in contact with one another and adjacent one another with surface contact by opposing surfaces of the individual frames in the X-Y direction. For example, an outside surface of frame 20, when nested, is in contact with an inside surface of frame 30; and an outside surface of frame 30, when nested, is in contact with an inside surface of frame 40. Another important distinction of the present invention over the prior art is that, when nested, each frame in the nested picture frame assembly is located in its own unique plane, and that plane is shared by no other frame. In other words, when nested and in contact with one another, the rear surfaces of each frame lie in different planes, and no more than one nested frame resides in any single plane.

Frame assembly 10 is shown in FIG. 6 in an exploded view, where the individual frames of the assembly have been separated from one another. Frame 20 has been removed from nesting within and atop of frame 30 and frame 30 has been removed from nesting within and atop of frame 40. The directional arrows in the positive y direction indicate one possible direction in which the individual frames can move when being un-nested from “within” one another.

Frame assembly 10 is shown in FIG. 7 in an exploded view, where the individual frames of the assembly
are in the process of being nested “within” one another. Frame 20 is shown moving in the negative x direction to nest within frame 30 and frame 30 is shown moving in the negative x direction to nest within frame 40. When fully nested, lower surface 51 of frame 20 will be in contact with upper surface 53 of frame 30, outside surface 52 of frame 20 will be in contact with inner surface 54 of frame 30, lower surface 55 of frame 30 will be in contact with upper surface 56 of frame 40, and outside surface 57 of frame 30 will be in contact with inner surface 58 of frame 40.

[0036] FIG. 8 is an exploded view of frames 20, 30 and 40 in the process of moving into a nested assembly. In this figure, the frames are shown being nested “atop” one another. Frame 20 is being nested atop frame 30, and frame 30 is being nested atop from 40. When fully nested, rear surface 61 of frame 20 will be in contact with front surface 62 of frame 30, and rear surface 63 of frame 30 will be in contact with front surface 64 of frame 40. Also, as described infra, when fully nested, each frame will lie in its own plane. By that we mean that rear surface 61 of frame 20 will lie in a first plane, rear surface 63 of frame 30 will lie in a second plane, and rear surface 65 of frame 40 will lie in a third plane.

[0037] FIG. 9 is an exploded view of frame 40. Frame 40 is seen to broadly comprise vertical member 41, horizontal member 42, back member 44, picture cover 45, horizontal groove 71, and vertical groove 72 operatively arranged to hold a picture. Horizontal groove 71 and vertical groove 72 are grooves along the interior edge of vertical member 41 and horizontal member 42, and are arranged to hold picture cover 45. Adverting back to FIG. 6, it should be appreciated that frames 20 and 30 comprise similar structures.

[0038] Frame assembly 10 is shown in FIG. 10 from a right end view along line 8-8 shown in FIG. 2. Rightward surfaces 28, 38, and 48 of frames 20, 30, and 40 are shown, comprising of the right sides of horizontal members 22, 32, and 42 and the right sides of back members 24, 34, and 44, respectively. Picture covers 25, 35, and 45 of their respective frames 20, 30, and 40 are also shown. The depths of frame assembly 10 and frames 20, 30 and 40 are shown as the linear measurements in the z direction as depths D10, D20, D30 and D40, respectively. The depth of the frame assembly 10, depth D10, is a measurement from the rear surface 65 of frame 40 to the front surface 46 of frame 40. The depth of frame 20, depth D20, is a measurement from the rear surface 61 of frame 20 to the front surface 66 of frame 20. The depth of frame 30, depth D30, is a measurement from the rear surface 53 of frame 30 to the front surface 57 of frame 30. The depth of frame 40, depth D40, is a measurement from the rear surface 55 of frame 40 to the front surface 58 of frame 40, and is equal to the depth of frame assembly 10, depth D10. Depth D40 is larger than depth D30, and depth D30 is larger than depth D20. Frames 20, 30 and 40 are shown nesting in unique x-y planes, wherein rear surface 61 of frame 20 lays in a first plane, rear surface 63 of frame 30 lays in a second plane, and rear surface 65 of frame 40 lays in a third plane.

