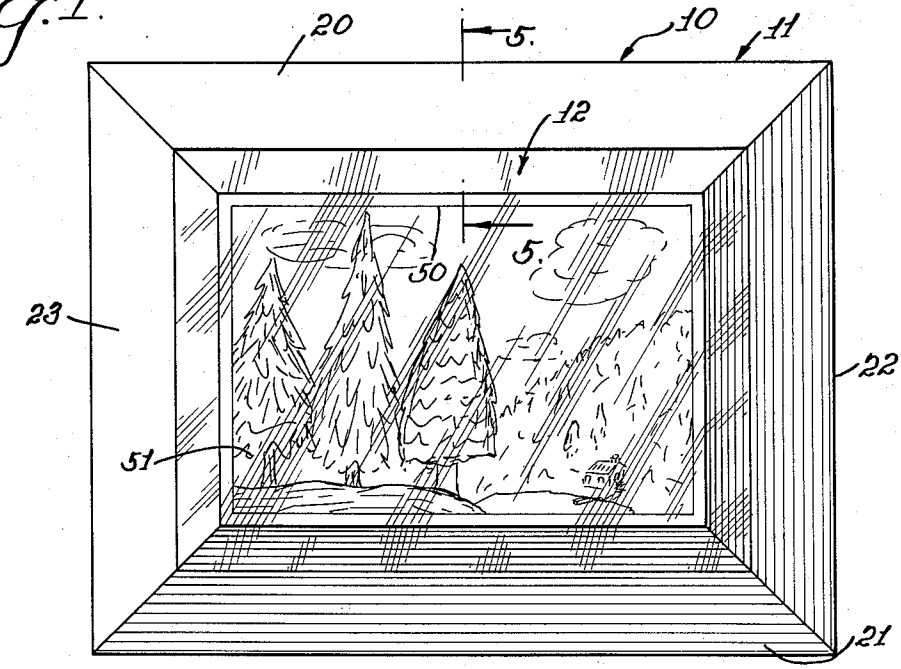
Dec. 22, 1964 J. L. McMILLAN 3,161,975

PICTURE FRAME

Filed Nov. 8, 1962 3 Sheets-Sheet 1

Fig. 1.



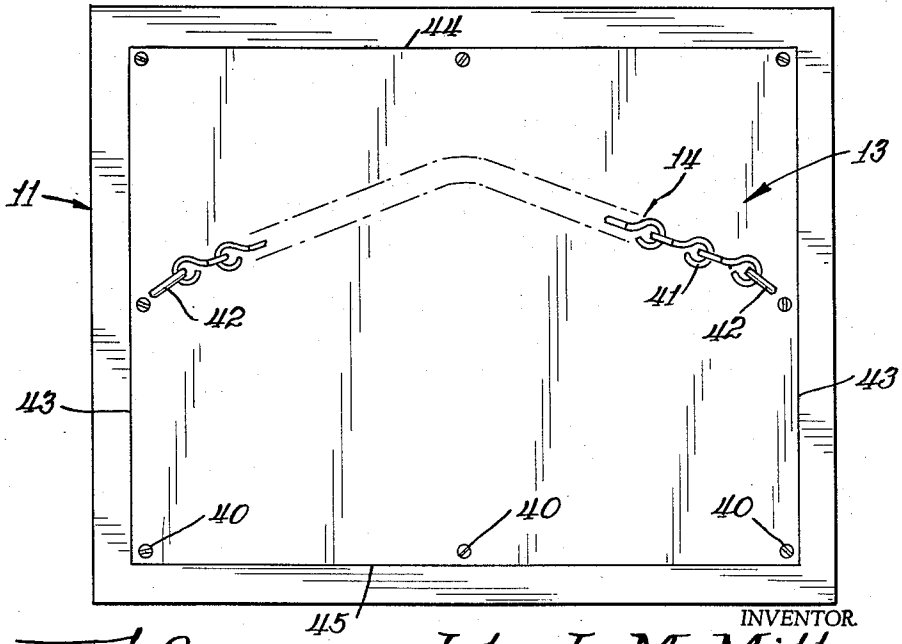


Fig. 2.

