United States Patent

[11] 3,625,274

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[21] Appl. No. 33,820
[22] Filed May 1, 1970
[45] Patented Dec. 7, 1971
[73] Assignee Universal Molding Co., Inc.
Lynwood, Calif.

[54] ADJUSTABLE FRAME FOR CANVASES
1 Claim, 5 Drawing Figs.

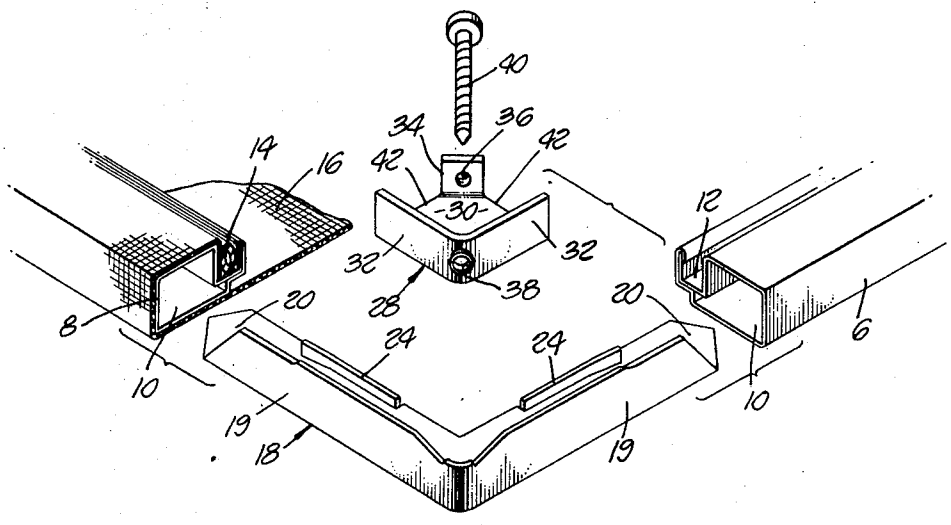
[52] U.S. Cl. 160/374.1
[51] Int. Cl. B44d 3/18
[50] Field of Search 160/374.1, 374, 381, 328

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ABSTRACT: An adjustable frame, such as for artists canvases and silks, including tubular metal side and end members joined by frictionally retained corners and having spline grooves in the rear faces of the side and end members for the retention of materials stretched over the frame, and means provided at the corners for forcing the end and side members apart to slightly enlarge the dimensions of the frame and tighten the canvas or other material.



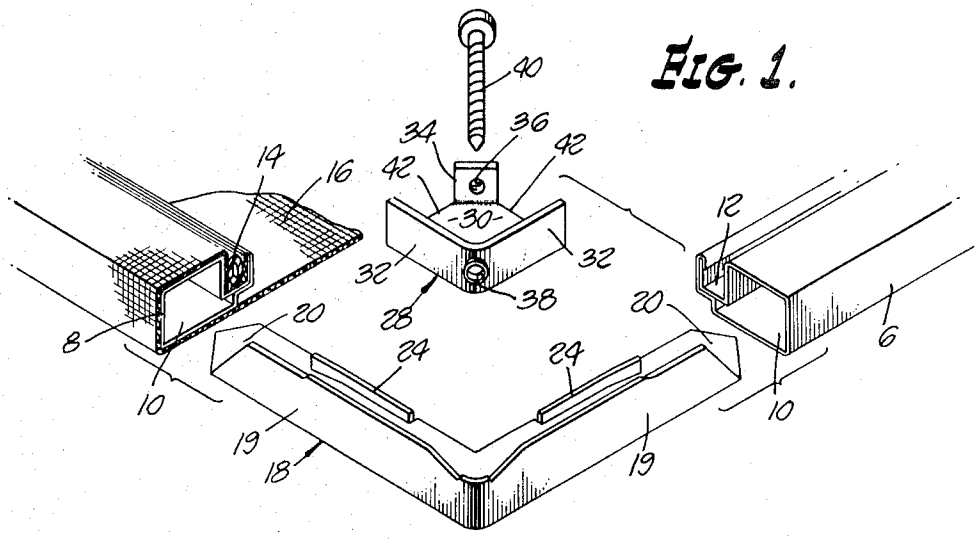


FIG. 1.

