United States Patent [19]

Hooper, Jr.

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[54] SELF-ALIGNING PICTURE FRAME

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[52] **U.S. Cl.** **40/152**

[51] **Int. Cl.** **G09f 1/12**

[58] **Field of Search** 40/10, 152, 152.1

[56] **References Cited**

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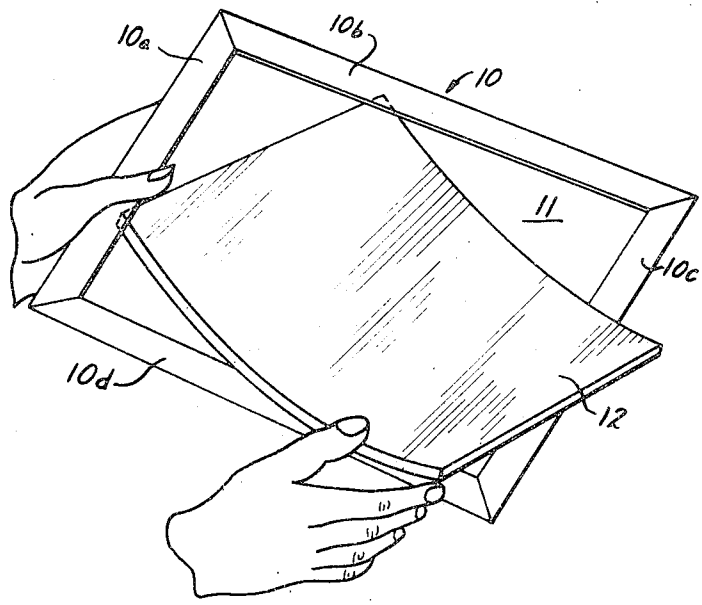
[57] **ABSTRACT**

A picture frame construction includes an integrally attached backing to the picture frame. The inner peripheral edge of the frame is slotted with one side of the slot being coincident with the forward surface of the backing. Spring biased picture positioning members resiliently engage preselected edges of a picture being inserted through the face of the frame to automatically align the picture for proper display purposes within the peripheral slot.

2 Claims, 6 Drawing Figures



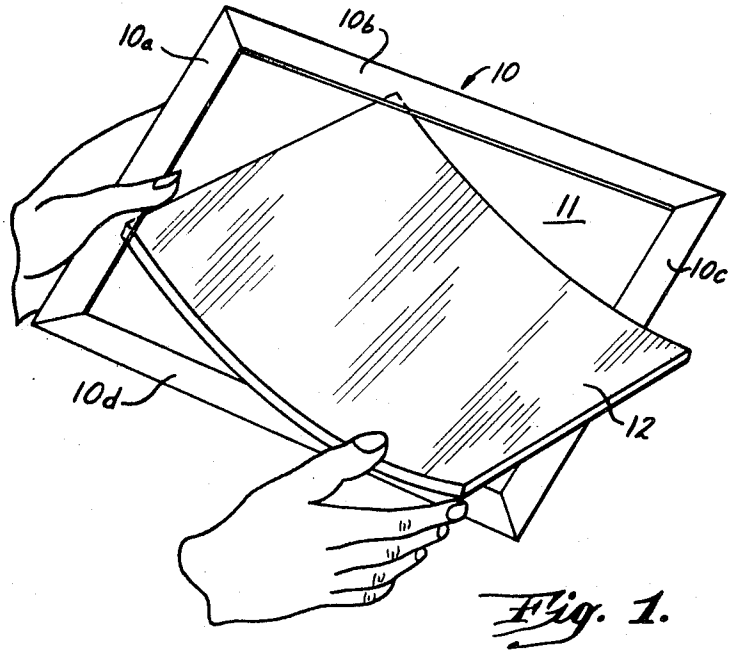


Fig. 1.

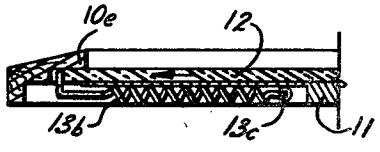


Fig. 4.