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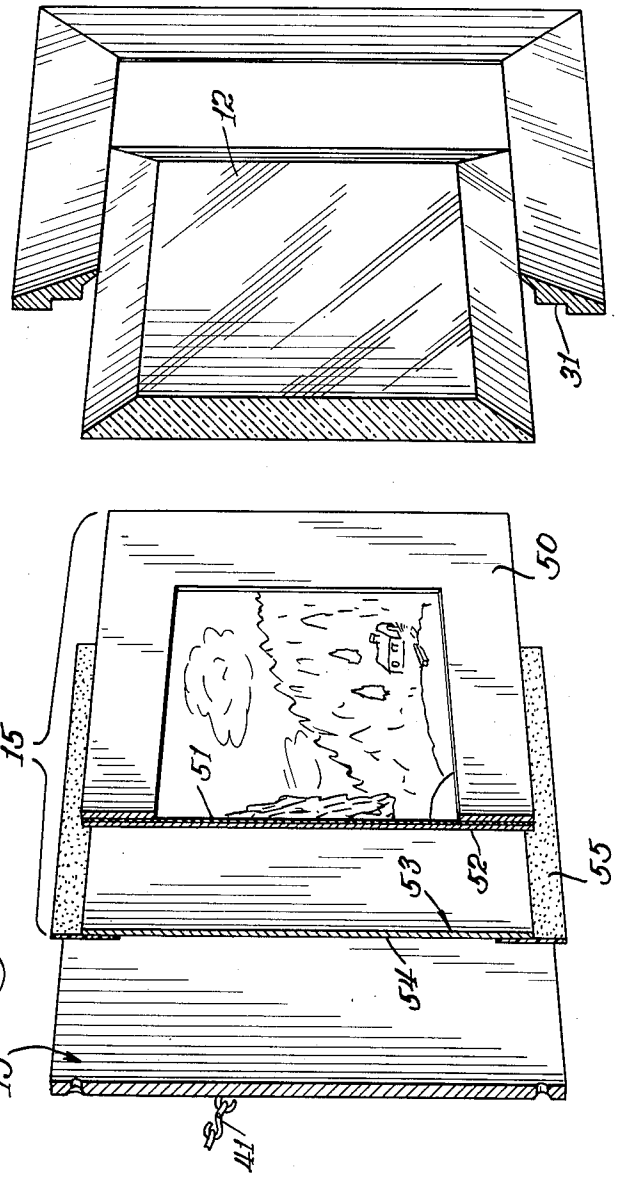