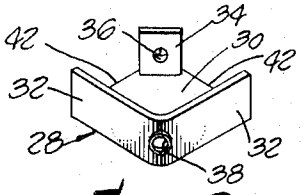


FIG. 2.

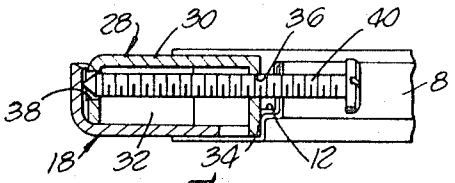


FIG. 5.

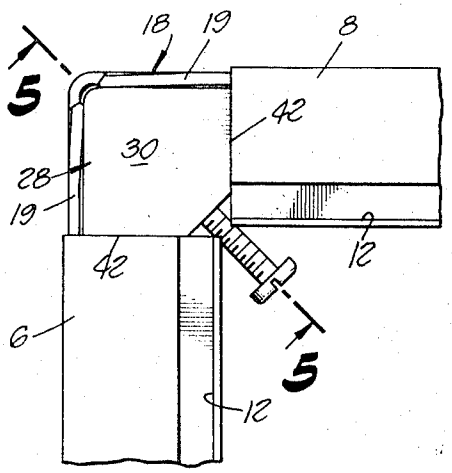


FIG. 3.

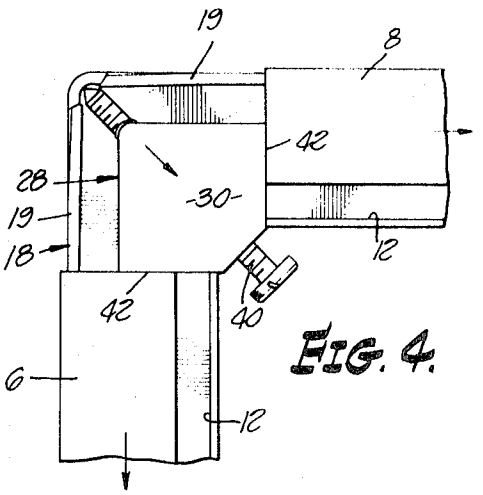


FIG. 4.

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ADJUSTABLE FRAME FOR CANVASES

This invention relates to a frame for materials and is particularly adapted for use in connection with artists' canvases, silks or the like.

Customary wooden frames are of fixed dimensions. When a material for example, is initially stretched on the frame and tacked or otherwise secured in position, it is satisfactorily taut. However, when the artist applies his oils or other media, it is found that frictionally, the material will stretch somewhat and will tend to sag or bulge. With the conventional wooden frame, the only way the material can be tightened is to remove the tacks and retack it, and if such an operation is resorted to, it can very readily damage the work of the artist.

The present invention relates to a frame which preferably is of tubular metal or other suitable material which has provision for quickly and effectively securing the edge portions of the material to the rear of the frame, and wherein the frame can be adjusted readily to take up slack which might occur after the picture has been painted.

More specifically, it is an object of the invention to provide an adjustable tubular frame wherein the side and end members are separate and connected by frictionally held corner inserts, and means is provided at the corners for moving the adjacent ends of side and end members away from each other to enlarge the frame and stretch the material to the desired degree.

Another object of the invention is to provide an adjustable frame of the type described, wherein the adjustment means will retain the frame in its expanded condition under all normal circumstances.

A further object of the invention is to provide a frame wherein convenient material securing means is provided, and wherein said securing means can be quickly and easily adjusted if needed to conform to adjustment in the size of the frame.

The above and other objects of the invention will more fully appear from the following description in connection with the accompanying drawing:

FIG. 1 is an exploded detail in perspective of a corner of a frame according to my invention:

FIG. 2 is a perspective view of one of the corner expanding elements;

FIG. 3 is a rear elevational view of the corner portion of the frame in one position of adjustment;

FIG. 4 is a view similar to FIG. 3 with the frame in a position of adjustment to a somewhat larger size;

FIG. 5 is a sectional detail taken approximately on the line 5—5 of FIG. 3.

The frame is shown composed of side members 6 and end members 8 which as shown, are preferably of the same construction and are extruded or rolled into tubular form in conventional rolling apparatus. The frame members 6 and 8 are provided with open inner portions 10 and their inner edges are provided with spline grooves 12 to removably receive deformable plastic tubular splines 14 for securing the edges of sheets of material 16 which are laid across the front of the frame and whose edge portions are wrapped around to the rear and inserted in the spline grooves 12 where they are removably held by the splines 14.

