DISPLAY FRAME HAVING ADJUSTABLE HANGING CLIP
6 Claims, 8 Drawing Figs.

ABSTRACT: The frame comprises separate frame members joined together to form a rectangular structure for receiving a display device such as a placard. A bracket having a pair of legs forming a right angle is provided at each corner of the frame to secure the frame members together. Each frame member has a pair of oppositely disposed, longitudinally extending grooves on the rear side which receive the legs of the brackets. A screw is provided on each leg of the brackets. Each screw has an enlarged head which clamps against a lip portion on the frame members to fasten the brackets to the frame.

The upper frame member is utilized to mount the adjustable hanging clip. The adjustable hanging clip has upwardly and downwardly extending projections. The downwardly extending projection is received in the lower groove. The upwardly extending projection is depressible downwardly for insertion into the upper groove. A hanger structure is provided on the clip and is spaced rearwardly from the projections so that it will not have to extend above the frame. The positionment of the hanger member results in a lever action from the point of securement of the hanger structure to the frame resulting in the frame tending to rotate towards the support structure on which the hanger is secured. This prevents stress being applied to the depressible upwardly extending projection. The clip is slidable along the frame member to permit centering.
The device of the present invention is particularly useful in retail merchandising as a point-of-purchase display. It is designed to provide hanging devices which may be sold in the knockdown condition and readily assembled at the point of use. Further, it is desired that such devices be relatively inexpensive. The hanging of such frames has also been a problem. The usual picture frame wire is somewhat awkward to use and additionally will not permit mounting of the frame on a relatively narrow horizontal support element. The present invention provides a frame structure and an adjustable hanging clip which satisfy the aforementioned characteristics and which is eminently suitable for modern marketing techniques.

SUMMARY OF THE INVENTION

The frame comprises separate frame members which are secured together to form a rectangular structure. The corners of each of these frame members are mitered so that the juntures thereof form a right angle. Oppositely disposed grooves are provided on the rear portion of each frame member. A right-angle bracket is provided on each corner. The legs of the bracket extend into adjacent grooves of the frame member. A threaded fastener having an enlarged head is received in each leg. The enlarged head clampingly engages lip structure defining the grooves to secure the frame members together.

The adjustable clip includes a base structure which has, on the forward end thereof, downwardly projecting structure for reception in the lower groove of the top frame member. First upwardly projecting structure is provided on the base and spaced rearwardly from the downwardly projecting structure. A flexible arm extends laterally from the first upwardly projecting structure. The flexible arm terminates in a free end. Second upwardly projecting structure is provided on the free end of the arm. The second upwardly projecting structure is spaced forwardly of the first upwardly projecting structure and is received in the upper groove on the top frame member.

The clip is mounted in the frame by inserting the downwardly projecting structure into its groove and then depressing the arm. The second upwardly projecting structure is then tipped into alignment with the other groove and the arm is released whereupon the second upwardly projecting structure is received in its groove.

An upwardly projecting hanger structure is provided on the base rearwardly of the first upwardly projecting structure. The hanger structure has a surface area sufficient to prevent tilting of the frame when it is hung on a support element.

In drawings:

FIG. 1 is a plan view of the upper portion of a frame in accordance with one embodiment of the present invention with portions broken away for the purpose of clarity.

FIG. 2 is a sectional view taken substantially along the line 2-2 of FIG. 1 looking in the direction of the arrows.

FIG. 3 is a sectional view taken substantially along the line 3-3 of FIG. 1 looking in the direction of the arrows.

FIG. 4 is a plan view of a portion of the rear of the frame illustrating the adjustable hanger member.

FIG. 5 is a front elevational view of the adjustable hanger member.

FIG. 6 is a side elevational view of the adjustable hanger member.

FIG. 7 is a sectional view taken substantially along the line 7-7 looking in the direction of the arrows.

FIG. 8 is a sectional view of the top frame member with an adjustable hanger member shown in dash lines illustrating the method of installation of the adjustable hanger.

Referring to the drawing, the frame structure 10, illustrated in FIGS. 1-4, will first be described. The frame has a conventional rectangular shape consisting of a pair of side members and a top and bottom member. The upper portion only of the frame is illustrated in FIG. 1. The lower portion is substantially identical, the lower frame having a cross-sectional configuration identical with the side frame members.

As will be noted, the ends of the side frame members 12, 14 and top frame member 16 are mitered at an angle of 45° so that the juntures of the frame members form a right angle. As shown in FIGS. 2 and 3, the top frame member 16 has a cross-sectional configuration comprising a horizontally extending sidewall 18 from which depends a downwardly and inwardly curved front wall 20. The wall 20 has an inturned lip 22 on its lower edge for engagement with a placard 24 and backing 25 which is received in the frame.

A pair of downwardly depending spaced-apart lips 26, 28 are provided on the underside of the sidewall 18 and define a groove for reception of an edge portion of one leg 30 of a corner mounting bracket 32. A horizontally extending wall 34 is provided intermediate the upper and lower edges of the front wall 20. The wall 34 has an upwardly extending lip 36 on its outer edge which, with the inner surface of the wall 20, defines a groove for the reception of the inner edge of the leg 30. The grooves defined by the lips on the walls 18, 34, also serve to receive the clip 38 of the invention, as will be later described.

The side frame members 12, 14 are similar to the top frame member but have added thereto an L-shaped portion 40 which extends inwardly from the curved wall. The L-shaped portion has legs 42, 44 and defines, with the curled wall, a channel for the reception of the placard 24 and backing 25. The absence of the L-shaped portion from the top frame member 16 permits insertion and withdrawal of placards as desired.