Fig. 3

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Fig. 4

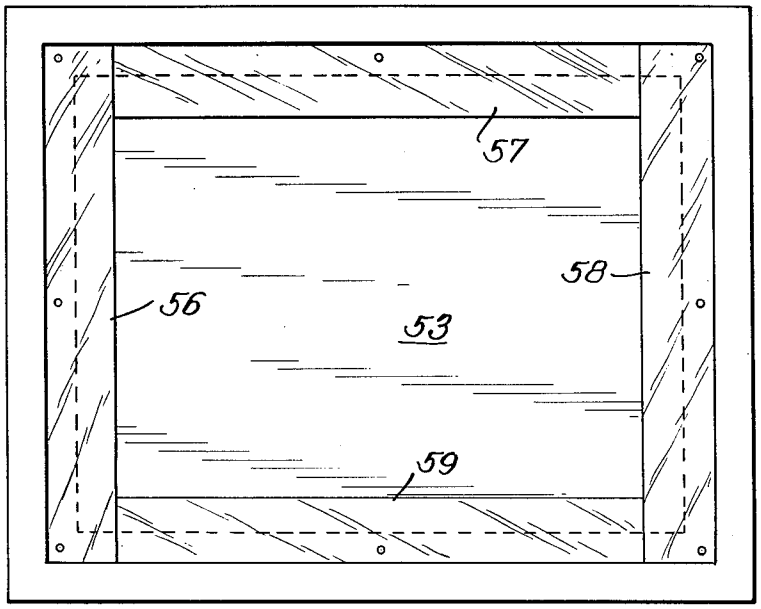


Fig. 5

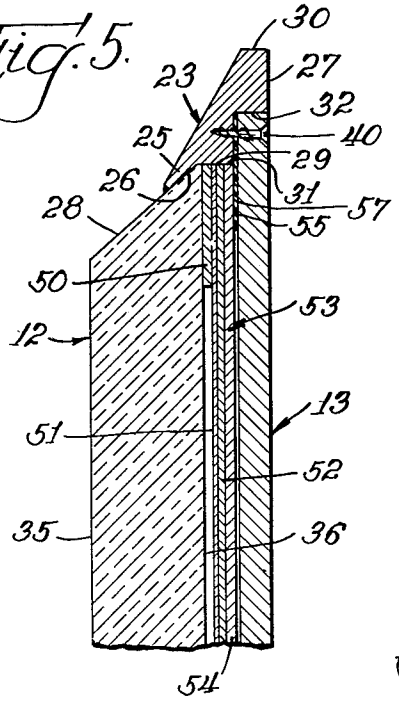
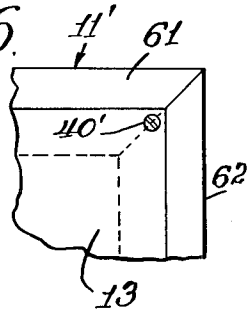


Fig. 6



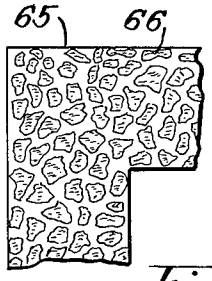


Fig. 7

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PICTURE FRAME

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6 Claims. (Cl. 40—152)

This invention relates to improvements in picture mounting assemblies and, more particularly, to improved means for housing, mounting and protecting pictures and like decorative media.

In its preferred form, the present invention includes a unitary or one-piece frame member definitive of a rectangular or other polygonal plan shape and having a cross-section presenting at least one exterior frontal decoration surface of oval, planar or like decorative configuration. The frame member also includes a planar shoulder platform or balcony structure intermediate the front and rearward faces thereof, over which is mounted a unitary mounting member carrying therewith suitable articulate mounting means for suspending the picture carrying frame on a suitable hanger device. Novel means for supporting and holding a transparent picture covering and protective member, such as glass, plastic or the like, is embodied in the frame member construction comprising a bevelled peripheral lip provided immediately adjacent the inner boundary of the frame member and presenting a sloping bearing surface of substantial area engageable with the correspondingly bevelled peripheral surface areas of the transparent picture covering means. Mounted between the picture covering member and the unitary mounting plate is a sandwich assembly composed of a decorative mat which surrounds and borders the picture, the picture itself, a rigidifying planar backing plate or member on which the picture is mounted and one or more spacer and/or seal plate members, of which at least one carries along its border or periphery a moisture and dust seal means adapted to have sealed connection with the internal shoulder or platform provided in the interior configuration of the frame member. This provides a unique concealed or hidden seal means.

In a modified version of the present invention, the unitary frame member is composed of several lengths of framing interjoined to form a rectangular box or other shaped polygonal framework. Characteristics of both forms of the invention disclosed and described hereinafter is a lens-type picture protecting means having substantial thickness and formulated to extend outwardly or forwardly beyond the frame member when assembled therewith. Preferably, such lens or picture protecting means bears bevelled facial edge portions which esthetically extend the inner boundary or periphery of the frame member into the picture display area without occluding the picture from view.

It is the main object of this invention to provide a new and improved structural combination for mounting and protecting pictures or similar decorative media.

It is a further object of this invention to provide a new and improved picture frame construction which embodies improved means for mounting and supporting a transparent picture protecting means.

It is another important object of this invention to provide a new and improved picture frame combined with a transparent picture protective means in such a manner as to effectively extend the inner boundary or periphery of the frame member inwardly of the normally visible peripheral boundaries of the transparent protective means.