[0039] FIG. 11 is a rear view of frame assembly 10 as shown in FIG. 6. Rear panels 81, 82, and 83 of frames 20, 30, and 40 and are held together by respective back members 24, 34, and 44. The rear panels 81, 82, and 83 are recessed with respect to their respective back members 24, 34, and 44. The back members 24, 34, and 44 are each shown comprising of two separate pieces connected by mitre joints at connections 85, 86, and 87, respectively, and connected to their respective horizontal members 22, 32, and 42 and vertical members 21, 31, and 41 by rabbot joints. It should be appreciated that the mitre joints at connections 85, 86, and 87 are just one of many possible ways known in the art to join the two-part back members 24, 34, and 44. It should be further appreciated that the invention is not limited to having back members 24, 34, and 44 comprising of two-parts.

[0040] It should be noted, however, that it is not necessary for the plurality of surfaces described above of the nested picture frame assembly 10 to be flush with one another and that it only enhances the aesthetic qualities of the invention in this particular embodiment.

[0041] Frames 20, 30, and 40 are primarily constructed out of wood, with faceplates 23, 33 and 43 constructed out of a metal. Vertical frame members 21, 31, and 41 are connected to their respective horizontal frame members 22, 32, and 42 using mitre joints that are hidden by their respective face plates 23, 33, and 43. It should be appreciated that this invention is not limited to the use of mitre joints and the aesthetic qualities of the covering face plates, but that their combination only heightens the aesthetic qualities of the invention. Picture covers 25, 35 and 45 are made out of a transparent glass and rear panels 81, 82, and 83 are constructed out of medium density fiberboard. However, it should be understood that any material known in the art can be used for constructing the frames and picture covers and that there are many different types of joints known in the art that could be used to construct the frame assembly.

Structure of the Second Preferred Embodiment

[0042] The second preferred embodiment, frame assembly 110, is shown in FIG. 12. Frame assembly 110 is a three frame nested picture frame assembly comprising frames 120, 130 and 140. Frame 120 is shown nesting within and totally atop frame 130 by nesting flush along the front, back, sides, top, and bottom surfaces with frame 130; and, frame 130 is shown nesting within and totally atop frame 140 by nesting flush along the front, back, sides, top, and bottom surfaces with frame 120.

[0043] Frame assembly 110 is shown in FIG. 13 exploded in the z direction from their nested configuration shown in FIG. 12. Frames 120, 130 and 140 are shown each comprising two parallel frame members and a picture cover. Frames 120, 130 and 140 each have rectangular perimeters equal to their respective outlines in the x-y plane. The perimeter of each frame is the sum of twice the length plus twice the width of each frame. The perimeter of frame 140 is larger than the perimeter of frame 130 and the perimeter of frame 130 is larger than the perimeter of frame 120. The perimeter of frame assembly 110 is an outline of frame assembly 110 in the x-y plane and is equal to the perimeter of frame 140. Frames 120, 130 and 140 are shown each have two non-adjacent frame members with grooves to hold a picture and a picture cover. Frame 120 is shown having a depth equal to the thickest portion of frame 120 in the z direction. Frame 130 is shown having a depth equal to the thickest portion of frame 130 in the z direction. Frame 140 is shown having a depth equal to the thickest portion of the
frame in the z direction and the depth is equal to the thickest portion of frame assembly 110 in the z direction. The depth of frame 140 is larger than the depth of frame 130, and the depth of frame 130 is larger than the depth of frame 120. Frames 120, 130 and 140 each have grooves that are operatively arranged to hold a picture and picture covers 122, 132 and 142.

[0044] It should be noted, however, that it is not necessary for every set of flush surfaces described above to be flush with one another and that it only enhances the aesthetic qualities of the invention in this particular embodiment. It should also be noted that the aesthetic difference between the first and second preferred embodiments is the arrangement of the frame members of each frame. In the first preferred embodiment the frame members form an L-shape. In the second preferred embodiment, the frame members oppose each other. It should also be appreciated that this invention is not limited to these two arrangements of frame members.