As will be noted in FIGS. 1 and 2, the frame members are secured together by means of the brackets 32. As previously described, the legs 30, 46 are inserted into the oppositely disposed grooves provided in the walls 18, 34. Screws 48, 50 are threadedly received in openings in the legs 30, 46. As shown in FIGS. 1 and 2, the enlarged screws overlapped the adjacent groove lips to thus clampingly engage the lip and thereby secure the frame members together.

FIGS. 5—7 best illustrate the configuration of the clip 38. The clip 38 is preferably fabricated of a flexible material such as nylon. The clip comprises a pair of spaced-apart, horizontally extending base elements 54, 56. A bar 58 extends between the elements 54, 56 intermediate the ends thereof. The bar 58 serves to rigidify the structure. A downwardly extending projection 60, 62 is provided on the outer end of each element 54, 56. An upwardly extending projection 64, 66 is provided on each element 54, 56 spaced rearwardly from the projections 60, 62. The upper portion 68, 70 of each projection 64, 66 is of reduced thickness to define notches 72, 74.

An arm 76 extends laterally from the projection 64 towards the projection 66. The arm 76 terminates short of the projection 66. An upwardly extending projection 78 is provided on the rear edge of the outer end of the arm 76. A triangularly-shaped upwardly extending projection 80 is provided on the outer end of the arm 76 and on the forward edge thereof. The projections 78, 80 define a channel 82.

An upwardly projecting generally V-shaped hanger element 84 extends between the rearward ends of the base element 54, 56. The element 84 is for reception of a nail or other support element as indicated by the dash lines 88 of FIGS. 2 and 3. The apex 86 is curved for centering on the nail.

The method for insertion of the clip 38 into the top frame member 16 is shown in FIG. 8. The downwardly extending projections 60, 62 are first inserted into the groove defined by the walls 20, 34 and lip 36. The clip is then rotated in a counterclockwise direction, thereby engaging the triangularly-shaped projection 80 engages the lip 28 of the upper wall 18. Further rotation of the clip causes the arm 76 to be deformed downwardly with the lip 28 sliding on the inclined surface 90 of the projection 80. When the projection 80 passes by the lip 28, the arm 76 springs upwardly back to its initial position. Then, as shown in FIG. 3, the lip 28 is received in the channel 82 defined by projections 78, 80 to thereby lock the clip in place.
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When the clip has been received on a nail as illustrated in FIG. 3, the forces applied to the clip by virtue of the weight of the frame 10 tend to rotate about the nail because of the lever action resulting from the base elements 54, 56. The tendency to rotate causes the projections 68, 70, 78 to engage the outer surface of the lip 28 and the projections 60, 62 to engage the inner surface of the lip 36. The projection 80 thus does not have to act as a support member. The function of the projection 80 is merely to prevent separation of the clip from the frame as a result of transient forces such as may be present when hanging and centering the frame on a nail.

The clip 38 will slide freely in the frame member 16. This permits easy centering of the frame. A single clip may be utilized as shown in FIG. 1, however, if necessary, several clips may be used to hang a frame. The clips may be readily removed by manually depressing the arm 76 to clear the lip 28.

An additional feature of the clip 38 is that the relatively large surface area of the hanger element 84, when it contacts the surface which supports the element 88, prevents tilting of the frame. The element 88 may thus be secured to a narrow strip, such as a shelf edge of the type frequently present in retail stores.

I claim:

1. A clip for hanging a frame comprising a base structure having a forward and rearward portion, downwardly projecting structure on the forward portion of the base structure for reception in a first groove of a frame member, first upwardly projecting structure on the base spaced rearwardly of the downwardly projecting structure, a flexible arm extending laterally from the first upwardly projecting structure and terminating in a free end, second upwardly projecting structure on the arm spaced forwardly of the first upwardly projecting structure for reception in a second groove of a frame oppositely disposed from said first groove, whereby the clip may be mounted on a frame by inserting the downwardly projecting structure into the first groove and then depressing the arm and inserting the second upwardly projecting structure into the second groove, and an upwardly projecting hanger structure on the base rearwardly of the first upwardly projecting structure.

2. The clip of claim 1 and further characterized in that the first upwardly projecting structure comprises a lower portion and an upper portion, the upper portion being of reduced thickness with respect to the lower portion and being spaced rearwardly of the second upwardly projecting structure to define therewith a channel for reception of an edge portion of a frame wall which defines a portion of the second groove in the frame.

3. A clip as defined in claim 2 and further characterized in the provision of upwardly projecting structure on the free end of the flexible arm spaced rearwardly of the second upwardly projecting structure to define therewith a channel for reception of said edge portion of a frame.

4. A clip as defined in claim 1 and further characterized in that said second upwardly projecting structure has a downwardly inclined forward surface for camming engagement with said edge portion of a frame for depressing said arm to insert the second upwardly projecting portion into said second groove.

5. A clip as defined in claim 1 and further characterized in that said base structure comprises a pair of spaced-apart horizontally extending members joined together by the hanger structure and by a reinforcing bar extending therebetween intermediate the ends thereof.

6. A clip as defined in claim 5 and further characterized in that said downwardly projecting structure comprises a member projecting downwardly from each forward end of the base members and said first upwardly projecting structure comprises a member extending upwardly from each base member and spaced rearwardly of the downwardly projecting members.