Still another important object of this invention is to provide a new and improved picture frame assembly having improved features of ruggedness, rigidity, durability and decorative quality.

It is an additional object of this invention to provide a

new and improved picture frame assembly, as aforesaid, which has improved structural features enhancing the protection and preservation of pictures mounted therewithin.

A further important object of this invention is to provide a new and improved picture frame assembly, as aforesaid, in which a transparent picture protective means having a substantial thickness is supported by peripheral portions of a frame member in a manner to provide improved bearing engagement therebetween.

Still another object of this invention is to provide a new and improved means for mounting, protecting and displaying pictures which includes a new and improved concealed, and substantially tamper-proof, seal means for protecting the mounted pictures.

A still further and important object of this invention is to provide a new and improved picture frame assembly in which a unitary backing member is disposed and mounted totally within the dimensional limits of the frame member and which carries and supports means for connecting the frame assembly onto a suitable supporting or suspension means.

The above and further objects, features and advantages of the present invention will become apparent to those familiar with the art from the following detailed description of preferred and modified embodiments thereof and the illustrations thereof set forth in the accompanying drawings.

In the drawings:

FIGURE 1 is a front elevational view of a fully assembled picture mounting assembly according to the present invention;

FIGURE 2 is a rear elevational view of the assembly set forth in FIGURE 1;

FIGURE 3 is a perspective view with parts thereof broken away in section and illustrating the various elements embodied in the assembly shown in FIGURES 1 and 2;

FIGURE 4 is a rear elevational view similar to FIGURE 2, but with the backing plate removed to demonstrate the improved seal means of this invention;

FIGURE 5 is a partial enlarged cross-sectional view taken substantially at vantage line 5—5 of FIGURE 1 and looking in the direction of the arrows thereon;

FIGURE 6 is an enlarged partial front plan view of a modified form of the frame member according to the present invention illustrating in particular, the modified corner construction thereof; and

FIGURE 7 is an enlarged partial plan view corner portion of a mat member, similar to that illustrated in the FIGURE 3 assembly, but modified to include decorative means therewith.

Turning now to the particulars of the preferred form of the present invention illustrated in FIGURES 1 through 5 of the drawings, it will be understood with special reference to FIGURES 1 and 2, that the improved picture mounting assembly, indicated generally at numeral 10, comprises a unitary frame member 11 which carries a transparent picture protecting means or lens 12 centrally of its frontal area and a unitary mounting member 13 which forms with the rearward or back facial areas of the frame member an enclosing rear wall for the assembly 10. Articulate mounting means 14 are connected to and supported by the mounting member 13, as best illustrated in FIGURE 2.

As seen from FIGURE 3 of the drawings, the assembly 10 also includes an internal multiple-ply sandwich assembly indicated generally at 15 in that figure, which is disposed intermediate the frontal transparent picture protecting means 12 and the mounting member 13.

The unitary frame member 11, as best understood from FIGURES 1 and 2, is preferably a one-piece rec-

tangular framework which is produced by known casting, machining or other similar forming processes from metal, hard plastic or similar substances. In practice, it has been found that bronze, brass, aluminum, aluminum magnesium alloys and like metals are suitable for this purpose. Also, numerous plastic materials, particularly those which may be cast or molded, are commercially available and likewise acceptable for use in forming the unitary frame member 11.

More specifically, the frame member 11 includes parallel upper and lower linear rail portions 20 and 21, respectively, and parallel side rail portions 22, 22, all integrally related at right angles in a manner definitive of a rectangular framework, as illustrated in FIGURE 1, although other polygonal shapes may also be resorted to, especially if the frame member is produced by casting or molding techniques. In any event, the several portions 20, 21, 22 of the frame member, regardless of the latter's polygonal plan configuration, all bear an identical cross-section, as will be described in particular presently, to present a frontal decorative wall area on surface 23 to the viewer. Such frontal wall area 23 may comprise a planar sloping surface, as in the particular embodiment illustrated, or may take on a variety of curvilinear or combined curvilinear and planar surface configurations, depending on the decorative quality sought to be achieved thereby. In any event, the particulars of the surface formation for the frontal area 23 may be left to the choice of the practitioner without departure from the present invention.