[0045] The frames 120, 130 and 140 are made primarily out of wood. Picture covers 122, 132 and 142 are made out of glass. However, it should be understood that any material known in the art can be used for constructing the assembly of frames and the transparent picture cover.

[0046] Thus, it is seen that the objects of the invention are efficiently obtained, although changes and modifications to the invention should be readily apparent to those having ordinary skill in the art, without departing from the spirit or scope of the invention as claimed. Although the invention is described by reference to a first and second preferred embodiment, it is clear that variations can be made without departing from the scope or spirit of the invention as claimed.

1: A nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, comprising:

a first picture frame having a first depth, and a first perimeter; and,
a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop said first picture frame;

wherein said first picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said first picture frame is held and displayed in no more than one plane, and wherein said second picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said second picture frame is held and displayed in no more than one plane;

wherein said first depth is larger than said second depth, said first perimeter is larger than said second perimeter, said first perimeter is equal to the perimeter of said nested picture frame assembly, and said first depth is equal to the depth of said nested picture frame assembly, and wherein, when nested, each frame in said nested picture frame assembly is located in its own unique plane.

2: A nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, comprising:

a first picture frame having a first depth, and a first perimeter, and,
a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop said first picture frame;

wherein said first picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said first picture frame is held and displayed in no more than one plane, and wherein said second picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said second picture frame is held and displayed in no more than one plane;

wherein said first depth is larger than said second depth, said first perimeter is larger than said second perimeter, said first perimeter is equal to the perimeter of said nested picture frame assembly, and said first depth is equal to the depth of said nested picture frame assembly, and wherein, when nested, each frame in said nested picture frame assembly is located in its own unique plane.

3: The nested picture frame assembly of claim 1, wherein said first and second picture frames each have a quadrilateral shape.

4: The nested picture frame assembly of claim 3, wherein said first and second picture frames each further comprise at least one frame member.

5: The nested picture frame assembly of claim 4, wherein said first and second picture frames each have a vertical frame member and a horizontal frame member which cooperatively form a shape of an “L”.

6: The nested picture frame assembly of claim 4, wherein said first and second picture frames each have two parallel frame members.

7: The nested picture frame assembly of claim 4, wherein said at least one frame member comprises at least one groove.

8: A nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, comprising:

a first picture frame having a first depth, and a first perimeter; and,
a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop said first picture frame;

wherein said first picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said first picture frame is held and displayed in no more than one plane, and wherein said second picture frame is operatively arranged to hold and display at least one picture, wherein said at least one picture in said second picture frame is held and displayed in no more than one plane;

wherein said first depth is larger than said second depth, said first perimeter is larger than said second perimeter, said first perimeter is equal to the perimeter of said nested picture frame assembly, and said first depth is equal to the depth of said nested picture frame assembly, and wherein, when nested, each frame in said nested picture frame assembly is located in its own unique plane, wherein said picture frames further comprise a picture cover operatively arranged to rest in said at least one groove.

9: The nested picture frame assembly of claim 8, wherein said picture cover is made of a material selected from the group of glass, and acrylic material.

10: The nested picture frame assembly of claim 1, having exactly three picture frames.

11: The nested picture frame assembly of claim 1, wherein said picture frames are constructed primarily out of wood.

12: The nested picture frame assembly of claim 1, wherein said picture frames have decorative metal accents.

13: A nested picture frame assembly having a depth and perimeter, having at least two picture frames operatively arranged to nest within and atop one another, comprising:
a first picture frame having a first depth, and a first perimeter; and,
a second picture frame having a second depth, and a second perimeter, operatively arranged to nest both within and totally atop said first picture frame;
wherein said first depth is larger than said second depth, said first perimeter is larger than said second perimeter, said first perimeter is equal to the perimeter of said nested picture frame assembly, and said first depth is equal to the depth of said nested picture frame assembly, and wherein, when nested, each frame in said nested picture frame assembly is located in its own unique plane, wherein said picture frames have recessed rear panels.

14. The nested picture frame assembly of claim 13, wherein said rear panels are constructed from medium density fiberboard.

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