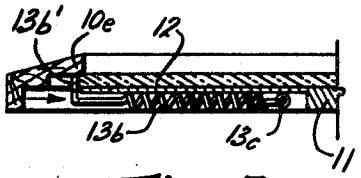


Fig. 5.

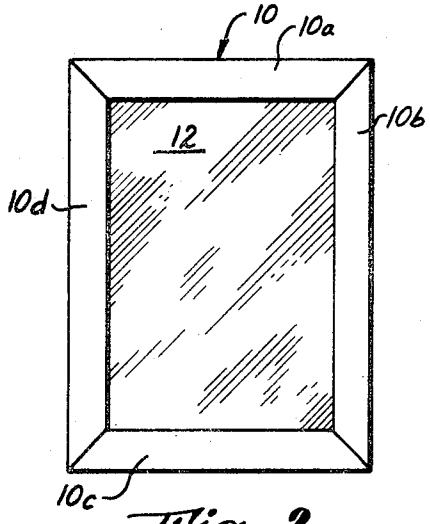


Fig. 2.

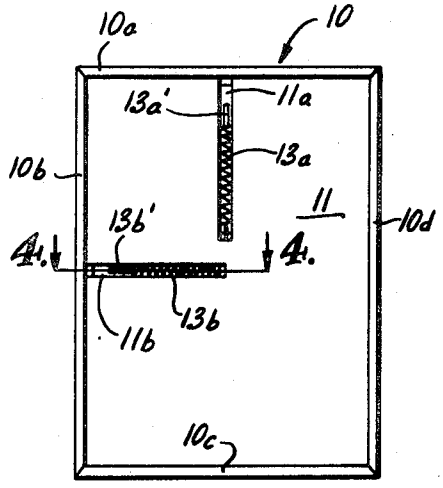


Fig. 3.

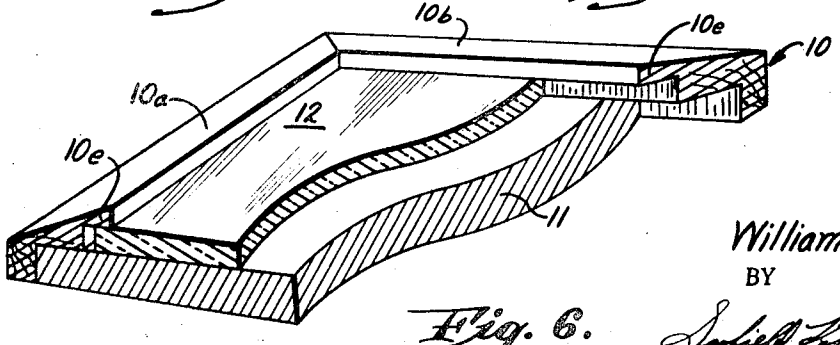


Fig. 6.

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SELF-ALIGNING PICTURE FRAME

BACKGROUND AND BRIEF DESCRIPTION OF THE INVENTION

My invention relates to a picture frame which is suitable for displaying photographs, art works or plaques and awards. I have found that the conventional picture frame, having the removable back for the purpose of loading the display object into the frame, is generally unsatisfactory in certain instances. For example, when it is desired that a marquee-type display or permanently affixed picture frame or framing structure has its associated display object changed, the desirability of front loading becomes apparent. Furthermore, the relative strength of the frame (with an integrally constructed backing) is substantially enhanced.

I have invented a picture frame with an integrally formed backing. The inner peripheral edge of the picture frame is slotted on all four sides (of a rectangular frame) with the rearward face of the slot being coincident with the forward face of the backing. A resilient or spring biased member is located and substantially centered in the upper horizontal peripheral slot and in the right-hand (when viewed from the front) vertical peripheral slot. The picture or plaque will be inserted in the frame from the front of same by locating the normally upper horizontal edge of the picture in a "cross corner" position so that the upper corners of the picture enter into the upper and righthand peripheral slot. The picture may then be moved interiorly of the two above-mentioned portions of the peripheral slot so that the right-hand edge and substantially all of the upper edge of the picture is positioned within the corresponding portions of the peripheral slot. This position permits the lower edge portion and left-hand edge portion of the picture to be then slipped interiorly of the outer plane of the picture frame so that it rests on the forward surface of the backing. In this position, the resilient spring biased picture positioning members are elongated under tension so that when the picture is manually released, the resilient picture positioning members move inwardly with respect to their elongated position forcing the lower edge portion and left edge portion of the picture in-to corresponding peripheral slotted portion.