With special reference now to FIGURES 3 and 5 of the drawings, it will be appreciated that the particular cross-sectional configuration utilized for the several portions of the frame member 11, according to the present invention, includes an inner peripheral lip portion 25 which is substantially wedge-shaped in cross section and which is formulated along the inner boundary or peripheral edge of the frame member. Importantly, this lip portion presents a planar inwardly facing surface 26 sloping at a suitable angle with respect to the rear face or planar wall 27 of the frame member, for example, 45°, to match and engage the corresponding sloping wall or bevelled peripheral edge portion 28 of the transparent picture protective means 12, as will be described more fully hereinafter. At the base end of such sloping surface 26 is an intersecting planar wall portion 29 which lies parallel to the outer peripheral and planar boundary wall portion 30 of the frame member; such wall 30 lying substantially transverse to rear wall 27 thereof. Intermediate wall portion 29 and the rearward face of wall portion 27 of each of the several frame rail portions 20–22, the same all bearing identical cross-sectional configurations, is a planar shoulder platform or balcony surface 31 paralleling the frame member's rear face 27, but inwardly offset therefrom. Such platform surface 30 extends away from the planar wall portion 29 toward the outer periphery or boundary wall portion 30 of the frame member and parallel to the rear face or wall portion 27; and transversely to the intersecting shoulder wall 31. It will thus be recognized that regardless of the frontal configuration presented by surface 23 of the frame, the remaining cross-sectional formation thereof requires the bevelled or angularly disposed lip portion 25 presenting the bearing surface 26 thereon and the inset platform or balcony formulated by the intersecting surfaces 29, 31 and 32, all lying intermediate or between the front and rear dimensional limits of the frame member.

It is further to be noted that in the preferred embodiment of frame member 11 illustrated, the frontal decorative facial area presented by the surface 23 of the several rail portions of the frame member is planar and lies in an intersecting relationship with the plane of the rear face 27 thereof with the bearing surface 26 of the lip portion intersecting the plane of the facial area presented by surfaces 23.

The picture protecting means 12, as will best be recognized from FIGURES 1, 3 and 5, is conformed with an outer peripheral shape dictated by the inner peripheral definition of the frame member 11; in the case illustrated, this shape being rectangular. Such protective means 12 is particularly distinguished by a substantial dimension in thickness as measured by the distance between the front face 35 and a rear face 36. Intersecting both such faces 35 and 36 in an angular disposition relative thereto and at the periphery or boundary of the member 12 is the sloping surface 28 previously mentioned. Typically, the angle of inclination for the sloping surface or bevelled areas 28 may be 45° with respect to the plane of faces 35 and 36. Due to the substantial thickness for this picture protecting member, the same may be likened to a lens and it is fully contemplated within the purview of this invention that the rear facial surface 36 thereof may, in fact, constitute a concave surface to produce lens magnification of pictures disposed therebeneath. The member 11 is constituted of a clear plastic material, such as clear Lucite or similar substances, and/or glass, and it is important to recognize and appreciate that the sloping bearing surface 26 of the frame lip portion 25 and the opposing peripheral areas of the bevelled surfaces 28 on member 11 are of a like incline so as to match in assembly with full facial interengagement. This provides substantial bearing engagement of increased contact area therebetween which gives support of the transparent picture protective member of the frame member.

Also, since the several sides or rail portions of the frame member intersect, the several surfaces 26 of the frame lip portions also intersect according to the rectangular configuration of the frame. Therefore, the several sloping surfaces 26 cooperate to provide an improved piloting function which serves to locate the picture protective member or lens 11 centrally of the frame opening.

It is of further importance and a unique feature of the present invention that the sloping or bevelled surfaces 28 of the picture protective member serve to effectively extend the inner boundary or periphery of the frame member 11 inwardly of the actual peripheral limits of the lip portions 25 thereon, while the thickness of the lens member 11 projects the same forwardly of the frame member and assists in the esthetic projection or extension of the inner boundary of the frame member. This results in an improved appearance factor whereby the visual effectiveness of the boundary facial areas 23 for the frame member cooperate with the sloping or bevelled surfaces 28 of the lens member to effectively project the frame boundary inwardly or into the boundaries of the transparent area behind which the picture or other decorative media is disposed.