The tubular frame elements 6 and 8, at adjacent ends, are connected by corner inserts 18 which are so shaped and sized that their widest dimensions 20 will closely approximate the inner dimensions of the frame members 6 and 8. The corner inserts 18 are provided with upstanding webs 19 and 24 which have a tight frictional fit between the walls 22 and 26 of the tubular frame elements 6 and 8. The corner inserts 18 are intended to fit in the tubular frame members with sufficiently tight frictional fit that the frame members will be adequately connected against movement under normal handling and environmental conditions.

Actually, the frame elements with their spline grooves and splines and the corner inserts are the same as identical elements manufactured by Universal Molding Co. of Lynwood, Calif., the spline grooves 12 and splines 14 in screen frames, being provided to secure the edges of screen material.

In the manufacture of screen frames the frame members 6 and 8 are positioned close together with the legs of the corner inserts 18 pushed into their respective frame elements as far as possible. This is done to give as great a degree of rigidity to the frame as possible. However, in accordance with the present invention, it is desired to provide means for forcing the adjacent ends of the frame members 6 and 8 apart to some extent when stretching of the material on the frame is required. In order to accomplish this, I provide an expander element 28 which is roughly square in shape and has a flat plate portion 30 and an angular flange 32 extending along two sides. At a corner opposite the flange 32 is an ear 34. Said ear 34 has a threaded aperture 36 axially aligned with an unthreaded aperture 38 in the corner of the flange 32. A screw 40 is threaded through the aperture 36 and extends slightly through aperture 38 which is slightly larger than the screw.

In operation the expander element 28 is placed in the corner of the corner insert 18, as shown in FIGS. 3, 4 and 5. The flange 32 and apertured lug 34 are of the same height and preferably of no greater height than the outside flange of the corner insert 18. The edges 42 of the expander plate 30 bear against the ends of the tubular frame elements 6 and 8. In the smallest adjusted position of the frame as shown in FIG. 3, the frame elements 6 and 8 are pushed onto the corner insert 18 until the frame elements engage the expander screw 40. If at any time the material on the frame should become loose and require tightening by expansion of the frame, the screw 40 can be rotated so that the edges 42 of the expander plate 30 will press against the end of the tubular frame elements 6 and 8, the expander element 28 moving upwardly on the screw and away from the inside corner of the corner insert 18, as shown in FIG. 4. This of course will increase the overall size of the frame.

If the material needs only a slight amount of tightening, it can be accomplished merely by operating the expander screw 40. However, if any appreciable adjustment is made, it might at times be necessary to release the one or more edges of the material by removing the spline 14, and then replacing the material and spline after adjustment has been made, but this is not generally necessary.

From the foregoing it will be seen that I have provided an artist's frame for canvases, screen silks and the like, which can be quite economically produced on equipment for rolling screen frames with the addition of the small and easily produced expander element 28 and its screw. Material can be secured to the frame by anchoring their edges in the spline grooves with the deformable splines, and as stated above, if the material should become slack, ordinarily it can be stretched tight by adjustment of the expander screw without disturbing the splines which secure the edges of the material and the spline grooves. The frame can be produced economically and is not subject to deterioration in the manner of frames of wood, and the location of the spline groove is such that the material conceals all of the otherwise visible parts of the metal frame when it is hung up on a wall.

When the frame is adjusted to stretch or restretch the material, it is held in place by the combined action of the frictionally held corner inserts 18, and the expander element 28. However, it is contemplated that the expander element can be used without a frictionally held corner insert if desired.

It should of course be understood that various changes can be made in the form, details, arrangement and proportions of the various parts without departing from the spirit of the invention.

I claim:

1. A frame for materials such as artists' canvases, silks or other fabrics, wherein the improvement comprises: tubular side and end members having relatively movable adjacent ends defining corner spaces, corner inserts comprising angularly disposed arms frictionally fitting in and connecting said adjacent ends and defining closed outer frame edges at the corners of the frame, expander units positioned in the angles of said corner inserts and having edges engaging the adjacent ends of the side and end members, and a screw device carried

by each expander and movable into engagement with the juncture of the corner insert arms, the expander unit being movable under action of the screw device to wedge against the adjacent side and end members and move then apart.

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