It is further contemplated that a plexiglas or other transparent plastic picture covering will be inserted in actually the same manner as the picture either separately or simultaneously so that the picture or award plaque is covered and protected from the elements in the particular environment where the frame will be located. Furthermore, the frame (and picture covering) may take on any convenient shape such as rectangular, square, oval or round.

An object of my invention is to provide a uniquely constructed front loading self-aligned picture frame.

Another object of my invention is to provide a picture frame which is uniquely constructed to accommodate different dimensioned pictures and/or display objects yet which automatically align same for proper frontal display.

A still further object of my invention is to provide a uniquely constructed picture frame which has its overall strength substantially enhanced by permanently affixing the backing with the frame.

Another object of my invention is to provide an improved picture frame that may be permanently affixed to a marquee or store front. It is a feature of my invention that the picture frame permits the displayed item to be loaded from the front and protected from the elements so that the frame will not have to be removed when the picture or display object is changed.

A further object of my invention is to provide a picture frame that may be manufactured quickly and simply and which has eliminated the need for nails or wedges in the backing thereof. It is a feature of this object that the entire frame may be fixedly and rigidly interconnected by a glueing process as it is unnecessary to remove certain portions thereof for loading the display object therein.

Other and further objects of the invention, together with the features of novelty appurtenant thereto, will appear in the course of the following description.

DETAILED DESCRIPTION OF THE INVENTION

In the accompanying drawing, which forms a part of the specification and is to be read in conjunction therewith, and in which like reference numerals are employed to indicate like parts in the various views:

FIG. 1 is a perspective view of my front loading picture frame with the picture and/or display object being located in the "cross corners" position associated with the initial loading steps;

FIG. 2 is a front elevational view of the picture frame with the display object located therein;

FIG. 3 is a back elevational view of the front loading picture frame showing the two springs which comprise the resilient picture positioning members;

FIG. 4 is a sectional view taken generally along the line 4—4 of FIG. 3 in the direction of the arrows and showing the tension spring in its extended position due to the movement of the object to be displayed within the frame;

FIG. 5 is a view similar to FIG. 4 showing the tension spring positioning the object to be displayed within the frame with the display object being free to move within the peripheral slot of the frame; and

FIG. 6 is an enlarged partial perspective view of the frame construction and display object with portions thereof shown in section.

Turning now more particularly to the drawing, reference numeral **10** is used to generally indicate the subject picture frame. As shown in the various views, I utilize a generally rectangular shaped frame, however, it should be pointed out that square, oval or round frames could be employed using the unique features of my invention.

As clearly shown in FIGS. 1–3, the frame includes four integrally connected frame members **10***a*, **10***b*, **10***c* and **10***d* there being two horizontal sides **10***a* & **10***c* and two vertical sides **10***b* & **10***d* which are glued together and integrally formed with a back **11**. This back **11** is rigidly interconnected with the four above-mentioned members and may be constructed of the same material as the frame members and glued thereto. Accordingly, the over-all strength of the picture frame is substantially enhanced over the heretofore use of wedges, staples or tacks for removably attaching a back to the frame. Each of the frame members have a forward overlapping lip portion generally indicated by the nu-

meral **10***e* which partially defines an inner peripheral slot between the lower surface of same and the upper surface of the frame back. As a result, the upper surface of frame back **11** is coincident with one side of the above-described peripheral slot which circumscribes the inner edge surfaces of the frame. Each frame member further defines the depth of its associated slot by the substantially 90° step from the lip portion **10***e*. This depth dimension is sufficiently large to permit the positioning of the display object within the slot for either the insertion of the display object within the frame or the subsequent removal thereof.

Finally, a second 90° step is spaced from the first mentioned step (see FIG. **6**) so as to permit back **11** to be glued thereto with its forward surface forming the rear surface of the slot.