With reference now to FIGURES 2 and 3 of the drawings, it will be understood and appreciated that the unitary mounting member 13 comprises a planar member made of metal or other like rigid material which is designed and configured to fit across the open back of the frame member 11; the same being housed in the recess provided by the previously described inset shoulder area of the frame defined by intersecting surfaces 31 and 32 thereof. Attachment or connection of the member 13 to the frame member is preferably accomplished in a positive fashion by plural screw devices or like connector means designated 40, 40 which are spaced at suitable intervals adjacent the boundary of the mounting member for connective reception in suitable openings formed in the frame member; such openings in the frame member extending inwardly from the platform surfaces 31.

Uniquely, the mounting member 13 carries a suitable mounting means 14 which may comprise, as illustrated in FIGURE 2, an articulate member such as length of chain 41 and a pair of screw eye fasteners 42, 42 disposed intermediate the lateral edges 43, 43 of the member 13 and a line paralleling its upper and lower edges 44 and 45, respectively. When the member 13 is made of metal, such eye fasteners 42 may be welded or soldered thereto

for the sake of rigidity and strength. Alternatively, such eye fasteners 42 typically bear a threaded shank and may therefore be threadingly connected to the mounting member 13. In any event, the eye members 42 are rigidly affixed to the mounting member and the articulate means 41 is extended between such eye members to formulate the means for attaching the picture frame assembly on a hook or like wall fastening element according to recognized and familiar practice.

As previously noted, disposed between the transparent picture protective member 12 and the rigid mounting member 13 is a sandwich assembly designated generally 15 in FIGURE 3 of the drawings. This will now be described in detail. As shown in that figure, the sandwich assembly 15 includes an open-centered mat member 50 which surrounds the border area of the picture 51 and typically serves to define the visual peripheral limits of the picture and furnish a decorative border therefor. Disposed beneath the mat member is the picture 51 and beneath or behind that a reinforcing and rigidifying backing member 52 typically made of cardboard or like substance. Normally, the picture 51 is glued or otherwise mounted coextensively over the backing member 52. Further, if desired, the mat member 50 may likewise be adhered to the frontal border area of the picture which it confronts in assembly. Disposed beneath or behind the member 52 is a planar seal plate member 53 which may comprise a rectangular section of cardboard and which may be laminated from one or more layers or separate cardboard sections, although in the embodiment illustrated only one such layer or section is illustrated. The thickness of the seal plate member utilized will depend on the thickness of the mat member and picture employed and the depth dimension of the shoulder defining wall portion 29 of the frame member; it being desired that the back face of the seal plate lie substantially flush with the platform surface 31 of the frame member in assembly. Whether or not one or more layers are utilized in making up the seal plate 53, such, as illustrated in FIGURE 3, includes along the periphery of the rearward face 54 thereof, a seal means 55. The seal means may comprise lengths of adhesive tape or like means having an adherent on one face thereof adapted to make sealing engagement with the rearward face 54 of the seal plate 53. The seal means also extends beyond the periphery of the plate 53 so as to confront and adhere to the platform surface 31 of the frame member 11, previously described. A better understanding of one typical arrangement for effectuating such a seal means will be recognized from FIGURE 4 wherein four lengths of sealing tape, designated 56, 57, 58 and 59 in that figure, are shown mounted along and over the peripheral borders of the seal plate 53 and overlapping the platform surfaces 31 presented by the several rail sections of the frame member. It will be recognized and appreciated that it is important in so mounting the sealing strips 56–59 onto rearward face 54 of the seal plate that the same be substantially coincident or flush with the plane of the platform surfaces 31 of the frame member so that the sealing tape or medium employed may extend and bridge across the junction between the seal plate and the frame member in a smooth, unwrinkled manner. By providing such a seal which is thin and disposed internally of the frame assembly, the picture 51 is efficiently protected from dust and moisture, while the seal means itself is fully protected from tampering and accidental disruption since the seal means is protected by and concealed beneath the mounting member 13 in assembly. It will also be noted that the screw elements 40, by which the mounting member 13 is fixed to or joined with the frame member, pass through the seal but at locations disposed away from the joint or line of junction between the seal plate 53 and the platform surfaces 31. Thus disruption of the desired seal is avoided. It is also noteworthy that the mounting plate effectively protects the seal means 55 and holds the same in position since the attaching screw members 40 draw the backing plate member 13 tightly toward the frame platform surface 31, passing through the seal means 55 and compressing the same.

Having thus described the basic and requisite features for practicing the present invention, attention is now directed to FIGURE 6 of the drawings wherein a modified form of the frame member, designated 11′ thereat, is illustrated. While the frame member 11, as previously described, is preferably made as a unitary rigid structure, it is also contemplated that in certain instances it may be desirable to formulate the frame member from a plurality of individual lengths or sections of framing having a cross-sectional configuration conforming to the requirements previously set forth in describing frame member 11. This is particularly true if it is desired to have the frame member made of wood or any other materials which do not lend themselves to casting, molding, or machining to effectuate the unitary formation. Therefore, as illustrated in FIGURE 6, the alternate or modified frame frame member made of wood or any other materials which member 11′ may be fabricated from separate rail sections or lengths of framing, with the corners forming conventional 45° angle joints as, for example, the corner formed between intersecting rail sections 61 and 62 as illustrated. It is to be understood that preferably such corner joints are produced with a bonding adhesive between the interengaging corner portions of the framing sections to insure fabricated unity, rigidity and sturdiness to the resulting frame structure. The mounting plate member 13, as previously described, is attached to the modified frame member 11′ by screw means or like fasteners designated 40′ in FIGURE 6.

By way of further modification of the previously described assembly, it is also contemplated that in certain instances, a more decorative quality may be desired for the picture bordering mat than is presented by the normal or conventional cardboard mat material employed in the picture framing art. To that end, as shown in FIGURE 7 of the drawings, a modified mat structure 65 may be employed, comprising a cast plastic planar framework having a plurality of decorative metal chips, spangles, organic grasses or other decorative substances imbedded therein. Such a decorative mat effectively enhances the artistic quality of a picture mounting assembly according to the present invention as above described. However, such is not essential to the successful practice of the herein set forth invention.

From the foregoing, it is believed that those familiar with the art will readily understand and appreciate the several novel aspects, features and advantages of the present invention and that such persons will readily understand and recognize that while certain specifications and materials have been set forth in the foregoing description, the same are susceptible to modification, change or substitution of equivalents without departing from the spirit and scope of the present invention. As a consequence, it is not intended that the present invention be limited by the particulars of the foregoing description and illustrated embodiments, except as may appear from the following appended claims.

I claim:

1. A picture mounting assembly comprising, a unitary open frame member of polygonal plan configuration having an inner peripheral lip portion of substantially wedge-shaped cross-section and a shoulder portion recessed inwardly of its rearward face and defining a planar platform surface paralleling said rearward face, a transparent picture protective means having bevelled peripheral surfaces and a planar frontal surface adapted to be disposed forwardly of the frame member mounted within said frame member with said bevelled surfaces thereof in substantial bearing engagement with said lip portion, a unitary rigid mounting member disposed across the open back side of said frame member against the platform sur-

face in the recessed shoulder thereof, a multiple-layer sandwich assembly disposed beneath said mounting member and extending between the latter and said picture protective means and comprising a planar seal plate disposed adjacent beneath said mounting member and having one face substantially coplanar with said platform surface, and seal means extending between said one face and said platform surface and sealing the junction between said seal plate and said frame member; said seal means being disposed totally within said frame member and being protected inaccessibly beneath said mounting member.