The frame back **11** has two grooves **11***a* and **11***b* which are of sufficient depth to accommodate springs **13***a* and **13***b* respectively therein (see FIGS. **3–5**). The inner end of each spring is fixedly attached to back **11** with their respective groove by pins **13***c*. The outer end of each spring **13***a'* and **13***b'* is upturned as shown in FIGS. **4** and **5** and occupies a portion of the corresponding slot in frame members **10***a* and **10***b* respectively. Accordingly, a display object may contact the spring portions **13***a'* and **13***b'* and cause the corresponding springs to elongate under tension with the limits of the above-described peripheral slot.

With the above-mentioned frame construction, it is contemplated that the display object **12** may include a flexible plaque, plastic of plexiglas picture covering and picture combination. In this regard, display object **12** will be initially inserted by way of the front portion of the picture frame by locating same initially in the "cross corner" position as shown in FIG. **1**. In this position, the upper left-hand corner and the upper right-hand corner of the display object will be located in the upper horizontal slot (in frame member **10***a*) and the right vertical slot (in frame member **10***b*) of the associated picture frame. It is then contemplated that the flexible display object will be rotated in a counterclockwise direction so that the right edge of same comes in registration with the slot in the right-hand vertical frame member **10***b*. At the same time, the upper horizontal portion of display object **12** is moved upwardly with the slot in upper horizontal frame member **10***a*. Accordingly, both of the tension spring members **13***a* and **13***b* are forced to elongate since the upper horizontal edge and the right-hand vertical edge of the display object contact the upturned vertical end portions **13***a'* and **13***b'* of the spring members **13***a* and **13***b* respectively. As a result, the display object will now be located with the upper vertical portion and the right side portion of same substantially within the slot in the upper horizontal frame member **10***a* and the right vertical member **10***b*. This allows the left vertical edge of the flexible lower horizontal edge of the display object to easily slide within the corresponding frame portions on the forward surface of the back **11**. When the display object is released, the tension springs **13***a* and **13***b* react to move same downwardly and to the left so that corresponding edge portions enter the groove in the left-hand vertical frame member **10***d* and the lower horizontal frame member **10***c* thereby locating display object **12** for proper viewing.

When it is desirable to remove the display object (which, of course, could include either the combination picture covering and picture or an award plaque), the above-mentioned insertion steps are reversed. Accordingly, the thumb or forefinger may be used to slidably move the display object **12** upwardly and to the right so that the lower horizontal edge and the left vertical edge of the display object is moved out of the corresponding frame member slots as the opposite edges thereof are moved inwardly against the tension of springs **13***a* and **13***b*. This enables the lower left-hand corner of the display object to be grasped by a finger or thumb and flexed upwardly. At the same time, the display object may be rotated in a clockwise direction until it approximately assumes the "cross corner" position once again thereby freeing the entire lower edge and the lower half of the two vertical edges. In this position, the entire display object may be quickly and easily removed from the frame construction and a new one inserted therein.

The above-mentioned procedure permits the unitary frame construction to be fixedly mounted to walls or to the exterior of offices, advertising marquees, and the like, yet permitting the display object to be easily changed from the front of the frame and at the same time to be correctly positioned for display purposes by the spring action and to be maintained in this position.

From the foregoing, it will be seen that this invention is one well adapted to attain all of the ends and objects hereinabove set forth together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. A combination picture frame and display object, said combination comprising,

at least one frame member rigidly interconnected thereby forming a frame having a preselected shape and circumscribing a substantially flat display area,

a back for said frame, said back being integrally attached to said frame member,

said back and said frame cooperating to form a contiguous slot within said inner peripheral portion of said circumscribing frame, said back having an elongated recess defined therein, a spring member located within said elongated recess, said spring member having one end portion gauging said flexible display object and urging said object in a preselected direction.

2. The combination as in claim **1** wherein said back includes at least two elongated recesses, said recesses being oriented substantially 90° with respect to each other, a spring member located in each of said recesses, each of said spring members having one end portion engaged in said flexible display object and operable to urge said object in said preselected direction.

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