2. A picture mounting assembly comprising, a unitary frame member of polygonal plan configuration having an inner peripheral lip portion of substantially wedge-shaped cross-section and a shoulder recessed inwardly of its rearward face and definitive of a planar platform surface, said lip portion providing inclined planar bearing surfaces between the front and back surfaces of said frame member; transparent picture protective means having bevelled peripheral surfaces mounted within said frame member so that said bevelled surfaces thereon are in substantial bearing engagement with said inclined surfaces of said lip portion, said picture protective means having a planar frontal surface intersecting said bevelled surfaces thereof and disposed wholly outwardly of said frame member when the same are assembled, a unitary mounting member connected to said frame member and enclosing the open back side of the latter and disposed in the recess provided by said shoulder so as to lie substantially flush with said rearward face of the frame member, means attached to said mounting member for supporting the picture mounting assembly to a wall hanging device, and a multiple-ply sandwich assembly disposed between said picture protective means and said mounting member and comprising a planar picture confronting said picture protective means and a planar seal plate coextensively supporting said picture and confronting said mounting member, and seal means disposed inaccessibly beneath said mounting member and extending between said platform and said seal plate to seal the junction between said seal plate and frame member.

3. The combination as set forth in claim 2 including means for connecting said unitary mounting member to the recess shoulder of said frame member and for compressing said seal means between said mounting plate and said platform surface.

4. A picture mounting assembly comprising, a rigid frame member having a central opening and of polygonal plan configuration, said frame member being formed with an inner peripheral lip portion of substantially wedge-shaped cross-section and a shoulder portion recessed inwardly of the back face of said frame member and presenting a planar platform surface parallel to said back face, transparent picture protective means having a planar frontal surface adapted to be disposed forwardly of the frame member and plural planar inclined surfaces intersecting said frontal surface and extending between the same and the peripheral limits of said picture protective means, the said inclined surfaces of said picture protective means having substantial bearing engagement with correspondingly inclined surfaces of said lip portion with the latter serving to pilot said picture protective means centrally of the opening of said frame member; a unitary planar mounting member disposed across the open back side of said frame member to enclose the same, said mounting member being received in the recess provided by said shoulder portion to enclose the central opening of said frame member; a multiple-ply sandwich assembly comprising plural planar members disposed between said mounting member and said transparent picture protective means, seal means disposed between said mounting member and frame and comprising means adhesively connected to and extending across said planar platform surface and peripheral surface portions of said sandwich assembly, and fastening means for attaching said mounting member to said frame member and for compressing said seal means and sandwich assembly, whereby the inclined surfaces of said picture protective means are pressed tightly against the lip portion of said frame member and the said frontal surface of said protective means is thereby held forwardly of said frame member.

5. A picture mounting assembly comprising, a unitary open centered frame member of polygonal plan configuration having an inner peripheral lip portion substantially wedge-shaped in cross-section and a shoulder portion recessed inwardly of its rearward face and defining a planar platform surface paralleling said rearward face, transparent picture protective means mounted across the open center of said frame member and having bevelled peripheral surfaces engaging correspondingly sloping surfaces of said lip portion, there being substantial interfacial bearing engagement between said bevelled and sloping surfaces; a unitary rigid mounting member mounted across the open back side of said frame member and having one face thereof flush with the said rearward face of the frame member and disposed within the recess of said shoulder portion thereof so as to overlie said platform surface, a multiple-layer sandwich assembly comprising a plurality of planar members including decorative picture bordering mat means, a planar picture disposed beneath said mat means, a backing plate disposed coextensively beneath said picture and a planar seal plate disposed coextensively beneath said backing plate; said sandwich assembly extending between said transparent picture protective means and the inner surface of said mounting member and normally projecting slightly past said platform surface; and fastening means for attaching said mounting member to said frame member in a manner to draw the same tightly against said shoulder portion to thereby slightly compress said sandwich assembly and force said bevelled surfaces in sealing engagement with said sloping surfaces.

6. The combination as set forth in claim 5 including seal means extending between and engaging said platform surface and the rearward face of said seal plate to effectively close and seal the junction between said frame member and sandwich assembly; said seal means being disposed internally of said frame member and compressed by and inaccessibly protected by and concealed beneath said mounting member.

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